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ALTICINAE OF OCEANIA
(Coleoptera: Chrysomelidae)[1]

By
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CONTENTS

Abstract: Insular faunas of Micronesian, eastern Melanesian, and Polynesian Alticinae are united for the first time in a taxonomic revision. Treated are 96 species and subspecies. Of the 102 available names relating to Oceanian Alticinae that had accumulated up to the beginning of this study, 67 are valid species and subspecies, 17 are new synonyms, 4 are old synonyms, 4 are erroneous identifications and belong to species that never reached Pacific islands, 2 are non-Oceanian and erroneously recorded from Pacific islands, 2 are non-alticines, and 6 are species incertae sedis. Of the 67 valid species and subspecies, 22 are placed in new generic combinations, resulting in part in the new synonymy of *Inopelonia* Broun, *Nesohaltica* Maulik, and *Sphaerophyma* Baly and in the erection of *Analema*, new genus and *Linaltica*, new genus. In addition, 29 species are described as new. Lectotypes are designated for 15 species and 1 neotype designation is made for another. Each species is described, keyed, and illustrated. Each genus is diagnosed and keyed. A number of genera not recorded within the limits of this study are also included in the generic key.

Oceanian Alticinae are essentially Oriental in origin, respective of the autochthonous species. The largest influx of Oriental Alticinae probably reached the Papuan Subregion, an important center of secondary evolution, before spreading further onto Pacific islands. Australian elements are also reflected to some degree in the composition of Papuan and New Caledonian faunas. The Inner Melanesian Arc and the Outer Melanesian Arc appear to be the major pathways for founders of the autochthonous species on South Pacific islands. The faunas of New Zealand, Norfolk Island and Lord Howe Island, possibly Oriental derived, are largely composed of relict forms which do not appear closely linked to modern continental elements. The continental islands bordering East Asia from southern Japan to the Philippines comprise a front which has served as the probable source area for most of the few alticine species occurring in western Micronesia.

INTRODUCTION

Flea beetles or Chrysomelidae of the subfamily Alticinae are moderately well to poorly represented or sometimes absent on Pacific islands within the vast area of Oceania, a region em-

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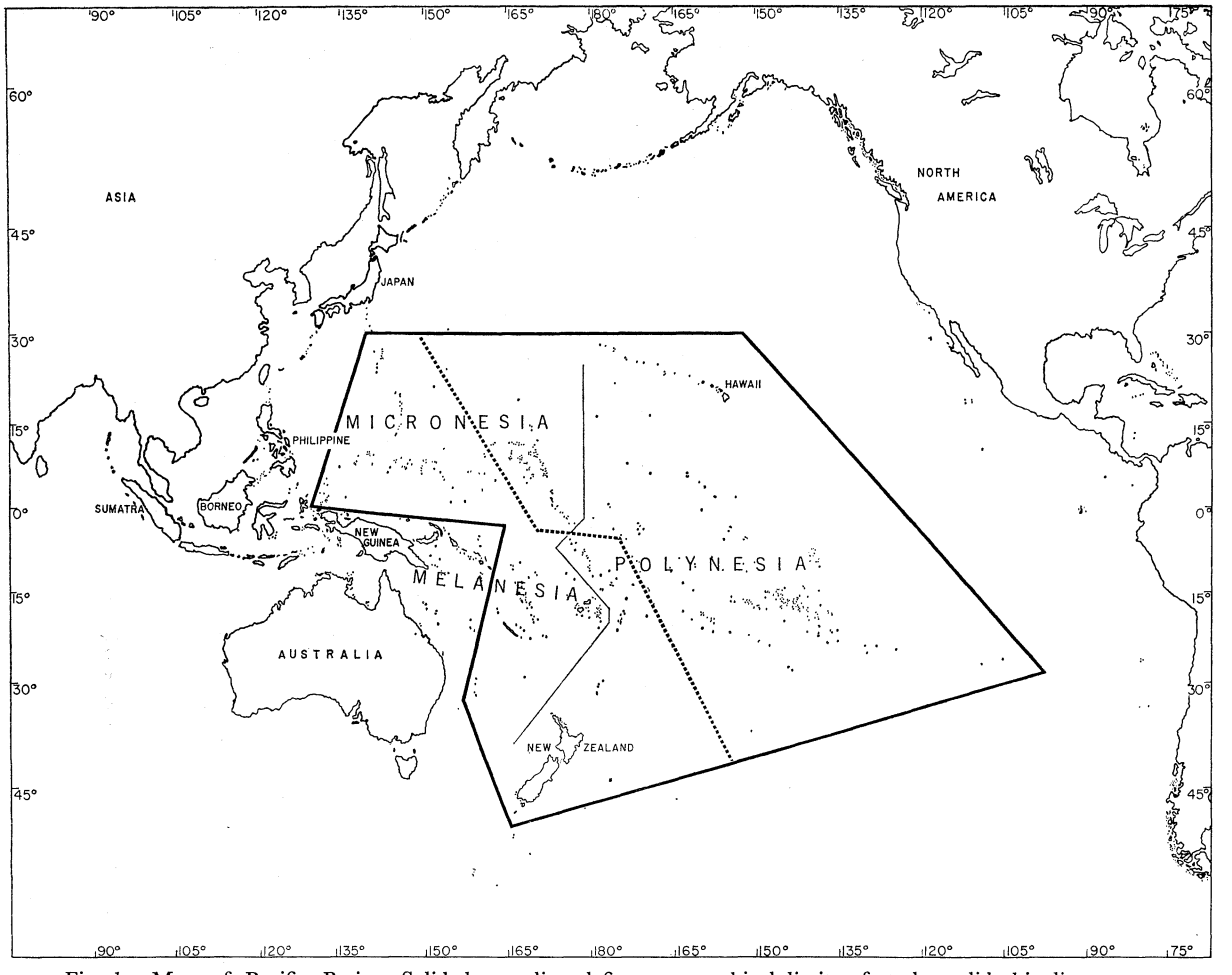

Fig. 1. Map of Pacific Basin. Solid heavy line defines geographical limits of study; solid thin line separates Micronesia and Melanesia from Polynesia; dashed oblique line roughly delimits easternmost occurrence, except Hawaii, of Alticinae within limits of study. Isolated Hawaii contains two adventive species.

bracing the three great anthropologically defined divisions of Micronesia, Melanesia, and Polynesia. The aim of this account is to unite for the first time the greater part of these insular alticine faunas for taxonomic revision. Chrysomelids of Micronesia treated by Gressitt (1955) brought the Alticinae into perspective for that division of the Pacific, but the faunas of eastern Melanesia and Polynesia have remained generally poorly known, aside from the fairly comprehensive treatments by Bryant & Gressitt (1957) for Fiji and Maulik (1929) for Samoa. No single work has treated together the major insular assemblages for any chrysomelid subfamily throughout Melanesia and Polynesia.

The geographical scope of this study covers almost all of Oceania, including New Zealand, Lord Howe and Norfolk Islands, but western Melanesia (New Guinea, Bismarck Archipelago, Solomon Islands) is excluded because of the masses of species to be treated. The Alticinae of western Melanesia is receiving attention separately (Samuelson 1965, 1966, 1967, 1969, 1971).

A significant increase in the number of species of Alticinae for Oceania should be anticipated. There is already a number of residual forms included in the keys and most of these will probably prove to be new. Undoubtedly, further autochthones will come to light from many Pacific islands, including especially the southern portions of New Zealand, the mountains of New Caledonia, Vanua Levu and certain lesser islands of Fiji, as well as the island clusters beyond the terminus of the Solomons.

Historical resume

The Xavier Montrouzier collections, reported by Montrouzier himself (1861) and again with B.-P. Perroud (1864) contain the earliest descriptions of Alticinae from Pacific islands within the limits of this study. These beetles are from New Caledonia and Lifou (Loyalty Islands), but some of the species thought to be Alticinae because of their original generic assignments are found now to belong to the subfamily Eumolpinae. Hamlet Clark (1864) described the first alticine from Fiji and concurrently erected the genus *Febra* for its reception. Leon Fairmaire (1882) added species to the preceding genus. J. S. Baly (1876) included a New Caledonian species in his descriptions of Alticinae. D. Sharp (1876) described the first New Zealand alticine and placed it in a new genus, *Alema*. Thomas Broun (1880–1923) described further species of Alticinae from New Zealand and placed almost all of them in the genus *Phyllotreta*. Sharp (1886) erected two new genera, *Trachytetra* and *Pleuraltica* for some of Broun's species of *Phyllotreta* and then Broun himself (1893) established *Inopelonia* for the reception of others. G. E. Bryant (1925–1945) described numerous chrysomelids, including many alticines, from Pacific islands and some years later reviewed the Fijian fauna with J. L. Gressitt. A. M. Lea (1926, 1929) described the first and subsequent alticines from Lord Howe and Norfolk Islands and erected the genus *Goweria* for one of the Lord Howe species. S. Maulik (1929) reported on Samoan chrysomelids in the series *Insects of Samoa* and described the first alticines from those islands, including the new genus *Nesohaltica*. Michio Chûjô (1943) described the first Micronesian alticines. J. Linsley Gressitt treated the Chrysomelidae for the series *Insects of Micronesia* (1955) and reported later on Samoan chrysomelids (1957). Bryant & Gressitt (1957) jointly reviewed the Chrysomelidae of Fiji and described a number of new alticines. S. Shaw (1957) reviewed the New Zealand species of *Alema*.

Two species of Alticinae collected during the 1851–1853 voyage of the *Eugenie* are among the Coleoptera whose records could possibly be confused with those of the South Pacific; they are *Longitarsus insularis* (Boheman, 1859) and *Crepidodera bicolor* Boheman, 1859. The true locality, discussed by Smith & Lawrence (1967: 8), is believed to be Paiti or "Taiti" of coastal Ecuador.

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COLLECTIONS

The 3916 specimens of Oceanian Alticinae cited in the text form the basis of this study. A small number of additional specimens is treated only as far as inclusion in the keys.

Symbols or proper names in parentheses identify source collections in the material examined sections and elsewhere as well as sources of comparative material. This scheme follows the 4-letter system advanced by Arnett & Samuelson (1969).

AMNH	American Museum of Natural History, New York
AUMC	Auckland Institute and Museum, Auckland
AUSM	Australian Museum, Sydney
BMNH	British Museum (Natural History), London
BPBM	Bernice P. Bishop Museum, Honolulu
CASC	California Academy of Sciences, San Francisco
DOMM	Dominion Museum, Wellington
DSIR	Entomology Division, Department of Scientific and Industrial Research, Nelson
FREY	Museum G. Frey, Tutzing
GMSN	Museo Civico di Storia Naturale, Genova
ISNB	Institute Royal des Sciences Naturelles de Belgique, Bruxelles
MCLY	Macleay Museum, Sydney
MCZC	Museum of Comparative Zoology, Cambridge
NHRS	Naturhistoriska Riksmuseet, Stockholm
PMHN	Muséum National d'Histoire Naturelle, Paris
PPDC	Plant Protection Division, Department of Scientific and Industrial Research, Auckland

SAMC	South Australian Museum, Adelaide
TARI	Taiwan Agriculture Research Institute, Taipei
TGLC	Tussock Grasslands and Mountain Lands Institute, Lincoln College, Christchurch
USNM	United States National Museum of Natural History, Washington

TAXONOMY

Characters

Certain important characters at the species level include those involving proportions of external features expressed by the measurements and indices explained in the following section. Integumental sculpturing and coloration are treated to some extent for each species; these attributes are generally useful in separating species and sometimes infraspecific populations. Of genital characters, the form of the aedeagus is useful in distinguishing species and the spermatheca, an internal ♀ organ, is useful for delimiting species groups as well as separating species. Wing [metawing] reduction or absence is not uncommon in Oceanian forms and has occurred independently a number of times; thus apterous or brachypterous species and those having full alar development may be closely related.

Characters more or less important at the generic level are given in the diagnosis for each genus. The pronotal ante-basal impression or the absence of it, seen frequently as an important genus-ordering factor in many keys, is used here with caution and reservation, for its prominence is quite variable within certain genera.

Facial features are identified in fig. 1. Proportions of antennal socket (as), interantennal space (ia), eye (e), and gena (g) appear generally stable in populations and usually so throughout the range of a species; sculpture of frontal surfaces appears to be stable within a population.

Spermathecal features are identified in fig. 2. The spermathecal gland (sgl) which disintegrates in dried specimens and the spermathecal muscle are omitted in routine illustrations.

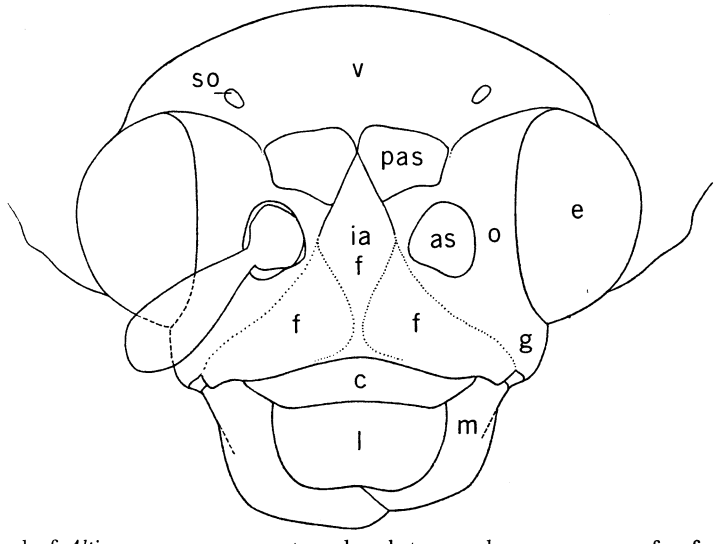

Fig. 2. Head of *Altica corusca:* as = antennal socket, c = clypeus, e = eye, f = frons, g = gena, ia = interantennal space, l = labrum, m = mandible, o = orbit, pas = postantennal swelling, so = supraorbital puncture, v = vertex.

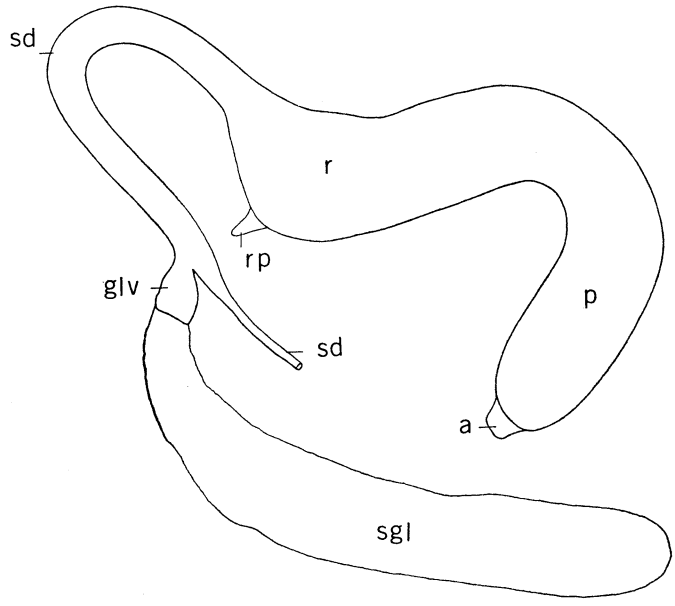

Fig. 3. Spermatheca of *Trachytetra robusta:* a = appendix, glv = gland valve, p = pump, r = receptacle, rp = receptacular process, sd = spermathecal duct, sgl = spermathecal gland.

Proportions of sclerotized spermathecal structures, including the conformation of the sclerotized part of the spermathecal duct, appear to be stable in individuals within a population and usually so throughout the range of a species; the spermathecal duct (sd) is membraneous for most of its length, but becomes abruptly sclerotized near the gland valve (glv); the sclerotized part of the duct may be simply arched or simply or complexly coiled, depending on the species; the receptacle (r) and pump (p) are always present with the juncture well delimited or not, depending on the genus; the appendix (a) may be present or absent and when present it may be variously modified for muscle attachment; the receptacular process (rp) is present in only three of the species treated.

Elytral puncture row arrangement in Alticinae basically comprises 9 complete discal longitudinal or serial puncture rows, a short scutellar row, and a row at the extreme lateral margin. This plan becomes variously modified with addition or subtraction of serial puncture rows, sometimes resulting in complete loss of serial rows. The basic arrangement of serial rows and interstices is identified as follows: scutellar row is the short mesal puncture row; serial puncture row 1 is the first complete longitudinal row near the sutural margin; thence serial puncture rows 2–9, with the last lateralmost on disc; lateral puncture row is located at the lateral margin itself, with punctures frequently obscure; interstitial punctures, when present, occupy the interstices; interstice 1 is the interval between serial puncture rows 1 and 2; thence interstices 2–8; marginal areas bordering serial puncture rows 1 and 9 are the sutural and lateral interstices respectively.

Standard Measurements and Indices

Measurements are taken through a stereoscopic microscope with an ocular-mounted linear scale. Means of measurements are calculated from original tabulations, then converted into metric units; indices are calculated from original measurements, not converted units. Measurements

are interpreted as unidimensional, thus curvature is not taken into account.

The *millimeter* [mm] is used here to express length and breadth of body. These measurements are rounded to the nearest 0.05 mm.

The *centimillimeter* [cmm—1 cmm = 0.01 mm] is used here to express most other measurements. The cmm is used, because the range of 0.01 to 9.99 mm can be simply represented by whole numbers of 3 digits or less. Reliability of most measurements in cmm is $\pm$ 2 cmm.

Ranges of all standard measurements and ranges and means of body length and all indices are reported for most species.

LENGTH = maximum linear dimension of body; measured from anterior-most part of head to posterior-most part of elytron; if head is bent into unnatural porrect position as sometimes happens with card-mounted specimens, then the measurement is taken from the interantennal region of head to elytral apex.

BREADTH = maximum transverse dimension of body; measured across broadest part of elytra.

HEAD BREADTH = maximum transverse dimension of head at eyes; measured across head between lateral-most part of each eye. Some alticines are slightly broader at occiput, but the measurement is still taken across the eyes.

INTERANTENNAL SPACE = narrowest transverse space between inner margins of antennal sockets; measurements are taken from aperture to aperture and thus include the margins of the antennal sockets.

ANTENNAL SOCKET = transverse diameter of socket; measurements are taken across the aperture and do not include margins of the antennal socket.

ORBIT = narrowest transverse dimension between lateral margin of antennal socket and inner margin of eye; measured from the aperture of the socket to the eye.

INTEROCULAR SPACE = narrowest transverse dimension between eyes; measured across narrowest space between eyes. Depending on the species, the narrowest space between eyes may fall above or near middle or below middle of eyes.

EYE = maximum diameter of eye; measured between margins across greatest diameter.

EYE BREADTH is not measured. It can be roughly estimated by subtracting Interocular Space from Head Breadth and halving the remainder.

INTEROCULAR INDEX = Interocular Space $\times$ 100/ Eye. An index of 100 means that the maximum diameter of eye is equal to the narrowest part of the interocular space; accordingly, large-eyed species will tend to have small indices and inversely so with small-eyed species.

GENA = shortest linear dimension between lower margin of eye and genal angle (point of maximum angulation of genal margin near base of mandible); measured with genal angle and lower eye margin on same plane of focus.

PRONOTAL LENGTH = maximum linear dimension of prothorax; measured along imaginary mesal line of the pronotum.

PRONOTAL BREADTH = maximum transverse dimension of pronotum. Depending on the species, the broadest point may fall anywhere between the anterior angles to posterior angles.

PRONOTAL INDEX = Pronotal Length $\times$ 100/ Pronotal Breadth.

PRONOTAL-HUMERAL INDEX = narrowest prebasal breadth of pronotum $\times$ 100/ breadth of both elytra at humeral angles. This index used here only for certain species of *Alema*, *Analema*, and *Manobia*.

ELYTRAL LENGTH = maximum linear dimension between elytral base at scutellum and elytral apex.

LEG RATIO. Lengths of metafemur, metatibia, and metatarsus are reported as values taken directly from the ocular micrometer.

AEDEAGUS. Measured longitudinally and transversely at middle to give the expression of length/breadth at middle; measured with base and apex on same plane of focus.

SPERMATHECA. Measured across the receptacle and pump for greatest linear dimension; measured with spermatheca on its "side."

Lengths of illustrated aedeagi and spermathecae are reported in the captions.

USE OF CERTAIN SYMBOLS AND TERMS

* Asterisks identify new genera and species in keys.

± This means "more or less" in keys, diagnoses, and descriptions.

U This indicates "sex undetermined" in citations under Variation.

Plant Associates. Plants from which only adults were collected; some may prove to be Plant Hosts.

Plant Hosts. Plants which are known to be larval food plants.

ARRANGEMENT OF TAXA

The following list is thought to include all available names of Pacific island Alticinae treated within the geographical limits of this revision. Species are listed in order of appearance in text. Synonyms are italicized. Species of dubious distribution on Pacific islands and Pacific island species once but no longer regarded as alticines are placed in parentheses. Species of questionable position are placed in brackets. Various notations regarding new changes resulting in this study are put to the right of the name in the list. New taxa are in **bold face.**

Licyllus Jacoby	
bouqueti (Montrouzier)	new combination
viridipennis Bryant	new synonym
Trachyaphthona Heikertinger	
Nesohaltica Maulik	new synonym
boja	
nana	
lifuana (Montrouzier)	new combination
atra (Bryant)	new combination
brunnea (Bryant)	new combination
chandleri	
greenwoodi (Bryant)	new combination
senetiki (Gressitt)	new combination
vitiensis (Bryant)	new combination
lauensis (Gressitt)	new combination
nigra (Maulik)	new combination
Linaltica	
simmondsi (Bryant)	new combination
lamia (Gressitt)	new synonym, combination
amicitia	
Trachytetra Sharp	
rugulosa (Broun)	
frontalis Broun	new synonym
robusta Broun	

Pleuraltica Sharp	
cyanea (Broun)	
tyche	
Altica Fabricius	
corusca Erichson	
(gravida Blackburn)	wrong identification
jussiaeae Gressitt	
(cyanea (Weber))	wrong identification
oleracea (Linnaeus)	
[dimidiata Perroud]	Eumolpinae?
Hemipyxis Dejean	
species	not identified
Aphthona Chevrolat	
bicolorata Jacoby	
formosana Chen	
veitchi veitchi Bryant	
cheesmani Bryant	new synonym
samoana Gressitt	new synonym
veitchi nanyoensis Chûjô	new status
Phyllotreta Stephens	
undulata (Kutschera)	
strigula (Montrouzier)	new synonym
(*australis* Blackburn)	new synonym (Australia)
vittigera Broun	new synonym
blackburni Bryant	new synonym
Longitarsus Latreille	
Inopelonia Broun	new synonym
bimaculatus (Baly)	
panope	
fuliginosus (Broun)	new synonym (replacement name), combination
testacea (Broun)	new combination, homonym
(insularis (Boheman))	(Ecuador)
Mniophila Stephens	
exulans	
Sphaeroderma Stephens	
wedeliae Gressitt	
(histrio Perroud)	Eumolpinae!
(rubiacearum Perroud)	Eumolpinae!
Schenklingia Csiki & Heikertinger	
esakii Chûjô	
ponapensis Chûjô	
yasumatsui Chûjô	
yoshimurai Chûjô	
Argopistes Motschulsky	
Sphaerophyma Baly	new synonym

coccinelliformis Csiki	
(biplagiatus Motschulsky)	wrong identification
armipes (Lea)	new combination
kraussi	
arnetti	
insularis (Maulik)	new combination
[thomassini (Montrouzier)]	new combination
[gagates (Montrouzier)]	new combination
[coccinea (Montrouzier)]	new combination
[dichroa (Montrouzier)]	new combination
Febra Clark	
venusta Clark	
semiaurantiaca Fairmaire	
ovata Bryant	
insularis Bryant	
rubra Gressitt	
varioloidea Fairmaire	
nigroornata nigroornata Bryant	
nigroornata vanuana Gressitt	
Manobia Jacoby	
fuscitarsis (Lea)	new combination
instabilis (Lea)	new combination
costata Bryant	
levicollis Gressitt	
lubricata	
metallica Bryant	
obsolapicalis	
obtusicollis Gressitt	
thompsoni	
tomaniiviae	
victoriae	
zimmermani	
Goweria Lea	
obscura Lea	
Alema Sharp	
paradoxa Sharp	
puncticolle Broun	new synonym
spatiosa Broun	
Analema	
nigra (Bryant)	new combination
producticollis (Gressitt)	new synonym, combination
leveri (Bryant)	new combination
Epitrix Foudras	
cucumeris (Harris)	
hirtipennis (Melsheimer)	
Livolia Jacoby	

carolina (Chûjô)	
Crepidodera Chevrolat	
coeruleoviolacea Bryant	
erromangana (Bryant)	new combination
elongata Gressitt	
evansi Bryant	
fijiensis Csiki	
nigra Bryant	
gressitti	
infuscata	
kraussi Gressitt	
lami	
oceanica Gressitt	
(dimidiata Baly)	wrong identification
ovalauensis	
parafijiensis	
rotunda Gressitt	
semifuscata	
(bicolor Boheman)	(Ecuador)
[brullei Montrouzier]	Eumolpinae?
Arsipoda Erichson	
agalma	
evax	
isola	
shirleyae	
yiambiae	
Chaetocnema (s. str.) Stephens	
paspalae (Broun)	new combination
Chaetocnema (Tlanoma) Motschulsky	
allardi Perroud	
arsipodoides	
basalis Baly	
aotearoa	
graminicola (Broun)	new combination
littoralis (Broun)	new combination
moriori	
nitida (Broun)	new combination
Psylliodes Latreille	
brettinghami Baly	
illigeri Perroud	new synonym
novaecaledoniae Baly	new synonym
(*lubricata lubricata* Blackb.)	new synonym (Australia)
lubricata howensis Lea	new synonym
lubricata norfolcensis Lea	new synonym
solanae Broun	new synonym
vitiensis Bryant	new synonym
cucurbitae Gressitt	

Nonarthra Baly
cyaneum Baly

Key to genera of Pacific island Alticinae

1. Procoxal cavity broadly open behind....2
Procoxal cavity closed or barely open behind....21
2. Procoxa conical; prosternal intercoxal piece not or barely visible between coxae....3
Procoxa globose; procoxal intercoxal piece plainly visible between coxae....4
3. Pronotum with transverse impression at middle....**Licyllus**
Pronotum lacking impressions [type: *L. trivialis* Weise; Siberia—distribution S & E Asia, Japan to Taiwan, Australia, Solomons]....(**Luperomorpha**)
4. Elytron with discal punctures entirely confused or confused-obsolescent....5
Elytron with discal punctures partly or entirely in serial rows [puncturation reduced to humeral and lateral striae in Fiji *Mniophila*]....14
5. Ungues appendiculate or dentate basally....6
Ungues simple....13
6. Interantennal space about 1.5 × or less as broad as transverse diameter of antennal socket....7
Interantennal space about 2 × or more as broad as transverse diameter of antennal socket [type: *A. dorsalis* Jacoby; Ceylon—distribution S Asia, Japan, New Guinea, Solomons]....(**Amphimeloides**)
7. Postantennal swellings ± triangular-elongate, extending into interantennal space....8
Postantennal swellings subrounded or subquadrate or transverse, not or barely extending into interantennal space....11
8. Metasternum of normal length: at least 0.65 × as long as abdominal sternum 1....9
Metasternum of reduced length: about 0.5 × as long as abdominal sternum 1....**Trachytetra**
9. Prosternal intercoxal piece relatively broad: narrowed but flattened between coxae....10
Prosternal intercoxal piece relatively narrow: reduced to a vertical lamina between coxae...**Pleuraltica**
10. Metatibial spine simple or narrowly flattened with apex microbifid....**Trachyaphthona**
Metatibial spine dilated, scale-like, apex conspicuously trifid....**Linaltica***
11. Metafemur flattened or ± convex retrotarsal surface....12
Metafemur deeply channeled on retrotarsal surface....**Hemipyxis**
12. Ante-basal impression of pronotum present....**Altica**
Ante-basal impression of pronotum absent....**Aphthona**
13. Metabasitarsus distinctly less than 0.5 × as long as tibia....**Phyllotreta**
Metabasitarsus 0.5 × or more as long as tibia....**Longitarsus**
14. Ungues appendiculate; interantennal space about 1.5 × or less as broad as transverse diameter of antennal socket....15
Ungues simple; interantennal space about 2 × as broad as transverse diameter of antennal socket....**Mniophila**
15. Interantennal space narrow: about 0.5 × or less as broad as transverse diameter of antennal socket....16
Interantennal space moderately broad: about 1 × or more as broad as transverse diameter of antennal socket....19
16. Metatarsus and tibial spine inserted apically on tibia....17
Metatarsus and tibial spine inserted preapically on tibia....**Argopistes**
17. Mesosternum visible....18
Mesosternum concealed by metasternum....**Schenklingia**
18. Profemur strongly flattened basally, broadest postbasally [type: *P. coxalis* Samuelson; Solomons—distribution: Solomons]....(**Profebra**)
Profemur not strongly flattened basally, broadest near middle or preapex....**Febra**

19. Tarsal pad cleft, apical margin bilobed....20
Tarsal pad not cleft, apical margin entire....**Sphaeroderma**
20. Ante-basal impression of pronotum distinct to obsolescent; elytral disc usually swollen basally....**Manobia**
Ante-basal impression of pronotum absent; elytral disc evenly convex....**Goweria**
21. Antenna 11-segmented....22
Antenna 9- or 10-segmented....28
22. Prothorax relatively elongate: pronotal index 80 or more....23
Prothorax relatively transverse: pronotal index less than 80....24
23. Prothorax with side margin fine or absent; pronotal base with median lobe weakly produced, not as deep as scutellum....**Alema**
Prothorax with side margin well developed; pronotal base with median lobe well produced, about as deep as scutellum....**Analema***
24. Dorsum pubescent....25
Dorsum glabrous....26
25. Pubescence of dorsum ± dense, of short recurved hairs....**Epitrix**
Pubescence of dorsum ± sparse, of long erect setae....**Livolia**
26. Postantennal swellings obsolete to obsolescent-approximate....27
Postantennal swellings distinct to obsolescent, separated medially by upper frons and delimited from vertex by faint to deep oblique groove....**Crepidodera**
27. Ante-basal impression of pronotum present; mesotibia not excavated preapically....**Arsipoda**
Ante-basal impression of pronotum absent; mesotibia excavated preapically....**Chaetocnema**
28. Antenna 10-segmented; metatibial spine present....**Psylliodes**
Antenna 9-segmented; metatibial spine absent....**Nonarthra**

Genus **Licyllus** Jacoby

Licyllus Jac., 1885, *Proc. Zool. Soc. London* **1885:** 928 (type: *Altica albicollis* Fabr. = *L. splendidus* Jac.; Australia—monobasic).—Blackburn, 1896, *Trans. R. Soc. S. Australia* **20:** 41 (key).—Bryant, 1923, *Ann. Mag. Nat. Hist.* ser 9, **12:** 143.

DIAGNOSIS. Galeruciform, elytra broadened preapically like certain species of *Aulacophora*. Interantennal space narrower than diameter of antennal socket; postantennal swellings subquadrate; antenna 11-segmented, not longer than body, flagellar segments ± cylindrical; pronotum transverse, disc with

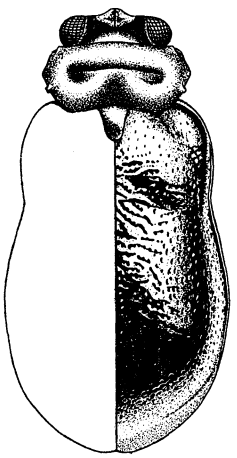

Fig. 4. *Licyllus bouqueti*, dorsal view.

transverse impression across middle, impression sometimes interrupted mesally; elytron swollen basally, depressed postbasally, broadened preapically; elytral puncturation confused; procoxa conical, cavity open; tibiae lacking spines; metatibia not channeled on retrotarsal surface; claw tarsomere not dilated, ungues appendiculate. Sexual dimorphism: antenna longer in ♂; probasitarsus slightly larger in ♂.

REMARKS. Generally primitive features such as the conical-projecting procoxa, narrow prosternal intercoxal piece, together with galeruciform facies characterize members of this genus, *Luperomorpha* Weise [S & E Asia, Japan, Philippines, Australia, Solomons], and others; differs from *Luperomorpha* by having distinct pronotal transverse impression instead of none and males with antennal segment 3 of normal length instead of very short.

DISTRIBUTION. Sumatra, Australia, New Guinea, and New Caledonia to New Hebrides.

Licyllus bouqueti (Montrouzier), new combination Fig. 4, 12a, 26a.

Monomacra bouqueti Montr., 1861, *Ann. Soc. Ent. France* ser 4, **1:** 300 (Lifu—type lost?).—Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.—Heller, 1916, *In* Sarasin & Roux, *Nova Caledonia* ser A, **2**(3): 258.

Lactica buqueti (sic): Csiki & Heikertinger, 1939, Junk, Col. Cat. **25**(166): 262.

Licyllus viridipennis Bryant, 1936, *Ann. Mag. Nat. Hist.* ser 10, **17:** 248 (New Hebrides—type in BMNH). **New Synonym.**

♂ (Noumea). Galeruciform: broadest preapically. Dorsum bicolorous: pronotum and scutellum orange-testaceous, elytron black with metallic violaceous lustre; head mostly orange-testaceous, but vertex black; antenna with apical segments darkened; ventral surfaces including elytral epipleuron mostly yellow-testaceous, metasternum dark fuscous; legs yellow-testaceous. Length 4.1 mm; breadth 2.15.

Head: frons swollen medially and along anterior margin, side impressed, surfaces finely subgranulate; interantennal space convex, about 0.5 × as broad as transverse diameter of antennal socket; orbit 0.4 × as broad as transverse diameter of antennal socket; interocular index 112; gena 0.5 × as deep as eye; postantennal swellings subquadrate, separated medially by deep groove, surfaces feebly swollen, smooth and delimited from vertex by transverse groove; vertex broadly convex, surface shining, sparsely punctulate. *Antenna* about 0.85 × as long as body; intermediate segments more strongly thickened toward apices than subcylindrical apical ones. *Prothorax* broadest near middle; pronotal index 50; side convex, narrowed posteriorly; posterior angle obtuse, strongly produced; basal margin rather straight medially, but slightly convex before scutellum; disc with shallow transverse impression across middle, surface shining, sparsely punctulate. *Elytron* 3 × as long as broad; side feebly constricted postbasally and gradually broadened to apical 1/3, thence convexly narrowed to apex; epipleuron subhorizontal basally, narrowed at basal 1/3, thence acutely inflexed and ending slightly before apex; disc feebly impressed postbasally; central punctures 2–3 × as large as interspaces; interspaces briefly raised. *Ventral surfaces* generally smooth. *Legs:* metafemur 2.4 × as long as broad; basitarsus slightly shorter than remainder. *Wing* fully developed. *Aedeagus* 4.3 × as long as breadth at middle, see figure.

♀ (Noumea). Similar to ♂. Chiefly differs from same by stouter form: elytron more strongly broadened preapically; antenna shorter, about 0.65 × as long as body, segments more cylindrical. *Spermatheca* as figured. Length 3.6 mm; breadth 2.1.

VARIATION (n = 7). LENGTH 3.5–4.1 mm, mean 3.7; BREADTH 1.85–2.2 mm; HEAD BREADTH 170–184 cmm; INTERANTENNAL SPACE 14–17 cmm; INTEROCULAR SPACE 82–90 cmm; EYE 75–80 cmm; INTEROCULAR INDEX 106–112, mean 108; PRONOTAL LENGTH 100–116 cmm; PRONOTAL BREADTH 211–235 cmm; PRONOTAL INDEX 44–50, mean 47; ELYTRAL LENGTH 295–335 cmm. [2 ♂♂, 4 ♀♀, 1 U]

Pronotum and scutellum yellow- to orange-testaceous; elytron with greenish to violaceous metallic lustre; abdomen yellow-testaceous to fuscous, darkest in New Hebrides specimens; elytron with central discal punctures 1–3 × as large as interspaces.

MATERIAL EXAMINED (n = 7). NEW CALEDONIA: 2, Noumea, Coll. Fauvel (ISNB); 2, no specific locality, Coll. Fauvel (ISNB); NEW HEBRIDES: *Malekula:* 2, Malua Bay, VI.1929, Cheesman (BMNH); *Eromanga:* 1, IX.1930, Cheesman (BMNH).

DISTRIBUTION. New Caledonia, Loyalty Islands (Lifou), New Hebrides (Malekula, Eromanga).

REMARKS. Allied to *albicollis* (Fabricius) [Australia] by ± similar form of spermatheca, but receptacle is more slender; differs further from same by having postbasal impression of elytron feeble instead of moderately deep and by coloration: scutellum pale instead of dark, elytron with metallic lustre fairly uniform instead of green with reddish basal, discal, and preapical areas.

PLANT ASSOCIATES. Solanaceous plant (Montrouzier, 1861: 300).

Genus **Trachyaphthona** Heikertinger

Trachyaphthona Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 34 (+key) (type: *Aphthona sordida* Baly; Japan); 1925, ibid. **11**(304): 52 (key).—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 357 (key); 1936, ibid. **26:** 124.—Ohno, 1961, *Bull. Dept. Lib. Arts Toyo Univ.* **2:** 72.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 748 (key), 871.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 403 (key); 1966, ibid. **13**(4): 612 (part).—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 7 (key), 16 (key), 80 (part).

Zipangia Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 39 (+key) (type: *Haltica obscura* Jacoby; Japan); 1925, ibid. **11**(304): 52 (key).—Chen, 1933, *Sinensia* **3**(9): 221 (key) (err. *Zipanzia*); 1934, ibid. **5**(3–4): 234 (key), 388.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 356 (key); 1936, ibid. **26:** 30.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 404 (key); 1965, ibid. **13**(4): 624.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 11(key), 20 (key), 81.

Nesohaltica Maulik, 1929, *Ins. of Samoa*, part 4, fasc. 3, 201 (type: *Nesohaltica nigra* Maulik; Samoa—monobasic).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 74 (key), 84.—Samuelson, 1967, *Pacific Ins.* **9**(1): 141 (key), 160. **New Synonym.**

DIAGNOSIS. Small alticines with form subovate-elongate, rather straight or weakly convex along side. Frons triangular, distinctly raised with surface flattened; interantennal space narrower than diameter of antennal socket; postantennal swellings triangular, lower apices extending into interantennal space, upper margins well-delimited from vertex; antenna 11-segmented, apical segments moderately thickened; pronotum with ante-basal impression present or absent, never attaining side, usually a vague subcircular depression or flattened area before scutellum when present; elytral puncturation confused; procoxa globose; procoxal

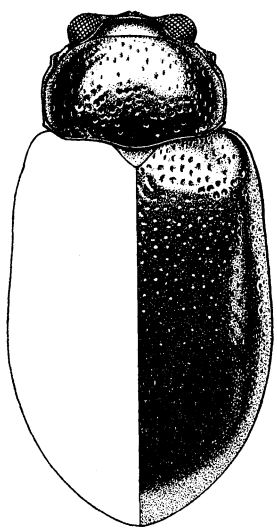

Fig. 5. *Trachyaphthona lifuana*, dorsal view.

cavity open; metatibia flattened to channeled on retrotarsal surface, spine simply acute, often flattened, or bifid; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: antenna longer in ♂; apex of protibia usually heavier in ♂; probasitarsus swollen in ♂.

REMARKS. The ante-basal impression of the pronotum, a cardinal genus-ordering character for the Alticinae, breaks down as a stable character in members of *Trachyaphthona*. Ohno (1961: 73), who synonymized *Zipangia* Heikertinger with *Trachyaphthona*, reported on the variable nature of the ante-basal impression, which exhibits various degrees of prominence to obsolescence throughout an assemblage of fairly closely related species. The impression is generally confined medially as a ± circular depression which is obsolescent to absent in Pacific island species, and in certain species, such as *atra* (Bryant), individuals in the same population may have the depression present or absent. *Nesohaltica* Maulik [Pacific islands] is synonymized here, because the slight modification of one character, the metatibial spine (see key), hardly forms a basis for maintaining it separately. Members of *Trachytetra* Sharp [New Zealand] and *Pleuraltica* Sharp [New Zealand and Norfolk Island] have rather close affinities to this genus (see key for separation).

DISTRIBUTION. S & E Asia, Japan, Ryukyus and S Pacific from New Caledonia to Fiji and eastward as far as Samoa.

Key to Pacific island species of Trachyaphthona

1. ♂♂: protarsus with basitarsus more robust than following tarsomere.....2
   ♀♀: protarsus with basitarsus and following tarsomere subequal in size.....14
2. Metatibial spine with apex acute 3
   Metatibial spine with apex bifid [dorsum subpiceous; length 1.8–2.25 mm—Samoa].....**nigra**
3. Aedeagus with preapex obtusely or acutely narrowed to angular-briefly rounded apex.....4
   Aedeagus with preapex ± evenly convex, continued with broadly rounded apex.....10
4. Aedeagus with preapex obtusely or subobtusely narrowed; preapex rather broad.....5
   Aedeagus with preapex distinctly acutely narrowed; preapex slender.....9
5. Aedeagus subparallel-sided, rather slender.....6
   Aedeagus not parallel-sided, rather robust.....7
6. Aedeagus moderately arched, dorsal surface impressed at preapex only [dorsum dark fuscous to piceous; length 2 mm—New Caledonia].....sp. A
   Aedeagus weakly arched, dorsal surface impressed along apical 1/3–1/2 [dorsum yellow- to orange-testaceous; length 1.7 mm—New Caledonia].....sp. B
7. Aedeagus about 3 × as long as broad, broadest near middle.....8
   Aedeagus about 5 × as long as broad, broadest near apical 1/3 [dorsum bicolorous: pronotum and elytral apex yellowish, elytron otherwise fuscous to subpiceous; length 2.2–2.7 mm—New Caledonia].....**boja***
8. Pronotal disc granulate to rugose [dorsum fuscous to piceous; length 1.6–1.9 mm—Fiji: Viti Levu].....**brunnea**
   Pronotal disc smooth [dorsum dark fuscous; length 1.6 mm—Fiji: Vanua Levu].....**senetiki**
9. Aedeagus about 5.5 × as long as broad [dorsum piceous; length 1.6–1.7 mm—Fiji: Viti Levu].....**greenwoodi**
   Aedeagus about 9 × as long as broad [dorsum bicolorous: pronotum and basal 2/5 of elytron yellowish, remainder of elytron fuscous; length 2.15 mm—New Caledonia].....sp. C
10. Pronotal disc with central punctures mostly smaller than or subequal to interspaces, interspaces ± smooth or finely granulate; elytron usually evenly convex.....11
    Pronotal disc with central punctures mostly larger than interspaces, interspaces ± rugulose; elytron usually depressed postbasally [dorsum fulvous or red-fulvous to fuscous; elytron sometimes yellowish apically; length 1.65–2.2 mm—Lifou, New Caledonia].....**lifuana**

11. Elytron with discal punctures ± small, mostly 2 cmm or less in diameter; punctures close or not.....12
Elytron with discal punctures ± large, mostly 4–5 cmm in diameter; punctures close, mostly 3–4 × as large as interspaces.....13
12. Elytron with central discal punctures relatively sparse, mostly 1–2 × as large as interspaces [dorsum fulvous to subpiceous; length 1.7–2.2 mm—New Hebrides].....**atra**
Elytron with central discal punctures relatively close, mostly 2–3 × as large as interspaces [dorsum yellow- to orange-testaceous; length 1.65–1.9 mm—Isle of Pines].....**nana***
13. Prothorax with side evenly convex; aedeagus about 6.5 × as long as breadth at middle [dorsum dark fuscous to piceous; length 1.8–2.35 mm—Fiji: Viti Levu].....**chandleri***
Prothorax with side sinuate; aedeagus about 4.8 × as long as breadth at middle [dorsum orange-fuscous to piceous; length 2 mm—Fiji: Vanua Levu, Taveuni].....**vitiensis**
14. Distal part of spermathecal duct not coiled.....15
Distal part of spermathecal duct coiled.....25
15. Spermathecal pump lacking distinct appendix.....16
Spermathecal pump with distinct appendix.....20
16. Spermathecal duct insertion ± linear or obliquely declined (downward in figures) to long axis of receptacle (main body of spermatheca).....17
Spermathecal duct insertion obliquely inclined (upward in figures) or 90° to long axis of receptacle.....21
17. Receptacle-pump region not constricted.....18
Receptacle-pump region strongly constricted [dorsum yellow-testaceous; length 2 mm—New Caledonia].....sp. D
18. Elytron evenly convex.....19
Elytron unevenly convex: slightly swollen basally, depressed postbasally [dorsum dark fuscous to piceous; length 2 mm—New Caledonia].....sp. A
19. Interocular index 100 or less [dorsum dark fuscous to piceous; length 1.6–1.9 mm—Fiji: Viti Levu].....**brunnea**
Interocular index around 106 [dorsum fulvous; length 1.75 mm—Fiji: Lau].....**lauensis**
20. Appendix acute [dorsum dark fuscous to piceous; length 1.8–2.35 mm—Fiji: Viti Levu].....**chandleri***
Appendix spatulate [dorsum pronotum and elytral apex yellowish, elytron otherwise fuscous to subpiceous; length 2.2–2.7 mm—New Caledonia].....**boja***
21. Spermathecal duct insertion 90° to long axis of receptacle.....22
Spermathecal duct insertion obliquely inclined to long axis of receptacle [dorsum yellow-testaceous to fulvous, elytral apex sometimes paler than disc; length 1.65–1.9 mm—Isle of Pines].....**nana***
22. Metatibial spine simple, apex acute.....23
Metatibial spine bifid [dorsum subpiceous; length 1.8–2.25 mm—Samoa].....**nigra**
23. Pronotal disc ± rugulose, central punctures mostly larger than interspaces; elytron usually depressed postbasally and longitudinally impressed posthumerally.....24
Pronotal disc ± smooth, central punctures mostly subequal to or smaller than interspaces; elytron evenly convex [dorsum fulvous to subpiceous; length 1.7–2.2 mm—New Hebrides].....**atra**
24. Elytron gently convex along middle [dorsum fulvous to reddish fulvous; length 1.9–2.2 mm—Lifou].....**lifuana** (part)
Elytron rather straight along middle [dorsum fuscous, elytral preapex becoming yellowish; length 1.65–1.9 mm—New Caledonia].....**lifuana** (part)
25. Spermathecal duct insertion 90° to long axis of receptacle [dorsum yellow-testaceous; length 2.1 mm—New Caledonia].....sp. E
Spermathecal duct insertion obliquely inclined to long axis of receptacle [dorsum piceous; length 2 mm—Fiji: Taveuni, Vanua Levu].....**vitiensis**

Trachyaphthona boja Samuelson, new species Fig. 12b, 26b.

Holotype ♂. Form subelongate, side slightly convex along middle. Dorsum bicolorous: pronotum

flavous, elytron mostly dark fuscous with apical 1/4 becoming orange-testaceous to flavous; head, antenna, venter, legs largely yellow- to orange-testaceous, apical 5 antennal segments, metasternum dark. Length 2.2 mm; breadth 1.2.

Head: frons triangular, slightly raised, surface subgranulate; interantennal space ± flat between raised margins of antennal sockets, about 0.6 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 112; gena 0.65 × as deep as eye; postantennal swellings briefly swollen, rather smooth, separated medially by fine line and rather faintly delimited from vertex by transverse-sinuate line; vertex subgranulate. *Antenna* extending to slightly beyond middle of elytron; apical segments gradually thickened toward apices, stouter than intermediate ones. *Prothorax* broadest near middle, base narrower than elytra at humeral angles; pronotal index 68; anterior angle oblique; side convex; base feebly convex-sinuate; disc rugulose, coarsely punctate, punctures mostly 3 × as large as interspaces. *Elytron* 3 × as long as broad, broadest near apical 1/3, side gently convex along middle; epipleuron horizontal-concave, continued to preapex; humerus briefly produced, sparsely punctulate; central discal punctures deep, mostly 3 × as large as interspaces; interspaces raised, shining. *Ventral surfaces* ± smooth. *Legs:* metafemur 1.95 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 42: 39: 24; basitarsus slightly longer than remainder. *Wing* fully developed. *Aedeagus* about 5 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Elytron flattened to ± depressed longitudinally from posthumeral area to preapex. *Spermatheca* as figured. Length 2.4 mm; breadth 1.35.

VARIATION (n = 4). LENGTH 2.2–2.7 mm, mean 2.45; BREADTH 1.15–1.35 mm; HEAD BREADTH 51–59 cmm; INTEROCULAR SPACE 26–30 cmm; EYE 23–26 cmm; INTEROCULAR INDEX 112–116, mean 115; PRONOTAL LENGTH 49–57 cmm; PRONOTAL BREADTH 72–84 cmm; PRONOTAL INDEX 65–68, mean 67; ELYTRAL LENGTH 167–207 cmm. [1 ♂, 3 ♀♀]

Dorsal coloration rather uniform in all specimens, but pale areas vary from flavus to orange-testaceous.

TYPE SERIES (n = 4). NEW CALEDONIA: Holotype ♂ (BPBM 9808), Yiambi, 940 m, 14.X.1967, M. Sedlacek; allotype ♀ (BPBM), Col des Roussettes, 450–550 m, 4–6.II.1963, Kuschel; paratypes (BPBM) as follows: 1, Mt Ignambi, 1100 m, 4.II.1964, sweeping, Straatman; 1, Mt Panier, 500–1000 m, 11.X.1967, J. Sedlacek.

DISTRIBUTION. New Caledonia; at higher elevations. Endemic.

REMARKS. Rather distinct in having dorsum bicolorous with pronotum and elytral apices yellowish, remainder of elytron dark fuscous, as well as having a fairly distinct form of aedeagus and a quite distinct type of spermatheca with spatulate appendix. The aedeagus vaguely resembles that of *brunnea* (Bryant) [Fiji: Viti Levu], but it is much narrower (see figures); differs further from *brunnea* by greater body size: commonly around 2.4 mm instead of 1.7 mm, and by greater interocular index: commonly around 115 instead of around 99.

PLANT ASSOCIATES. None reported.

Trachyaphthona nana Samuelson, new species Fig. 12c, 26c.

Holotype ♂. Form subovate-elongate, side slightly convex. Dorsum, head, antenna, venter, legs largely fulvous, metasternum becoming pitchy brown. Length 1.65 mm; breadth 0.95.

Head: frons triangular, ± flattened, surface subgranulate; interantennal space concave, about 0.65 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 113; gena 0.55 × as deep as eye; postantennal swellings swollen, ± smooth, separated medially by groove and delimited from vertex by transverse line; vertex subalutaceous. *Antenna* extending to apical 1/3 of elytron; intermediate segments thickened toward apices; apical segments more robust and less strongly thickened than preceding. *Prothorax* broadest near middle, base narrower than elytra at humeral angles; pronotal index 59; anterior angle oblique; side convex; base feebly convex-sinuate; discal punctures deep, mostly 1–2 × as large as interspaces; interspaces flattened, shining; prebasal area with circular depression medially. *Elytron* 2.7 × as long as broad, broadest along middle, side gently convex; epipleuron horizontal-

concave, ending preapically; humerus weakly produced, punctulate; ceutral discal punctures moderately deep, mostly 1–2 × as large as interspaces; interspaces flattened to feebly raised, subalutaceous. *Ventral surfaces* smooth to alutaceous. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 30: 21: 19; basitarsus slightly longer than remainder. *Wing* fully developed. *Aedeagus* about 5.4 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Elytron fulvous, becoming yellow-testaceous on apical 1/3; central discal punctures mostly 1.5–2 × as large as interspaces. *Spermatheca* as figured. Length 1.9 mm; breadth 0.95.

VARIATION (n = 5). LENGTH 1.65–1.9 mm, mean 1.75; BREADTH 0.8–0.95 mm; HEAD BREADTH 44–51 cmm; INTEROCULAR SPACE 22–25 cmm; EYE 19–21 cmm; INTEROCULAR INDEX 113–124, mean 118; PRONOTAL LENGTH 38–43 cmm; PRONOTAL BREADTH 60–70 cmm; PRONOTAL INDEX 59–64, mean 62; ELYTRAL LENGTH 131–150 cmm. [4 ♂♂, 1 ♀]

Dorsum evenly fulvous or fuscous with pronotum and apical 1/3 of elytron yellow-testaceous. Pronotum with discal punctures mostly 1 × or less as large as interspaces, punctures slightly larger in 1 specimen.

TYPE SERIES (n = 5). NEW CALEDONIA: *Isle of Pines:* Holotype ♂ (BPBM 9809), III.1959, N. L. H. Krauss; allotype ♀ (BPBM), same data as holotype; 3 paratopotypes, same data as preceding.

DISTRIBUTION. New Caledonia (Isle of Pines). Endemic.

REMARKS. Somewhat allied to *lifuana* (Montrouzier) [Lifou, New Caledonia] because of similar facies as well as same type of aedeagus with rather evenly rounded apex (see figures); differs from same by having pronotal disc ± smooth instead of rugulose, pronotal punctures mostly around 1 × as large as interspaces instead of 2–3 ×; spermatheca with insertion of spermathecal duct obliquely inclined to axis of receptacle instead of 90° (see figures).

PLANT ASSOCIATES. None reported.

Trachyaphthona lifuana (Montrouzier), new combination Fig. 5, 12d, 26d.

Altica lifuana Montrouzier, 1861, *Ann. Soc. Ent. France* ser 4, **1:** 300 (Lifu—type presumed lost).—Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.

Haltica lifuana: Heller, 1916, *In* Sarasin & Roux, *Nova Caledonia* ser A **2**(3): 258.

Longitarsus lifuanus: Csiki & Heikertinger, 1939, Junk, Col. Cat. **25**(166): 183.

Neotype ♂. Form subelongate, side slightly convex. Dorsum rather dark red-fulvous; head, antenna, venter, legs fulvous to yellow-testaceous. Length 1.85 mm; breadth 1.0.

Head: frons triangular, ± flattened, surface subgranulate; interantennal space concave, about 0.35 × as broad as transverse diameter of antennal socket; orbit 0.45 × as broad as antennal socket; interocular index 124; gena 0.7 × as deep as eye; postantennal swellings slightly raised, ± smooth, separated medially by groove and delimited from vertex by transverse-sinuate line; vertex ± smooth. *Antenna* extending to apical 2/5 of elytron; apical segments stouter than intermediate ones, gradually thickened toward apices. *Prothorax* broadest near middle, base narrower than elytra at humeral angles; pronotal index 63; anterior angle oblique-sinuate; side convex; base feebly convex-sinuate; disc rugulose, punctures coarse, mostly 2–3 × as large as interspaces. *Elytron* 3 × as long as broad, broadest slightly behind middle, side gently convex; epipleuron ± horizontal-flattened, not reaching apex; humerus slightly produced, sparsely punctulate; central discal punctures mostly 3 × as large as interspaces; interspaces mostly raised, ± smooth. *Ventral surfaces:* thoracic sterna rather smooth; abdomen alutaceous. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 31: 22: 18; basitarsus as long as remainder. *Wing* fully developed. *Aedeagus* about 4.7 × as long as breadth at middle, see figure.

♀ (We). Similar to ♂. Elytron with posthumeral longitudinal impression extending to preapex; central discal punctures mostly 1.5–2 × as large as interspaces; interspaces feebly raised to flattened. *Spermatheca* as figured. Length 2.15 mm; breadth 1.1.

VARIATION (Lifou population: n = 11). LENGTH 1.85–2.2 mm, mean 2.1; BREADTH 1.0–

1.15 mm; HEAD BREADTH 51–59 cmm; INTEROCULAR SPACE 25–30 cmm; EYE 20–30 cmm; INTEROCULAR INDEX 112–134, mean 123; PRONOTAL LENGTH 43–51 cmm; PRONOTAL BREADTH 68–82 cmm; PRONOTAL INDEX 59–66, mean 62; ELYTRAL LENGTH 137–174 cmm. [5 ♂♂, 6 ♀♀]

Dorsum fulvous to red-fuscous [Lifou] or red-fuscous with apical 1/3 or so of elytron becoming yellow-testaceous [New Caledonia, Mouac]. Elytron with side gently convex in Lifou specimens but rather straight along middle in the others. Aedeagi as well as spermathecae are nearly identical in the material examined.

NEOTYPE SERIES (n = 19). LOYALTY ISLANDS: *Lifou:* Neotype ♂ (BPBM 9810), We, 16–18.II.1963, C. M. Yoshimoto; ♀ (BPBM), same data as neotype; 9, same data as preceding; NEW CALEDONIA: 6, Col d'Amieu, 130 km N of Noumea, 350–650 m, 13.XI.1963, Straatman (BPBM); *Mouac:* 1, 19.X.1968, Joyce (BPBM). New to New Caledonia.

BPBM specimens to BMNH, PMHN.

The present designation of the neotype of *Altica lifuana* Montrouzier is so taken to clarify the position of the species, for it is a species with close relatives in the SW Pacific. The fixation should also obviate any confusion caused by the inclusion of the species under *Longitarsus* in the Coleopterorum Catalogus. What Montrouzier had before him was very likely this species of *Trachyaphthona* as it agrees well with the brief original description, while members of other genera, including *Longitarsus*, do not. The original series appears to have been lost, possibly at Lyon.

DISTRIBUTION. Loyalty Islands, New Caledonia. Endemic.

REMARKS. Allied to *atra* (Bryant) [New Hebrides] by having similar type of aedeagus and spermatheca; see *atra* or key for differences; differs from *chandleri*, n. sp. [Fiji: Viti Levu] by lacking appendix on spermathecal pump.

PLANT ASSOCIATES. None reported.

Trachyaphthona atra (Bryant), new combination Fig. 12e, 26e.

Nesohaltica atra Bryant, 1936, *Ann. Mag. Nat. Hist.* ser 10, **17:** 252 (New Hebrides: Eromanga—type in BMNH).

Lectotype ♀. Form ovate-subelongate, side weakly convex. Dorsum, venter and legs red-fuscous; antenna with basal segments orange-testaceous, apical ones fuscescent. Length 2.0 mm; breadth 1.0.

Head: frons triangular, rather flat, surface subgranulate; interantennal space concave, about 0.85 × as broad as transverse diameter of antennal socket; orbit 0.55 × as broad as antennal socket; interocular index 120; gena 0.55 × as deep as eye; postantennal swellings moderately raised, separated medially by a fairly deep groove and abruptly delimited from vertex by broadly arcuate line; vertex rather smooth. *Antenna* extending to apical 1/2 of elytron; intermediate segments rather slender and gradually thickened toward apices; apical segments much stouter than intermediate ones. *Prothorax* broadest near middle, base slightly narrower than elytra at humeral angles; pronotal index 65; anterior angle oblique-sinuate; side convex; base feebly convex-sinuate; disc ± smooth, bearing small deep punctures mostly 0.7–1 × as large as interspaces, interspaces flat; prebasal area with vague shallow circular depression medially. *Elytron* 3 × as long as broad, broadest near middle, side weakly convex; epipleuron horizontal and ending well before apex, surface rather smooth; central discal punctures deep, mostly 0.7–1 × as large as interspaces; interspaces flat, subalutaceous. *Ventral surfaces* rather smooth. *Legs:* metafemur 2.35 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 33: 22: 18; basitarsus about as long as remainder. *Wing* fully developed. *Spermatheca* as in figure of different specimen (Efate).

Allolectotype ♂. Similar to ♀. Dorsum dark orange-fuscous; punctures of pronotal disc commonly 0.5–0.7 × as large as interspaces. *Aedeagus* about 5.5 × as long as breadth at middle, resembles figure of different specimen (Efate). Length 2.0 mm; breadth 1.05.

VARIATION (n = 15). LENGTH 1.7–2.2 mm, mean 2.0; BREADTH 0.9–1.1 mm; HEAD BREADTH 44–57 cmm; INTEROCULAR SPACE 22–29 cmm; EYE 19–24 cmm; INTEROCULAR INDEX 116–

138, mean 123; PRONOTAL LENGTH 41–55 cmm; PRONOTAL BREADTH 66–81 cmm; PRONOTAL INDEX 64–70, mean 67; ELYTRAL LENGTH 123–176 cmm. [7 ♂♂, 8 ♀♀]

Dorsum fulvous to red-fulvous (Efate specimens) or dark fuscous (some Malekula specimens); antenna generally entirely orange-testaceous, but apical segments sometimes fuscescent.

MATERIAL EXAMINED (n = 18). NEW HEBRIDES: *Malekula:* 1, Lamap, 21.IX. 1967, grasses, M. Sedlacek (BPBM); *Efate:* 10, Vila, VIII.1950, Krauss (BPBM); 3, Limestone Plateau N of Maat, 100 m, 17-, 20.VIII.1957, Gressitt (BPBM); *Eromanga:* Lectotype ♀ (BMNH), IX.1930, L. E. Cheesman; allolectotype ♂ (BMNH), same data as preceding; 2 paralectotypes, 4.8 km inland, 210 m, VII.1930, beating, Cheesman (BMNH).

None of the 4 specimens comprising the type series is indicated as type in the original description; a ♀ specimen of that series bearing a BMNH, type label (circular with red border) is designated here as lectotype.

DISTRIBUTION. New Hebrides (Malekula, Efate, Eromanga). Endemic.

REMARKS. Allied to *lifuana* (Montrouzier) [Lifou, New Caledonia] because of similar type of aedeagus and spermatheca; differs from same by having pronotal disc smooth instead of rugulose, pronotal punctures mostly around 1 × or less as large as interspaces instead of 2–3 ×.

PLANT ASSOCIATES. Grasses: Malekula (M. Sedlacek, label).

Trachyaphthona brunnea (Bryant), new combination Fig. 12f, 26f.

Nesohaltica brunnea Bryant, 1957, *Pacific Sci.* **11:** 84 (+key), fig. 43 (Fiji: Viti Levu—type in BPBM).

♂ (Tholo-i-suva). Form rather robust, side weakly convex along middle. Dorsum dark fuscous, rather dull; antenna yellow-testaceous, apical 5 segments fuscescent; venter and legs fuscous to yellow-testaceous, metasternum and metafemur darkest. Length 1.65 mm; breadth 0.95.

Head: frons triangular, ± flattened, surface subgranulate; interantennal space narrowly concave between raised margins of antennal sockets, about 0.65 × as broad as transverse diameter of antennal socket; orbit 0.25 × as broad as antennal socket; interocular index 100; gena 0.55 × as deep as eye; postantennal swellings triangular, rather strongly raised, separated medially by rather broad groove and abruptly delimited from vertex by deep transverse line; vertex rugose, somewhat transversely flattened anteriorly. *Antenna* extending to middle of elytron; apical segments flattened and rather strongly thickened toward apices. *Prothorax* broadest near posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 67; anterior angle oblique; side feebly convex; base feebly convex-sinuate; disc rugose overall, punctures large, mostly 2–3 × as large as interspaces; interspaces swollen and subgranulate. *Elytron* 2.85 × as long as broad, broadest at apical 1/3; side slightly convex along middle; humerus horizontal and ending well before apex, surface rather smooth; central discal punctures large, mostly 3–4 × as large as interspaces; interspaces a little raised and subgranulate. *Ventral surfaces:* thoracic sterna granulate; abdomen ± smooth. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 41: 38: 23; basitarsus almost as long as remainder. *Wing* fully developed. *Aedeagus* about 2.6 × as long as breadth at middle, see figure.

♀ (Lami). Similar to ♂. *Spermatheca* as figured. Length 1.9 mm; breadth 1.15.

VARIATION (n = 16). LENGTH 1.6–1.9 mm, mean 1.7; BREADTH 0.95–1.15 mm; HEAD BREADTH 40–49 cmm; INTEROCULAR SPACE 18–21 cmm; EYE 18–21 cmm; INTEROCULAR INDEX 95–110, mean 99; PRONOTAL LENGTH 43–55 cmm; PRONOTAL BREADTH 64–78 cmm; PRONOTAL INDEX 63–69, mean 66; ELYTRAL LENGTH 129–156 cmm. [8 ♂♂, 8 ♀♀]

Dorsum dark fuscous to piceous. Vertex rugose in holotype and 9 others; ± smooth in 5 specimens.

MATERIAL EXAMINED (n = 16). FIJI: *Viti Levu:* 1 (holotype ♂), ridge W of Nandarivatu, 790–910 m, 9.IX.1938 [not 8.IX], beating shrubbery, Zimmerman (BPBM); BPBM material: 1 (paratype ♂), Lami Quarry nr Suva, V.1951, Krauss; 2, Lami, 1920, Pemberton; 2,

same loc., IV.1951, Krauss; 1, same loc., V.1951, Krauss; 6, same loc., XI.1957, Krauss; 3, Tholo-i-suva [Colo-i-suva], 3–6.III.1963, Malaise trap, Yoshimoto.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Allied to *senetiki* (Gressitt) [Fiji: Vanua Levu] because of similar type of aedeagus; differs from same by having pronotal disc rugulose instead of smooth, pronotal punctures mostly 2–3 × as large as interspaces instead of 0.5–1 ×.

PLANT ASSOCIATES. None reported.

Trachyaphthona chandleri Samuelson, new species Fig. 12g, 26g.

Holotype ♂. Form subelongate, side feebly convex along middle. Dorsum dark fuscous, somewhat shining; antenna with segment 1 fuscescent, intermediate segments yellow-testaceous, apical ones fuscous; venter and legs largely dark fuscous. Length 1.95 mm; breadth 1.05.

Head: frons triangular, rather flat, surface subgranulate; interantennal space ± flattened between raised margins of antennal sockets; about 0.5 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 104; gena 0.55 × as deep as eye; postantennal swellings triangular, moderately raised, separated medially by fairly broad groove and abruptly delimited from vertex by feebly sinuate-transverse line; vertex rather smooth, shining. *Antenna* extending to nearly apical 1/3 of elytron; apical segments turgid, gradually thickened toward apices. *Prothorax* broadest behind middle, base narrower than elytra at humeral angles; pronotal index 67; base feebly convex-sinuate; disc bearing rather small but deep punctures, mostly 1–2 × as large as interspaces; interspaces rather smooth and flat. *Elytron* 3 × as long as broad, broadest at apical 4/9, side weakly convex along middle; epipleuron horizontal and not quite reaching apex, surface rather smooth; central discal punctures large, mostly 2–3 × as large as interspaces; interspaces swollen, rather smooth. *Ventral surfaces* rather smooth. *Legs:* metafemur 2.1 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 53: 36: 33; basitarsus nearly as long as remainder. *Wing* fully developed. *Aedeagus* about 6.5 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. *Spermatheca* as figured. Length 2.3 mm; breadth 1.15.

VARIATION (n = 17). LENGTH 1.8–2.35 mm, mean 2.05; BREADTH 0.95–1.3 mm; HEAD BREADTH 46–60 cmm; INTEROCULAR SPACE 20–28 cmm; EYE 19–25 cmm; INTEROCULAR INDEX 100–121, mean 108; PRONOTAL LENGTH 47–60 cmm; PRONOTAL BREADTH 64–91 cmm; PRONOTAL INDEX 64–74, mean 68; ELYTRAL LENGTH 146–182 cmm. [9 ♂♂, 8 ♀♀]

Dorsum fuscous to subpiceous. Elytron with basal area rather evenly convex in all specimens; sublateral area evenly convex in most specimens, but 4 have vague to distinct posthumeral longitudinal impression.

TYPE SERIES (n = 17). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9811), Nandarivatu, 1100 m, 23.XII.1963, host no. 4169, Gressitt; allotopotype ♀ (BPBM), same data as holotype; 9 paratopotypes, same data as preceding (BPBM); paratypes (BPBM) as follows: 1, Lami, 1920, Pemberton; 1, same loc., IV.1951, Krauss; 1, same loc., XI.1957, Krauss; 2 (1 is paratype of *brunnea*), Lami Quarry nr Suva, V.1951, Krauss; 1, Tholo-i-suva, I.1955, Krauss.

BPBM paratype to BMNH.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Resembles *brunnea* (Bryant) [Fiji: Viti Levu] in general facies, but aedeagus and spermatheca are quite different (see key or figures); differs further from same by having pronotal disc smooth-shining instead of rugulose-dull; perhaps somewhat related to *vitiensis* (Bryant) [Fiji: Vanua Levu, Taveuni] because of similar type of appendiculate spermathecal pump, but spermathecal duct is simply arched instead of coiled. The name honors Prof. Leland Chandler of Purdue University.

PLANT ASSOCIATES. Undetermined plant (Gressitt number 4169).

Trachyaphthona greenwoodi (Bryant), new combination Fig. 12h.

Aphthona greenwoodi Bryant, 1925, *Ann. Mag. Nat. Hist.* ser 9, **15:** 595 (Fiji: Viti Levu—type in BMNH).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 75 (+key).

♂ (holotype). Form subovate, side gently convex. Dorsum piceous; labrum orange-testaceous, head otherwise subpiceous to piceous with vertex darkest; antenna orange-testaceous, apical segments slightly darkened; venter dark fuscous to piceous, abdomen palest; metafemur dark pitchy brown, legs otherwise fulvous to yellow-testaceous. Length 1.7 mm; breadth 1.0.

Head: frons subtriangular, elevated, anterior margin ± arched, surface ± irregular, granulate; interantennal space ± flattened between raised margins of antennal sockets, about 0.55 × as broad as transverse diameter of antennal socket; orbit about 0.5 × as broad as antennal socket; interocular index 83; gena 0.4 × as deep as eye; postantennal swellings slightly elevated, rather smooth, separated medially by broad channel and delimited from vertex by straight oblique line; vertex moderately convex, surface impunctate, shining. *Antenna* extending nearly to apical 2/5 of elytron; intermediate and apical segments thickened toward apices, apical segments more robust than intermediate ones. *Prothorax* broadest at posterior angles, base about as broad as elytra at humeral angles; pronotal index 55; anterior angle oblique; side feebly convex; base feebly sinuate, broadly convex across middle; disc deeply punctate, punctures mostly 0.7–1 × as large as interspaces; interspaces subgranulate; prebasal area vaguely depressed at center. *Elytron* about 2.7 × as long as broad, broadest near middle, side gently convex along middle; epipleuron horizontal-concave, ending at elytral preapex, surface rather smooth; dorsal surface evenly convex; central discal punctures mostly 1.5–2 × as large as interspaces; interspaces rather flat, subalutaceous, shining. *Ventral surfaces:* metasternum ± smooth, transversely rugulose; abdomen granulate. *Legs:* metafemur 1.8 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 31: 24: 19; basitarsus as long as remainder. *Wing* fully developed. *Aedeagus* about 5.3 × as long as broad near middle, see figure.

♀. Not known.

VARIATION (n = 2). LENGTH 1.6–1.7 mm; BREADTH 0.95–1.0 mm; HEAD BREADTH 47–49 cmm; INTEROCULAR SPACE 19–20 cmm; EYE 22–23 cmm; INTEROCULAR INDEX 83 in both specimens; PRONOTAL LENGTH 39–41 cmm; PRONOTAL BREADTH 67–74 cmm; PRONOTAL INDEX 55–58; ELYTRAL LENGTH 127–135 cmm. [2 ♂♂]

MATERIAL EXAMINED (n = 2). FIJI: *Viti Levu:* 1 (holotype ♂), Loloti, 19.XII. 1920, no. 605, Greenwood (BMNH); 1, Lami, XI.1957, Krauss (BPBM).

Previously known by only the holotype.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Somewhat similar to *brunnea* (Bryant) [Fiji: Viti Levu] in size and general facies; differs from same by having dorsal puncturation much finer: pronotal punctures mostly 0.7–1 × as large as interspaces instead of 2–3 ×, interocular index around 83 instead of commonly near 100, aedeagus slender instead of robust (see figures).

PLANT ASSOCIATES. None reported.

Trachyaphthona senetiki (Gressitt), new combination Fig. 12i.

Aphthona senetiki Gressitt, 1957, *Pacific Sci.* **11:** 75 (key), 76, fig. 40 (Fiji: Vanua Levu—type in BPBM).

♂ (holotype). Form subelongate-ovate, side fairly convex along middle. Dorsum and venter dark fuscous; antenna and legs yellow-testaceous to pitchy brown. Length 1.6 mm; breadth 0.9.

Head: frons triangular, ± flat, surface rather smooth; interantennal space briefly convex between raised margins of antennal sockets, about 0.7 × as broad as transverse diameter of antennal socket; orbit 0.4 × as broad as antennal socket; interocular index 100; gena 0.6 × as deep as eye; postantennal swellings moderately swollen, separated medially by a groove and delimited from vertex by transversely impressed line; vertex broadly convex, surface shining. *Antenna* extending to basal 2/5 of elytron; apical segments stouter than intermediate ones. *Prothorax* broadest near middle, base slightly narrower than elytra at humeral angles; pronotal index 66; anterior angle oblique, margin feebly sinuate; side convex; base feebly sinuate-convex; disc bearing deep punctures, mostly 0.5–1 × as large as interspaces; interspaces rather smooth.

Elytron 2.75 × as long as broad, broadest at apical 2/5, side nearly straight along middle; epipleuron horizontal and ending preapically, surface smooth; humerus broadly but vaguely produced; discal punctures deep, mostly 2 × as large as interspaces; interspaces vaguely swollen. *Ventral surfaces* rather smooth. *Legs:* metafemur nearly 2 × as long as broad. *Wing* fully developed. *Aedeagus* about 3 × as long as breadth at middle, see figure.

♀. Unknown.

VARIATION. Unique.

MATERIAL EXAMINED (n = 1). FIJI: *Vanua Levu:* 1 (holotype ♂), between Navakuru and Nakawanga, 400 m, 7.X.1955, Gressitt (BPBM).

DISTRIBUTION. Fiji (Vanua Levu). Endemic.

REMARKS. Closely allied to *brunnea* (Bryant) [Fiji: Viti Levu] because of similar type of aedeagus; see *brunnea* or key for differences.

PLANT ASSOCIATES. None reported.

Trachyaphthona vitiensis (Bryant), new combination Fig. 12j, 26h.

Nesohaltica vitiensis Bryant, 1938, *Proc. R. Ent. Soc. London* ser B, **7:** 251 (Fiji: Vanua Levu, Taveuni—type in BMNH, from Vanua Levu).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 84 (key), 85.

♂ (holotype). Form subrobust, side slightly convex. Dorsum, head moderately dark orange-fuscous; antenna with segments 1–6 yellow- or orange-testaceous, 7–11 dark fuscous; venter yellow-fuscous to fuscous with mesosternum and abdomen paler than metasternum; legs pitchy fuscous. Length 2.0 mm; breadth 1.05.

Head: frons triangular, surface slightly elevated, subgranulate; interantennal space briefly convex between raised margins of antennal sockets, about 0.45 × as broad as transverse diameter of antennal socket; orbit 0.45 × as broad as antennal socket; interocular index 112; gena 0.55 × as deep as eye; postantennal swellings separated by median groove, surfaces moderately raised, delimited from vertex by deep arched line; vertex convex, granulate. *Antenna* extending beyond middle of elytron; apical segments rather slender, feebly thickened toward apices. *Prothorax* broadest at posterior angles; pronotal index 68; anterior angle oblique-concave; side nearly straight, sinuate behind middle; base convex-sinuate; discal punctures commonly 0.5–0.7 × as broad as interspaces, but central area more sparsely punctate; interspaces granulate; prebasal area with small median circular depression. *Elytron* 2.9 × as long as broad, broadest near middle, side feebly convex along middle; epipleuron horizontal, continued nearly to apex, surface ± alutaceous; humerus briefly produced; central discal punctures large, shallow, mostly 3–4 × as large as interspaces; interspaces ± alutaceous, briefly raised. *Ventral surfaces* ± smooth to alutaceous. *Legs:* relative lengths of metafemur, -tibia, -tarsus are 32: 22: 18; basitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* about 4.8 × as long as breadth at middle, see figure.

♀ (type series). Not similar to ♂. Dorsum piceous; interocular index 90; vertex shining; pronotal index 62; discal punctures of pronotum 1–1.5 × as large as interspaces, interspaces smooth; central discal punctures of elytron 1.5–2 × as large as interspaces, interspaces smooth, not swollen. *Spermatheca* as figured. Length 2.0 mm; breadth 1.1. (possibly a distinct species)

VARIATION. Insufficient material.

MATERIAL EXAMINED (n = 2). FIJI: *Vanua Levu:* 1 (holotype ♂), Lambasa [= Labasa], IX.1922, R. Veitch (BMNH); *Taveuni:* 1 ♀, Waiyevo, 29.II.1924, beaten from guava spinney, Evans (BMNH). [1 ♂, 1 ♀]

The holotype was collected in 1922 according to the label it bears, but it was cited for the year 1932 in the original description.

DISTRIBUTION. Fiji (Vanua Levu, questionably Taveuni). Endemic.

REMARKS. This species is poorly defined, because it is known only from the type series of 2 specimens; also, each specimen is from a different island and each is a different sex. Both specimens, whether they are conspecific or not, are allied to *chandleri*, n. sp. [Viti Levu], because of similar general type of aedeagus and spermatheca (see figures); differs from *chandleri*, n. sp. by

having lateral margin of prothorax nearly straight or sinuate instead of distinctly convex; aedeagus about 4.8 × as long as breadth at middle instead of 6.5; spermatheca with duct coiled instead of simply arched.

PLANT ASSOCIATES. Beaten from Guava: Taveuni (Evans, label).

Trachyaphthona lauensis (Gressitt), new combination Fig. 26i.

Nesohaltica lauensis Gressitt, 1957, *Pacific Sci.* **11:** 84 (key), 85, fig. 44 (Fiji: Lau: Lademba—type in BPBM).

♀ (holotype). Form subelongate-ovate, side rather straight along middle. Dorsum evenly brown-testaceous. Length 1.75 mm; breadth 0.95.

Head: frons triangular, surface flattened and ± subgranulate; interantennal space ± flat between raised margins of antennal sockets, breadth about 0.7 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 105; gena 0.6 × as deep as eye; postantennal swellings moderately raised, separated medially by distinct groove and delimited from vertex by deep transverse groove; vertex subgranulate and bearing a few punctures anteriorly. *Antenna* extending to basal 2/5 of elytron; intermediate segments gradually becoming more robust; apical segments stout. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 65; anterior angle oblique-sinuate; side gently convex; base feebly convex-sinuate; disc rugose, obscurely punctate. *Elytron* 3.1 × as long as broad, broadest near middle, side straight to feebly convex along middle; epipleuron horizontal and ending preapically, surface smooth; humerus broadly but weakly produced; central discal punctures large and shallow, mostly 3 × as large as interspaces; interspaces somewhat raised and subgranulate. *Ventral surfaces:* thoracic sterna granulate; abdomen alutaceous. *Legs:* metafemur 2 × as long as broad. *Wing* fully developed. *Spermatheca* as figured.

♂. Not known.

VARIATION. Unique.

MATERIAL EXAMINED (n = 1). FIJI: *Lau:* Namuka [Namuka-i-lau Island]: 1 (holotype ♀) 12.VIII.1924, Bryan (BPBM).

DISTRIBUTION. Fiji (Lau). Endemic.

REMARKS. Similar to *brunnea* (Bryant) [Fiji: Viti Levu] in general facies, but overall coloration is fulvous instead of dark fuscous to piceous; differs further by having spermathecal duct and receptacle slightly more slender.

PLANT ASSOCIATES. None reported.

Trachyaphthona nigra (Maulik), new combination Fig. 12k, 26j.

Nesohaltica nigra Maulik, 1929, *Ins. of Samoa*, part 4, fasc. 3, 201, fig. 12 (Samoa: Savaii, Upolo, Tutuila—type in BMNH [type locality: Mt Vaea, Upolo]).—Gressitt, 1957, *Proc. Hawaiian Ent. Soc.* **16**(2): 244 (key), 255.

♂ (Upolo). Form subelongate, side convex. Dorsum dark fuscous; antenna orange-testaceous, apical 5 segments fuscescent; venter and legs largely dark fuscous. Length 2.15 mm; breadth 1.15.

Head: frons triangular, subevenly raised, surface subgranulate; interantennal space briefly concave between raised margins of antenna sockets, about 0.4 × as broad as transverse diameter of antennal socket; orbit 0.55 × as broad as antennal socket; interocular index 104; gena 0.55 × as deep as eye; postantennal swellings moderately raised and separated medially by fairly broad groove, rather strongly delimited from vertex by deep transverse line; vertex smooth. *Antenna* extending beyond middle of elytron; apical segments turgid, gradually thickened toward apices. *Prothorax* broadest behind middle, base narrower than elytra at humeral angles; pronotal index 67; anterior angle oblique-sinuate; side weakly convex; base feebly convex-sinuate; disc rather coarsely punctured, punctures deep and mostly 1.5–3 × as large as interspaces; interspaces somewhat swollen, rather smooth. *Elytron* 3.1 × as long as broad, broadest near middle, side feebly convex along middle; epipleuron horizontal and not reaching apex; humerus weakly produced; central discal punctures deep, mostly 1.5–3 × as large as interspaces; interspaces slightly swollen, smooth.

Ventral surfaces largely subgranulate. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 58: 44: 34; basitarsus with length subequal to remainder. *Wing* fully developed. *Aedeagus* about 4.2 × as long as breadth at middle, see figure.

♀ (Upolo). Similar to ♂. *Spermatheca* as figured. Length 2.2 mm; breadth 1.15.

VARIATION (n = 10). LENGTH 1.8–2.25 mm, mean 2.0; BREADTH 0.95–1.15 mm; HEAD BREADTH 45–55 cmm; INTEROCULAR SPACE 21–26 cmm; EYE 20–24 cmm; INTEROCULAR INDEX 100–122, mean 106; PRONOTAL LENGTH 45–57 cmm; PRONOTAL BREADTH 66–82 cmm; PRONOTAL INDEX 65–69, mean 67; ELYTRAL LENGTH 136–180 cmm. [6 ♂♂, 4 ♀♀]

Dorsum dark fuscous to piceous. Pronotum rather smooth to subgranulate; discal punctures frequently 3–4 × as large as interspaces.

MATERIAL EXAMINED (n = 69). BPBM material. SAMOA: *Savaii:* 5 (paratypes), Salailua, 21.V.1924, Bryan; 2, II.1955, Krauss; 1, Sili, II.1955, Krauss; 26, Patamea, II.1955, Krauss; *Upolo:* 3 (paratypes), Tuaefu, 16.IX.1923, Swezey & Wilder; 5, Afiamalu, 670 m, 8.VI.1940, beating, Zimmerman; 1, same loc., 9.VI.1940, beating, Zimmerman; 5, same loc., 14.VI.1940, beating shrubbery, Zimmerman; 1, same loc., 28.VI.1940, Zimmerman; 2, same loc., 30.VI.1940, Zimmerman; 2, same loc., 640 m, 4.VII.1940, beating shrubbery, Zimmerman; 2, same loc., 670 m, 11.VII.1940, beating dead branches, Zimmerman; 1, Lanuteo, 730 m, 22.VII. 1940, beating, Zimmerman; 2, Sinaele, 430 m, 27.VII.1940, Zimmerman; *Tutuila:* 1 (paratype), Pago Pago, 9.IX.1923, Swezey & Wilder; 1, N side Pago Pago, 370 m, 16.VIII.1940, beating shrubbery, Zimmerman; 1, Amouli, 150 m, 1.VIII.1940, beating, Zimmerman; 2, Pago-Matafao trail, 370 m, 13.VIII.1940, beating shrubbery, Zimmerman; 3, same loc., 400 m, 17.VIII.1940, beating shrubbery, Zimmerman; 1, Moloata, 300 m, 27.VIII.1940, beating shrubbery, Zimmerman.

DISTRIBUTION. Samoa (Savaii, Upolo, Tutuila). Endemic.

REMARKS. Allied to *atra* (Bryant) [New Hebrides] because of similar form of spermatheca; differs from same by having metatibial spine bifid instead of simply acute, pronotal punctures mostly 2–3 × as large as interspaces instead of around 1 ×, and by darker color of dorsum; differs from *brunnea* (Bryant) [Fiji] by more slender form of body.

PLANT ASSOCIATES. None reported.

GENUS **Linaltica** Samuelson, new genus

Alticinae. Form ovate-subelongate. Frons triangular, flattened, antennal groove (= depression at side of frons) distinct; interantennal space about 0.5 × as broad as transverse diameter of antennal socket; postantennal swellings prominent, triangular with apices extending into interantennal space; antenna 11-segmented, attaining basal to postcentral elytral disc, apical segments thickened; prothorax transverse, base weakly convex but ± sinuate sublaterally; pronotal ante-basal impression absent; epipleuron subhorizontal, not strongly broadened basally; elytral puncturation confused; procoxa globular; procoxal cavity open; metatibia flattened on retrotarsal surface; metatibial spine prominent, scale-like with apical margin tridentate; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: antenna longer in ♂; apex of last abdominal sternum notched submedially in ♂, entire in ♀; probasitarsus more robust in ♂.

Type-species of genus: *Psylliodes simmondsi* Bryant

Genus name derivation: *Lin-* (patronizes Dr J. Linsley Gressitt) + *Altica* (nominate genus of subfamily).

REMARKS. Allied to *Trachytetra* Sharp [New Zealand], *Pleuraltica* Sharp [New Zealand, Norfolk], and *Trachyaphthona* Heikertinger [S & E Asia, Pacific islands]; differs from the first by having metathorax normally developed instead of strongly reduced; from the second by having prosternal intercoxal piece a flattened plate instead of a vertical lamina; from all 3 by having metatibial spine broadly scale-like with apex tridentate instead of acute or narrowly flattened

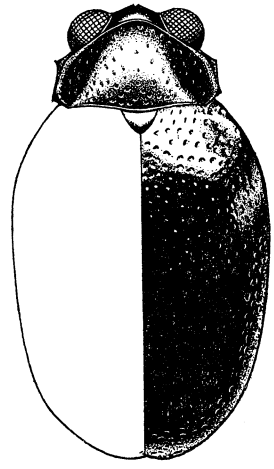

Fig. 6. *Linaltica simmondsi*, dorsal view.

with apex simple or bidentate. The new genus probably does not have close affinities to *Tribolia rufa* Chen [Tonkin] which also has the metatibial spine trifid, because *rufa* has elytral puncturation largely irregular instead of confused and pad of 3rd tarsomere entire instead of bilobed.

DISTRIBUTION. Fiji and Tonga. Each with 1 endemic species.

Key to species of Linaltica

Apical antennal segments relatively slender, segment 10 distinctly less than 0.75 × as broad as long [dorsum dark with slight bronze to greenish lustre; length 2.2–3.05 mm—Fiji: Viti Levu, Ovalau] ..... **simmondsi**

Apical antennal segments relatively robust, segment 10 0.75 × or more as broad as long [dorsum dark fuscous to subpiceous with bright lustre; length 2.05–2.35 mm—Tonga: Eua].....**amicitia***

Linaltica simmondsi (Bryant), new combination Fig. 6, 12l, 26k.

Psylliodes simmondsi Bryant, 1938, *Proc. R. Ent. Soc. London* ser B, **7:** 252 (Fiji: Viti Levu—type in BMNH).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 81 (+key).

Aphthona lamia Gressitt, 1957, *Pacific Sci.* **11:** 75 (+key) (Fiji: Viti Levu—type in BPBM). **New Synonym.**

♂ (Navai). Form subovate, side gently convex; elytral breadth broad relative to pronotal breadth. Dorsum dark fuscous, with slight bronzy lustre; antenna with segments 1–4 yellow-testaceous, remainder fuscous; venter yellow-testaceous to fuscous, metasternum darkest; legs largely yellow-testaceous. Length 2.4 mm; breadth 1.3.

Head: frons triangular, feebly raised, ± flattened, surface subgranulate; interantennal space rather flat between raised margins of antennal sockets, about 0.5 × as broad as transverse diameter of antennal socket; orbit 0.4 × as broad as antennal socket; interocular index 75; gena 0.5 × as deep as eye; postantennal swellings triangular, apices extending into interantennal area, separated medially by a deep groove and delimited from vertex by sinuate-transverse line; vertex with feeble median impression anteriorly, surface shining but with obscure longitudinal wrinkles. *Antenna* extending to about apical 1/3 of elytron; apical segments slightly flattened and gradually thickened toward apices. *Prothorax* broadest at posterior angles where breadth is much narrower than basal breadth of elytra; pronotal index 61; anterior angle oblique; side feebly convex, nearly straight; base convex; discal punctures deep and mostly 1.5 × as large as interspaces; interspaces flat to raised, shining. *Elytron* 2.9 × as long as broad, broadest near middle, side

weakly convex along middle; epipleuron obtusely inflexed, rather narrow and not quite reaching apex; humerus moderately produced, punctulate; central discal punctures deep, mostly 1.5–3 × as large as interspaces; interspaces flat to raised, shining. *Ventral surfaces* smooth to alutaceous. *Legs:* metafemur 1.9 × as long as broad; metatibial spine scale-like, strongly broadened apically with apical margin bearing 3 prominent teeth; relative lengths of metafemur, -tibia, -tarsus are 55: 36: 28; basitarsus nearly as long as remainder. *Wing* fully developed. *Aedeagus* 3.8 × as long as breadth at middle, see figure.

♀ (Tholo-i-suva). Similar to ♂. *Spermatheca* as figured. Length 2.95 mm; breadth 1.6.

VARIATION (n = 10). LENGTH 2.2–3.05 mm, mean 2.6; BREADTH 1.25–1.7 mm; HEAD BREADTH 57–71 cmm; INTEROCULAR SPACE 20–30 cmm; EYE 31–37 cmm; INTEROCULAR INDEX 66–83, mean 77; PRONOTAL LENGTH 49–66 cmm; PRONOTAL BREADTH 81–109 cmm; PRONOTAL INDEX 54–62, mean 60; ELYTRAL LENGTH 176–234 cmm. [5 ♂♂, 5 ♀♀]

Dorsum dark fuscous to piceous with slight bronze lustre, sometimes with elytron slightly more reddish than pronotum, and 1 specimen (Ovalau) with pronotum orange-fuscous with elytron darker. Pronotal punctures usually 1.5 × or more as large as interspaces, but commonly around 1 × in 30% of the specimens, and 1 specimen (Ovalau) with punctures mostly 0.7 × as large as interspaces.

MATERIAL EXAMINED (n = 18). FIJI: *Viti Levu:* 1 (holotype of *Psylliodes simmondsi*), Tamavua, 3.IV.1927, H. W. S. [Simmonds] (BMNH); BPBM material: 9 (holotype and 8 paratopotypes of *Aphthona lamia*), Lami Quarry nr Suva, V.1951, Krauss [date looks like "II.51" on 3 of the preceding, but interpreted here as V.51]; 1, Lami, IV.1951, Krauss; 3, same loc., V.1951, Krauss; 1 (allotype of *lamia*), Tholo-i-suva, I.1955, Krauss; 1 (paratype of *lamia*), same loc., IV.1951, Krauss; 1 (paratype of *lamia*), Navai, IX.1950, Krauss; *Ovalau:* 1, Andubangda, 300–450 m, 18.VII.1938, beating, Zimmerman.

DISTRIBUTION. Fiji (Viti Levu, Ovalau). Endemic.

REMARKS. Closely allied to *amicitia*, n. sp. [Tonga] because of similar facies; differs from same by generally larger size, and by having apical antennal segments slenderer (see key) and aedeagus more robust with apex less gradually narrowed (see figures).

Bryant's placement of *simmondsi* in *Psylliodes* served to mask the identity of the species until now, because *simmondsi* has no close affinities at all with the distinctive genus *Psylliodes*. Meanwhile, the species was more correctly placed by Gressitt when he described *Aphthona lamia*, seemingly new at the time, but now relegated as a junior synonym.

PLANT ASSOCIATES. None reported.

Linaltica amicitia Samuelson, new species Fig. 12m, 26l.

Holotype ♂. Form ovate-subelongate, side gently convex. Dorsum dark fuscous, somewhat shining; antenna with segments 1–7 yellow- to brownish testaceous, remainder darker; venter yellow-fuscous to dark fuscous, thoracic sterna darkest; legs yellow-testaceous to pitchy brown, metafemur darkest. Length 2.05 mm; breadth 1.2.

Head: frons triangular, surface finely granulate; interantennal space briefly concave, about 0.6 × as broad as transverse diameter of antennal socket; orbit 0.6 × as broad as antennal socket; postantennal swellings slightly raised, triangular with apices extending into interantennal space; interocular index 79; gena 0.45 × as deep as eye; vertex shining. *Antenna* extending slightly beyond middle of elytron; apical segments robust, nearly as broad as long. *Prothorax* broadest at posterior angles, slightly narrower than elytra at humeral angles; pronotal index 61; anterior angle oblique; side feebly convex; base broadly convex across middle; discal punctures mostly 0.7–1 × as large as interspaces; interspaces smooth. *Elytron* 2.9 × as long as broad, broadest near middle; epipleuron ending preapically, surface weakly concave, alutaceous; humerus slightly produced; central discal punctures mostly 2 × as large as interspaces; interspaces slightly convex, smooth. *Ventral surfaces* largely subgranulate. *Legs:* metafemur 1.9 × as long as broad; metatibial spine prominent, scale-like with apical margin tridentate; relative lengths of metafemur, -tibia, -tarsus are

42: 26: 21; basitarsus slightly longer than remainder. *Wing* fully developed. *Aedeagus* 4.1 × as long as breadth near middle, see figure.

Allotype ♀. Similar to ♂. Dorsum subpiceous. Antenna not quite reaching middle of elytron. *Spermatheca* as figured. Length 2.35 mm; breadth 1.4.

VARIATION (n = 2). LENGTH 2.05–2.35 mm; BREADTH 1.2–1.4 mm; HEAD BREADTH 53–57 cmm; INTEROCULAR SPACE 22–25 cmm; EYE 27–29 cmm; INTEROCULAR INDEX 79–87; PRONOTAL LENGTH 47–53 cmm; PRONOTAL BREADTH 77–88 cmm; PRONOTAL INDEX 60–61; ELYTRAL LENGTH 162–192 cmm. [1 ♂, 1 ♀]

TYPE SERIES (n = 2). TONGA: *Eua:* Holotype ♂ (BPBM 9812), Parker's Hill area, 200–300 m, III.1969, N. L. H. Krauss; allotopotype ♀ (BPBM), same data as holotype.

DISTRIBUTION. Tonga. Endemic.

REMARKS. Closely allied to *simmondsi* (Bryant) [Fiji]; see that species for discussion.

PLANT ASSOCIATES. None reported.

GENUS **Trachytetra** Sharp

Trachytetra Sharp, 1886, *Trans. R. Dublin Soc.* ser 2, **3:** 448 (type: *Phyllotreta rugulosa* Broun; New Zealand—monobasic).—Broun, 1893, Man. New Zealand Col., part 5, 1311.

DIAGNOSIS. Small, subovate alticines with derm subcoriaceous or not. Frons triangular, slightly raised with surface ± flattened; interantennal space ± as broad as diameter of antennal socket; postantennal swellings raised, subtriangular-rounded with lower apices extending into interantennal space; antenna 11-segmented, lengths variable: attaining basal elytral disc to elytral preapex, apical segments thickened; pronotum lacking ante-basal impression, but sometimes with prebasal circular impression medially; elytral puncturation confused; procoxa globular; procoxal cavity open; metasternum short; metatibia flattened apically on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate. The 2 species recognized here are wingless. Sexual dimorphism: antenna longer in ♂; apex of last abdominal sternum sinuate in ♂, convex to truncate in ♀; pro- and mesobasitarsus more robust in ♂.

REMARKS. The flattened, raised triangular frons along with other similarities in head structure indicate affinities with *Trachyaphthona* Heikertinger, *sensu* Ohno (1969: 73) [SE Asia, Japan to Taiwan, S Pacific]; differs from same by having metasternum very short instead of moderately long; spermatheca with duct arising from receptacle at oblique to right angle instead of straight or obtuse to axis of receptacle; differs from *Pleuraltica* Sharp [New Zealand, Norfolk] by having intercoxal piece of prosternum fairly broad and flattened between coxae instead of narrow.

DISTRIBUTION. New Zealand. Two endemic species are recognized here.

KEY TO SPECIES OF TRACHYTETRA

Elytron deeply impressed posthumerally; discal punctures of pronotum commonly 3 × as large as interspaces; interspaces mostly raised, dull; form subovate-elongate [length 1.7–2.55 mm—New Zealand] ..... **rugulosa**

Elytron not distinctly impressed posthumerally; discal punctures of pronotum commonly 0.5 × as large as interspaces; interspaces flat, shining; form subovate-robust [length 2.4–2.85 mm—New Zealand] ..... **robusta**

Trachytetra rugulosa (Broun) Fig. 7, 12n, 26m.

Phyllotreta rugulosa Broun, 1880, Man. New Zealand Col., part 1, 636 (New Zealand, Tairua—type in BMNH). Broun number 1116.

Trachytetra rugulosa: Sharp, 1886, *Trans R. Dublin Soc.* ser 2, **3:** 449.

Trachytetra frontalis Broun, 1923, *Bull. New Zealand Inst.* **1:** 707 (New Zealand, Belgrove—type in BMNH). Broun number 4321. **New Synonym.**

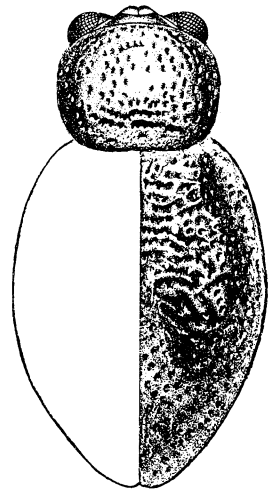

Fig. 7. *Trachytetra rugulosa*, dorsal view.

Lectotype ♀. Form subovate, side convex, derm ± coriaceous. Dorsum orange- to brown-testaceous, elytron with central discal area fuscescent; head orange-testaceous; antenna orange-testaceous, with apical segments fuscescent; venter yellow-testaceous to fuscescent, thoracic sterna darkest; legs yellow-testaceous. Length 2.4 mm; breadth 1.2.

Head: frons triangular, broadly raised, surface rather flat, alutaceous, obscurely and sparsely punctulate; interantennal space slightly convex between raised margins of antennal sockets, about 0.85 × as broad as transverse diameter of antennal socket; orbit 0.8 × as broad as antennal socket; interocular index 150; gena about 0.9 × as deep as eye; postantennal swellings subrounded-triangular, raised, separated medially by a fine line and well-delimited from vertex by deep tranversely sinuate line; vertex ± smooth, obscurely punctulate anteriorly. *Antenna* extending beyond middle of elytron; intermediate segments gradually thickened toward apices; apical segments more robust. *Prothorax* broadest near middle, base nearly as broad as elytra at humeral angles; pronotal index around 80 (estimated); anterior angle briefly produced; side (left) normally convex (right side abnormally angulate near middle); base convex, nearly straight across middle; disc closely and deeply punctate, punctures mostly 2–3 × as large as interspaces; interspaces raised, subgranulate. *Elytron* 2.75 × as long as broad, broadest near middle, side feebly convex along middle; epipleuron not quite reaching apex, surface ± alutaceous; disc broadly and obliquely impressed behind humerus, remainder of disc convex; central discal punctures deep, mostly 2–3 × as large as interspaces; interspaces raised, ± shining. *Ventral surfaces* largely subalutaceous. *Legs:* metafemur 2.2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 37: 26: 24; basitarsus not quite as long as remainder. *Wing* completely reduced. *Spermatheca* as in figure of different specimen (Lake Waikaremoana).

♂ (Lake Waikaremoana). Similar to ♀. *Aedeagus* about 4 × as long as breadth at middle, see figure. Length 2.25 mm; breadth 1.1.

VARIATION (n = 20). LENGTH 1.7–2.55 mm, mean 2.1; BREADTH 0.9–1.35 mm; HEAD BREADTH 48–59 cmm; INTEROCULAR SPACE 26–34 cmm; EYE 18–22 cmm; INTEROCULAR INDEX 150–170, mean 160; PRONOTAL LENGTH 47–64 cmm; PRONOTAL BREADTH 60–80 cmm; PRONOTAL INDEX 72–80, mean 77; ELYTRAL LENGTH 125–195 cmm. [9 ♂♂, 8 ♀♀, 3 U]

Dorsal coloration pale yellow- to brown-testaceous; elytron usually with central discal region fuscescent or darker pitch- to red-fuscous; elytron rarely unicolorous.

MATERIAL EXAMINED (n = 135). NEW ZEALAND: 5, Broun Coll. (DSIR, PPDC); 1, Brookes Coll. (DSIR); 2, Edwards Coll. (AMNH); *Auckland:* Lectotype ♀ (BMNH), Tairua,

Broun Coll. 2, Unuwhao Trig, Spirits Bay, 20–28.VIII.1957, beating *Leucopogon*, Watt (PPDC); 1, Waimatenue, 10.XII.1937 [year not clear], Brookes Coll. (DSIR); 6, Whangarei, 26.X.1926, Brookes Coll. (DSIR); 7, Whangarei, Muir Park, 18.VII.1930, Fairburn, Brookes Coll. (DSIR); 3, Waipu, I.14, Brookes Coll. (DSIR); 1, Little Barrier Island, Thumb and Summit Track, 23.XI. 1954, Harrison (PPDC); 3, N of Waiwera, 2.IX.1966, forest remnant, Wise (AUMC); 1, Grafton Gully, Auckland, 22.IX.1940, beating, Spiller (PPDC); 5, Scenic Drive, Auckland, 18.VIII.1951, Spiller (BPBM, PPDC); 2, Titirangi, 21.XI.1914, Brookes Coll. (DSIR); 11, same loc., 25, 29. IX.1948, Brookes Coll. (DSIR); 1, Waitakere, Clarke Coll. (AUMC); 2, Cascades, Waitakeres, 7.IX.1948, *Cyathodes acerosa*, Payne (BPBM, PPDC); 4, Waitakere Range, 10.IX.1961, May (PPDC); 1, Clevedon, Broun-, Brookes Coll. (DSIR); 1, same loc., on Manuka, 22.IX.1956, Watt (PPDC); 1, Huia, Broun-, Brookes Coll. (DSIR); 1, Tairua, Broun-, Brookes Coll. (DSIR); 1, Thames, Broun Coll.(AUMC); 2, Lake Waikaremoana, Ngamoko [Range], 910 m, 16–23.XI.1958, beating *Coprosma*, Watt (PPDC); *Wellington:* 1, Raurimu, Taumarunui, 760 m, 21.XI.1965, Townsend (DSIR); 1, Raurimu, 760 m, 21.II.1965, beating, Kuschel (DSIR); 1, Raurimu, Clarke Coll. (AUMC); 1, Erua, Clarke Coll. (AUMC); 1, Ohakune, 1.I.1917, Brookes Coll. (DSIR); 11, Ohakune Mt Rd, 790 m, 1.XII.1965, Townsend (DSIR); *Nelson:* 1, Nelson, Botanical Hill, 26.IX.1967, on *Melicytus ramiflorus*, Watt (DSIR); 1, Upper Maitai, 22.XI.1961, Gourlay (DSIR); 4, Roding River, 19.X.1965, on *Pittosporum tenuifolium*, Townsend (DSIR); 10, same data, but lacking host data (DSIR); 3, Dun Mt, 29.X.1924, Philpott, (DSIR); 2, same loc., 610 m, 19.I.1931, Gourlay (DOMM); 2, same loc., 15.XII.1962, Kuschel & Holloway (DSIR); *Marlborough:* 1, Pelorus Bridge, 7.XI.1957, Esson (DSIR); 3, same loc., 10.X.1964, Kuschel (DSIR); 3, same loc., 20. IX.1967, sweeping shrubs at night, Watt (DSIR); 2, same loc., 25.VII.1967, Dugdale, Kuschel (DSIR); 1, Pelorus Bridge Res., 2.X.1963, Townsend (DSIR); locality uncertain: 1, Rama, Broun-, Brookes Coll. (DSIR); 2, Hauto [not clear], 1.X.1927, Brookes Coll. (DSIR); 2, Waitakae D., 26.XI.1946, Brookes Coll. (DSIR); 2, Tiritea, W. C., 21.XI.1931, *Coprosma robusta* (PPDC); 1, Tr. to Goat Bay, Tataranui, 7.X.1965, 10 m, Walker & Townsend (DSIR); 12, St. of tr. to Ketetahi Springs, 30.XI.1965, beating, Marchant (DSIR).

Neither of the 2 specimens comprising the type series is indicated as type in the original description; a ♀ specimen of that series bearing a BMNH syntype label (circular with blue border) is hereby designated as lectotype.

DISTRIBUTION. New Zealand (North Island, South Island). Endemic.

REMARKS. Allied to *robusta* Broun [New Zealand], but rather distinct; differs from same by slenderer form, smaller size, coarser sculpture (see key); interocular index commonly around 160 instead of 142; pronotal index commonly around 77 instead of 70; spermatheca lacking appendix and spatulate process on receptacle (see figures).

PLANT ASSOCIATES. *Coprosma robusta* Raoul: Tiritea (labels); *Leucopogon* sp.: Spirits Bay (Watt, labels); *Cyathodes acerosa* R. Br.: Waitakere Range (Payne, label); *Melicytus ramiflorus:* Nelson (Watt, label); *Pittosporum tenuifolium:* Roding River (Townsend, labels).

Trachytetra robusta Broun Fig. 3, 12o, 26n.

Trachytetra robusta Broun, 1923, *Bull. New Zealand Inst.* **1:** 707 (New Zealand, Pokako—type in BMNH). Broun number 4322.

♂ (Mt Egmont). Form robust, broadly convex along middle but more gradually narrowed apically. Dorsum dark fuscous-castaneous, basal margin of pronotum, elytral humerus and sutural margin paler reddish, apical 1/5 of elytron yellowish; antenna red-fuscous, venter orange-testaceous to dark fuscous, metathorax darkest; legs largely red-fuscous. Length 2.4 mm; breadth 1.5.

Head: frons triangular, rather evenly raised, surface smooth; interantennal space broadly convex,

breadth subequal to transverse diameter of antennal socket; orbit about 0.45 × as broad as diameter of antennal socket; interocular index 127; gena about 0.6 × as deep as eye; postantennal swellings moderately swollen, separated medially by ± dark broad impression and delimited from vertex by sinuate transverse line; vertex evenly convex, smooth. *Antenna* extending beyond middle of elytral disc; apical segments robust. *Prothorax* broadest at posterior angles, base nearly as broad as elytra at humeral angles; pronotal index 68; anterior angle brief, rounded and continuous with convex side; base broadly convex but briefly straight before scutellum; prebasal area with median circular impression; disc sparsely but deeply punctured, punctures mostly 0.5–0.7 × as large as interspaces; interspaces smooth. *Elytron* 2.5 × as long as broad, broadest at basal 1/3, side more strongly convex before middle, less convex and more gradually narrowed apically; epipleuron barely reaching apex, surface smooth; disc with shallow posthumeral depression barely evident; central discal punctures deep, mostly 1.5–2 × as large as interspaces; interspaces shining. *Ventral surfaces* ± smooth. *Legs:* metafemur 2.4 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 65: 56: 45; basitarsus not quite as long as remainder. *Wing* completely reduced. *Aedeagus* about 3.5 × as long as breadth at middle, see figure.

♀ (Mt Egmont). Similar to ♂. Antenna not reaching middle of elytral disc. *Spermatheca* as figured. Length 2.7 mm; breadth 1.6.

VARIATION (n = 8). LENGTH 2.4–2.85 mm, mean 2.65; BREADTH 1.5–1.75 mm; HEAD BREADTH 66–72 cmm; INTEROCULAR SPACE 32–39 cmm; EYE 24–26 cmm; INTEROCULAR INDEX 127–154, mean 142; PRONOTAL LENGTH 74–84 cmm; PRONOTAL BREADTH 109–117 cmm; PRONOTAL INDEX 66–73, mean 70; ELYTRAL LENGTH 199–235 cmm. [2 ♂♂, 6 ♀♀]

Dorsum reddish fuscous to dark pitchy reddish fuscous; elytral apices usually pale, yellow-testaceous, but single Kaimai Range specimen has apex concolorous with disc.

MATERIAL EXAMINED (n = 8). NEW ZEALAND. *Auckland:* 1, Kaimai Range, Matamata, Waikato, 12.IV.1941, Brookes, Brookes Coll. (DSIR); *Taranaki:* 6, Stratford Plt. Rd, Mt Egmont, 660 to 1070 m [various different elevations on labels], 17.IV.1965, litter, Walker (DSIR); *Wellington:* 1, Ohakune Mt Rd, Ruapehu, 730 m, 1.XII.1965, forest litter, Townsend (DSIR).

DISTRIBUTION. New Zealand (North Island). Endemic.

REMARKS. Allied to *rugulosa* (Broun) [New Zealand]; readily distinguished by larger size, more robust form; see *rugulosa* for further differences.

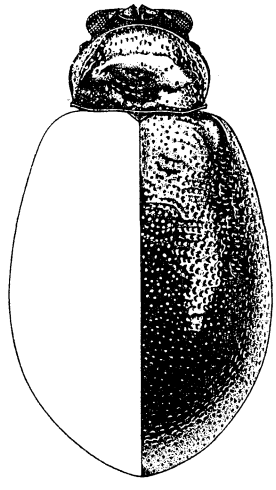

Fig. 8. *Pleuraltica cyanea*, dorsal view.

PLANT ASSOCIATES. No specific records, but material has been collected from forest litter (Townsend, Walker, labels).

Genus **Pleuraltica** Sharp

Pleuraltica Sharp, 1886, *Trans. R. Dublin Soc.* 2, **3:** 449 (type: *Phyllotreta cyaneum* Broun; New Zealand—monobasic).—Broun, 1893, Man. New Zealand Col., part 5, 1312.

DIAGNOSIS. Subovate to subelongate alticines of small to moderate size. Interantennal space concave, narrower than diameter of antennal socket; postantennal swellings subtriangular, lower apices extending into interantennal space; antenna 11-segmented, reaching elytral disc to elytral preapex, apical segments shortened; pronotum lacking antebasal impression, but surface of uneven convexity; elytral puncturation confused; procoxa globose; procoxal cavity open; prosternal intercoxal piece narrow; metatibia flattened on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: antenna longer in ♂; apex of last abdominal sternum notched submedially in ♂, entire in ♀; pro-, mesofemur generally broader in ♂; apex of protibia stouter in ♂; pro-, mesobasitarsus more robust in ♂.

REMARKS. Closely allied to *Trachytetra* Sharp [New Zealand] and *Trachyaphthona* Heikertinger [S & E Asia, New Caledonia to Fiji] because of similar facies of head; differs from both by having prosternal intercoxal piece narrow between coxae instead of moderately broad.

DISTRIBUTION. New Zealand, Norfolk Island; each with 1 endemic species.

Key to species of Pleuraltica

Form broadly subovate; elytra jointly much broader than prothorax; dorsum castaneous to dark fuscous, with bronze violaceous lustre [length 2.6–4.1 mm—New Zealand].....**cyanea**

Form subelongate; elytra jointly not much broader than prothorax; dorsum fuscous to piceous, lacking metallic lustre [length 2.35–3.05 mm—Norfolk Island].....**tyche***

Pleuraltica cyanea (Broun) Fig. 8, 12p, 26o.

Phyllotreta cyaneum Broun, 1880, Man. New Zealand Col., part 1: 638 (New Zealand—type in BMNH). Broun number 1120.

Pleuraltica cyanea: Sharp, 1886, *Trans. R. Dublin Soc.* ser 2, **3:** 449, pl. 13, fig. 25.—Broun, 1893, Man. New Zealand Col., part 5, 1312.

Lectotype ♀. Form moderately robust, somewhat galeruciform with prothorax short before elytra, side convex, elytron broadest slightly behind middle. Dorsum dark reddish fuscous with rather dull bronze-violaceous to bluish lustre; head dark pitchy brown to piceous, vertex darkest; antenna fuscous; venter and legs largely dark reddish fuscous. Length 3.65 mm; breadth 1.85.

Head: frons triangular, broadly raised, surface flat but irregular, subgranulate; interantennal space finely carinate between strongly raised margins of antennal sockets, about 0.75 × as broad as transverse diameter of antennal socket; orbit 0.55 × as broad as antennal socket; interocular index 131; gena 0.65 × as deep as eye; postantennal swellings subtriangular, moderately raised and smooth but separated by a fine median line and abruptly delimited from vertex by sinuate line; vertex alutaceous, obscurely punctulate. *Antenna* extending slightly beyond middle of elytron; intermediate segments briefly dilated at apices; apical segments gradually thickened toward apices. *Prothorax* broadest near middle, base much narrower than elytra at humeral angles; pronotal index 65; anterior angle oblique-rounded; side convex; base broadly convex across middle; disc of irregular curvature, central area of disc with transverse, largely impunctate vague swellings; punctures deep, mostly 1.5–3 × as large as interspaces in areas before and behind middle. *Elytron* 3.1 × as long as broad, broadest slightly behind middle, side slightly convex along middle; epipleuron horizontal and ending at apex, surface subalutaceous; humerus moderately but briefly swollen; disc unevenly convex with posthumeral plica well-developed and extending nearly to apical 1/4; plica bounded internally

by a longitudinal depression extending beyond middle of elytron; central discal punctures deep, mostly 2 × as large as interspaces; interspaces rather shiny. *Ventral surfaces:* metasternum ± smooth, punctulate; abdomen subgranulate. *Legs:* metafemur 2.25 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 55: 41: 35; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Spermatheca* as in different specimen figured (Rangitoto).

♂ (Auckland: Waitakere Range). Similar to ♀; elytron subevenly convex but lacking posthumeral plica. *Aedeagus* 6.2 × as long as breadth near middle, see figure. Length 3.4 mm; breadth 2.0.

VARIATION (n = 20). LENGTH 2.6–4.25 mm, mean 3.4; BREADTH 1.5–2.6 mm; HEAD BREADTH 64–97 cmm; INTEROCULAR SPACE 35–55 cmm; EYE 27–40 cmm; INTEROCULAR INDEX 111–144, mean 130; PRONOTAL LENGTH 57–88 cmm; PRONOTAL BREADTH 88–144 cmm; PRONOTAL INDEX 59–66 mean, 63; ELYTRAL LENGTH 219–344 cmm. [13 ♂♂, 7 ♀♀]

Dorsum reddish fuscous to subpiceous, slight metallic bronze-violaceous to bluish lustre usually present; elytron subcoriaceous, with a distinct posthumeral longitudinal plica present in both sexes in 45% of material examined; intercoxal piece of prosternum usually a fine vertical lamina, rarely slightly broadened.

MATERIAL EXAMINED (n = 124). NEW ZEALAND: 3, Broun Coll. (PPDC); 1, Brookes Coll. (DSIR); *Auckland:* Lectotype ♀ (BMNH), Tairua, Broun Coll.; 1, Whangarei, 11.I.1921, Clarke Coll. (AUMC); 1, same loc., 26.X.1926, Brookes Coll. (DSIR); 2, Parua Bay, Whangarei, 2,5.I.1924, Clarke Coll. (AUMC); 1, Maungaturoto area, Wilson Causer Rd, 9.VII. 1967, Wise (AUMC); 3, Little Barrier Island, 29.XII.1931–10.I.1932, Brookes, Brookes Coll. (DSIR); 4, Seaview, Warkworth, 4.I.1939, Clarke Coll. (AUMC); 6, Wade Heads, 25.I.1967, S forest remnant, Wise (AUMC); 2, same loc., N forest remnant, Wise (AUMC); 4, Rangitoto Island, 14.IV.1957, on *Coprosma*, May (PPDC); 3, Grafton Gully, Auckland, 20.I.1951, Spiller (PPDC); 1, same loc., 19.II.1951, Spiller (PPDC); 1, Scenic Drive, Auckland, II.1951, Spiller (PPDC); 5, Titirangi, 21.XI.1914, Brookes Coll. (DSIR); 2, same loc., 30.I.1915, Brookes Coll. (DSIR); 2, same loc., 4.X.1927, Gourlay (DSIR); 1, same loc., 5.X.1927, Gourlay (DSIR); 1, same loc., 3–7.III.1931, Gourlay (DOMM); 8, same loc., 20.I.1943, on *Coprosma robusta*, Carter (BPBM, PPDC); 7, same loc., 9.I.1948, on *Coprosma robusta*, Carter (PPDC); 1, same loc., 1.II.1947, Pritchard (PPDC); 3, same loc., 18.XI.1948, Rumsey (BPBM, PPDC); 1, same loc., IV.1953, light trap, Thomas (PPDC); 2, Piha, 1.I.1934, Clarke Coll.(AUMC); 7, Waitakere Range, 29.I.1946, Pritchard (BPBM, PPDC); 3, same range, 26.XI.1946, Brookes Coll. (DSIR); 3, same range, 13. XI.1948, on *Coprosma robusta*, Dingley (PPDC); 8, same range, VI.1951, Spiller (BPBM, PPDC); 1, Tikutapu, Waitakere, 29.X.1934, Clarke Coll. (AUMC); 2, Huia, 23.I.1959, Wise (PPDC); 1, Opito Bay, Keri Keri, 14.II.1965, on *Coprosma lucida*, Brown (DSIR); 2, Kauri Grove, Coromandel, 20.I.1960, Townsend & Zondag (DSIR); 11, Kauaeranga Vall., 18–20.I.1960, Townsend & Zondag (DSIR); 10, Waihi Beach, 23.XII.1946, Pritchard (BPBM, PPDC); 2, Rangitoto, 29.VII.1923, Swezey (BPBM); 1, Waitomo, 4.X.1942, Clarke, Clarke Coll. (AUMC); *Nelson:* 1, Pakarau [?Pakawau], Broun-, Brookes Coll. (DSIR); 1, Awarua Bay, 2–7.II.1949, Brookes Coll. (DSIR).

Of the "few specimens at Tairua" comprising the type series, none is specifically indicated as type in the original description; a ♀ specimen of that series bearing a BMNH syntype label (circular with blue border) is designated here as lectotype.

DISTRIBUTION. New Zealand (North and South Islands). Endemic.

REMARKS. Closely allied to *tyche*, n. sp. [Norfolk Island]; differs from same by more ovate form, larger size, and tendency to have lower interocular and pronotal indices, and male with pro-, mesofemur not as strongly flattened or broadened.

PLANT ASSOCIATES. *Coprosma robusta* Raoul: Titirangi (Carter, labels), Waitakere Range

(Dingley, labels); *Coprosma* sp.: Rangitoto Island (May, labels); *Coprosma lucida* Forst: Opito Bay (Brown, label).

Pleuraltica tyche Samuelson, new species Fig. 13a, 26p.

Holotype ♂. Form subelongate, side feebly convex, weakly broadened apically. Head, dorsum + venter pitchy brown to piceous, vertex, pronotum darkest; antenna with 7 basal segments pitchy orange, remainder darkened; legs pitchy orange to brown. Length 3.05 mm; breadth 1.45.

Head: frons triangular, slightly raised, surface rugulose; interantennal space deeply concave, about 0.85 × as broad as transverse diameter of antennal socket; interocular index 148; gena 1 × as deep as eye; postantennal swellings turgid, lower apices extending into interantennal space, delimited from vertex by sinuate line; vertex with vague median impression anteriorly. *Antenna* extending to elytral preapex; intermediate segments slender, dilated toward apices; apical segments shorter and stouter than intermediate ones. *Prothorax* broadest near middle, base slightly narrower than elytra at humeral angles; pronotal index 68; anterior angle short, obtuse; side convex; base ± straight across middle; disc of irregular convexity, surface coarsely punctate, punctures of variable large size, commonly 3 × as large as interspaces; interspaces generally swollen. *Elytron* nearly 3.2 × as long as broad, broadest before middle; side slightly convex along middle; epipleuron horizontal, of rather uniform breadth and continued to preapex, surface smooth; humerus prominent; central discal punctures deep, mostly 1.5–2 × as large as interspaces; interspaces often turgid. *Ventral surfaces* largely smooth. *Legs:* pro- and mesofemur flattened, almost as broad as metafemur; metafemur 2.2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 48: 33: 26; basitarsus slightly shorter than remainder. *Wing* fully developed. *Aedeagus* about 5.2 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂, but differs from same by having antenna shorter, extending to middle of elytron; pro-, mesofemur flattened, but much narrower than metafemur. *Spermatheca* as figured. Length 2.8 mm; breadth 1.3.

VARIATION (n = 11). LENGTH 2.35–3.05 mm, mean 2.6; BREADTH 1.05–1.45 mm; HEAD BREADTH 53–76 cmm; INTEROCULAR SPACE 27–42 cmm; EYE 20–28 cmm; INTEROCULAR INDEX 129–156, mean 141; PRONOTAL LENGTH 51–74 cmm; PRONOTAL BREADTH 78–109 cmm; PRONOTAL INDEX 62–73, mean 68; ELYTRAL LENGTH 176–250 cmm. [6 ♂♂, 5 ♀♀]

Dorsum dark fuscous to piceous; pronotum sometimes slightly darker than elytron; ♀♀: pronotal punctures slightly more uniform and finer than in ♂♂; elytron generally slightly longer than in ♂♂.

TYPE SERIES (n = 11). NORFOLK ISLAND: Holotype ♂ (DSIR), Mt Pitt, 300 m, 30.X.1967, on *Coprosma pilosa*, G. Kuschel; allotopotype ♀ (DSIR), same data as holotype; 6 paratopotypes, same data as preceding (DSIR); 3 paratypes, same loc., 240 m, 1.XI.1967, Kuschel (DSIR).

DSIR paratypes to BMNH, BPBM.

DISTRIBUTION. Norfolk Island. Endemic.

REMARKS. Closely allied to *cyanea* (Broun) [New Zealand]; differs from same by having narrower body form, smaller size, and tendency to have higher interocular and pronotal indices. This is the second species to be assigned to *Pleuraltica*.

PLANT ASSOCIATES. *Coprosma pilosa* Endl.: Mt Pitt (Kuschel, labels).

GENUS **Altica** Fabricius

Altica Geoffroy, 1762, Hist. Ins. 1: 244 (nom. nud.).—Fabricius, 1775, Syst. Ent., 112 (type: *Chrysomela oleracea* L.; Europe).—Geoffroy ap. Fourcroy, 1785, Ent. Paris **1:** 97.—Arnett, 1962, Beetles of United States, fasc. 104, 914 (key), 937.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 748 (key), 886.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 404 (key); 1966, ibid. **13**(4): 627.—Scherer, 1969,

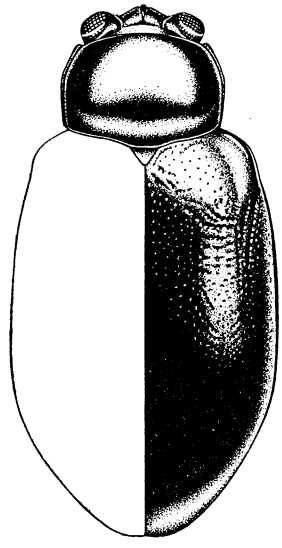

Fig. 9. *Altica corusca*, dorsal view.

Pacific Ins. Monogr. **22:** 11(key), 20 (key), 126.

Graptodera Chevrolat, 1845, *In* d'Orbigny, Dict. Univ. Hist. Nat. **6:** 307.

Haltica: Chapuis, 1875, Gen. Col. **11:** 59 (+key).—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 39 (key), fig. 7; 1925, ibid. **11**(3–4): 52 (key), 63 (key), 69 (key).—Maulik, 1926, Fauna India, Chrys. & Halt., 286 (key), 418.—Chen, 1933, *Sinensia* **3**(9): 221 (key); 1934, ibid. **5**(3–4): 235 (key), 390.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 356 (key); 1936, ibid. **26:** 24.

DIAGNOSIS. Subovate-elongate alticines of moderate size. Interantennal space ± as broad as diameter of antennal socket; postantennal swellings subquadrate-rounded; antenna 11-segmented, attaining elytral disc, apical segments gradually thickened to apices; pronotum with ante-basal impression reaching side; elytral puncturation confused, sometimes irregular in part; procoxa globose; procoxal cavity open; metatibia convex or ± flattened on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apical margin of last abdominal sternum notched submedially in ♂, entire in ♀; pro- and mesobasitarsus broader in ♂.

REMARKS. Similar to *Monomacra* Chevrolat [New World] in general facies; differs from same by not having ante-basal impression of pronotum delimited at side by short longitudinal fovea.

DISTRIBUTION. Cosmopolitan. Two species have been recorded from Pacific islands and one of these has been found as far east as Hawaii. A third species, an adventive from Eurasia, is reported here from New Caledonia.

Key to Pacific island species of Altica

1. Pronotal disc smooth-glossy, sparsely micropunctate.....2
   Pronotal disc dull-granulate, punctulate [dorsum dull metallic green; length 2.8–3.8 mm—Eurasia, Japan, New Caledonia].....**oleracea**
2. Pronotum with prebasal area rather smooth, about as glossy as disc [dorsum dark, with dark green lustre; length 4.6–5.7 mm—Micronesia].....**jussiaeae**
   Pronotum with prebasal area ± alutaceous to finely rugulose, not as glossy as disc [dorsum dark: pronotum with brassy violaceous lustre, elytron with bluish lustre; length 3.9–5.9 mm—Tasmania, Australia, SW Pacific].....**corusca**

Altica corusca Erichson Fig. 2, 9, 13b, 26q.

Haltica corusca Erichson, 1842, *Archiv. f. Naturg.* **8:** 235 (Tasmania).

H. corrusca: Blackburn, 1896, *Trans. R. Soc. S. Australia* **20:** 73, 75 (key) (Australia).

H. gravida: Veitch & Greenwood, 1921, *Proc. Linn. Soc. New South Wales* **46:** 511 (Fiji).

Altica corusca: Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 77 (Fiji).—Samuelson, 1967, *Pacific Ins.* **9**(1): 174 (Solomons).

♂ (Fiji: Viti Levu). Form subelongate, side nearly straight along middle, broadest well behind middle, Dorsum piceous: pronotum with violaceous lustre, elytron with slight bluish lustre; antenna pitchy brown to dark red-fuscous; ventral surfaces and legs piceous with dull violaceous lustre. Length 5.3 mm; breadth 2.5.

Head: frons slightly raised along anterior margin and carinate medially, sides depressed, surface granulate; interantennal space convex, about 1.4 × as broad as transverse diameter of antennal socket; orbit 0.8 × as broad as antennal socket; interocular index 140; gena 0.4 × as deep as eye; postantennal swellings subangulate, weakly raised, separated medially by a deep groove and delimited from vertex by transverse, sinuate line; vertex rather smooth, ± impunctate. *Antenna* reaching middle of elytral disc; apical segments subcylindrical and gradually thickened toward apices. *Prothorax* broadest near middle, base distinctly narrower than elytra at humeral angles; pronotal index 76; anterior angle rather short, oblique; side convex anteriorly, nearly straight posteriorly; base broadly convex; disc smooth, micropunctate punctures, mostly 0.2–3 × as large as interspaces, interspaces shining; ante-basal impression finely impressed, impunctate; prebasal area alutaceous. *Elytron* 3.1 × as long as broad, broadest at apical 3/8, side nearly straight before middle and becoming more convex posteriorly; epipleuron continued nearly to apex, surface subalutaceous, shining; basal area vaguely and broadly swollen; central discal punctures deep, mostly 0.7–1.5 × as large as interspaces; interspaces rather smooth, shining. *Ventral surfaces* finely granulate and obscurely punctulate. *Legs:* metafemur 2.7 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 58: 56: 45; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* about 5.0 × as long as breadth at middle.

♀ (Fiji: Viti Levu). Similar to ♂. *Spermatheca* as figured. Length 5.9 mm; breadth 2.8.

VARIATION (n = 20). LENGTH 3.9–5.9 mm, mean 5.2; BREADTH 2.0–3.0 mm; HEAD BREADTH 98–127 cmm; INTEROCULAR SPACE 53–74 cmm; EYE 37–55 cmm; INTEROCULAR INDEX 122–144, mean 135; PRONOTAL LENGTH 90–127 cmm; PRONOTAL BREADTH 121–181 cmm; PRONOTAL INDEX 70–76, mean 72; ELYTRAL LENGTH 304–454 cmm. [5 ♂♂, 15 ♀♀]

MATERIAL EXAMINED (n = 663). Mostly BPBM material. NEW CALEDONIA: 9, Tiare, VI.1950, Krauss; 1, Yiambi, 0–100 m, 8.X.1967, J. & M. Sedlacek; 1, same loc., 1–50 m, 15.X.1967, J. & M. Sedlacek; 10, Tao, 0–10 m, 8.X.1967, J. & M. Sedlacek; 3, in mts above Ouaco, 20.X.1958, Joyce; 14, Touho to Hienghene, 6.II.1962, Krauss; 3, Poindimie, VIII.1950, Krauss; 1, same loc., 26.XI.1958, Yoshimoto; 5, headwaters Honailou Riv [Houailou], 26.X.1958, Joyce; 1, Houailou, 28.X.1925, Ford; 1, La Crouen, III.1959, Krauss; 6, same loc., 16.III.1961, Sedlacek; 10, Canala, III.1955, Cohio & Rageau; 5, Sarramea, 100–200 m, 2.III.1960, on *Jussiaea suffrutriena*, Gressitt; 3, Col d'Amieu, 31.III.1968, Gressitt & Maa; 1, Couli nr La Foa, III.1959, Krauss; 3, Couli, 30.I.1963, Krauss; 1, La Foa, 4.II.1945, Milliron; 2, Oua Tom, 20.XI. 1940, Williams; 9, Nassirah, 10.XI.1958, Joyce; 7, Gadji, 23.IX.1962, Gross (SAMC); 2, Thi Riv. Vall., 6, 8.XI.1940, Williams; 3, Yahoue, I.1963, Krauss; 10, same loc., 22.I.1963, Yoshimoto; 20, same loc., 20.II.1963, Yoshimoto; 3, St Louis, VII–VIII.no year; 1, same loc., swamp, *Jussiaea*, no date; 1, same loc., V.1950, Krauss (BPBM); 16, same loc., III.1959, Krauss; 2, St Louis Vall., 17.III.1945, Milliron (BPBM, BMNH); 17, same loc., 24.III.1945, Milliron (BPBM, BMNH); 1, same loc., 5.IV.1945, Milliron; 24, Foret di Thi, 29.X–1.XI.1967, J. & M. Sedlacek; 2, Noumea, 17.X.1940, Williams; 10, same loc., III.1955, Cohio & Rageau; 2, same loc., II.1958, Rageau; 1, Anse Vata, 20–50 m, 20.X.1967, J. & M. Sedlacek; LOYALTY ISLANDS: *Ouvea:* 3, Fayaoue,

II.1963, Krauss; FIJI: 18, Fiji Is., 1913, Illingworth; *Viti Levu:* 1, Cuvu [Thuvu], 21.VIII.1915, Veitch; 9, Nadi, 10.VI-, 12.VI-, 20.VI-, 27.VI-, VII.1913, Illingworth; 1, Singatoka, Nandronga, 28.X.1937, Valentine; 8, Nandarivatu, 28.VII.1956, Szent-Ivany; 1, Navai Mill, 820 m, 7.IX. 1938, beating, Zimmerman; 1, same loc., 700 m, 16.IX.1938, Zimmerman; 5, Navai, IX. 1950, Krauss; 1, same loc., V.1951, Krauss; 8, Mt Victoria, Mann (MCZC); 1, Dobuilevu, IX. 1950, Krauss; 1, Ndeumba, I.1955, Krauss; 3, Matawailevu, 3, 11.VIII.1937, St John; 1, Belt Road, 32 km W of Suva, 28.VII.1938, beating, Zimmerman; 12, Lami, III-, IV-, V.1951, Krauss; 4, same loc., I-, III.1955, Krauss; 6, Suva, 7.VII.1937, Valentine; 1, same loc., V.1951, Krauss; 2, Kalambu nr Suva, 16.IV.1941, Krauss; 2, Suva Bay, 9.VI.1924, Bryan; 2, Tholo-i-suva, 150 m, 25.VII.1938, beating, Zimmerman; 3, Waito, Tailevu, 13.VII.1937, Valentine; 15, Korovou, Tailevu, VIII.1937, Valentine (BPBM, USNM); 5, Naquali, XI.1957, Krauss; 1, Naimasimasi, II.1951, Krauss; 1, Vunidawa, 27.VIII.1925, Ford; 5, same loc., 1, 2.V.1941, Krauss; 2, Nausori, 12.VI.1913, Illingworth; 12, same loc., Mann (MCZC); 2, same loc., II.1951, Krauss; 8, Koronivia nr Nausori, 10.X.1955, light trap, Gressitt; 6, Rewa, 1920, Pemberton; *Ovalau:* 20, 19–20.X.1924, Bryan; 2, Wainiloka, 60 m, 11.VII.1938, Zimmerman; 1, same loc., 11.VII.1938, on *Piper*, Zimmerman; 93, nr Vuma, 60 m, 14.VII.1938, Zimmerman; 6, same loc., 14.VII.1938, Kondo; 115, Vuma, 60 m, 15.VII.1938, Zimmerman; 8, Thawathi, 180–240 m, 16.VII.1938, Zimmerman; *Vanua Levu:* 1, Wailevu, 9.X.1955, Gressitt; *Vanua Mbalavu:* 2, 23–24.IX.1924, Bryan; *Lau:* 4, Lakemba, 2–3.IX.1924, Bryan; *Ono Ilau:* 22, Vanbea, 30.IV.1941, Krauss; HAWAII: *Maui:* 2, 1.I.1915, Illingworth. New to Hawaii.

DISTRIBUTION. Tasmania, Australia, Solomons, New Caledonia, Loyalty Islands, New Hebrides, Fiji, Tonga, and Hawaii.

REMARKS. Similar to *jussiaeae* Gressitt [Micronesia] in general facies; differences mentioned under *jussiaeae*.

PLANT ASSOCIATES. *Jussiaea suffrutriena* L.: New Caledonia (Gressitt, labels); Fiji (Bryant & Gressitt, 1957: 77); *Jussiaea villosa:* Fiji (ibid. 1957: 77); *Oryza sativa* L.: Fiji (ibid. 1957: 77); *Piper:* Fiji (Zimmerman, label).

Altica jussiaeae Gressitt Fig. 13c, 26r.

Haltica cyanea: Chûjô, 1943 (*nec* Weber, 1791), *Mem. Fac. Sci. Agric. Taihoku Imp. Univ.* **24**(3): 306, fig. 11 (Palau, Yap).

Altica jussiaeae Gressitt, 1955, *Ins. of Micronesia* **17**(1): 34, fig. 10a-c (Palau Group, Yap).

♂ (Palau Group). Form subelongate, side rather straight along middle, broadest well behind middle. Dorsum piceous, but parts of pronotum and scutellum slightly stained with dark red-fuscous; elytron with greenish metallic lustre; antenna with basal segments yellow- to brown-testaceous, apical segments reddish-fuscous; ventral surfaces and legs dark reddish fuscous, bearing a dull violaceous lustre. Length 5.5 mm; breadth 2.6.

Head: frons subevenly raised along anterior margin and carinate medially, sides depressed, surface mostly granulate; interantennal space convex, about 1.1 × as broad as transverse diameter of antennal socket; orbit 0.75 × as broad as antennal socket; interocular index 120; gena 0.4 × as deep as eye; postantennal swellings subrounded, moderately raised and shining, inner angles separated by short median line posteriorly and delimited from vertex by transverse sinuate line; vertex briefly impressed along middle anteriorly, remainder evenly convex, surface subalutaceous and shining. *Antenna* slightly exceeding middle of elytron; apical segments subcylindrical and gradually thickened toward apices. *Prothorax* broadest at posterior angles, base distinctly narrower than elytra at humeral angles; pronotal index 68; anterior angle short, rounded and nearly continuous with side; side convex anteriorly, nearly straight posteriorly; base feebly sinuate; disc shining, sparsely micropunctate with most punctures about 0.2 × as large as interspaces, interspaces smooth; ante-basal impression shallow medially but a little deeper laterally, largely impunctate; prebasal area smooth, micropunctate. *Elytron* 3.2 × as long as broad, broadest at apical 1/3, nearly straight before middle

but becoming more strongly convex posteriorly; epipleuron not quite reaching apex, surface alutaceous; basal discal area obscurely but broadly swollen; central discal punctures deep, mostly 1–2 × as large as interspaces; interspaces rather flat and sometimes bearing micropunctures. *Ventral surfaces* largely granulate, obscurely punctulate. *Legs:* metafemur 2.3 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 65: 62: 47; basitarsus much shorter than remainder. *Wing* fully developed. *Aedeagus* about 4.9 × as long as breadth at middle.

♀ (Palau Group). Similar to ♂. *Spermatheca* as figured. Length 4.9 mm; breadth 2.5.

LARVA. Submature larva (Gressitt, 1955: 35, fig. 10c).

VARIATION (n = 10). LENGTH 4.6–5.7 mm, mean 5.15; BREADTH 2.3–2.8 mm; HEAD BREADTH 109–127 cmm; INTEROCULAR SPACE 56–64 cmm; EYE 45–55 cmm; INTEROCULAR INDEX 107–128, mean 118; PRONOTAL LENGTH 105–125 cmm; PRONOTAL BREADTH 148–183 cmm; PRONOTAL INDEX 67–72, mean 71; ELYTRAL LENGTH 360–441 cmm. [6 ♂♂, 4 ♀♀]

MATERIAL EXAMINED (n = 26). Paratypes unless indicated otherwise: PALAU GROUP: *Koror:* 1, I.1948, Dybas (BPBM); 1, 30.VIII.1951, Gressitt (BPBM); 2, VII.1952, ex *Jussiaea* sp., Beardsley (BPBM); 1, 30.VI.1953, at light, Beardsley (BPBM); *Peleliu:* 1, VIII.1945, at light, Ducoff (BPBM); *Angaur:* 1, 21.I.1953, Beardsley (BPBM); *Babelthuap:* 1, Ngaremeskang, 25 m, 20.XII.1952, Gressitt (BPBM); 1, E Ngatpang, 65 m, 7.XII.1952, light trap, Gressitt (BPBM); 2 (no paratype labels), III.1948, Maehler (USNM); 2 (no paratype labels), Ngiual, 20.VII.1946, Townes (USNM); *Garakayo:* 3, 8.VIII.1945, Dybas (AMNH, BPBM); YAP: *Yap:* 5 (no paratype labels), 13.VII.1946, on sweet potato leaves, Oakley (USNM); 3, X.1952, Krauss (BPBM); 1, Mt Gillifitz [Tabiwol], 150 m, 29.XI.1952, Gressitt (BPBM); 1, 28.III.1954, Beardsley (BPBM).

DISTRIBUTION. Micronesia (Marianas: Guam, Western Carolines). Endemic.

REMARKS. Allied to *corusca* Erichson [Tasmania, Australia, SW Pacific] because of similar facies; differs from same by having different coloration, prebasal area of pronotum smoother (see key); differs further from same by having slight tendency for elytral punctures to aggregate in longitudinal series of about 2–3 punctures in breadth along central disc instead of having discal punctures more uniformly confused.

PLANT HOSTS. *Jussiaea* sp.: Koror (Beardsley, labels); *Jussiaea erecta:* Koror (Gressitt, 1955: 35). Probable larval food plant.

PLANT ASSOCIATES. Sweet potato leaves: Yap (Oakley, labels).

Altica oleracea (Linnaeus) Fig. 27a.

Chrysomela oleracea Linnaeus, 1758, Syst. Nat. ed. 10, 372 (Europe).

Haltica oleracea: Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 38 (fig. 7).

Altica oleracea: Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 886 (key).—Kimoto, 1966, *J. Fac. Agric. Kyushu Univ.* **13**(4): 628 (key), 631, fig. 7d (aedeagus) (Eurasia, Japan).

For further combinations and citations see Csiki & Heikertinger, 1939, Junk, Col. Cat. **25**(166): 226.

♀ (New Caledonia). Form subovate-elongate, side convex, broadest slightly behind middle, body surfaces mostly dark with dull metallic green-blue lustre. Length 3.95 mm; breadth 2.0.

Head: surfaces subgranulate; frons with median carina broadened above, side depressed; interantennal space convex, about 1.3 × as broad as transverse diameter of antennal socket; orbit slightly narrower than diameter of antennal socket; interocular index 147; gena nearly 0.6 × as deep as eye; postantennal swellings subquadrate, delimited medially and posteriorly by distinct impressed lines; vertex feebly depressed at middle anteriorly, remainder of surface convex. *Antenna* [Europe, ♀] extending to about middle of elytron; apical segments gradually thickened toward apices. *Pronotum* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 65; anterior angle short, oblique; side gently convex; base feebly sinuate; disc granulate-shagreened, punctulate, punctures deep, mostly 0.5–1 × as large as interspaces. *Elytron* 3.1 × as long as broad, broadest near middle, side rather evenly convex along middle; epipleuron not

quite reaching apex, surface alutaceous; humerus briefly swollen; basal disc broadly but feebly swollen; central discal punctures deep, mostly 0.7–1 × as large as interspaces; interspaces granulate-shagreened. *Ventral surfaces* shagreened; abdomen moderately punctulate in part. *Legs:* metafemur 2.5 × as long as broad; relative lengths [Europe, ♀] of metafemur, -tibia, -tarsus are 68: 64: 40; basitarsus nearly as long as remainder. *Wing* fully developed. *Spermatheca* as figured.

♂ (Europe). No example from Pacific. European ♂ similar to New Caledonia ♀. *Aedeagus* figured in Kimoto (1966: 627, fig. 7d).

VARIATION. Insufficient material.

MATERIAL EXAMINED (n = 1). NEW CALEDONIA: Yahoue, Coll. Fauvel (ISNB). New to New Caledonia.

DISTRIBUTION. Eurasia, Japan; introduced to New Caledonia. The specimen cited here is the only record that I know of from New Caledonia. Whether this species had become established on the island is an unanswered question.

REMARKS. Similar to *cirsicola* Ohno [China, Japan, Ryukyus] in general facies and size; differs from same by having pronotal disc more distinctly punctate, dorsum more strongly shagreened, aedeagus with apex rounded instead of angulate.

PLANT ASSOCIATES. *Epilobium angustifolium* L.; *E. pyrricholophium pyrricholophium* Franch & Sav.; *Oenothera Lamarckiana* Ser. (Kimoto, 1966: 631 [after Ohno, 1960]).

Incertae Sedis

Altica dimidiata Montrouzier Eumolpinae?

Altica (*Phyllotreta*?) *dimidiata* Montrouzier, 1864, *Ann. Soc. Linn. Lyon* **11:** 203 (New Caledonia: Canala, on grasses—type lost?).

?*Sphaeroderma dimidiata:* Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.

One specimen from Coll. A. Fauvel (ISNB) is determined as "*Dumbea dimidiata* Montr." and it is clearly an eumolpine even though it consists of only 1 elytron and abdomen glued to a card. It is quite possible that the type and the above specimen are conspecific. In any case, this point should be cleared up when the New Caledonia Eumolpinae are revised.

Genus **Hemipyxis** Dejean

Hemipyxis Dejean, 1837, Cat. Col. ed. 3, 387 (type: *Altica troglodytes* Olivier; India).—Monros & Bechyne, 1956, *Ent. Arb. Mus. Frey* **7**(3): 1134.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 746 (key), 837.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 403 (key), 448.

Sebaethe Baly, 1864, *Ann. Mag. Nat. Hist.* ser 3, **14:** 438 (type: *Haltica badia* Erichson; Philippines).—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 357 (key); 1937, ibid. **27:** 43.

Further synonymy includes *Epiotis* Solsky, 1872. See Kimoto, 1965: 448 for further citations.

DIAGNOSIS. Rather broad, ovate alticines of moderate size. Interantennal space ± as broad as diameter of antennal socket; postantennal swellings quadrate; antenna 11-segmented, attaining elytral disc, apical segments slightly thickened; pronotum devoid of impressions; elytral puncturation confused; procoxa globose; procoxal cavity open; metatibia channeled on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched sublaterally in ♂, entire in ♀; pro- and mesobasitarsus slightly more robust in ♂.

REMARKS. Similar to *Sebaethoides* Chen [SE Asia], but interantennal space is carinate instead of ± flat, postantennal swellings subquadrate instead of triangular, form ovate instead of subquadrate; differs from *Hyphasis* Harold [S & E Asia, Japan to Indonesia, also Madagascar] by not having claw tarsomere swollen.

DISTRIBUTION. Africa, S & E Asia, Japan to Indonesia, New Guinea, Micronesia.

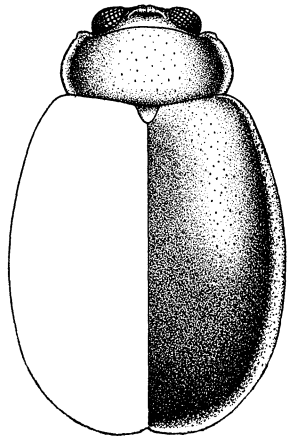

Fig. 10. *Hemipyxis* sp., dorsal view.

Hemipyxis sp. Fig. 10.

Form somewhat robust, elytra broad in relation to head and prothorax; side moderately explanate, especially along elytron. Dorsum rather evenly yellow-testaceous; eyes reddish; antenna, venter, and legs largely yellow-testaceous. Length 3.8–4.7 mm; breadth 2.4–2.8.

All specimens have dorsum rather evenly yellow-testaceous.

MATERIAL EXAMINED (n = 8). MARIANAS: *Saipan:* Kanat Tabla, *Premna*, M-10744, Tenorio (BPBM). New to Micronesia.

DISTRIBUTION. Possibly a species of S or SE Asian distribution and probably a recent immigrant to Saipan, as it was not collected there during extensive field work following World War II.

REMARKS. Apparently does not belong to any of the species known from Japan, Ryukyus, or Taiwan; similar to *foveolata* (Chûjô) [Ryukyus] in form and color, but differs from it by lacking 2 deep foveae at side of lower vertex.

PLANT ASSOCIATES. *Premna* sp.: Saipan (Tenorio, labels).

Genus **Aphthona** Chevrolat

Aphthona Chevrolat, 1842, *In* d'Orbigny, Dict. d'Hist. Nat. **2:** 5.—Chapuis, 1875, Gen. Col. **11:** 69 (key), 72.—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 33 (key); 1925, ibid. **11**(3–4): 52 (key), 58 (key).—Maulik, 1926, Fauna India, Chrys. & Halt., 285 (key), 366 (type: *Altica cyparissiae* Koch; Europe).—Chen, 1933, *Sinensia* **3**(9): 228 (key); 1934, ibid. **5**(3–4): 234 (key), 362.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 357 (key).—Chen, 1936, *Sinensia* **7**(6): 638.—Chûjô, 1937, *Trans. Nat. Hist. Soc. Formosa* **27:** 119.—Heikertinger, 1944, *Kol. Rundschau* **30**(1–3): 123; 1948, ibid. **31**(4–6): 128. Arnett, 1962, Beetles of United States, fasc. 104, 913 (key), 939.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 747 (key), 865.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 403 (key); 1966, ibid. **13**(4): 609.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 6 (key), 16 (key), 69.

Cerataltica Crotch, 1873, *Proc. Acad. Nat. Sci. Philadelphia* **25:** 73 (type: *Sphaeroderma? insolita* Melsheimer; E United States).—Horn, 1889, *Trans. American Ent. Soc.* **16:** 305 (synonymized).

Ectonia Weise, 1922, *Tijdschr. Ent.* **65:** 119 (type: *E. laeta* Weise; Tonkin).—Chen, 1934, *Sinensia* **5**(3–4): 233 (key), 361; 1939, ibid. **10:** 75 (synonymized).

DIAGNOSIS. Subovate alticines of generally small size. Interantennal space ± as broad as diameter of antennal socket; postantennal swellings subrounded, ± oblique; antenna 11-segmented, attaining elytral

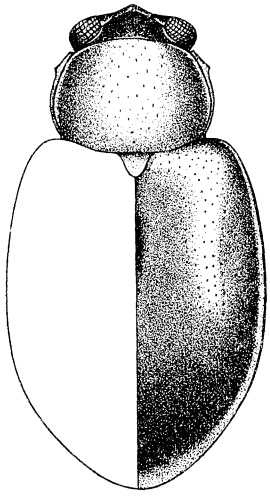

Fig. 11. *Aphthona v. veitchi*, dorsal view.

disc, apical segments slightly thickened; pronotum lacking ante-basal impression; elytral puncturation confused; procoxa globular; procoxal cavity open; metatibia flattened on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues dentate basally. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂.

REMARKS. Allied to *Parategyrius* Kimoto & Gressitt [Ryukyus] because of similar facies; chiefly differs from same by lacking pronotal ante-basal impression.

DISTRIBUTION. Cosmopolitan. Several species occur in Micronesia and S Pacific islands with one species ranging as far east as Samoa.

The complexion of Pacific island species of *Aphthona* is changed considerably, with only 3 of the 11 described species recognized here as full species. One is reduced to a subspecies and 2 are fully synonymized with *veitchi* Bryant, and 5 others are assigned to other genera: *erromangana* Bryant to *Crepidodera*, *greenwoodi* Bryant, *senetiki* Gressitt to *Trachyaphthona*, *Aphthona? strigula* Montrouzier to *Phyllotreta*, and *lamia* Gressitt to *Linaltica*.

Aphthona bicolorata Jacoby and *veitchi* Bryant have broad ranges, each occurring on many islands and they also probably have similar ecological requirements for they seem to be associated with disturbed, weedy, waste places where *Euphorbia* spp. may possibly serve as a major host. No doubt, these alticines have spread throughout the archipelagos as have their hosts, but the geographical origin of *veitchi* is obscure, for its closest relatives on continents have yet to be determined; *bicolorata*, however, has a close relative in Australia.

Key to Pacific island species of Aphthona

1. Dorsum entirely dark.....2
   Dorsum predominantly pale.....3
2. Pro- and mesolegs fulvous; pronotal disc nearly smooth but finely and longitudinally striate [dorsum: pronotum ± aeneous, elytron bluish or greenish; length 2.0–2.5 mm—Taiwan, Ryukyus, Micronesia (Guam)].....**formosana**
   Pro- and mesolegs bluish black; pronotal disc smooth [dorsum with uniform dark bluish lustre;

length 2.75 mm—Micronesia (Guam)].....species

3. Length 2.5 mm or less; aedeagus lacking terminal projection; spermatheca lacking appendix.....4
   Length exceeding 2.5 mm; aedeagus with terminal projection; spermatheca with appendix [dorsum reddish to orange- to yellow-testaceous, elytron with fuscous sutural stripe; length 2.75–3.8 mm—New Guinea, Solomons, New Hebrides, Micronesia].....**bicolorata**
4. Aedeagus with extreme apex truncate or convex; spermathecal pump about as long as duct; dorsum orange- to yellow-testaceous, elytron usually with fuscous sutural stripe [length 1.8–2.4 mm—Micronesia].....**veitchi nanyoensis**
   Aedeagus with extreme apex weakly bilobed; spermathecal pump usually longer than duct; dorsum orange- to yellow-testaceous, elytron with sutural stripe usually reduced to post-basal area or obsolete [length 1.6–2.45 mm—S Pacific: New Caledonia to Samoa]...**veitchi veitchi**

Aphthona bicolorata Jacoby Fig. 13d, 27b.

Aphthona bicolorata Jac., 1904, *Ann. Mus. Civ. Stor. Nat. Genova* **41:** 487 (New Guinea—type in GMSN).—Gressitt, *Ins. of Micronesia* **17**(1): 31 (+key), fig. 9a (Micronesia; Palau, Caroline Atolls, Truk).—Samuelson, 1967, *Pacific Ins.* **9**(1): 155 (Solomons: Buka, Bougainville, Guadalcanal).

♂ (Micronesia: Truk). Form subovate. Dorsum bicolorous: prothorax and elytron largely orange-testaceous, scutellum and sutural margin of elytron fuscous, with the latter jointly forming a dark median stripe which gradually tapers apically; head largely orange-testaceous but labrum fuscous; antenna with segments 1–3 yellow-testaceous, remainder fuscous; venter largely orange-testaceous but side of metasternum and metafemur largely fuscous; legs otherwise orange-testaceous. Length 3.4 mm; breadth 1.7.

Head: frons broadly convex, sides depressed, surface rather smooth; interantennal space broadly convex, 1.5 × as broad as transverse diameter of antennal socket; orbit with breadth subequal to transverse diameter of antennal socket; interocular index 108; gena 0.5 × as deep as eye; postantennal swellings oblique, moderately swollen, separated medially and from vertex by oblique grooves; vertex sparsely micropunctate, obscurely alutaceous above. *Antenna* 0.7 × as long as body, attaining apical 1/3 of elytron; apical segments slightly flattened and gradually thickened toward apices. *Prothorax* broadest basally, distinctly narrower than elytra at humeral angles; pronotal index 70; anterior angle oblique, moderately sinuate; side weakly convex; base convex; disc punctulate, with punctures mostly ± 1 × as large as interspaces, interspaces rather smooth. *Elytron* 3 × as long as broad, broadest along middle, side weakly convex along middle; epipleuron not reaching apex, surface rather smooth; punctures of central disc fine, mostly 0.5–0.7 × as large as interspaces; interspaces alutaceous. *Ventral surfaces:* thoracic sterna ± smooth; abdomen moderately punctulate. *Legs:* metafemur 2.3 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 52: 44: 36; basitarsus as long as remainder. *Wing* fully developed. *Aedeagus* 8.6 × as long as breadth at middle, see figure.

♀ (New Hebrides: Malekula). Similar to ♂. *Spermatheca* as figured. Length 3.5 mm; breadth 1.8.

VARIATION (n=20). LENGTH 2.75–3.80 mm, mean 3.35; BREADTH 1.3–1.95 mm; HEAD BREADTH 72–88 cmm; INTERANTENNAL SPACE 11–18 cmm; INTEROCULAR SPACE 33–45 cmm; EYE 32–39 cmm; INTEROCULAR INDEX 103–117, mean 110; PRONOTAL LENGTH 64–90 cmm; PRONOTAL BREADTH 92–123 cmm; PRONOTAL INDEX 64–75, mean 70; ELYTRAL LENGTH 215–292 cmm. [11 ♂♂, 9 ♀♀]

Coloration: overall testaceous color reddish in life, fading to orange- to yellow-testaceous in dried specimens; dark fuscous elytral sutural stripe variable but usually well-developed and continued to elytral preapex; breadth of stripe commonly greatest anteriorly, thence narrowing posteriorly, sometimes broadest postbasally.

MATERIAL EXAMINED (n = 201). Mostly BPBM material. MARIANAS: *Saipan:* 6, 23.VIII.1951, Bohart; 4, II.1958, Krauss (USNM); 7, Chalan Paio, II.1958, Krauss (USNM); *Tinian:* 3, 11.XI.1952, Beardsley; *Guam:* 1, X.1952, Krauss (BMNH); 1, Mt Bolanos, VIII. 1952, Krauss; 1, Nimitz Beach, VIII.1952, Krauss; 2, Yigo, VIII.1952, Krauss; 2, Agana, 19.X. 1952; 1, Agana Heights, 13.X.1953, Liming; 1, Mt Lamlam, X.1957, Krauss (USNM); 2, Merizo,

X.1957, Krauss (USNM); 4, Barrigada, X.1957, Krauss (USNM); 5, Mt Alifan, X.1957, Krauss (USNM); PALAU ISLANDS: *Angaur:* 4, 21.I.1953, Beardsley; *Peleliu:* 42, 24.VII.1946, on *Euphorbia* sp. leaves, Oakley (USNM); CAROLINE ATOLLS: *Ulithi Atoll:* Falalop: 1, 29.IV.1952, Beardsley; 1, 7.X.1952, Krauss; 7, 26.IX.1956, sweeping grasses, McDaniel (USNM); TRUK GROUP: *Moen:* 13, 8.III-, 10.III-, 11.III-, 15.III-, 16.IV-, 24.IV.1949, Potts; *Dublon:* 2, Kuchua, 7.VIII.1949, Mead; NEW HEBRIDES: *Espiritu Santo:* 1, Luganville, 23–28.VII.1958, Malkin; 5, Baldwin Bay, 17.VIII.1958, Malkin; 3, same loc., 28–30.IX.1958, Malkin; 1, Narango, 90 m, V.1960, Brandt; *Malekula:* 81, Tenmaru, 14.XI.1958, sweeping, Malkin. New to New Hebrides.

DISTRIBUTION. New Guinea, Solomons, New Hebrides, Micronesia.

REMARKS. Closely allied to *scutellata* Baly [Australia] because of similar external and aedeagal facies; differs from same by generally darker coloration: elytral sutural margin fuscous instead of pale, metasternum dark at side instead of pale, metafemur largely dark instead of darkened apically. Possibly, these 2 species are synonymous, but further material from Australia must be studied before passing judgments.

PLANT ASSOCIATES. On *Euphorbia* sp. leaves: Peleliu (Oakley, labels); sweeping grasses (McDaniel, labels); possibly also *Pithecellobium* sp., watermelon, and maize, but these last three records (Gressitt, 1955: 32) might have been confused with *nanyoensis* Chûjô, treated here as a subspecies of *veitchi* Bryant.

Aphthona formosana Chen Fig. 13e, 27c.

Aphthona formosana Chen, 1934, *Ann. Soc. Ent. France* **103:** 179 (key), 185 (Formosa).—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 88, 207, 211 (Ishigaki, Iriomote); 1937, ibid. **27:** 120 (key), 122 (Sakishima group, Formosa).—Heikertinger, 1944, *Kol. Rundschau* **30**(4–6): 108 (key), 117.—Chûjô & Kimoto, 1961, *Pacific Ins.* **3**(1): 172 (plant host).—Kimoto, 1966, *J. Fac. Agric. Kyushu Univ.* **13**(4): 610 (key), 611 (Ryukyus, Japan).—Kimoto & Gressitt, 1966, *Pacific Ins.* **8**(2): 485 (key), 559 (Ryukyus: Amami, Okinawa, Sakishima groups).

Aphthona varipes: Chûjô, 1958, *Mem. Fac. Lib. Arts & Ed. Kagawa Univ.* **2**(64): 10 (Okinawa).

Aphthona formosana yakuana Nakane, 1958, *Sci. Rep. Saikyo Univ.* **2**(5): A313, fig. 35 (Yakushima).

♂ (Guam). Form subovate-elongate. Dorsum black: pronotum with aeneous lustre, elytron with dark blue lustre; antenna yellow-fulvous to fuscous, apical 4 segments darkest; venter dark fuscous to black; legs largely yellow- to orange-fulvous, metafemur dark red-fuscous. Length 2.25 mm; breadth 1.2.

Head: frons carinate medially, surface ± smooth medially, roughened laterally; interantennal space convex, about 1.1 × as broad as transverse diameter of antennal socket; orbit 0.55 × as broad as antennal socket; interocular index 107; gena 0.55 × as deep as eye; postantennal swellings oblique, rounded internally, acute externally, surfaces raised, smooth, barely separated medially and well-delimited from vertex; vertex vaguely subgranulate. *Antenna* extending beyond middle of elytron; apical segments slightly thickened toward apices. *Prothorax* broadest before middle, narrowed basally where breadth is distinctly narrower than elytra at humeral angles; pronotal index 71; anterior angle oblique-weakly concave; side convex; base feebly sinuate; disc punctulate with interspaces finely and longitudinally striate; central discal punctures mostly 0.3 × as large as interspaces, prebasal punctures slightly larger and closer. *Elytron* 2.9 × as long as broad, broadest behind middle, side gently convex along middle; epipleuron continued to preapex, surface alutaceous, ± irregular posteriorly; humerus slightly produced; base feebly swollen; postbasal area shallowly depressed; central discal punctures commonly 1 × as large as interspaces; interspaces alutaceous. *Ventral surfaces:* metasternum ± smooth, sparsely punctulate; abdomen subgranulate, moderately punctulate. *Legs:* metafemur 2.1 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 38: 32: 25; basitarsus slightly longer than remainder. *Wing* fully developed. *Aedeagus* about 5.9 × as long as breadth at middle, see figure.

♀ (Okinawa). No Micronesian examples. Similar to ♂ (Guam), but pronotum more blackish, less aeneous. *Spermatheca* as figured. Length 2.5 mm; breadth 1.35.

VARIATION (n = 2). LENGTH 2.1–2.25 mm (♂♂); BREADTH 1.2 mm; HEAD BREADTH 57–59 cmm; INTEROCULAR SPACE 25–27 cmm; EYE 25 cmm; INTEROCULAR INDEX 100–107; PRONOTAL LENGTH 51–53 cmm; PRONOTAL BREADTH 74 cmm; PRONOTAL INDEX 68–71; ELYTRAL LENGTH 171–179 cmm. [2 ♂♂]

Guam and Okinawa populations most closely resemble one another in BPBM material; they tend to have sculpture of pronotal disc nearly smooth, while members of S Ryukyu and Taiwan populations have longitudinal fine striations of pronotal disc more pronounced; also, the lateral margins of the aedeagus are more concave in the S Ryukyu populations.

MATERIAL EXAMINED (n = 2). MARIANAS: *Guam:* 2, Point Oca, V.1945, Bohart & Gressitt (BPBM). New to Micronesia.

DISTRIBUTION. S Japan (Kyushu, Yakushima), Ryukyus, Taiwan, Micronesia (Marianas: Guam).

REMARKS. Somewhat similar to *strigosa* Baly [SE Asia, Japan, to Indonesia] in general facies; differs from same by not having entire dorsum granulate.

PLANT HOSTS. *Mallotus japonicus* (Thunb.) Muell. Arg.: S Japan, Ryukyus, Formosa (Chûjô & Kimoto, 1961: 172).

Aphthona veitchi veitchi Bryant Fig. 11, 13f, 27d.

Aphthona veitchi Bry., 1925, *Ann. Mag. Nat. Hist.* ser 9, **15:** 595 (Fiji: Viti Levu—type in BMNH).—Greenwood, 1940, *Proc. Linn. Soc. New South Wales* **65:** 215.—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 75 (Fiji: Viti Levu, Ovalau).

Aphthona cheesmani Bryant [sic, wrong gender], 1936, *Ann. Mag. Nat. Hist.* ser 10, **17:** 250 (New Hebrides: Malekula; Banks Islands: Vanua Lava—type in BMNH). **New Synonym.**

Aphthona samoana Gressitt, 1957, *Proc. Hawaiian Ent. Soc.* **16**(2): 244 (key), 253, fig. 1i (Samoa: Upolo—type in BPBM). **New Synonym.**

Lectotype ♂. Form subelongate, side convex. Dorsum evenly orange-testaceous; head slightly darker pitchy orange-testaceous, labrum fuscous; antenna with segments 1–3 yellow-testaceous, 4 fuscescent, remainder fuscous; venter and legs largely orange-testaceous, but metafemur fuscous from oblique boundary near middle to apex. Length 2.05 mm; breadth 1.0.

Head: frons broadly swollen medially and along anterior margin, sides depressed, surface ± subgranulate; interantennal space convex, about 1.2 × as broad as transverse diameter of antennal socket; orbit 0.8 × as broad as antennal socket; interocular index 107; gena 0.45 × as deep as eye; postantennal swellings oblique, moderately swollen, separated medially by short groove and delimited from vertex by deep oblique groove; vertex evenly convex, surface ± subgranulate. *Antenna* extending beyond middle of elytral disc; apical segments slightly thickened toward apices. *Prothorax* broadest near middle, slightly narrower than elytra at humeral angles; pronotal index 70; anterior angle oblique; side convex; base feebly sinuate across middle; disc obscurely punctulate, most punctures about 0.3–0.5 × as large as interspaces; interspaces ± alutaceous. *Elytron* nearly 3 × as long as broad, broadest near middle, side weakly convex along middle; epipleuron not reaching apex, surface alutaceous; central discal punctures small, mostly around 0.3 × as large as interspaces; interspaces alutaceous. *Ventral surfaces* largely alutaceous. *Legs:* metafemur 2.2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 37: 31: 25; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* about 7.3 × as long as breadth near middle, similar to different specimen figured (New Hebrides: Malekula).

Allolectotype ♀. Similar to ♂. *Spermatheca* as in figure (from another Lautoka specimen). Length 2.45 mm; breadth 1.3.

VARIATION (n = 15). LENGTH 1.6–2.45 mm, mean 2.1; BREADTH 0.85–1.3 mm; HEAD BREADTH 47–67 cmm; INTEROCULAR SPACE 25–32 cmm; EYE 20–30 cmm; INTEROCULAR INDEX 100–123, mean 108; PRONOTAL LENGTH 39–64 cmm; PRONOTAL BREADTH 60–88 cmm; PRONOTAL INDEX 65–73, mean 70; ELYTRAL LENGTH 128–195 cmm. [6 ♂♂, 9 ♀♀]

Dorsum yellow- to orange-testaceous, degree of infuscation at elytral suture somewhat variable with specimens from New Caledonia and Fiji (Viti Levu) generally the most pallid, frequently lacking any trace of dark staining along suture, specimens from New Hebrides, Fiji (Ovalau, Lau, Matuku), and Samoa tend to have suture briefly stained postbasally and the material from Niue varies from having margin entirely pale to well-infuscated postbasally; dorsal surfaces are ± smooth to alutaceous with specimens from Fiji usually having more texture and producing the illusion of larger punctures; elytral puncturation is almost always as small points, commonly 0.2–0.3 × and sometimes 0.5 × as large as interspaces.

MATERIAL EXAMINED (n = 82). NEW CALEDONIA: 2, Noumea, Coll. Fauvel (ISNB); 1, same loc., 10.VIII.1940, Williams (BPBM); 1, same loc., 26.VIII.1940, ex *Acacia laurifolia*, live and dead branches, Williams (BPBM); 2, Yahoe, 20.II.1963, Malaise trap, Yoshimoto & Krauss (BPBM); LOYALTY ISLANDS: *Lifou:* 1, We, 16–18.II.1963, Yoshimoto (BPBM); NEW HEBRIDES: *Malekula:* 1, XII.1929, Cheesman (BMNH); 3, V.1930, Cheesman (BMNH); 1, Ounua, III–IV.1929, Cheesman (BMNH); 23, Tenmaru, 14.IX.1958, sweeping, Malkin (BPBM); *Espiritu Santo:* 1, Baldwin Bay, 17.VIII.1958, Malkin (BPBM); 1, same loc., 28–30. IX.1958, Malkin (BPBM); Banks Islands: *Vanua Lava:* 1, XI.1929, Cheesman (BMNH); FIJI: *Viti Levu:* Lectotype ♂ (BMNH), Cuvu [Thuvu], 5.VI.1915, R. Veitch; allolectotype ♀ (BMNH), Lautoka, 21.II.1919, Veitch; 1 paralectotype ♀, same data as preceding (BMNH); 2 (syntype series?), same loc., 20.II.1919, Veitch (BMNH); 2, same loc. and date, Greenwood (BMNH); 1, same loc., 2.II.1920, Greenwood (BPBM); 1, Tavua, 7.III.1963, Yoshimoto (BPBM); *Ovalau:* 1, Andubangda, 550–610 m, 15.VII.1938, beating, Zimmerman (BPBM); *Lau:* 1, Mothe, 14.VIII. 1924, Bryan (BPBM); *Matuku:* 2, 5.VII.1924, Bryan (BPBM); NIUE: 28, on weeds, kumara, taro, Eyles (DSIR); SAMOA: *Upolo:* 2 (holo- & allotype of *samoana*), Tapatapao, 300 m, 17. VII.1940, sweeping Bermuda grass, Swezey (BPBM); 1 (paratopotype of preceding), same loc., 24.VII.1940, sweeping, Swezey (BPBM). New to New Caledonia, Loyalty Islands, Niue.

Of the 5 specimens comprising the type series, the Cuvu [Thuvu] specimen was cited first, but was not specified as type. This specimen bears a BMNH type label (circular with red border) and is the one designated here as lectotype. The others are from Lautoka.

DISTRIBUTION. S Pacific: New Caledonia to Fiji, eastward to Samoa, Tonga, and Niue.

REMARKS. Close relatives on continental Asia or elsewhere not known; dorsal coloration somewhat similar to *foudrasi* Jacoby [SE Asia, Japan]; differs from same by finer puncturation of dorsum and by having outline of narrowed preapex of aedeagus concave instead of straight.

PLANT ASSOCIATES. Imago feeds on leaves of *Euphorbia chamissonis* Boiss.: Fiji (W. Greenwood, 1940: 215); ex *Acacia laurifolia*, live and dead branches: New Caledonia (Williams, labels); weeds, kumara, taro: Niue (Eyles, labels); sweeping Bermuda grass: Samoa (Swezey, labels).

Aphthona veitchi nanyoensis Chûjô, new status Fig. 13g, 27e.

Aphthona sp. near *bicolorata:* Swezey, 1942, *Bishop Mus. Bull.* **172:** 171 (Guam).

Aphthona nanyoensis Chûjô, 1943, *Mem. Fac. Sci. Agric. Taihoku Imp. Univ.* **24**(3): 302, fig. 9 (Saipan, Yap, Truk—type in TARI).—Gressitt, 1955, *Ins. of Micronesia* **17**(1): 31 (key), 32, fig. 9b, c (Marianas, Carolines).

Treated here as a subspecies of *veitchi* Bryant.

♂ (Yap). Form subelongate, side weakly convex. Dorsum largely orange-testaceous but elytral sutural area stained with fuscous along apical 4/5; head largely pitchy brown but frons and gena yellowish; antenna with segments 1–4 yellow-testaceous, remainder fuscous; ventral surfaces orange-testaceous but side of metathorax and parts of abdomen fuscescent; legs orange-testaceous, metafemur fuscous on apical 4/5. Length

1.95 mm; breadth 1.0.

Head: frons rather strongly swollen medially, sides depressed, surface subalutaceous; interantennal space weakly convex, breadth subequal to transverse diameter of antennal socket; orbit about 0.75 × as broad as antennal socket; interocular index 105; gena 0.5 × as deep as eye; postantennal swellings subquadrate-oblique, separated medially and obliquely delimited from vertex by fine grooves; vertex subalutaceous. *Antenna* extending to apical 1/3 of elytron; apical segments flattened and gradually thickened toward apices. *Prothorax* broadest at middle but barely more so than at posterior angles; base slightly narrower than elytra at humeral angles; pronotal index 74; anterior angle strongly oblique; side feebly convex; base nearly straight across middle; disc finely punctulate, punctures 0.2–0.5 × as large as interspaces; interspaces subalutaceous. *Elytron* 3 × as long as broad, broadest slightly behind middle, side slightly convex along middle; epipleuron not reaching apex, surface rather smooth; disc subshining-alutaceous, central punctures mostly 0.3–0.5 × as large as interspaces. *Ventral surfaces:* thoracic sterna ± smooth; abdominal sterna ± granulate. *Legs:* metafemur 2.3 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 54: 45: 35; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* 7.3 × as long as breadth at middle.

♀ (Yap). Similar to ♂. *Spermatheca* as figured. Length 2.2 mm; breadth 1.0.

VARIATION (n = 8). LENGTH 1.8–2.4 mm, mean 2.1; BREADTH 1.0–1.25 mm; HEAD BREADTH 53–64 cmm; INTEROCULAR SPACE 25–31 cmm; EYE 23–30 cmm; INTEROCULAR INDEX 100–112, mean 103; PRONOTAL LENGTH 45–60 cmm; PRONOTAL BREADTH 66–86 cmm; PRONOTAL INDEX 68–75, mean 71; ELYTRAL LENGTH 144–192 cmm. [3 ♂♂, 4 ♀♀, 1 U]

MATERIAL EXAMINED (n = 243). Mostly BPBM material. MARIANAS: *Alamagan:* 15, 19.VII.1949, Mead (BPBM, USNM); *Saipan:* 2, Saipan, 16.X.1925; 2, Donni, 28.VIII.1941, Matusita; 8, As Peldeto, 25.X.1941, Matusita; 14, Asgonno, 25.X.1941, Matusita; 2, same loc., 27.X.1941, Matusita; 1, N end, 26.XII.1944, Dybas; 1, V.1945, Dybas; 1, Afetna Pt., 1.VII.1946, Townes; *Tinian:* 1, N of Gurgan Point, 10.IV.1945, Dybas; 2, 9.VI.1946, Townes (USNM); 1, 11.VI.1946, Oakley (USNM); 38, Marpo Vall., 11.VI.1946, Oakley (BPBM, USNM); *Guam:* 1, by Fullaway; 2, Piti, 26.V.1936, Usinger; 1, same loc., 2.VI.1936, *Euphorbia pilulifera*, Usinger; 5, Sumay, 17.VIII.1936, *Euphorbia*, Swezey; 1, Pt. Amantes, 30.VI.1945, light trap, Bohart & Gressitt; 1, Mt Alifan, IV.1946, Krauss; 1, Mt Alutom, 18.VI.1946, Townes (USNM); 1, 1.6 km SE of Asan, 180–240 m, 5.XI.1947, Dybas (USNM); 1, Yona, X.1952, Krauss; 2, Mt Lamlam, X.1957, Krauss; PALAU GROUP: *Koror:* 1, 19.VII.1946, Oakley (USNM); 1, 25.IX.1952, Beardsley; 1, 26.IV.1957, Sabrosky; *Peleliu:* 32, 24.VII.1946, on *Euphorbia* sp., Oakley (USNM); YAP: *Yap:* 29, Gagil Distr., VII–VIII.1950, Goss (BPBM, USNM); 7, Ruul Distr., VII–VIII. 1950, Goss; 1, Tomil Distr., VII–VIII.1950, Goss; 2, Central Yap, VII–VIII.1950, Goss; 10, Colonia, VII–VIII.1950, Goss; 2, same loc., 29.III.1954, Beardsley (BPBM, USNM); 1, X.1952, Krauss; *Map:* 4, VII–VIII.1950, Goss (BPBM, USNM); *Rumung:* 6, VII–VIII.1950, Goss (USNM); CAROLINE ATOLLS: *Sorol Atoll:* Sorol: 5, 4.X.1952, Krauss (BPBM, USNM); *Ulithi Atoll:* Fassarai: 3, 10.VII.1946, on sweet potato leaves, Oakley (USNM); 32, 11.VII. 1946, on *Euphorbia* sp., Townes (USNM); TRUK GROUP: *Moen:* 2, X.1952, Beardsley.

DISTRIBUTION. Micronesia (Marianas, Carolines).

REMARKS. The Micronesian insular populations comprising this subspecies form a cohesive unit which seems to be adequately distinct geographically and micromorphologically from the nominate form whose populations range S and SE of Micronesia, from New Caledonia eastward to Niue and Samoa.

Differs from the nominate form by having sutural margin of elytron generally more heavily and extensively infuscated; aedeagus truncate to feebly convex instead of feebly bilobed; spermatheca with pump about as long as sclerotized part of duct instead of generally longer.

PLANT HOSTS. *Pithecellobium dulce* Benth. (Gressitt, 1955: 33).

PLANT ASSOCIATES. *Euphorbia pilulifera* L.: Guam (Usinger, label); *Euphorbia* sp.:

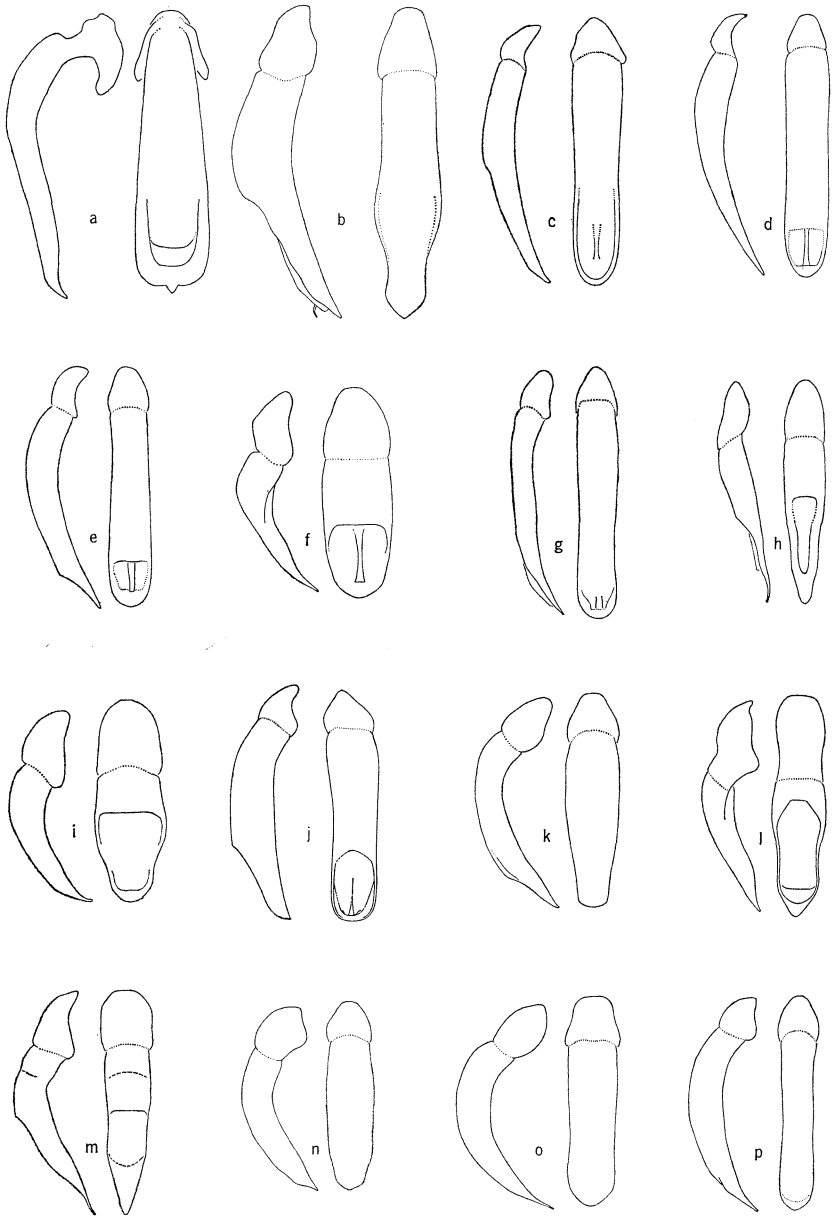

Fig. 12. Aedeagus, lateral and dorsal views; length in cmm: a, *Licyllus bouqueti*, 110 cmm; b, *Trachyaphthona boja*, 92 cmm; c, *T. nana*, 68 cmm; d, *T. lifuana*, 82 cmm; e, *T. atra*, 78 cmm; f, *T. brunnea*, 53 cmm; g, *T. chandleri*, 107 cmm; h, *T. greenwoodi*, 72 cmm; i, *T. senetiki*, 53 cmm; j, *T. vitiensis*, 80 cmm; k, *T. nigra*, 70 cmm; l, *Linaltica simmondsi*, 93 cmm; m, *L. amicitia*, 65 cmm; n, *Trachytetra rugulosa*, 84 cmm; o, *T. robusta*, 90 cmm; p, *Pleuraltica cyanea*, 138 cmm.

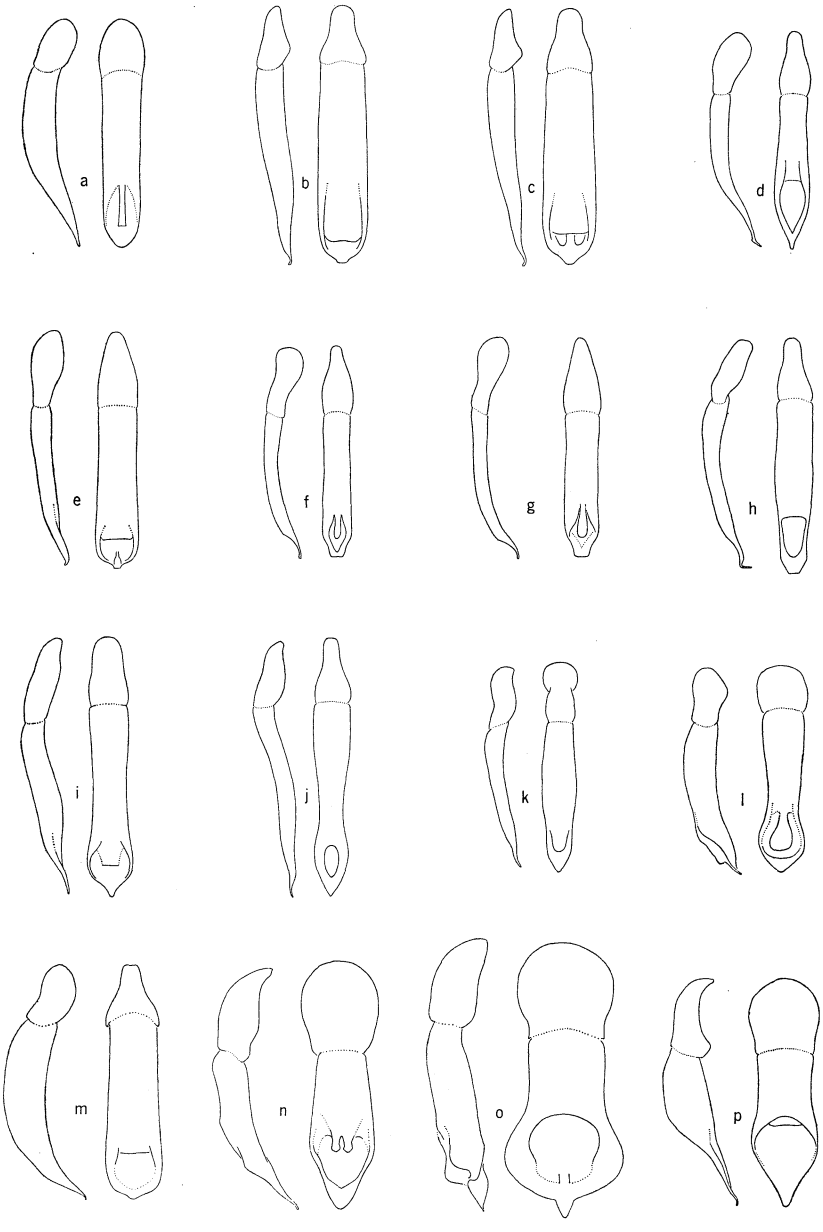

Fig. 13. Aedeagus, lateral and dorsal views; length in cmm: a, *Pleuraltica tyche*, 103 cmm; b, *Altica corusca*, 176 cmm; c, *A. jussiaeae*, 181 cmm; d, *Aphthona bicolorata*, 142 cmm; e, *A. formosana*, 78 cmm; f, *A. v. veitchi*, 78 cmm; g, *A. veitchi nanyoensis*, 82 cmm; h, *Phyllotreta undulata*, 78 cmm; i, *L. bimaculatus*, 72 cmm; j, *L. panope*, 111 cmm; k, *L. fuliginosus*, 78 cmm; l, *Sphaeroderma wedeliae*, 90 cmm; m, *Schenklingia esakii*, 101 cmm; n, *Argopistes coccinelliformis*, 160 cmm; o, *A. armipes*, 118 cmm; p, *A. kraussi*, 127 cmm.

Fig. 14. Aedeagus, lateral and dorsal views; length in cmm: a, *Argopistes arnetti*, 160 cmm; b, *A. insularis*, 137 cmm; c, *Febra venusta*, 105 cmm; d, *F. ovata*, 121 cmm; e, *F. insularis*, 136 cmm; f, *F. rubra*, 94 cmm; g, *F. varioloidea*, 103 cmm; h, *F. n. nigroornata*, 78 cmm; i, *Manobia fuscitarsis*, 127 cmm; j, *M. instabilis*, 82 cmm; k, *M. costata*, 90 cmm; l, *M. levicollis*, 62 cmm; m, *M. lubricata*, 94 cmm; n, *M. metallica*, 90 cmm; o, *M. obsolapicalis*, 78 cmm; p, *M. obtusicollis*, 78 cmm.

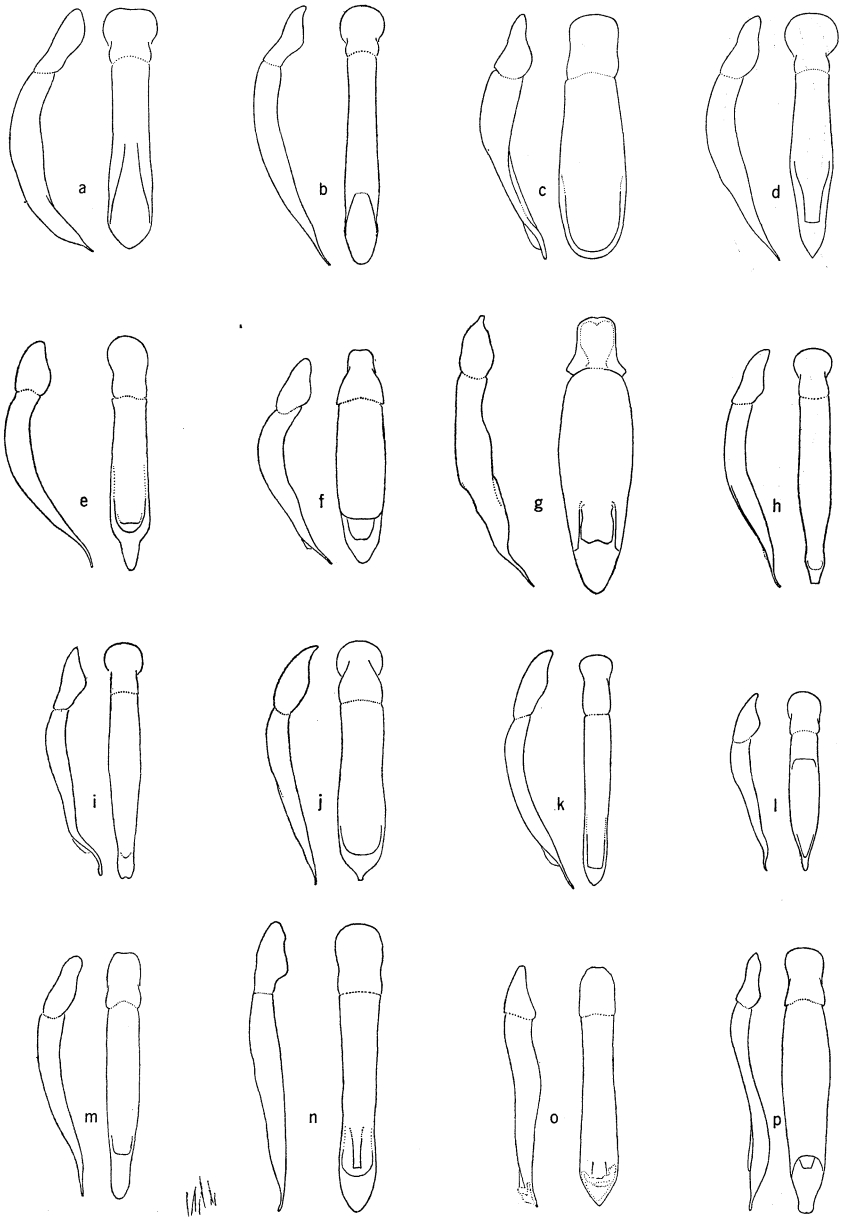

Fig. 15. Aedeagus, lateral and dorsal views; length in cmm: a, *Manobia thompsoni*, 58 cmm; b, *M. tomaniiviae*, 92 cmm; c, *M. victoriae*, 82 cmm; d, *M. zimmermani*, 76 cmm; e, *Goweria obscura*, 98 cmm; f, *Alema paradoxa*, 74 cmm; g, *A. spatiosa*, 168 cmm; h, *Analema nigra*, 68 cmm; i, *A. leveri*, 79 cmm; j, *Epitrix cucumeris*, 62 cmm; k, *E. hirtipennis*, 60 cmm; l, *Livolia carolina*, 45 cmm; m, *Crepidodera coeruleoviolacea*, 123 cmm; n, *C. erromangana*, 106 cmm; o, *C. elongata*, 122 cmm; p, *C. fijiensis*, 110 cmm.

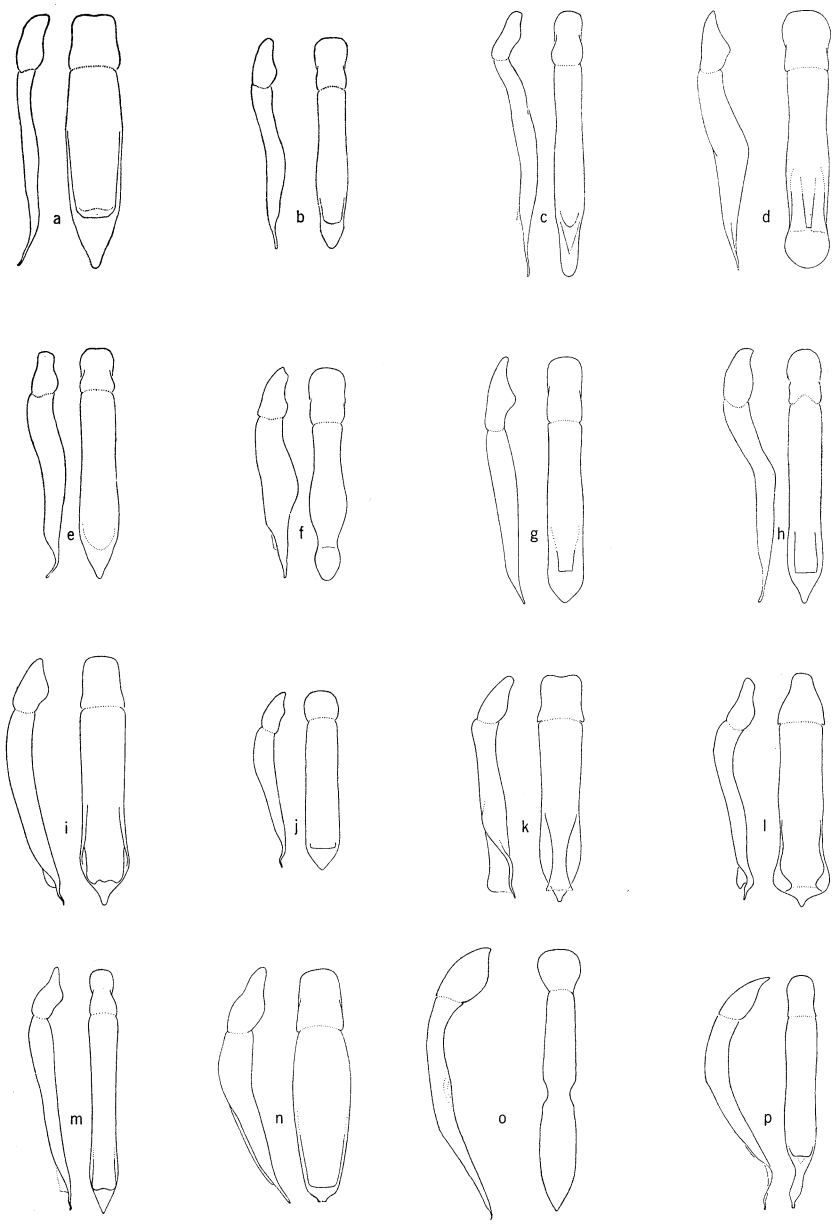

Fig. 16. Aedeagus, lateral and dorsal views; length in cmm: a, *Crepidodera gressitti*, 135 cmm; b, *C. infuscata*, 111 cmm; c, *C. kraussi*, 138 cmm; d, *C. lami*, 104 cmm; e, *C. oceania*, 117 cmm; f, *C. ovalauensis*, 113 cmm; g, *C. parafijiensis*, 96 cmm; h, *C. semifuscata*, 135 cmm; i, *Arsipoda agalma*, 102 cmm; j, *A. evax*, 66 cmm; k, *A. isola*, 82 cmm; l, *A. shirleyae*, 88 cmm; m, *A. yiambiae*, 102 cmm; n, *Chaetocnema paspalae*, 98 cmm; o, *C. allardi*, 104 cmm; p, *C. arsipodoides*, 101 cmm.

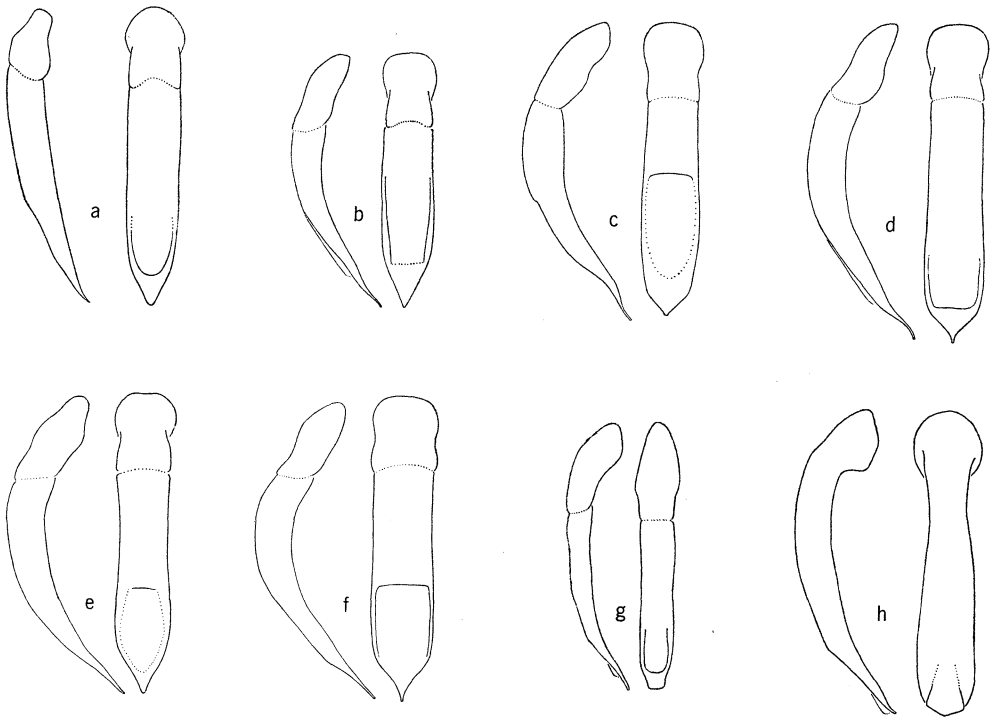

Fig. 17. Aedeagus, lateral and dorsal views; length in cmm: a, *Chaetocnema basalis*, 74 cmm; b, *C. aotearoa*, 66 cmm; c, *C. graminicola*, 61 cmm; d, *C. moriori*, 92 cmm; e, *C. nitida*, 62 cmm; f, *C. nitida*, 62 cmm; g, *Psylliodes brettinghami*, 111 cmm; h, *Nonarthra cyaneum*, 103 cmm.

Guam (Swezey, label); Peleliu (Oakley, labels); Fassarai (Townes, labels); on sweet potato leaves: Fassarai (Oakley, labels); *Euphorbia hirta* L. and *E. atoto* Guill. (Gressitt, 1955: 33).

Genus **Phyllotreta** Stephens

Phyllotreta Stephens, 1839, Man. British Col., 291 (type: *Chrysomela nemorum* L.; Europe).—Chapuis, 1875, Gen. Col. **11:** 69 (key), 73.—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 33 (key); 1925, ibid. **11**(3–4: 52 (key), 59 (key).—Maulik, 1926, Fauna India, Chrys. & Halt., 285 (key), 377.—Chen, 1933, *Sinensia* **3**(9): 228 (key); 1934, ibid. **5**(3–4): 234 (key), 371.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 357 (key); 1937, ibid. **27:** 115.—Heikertinger, 1941, *Kol. Rundschau* **27:** 15, 69; 1950, ibid. **31**(4–6): 140.—Arnett, 1962, Beetles of United States, fasc. 104, 913 (key), 939.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 747 (key), 873.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 403 (key); 1966, ibid. **13**(4): 605.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 6 (key), 16 (key), 33.

Orchestris: Crotch, 1878 (*nec* Kirby, 1837), *Proc. Acad. Nat. Sci. Philadelphia* **25:** 57 (key), 65.

DIAGNOSIS. Small, subovate to subelongate alticines. Interantennal space ± as broad as diameter of antennal socket; postantennal swellings obsolescent, antenna 11-segmented, attaining elytral disc, apical segments thickened; pronotum devoid of impressions; elytral puncturation confused; procoxa globular; procoxal cavity open; metatibia largely convex on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues simple. Sexual dimorphism: antenna generally longer in ♂; apex of last abdominal sternum notched submedially in ♂, entire in ♀.

REMARKS. Allied to *Longitarsus* Latreille [Cosmopolitan] by having ungues simple and somewhat similar facies; differs from same by having metabasitarsus less than 0.5 × as long as tibia,

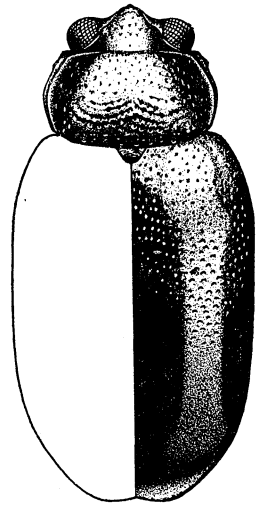

Fig. 18. *Phyllotreta undulata*, dorsal view.

postantennal swellings obsolescent instead of generally distinct; differs from *Aphthona* Chevrolat [Cosmopolitan] by usually lacking distinct postantennal swellings and lacking basal tooth on ungues; superficial resemblance to *Systena* Chevrolat [New World] by subovate-elongate form and similar vittate elytral markings in certain species; differs from same by having procoxal cavity open instead of closed.

DISTRIBUTION. Cosmopolitan.

Phyllotreta undulata (Kutschera) Fig. 13h, 18, 27f.

Haltica undulata Kutsch., 1860, *Wien. Ent. Monatschr.* **4:** 301.

Altica (Aphthona?) strigula Montrouzier, 1864, *Ann. Soc. Linn. Lyon* **11:** 202 (New Caledonia—type lost?). **New Synonym.**

Aphthona? strigula: Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.—Heller, 1916, *In* Sarasin & Roux, *Nova Caledonia* ser A, **2**(3): 259.

Phyllotreta australis Blackburn, 1890, *Trans. R. Soc. S. Australia* **13:** 146 (Australia). **New Synonym.**

Phyllotreta vittigera Broun, 1893, Man. New Zealand Col., part 6, 1392 (New Zealand). Broun number 2429. **New Synonym.**

Phyllotreta undulata: Chittenden, 1923, *Proc. Ent. Soc. Washington* **25:** 134 (Maryland); 1927, *Ent. Americana* **8**(1): 58.—Heikertinger, 1941, *Kol. Rundschau* **27**(1–3): 24–26 (key) (Eurasia, N Africa); ibid. (4–6): 110 (key).

Phyllotreta blackburni Bryant, 1925, *Ann. Mag. Nat. Hist.* ser 9, **15:** 596 (Fiji—type in BMNH); 1936, ibid. ser 10, **17:** 253 (New Hebrides).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 74. **New Synonym.**

See Csiki & Heikertinger, 1939, Junk, Col. Cat. **25**(166): 48 for further synonymy and citations.

♂ (New Caledonia). Form subovate-elongate, side gently convex. Dorsum bicolorous: head, prothorax, parts of elytron piceous; elytral median flavus vitta extending from base to preapex, vitta slightly broadened at basal and apical extremities, parallel-sided along middle; antenna with segments 1–3 yellow-testaceous, remainder fuscescent to piceous; venter and legs dark fuscous to piceous. Length 2.0 mm; breadth 1.0.

Head: frons swollen above anterior margin, carinate medially, raised surface ± smooth, otherwise granulate; interantennal space convex, about 1 × as large as transverse diameter of antennal socket; orbit about 0.75 × as broad as antennal socket; interocular index 100; gena 0.45 × as deep as eye; postantennal swellings

nearly obsolete but delimited medially by fine line; vertex strongly punctate, punctures mostly 2–3 × as large as interspaces but becoming smaller above. *Antenna* extending to about middle of elytron; intermediate segments gradually thickened toward apices; segment 5 not swollen but slightly longer than 4 or 6; apical segments robust. *Prothorax* broadest near middle, base distinctly narrower than elytra at humeral angles; pronotal index 58; anterior angle oblique; side convex; base convex; disc bearing deep punctures mostly 1–2 × as large as interspaces. *Elytron* 3 × as long as broad, broadest along middle; side gently convex along middle; epipleuron not reaching apex, surface subalutaceous; central discal punctures deep, mostly 2–3 × as large as interspaces; interspaces ± smooth. *Ventral surfaces* finely rugulose; apical 4 abdominal sterna moderately punctate. *Legs:* metafemur granulate, 2.2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 35: 30: 22; basitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* 6 × as long as breadth at middle, extreme apex acute but strongly deflexed, see figure.

♀. Similar to ♂. *Spermatheca* as figured. Length 2.0 mm; breadth 1.0.

VARIATION (n = 20). LENGTH 1.8–2.3 mm, mean 2.0; BREADTH 0.9–1.2 mm; HEAD BREADTH 41–49 cmm; INTEROCULAR SPACE 20–25 cmm; EYE 20–24 cmm; INTEROCULAR INDEX 100–114, mean 106; PRONOTAL LENGTH 33–45 cmm; PRONOTAL BREADTH 57–74 cmm; PRONOTAL INDEX 57–65, mean 60; ELYTRAL LENGTH 140–182 cmm. [10 ♂♂, 8 ♀♀, 2 U]

The outline of the elytral vitta is remarkably stable in all the material examined.

MATERIAL EXAMINED (n = 45). NEW CALEDONIA: 1, Bourail 4–6.II.1963, light trap, Gressitt, Yoshimoto & Krauss (BPBM); 1, same data, but at light (BPBM); 6, Bourail, 4.II. 1963, Gressitt, Yoshimoto & Krauss (BPBM); 2, same locality and date, Krauss (BPBM); 8, Noumea, 9.IX.1940, turnips, Williams (BPBM); 1, same data, but lacking Williams name; 5, Noumea, 5–50 m, 29.II.1960, Chinese cabbage, Gressitt (BPBM); 1, Baie du Sud, Coll. Fauvel (ISNB); NEW HEBRIDES: *Malekula:* 1, Vinnebubu, 460 m, IV.1930, beating liana, Cheesman (BMNH); FIJI: *Viti Levu:* 1 (syntype of *blackburni* Bryant), Nadar, 10.VII.1915, Veitch (BMNH); NEW ZEALAND: *Auckland:* 1, Owairaka, 10.II.1947, Spiller (PPDC); 1, same loc., 30.XII.1957, water trap, Wise (PPDC); 1, same loc., 12.III.1958, *Brassica*, Spencer (PPDC); 3, same loc., 27.II.1959, swedes, Wise (PPDC); 1, same loc., 29.XII.1960, *Coronopus didymus*, May (PPDC); 1, Mt Albert, 18.XII.1963, Rumsey (PPDC); 4, Gisborne, 10.X.1958, damaging chou mollier seedlings (DSIR).

DISTRIBUTION. Eurasia, NE United States, Australia, New Zealand, New Caledonia, New Hebrides, Fiji.

REMARKS. Resembles *striolata* (Fabricius) [Holarctica, Ryukyus, Taiwan, SE Asia] in size and color; differs from same by having outer margin of yellow elytral vitta straight or gently concave along middle instead of suddenly emarginate at middle; aedeagus with extreme apex deflexed abruptly instead of gradually.

Pacific island material is rather uniform in body proportions and in pattern of elytral vitta while Eurasian material is more variable in these respects, however, aedeagi and spermathecae compare closely in all material dissected. I am indebted to Mr R. T. Thompson and Mrs Sharon Shute of the British Museum (Natural History) for assistance in examining this species as well as for loan of material.

PLANT HOSTS. *Raphanus sativus* L.: New Caledonia (Montrouzier, 1864: 202); turnips: New Caledonia (Williams, labels); Chinese cabbage: New Caledonia (Gressitt, labels); *Brassica* sp.: New Zealand (Spencer, label); *Coronopus didymus* (L.) Smith: New Zealand (May, label); swedes: New Zealand (Wise, labels); chou mollier: New Zealand (labels).

PLANT ASSOCIATES. Liana: New Hebrides (Cheesman, label).

Genus **Longitarsus** Latreille

Longitarsus Latreille, 1827, Nat. Fam. Thierreichs, 410.—Chapuis, 1875, Gen. Col. **11:** 69 (+key).—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 30 (key); 1925, ibid. **11**(3–4): 52 (key), 59 (key).—Maulik, 1926, Fauna India, Chrys. & Halt., 285 (key), 333 (type: *Chrysomela atricilla* L.; Europe).—Chen, 1933, *Sinensia* **3**(9): 226 (key); 1934, ibid. **5**(304): 233 (key), 349.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 357 (key); 1937, ibid. **27:** 95.—Arnett, 1962, Beetles of United States, fasc. 104, 913 (key), 939.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 747 (key), 851.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 403 (key), 451.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 6 (key), 16 (key), 55.

Inopelonia Broun, 1893, Man. New Zealand Col., part 6, 1392 (type: *Phyllotreta testacea* Broun = *fuliginosa* Broun; New Zealand—by present designation). **New Synonym.**

Further synonymy includes *Thyamis* Stephens, 1831; *Teinodactyla* Chevrolat, 1848; and others. See Csiki & Heikertinger, 1939, Junk, Col. Cat. **25**(166): 104 for further citations.

DIAGNOSIS. Generally small, subovate-elongate alticines. Interantennal space ± as broad as diameter of antennal socket; postantennal swellings obsolescent to feebly raised, subrounded-oblique; antenna 11-segmented, extending beyond middle of elytral disc to elytral preapex, apical segments slender to slightly thickened; pronotum devoid of impressions; elytral puncturation confused; procoxa globose; procoxal cavity open; metatibia flattened apically on retrotarsal surface, spine simple; metabasitarsus 0.5 × or more as long as tibia; claw tarsomere not swollen, ungues simple. Sexual dimorphism: last abdominal sternum with apex sinuate in ♂, convex in ♀; probasitarsus slightly more robust in ♂.

REMARKS. *Inopelonia* Broun [New Zealand] is synonymized here without question. Somewhat allied to *Aphthona* Chevrolat [Cosmopolitan] by similar facies; differs from same by having antenna generally longer, metabasitarsus at least 0.5 × as long as tibia instead of shorter, ungues simple instead of dentate differs from *Parategyrius* Kimoto & Gressitt [Ryukyus] by lacking antebasal impression of pronotum and by having ungues simple instead of appendiculate.

DISTRIBUTION. Cosmopolitan. Occurrence on Pacific islands is spotty with species recorded from New Zealand and New Caledonia. One species, *insularis* Boheman [Taiti], should be regarded as Ecuadorian, not Tahitian. Two other species, *lunatus* Waterhouse and *galapagoensis* Van Dyke, endemic to the Galapagos in the far eastern Pacific probably have Neotropical

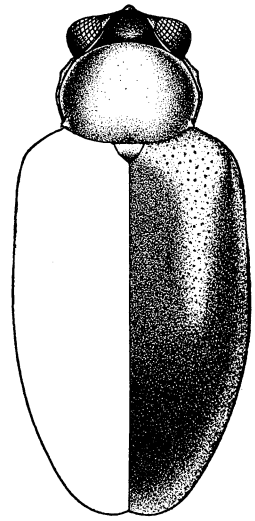

Fig. 19. *Longitarsus panope*, dorsal view.

affinities. *Altica lifuana* Montrouzier [Loyalty Islands, New Caledonia] was placed in *Longitarsus* by Csiki & Heikertinger (1939) and now is transferred to *Trachyaphthona* Heikertinger.

KEY TO PACIFIC ISLAND SPECIES OF LONGITARSUS

1. Prothorax transverse....2
   Prothorax quadrate [length about 2 mm—Galapagos]....(**lunatus** Waterhouse)
2. Postantennal swellings feebly delimited from vertex by obscure or fine oblique impression; vertex mostly smooth-alutaceous, sometimes rugulose above....3
   Postantennal swellings well-delimited from vertex by deep oblique sulcus; vertex granulate [dorsum yellow- to orange-testaceous, elytron sometimes with variable dark discal maculation and dark sutural margin; length 1.7–2.25 mm—China, Japan, Ryukyus, Micronesia]....**bimaculatus**
3. Elytral puncturation fine, central discal punctures shallow, mostly 0.2–0.5 × as large as interspaces....4
   Elytral puncturation coarse, central discal punctures deep, mostly about 1 × as large as interspaces [head and pronotum usually darker than elytron, elytron often with fine fuscous line at sutural margin; length 1.95–2.35 mm—New Zealand]....**fuliginosus**
4. Head darker than pronotum and elytron; elytron entirely yellow-testaceous [length 2.25–2.75 mm—New Caledonia, Isle of Pines]....**panope***
   Head and pronotum darker than elytron; elytron infuscated at suture [length about 2 mm—Galapagos]....(**galapagoensis** Van Dyke)

Longitarsus bimaculatus (Baly) Fig. 13i, 27g.

Thyamis bimaculata Baly, 1874, *Trans. Ent. Soc. London* **1874:** 200 (Japan—type in BMNH).

Longitarsus bimaculatus: Chûjô, 1937, *Trans. Nat. Hist. Soc. Formosa* **27:** 96, 100 (Japan).—Chûjô & Kimoto, 1961, *Pacific Ins.* **3**(1): 182 (Japan).—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 853 (key), 854, fig. 228a (S China, Japan).—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.*, **13:** 451 (key), 453 (Japan, Ryukyus).—Kimoto & Gressitt, 1966, *Pacific Ins.* **8**(2): 483 (key), 554, fig. 40d (Japan, Ryukyus).

Longitarsus lewisiellus Chûjô, 1937, *Trans. Nat. Hist. Soc. Formosa* **27:** 97, 102 (Japan).—Chûjô & Kimoto, 1961, *Pacific Ins.* **3**(1): 182 (synonymized).

Longitarsus ligustrivorus Chûjô, 1958, *Mem. Fac. Lib. Arts & Ed. Kagawa Univ.* **2**(64): 15 (Ryukyus).—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 453 (synonymized).

♂ (Bonin Islands). Body surfaces, antenna, legs orange-testaceous. Length 1.95 mm; breadth 0.95.

Head: frons swollen medially, surface subgranulate; interantennal space convex, 1.3 × as broad as transverse diameter of antennal socket; orbit about 0.65 × as broad as transverse diameter of antennal socket; interocular index 108; gena 0.5 × as deep as eye; postantennal swellings narrow, oblique, delimited from vertex by deep oblique sulcus; vertex granulate. *Antenna* attaining apical 1/3 of elytron; apical segments slightly swollen. *Prothorax* broadest near middle, pronotal index 70; anterior angle oblique; side convex; base feebly sinuate across middle; disc coarsely punctate, most punctures 2–3 × as large as interspaces, interspaces granulate. *Elytron* 3.1 × as long as broad; side rather evenly convex along middle; epipleuron not reaching apex, surface alutaceous, punctulate internally along apical 1/2; humerus broadly convex, projecting very little; central discal punctures mostly 2–3 × as large as interspaces; interspaces convex, alutaceous. *Ventral surfaces* largely granulate. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 39: 28: 28; basitarsus distinctly longer than remainder and about 0.55 × as long as tibia; ungues broadened basally. *Wing* fully developed. *Aedeagus* slightly arched, about 6 × as long as breadth at middle, side gently concave behind middle; resembles more closely figure in Kimoto & Gressitt (1966: 555) than in Gressitt & Kimoto (1963: 228).

♀ (S Ryukyu: Iriomote). No example from Micronesia. Somewhat similar to ♂ (Bonins) in form and color, but pronotum less coarsely punctate. *Spermatheca* as figured. Length 2.0 mm; breadth 1.1.

VARIATION. The unique specimen from Micronesia is devoid of dark elytral markings. Of

the 17 BPBM specimens from Japan and the Ryukyus, about 25% have a dark discal maculation on each elytron which may or may not reach sutural margin. LENGTH 1.7–2.25 mm; BREADTH 0.9–1.2 mm.

MATERIAL EXAMINED (n = 1). BONIN ISLANDS: *Ani Jima* (Chichi Jima Group): Southwest Bay, 17.III.1958, Snyder (BPBM). New to Micronesia.

DISTRIBUTION. S China, Japan, Ryukyus, Micronesia.

REMARKS. Allied to *formosanus* Chûjô [Taiwan, Ryukyus] by having ungues flattened (not appendiculate or toothed) basally; differs from same by having dorsum granulate to alutaceous with coarse punctures 1 × or more as large as interspaces instead of quite smooth with fine punctures distinctly smaller than interspaces.

PLANT ASSOCIATES. *Callicarpa japonica* Thunb.: Japan (Chûjô & Kimoto, 1961: 182).

Longitarsus panope Samuelson, new species Fig. 13j, 19, 27h.

Holotype ♂. Head pitchy brown; dorsum yellow-testaceous; antenna with basal 4 segments yellow-testaceous, remainder fuscescent; venter and legs largely yellow-testaceous, metafemur fuscescent apically. Length 2.4 mm; breadth 1.25.

Head: frons with median carina prominent, surface subalutaceous; interantennal space convex, 1.1 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as transverse diameter of antennal socket; interocular index 95; gena 0.5 × as deep as eye; postantennal swellings oblique, feebly swollen, delimited from vertex by fine oblique line; vertex subalutaceous. *Antenna* slender, attaining apical 1/4 of elytron; flagellar segments cylindrical. *Prothorax* broadest near middle, much narrower than elytra at humeral angles; pronotal index 72; anterior angle oblique; side convex; base concave across middle; disc subalutaceous, punctulate, with punctures about 0.5 × or less as large as interspaces. *Elytron* 3 × as long as broad, broadest near middle; side evenly convex along middle; epipleuron narrow, ending preapically, surface alutaceous, wrinkled apically but not punctulate; humerus moderately and broadly produced; central discal punctures fine, mostly 0.5 × or less as large as interspaces; interspaces alutaceous. *Ventral surfaces:* metathoracic sternum feebly rugulose; abdomen ± smooth, sparsely punctate. *Legs:* metafemur 2.2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 50: 44: 50; basitarsus much longer than remainder and about 0.6 × as long as tibia; ungues slender. *Wing* fully developed. *Aedeagus* slender, sinuate, about 10 × as long as breadth of preapical constriction, see figure.

Allotype ♀. Similar to ♂. *Spermatheca* as figured. Length 2.7 mm; breadth 1.3.

VARIATION (n = 9). LENGTH 2.25–2.8 mm, mean 2.55; BREADTH 1.25–1.35 mm; HEAD BREADTH 60–70 cmm; INTEROCULAR SPACE 27–34 cmm; EYE 28–31 cmm; INTEROCULAR INDEX 94–110, mean 102; PRONOTAL LENGTH 53–62 cmm; PRONOTAL BREADTH 72–86 cmm; PRONOTAL INDEX 69–76, mean 72; ELYTRAL LENGTH 174–220 cmm. [4 ♂♂, 5 ♀♀]

Pronotal side tends to be more angulate near middle in ♀♀; vertex microrugulose instead of ± smooth-alutaceous in 2 ♀♀.

TYPE SERIES (n = 9). NEW CALEDONIA: Holotype ♂ (BPBM 9813), beach nr Ponerihouen, 25.XI.1958, C. R. Joyce; allotype ♀ (BPBM), mts above Ouaco, 20.X.1958, Joyce; 1 paratopotype, same data as holotype (BPBM); paratypes (BPBM) as follows: 1, Pouebo, 21.I.1964, light trap, Straatman; 1, Yiambi, 50–500 m, 14.X.1967, newly cleared forest, J. & M. Sedlacek; 1, Pondimie, 26.XI.1958, Joyce; 2, Thio, 0–50 m, 7.I.1969, Krauss; *Isle of Pines:* 1, Bay de la Corbeille, 14.VII.1958, Malkin.

BPBM paratypes to BMNH, PMHN.

DISTRIBUTION. New Caledonia, Isle of Pines. Endemic.

REMARKS. Somewhat allied to *pulexoides* Chen [S China] because of similar facies and constricted aedeagus, but apical antennal segments are darkened instead of pale and extreme apex of aedeagus is acute instead of obtuse; differs from *victoriensis* Blackburn [Australia] by

narrower body form and by having central discal punctures of elytron fine, mostly 0.2–0.5 × as large as interspaces instead of rather coarse, mostly about 1 × as large as interspaces.

PLANT ASSOCIATES. None reported.

Longitarsus fuliginosus (Broun), new combination Fig. 13k, 27i.

Phyllotreta testacea Broun, 1880, Man. New Zealand Col., part 1, 637 (New Zealand: Tairua—type in BMNH). Broun number 1118. **Homonym** (nec *Longitarsus testaceus* Melsheimer, 1847; nec *Teinodactyla testacea* Allard, 1880 = *Longitarsus*). **New Synonym.**

Inopelonia testacea: Broun, 1893, Man. New Zealand Col., part 6, 1393.

Phyllotreta fuliginosa Broun, 1880, Man. New Zealand Col., part 1, 637 (New Zealand—type probably in BMNH). Broun number 1119. Replacement name for *testacea* Broun, *nec* Melsheimer, *nec* Allard.

Inopelonia fuliginosa: Broun, 1893, Man. New Zealand Col., part 6, 1393.

♂ (Auckland). Head pitchy orange-fuscous; prothorax orange-fuscous; elytron yellow-testaceous, extreme sutural margin finely marked with fuscous; antenna with basal 6 segments yellow-testaceous, remainder fuscescent; meso, metathoracic sterna and abdomen dark fuscous; legs yellow- to orange-testaceous, metafemur fuscescent apically. Length 1.95 mm; breadth 1.05.

Head: frons with prominent median carina, surface ± smooth; interantennal space convex, 1.2 × as broad as transverse diameter of antennal socket; orbit about 0.8 × as broad as transverse diameter of antennal socket; interocular index 95; gena 0.45 × as deep as eye; postantennal swellings oblique, slightly raised and delimited from vertex by fine oblique line; vertex alutaceous, finely and transversely rugulose above. *Antenna* 0.8 × as long as body, reaching apical 1/3 of elytron; apical segments slightly flattened and broadened toward apices. *Prothorax* broadest at posterior angles and along middle; pronotal index 70; anterior angle strongly oblique, nearly continuous with side; side feebly convex; base feebly sinuate across middle; discal punctures deep, ± 1 × as large as interspaces; interspaces smooth. *Elytron* 3 × as long as broad, broadest near middle; side moderately convex along middle; epipleuron not quite reaching apex, surface alutaceous, punctulate internally; humerus slightly raised; central discal punctures deep, mostly 1.5–2 × as large as interspaces; interspaces subalutaceous. *Ventral surfaces* mostly smooth-alutaceous. *Legs:* metafemur 2.15 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 71: 63: 60; basitarsus much longer than remainder and about 0.55 × as long as tibia; ungues slender. *Wing* fully developed. *Aedeagus* about 6.1 × as long as breadth at middle, see figure.

Lectotype ♂. Similar to preceding. Dorsum largely yellow- to orange-fuscous: head and pronotum orange-fuscous; elytron yellow-fuscous, suture fuscous at immediate margin; antenna with segments 1–5 yellow-testaceous, 6–7 darker, 8–11 fuscous; venter orange-fuscous to fuscous, metasternum darkest. Length 2.2 mm; breadth 1.05.

Head: interantennal space about 1.1 × as broad as transverse diameter of antennal socket; orbit 0.6 × as broad as antennal socket; interocular index 100; vertex finely and transversely rugulose above. *Prothorax:* pronotal index 72; discal punctures fairly deep and mostly 1–1.5 × as large as interspaces. *Elytron* 3.25 × as long as broad, central discal punctures mostly 2–3 × as large as interspaces. *Aedeagus* about 6.5 × as long as breadth at middle, similar to drawing of ♂ treated above.

Allolectotype ♀. Dorsum largely yellow- to orange-testaceous with vertex and pronotum darker than elytral disc; elytron finely stained with fuscous at immediate sutural margin; antenna testaceous with apical 5 segments fuscescent; venter yellow-testaceous to dark fuscous, metasternum darkest; metafemur orange-testaceous, legs otherwise yellow-testaceous. Length 2.25 mm; breadth 1.2.

Head: interantennal space about 0.8 × as broad as transverse diameter of antennal socket; orbit 0.75 × as broad as antennal socket; interocular index 111; gena 0.55 × as deep as eye; vertex finely and transversely rugulose above. *Prothorax:* pronotal index 70; discal punctures fairly deep and mostly 0.7–1 × as large as interspaces. *Elytron* with central discal punctures mostly 1–1.5 × as large as interspaces. *Spermatheca* as in figure of different specimen (Auckland). This specimen is possibly teneral.

VARIATION (n = 21). LENGTH 1.95–2.35 mm, mean 2.15; BREADTH 1.0–1.2 mm; HEAD BREADTH 53–59 cmm; INTEROCULAR SPACE 25–31 cmm; EYE 25–27 cmm; INTEROCULAR INDEX 95–

115, mean 105; PRONOTAL LENGTH 45–53 cmm; PRONOTAL BREADTH 63–74 cmm; PRONOTAL INDEX 68–76, mean 71; ELYTRAL LENGTH 148–164 cmm. [6 ♂♂, 14 ♀♀, 1 U]

Coloration: pronotum orange-testaceous to dark red-fuscous; elytron yellow-testaceous to fuscous; metafemur largely orange-testaceous to largely dark fuscous, almost always darkest apically. Vertex usually transversely rugulose, sometimes rather smooth; pronotal punctures commonly around 1 × as large as interspaces, but dominantly 1.5 × in 5 specimens and 0.3 × in 1 specimen.

MATERIAL EXAMINED (n = 26). NEW ZEALAND: *Auckland:* Lectotype ♂ (BMNH), Tairua, Broun Coll.; allolectotype ♀ (BMNH), same data as lectotype; 1 (as 1119), same data as preceding (BMNH); 2 (as 1119), Tiritiri, no date, Broun Coll. (BMNH); 1 (as 1119), Takapuna, 17.III.1915 (BMNH); 1, Puhi Puhi Res., 3–6.XII.1957, Esson (DSIR); 1, Waipu, I.1914, Brookes Coll. (DSIR); 4, Ihumatao, Mangere, 28.IX.1960, pasture, May (PPDC); 3, Remuera, 10.XI.1948, Rumsey (PPDC); 1, same data, on four-inch grass (PPDC); 1, Owairaka, 6.I.1943, Carter (PPDC); 1, Manukau Hbr., 30.VIII.1958, sand beach, Wise (PPDC); 1, Titirangi, 2.IX. 1916, Brookes Coll. (DSIR); 1, Raglan, 31.X.1951, field, Lamb (PPDC); *Wellington:* 1, Featherston, 1.X.1916, Brookes Coll. (DSIR); *Nelson:* 1, Nelson, roadside, 14.XII.1965, Gourlay (DSIR); 3, Wakefield, 19.VIII.1965, Kuschel & Walker (DSIR); location uncertain: 1, Kangiriri, 27.VI.1916, Brookes Coll. (DSIR).

The lectotype designated here is one of the 2 syntypes of *Phyllotreta testacea* Broun; the unique type of *Phyllotreta fuliginosa* Broun is not apparently identified by label and its locality data are not reported in the original description, thus there seems to be no way to recognize the specimen.

DISTRIBUTION. New Zealand (North and South Islands). Endemic.

REMARKS. Similar in size and color to individuals of *lewisi* (Baly) [SW China, Japan, Ryukyus] which have dark sutural marking of elytron suppressed or confined to extreme margin; pronotal disc with ± similar sized punctures, but interstices alutaceous instead of granulate; aedeagus parallel-sided instead of gently constricted behind middle.

The synonymy of Broun's 2 species is made here with little question: variation in size, proportions, sculpture, genital structures, and color as noted in the material examined could possibly fall within the nominal variation of any single population.

PLANT ASSOCIATES. Four-inch grass: Remuera (Rumsey, label).

GENUS **Mniophila** Stephens

Mniophila Steph., 1831, Illustr. of British Ent. Mandibulata **4:** 285 (key), 330 (type: *Haltica muscorum* Koch; Europe—monobasic).—Allard, 1866, *Abeille* **3:** 265 (key), 294.—Chapuis, 1875, Gen. Col. **11:** 130 (+key).—Heikertinger, 1912, *In* Reitter, Fauna Germanica **4:** 147 (key), 158; 1924, *Kol. Rundschau* **11:** 37 (key); 1925, ibid. **11:** 53 (key).—Maulik, 1926, Fauna India, Chrys. & Halt. 428.

See Csiki & Heikertinger, 1940, Col. Cat. **25**(169): 520 for numerous additional references.

DIAGNOSIS. Minute alticines of subcircular-hemispherical form. Interantennal space about 2 × as broad as diameter of antennal socket; postantennal swellings triangular-obsolescent to obsolete and rather poorly delimited from vertex when evident; antenna 11-segmented, attaining basal elytral disc, apical segments rather strongly thickened; pronotum devoid of impressions; elytral puncturation seriate to irregular to largely obsolete; procoxa globose; procoxal cavity open; mesosternum concealed; metasternum short, but produced anteriorly to meet prosternum; metatibia flattened on retrotarsal surface, spine slender and simple; claw tarsomere not swollen, ungues simple. Sexual dimorphism: pro- and mesobasitarsus more robust in ♂.

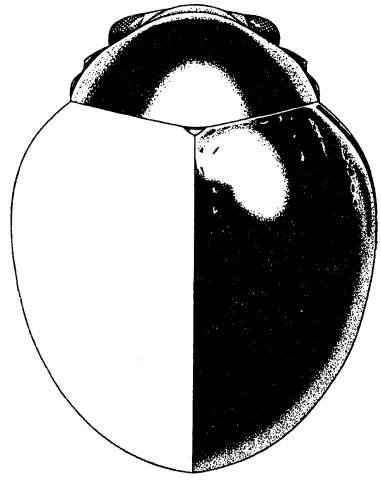

Fig. 20. *Mniophila exulans*, dorsal view.

REMARKS. Allied to *Taizonia* Chen [Taiwan, China] because of similar facies, including facial features; differs from same by having ventral surfaces of normal curvature instead of prothoracic intercoxal piece an elevated keel and metasternum strongly raised between mesolegs; also possibly allied to *Amphimeloides* Jacoby [Ceylon, Japan, New Guinea, Solomons] because of similar facies, including head structures; differs from same by having tarsal claws simple instead of appendiculate and by tendency to have elytral puncturation more seriate or irregular instead of confused. Also, possibly related to *Kamala* Maulik [Ceylon] because of similar facies, but differing by having procoxal cavity open instead of apparently closed (no specimens seen).

The species described here is placed in *Mniophila* with some reservation, because it has upper frons and vertex strongly delimited instead of weakly and antennal segment 8 of normal size instead of reduced.

DISTRIBUTION. W Eurasia, Fiji. Each area with 1 species.

Mniophila exulans Samuelson, new species Fig. 20, 27j.

Holotype ♀. Form subcircular-hemispherical, elytral apices slightly tapering. Dorsum, vertex, venter, legs mostly dark red-fuscous; frontal area of head and antenna orange-testaceous. Length 1.3 mm; breadth 1.0.

Head: frons carinate medially, depressed laterally, surface ± alutaceous; interantennal space rather flat, briefly carinate medially, about 2.1 × as broad as transverse diameter of antennal socket; orbit subequal to breadth of antennal socket; interocular index 133; gena about 0.45 × as deep as eye; postantennal swellings obsolete; postantennal area and upper frons well-delimited by transverse to oblique line; vertex ± smooth. *Antenna* exceeding basal 2/5 of elytron; apical 5 segments robust, much thicker than intermediate ones. *Prothorax* broadest at posterior angles, about as broad as elytra at humeral angles; pronotal index 61; anterior angle oblique; side short, convex; base feebly bisinuate, broadly but feebly convex across middle; disc smooth, sparsely micropunctate. *Elytron* 2 × as long as broad, side convex along middle, slightly tapering apically; epipleuron rather broad, gradually narrowed apically and continued to preapex, surface ± smooth and bearing a row of small punctures along inner margin; humerus not produced; dorsal surface largely impunctate except as noted: row of fine punctures along extreme base, short longitudinal stria containing several punctures near humerus and a slightly longer longitudinal stria containing several punctures parallel to lateral margin. *Ventral surfaces* largely smooth. *Legs:* metafemur 1.6 × as long as broad; relative lengths of meta-

femur, -tibia, -tarsus are 27: 23: 14; basitarsus as long as remainder. *Wing* strongly reduced to a strap-like tab. *Spermatheca* as figured.

♂. Unknown.

VARIATION (n = 2). LENGTH 1.3 mm; BREADTH 1.0 mm; HEAD BREADTH 49 cmm; INTEROCULAR SPACE 23 cmm; EYE 18–19 cmm; INTEROCULAR INDEX 126–133; PRONOTAL LENGTH 43 cmm; PRONOTAL BREADTH 70 cmm; PRONOTAL INDEX 61; ELYTRAL LENGTH 50 cmm. [2 ♀♀]

TYPE SERIES (n = 2). FIJI: *Viti Levu:* Holotype ♀ (BPBM 9814), Nandarivatu, 1100 m, 6.IX.1938, beating shrubs, E. C. Zimmerman; 1 paratype ♀, ridge W of Vatuthere, 790–910 m, 8.IX.1938, beating shrubbery, Zimmerman (BPBM).

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Somewhat allied to *muscorum* (Koch) [Europe], the only other species contained in the genus, because of similar facies; differs from same by having elytron largely devoid of punctures instead of distinctly punctate and spermathecal duct coiled instead of simply arched.

PLANT ASSOCIATES. Shrubbery (Zimmerman, labels).

GENUS **Sphaeroderma** Stephens

Sphaeroderma Stephens, 1831, Illustr. of British Ent. Mandibulata **4:** 285 (key), 328.—Chapuis, 1875, Gen. Col. **11:** 130 (key) 135.—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 35 (key); 1925, ibid. **11**(3–4): 53 (key), 60 (key), 69 (key).—Maulik, 1926, Fauna India, Chrys. & Halt., 285 (key), 316 (type: *Altica testacea* Fabricius; Europe).—Chen, 1933, *Sinensia* **3**(9): 225 (key); 1934, ibid. **5**(3–4): 232 (key), 321.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 357 (key); 1937, ibid. **27:** 35.—Arnett, 1962, Beetles of United States, fasc. 104, 913 (key), 937.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 746 (key), 821.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 402 (key), 440.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 5 (key), 14 (key), 203.

Synonymy includes *Argosomus* Wollaston, 1867 and *Musaka* Bechyne, 1957. See Scherer, 1969: 203 for citations.

DIAGNOSIS. Small, ovate alticines. Interantennal space ± as broad as diameter of antennal socket; postantennal swellings subquadrate-rounded, well-delimited from vertex; antenna attaining basal elytral disc, apical segments robust; pronotum devoid of impressions; elytral puncturation seriate, sometimes partially irregular; procoxa globose; procoxal cavity open; mesosternum visible, transverse; metatibia mostly convex on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual

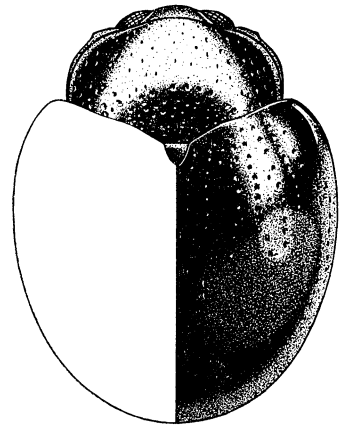

Fig. 21. *Sphaeroderma wedeliae*, dorsal view.

dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀; basitarsus more robust in ♂.

REMARKS. Allied to *Argopus* Fischer [Eurasia, Japan, Taiwan, Indonesia, New Guinea, also Africa, S America] because of similar facies; differs from same by anterior margin of frons ± straight instead of deeply arched, mesosternum visibly an exposed transverse margin instead of a less concealed transverse plate.

Types of 2 species of *Sphaeroderma* described from New Caledonia, *histrio* Perroud, 1864 and *rubiacearum* Perroud, 1864 (both in PMHN), belong to the subfamily Eumolpinae and thus require generic reassignment.

DISTRIBUTION: Generally distributed throughout Old World, including Africa, with several species reaching Australia, New Guinea; one species reaching Micronesia and Solomons; few species in New World.

Sphaeroderma wedeliae Gressitt Fig. 13l, 21, 27k.

Sphaeroderma wedeliae Gressitt, 1955, *Ins. of Micronesia* **17**(1): 37, fig. 12a–c (Central and eastern Caroline Islands; type in USNM).—Samuelson, 1967, *Pacific Ins.* **9**(1): 148 (Solomons).

♂ (Truk). Form ovate. Dorsum largely bicolorous: pronotum orange-testaceous, slightly stained with fuscous medially; elytron deep reddish fuscous with rounded orange-testaceous maculation on central disc extending ± obliquely from posthumeral area to suture near middle; antenna with segments 1–6 pale, remainder dark; ventral surfaces yellow- to brown-testaceous, metasternum darkest; legs yellow-testaceous to fuscous, metafemur darkest. Length 2.1 mm; breadth 1.45.

Head: frons with surface irregular anteriorly, bearing a few large punctures, remainder evenly convex, granulate; interantennal space broadly convex, about 1.45 × as broad as transverse diameter of antennal socket; orbit 0.45 × as broad as antennal socket; interocular space narrowest above, interocular index 100; gena nearly 0.35 × as deep as eye; postantennal swellings subtriangular, surfaces weakly swollen, inner angles separated by fine median impression and strongly delimited from vertex by deep sinuate groove; vertex evenly convex, surface rather smooth, obscurely micropunctate. *Antenna* extending to middle of elytron; apical segments robust. *Prothorax* broadest behind middle and at posterior angles, base narrower than elytra at humeral angles; pronotal index 59; anterior angle oblique-rounded; side convex; base bisinuate, median lobe ± broad; disc bearing deep punctures, mostly 1–1.5 × as large as interspaces, interspaces rather shiny and bearing occasional micropunctures. *Elytron* 2.35 × as long as broad, broadest near middle, side convex; epipleuron continued to apex, surface alutaceous; central discal punctures mostly 0.3–0.4 × as large as interstices and 0.7–1.0 × as large as transverse interspaces; interstices flat, bearing micropunctures. *Ventral surfaces* rather coarsely punctate. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 54: 50: 37; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* about 5.7 × as long as breadth at middle, see figure.

♀ (Truk). Similar to ♂. *Spermatheca* as figured. Length 2.4 mm; breadth 1.65.

LARVA. Mature larva described (Gressitt, 1955: 38, fig. 12c).

VARIATION (n = 20). LENGTH 1.95–2.5 mm, mean 2.15; BREADTH 1.4–1.75 mm; HEAD BREADTH 57–63 cmm; INTEROCULAR SPACE 21–27 cmm; EYE 25–28 cmm; INTEROCULAR INDEX 90–100, mean 93; PRONOTAL LENGTH 57–72 cmm; PRONOTAL BREADTH 96–121 cmm; PRONOTAL INDEX 56–63, mean 60; ELYTRAL LENGTH 148–187 cmm. [12 ♂♂, 6 ♀♀, 2 U]

Pronotum orange-testaceous to fuscous, central disc usually darker; elytron with oblique ovate orange-testaceous maculation not quite reaching suture in most specimens, reaching suture in about 12% of material examined and distinctly reduced in size with outline irregular in another 17%; 1 specimen [Nomwin Atoll] has left elytron badly deformed.

MATERIAL EXAMINED (n = 121). Mostly BPBM material. CAROLINE ATOLLS: *Satawan Atoll:* Satawan: 2, 3.XI.1952, Beardsley; *Lamotrek Atoll:* Lamotrek: 2, 23.IX.1952, Krauss; 1, same loc., 5.II.1953, Beardsley; *Nama Island:* 1, 31.X.1952, Beardsley; *Nomwin Atoll:*

4, 29.V.1946, Oakley; Fananu: 5, 17–18.II.1954, Beardsley; TRUK GROUP: *Moen:* 1, 0–120 m, 23.V.1946, Townes (USNM); 1, 23.V.1946, on *Wedelia* sp. leaves, Oakley (USNM); 3, 5–9.II.1948, Maehler (USNM); 9, 19.II.1948, Dybas; 1, Baker Dock, 13.II.1949, Potts; 3, 20.III.1949, Potts; 5, Epinup, 26.III.1949, Potts; 2, Mt Tonaachau, S Vall., 1.II.1949, Potts; 1, same loc., 2.IV.1949; 3, X.1952, Beardsley; 3, Mt Teroken, North, 28.XII.1952, Gressitt; 5, same loc., 70–80 m, 1.II.1953, Gressitt; *Dublon:* 1, 17.X.1952, Beardsley; *Fefan:* 2, Mt Iron, 180 m, 31.I.1953, Gressitt; *Tol:* 1, 24.V.1946, sweeping, Oakley; 1, Mt Unibot, 25–50 m, 31.XII.1952, under bark of dead *Artocarpus*, Gressitt; 2, same loc., 30 m, 4.II.1953, Gressitt; *Pis:* 1, 3.VI.1946, Townes; PONAPE: *Ponape:* 20, 8.VIII.1950, Adams; *Napali:* 4, VI–IX.1950, Adams; 3, 8.VIII.1950, Adams; KUSAIE: 17, Mutunlik, 22 m, 23.I-, 27.I-, 28.II-, 8.III-, 16.III- (beating), 21.IV.1953 (light trap), Clarke; 6, 23.I.1953, Gressitt (AMNH, BPBM, USNM); 2, 16 m, 24.I.1953, light trap, Gressitt; 1, Mt Fuinkol, 630 m, 24.I.1953, axils of *Freycinetia* leaves, Clarke; 2, Hill 541, 165 m, 23.III.1953, beating, Clarke; 1, same loc., 29.IV.1953, light trap, Clarke; 1, Mt Wakapp, 490 m, 7.IV.1953, at light, Clarke; 1, Songkosra, 23.IV.1953, Clarke; *Lele:* 2, 25.I.1953, Gressitt; 1, 100 m, 12.III.1953, beating, Clarke [all specimens are paratypes, except: 20 from Ponape, 3 from Napali, 3 from Mutunlik, and 1 from Wakapp, Mutunlik].

DISTRIBUTION. Micronesia (Central and Eastern Carolines), Solomons (Buka, Bougainville).

REMARKS. According to G. E. Bryant (Gressitt, 1955: 38), this species is allied to *malayanum* Jacoby [Sumatra], but I have not seen that species or possible other close relatives from Indonesia or the Philippines; possibly allied to *balyi* Jacoby [China, Japan] because of somewhat similar constricted form of aedeagus, but *wedeliae* has aedeagal preapex more briefly and feebly dilated; further differs from *balyi* by having vertex distinctly depressed anteriorly instead of evenly convex, elytron with discal pale area instead of entirely dark.

PLANT HOSTS. The larva mines leaves of *Wedelia biflora* D. C. Adults also have been collected from same host (Gressitt, 1955: 38, fig. 12d) [Truk]. The figure shows a leaf of the host with mines of larvae.

PLANT ASSOCIATES. *Artocarpus* sp.: Truk (Gressitt, label); *Freycinetia* sp.: Ponape (Clarke, label).

Genus **Schenklingia** Csiki & Heikertinger

Schenklingia Cs. & Hktgr., 1940, *In* Junk, Col. Cat. **25**(169): 516 (new name for *Eucycla* Baly, 1876, *nec* Bonaparte, 1854).—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 746 (key), 833.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 402 (key), 447.—Samuelson, 1969, *Pacific Ins.* **11**(1): 34 (+key).—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 5 (key), 15 (key), 225.

Eucycla Baly, 1876, *Trans. Ent. Soc. London* **1876:** 439.—Maulik, 1926, Fauna India, Chrys. & Halt., 284 (key), 305 (type: *E. quadripustulata* Baly; Borneo).—Chen, 1933, *Sinensia* **3**(9): 225; 1934, ibid. **5**(3–4): 232 (key), 337.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 357 (key); 1937, ibid. **27:** 52.

DIAGNOSIS. Ovate, subhemispherical alticines of small to moderate size. Interantennal space narrower than 0.5 × diameter of antennal socket; postantennal swellings subquadrate, generally not well-delimited from vertex; antenna 11-segmented, attaining elytral disc, segment 1 as long as 2 + 3 + 4 together, apical segments thickened; pronotum devoid of impressions, basal margin rather deeply bisinuate; elytral puncturation seriate, sometimes partly irregular internally; procoxa globose; procoxal cavity open; mesosternum concealed; metatibia flattened to channeled on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀; pro- and mesobasitarsus more robust in ♂.

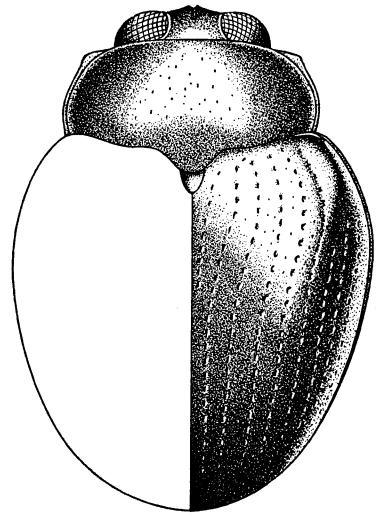

Fig. 22. *Schenklingia esakii*, dorsal view.

REMARKS. Closely allied to *Halticorcus* Lea [Australia, New Guinea] because of similar facies; differs from same by having elytral puncturation dominantly seriate instead of confused. Further study may show these genera to be synonymous. At least one species in each of these 2 genera are associated with ferns as a host plant; they are *Halticorcus platycerii* Lea, Australia: with adults and larvae associated with a staghorn fern, *Platycerium grande* J. Sm. (Lea, 1917: 319; Samuelson, 1969: 43) and *Schenklingia biplagiata* (Bryant), Malaya: adults feeding on a fern, *Nephrolepis biserrata* (Sw.) Schott (Bryant, 1948: 588).

DISTRIBUTION. Ceylon, E & SE Asia, Ryukyus, Taiwan, Indonesia, New Guinea, Solomons, Micronesia.

Key to Micronesian species of Schenklingia
(after Gressitt, 1955)

1. Prosternal intercoxal process emarginate laterally and posteriorly; antenna entirely pale.....2
   Prosternal intercoxal process broadened posteriorly, truncate behind; antenna with segments 7 and 8 darker than others [length 3.0 mm—Truk].....**yasumatsui**
2. Pronotal base with median lobe evenly rounded; scutellum feebly emarginate basally [length 2.3–3.2 mm—Ponape].....**esakii**
   Pronotal base with median lobe subobtuse; scutellum obtusely emarginate basally [length 2.4 mm—Truk].....**yoshimurai**

Schenklingia esakii Chûjô Fig. 13m, 22, 27l.

Schenklingia esakii Chûjô, 1943, *Mem. Fac. Sci. Agric. Tahihoku Imp. Univ.* **24**(3): 309, 317 (key), fig. 12 (Ponape—type in TARI).—Gressitt, 1955, *Ins. of Micronesia* **17**(1): 39 (+key).

Schenklingia ponapensis Chûjô, 1943, *Mem. Fac. Sci. Agric. Taihoku Imp. Univ.* **24**(3): 313, 317 (key), fig. 14 (Ponape—type in TARI).—Gressitt, 1955, *Ins. of Micronesia* **17**(1): 39 (synonymized.).

♂ (Colonia). Form broadly ovate. Dorsum largely orange-testaceous with fuscous markings along basal margin of prothorax and along sutural margin of elytron, punctures fuscescent; antenna, ventral surfaces, and legs largely orange-testaceous. Length 2.65 mm; breadth 1.9.

Head: frons triangular, surface granulate, rather flat, vaguely impressed medially; interantennal space briefly concave between raised margins of antennal sockets, almost 0.5 × as broad as transverse diameter of antennal socket; orbit 0.3 × as broad as antennal socket; interocular index 54; gena 0.4 × as deep as eye; postantennal swellings subquadrate, rather flat and smooth, separated medially by a fine line but not delimited from vertex; vertex rather smooth. *Antenna* extending beyond middle of elytron; apical segments subcylindrical, gradually thickened toward apices. *Prothorax* broadest behind middle, base narrower than elytra at humeral angles; pronotal index 52; anterior angle subtransverse-rounded; side rather straight anteriorly, convex posteriorly; base bisinuate, median lobe deep; disc shining, sparsely punctulate with punctures 0.3–0.4 × as large as interspaces. *Elytron* 2.2 × as long as broad, broadest near middle, side convex along middle; epipleuron horizontal and barely reaching apex, surface subalutaceous; central discal punctures mostly 0.3–0.5 × as large as interstices and 0.7–1 × as large as transverse interspaces; interstices not swollen, shining, micropunctate. *Ventral surfaces* ± smooth; abdomen sparsely punctured medially. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 66: 51: 31; basitarsus slightly shorter than remainder. *Wing* fully developed. *Aedeagus* about 4.5 × as long as breadth at middle, see figure.

♀ (Colonia). Similar to ♂. *Spermatheca* as figured. Length 3.2 mm; breadth 2.1.

VARIATION (n = 20). LENGTH 2.3–3.2 mm, mean 2.7; BREADTH 1.65–2.2 mm; HEAD BREADTH 68–88 cmm; INTEROCULAR SPACE 25–34 cmm; EYE 39–54 cmm; INTEROCULAR INDEX 54–70, mean 60; PRONOTAL LENGTH 64–88 cmm; PRONOTAL BREADTH 121–158 cmm; PRONOTAL INDEX 52–57, mean 54; ELYTRAL LENGTH 175–234 cmm. [8 ♂♂, 12 ♀♀]

Most specimens have dorsum yellow- to orange-testaceous with lateral part of pronotal base and sutural-subsutural area of elytron orange-fuscescent; a few specimens (about 13%) have dorsum evenly yellow-testaceous with extreme sutural margin of elytron finely edged with fuscous.

MATERIAL EXAMINED (n = 54). PONAPE: 5, 6.III.1936, One (BPBM); 22, nr Colonia, 8.VIII.1946, Townes (BPBM, USNM); 1, Colonia, VI–IX.1950, Adams (BPBM); 19, Matalanim, 11.VIII.1946, Oakley (BPBM, USNM); 1, Mt Kupwuriso, N slope, 300–460 m, 11.III.1948, Dybas (USNM); 1, Mt Nahnalaud, 150–460 m, 16.III.1948, petiole of fern, Dybas (BPBM); 2, Tololom, 640 m, VI–IX.1950, Adams (BPBM, USNM); 1, Airfield, VI–IX.1950, Adams (USNM); 1, Telenot Pk, 203 m, VI–IX.1950, Adams (BPBM); 1, Tamatamansakir, 180 m, 20.I.1953, Gressitt.

DISTRIBUTION. Micronesia (Eastern Caroline Islands: Ponape). Endemic.

REMARKS. Closest relatives are probably *yasumatsui* Chûjô and *yoshimurai* Chûjô which are also distributed in the Carolines, but are endemic to Truk; see key for their separation; somewhat allied to *novaeguineae* Sam. and several other species from New Guinea which have epipleuron horizontal and elytral puncturation entirely seriate; differs from *novaeguineae* by having dorsum pale without lustre instead of dark with metallic lustre; not closely related to either *leveri* (Bryant) [Solomons] or *sauteri* (Chen) [Ryukyus, Taiwan], because epipleuron is horizontal instead of subvertical, form is ovate instead of subcircular.

PLANT ASSOCIATES. Petiole of fern (Dybas, label).

Schenklingia yasumatsui Chûjô

Schenklingia yasumatsui Chûjô, 1943, *Mem. Fac. Sci. Agric. Taihoku Imp. Univ.* **24**(3): 311, 317 (key), fig. 13 (Truk—type in TARI).—Gressitt, 1955, *Ins. of Micronesia* **17**(1): 39 (key), 40.

Apparently further material has not come to light since this species was described; it is based on a single specimen from Pata Island [Tol], Truk.

The key characterizes this species, at least to the point of separating it from a probable close relative, *yoshimurai* Chûjô, which was also described from specimens collected on Pata Island [Tol]. Further material from the Truk Group should be studied in detail to determine whether these 2

species are synonymous, and to determine how closely related they might be to *esakii* Chûjô, which is endemic to Ponape, farther east in the archipelago.

DISTRIBUTION. Micronesia: Eastern Carolines (Truk Group: Pata). Endemic.

PLANT ASSOCIATES. None reported.

Schenklingia yoshimurai Chûjô

Schenklingia yoshimurai Chûjô, 1943, *Mem. Fac. Sci. Agric. Taihoku Imp. Univ.* **24**(3): 315, 317 (key), fig. 15 (Truk—type in TARI).—Gressitt, 1955, *Ins. of Micronesia* **17**(1): 39 (key), 40.

This species was described from 2 ♂♂ from Pata Island [Tol], Truk; a third specimen, a ♀ from Moen collected by Beardsley in 1952, was assigned to this species by Gressitt and designated as allotype (USNM). See preceding species for comments.

DISTRIBUTION. Micronesia: Eastern Carolines (Truk Group: Pata, Moen). Endemic.

PLANT ASSOCIATES. None reported.

Genus **Argopistes** Motschulsky

Argopistes Motschulsky, 1860, *In* Schrenck, Reisen Amurland **2:** 236 (type: *A. biplagiata* Motschulsky; Siberia—monobasic).—Chapuis, 1875, Gen. Col. **11:** 130 (key), 136.—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2); 34(key); 1925, ibid. **11**(3–4): 53 (key), 60 (key), 70 (key).—Maulik, 1926, Fauna India, Chrys. & Halt., 284 (key), 296.—Chen, 1933, *Sinensia* **3**(9): 223 (key); 1934, ibid. **5**(3–4): 231 (key), 314.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 356 (key); 1936, ibid. **26:** 108.—Arnett, 1962, Beetles of United States, fasc. 104, 913 (key), 937.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 746 (key), 811.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 4 (key), 14 (key), 227.

Sphaerophyma Baly, 1878, *J. Linn. Soc. London* **13:** 478 (type: *S. simoni* Baly; Queensland—monobasic). **New Synonym.**

DIAGNOSIS. Subovate to hemispherical alticines of small to moderate size. Interantennal space narrow, about 0.5 × as broad as diameter of antennal socket; postantennal swellings subtriangular-rounded; eye large, reniform; interocular space narrow above; antenna attaining basal to central elytral disc, segment 1 slender, shorter than 2 + 3 + 4 together, apical segments flattened; pronotum devoid of impressions, basal margin bisinuate; elytral interstitial puncturation well-developed, serial puncturation feeble to obsolete; elytral epipleuron vertical; procoxa globose; procoxal cavity open; mesosternum concealed; metafemur extremely broad, triangular and flattened; metatibia short, briefly channeled on retrotarsal surface, tarsal insertion preapical, spine flattened but acute; claw tarsomere not swollen, ungues appendiculate.

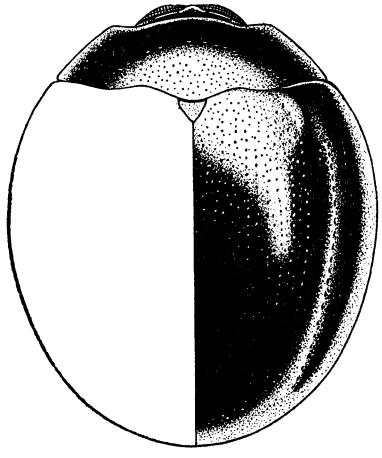

Fig. 23. *Argopistes arnetti*, dorsal view.

Sexual dimorphism: apex of last abdominal sternum sinuate in ♂, convex in ♀; pro- and mesobasitarsus more robust in ♂.

REMARKS. *Sphaerophyma* Baly [Australia, Norfolk Island, Samoa] is synonymized here with little question. These genera were originally distinguished by the relative prominence of serial elytral punctures, but the seriate condition is graded, with some species having serial rows developed and distinct from confused interstitial punctures to other species having serial rows absent or barely distinguishable from interstitial punctures. Differs from *Dibolia* Latreille [Eurasia, Americas, Africa, Australia, but probably not Loyalty Islands] by having metatibial spine simple instead of bifid; differs from *Eucyclomela* Chen [Borneo, Perak] by not having frons deeply arcuate-sinuate anteriorly.

Montrouzier's species of *Dibolia*, described from Lifou (Loyalty Islands) are assigned to *Argopistes* here. Although specimens from Lifou have not been seen, Montrouzier's description of *thomassini* (the first one of four described therein) clearly indicates that they belong to *Argopistes*. There is some question, however, regarding what constitutes these 4 names; they are treated under *incertae sedis* and are listed last.

DISTRIBUTION. Old World, predominantly tropics, Oceania; few species in New World.

Key to Pacific island species of Argopistes

1. Metatibial spine not or barely exceeding apex of tibia.....2
   Metatibial spine distinctly exceeding apex of tibia.....3
2. Outline of lateral margin of elytron flattened to sinuate along apical 1/3 [dorsum largely red-testaceous or black with large reddish area on elytron; length 3–4 mm—E Asia, Japan, Bonin Islands].....**coccinelliformis**
   Outline of lateral margin evenly convex along apical 1/3 [dorsum dark red-fuscous to piceous; length 3.3–3.6 mm—Fiji: Viti Levu, Ovalau, Lau].....**arnetti***
3. Form subcircular; elytral serial puncture rows mostly obsolete or obsolescent; interstitial elytral punctures about as large as those forming striae.....4
   Form ovate; elytral serial puncture rows distinct; interstitial elytral punctures smaller than those forming striae [dorsum largely yellow-testaceous, sometimes fuscescent in part; length 2.35–2.65 mm—Norfolk Island].....**armipes**
4. Elytron with serial puncture rows mostly obsolete or sometimes distinct sublaterally; aedeagus rather evenly narrowed preapically.....5
   Elytron with mesal and central serial puncture rows evident; aedeagus prolonged preapically [dorsum dark fuscous to piceous; length 3.1–3.3 mm—Samoa].....**insularis**
5. Elytron broadest near basal 0.25–0.3 [dorsum bicolorous: partly dark fuscous to piceous, elytron orange-testaceous with sutural and lateral margins plus longitudinal discal area dark; length 2.75–3.15 mm—New Caledonia, Isle of Pines].....**kraussi***
   Elytron broadest near basal 0.4 or middle [dorsum dark fuscous to piceous, sometimes with pronotum, elytral lateral margin and apex becoming pale; length 2.75–3.15 mm—New Caledonia?, Fiji].....species

Argopistes coccinelliformis Csiki Fig. 13n, 27m.

Argopistes coccinelloides Baly, 1874 (*nec* Suffrian, 1868), *Trans. Ent. Soc. London* **1874:** 202 (Japan—type in BMNH).—Chûjô, 1936, *Trans. Nat. Hist. Soc. Formosa* **26:** 108 (key), 109.

Argopistes biplagiatus: Chûjô, 1936, *Trans. Nat. Hist. Soc. Formosa* **26:** 109 (key), 110 (Japan, Loo-Choo, Formosa).—Gressitt, 1955, *Ins. of Micronesia* **17**(1): 41.

Argopistes coccinelliformis Csiki, 1940, Col. Cat. **25**(169): 524 (Japan, Loo-Choo) (new name for *coccinelloides* Baly, 1874).—Chûjô & Kimoto, 1961, *Pacific Ins.* **3**(1): 174 (host).—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 811 (key), 812 (China).—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 435

(key), 436 (Japan).—Kimoto & Gressitt, 1966, *Pacific Ins.* **8**(2): 482 (key), 546 (Ryukyus: Amami-Oshima, Okinawa).

♂ (Bonin Islands). Form subcircular, hemispherical. Dorsum bicolorous: largely black, elytron with orange-testaceous subtriangular-rounded area on disc extending ± obliquely from posthumeral area to middle of suture; antenna yellow-testaceous; ventral surfaces largely piceous, abdomen yellow-testaceous laterally; legs largely brown-testaceous to fuscous, metafemur piceous with apex pitchy reddish. Length 3.5 mm; breadth 2.9.

Head: frons triangular, rather feebly and broadly depressed between raised side margins, finely carinate medially, surface granulate; interantennal space carinate, about 0.6 × as broad as transverse diameter of antennal socket; orbit 0.2 × as broad as antennal socket; interocular space narrow above; interocular index 25; gena 0.2 × as deep as eye; postantennal swellings obsolescent, rather flattened and separated medially by a fine line; vertex finely punctulate; suprarobital punctures large and approximate. *Antenna* extending beyond middle of elytron; apical segments flattened and gradually thickened toward apices. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 43; anterior angle oblique-rounded, continuous with side; side slightly convex; base bisinuate, median lobe broadly convex; disc closely punctate, punctures deep and mostly 1 × as large as interspaces, interspaces subalutaceous, rather shiny. *Elytron* about 2 × as long as broad, broadest near middle, side rather strongly convex; epipleuron vertically inflexed and continued to apex; serial discal puncture rows rather obscured by deeply punctured interstices; most central discal punctures 0.2–0.3 × as large as interstices and 1.0–1.5 × as large as transverse interspaces. *Ventral surfaces:* thoracic sterna rather smooth; abdomen rather coarsely punctured medially. *Legs:* metafemur strongly flattened, 1.35 × as long as broad; metatibial spine ending near apex of tibia; relative lengths of metafemur, -tibia, -tarsus are 54: 34: 29; basitarsus distinctly longer than remainder. *Wing* fully developed. *Aedeagus* about 4.3 × as long as breadth at middle, see figure.

♀ (Bonin Islands). Similar to ♂. Antenna not quite attaining middle of elytron. *Spermatheca* as figured. Length 3.9 mm; breadth 3.2.

VARIATION (n = 10). LENGTH 3.0–3.9 mm, mean 3.5; BREADTH 2.45–3.25 mm; HEAD BREADTH 70–86 cmm; INTEROCULAR SPACE 12–15 cmm; EYE 47–57 cmm; INTEROCULAR INDEX 21–28, mean 25; PRONOTAL LENGTH 76–98 cmm; PRONOTAL BREADTH 168–207 cmm; PRONOTAL INDEX 43–48, mean 46; ELYTRAL LENGTH 246–325 cmm. [7 ♂♂, 3 ♀♀]

Dorsal coloration: 2 distinct forms appear in the Bonin Island populations: dorsum entirely orange-to red-testaceous (50% of material examined), or largely black with large postbasal-discal reddish area on elytron which may or may not quite extend to sutural margin (50%); the preceding are not restricted to one sex.

MATERIAL EXAMINED (n = 14). BPBM material. BONIN ISLANDS: *Chichi Jima:* 6, Tsurihama, 23.VI.1949, Mead; 1, Omura, 9.VII.1949, Kondo; 4, same loc., 10.VII.1949, Mead; 1, VI–VII.1949, Langford; 1, 10.VII.1951, Bohart; *Ani Jima:* 1, Southwest Bay, 17.V.1958, Snyder.

DISTRIBUTION. SE Asia, Taiwan, Ryukyus, Japan, NW Micronesia (Bonin Islands).

REMARKS. This species has been confused with *biplagiatus* Motschulsky [Siberia, Japan]. These 2 species can be separated by differences in aedeagal form as shown by Kimoto (1965: 436, fig. 2).

PLANT HOSTS. What was probably this species was reared by Gressitt in Canton, China from Privet, in leaves of which it mines (Gressitt & Kimoto, 1963: 812).

PLANT ASSOCIATES. *Ligustrum japonicum* Thunb.: Japan (Chûjô & Kimoto, 1961: 174); pine: Bonin Islands (Gressitt, 1955: 42).

Argopistes armipes (Lea), new combination Fig. 13o.

Sphaerophyma armipes Lea, 1926, *Trans. R. Soc. S. Australia* **50:** 80 (Norfolk Island—type in SAMC).

♂ (holotype). Form ovate, dorsum largely yellow-testaceous: pronotum with median fuscous area

slightly before middle, extreme margins darker; scutellum pitchy brown; elytron with extreme margins pitchy brown, punctures dark; head yellow-testaceous medially, side of vertex pitchy brown; antenna with segments 1–4 yellow-testaceous, 5–7 fuscescent, remainder dark reddish fuscous; ventral surfaces yellow-testaceous to fuscous, metasternum darkest; legs largely yellow-testaceous, metafemur slightly darker, apex of metatibia and tibial spine dark pitchy brown. Length 2.6 mm; breadth 1.6.

Head: frons triangular, subevenly elevated, feebly carinate medially, surface granulate; interantennal space convex, about 0.75 × as broad as transverse diameter of antennal socket; orbit 0.25 × as broad as antennal socket; interocular space narrowest above; interocular index 35; gena 0.3 × as deep as eye; postantennal swellings oblique, slightly raised, separated medially by a fine impressed line and delimited from vertex by shallow oblique line; vertex subgranulate, sparsely punctulate. *Antenna* extending to about basal 1/3 of elytron; intermediate segments thickened toward apices; apical segments flattened, robust. *Prothorax* broadest near posterior angles; base nearly as broad as elytra at humeral angles; pronotal index 51; anterior angle oblique-rounded; side convex; base bisinuate, median lobe broadly convex; disc ± closely punctate, punctures mostly 0.7–1 × as large as interspaces, interspaces subgranulate; prebasal area with moderately deep circular depression medially. Elytron 2.7 × as long as broad, broadest before middle, side feebly convex along middle; epipleuron briefly subhorizontal-concave basally, thence narrowed, subvertically inflexed and continued nearly to apex; central discal punctures mostly 1 × as large as interstices and 4 × as large as transverse interspaces; interspaces flattened to feebly swollen, coarsely punctured, subgranulate. *Ventral surfaces* finely granulate. *Legs:* metafemur 1.55 × as long as broad; metatibial spine exceeding apex of tibia by 3/7 of its length; relative lengths of metafemur, -tibia, -tarsus are 43: 24: 18; basitarsus as long as remainder. *Wing* fully developed. *Aedeagus* about 3.1 × as long as breadth at middle, see figure.

♀. Not known.

VARIATION (n = 3). LENGTH 2.35–2.65 mm, mean 2.5; BREADTH 1.45–1.7 mm; HEAD BREADTH 59–62 cmm; INTEROCULAR SPACE 14–15 cmm; EYE 37–39 cmm; INTEROCULAR INDEX 35–37, mean 36; PRONOTAL LENGTH 55–60 cmm; PRONOTAL BREADTH 109–125 cmm; PRONOTAL INDEX 49–54, mean 51; ELYTRAL LENGTH 191–215 cmm. [3 ♂♂]

Dorsum largely yellow-testaceous, with fuscescent area on pronotal disc in all 3 specimens; elytron with central disc fuscescent in 1 specimen.

MATERIAL EXAMINED (n = 3). NORFOLK ISLAND: 1 (holotype), Norfolk Island, Lea (SAMC); 2, Mt Pitt, 240 m, 30.X-, 1.XI.1967, beating, Kuschel (DSIR).

DISTRIBUTION. Norfolk Island. Endemic.

REMARKS. Somewhat similar to *obrieni* Sam. [Solomons] by having form ovate; differs from same by having metatibial spine distinctly exceeding apex of tibia instead of subequal to apex of tibia, dorsum largely pale instead of piceous.

PLANT ASSOCIATES. None reported.

Argopistes kraussi Samuelson, new species Fig. 13p, 27n.

Holotype ♂. Form subcircular, hemispherical. Dorsum bicolorous: pronotum, elytral sutural and lateral margins and longitudinal discal area piceous; remainder of elytron orange-testaceous; head mostly dark, labrum pale; antenna yellow-testaceous; venter largely orange-testaceous with prosternum fuscous and middle of abdomen slightly stained with fuscous; legs largely fuscous, tarsi pale. Length 3.0 mm; breadth 2.5.

Head: frons triangular, surface rather flat and granulate to rugulose, carinate medially; interantennal space convex, about 0.55 × as broad as transverse diameter of antennal socket; orbit 0.3 × as broad as antennal socket; interocular space narrow above, interocular index 26; postantennal swellings subrectangular, bounded laterally by eye, surfaces smooth, slightly swollen, separated medially by fine line and delimited from vertex by transverse line; vertex punctulate; supraorbital punctures prominent, placed anteriorly on vertex. *Antenna* extending to about middle of elytron; intermediate segments gradually thickened toward apices; apical segments ± flattened, robust. *Prothorax* broadest at posterior angles, base narrower than elytra at humeral angles, pronotal index 45; anterior angle oblique-rounded, nearly continuous with side; side slightly

convex; base bisinuate, median lobe broadly convex; disc finely punctate, punctures mostly 0.5 × as large as interspaces; interspaces subalutaceous. *Elytron* fully 2 × as long as broad, broadest near basal 0.3, side rather strongly convex; epipleuron vertically inflexed, continued nearly to apex; humerus vaguely swollen; discal punctures confused, discal and lateral serial puncture rows obsolete, central punctures mostly 0.3–0.5 × as large as interspaces; interspaces rather smooth. *Ventral surfaces* smooth to alutaceous; abdomen moderately punctate, intercoxal carinae well-developed, parallel. *Legs:* metafemur nearly 1.7 × as long as broad; metatibial spine exceeding apex of tibia by about 5/12 its length; relative lengths of metafemur, -tibia, -tarsus are 68: 38: 32; basitarsus slightly longer than remainder. *Wing* fully developed. *Aedeagus* about 4.3 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. *Spermatheca* as figured. Length 2.95 mm; breadth 2.45.

VARIATION (n = 7). LENGTH 2.75–3.15 mm, mean 2.95; LENGTH 2.25–2.6 mm; HEAD BREADTH 55–76 cmm; INTEROCULAR SPACE 13–17 cmm; EYE 43–51 cmm; INTEROCULAR INDEX 26–35, mean 32; PRONOTAL LENGTH 70–78 cmm; PRONOTAL BREADTH 146–168 cmm; PRONOTAL INDEX 45–48, mean 47; ELYTRAL LENGTH 235–270 cmm. [4 ♂♂, 3 ♀♀]

Color pattern rather uniform in all specimens; 2 Noumea paratypes with pronotum dark fuscous instead of piceous.

TYPE SERIES (n = 7). NEW CALEDONIA: *Isle of Pines:* Holotype ♂ (BPBM 9815), III.1959, N. L. H. Krauss; allotopotype ♀ (BPBM), same data as holotype; following mostly in BPBM: 2 paratopotypes, same data as preceding; *New Caledonia:* 2 paratypes, Noumea, 24. VII.1924, beating dwarf *Casuarina*, Williams; 1 paratype, Mokoue to Dothio, 150–500 m, 20, 22.III.1968, Maa.

BPBM paratype to PMHN.

DISTRIBUTION. New Caledonia, Isle of Pines. Endemic.

REMARKS. Allied to undetermined species in key [New Caledonia?, Fiji] because of similar form of aedeagus and presence of long metatibial spine; differs from same by having lateral margin of elytron ± suddenly broadened basally instead of gradually convex and by distinct color pattern of dorsum (see key); differs from *insularis* (Maulik) [Samoa] by having interocular index lower: 26–35 instead of around 43–44; aedeagus with preapex subevenly narrowed instead of prolonged. Named in honor of Mr Noel L. H. Krauss of Honolulu, collector of a good share of the specimens treated in this monograph.

PLANT ASSOCIATES. Dwarf *Casuarina:* New Caledonia (Williams, labels).

Argopistes arnetti Samuelson, new species Fig. 14a, 23, 27o.

Holotype ♂. Form subcircular, hemispherical. Dorsum shining subpiceous: pronotal disc, elytral disc dark red-fuscous, becoming piceous sublaterally; vertex red-fuscous; frons, antenna, venter, and legs yellow- to orange-testaceous. Length 3.3 mm; breadth 2.75.

Head: frons triangular, surface rather flat, subgranulate, finely carinate medially; interantennal space feebly concave, about 0.35 × as broad as transverse diameter of antennal socket; orbit not quite 0.2 × as broad as antennal socket; interocular space very narrow above, interocular index 17; postantennal swellings triangular, broadened anteriorly, bounded laterally by eye, surfaces ± flattened, separated medially by fine line and delimited from vertex by fine transverse line; vertex smooth; supraorbital punctures prominent, placed anteriorly on vertex. *Antenna* attaining apical 1/3 of elytron; intermediate and apical segments subcylindrical, slightly thickened toward apices. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 46; anterior angle oblique-rounded, nearly continuous with side; side feebly convex; base bisinuate, median lobe well-produced, briefly truncate before scutellum; disc finely punctate, punctures mostly 0.7 × as large as interspaces; interspaces shining. *Elytron* fully 2 × as long as broad, broadest near middle; side rather strongly convex; epipleuron vertically inflexed, continued to apex; humerus broadly but feebly swollen; discal puncturation largely confused, central punctures mostly 0.5–1 × as large as interspaces; discal serial punctures obsolete mesally but becoming more pronounced

laterally; serial rows 8 and 9 quite distinct and bearing largest punctures on elytron; interspaces shining. *Ventral surfaces* rather smooth; abdomen with intercoxal carinae well-developed, parallel. *Legs:* metafemur about 1.55 × as long as broad; metatibial spine not exceeding apex of tibia; relative lengths of metafemur, -tibia, -tarsus are 64: 48: 41; basitarsus distinctly longer than remainder. *Wing* fully developed. *Aedeagus* about 4.3 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Dorsum piceous; elytron with discal serial puncture rows discernible mesally. *Spermatheca* as figured. Length 3.6 mm; breadth 3.05.

VARIATION (n = 6). LENGTH 3.3–3.6 mm, mean 3.5; BREADTH 2.75–3.05 mm; HEAD BREADTH 86–94 cmm; INTEROCULAR SPACE 9–13 cmm; EYE 55–58 cmm; INTEROCULAR INDEX 17–23, mean 19; PRONOTAL LENGTH 90–99 cmm; PRONOTAL BREADTH 197–215 cmm; PRONOTAL INDEX 44–47, mean 46; ELYTRAL LENGTH 278–305 cmm. [4 ♂♂, 2 ♀♀]

Dorsum evenly deep red-fuscous to piceous, extreme lateral margin of elytron generally pale; 1 paratype [Lau] has dorsum largely yellow-testaceous with suffusion of red-fuscous laterally producing a rather striking appearance.

TYPE SERIES (n = 6). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9816), Lami, II.1951, N. L. H. Krauss; allotopotype ♀ (BPBM), same loc. as holotype, IV.1951, Krauss; paratypes (BPBM) as follows: 1, Nandarivatu, 1070 m, 5.IX.1938, Zimmerman; 1, Navai-Nasonga Trail, W slope, 760–910 m, beating, Zimmerman; *Ovalau:* 1, Andubangda, 270–460 m, 18.VII.1938, Zimmerman; *Lau-Yangasa Cluster:* 1, Yuvutha, 11.VIII.1924, Bryan.

BPBM paratype to BMNH.

DISTRIBUTION. Fiji (Viti Levu, Ovalau, Lau). Endemic.

REMARKS. Allied to *coccinelliformis* Csiki [SE Asia, Taiwan, Ryukyus, Japan, Bonin Islands] because of similar facies, including short metatibial spine; differs from same by having different outline of elytron (see key); further differs from same by tendency for lower interocular index: commonly around 20 instead of 25, aedeagus with preapex more narrowly prolonged and spermatheca with distal duct shorter (see figures). Named in honor of Prof. R. H. Arnett, Jr., presently of Siena College in Loudonville.

PLANT ASSOCIATES. None reported.

Argopistes insularis (Maulik), new combination Fig. 14b, 27p.

Sphaerophyma insularum Maulik, 1929, *Ins. of Samoa*, part 4, fasc. 3, 202, fig. 13, 15 (Samoa: Tutuila—type in BPBM).—Gressitt, 1957, *Proc. Hawaiian Ent. Soc.* **16**(2): 244 (key), 255 (Aunuu, near Tutuila; Upolo).

♂ (Aunuu). Form subcircular, hemispherical. Dorsum rather evenly piceous, scutellum deep pitchy brown; antenna orange-testaceous; ventral surfaces largely dark fuscous to piceous, side of abdomen orange-testaceous; legs largely red-fuscous to piceous. Length 3.05 mm; breadth 2.35.

Head: frons triangular, rather flat, granulate, carinate medially; interantennal space strongly convex, about 0.6 × as broad as transverse diameter of antennal socket; orbit 0.3 × as broad as antennal socket; interocular space narrow above; interocular index 43; gena about 0.4 × as deep as eye; postantennal swellings subtriangular, shining and separated medially by a groove. *Antenna* extending nearly to middle of elytron; apical segments flattened and gradually thickened toward apices. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 48; anterior angle oblique-rounded, continuous with side; side weakly convex; base bisinuate, median lobe broad; disc closely and deeply punctate, punctures mostly 1 × as large as interspaces, interspaces subalutaceous and sparsely micropunctate. *Elytron* 2.2 × as long as broad, broadest slightly before middle, side strongly convex; epipleuron vertically inflexed, continued to apex; discal serial puncture rows largely obscured by punctate interspaces; central discal punctures mostly 0.2–0.4 × as large as interstices and 2–3 × as large as transverse interspaces; interspaces punctulate, subalutaceous. *Ventral surfaces:* metasternum ± smooth; abdomen rather coarsely punctate. *Legs:* metafemur strongly flattened, 1.5 × as long as broad; metatibial spine exceeding apex of tibia by 1/3 its length; relative lengths of metafemur, -tibia, -tarsus are 50: 30: 24; basitarsus slightly longer than

remainder. *Wing* fully developed. *Aedeagus* about 3.9 × as long as breadth at middle, see figure.

♀ (Tutuila). Similar to ♂. *Spermatheca* as figured. Length 3.3 mm; breadth 2.5.

VARIATION (n = 5). LENGTH 3.05–3.3 mm; BREADTH 2.35–2.75 mm; HEAD BREADTH 74–82 cmm; INTEROCULAR SPACE 20–21 cmm; EYE 45–47 cmm; INTEROCULAR INDEX 43–44; PRONOTAL LENGTH 80–86 cmm; PRONOTAL BREADTH 168–183 cmm; PRONOTAL INDEX 47–49; ELYTRAL LENGTH 238–265 cmm. [4 ♂♂, 1 ♀]

Dorsum red-fuscous to piceous; the palest specimen is teneral.

MATERIAL EXAMINED (n = 5). SAMOA: *Tutuila:* 1 (holotype ♂), Pago Pago, 30. IX.1923, Swezey & Wilder (BPBM); specimens (BPBM): 1, Breaker Point, 19.VIII.1940, sweeping, Swezey; 1, Utulei, 180 m, 24.VIII.1940, Swezey; *Aunuu:* 1, II.1930, Fullaway; *Upolo:* 1, Afiamalu, 670 m, 2.VII.1940, sweeping, Zimmerman.

DISTRIBUTION. Samoa (Tutuila, Aunuu, Upolo, Savaii). Endemic.

REMARKS. Somewhat similar to undetermined species in key [New Caledonia?, Fiji] in general facies, including lengthened metatibial spine; differs from same by having interocular index larger: 43–44 instead of 30–35, aedeagus with preapex produced instead of subevenly narrowed.

PLANT ASSOCIATES. None reported.

Incertae Sedis

Argopistes thomassini (Montrouzier), new combination

Dibolia thomassini Montr., 1861, *Ann. Soc. Ent. France* ser 4, **1:** 301 (Lifu—type lost?).—Heller, 1916, *In* Sarasin & Roux, *Nova Caledonia* ser A, **2**(3): 259.

Apteropeda? thomassini: Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.

Argopistes gagates (Montrouzier), new combination

Dibolia gagates Montr., 1861, *Ann. Soc. Ent. France* ser 4, **1:** 301 (Lifu—type lost?).—Heller, 1916, *In* Sarasin & Roux, *Nova Caledonia* ser A, **2**(3): 259.

Apteropeda? gagates: Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.

Argopistes coccinea (Montrouzier), new combination

Dibolia coccinea Montr., 1861, *Ann. Soc. Ent. France* ser 4, **1:** 302 (Lifu—type lost?).—Heller, 1916, *In* Sarasin & Roux, *Nova Caledonia* ser A, **2**(3): 259.

Apteropeda? coccinea: Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.

Argopistes dichroa (Montrouzier), new combination

Dibolia dichroa Montr., 1861, *Ann. Soc. Ent. France* ser 4, **1:** 302 (Lifu—type lost?).—Heller, 1916, *In* Sarasin & Roux, *Nova Caledonia* ser A, **2**(3): 259.

Apteropeda? dichroa: Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.

GENUS **Febra** Clark

Febra Clark, 1864, *J. of Ent.* **2:** 261 (type: *F. venusta* Clark; Fiji Islands—monobasic).—Chapuis, 1875, Gen. Col. **11:** 75 (key), 81.—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 74 (key), 85. Samuelson, 1967, *Pacific Ins.* **9**(1): 141 (key).

DIAGNOSIS. Ovate, subovate alticines of small to moderate size. Interantennal space much less than 0.5 × as broad as diameter of antennal socket; postantennal swellings subquadrate, rather poorly delimited from vertex; antenna 11-segmented, often exceeding elytral apex, apical segments slightly thickened; pronotum devoid of impressions, basal margin bisinuate; elytral puncturation seriate, sometimes confused internally; procoxa globose, lacking flattened projections; procoxal cavity open; metatibia channeled or flattened apically on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate.

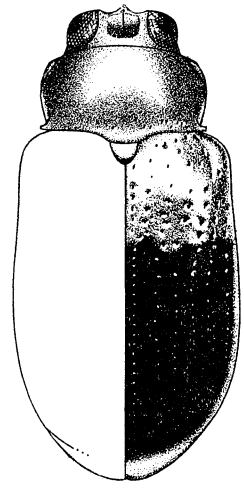

Fig. 24. *Febra venusta*, dorsal view.

Sexual dimorphism: antenna exceeding elytral apex in ♂, attaining preapex-apex in ♀ (shorter in *nigroornata*); last antennal segment falcate at apex in ♂, simple in ♀ (not falcate in *nigroornata*).

REMARKS. Allied to *Profebra* Samuelson [Solomons] because of somewhat similar facies, however, the lengthening of the antenna as well as the lengthening of the anterior part of the head gives members of *Febra* a rather characteristic appearance. One species, *nigroornata* Bryant, does not quite have these facies because of shorter antenna and shorter head with juncture of upper frons and vertex less angular in lateral view; it differs from *Profebra* by having profemur oval in x-section instead of flattened. Both of these genera are related to *Axillofebra* Samuelson [New Guinea], but differ from the same by having antennal groove obsolescent instead of deep and elytral puncturation dominantly seriate instead of entirely confused.

DISTRIBUTION. Restricted to Melanesia, with 5 species endemic to Fiji and 1 endemic to the Banks Islands.

Key to species of Febra

1. Frons and vertex meeting at acute angle in lateral profile; antennal socket placed far above middle in frontal view; antennal segment 2 much shorter than 3.....2
   Frons and vertex evenly convex, not angulate in lateral profile; antennal socket placed slightly above middle in frontal view; antennal segments 2 and 3 subequal in length.....6
2. Eye ± circular in outline; depth of eye subequal to or shorter than gena.....3
   Eye ovate in outline; eye distinctly deeper than gena.....5
3. Pronotum with disc distinctly punctate.....4
   Pronotum with disc impunctate or sparsely set with micropunctures, prebasal area punctate [dorsum yellow-testaceous with apical part of elytron usually darker, fuscescent to deep metallic blue; length 4.4–3.1 mm—Fiji: Viti Levu, Ovalau, Vanua Levu].....**venusta**
4. Punctures of pronotal disc about 1 × as large as interspaces [dorsum orange-testaceous: elytron with dark posthumeral longitudinal stripe; length 4–4.4 mm—Banks Islands].....**ovata**
   Punctures of pronotal disc 2–5 × as large as interspaces [dorsum reddish testaceous with diluted metallic green lustre in certain lights: pronotum darkened at side; elytron with dark sublateral longitudinal stripe, and sometimes with dark discal area; length 3.2–4 mm—

Fiji: Viti Levu]..... **rubra**

5. Elytral puncturation seriate laterally, confused medially; punctures coarse, 2–3 × as large as interstices [dorsum reddish testaceous with strong metallic green lustre in most lights; length 3.8–3.9 mm—Fiji: Viti Levu, Ovalau]..... **varioloidea**

Elytral puncturation entirely seriate; punctures fine, 0.2–0.3 × as large as interstices [dorsum bicolorous: pronotum yellow-testaceous with punctures and sometimes part of base darker and elytron dark shining castaneous or fuscous; length 3.95–6.7 mm—Fiji: Viti Levu]... **insularis**

6. Elytron with inner part of basal margin and anterior 1/4 of sutural margin yellow- to orange-testaceous [length 2.25–2.85 mm—Fiji: Viti Levu, Ovalau]..... **nigroornata nigroornata**

Elytron with inner part of basal margin and anterior 1/4 of sutural margin dark fuscous [length 2.6–2.8 mm—Fiji: Vanua Levu]..... **nigroornata vanuana**

Febra venusta Clark Fig. 14c, 24, 27q.

Febra venusta Clark, 1864, *J. of Ent.* **2:** 262, pl. 2, fig. 5 (Fiji—type in BMNH).—Chapuis, 1875, Gen. Col. **11:** 81.—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 86 (+key) (Fiji: Viti Levu, Ovalau, Vanua Levu).

Febra semiaurantiaca Fairmaire, 1882, *Ann. Soc. Ent. France* ser 6, **1:** 490 (Ovalau).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 86 (synonymized).

♂ (Lami). Form subelongate, rather parallel-sided. Dorsum bicolorous: head, pronotum and basal 2/5 of elytron orange-testaceous, remainder of elytron black with deep bluish lustre, with demarkation of darkened area transverse anteriorly; antenna piceous to red-fuscous; venter: thorax yellow-testaceous, abdomen fuscous; pro-, mesoleg largely orange-testaceous; metaleg with femur shiny piceous, tibia reddish, fuscescent, tarsus orange-testaceous. Length 4.9 mm; breadth 2.2.

Head: frons broadly swollen medially, surface smooth, shallowly concave in lateral outline; interantennal space briefly concave between raised margins of antennal sockets, about 0.3 × as broad as transverse diameter of antennal socket; orbit 0.1 × broad as antennal socket; eye subcircular; interocular index 87; gena 1.2 × as deep as eye; postantennal swellings moderately raised, delimited medially by an impressed line and posteriorly by a sinuate line, surfaces smooth; vertex weakly convex, surface shining. *Antenna* 1.5 × as long as body; intermediate segments weakly dilated at apices and apical segments gradually thickened to apices, apical segment falcate. *Prothorax* broadest near middle, base narrower than elytra at humeral angles; pronotal index 62; anterior angle ± oblique, nearly continuous with anterior margin; side convex; posterior angle oblique, briefly produced; base sinuate, median lobe broad, nearly straight before scutellum; disc ± impunctate excepting a few rather large, shallow prebasal punctures. *Elytron* 3.1 × as long as broad, broadest near apical 1/3; epipleuron ending preapically, surface smooth; central discal punctures mostly 0.3–0.7 × as large as interstices and 0.7–1.5 × as large as transverse interspaces; interstices feebly swollen or not. *Ventral surfaces:* thoracic sterna ± smooth; abdomen submoderately punctate. *Legs:* metafemur 2.2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 64: 53: 39; basitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* about 4.1 × as long as breadth at middle, see figure.

♀ (Lami). Similar to ♂. Antenna merely a little longer than body. *Spermatheca* as figured. Length 4.9 mm; breadth 2.25.

VARIATION (n = 12). LENGTH 4.4–5.1 mm, mean 4.8; BREADTH 2.2–2.45 mm; HEAD BREADTH 96–113 cmm; INTEROCULAR SPACE 37–48 cmm; EYE 47–54 cmm; INTEROCULAR INDEX 80–89, mean 84; PRONOTAL LENGTH 92–109 cmm; PRONOTAL BREADTH 144–176 cmm; PRONOTAL INDEX 58–68, mean 64; ELYTRAL LENGTH 288–363 cmm. [5 ♂♂, 5 ♀♀, 2 U]

Coloration: elytron with apical 3/5 black with bluish lustre in 7 specimens [Viti Levu], fuscescent in 3 specimens [Viti Levu]; elytron entirely fuscescent with slight violaceous lustre in 2 specimens [Vanua Levu]. A third specimen from Vanua Levu was lost and possibly may have been the bicolorous ♂ mentioned in Bryant & Gressitt (1957: 86).

MATERIAL EXAMINED (n = 14). FIJI: 1, Fiji Is., I.1906, Muir (BPBM); 1, Fiji Is., 19.X.1937, Lever (BMNH); *Viti Levu:* 2, Lami, XI.1957, Krauss (BPBM); 1, Tholo-i-suva, IX.1950, Krauss (BPBM); 2, same loc., III.1951, Krauss (BPBM); 1, Nasinu, 2.VIII.1939, Lever

(BMNH); 1, Naivithula, Tailevu, 18.VIII.1937, Valentine (BPBM); 1, same loc., [Naivicula], XI.1967, Krauss (BPBM); 1, Korolevu, Tailevu, 17.IX.1937, at light, Valentine (BPBM); *Vanua Levu:* 2, Nakawanga, 8.X.1955, Gressitt (BPBM).

DISTRIBUTION. Fiji (Viti Levu, Vanua Levu). Endemic.

REMARKS. The elongate, parallel-sided form separates this species from all other members of the genus; differs from *insularis* Bryant [Fiji: Viti Levu] by having vertex impunctate and different coloration (see key) (1 unusual specimen of *insularis* has pronotal disc virtually impunctate, but its vertex is normal, being distinctly punctate).

PLANT HOSTS. The larva mines leaves of the fern *Nephrolepis* sp. (Bryant & Gressitt, 1957: 86).

Febra ovata Bryant Fig. 14d, 27r.

Febra ovata Bryant, 1936, *Ann. Mag. Nat. Hist.* ser 10, **17:** 247; Banks Is.: Vanua Lava—type in BMNH).

Lectotype ♂. Nearly identical in form and color to ♀ described below. Length 4.5 mm; breadth 2.25.

Head: frons with submedian tooth at anterior margin (1 + 1), tooth rather blunt and extending nearly to anterior margin of clypeus; interantennal space about 0.3 × as broad as transverse diameter of antennal socket; orbit 0.2 × as broad as antennal socket; eye subcircular; interocular index 106; gena 1.35 × as deep as eye. *Antenna* incomplete, but exceeding elytral apex. *Prothorax:* pronotal index 56. *Elytron* 2.8 × as long as broad, broadest along middle; central discal punctures commonly 1.5 × as large as interstices and 2–3 × as large as transverse interspaces; interstices slightly swollen. *Ventral surfaces* largely smooth and sparsely punctulate, but abdomen sternum 1 moderately punctulate. *Legs:* metafemur 2.5 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 72: 60: 45; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* about 5.6 × as long as breadth at middle, see figure.

Allolectotype ♀. Form subelongate, ± robust, side moderately convex. Dorsum largely orange-testaceous, elytron with a darker reddish fuscescent longitudinal area extending from humerus to apical 1/5, darker parts of elytral maculation with slight greenish lustre; ventral surfaces and legs largely yellow- to orange-testaceous. Length 4.4 mm; breadth 2.3.

Head: frons elongate, triangular with surface rather flat; interantennal space slightly convex between raised margins of antennal sockets, breadth about 0.35 × as broad as transverse diameter of antennal socket; orbit 0.2 × as broad as antennal socket; eye subcircular; interocular index 107; gena 1.3 × as deep as eye; postantennal swellings subtriangular, separated medially by fine line, surfaces slightly raised, smooth and poorly delimited from vertex; vertex shining, impunctate. *Antenna* incomplete. *Prothorax* broadest at posterior angles; pronotal index 57; anterior angle obtuse, continuous with side; side convex anteriorly, rather straight basally; posterior angle obtuse, slightly produced; base sinuate, median lobe briefly concave medially and convex submedially; disc with punctures of various sizes, often 0.5–1 × as large as interspaces, interspaces smooth; submarginal area of basal margin with transverse row of 6 punctures along lateral 1/3, median area broadly and shallowly depressed. *Elytron* 3 × as long as broad, broadest along middle, side moderately convex; epipleuron continued to apex, surface rather smooth and impunctate; humerus briefly produced, delimited internally by brief longitudinal impressions bearing punctures; disc with puncture rows sinuate, central punctures mostly 0.5–0.7 × as large as interstices and 1.3–2 × as large as transverse interspaces; interstices swollen. *Ventral surfaces* mostly smooth. *Legs:* metafemur 2.3 × as long as broad. *Spermatheca* as figured.

VARIATION (n = 2). LENGTH 4.4–4.5 mm; BREADTH 2.25–2.3 mm; HEAD BREADTH 102 cmm (♂); INTEROCULAR SPACE 46 cmm (♂); EYE 43 cmm (♂); INTEROCULAR INDEX 106–107; PRONOTAL LENGTH 109 cmm (♂); PRONOTAL BREADTH 174 cmm (♂); PRONOTAL INDEX 56–57; ELYTRAL LENGTH 325 cmm (♂). [1 ♂, 1 ♀]

MATERIAL EXAMINED (n = 2). NEW HEBRIDES: Banks Islands: *Vanua Lava:* Lectotype ♂ (BMNH), Mt Tane Lava, 910 m, X.1929, beaten from *Angiopteris evecta*, L. E. Cheesman; allolectotype ♀ (BMNH), same data as lectotype.

One of the 2 specimens comprising the type series is labelled as type (BMNH circular label with red border), but it is not indicated as such in the original description; it is that specimen which is hereby designated as lectotype.

DISTRIBUTION. Banks Islands (Vanua Lava). Endemic.

REMARKS. Allied to *venusta* Clark [Fiji] because of similar type of eye, which is nearly circular in outline; differs from same by having pronotal disc distinctly punctate and by different coloration (see key); another species, *rubra* Gressitt [Fiji], also has eye outline subcircular, but pronotal punctures are much smaller and coloration is different (see key).

PLANT ASSOCIATES. *Angiopteris evecta* (Cheesman, label; Bryant, 1936: 248).

Febra insularis Bryant Fig. 14e, 28a.

Febra insularis Bry., 1925, *Ann. Mag. Nat. Hist.* ser 9, **15:** 596 (Fiji: Cuvu—type in BMNH).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 86 (+key) (Fiji; larva, host).

Lectotype ♂. Form subovate. Dorsum bicolorous: head and prothorax largely yellow-testaceous, punctures and submedian area along pronotal base briefly pitchy orange, elytron shining fuscous, with extreme sutural margin and preapical area slightly paler; antenna, ventral surfaces, and legs largely yellow- to orange-testaceous. Length 5.9 mm; breadth 3.5.

Head: frons elongate, triangular with surface rather smooth and distinctly concave in lateral outline; interantennal space slightly swollen between raised margins of antennal sockets, breadth about 0.45 × as broad as transverse diameter of antennal socket; orbit 0.15 × as broad as antennal socket; eye ovate, interocular index 70; gena 0.8 × as deep as eye; postantennal swellings subquadrate, separated medially by impressed line, surfaces moderately swollen, rugose, and delimited from vertex by indistinct transverse groove; vertex rugose, densely punctate, surface slightly convex. *Antenna* exceeding elytral apex; intermediate segments dilated at apices; apical segments subcylindrical, last with apex falcate. *Prothorax* broadest at posterior angles; pronotal index 53; anterior angle subtransverse, brief; side convex near middle but ± straight at extremities; posterior angle nearly square; base strongly sinuate, median lobe well-produced, subtruncate-concave at extremity; disc bearing punctures of various sizes, most densely punctured on anterior part of disc, punctures often 1–3 × as large as interspaces, punctures sparser basally, laterally and medially. *Elytron* 2.6 × as long as broad, broadest near middle, side convex; epipleuron ending before apex, surface shiny, impunctate; humerus broadly and weakly produced; disc with central punctures mostly 0.2 × as large as interstices and 0.3 × as large as transverse interspaces; interstices smooth, not swollen. *Ventral surfaces* rather smooth; abdomen sparsely punctate. *Legs:* metafemur 2.1 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 48: 42: 30; basitarsus shorter than remainder. *Wing* fully developed. *Aedeagus* (different specimen, also from Thuvu) 4.1 × as long as breadth at middle, see figure.

Allolectotype ♀. Similar to ♂. *Spermatheca* as figured. Length 5.6 mm; breadth 3.3.

LARVA. Mature larva described (Bryant & Gressitt, 1957: 87, fig. 45a).

VARIATION (n = 9). LENGTH 3.95–6.7 mm, mean 5.0; BREADTH 2.45–4.0 mm; HEAD BREADTH 90–137 cmm; INTEROCULAR SPACE 35–60 cmm; EYE 51–74 cmm; INTEROCULAR INDEX 62–83, mean 68; PRONOTAL LENGTH 96–154 cmm; PRONOTAL BREADTH 179–304 cmm; PRONOTAL INDEX 51–53; ELYTRAL LENGTH 308–453 cmm. [3 ♂♂, 4 ♀♀, 2 U]

Pronotal disc usually densely or subdensely punctate, punctures coarse, generally crowded and darkened in color; 1 specimen [Tholo-i-suva] has discal punctures less uniform with ± impunctate areas sublaterally; 1 specimen [Rewa] has sparse-fine discal punctures that are not darkened in color, producing shining-impunctate appearance of surface.

MATERIAL EXAMINED (n = 16). FIJI: 1, Fiji Is., I.1906, Muir (BPBM); *Viti Levu:* Lectotype ♂ (BMNH), Cuvu [Thuvu], 19.VII[?].1919, R. Veitch (VIII cited as month in original description); allolectotype ♀ (BMNH), same data (date clearly 19.VIII.1919); 2 paralectotypes, same data as preceding (BMNH); 1 (syntype series?), same loc., 28.VIII.1916, Veitch (BMNH); 2 (syntype series?), same loc., 10.X.1919, Greenwood (BMNH); 5, Tholo-i-suva, 150 m, 25.VII.1938,

beating shrubs, Zimmerman (BPBM); 1, Nausori-Korolevu, 1955, on *Acrostichum aureum*, O'Connor (BPBM); 1, Rewa, II.1905, Muir (BPBM); 1, Londoni, Tailevu, 20.IX.1937, Valentine (BPBM).

No specimen in the syntype series was specified as type in the original description. One specimen does bear a BMNH type label (circular with red border) and it is this specimen designated here as lectotype. Some of the specimens seen by Bryant have label data which do not quite correspond to data published in the original description, but all such specimens bearing type or cotype labels are regarded here as members of the syntype series.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. This large, ovate species is rather distinct; differs from other members of the genus by having elytron ± entirely shining dark fuscous or castaneous (extreme sutural margin and apical region may become paler in some specimens).

PLANT HOSTS. A fern, *Acrostichum aureum* L., is the larval food plant; the larva mines the "leaves" (Bryant & Gressitt, 1957: 87, fig. 45b).

Febra rubra Gressitt Fig. 14f, 28b.

Febra rubra Gressitt, 1957, *Pacific Sci.* **11:** 86 (key), 88 (Fiji: Viti Levu—type in BPBM).

♂ (Tholo-i-suva). Form subelongate, side slightly convex. Dorsum bicolorous: prothorax and elytra largely orange-testaceous with opalescent reddish to greenish reflections in certain lights; sides of pronotum and elytron fuscous with greenish lustre, elytral dark area not reaching apex; antenna with basal and preapical segments darker than intermediate and apical ones; ventral surfaces and legs yellow-testaceous. Length 3.75 mm; breadth 2.0.

Head: frons with a pair of acute, anteriorly projected teeth submedially at anterior margin, surface broadly swollen medially and punctate; interantennal space briefly convex, about 0.35 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; eye broadly ovate; interocular index 88; gena 1.2 × as deep as eye; postantennal swellings moderately swollen, delimited medially by a fine line and from vertex by an obscure oblique line, surfaces impunctate; vertex impressed medially, surface moderately punctate. *Antenna* 1.3 × as long as body; intermediate segments briefly dilated at apices; apical segments gradually thickened to apices, last with apex falcate. *Prothorax* broadest at posterior angles, base nearly as broad as elytra at humeral angles; pronotal index 60; anterior angle feebly produced, rounded; side convex but rather straight basally; posterior angle barely obtuse, feebly produced; base sinuate, median lobe broad and sinuate before scutellum; disc bearing large ± shallow punctures, mostly 2–5 × as large as interspaces. *Elytron* 2.6 × as long as broad, broadest slightly behind middle, side convex; epipleuron not reaching apex, surface smooth; discal puncturation entirely regular, central discal punctures mostly 2–3 × as large as interstices and transverse interspaces; interstices narrow and slightly swollen. *Ventral surfaces* largely impunctate. *Legs:* metafemur 2.1 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 47: 42: 30; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* about 4 × as long as breadth at middle, see figure.

♀ (Nausori). Similar to ♂. Antenna about as long as body. *Spermatheca* as figured. Length 3.7 mm; breadth 2.0.

VARIATION (n = 8). LENGTH 3.2–4.0 mm, mean 3.7; BREADTH 1.8–2.2 mm; HEAD BREADTH 74–88 cmm; INTEROCULAR SPACE 30–38 cmm; EYE 33–44 cmm; INTEROCULAR INDEX 85–95, mean 89; PRONOTAL LENGTH 82–90 cmm; PRONOTAL BREADTH 138–162 cmm; PRONOTAL INDEX 55–61, mean 58; ELYTRAL LENGTH 215–277 cmm. [5 ♂♂, 3 ♀♀]

Coloration: dark marginal areas along prothorax and elytron nearly absent in 3 specimens; antenna entirely orange-testaceous in 5 specimens.

MATERIAL EXAMINED (n = 16). FIJI: *Viti Levu:* 1 (holotype), Nandarivatu, 1130 m, 10.IX.1938, beating shrubbery, Zimmerman (BPBM); BPBM material: 2, same data as holotype; 1, Mt Victoria, 910–1220 m, 13.IX.1938, beating shrubs, Zimmerman; 1, Naqali, Krauss; 2, (paratypes), Tholo-i-suva, III-, IV.1951, Krauss; 4, Rewa, XII.1905, II-, III.1906, Muir; 1, Nausori, II.1951, Krauss; 4, Mokani, IV.1951, Krauss.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Resembles *varioloidea* Fairmaire [Fiji: Viti Levu, Ovalau] in size, coarse sculpture and somewhat similar dorsal coloration; differs from same by having eye ± circular in outline instead of ovate, elytral punctures entirely regular instead of confused internally; dorsum with somewhat diluted metallic green lustre instead of deeper malachite green lustre.

PLANT ASSOCIATES. None reported.

Febra varioloidea Fairmaire Fig. 14g.

Febra varioloidea Fairmaire, 1882, *Ann. Soc. Ent. France* ser 6, **1:** 490 (Fiji: Ovalau—type in PMHN).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 86 (key), 87 (Ovalau).

♂ (Tholo-i-suva). Form subelongate, side convex. Dorsum red-fuscous, with brilliant malachite green lustre, sides of pronotum and elytron somewhat darker at margins; head largely piceous; antenna with basal and preapical segments darkest; ventral surfaces piceous to fuscous, abdomen palest; pro- and mesolegs largely yellow-testaceous, dark basally, metaleg largely piceous. Length 3.9 mm; breadth 2.1.

Head: frons broadly triangular, anterior margin with a pair of vaguely developed blunt sub-median teeth, surface rather broadly raised, mostly smooth but bearing a few punctures and submedian teeth anteriorly, profile concave in lateral outline; interantennal space carinate, about 0.3 × as broad as transverse diameter of antennal socket; orbit 0.2 × as broad as antennal socket; eye subovate; interocular index 65; gena 0.75 × as deep as eye; postantennal swellings transverse, rather strongly swollen and separated medially by a fine line and delimited from vertex by transverse groove; vertex strongly and feebly punctured, most punctures 4–5 × as large as interspaces. *Antenna* 1.2 × as long as body; intermediate segments briefly dilated at apices; apical segments gradually thickened toward apices, last arched. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 61; anterior angle brief, rounded; side convex; posterior angle oblique, slightly produced; base sinuate, median lobe broad and sinuate before scutellum; disc deeply and closely set with deep punctures, mostly 4 × as large as interspaces. *Elytron* 2.75 × as long as broad, broadest along middle, side weakly convex along middle; epipleuron not reaching apex, surface smooth; discal puncturation confused medially but in regular longitudinal rows sublaterally where central punctures are mostly 3–4 × as large as interstices and transverse interspaces; interstices narrow and raised. *Ventral surfaces* largely impunctate. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 50: 42: 33; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* 4.6 × as long as breadth at middle, see figure.

♀. None seen.

VARIATION (n = 3). LENGTH 3.8–3.9 mm; BREADTH 2.0–2.1 mm; HEAD BREADTH 84–92 cmm; INTEROCULAR SPACE 31–35 cmm; EYE 54–56 cmm; INTEROCULAR INDEX 57–66, mean 63; PRONOTAL LENGTH 90–98 cmm; PRONOTAL BREADTH 150–160 cmm; PRONOTAL INDEX 58–61, mean 60; ELYTRAL LENGTH 254–261 cmm. [3 ♂♂]

Coloration in 1 specimen [Tholo-i-suva]: head with gena and lower frons dark fuscous, upper frons orange-testaceous, otherwise similar to above.

MATERIAL EXAMINED (n = 3). FIJI: *Ovalau:* 1, Wainiloka, 30–60 m, 11.VII.1938, Cooke (BPBM); *Viti Levu:* 2, Tholo-i-suva [Colo-i-suva], 3–6.III.1963, Yoshimoto (BPBM). New to Viti Levu.

DISTRIBUTION. Fiji (Viti Levu, Ovalau). Endemic.

REMARKS. Similar in appearance to *rubra* Gressitt [Fiji: Viti Levu]; differs from same by having frons, gena, thoracic sterna generally dark instead of pale, as well as further differences given in key and under *rubra*.

PLANT ASSOCIATES. None reported.

Febra nigroornata nigroornata Bryant Fig. 14h, 28c.

Febra n. nigroornata Bryant, 1957, *Pacific Sci.* **11:** 86 (key), 88 (Fiji: Viti Levu—type in BMNH).

♂ (Lami). Form ovate. Dorsum largely yellow- to orange-testaceous with dark markings: fuscous

along side of pronotum, continued as a longitudinal stripe on elytron extending from humerus to beyond middle of disc; pronotum also with faint median dark line; elytron also with oblique fuscescent area preapically, extreme apex yellowish; antenna, ventral surfaces, and legs largely yellow-testaceous. Length 2.7 mm; breadth 1.6.

Head: frons triangular, surface rather flat, impunctate; interantennal space flat between raised margins of antennal sockets, about 0.2 × as broad as transverse diameter of antennal socket; orbit 0.15 × as broad as antennal socket; eye ovate; interocular index 52; gena 0.5 × as deep as eye; postantennal swellings swollen and delimited medially by fine line but not well-delimited from vertex; vertex weakly and evenly convex, surface largely impunctate. *Antenna* 0.9 × as long as body, extending to elytral preapex; most segments gradually thickened toward apices. *Prothorax* broadest at posterior angles, base nearly as broad as elytra at humeral angles; pronotal index 65; anterior angle short, obliquely rounded; side convex but ± straight basally; posterior angle barely obtuse; base sinuate, median lobe broad and feebly sinuate before scutellum; disc with a few large prebasal punctures sublaterally, surface micropunctate, punctures mostly 0.2–0.3 × as large as interspaces. *Elytron* 2.6 × as long as broad, broadest at basal 3/7, side moderately convex along middle; epipleuron continued to apex, surface smooth; central discal punctures mostly 0.7–1.3 × as large as interstices and 1–2 × as large as transverse interspaces; interstices weakly swollen. *Ventral surfaces* largely smooth; abdomen alutaceous, submoderately punctate. *Legs:* metafemur 2.2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 36: 30: 23; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* 3.8 × as long as breadth at middle, see figure.

♀ (Ovalau). Similar to ♂, but dorsum largely orange-testaceous and dark markings are more pronounced, being piceous; dark discal and preapical areas of elytron fused; antenna shorter, about 0.75 × as long as body; large punctures of pronotal disc more numerous on basal 1/3. *Spermatheca* as figured. Length 2.75 mm; breadth 1.6 mm.

VARIATION (n = 15). LENGTH 2.25–2.85 mm, mean 2.6; BREADTH 1.45–1.8 mm; HEAD BREADTH 56–67 cmm; INTEROCULAR SPACE 17–22 cmm; EYE 31–39 cmm; INTEROCULAR INDEX 49–62, mean 56; PRONOTAL LENGTH 66–78 cmm; PRONOTAL BREADTH 101–127 cmm; PRONOTAL INDEX 62–69, mean 66; ELYTRAL LENGTH 172–215 cmm. [10 ♂♂, 4 ♀♀, 1 U]

Dorsal coloration variable in this species. Viti Levu populations: most specimens are marked with dark fuscous along side of pronotum and on elytron from humerus to central disc or to elytral preapex; a few specimens have dark elytral maculations joined preapically; several specimens lack lateral dark markings on pronotum, but darkened median discal line usually present; outlines of dark areas vary from distinct to suffused. Ovalau population: lateral dark markings on pronotum absent, median fuscous line present; elytral dark maculations rather distinctly defined with discal and preapical dark areas fused in most specimens; preapical elytral maculation indistinct in 1 specimen.

MATERIAL EXAMINED (n = 52). Mostly BPBM material. FIJI: *Viti Levu:* 2, Nandarivatu, 1130 m, 3.IX.1938, beating, Zimmerman; 2, same loc., 1100 m, 6.IX.1938, beating shrubs, Zimmerman; 2 (1 has paratype label), same loc., 1130 m, 10.IX.1938, beating shrubs, Zimmerman; 5, Navai-Nasonga Trail, W slope, 760–910 m, 12.IX.1938, beating, Zimmerman; 1, Mt Victoria, 1320 m, 13.IX.1938, beating shrubbery, Zimmerman; 3, Tholo-i-suva [Colo-i-suva], 28.VI.1924, Bryan; 2, same loc., 150–180 m, 21.VII.1938, beating, Zimmerman; 2, same loc., 27.VII.1938, beating, Zimmerman; 2 (paratypes), same loc., IX.1950, Krauss (BMNH, BPBM); 1, same loc., I.1951, Krauss; 1 (paratype), same loc., IV.1951, Krauss; 2 (paratypes), same loc., I.1955, Krauss; 1, same loc., 3–6.III.1963, Yoshimoto; 2 (paratypes), Lami Quarry nr Suva, V.1951, Krauss; 1 (paratype), Lami, III.1951, Krauss; 1 (paratype), same loc., I.1955, Krauss; 14, same loc., XI.1957, Krauss; 1, Naqali, XI.1957, Krauss; 2, Vunidawa, 1920, Pemberton; *Ovalau:* 3, Draiba Trail, 240–300 m, 8.VII.1938, ferns, Zimmerman; 2, Wainiloka, 60 m, 11.VII.1938, beating, Zimmerman.

DISTRIBUTION. Fiji (Viti Levu, Ovalau). Endemic.

REMARKS. This species agrees least with the other members of the genus (see couplet 1 in key). The features that separate this species seem to represent character states that are less derived, particularly the following: antennal segments 2 and 3 subequal in length, antenna not exceeding elytral apex, front of head of normal even curvature, eye ovate, gena not extremely deep. The derived states, then, expressed in varying degrees in the remaining species show a trend toward: lengthening of flagellar antennal segments, lengthening of anterior part of head, more angular appearance to head with mouthparts directed slightly backward, shortening of eye and therefore lengthening of gena. The apparent, more primitive facies of *nigroornata* might suggest that it has a closer appearance to ancestral stock than the more derived forms.

PLANT ASSOCIATES. Ferns: Ovalau (Zimmerman, labels).

Febra nigroornata vanuana Gressitt

Febra nigroornata vanuana Gressitt, 1957, *Pacific Sci.* **11:** 86 (key), 89 (Fiji: Vanua Levu—type in BPBM).

♀ (holotype). Similar to nominate form, but elytron has basal margin and anterior 1/4 of sutural margin dark instead of pale, metafemur with apical 1/2 dark instead of entirely pale. Length 2.8 mm; breadth 1.7.

VARIATION (n = 2). Paratype similar to holotype, but slightly smaller. LENGTH 2.6–2.8 mm; BREADTH 1.6–1.7 mm. [2 ♀♀]

MATERIAL EXAMINED (n = 2). FIJI: *Vanua Levu:* 2 (holotype, paratype), Nakawanga to Wailevu, 9.X.1955, Gressitt (BPBM).

DISTRIBUTION. Fiji (Vanua Levu). Endemic.

PLANT ASSOCIATES. None reported.

GENUS **Manobia** Jacoby

Manobia Jacoby, 1885, *Ann. Mus. Civ. Genova* ser 2, **2**(22): 73.—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 46 (key); 1925, ibid, **11**(3–4): 52 (key).—Maulik, 1926, Fauna India, Chrys. & Halt. 285 (key), 407 (type: *M. nigripennis* Jac.; Sumatra).—Chen, 1934, *Sinensia* **5**(3–4): 234 (key), 381.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 356 (key); 1936, ibid. **26:** 20.—Heikertinger, 1948, *Kol. Rundschau* **31**(1–3): 48 (key).—Scherer, 1961, *Ent. Arb. Mus. Frey* **12:** 268 (key).—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 747 (key), 881.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 403 (key); 1966, ibid. **13**(4): 619.—Samuelson, 1967, *Pacific Ins.* **9**(1): 142 (key), 162.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 11 (key), 20 (key), 102.

DIAGNOSIS. Small alticines, of subovate to subelongate form with prothorax generally constricted preapically and generally narrower than elytra at humeral angles. Interantennal space ± as broad as diameter of antennal socket; postantennal swellings distinct, rarely obsolescent, form subrounded to subtriangular; antenna 11-segmented, apical segments swollen; pronotum with ante-basal impression deep to shallow to nearly obsolete; elytron usually swollen basally, depressed postbasally; elytral puncturation seriate; procoxa globular; procoxal cavity broadly to narrowly open; metatibia with retrotarsal surface convex, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀; pro- and mesobasitarsus more robust in ♂.

REMARKS. Allied to *Microcrepis* Chen [Sikkim, India] because of similar facies; differs from same by lacking short longitudinal fovea at sides of pronotal ante-basal impression; differs from *Manobidia* Chen [SE Asia, Japan, Ryukyus] by having elytron swollen basally.

DISTRIBUTION. Africa, S & E Asia, Japan to Indonesia, Australia, New Guinea, and eastward to Solomons to Fiji.

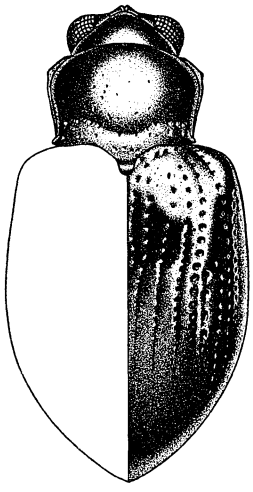

Fig. 25. *Manobia victoriae*, dorsal view.

KEY TO PACIFIC ISLAND SPECIES OF MANOBIA

1. Elytral interstices 4 and 6 anastomosed postbasally....2
   Elytral interstices 5 and 7 anastomosed postbasally....13
2. Prothorax broadest basally....3
   Prothorax broadest apically....5
3. Interocular index 90 or less....4
   Interocular index 108 ± [dorsum piceous; length 2.4 mm—Fiji: Viti Levu]....sp. A
4. Interocular index 88 ± [dorsum orange-testaceous; length 2.8 mm—Fiji: Viti Levu]....sp. B
   Interocular index 77–81 [dorsum black with slight bronze lustre; length 2.3–2.35 mm—Fiji: Viti Levu]....**tomaniiviae***
5. Interocular index commonly 110 or less [if 109–111 try both bracts of this couplet for best conclusion]....6
   Interocular index commonly more than 110....10
6. Ante-basal impression of pronotum usually visibly depressed mesally; dorsum bi- or multicolorous....7
   Ante-basal impression of pronotum usually obsolete mesally; dorsum unicolorous....8
7. Elytron with postbasal transverse depression ± deep and abruptly delimiting basal swelling [dorsum largely orange-fulvous with basal elytral disc darkened and humerus yellowish; length 2.25–2.75 mm—Fiji: Viti Levu]....**lubricata***
   Elytron with postbasal transverse depression shallow and gradual, not abruptly delimiting basal swelling [dorsum largely yellow- to orange-fulvous, elytral base and basal lateral margin darkened; length 2.1–2.65 mm—Fiji: Viti Levu]....**victoriae***
8. Prothoracic-humeral index commonly 65 or less; pronotal disc punctulate or punctate....9
   Prothoracic-humeral index commonly 67 or more; pronotal disc virtually impunctate [dorsum red-fuscous to piceous; length 1.45–1.80 mm—Fiji: Viti Levu]....**thompsoni***
9. Interocular index 95 ±; dorsum black, usually with subaeneous cast [length 2.0–2.55 mm—Fiji: Viti Levu]....**metallica**
   Interocular index 104 ±; dorsum red-fulvous [length 2.2 mm—Fiji: Viti Levu]....**obtusicollis**
10. Prothorax weakly divergent from prebase to anterior angles; ante-basal impression obsolescent....11
    Prothorax moderately divergent from prebase to anterior angles; ante-basal impression distinct....12
11. Pronotal index 75–79; pronotum closely punctate prebasally; elytral punctures distinct on apical 1/3 [dorsum fulvous to subpiceous; length 1.75–2.1 mm—Fiji: Viti Levu]...**zimmermani***

Pronotal index 80–87; pronotum sparsely punctulate prebasally; elytral punctures obsolescent on apical 1/3 [dorsum fulvous to subpiceous; length 1.8–2.1 mm—Fiji: Viti Levu]...**obsolapicalis***

12. Prothoracic-humeral index 57–65; antennal segment 1 often darkened [dorsum orange-fulvous; length 1.55–2.1 mm—Fiji: Viti Levu].....**levicollis**

Prothoracic-humeral index 68–71; antennal segment 1 pale [dorsum orange-fuscous to subpiceous, often paler along elytral suture; length 2.0–2.5 mm—New Hebrides].....**costata**

13. Wing fully developed.....14

Wing strongly reduced.....15

14. Aedeagus evenly narrowed preapically; elytron usually bicolorous, sometimes entirely pale [dorsum yellow-testaceous, feebly to heavily infuscated; length 1.95–2.6 mm—Lord Howe Island].....**instabilis**

Aedeagus notched preapically; elytron unicolorous [dorsum yellow-testaceous to red-fulvous, pronotum usually darker than elytron; length 2.8–2.9 mm—Lord Howe Island].....sp. C

15. Aedeagus evenly narrowed preapically, apex briefly rounded [dorsum yellow-testaceous with orange-fulvous markings on pronotal and elytral discs; length 3.3–3.9 mm—Lord Howe Island].....**fuscitarsis**

Aedeagus unevenly narrowed preapically, apex prolonged [dorsum orange-fulvous with dark fuscous longitudinal posthumeral marking on elytron; length 2.75–2.8 mm—Lord Howe Island].....sp. D

Manobia fuscitarsis (Lea), new combination Fig. 14i, 28d.

Crepidodera fuscitarsis Lea, 1926, *Trans. R. Soc. S. Australia* **50:** 81 (Lord Howe Island—type in SAMC).

♂ (holotype). Form subrobust; prothorax nearly as broad as elytra at humeral angles; apical portion of elytra rather gradually narrowed. Dorsum largely orange-testaceous, with various fuscous markings: pronotum with dark central discal area, basal margins dark; scutellum dark; elytron with obscure posthumeral diagonal area extending to middle of elytron at suture, thence apically for a short distance, outline from elytral dark maculations obscure; head yellow-testaceous to fuscous; labrum and vertex darkest, orbital areas palest; antenna with segments 1–4 yellow testaceous, 5–6 fuscescent, remainder fuscous; ventral surfaces dark fuscous to orange-testaceous, parts of metasternum and last abdominal segment palest; legs rather evenly yellow-testaceous. Length 3.4 mm; breadth 1.6.

Head: frons largely alutaceous below, swollen medially and ± smooth above; interantennal space broadly convex, about 1.5 × as broad as transverse diameter of antennal socket; orbit 1.25 × as broad as antennal socket; interocular index 158; gena 0.7 × as deep as eye; postantennal swellings subrounded, slightly raised, separated medially by upper frons and delimited from vertex by oblique groove; vertex rather evenly convex, surface obscurely micropunctate. *Antenna* extending beyond middle of elytron; apical segments slender basally but gradually thickened towards apices. *Prothorax* broadest before middle; prothoracic-humeral index 72; pronotal index 79; anterior angle short, oblique; side sinuate, convex anteriorly, narrowed posteriorly; base weakly sinuate, disc punctulate, punctures deep, mostly 0.5–1 × as large as interspaces, interspaces smooth; ante-basal impression shallow, very gradual. *Elytron* 2.9 × as long as broad, broadest at basal 3/7, side moderately convex along middle, more gradually narrowed apically; epipleuron continued nearly to apex, surface bearing a row of punctures internally; disc rather evenly convex, lacking distinct postbasal impression; puncture rows 6 + 7 anastomosed postbasally; central discal punctures mostly 1–1.5 × as large as interstices, 3 × as large as transverse interspaces; interspaces slightly swollen. *Ventral surfaces* moderately punctate. *Legs:* metafemur 2.15 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 44: 38: 25; basitarsus not quite as long as remainder. *Wing* reduced, about as long as elytron. *Aedeagus* about 7.4 × as long as breadth at middle, see figure.

♀ (type series). Similar to ♂, but dark areas of dorsum more obscure. *Spermatheca* as figured. Length 3.95 mm; breadth 1.7.

VARIATION (n = 3). LENGTH 3.3–3.95 mm; BREADTH 1.6–1.8 mm; HEAD BREADTH 85–91 cmm; INTEROCULAR SPACE 49–55 cmm; EYE 33–35 cmm; INTEROCULAR INDEX 148–158, mean 154;

PRONOTAL LENGTH 84–91 cmm; PRONOTAL BREADTH 110–150 cmm; PRONOTAL INDEX 77–79; ELYTRAL LENGTH 230–257 cmm. [1 ♂, 2 ♀♀]

Dorsum yellow- to orange-testaceous with obscure to rather distinct orange-fuscous maculations.

MATERIAL EXAMINED (n = 3). LORD HOWE ISLAND: 3 (holotype ♂, 2 of type series), Mt Gower summit, beaten from ferns, A. M. Lea (SAMC).

DISTRIBUTION. Lord Howe Island. Endemic.

REMARKS. Closely related to *instabilis* (Lea) [Lord Howe] because of similar facies; differs from same by generally larger size and by having wing reduced instead of fully developed; differs from sp. D by generally larger size and in having discal pronotal punctures finer with smoother interstices.

PLANT ASSOCIATES. Ferns (Lea, 1926: 81).

Manobia instabilis (Lea), new combination Fig. 14j, 28e.

Crepidodera instabilis Lea, 1926, *Trans. R. Soc. S. Australia* **50:** 81 (Lord Howe Island—type in SAMC).

♂ (type series). Form subrobust; prothorax narrowed basally and distinctly narrower than elytra at humeral angles. Dorsum orange-testaceous to pitchy brown: basal margin of prothorax, scutellum pitchy brown; elytron with dark subtriangular discal area on basal 1/2 reaching side and humeral angle laterally and extending obliquely from humerus to about central part of disc internally; head rather evenly pitchy brown; antenna yellow- to brown-testaceous; venter largely dark fuscous; legs yellow- to orange-testaceous, metafemur darkest. Length 1.95 mm; breadth 1.0.

Head: frons carinate medially, carina becoming broader above, sides depressed, granulate; interantennal space broadly convex, about 1.2 × as broad as transverse diameter of antennal socket; orbit 1.05 × as broad as antennal socket; interocular index 122; gena nearly 0.5 × as deep as eye; postantennal swellings oblique, slightly raised, separated medially by upper frons and delimited from vertex by deep oblique groove; vertex evenly convex, subalutaceous. *Antenna* extending to middle of elytron; apical segments turgid, gradually thickened toward apices. *Prothorax* broadest before middle; prothoracic-humeral index 68; pronotal index 76; anterior angle oblique; side feebly convex but narrowed basally; base weakly bisinuate; disc punctulate, punctures deep, mostly 0.5–1 × as large as interspaces, interspaces alutaceous; ante-basal impression shallow. *Elytron* 3.1 × as long as broad; epipleuron not quite reaching apex, surface with obscure row of punctures internally; disc with feeble postbasal transverse impression; interstices 6 + 7 anastomosed postbasally; central discal punctures mostly 2 × as large as interstices and 3–4 × as large as transverse interspaces; interstices swollen, subalutaceous. *Ventral surfaces:* metasternum ± smooth; abdomen sparsely punctate. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 47: 42: 29; basitarsus subequal in length to remainder. *Wing* fully developed. *Aedeagus* about 7.5 × as long as breadth at middle, see figure.

♀ (holotype). Similar to ♂. Elytral dark maculations darker fuscous, more oblique, extending well behind middle and nearly reaching sutural margin; breadth of elytron greatest slightly behind middle. *Spermatheca* figured from paratype (variant C). Length 2.05 mm; breadth 1.0.

VARIATION (n = 7). LENGTH 1.95–2.6 mm, mean 2.2; BREADTH 0.95–1.3 mm; HEAD BREADTH 49–60 cmm; INTEROCULAR SPACE 27–32 cmm; EYE 21–24 cmm; INTEROCULAR INDEX 122–136, mean 130; PRONOTAL LENGTH 45–58 cmm; PRONOTAL BREADTH 62–79 cmm; PRONOTAL INDEX 69–78, mean 75; ELYTRAL LENGTH 136–191 cmm. [2 ♂♂, 2 ♀♀, 3 U]

Dorsum fulvous to orange-testaceous, usually with obscure to distinct fuscous markings on elytron and sometimes pronotal disc; 1 specimen uniformly fulvous without dark markings; 1 specimen with elytron predominantly dark fuscous.

MATERIAL EXAMINED (n = 8). LORD HOWE ISLAND: 6 (holotype, 5 of type series), Mt Gower summit, beating ferns, A. M. Lea (SAMC); 2 (of type series), Mt Ledgbird, tree fern, Lea (SAMC).

The color variants A, B, C, D, E, H noted by Lea in the original description are represented

in the above material. Two other specimens from the type series are not cited above, because they may represent an additional species; they are variants F, G from Mt Gower summit and they are treated as species C in the key.

DISTRIBUTION. Lord Howe Island. Endemic.

REMARKS. Closely related to *fuscitarsis* (Lea) [Lord Howe]; see that species for comments; differs from closely related sp. C by generally smaller size and in usually having elytron bicolorous instead of unicolorous.

PLANT ASSOCIATES. Ferns and tree ferns (Lea, 1926: 82).

Manobia costata Bryant Fig. 14k, 28f.

Manobia costata Bryant, 1936, *Ann. Mag. Nat. Hist.* ser 10, **17:** 249 (New Hebrides, Banks Islands—type in BMNH).

Lectotype ♀. Form subrobust; prothorax slightly narrower than elytra at humeral angles. Dorsum orange-fuscous with slight metallic cast; antenna yellow-testaceous basally, red fuscous apically; ventral surfaces and legs orange-fuscous. Length 2.5 mm; breadth 1.3.

Head: frons broadly convex anteriorly, finely carinate above, surface ± smooth; interantennal space rather flat between raised margins of antennal sockets, about 1.1 × as broad as transverse diameter of antennal socket; orbit 0.75 × as broad as antennal socket; interocular index 118; gena 0.6 × as deep as eye; postantennal swellings somewhat obsolescent, feebly raised, separated medially by a fine dark line and delimited from vertex by vague sinuate line; vertex rather evenly convex, shining. *Antenna* extending slightly beyond middle of elytron; intermediate segments gradually thickened toward apices; apical segments turgid. *Prothorax* broadest at posterior angles, narrowest prebasally; prothoracic-humeral index 71; pronotal index 85; anterior angle oblique; side convex, narrowed basally; base bisinuate; disc ± smooth and punctulate, punctures commonly 0.3 × as large as interspaces; ante-basal impression broad and shallow, bearing rather large punctures mostly larger than interspaces and not quite as large as those of sutural row of elytron. *Elytron* nearly 3 × as long as broad, broadest near basal 1/3, side slightly convex before middle, less convex behind and thence gradually narrowed to apex; epipleuron continued nearly to apex, surface rather smooth, bearing a fine row of punctures internally; basal disc moderately swollen; postbasal area submoderately and ± gradually depressed transversely; interstices 4 + 6 anastomosed postbasally; central discal punctures mostly 1–1.2 × as large as interstices and 2–3 × as large as transverse interspaces; interstices moderately swollen, smooth. *Ventral surfaces:* metasternum ± smooth; abdomen sparsely punctulate. *Legs:* metafemur 2.4 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 41: 38: 26; basitarsus not quite as long as remainder. *Wing* fully developed. *Spermatheca* as in figure of different specimen (Efate).

Allolectotype ♂. Similar to ♀. *Aedeagus* (different specimen, from Efate) about 6.5 × as long as breadth near middle, see figure. Length 2.25 mm; breadth 1.15.

VARIATION (n = 10). LENGTH 2.0–2.5 mm, mean 2.2; BREADTH 1.05–1.4 mm; HEAD BREADTH 53–63 cmm; INTEROCULAR SPACE 25–33 cmm; EYE 21–26 cmm; INTEROCULAR INDEX 113–131, mean 121; PRONOTAL LENGTH 57–66 cmm; PRONOTAL BREADTH 67–83 cmm; PRONOTAL INDEX 76–96, mean 82; PROTHORACIC-HUMERAL INDEX 68–71, mean 70; ELYTRAL LENGTH 148–191 cmm. [6 ♂♂, 4 ♀♀]

Dorsum orange-testaceous to subpiceous; some specimens have elytral sutural area paler than disc.

MATERIAL EXAMINED (n = 28). NEW HEBRIDES: *Malekula:* Lectotype ♀ (BMNH), I.1930, L. E. Cheesman; allolectotype ♂ (BMNH), same data as lectotype; 5 paralectotypes, same data as preceding (BMNH); 1 paralectotype, same data, central forest by beating (BMNH); 1, Lamap, 19–21.IX.1967, J. & M. Sedlacek (BPBM); *Espiritu Santo:* 1 paralectotype, Santo, VIII–IX.1929, Cheesman (BMNH); 1 paralectotype, same data, sea level by beating (BMNH); 3, Namatasopa, 300 m, 28.VIII.1957, *Acalypha*, Gressitt (BPBM); 1, below Namatasopa, 250 m, 1.IX.1957, Gressitt (BPBM); 3, same loc., 2.IX.1957, Gressitt (BPBM); *Efate:* 1, Vila, VIII.

1950, Krauss (BPBM); 4, Limestone Plateau N of Maat, 100 m, 17.VIII.1957, Gressitt (BPBM); 1, same loc., 20.VIII.1957, Gressitt (BPBM); 3, same loc., 22.VIII.1957, Gressitt (BPBM); Banks Islands: *Vanua Lava:* 1, XI.1929, Cheesman (BMNH).

One specimen has been labelled as type (BMNH circular label with red border), but it was not cited as such in the original description; it is that specimen designated here as lectotype. The original series includes specimens from several islands with most from Malekula, the island containing the lectotype population.

DISTRIBUTION. New Hebrides and Banks Islands. Endemic.

REMARKS. Somewhat similar to *levicollis* Gressitt [Fiji: Viti Levu]; differs from same by generally larger size and in having prothoracic-humeral index 68–71 instead of 57–65.

PLANT ASSOCIATES. *Acalypha* sp.: Espiritu Santo (Gressitt, labels).

Manobia levicollis Gressitt Fig. 14l, 28g.

Manobia levicollis Gressitt, 1957, *Pacific Sci.* **11:** 82, fig. 42 (+key) (Fiji: Viti Levu—type in BPBM).

♂ (Nandarivatu). Form subrobust; prothorax somewhat narrow relative to breadth of elytra. Body surfaces largely orange-fulvous, rather transparent, resin-like; antenna with segment 1 fuscescent, remainder fulvous; legs orange-fulvous to yellow-testaceous, tarsi palest. Length 1.65 mm; breadth 0.8.

Head: frons smooth, broadly convex anteriorly, briefly carinate above; interantennal space ± concave between margins of antennal sockets, breadth subequal to transverse diameter of antennal socket; orbit slightly narrower than diameter of antennal socket; interocular index 133; gena 0.6 × as deep as eye; postantennal swellings subquadrate, slightly raised, surfaces smooth, separated medially by distinct groove and delimited from vertex by transverse line; vertex smooth, impunctate. *Antenna* extending to slightly beyond middle of elytron; apical 5 segments much larger than intermediate ones, gradually thickened toward apices. *Prothorax* broadest at anterior angles, narrowest prebasally; prothoracic-humeral index 64; pronotal index 81; anterior angle oblique; side sinuate, feebly convex anteriorly, thence feebly and concavely narrowed to prebasal constriction; base bisinuate, median lobe not as deep as scutellum; discal surface moderately convex, smooth, micropunctate, punctures mostly about 0.2 × as large as interspaces; ante-basal impression distinct; prebasal area with about 15 moderately large punctures, mostly slightly smaller than interspaces. *Elytron* 3 × as long as broad, broadest at basal 1/3, side moderately convex; epipleuron ending preapically, surface ± smooth, sparsely punctulate along inner margin; humerus moderately prominent; basal area swollen, thence rather abruptly depressed transversely; interstices 4 + 6 anastomosed postbasally; central discal punctures deep, mostly 0.5–1 × as large as interstices and 0.7–1 × as large as transverse interspaces; interstices weakly swollen. *Ventral surfaces:* metasternum rather smooth; abdomen submoderately punctulate. *Legs:* metafemur 2.3 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 28: 26: 18; basitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* about 6.9 × as long as breadth at middle, see figure.

♀(!) (holotype). Similar to ♂, but head and prothorax now missing. *Spermatheca* as figured. Original measurements: length 1.65 mm; breadth 0.8. Redescribed ♂ placed with broken holotype in BPBM Collection.

VARIATION (n = 29). LENGTH 1.55–2.1 mm, mean 1.8; BREADTH 0.75–1.15 mm; HEAD BREADTH 40–51 cmm; INTEROCULAR SPACE 21–25 cmm; EYE 17–21 cmm; INTEROCULAR INDEX 109–134, mean 121; PRONOTAL LENGTH 41–59 cmm; PRONOTAL BREADTH 47–66 cmm; PRONOTAL INDEX 79–92, mean 85; PROTHORACIC-HUMERAL INDEX 57–65, mean 62; ELYTRAL LENGTH 113–160 cmm. [11 ♂♂, 15 ♀♀, 3 U]

Infuscation of antennal segment 1 is evident in about 75% of the material examined.

MATERIAL EXAMINED (n = 40). FIJI: *Viti Levu:* 1 (holotype), Nandarivatu, 10.IX.1938, 1130 m, Zimmerman (BPBM); redescribed ♂ (BPBM), same data as holotype; specimens (BPBM): 19, same data as preceding; 4, same loc., 1100 m, 6.IX.1938, beating shrubs, Zimmerman; 2, ridge W of Nandarivatu, 790–910 m, 9.IX.1938, beating shrubbery, Zimmerman; 2, same

loc., 850 m, 11.IX.1938, beating shrubbery, Zimmerman; 2, Mt Victoria, summit, 1320 m, 13.IX.1938, beating shrubbery, Zimmerman; 2, Mt Victoria, W slope, 910–1220 m, 13.IX.1938, beating, Zimmerman; 1, same loc., 910 m, 16.IX.1938, beating, Zimmerman; 3, Navai-Nasonga trail, W slope, 760–910 m, 12.IX.1938, beating, Zimmerman; 1, same trail, summit, 1040 m, 12.IX.1938, beating shrubs, Zimmerman; 2, ridge N of Vatuthere, nr Nandarivatu, 790–910 m, 8.IX.1938, beating, Zimmerman. This species was previously known only from the holotype. Another specimen questionably assigned to *Alema nigra* by Bryant (Bryant & Gressitt, 1957: 82) is this species.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Of the forms of *Manobia* occurring on Viti Levu, this is the only small (2.1 mm or less) generally pale colored species to have pronotal ante-basal impression deep and tendency toward infuscation of antennal segment 1; similarities to *costata* Bryant [New Hebrides, Banks Islands] are discussed under that species.

PLANT ASSOCIATES. None reported.

Manobia lubricata Samuelson, new species Fig. 14m, 28h.

Holotype ♂. Form ± robust; prothorax narrow relative to elytral breadth. Dorsum largely lustrous orange-fulvous, somewhat resinous; elytron darkened mesally with fuscous on basal 2/5, humerus and elytral apex yellowish; head yellow-testaceous to orange-fulvous, vertex darkest; antenna largely orange-testaceous; venter dark fuscous to subpiceous, thoracic sterna darkest; legs yellow-testaceous. Length 2.3 mm; breadth 1.15.

Head: frons ± smooth, finely carinate above; interantennal space concave, breadth subequal to transverse diameter of antennal socket; orbit 0.75 × as broad as antennal socket; interocular index 107; gena 0.5 × as deep as eye; postantennal swellings subquadrate-rounded, feebly raised, smooth, separated medially by fine groove and delimited from vertex by obscure transverse-sinuate line; vertex smooth, shining. *Antenna* extending to beyond middle of elytron; flagellar segments slender, apical 5 feebly thickened toward apices. *Prothorax* broadest slightly behind anterior angles well before middle, narrowest prebasally; prothoracic-humeral index 62; pronotal index 82; anterior angle oblique; side weakly convex but narrowed to prebasal constriction; base bisinuate, median lobe broad, shallow; disc shining, bearing fine punctures mostly 0.2–0.3 × as large as interspaces; ante-basal impression obsolescent, very shallow across middle, bearing somewhat larger punctures than disc, punctures mostly 0.3–0.5 × as large as interspaces. *Elytron* 3 × as long as broad, broadest near middle, side weakly convex along middle; epipleuron ending preapically, surface ± swollen, punctate along inner margin; humerus moderately produced; basal area swollen; postbasal area ± strongly depressed transversely; interstices 4 + 6 anastomosed postbasally; central discal punctures mostly 0.7–1 × as large as interstices and 2–3 × as large as transverse interspaces; interstices slightly swollen. *Ventral surfaces:* metasternum smooth, sparsely micropunctate; abdomen sparsely punctulate. *Legs:* metafemur 2.55 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 41: 38: 27; basitarsus 0.4 × as long as remainder. *Wing* fully developed. *Aedeagus* about 5 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. *Spermatheca* as figured. Length 2.65 mm; breadth 1.35.

VARIATION (n = 12). LENGTH 2.25–2.75 mm, mean 2.55; BREADTH 1.15–1.45 mm; HEAD BREADTH 59–66 cmm; INTEROCULAR SPACE 27–30 cmm; EYE 25–28 cmm; INTEROCULAR INDEX 100–111, mean 106; PRONOTAL LENGTH 59–68 cmm; PRONOTAL BREADTH 69–80 cmm; PRONOTAL INDEX 82–87, mean 84; PROTHORACIC-HUMERAL INDEX 59–63, mean 61; ELYTRAL LENGTH 167–218 cmm. [7 ♂♂, 5 ♀♀]

Contrast between dark and pale areas of elytral disc somewhat variable with boundaries rather well-defined (about 50% of specimens) to broadly suffused and generally poorly defined; yellowish humeral area evident in all specimens.

TYPE SERIES (n = 12). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9817), Nandarivatu, 1130 m, 10.IX.1938, beating shrubbery, E. C. Zimmerman; allotopotype ♀ (BPBM), same data as

holotype; 6 paratopotypes, same data as preceding (BPBM); paratypes (BPBM) as follows: 2, Mt Victoria, 910–1220 m, 13.IX.1938, beating shrubs, Zimmerman; 2 paratypes, Mt Victoria, summit, 1320 m, 13.IX.1938, beating shrubbery, Zimmerman.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Closely related to *victoriae*, n. sp. [Viti Levu] because of similar general facies; differs from same by having pronotal ante-basal impression less distinctly depressed mesally, different dorsal coloration (see key), and aedeagus more slender with apex less evenly rounded (see figures).

PLANT ASSOCIATES. None reported.

Manobia metallica Bryant Fig. 14n, 28i.

Manobia metallica Bryant, 1945, *Ann. Mag. Nat. Hist.* ser 11, **12:** 427, fig. 1 (Fiji: Viti Levu—type in BMNH).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 82 (+key).

Lectotype ♀. Similar in form and color to the following ♂ specimen described. Length 2.4 mm; breadth 1.2.

Head: interantennal space about 1.2 × as broad as transverse diameter of antennal socket; orbit 0.9 × as broad as antennal socket; interocular index 104; gena 0.6 × as deep as eye. *Prothorax:* prothoracic-humeral index 62; pronotal index 82; discal punctures of several sizes, mostly 0.5–0.7 × as large as interspaces. *Elytron* 2.95 × as long as broad, broadest near middle; central discal punctures mostly 0.5 × as large as interstices and 0.7–1 × as large as transverse interspaces; interstices slightly swollen. *Legs:* metafemur nearly 2.4 × as long as broad. *Wing* fully developed. *Spermatheca* comparable to different specimen figured (Nandarivatu).

♂ (Nandarivatu). Form subrobust; prothorax narrow relative to elytral breadth. Dorsum and vertex lustrous black with slight subaeneous cast; antenna with segments 1–2 flavous, remainder fulvous to red-fulvous; venter dark red-fuscous; legs entirely flavous. Length 2.0 mm; breadth 1.05.

Head: frons ± smooth, finely carinate medially; interantennal space concave, about 1.3 × as broad as transverse diameter of antennal socket; orbit 0.65 × as broad as antennal socket; interocular index 88; gena 0.45 × as deep as eye; postantennal swellings subquadrate, flattened, surfaces smooth, separated medially by fine line and delimited from vertex by fine transverse line; vertex smooth. *Antenna* extending to middle of elytron; apical 5 segments broader than intermediate ones, gradually thickened toward apices. *Prothorax* broadest slightly before middle, narrowest prebasally; prothoracic-humeral index 62; pronotal index 88; anterior angle oblique; side sinuate, convex anteriorly, thence feebly and concavely narrowed to prebasal constriction; base bisinuate, median lobe about as deep as scutellum; disc ± smooth, punctures deep, of various sizes, mostly about 1.5 × as large as interspaces; ante-basal impression obsolescent, very shallow across middle and bearing punctures larger than discal ones, punctures mostly 1.5–2 × as large as interspaces. *Elytron* not quite 3 × as long as broad, broadest near middle, side convex; epipleuron ending preapically, surface ± flattened, alutaceous, punctulate along inner margin basally; humerus prominent; basal area moderately swollen; postbasal transverse depression ± broad and deep; interstices 4 + 6 anastomosed postbasally; central discal punctures mostly 0.7–1 × as large as interstices and 2–3 × as large as transverse interspaces; interstices moderately swollen. *Ventral surfaces:* metasternum ± smooth; abdomen sparsely punctulate. *Legs:* metafemur 2.3 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 35: 32: 21; basitarsus about 0.35 × as long as remainder. *Wing* fully developed. *Aedeagus* about 5.4 × as long as breadth at middle, see figure.

VARIATION (n = 27). LENGTH 2.0–2.55 mm, mean 2.3; BREADTH 1.05–1.35 mm; HEAD BREADTH 50–59 cmm; INTEROCULAR SPACE 21–27 cmm; EYE 24–28 cmm; INTEROCULAR INDEX 82–104, mean 93; PRONOTAL LENGTH 55–65 cmm; PRONOTAL BREADTH 62–76 cmm; PRONOTAL INDEX 79–90, mean 85; PROTHORACIC-HUMERAL INDEX 61–69, mean 64; ELYTRAL LENGTH 145–188 cmm. [16 ♂♂, 11 ♀♀]

Pronotum often with prebasal punctures much coarser than discal ones, but frequently with central discal punctures becoming nearly as coarse as prebasal ones, and sometimes (in 3

specimens) all pronotal punctures fine and sparse. Dorsum usually lustrous black with slight aeneous to bluish cast; several specimens possibly teneral, have dorsum dark fuscous.

MATERIAL EXAMINED (n = 30). FIJI: *Viti Levu:* Lectotype ♀ (BMNH), Tomaniivi [Mt Victoria], 910 m, 6.VII.1944, R. A. Lever; specimens (BPBM): 3, Mt Victoria, 910–1220 m, 13.IX.1938, beating shrubbery, Zimmerman; 3, same loc., W slope, 910 m, 16.IX.1938, beating, Zimmerman; 13, Nandarivatu, 1130 m, 10.IX.1938, beating shrubbery, Zimmerman; 1, Navai-Nasonga trail, W slope, 760–910 m, 12.IX.1938, beating, Zimmerman; 7, Navai Mill, nr Nandarivatu, 760 m, 17.IX.1938, beating, Zimmerman; 1, Navai, IX.1950, Krauss; 1, same loc., V.1951, Krauss.

One of the 2 specimens comprising the type series is labelled as type (BMNH circular label with red border), but it is not so indicated in the original description; it is that specimen designated here as lectotype.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Allied to *lubricata*, n. sp. [Viti Levu] because of similar facies; differs from same by having generally lower average interocular index: 93 instead of 106, dorsum entirely black with metallic cast instead of largely orange-fulvous, and aedeagus with preapex more parallel-sided and apex more evenly rounded (see figures).

PLANT ASSOCIATES. None reported.

Manobia obsolapicalis Samuelson, new species Fig. 14o, 28j.

Holotype ♂. Form robust; prothorax fairly narrow relative to elytral breadth. Dorsum, venter, metafemur largely red-fuscous; antenna and legs largely orange-testaceous. Length 2.1 mm; breadth 1.2.

Head: frons briefly and finely carinate above, surface ± smooth; interantennal space concave, about 1.15 × as broad as transverse diameter of antennal socket; orbit 0.55 × as broad as antennal socket; interocular index 116; gena 0.55 × as deep as eye; postantennal swellings subquadrate, not distinctly raised, smooth, separated medially by fine line and delimited from vertex by obscure transverse line; vertex smooth, shining. *Antenna* extending to about middle of elytron; apical segments gradually thickened toward apices and somewhat larger than intermediate ones. *Prothorax* broadest before middle, slightly narrowed to prebasal constriction; prothoracic-humeral index 67; pronotal index 80; anterior angle oblique; side convex, narrowed toward base; base bisinuate, median lobe moderately produced; disc smooth, finely punctulate, punctures mostly 0.3 × as large as interspaces; ante-basal impression obsolete; ante-basal area punctulate as on disc. *Elytron* 2.7 × as long as broad, broadest at basal 3/7; epipleuron ending well before apex, surface ± smooth; humerus moderately produced; base moderately swollen, rather sparsely punctate; postbasal area moderately but gradually depressed, bearing largest punctures; interstices 4+6 anastomosed postbasally; scutellar puncture row well-developed; discal puncture rows evident along middle but obsolete on apical 1/3; central discal punctures mostly 0.2–0.3 × as large as interstices and 0.5–0.7 × as large as transverse interspaces; interstices smooth, not swollen. *Ventral surfaces* ± smooth; abdomen moderately punctulate. *Legs:* metafemur 2.25 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 36: 34: 23; basitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* about 4.5 × as long as breadth near middle, see figure.

Allotype ♀. Similar to ♂. *Spermatheca* similar to one drawn from Mt Victoria paratype. Length 2.1 mm; breadth 1.25.

VARIATION (n = 4). LENGTH 1.8–2.1 mm, mean 2.05; BREADTH 1.05–1.3 mm; HEAD BREADTH 50–56 cmm; INTEROCULAR SPACE 24–28 cmm; EYE 21–24 cmm; INTEROCULAR INDEX 114–122, mean 118; PRONOTAL LENGTH 53–61 cmm; PRONOTAL BREADTH 64–73 cmm; PRONOTAL INDEX 80–84, mean 83; PROTHORACIC-HUMERAL INDEX 67–68; ELYTRAL LENGTH 131–159 cmm. [2 ♂♂, 2 ♀♀]

TYPE SERIES (n = 4). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9818), Nandarivatu, 1100 m, 6.IX.1938, beating shrubs, E. C. Zimmerman; allotype ♀ (BPBM), same loc., 1130 m, 10.IX. 1938, beating shrubbery, Zimmerman; 1 paratype, Mt Victoria, 910–1220 m, 13.IX.1938, beating

shrubbery, Zimmerman (BPBM); 1 paratype, Mt Korombamba, 240–370 m, 1.VIII.1938, beating shrubs, Zimmerman (BPBM).

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Allied to *zimmermani*, n. sp. [Viti Levu] because of similar facies; differs from same by having side of aedeagus straight instead of distinctly dilated beyond middle; differs from preceding and most other members from Fiji by having puncturation obsolete on apical 1/3 of elytron.

PLANT ASSOCIATES. None reported.

Manobia obtusicollis Gressitt Fig. 14p.

Manobia obtusicollis Gressitt, 1957, *Pacific Sci.* **11:** 82 (key), 83 (Fiji: Viti Levu—type in BPBM).

♂ (holotype). Form ± robust; prothorax narrow in relation to elytral breadth. Dorsum, head, antenna, venter largely orange-testaceous; legs orange- to yellow-testaceous, tibia and tarsi palest. Length 2.2 mm; breadth 1.15.

Head: frons feebly carinate medially, surface subalutaceous; interantennal space weakly concave, about 1.5 × as broad as transverse diameter of antennal socket; orbit 0.85 × as broad as antennal socket; interocular index 104; gena 0.55 × as deep as eye; postantennal swellings subquadrate, feebly raised, separated medially and delimited from vertex by fine impressed lines; vertex evenly convex, impunctate, shining. *Antenna* extending to beyond middle of elytron; intermediate segments slender; apical 5 thickened, becoming more robust. *Prothorax* broadest behind anterior angles, well before middle, narrowest prebasally with prothoracic-humeral index 64; pronotal index 81; anterior angle oblique; side convex anteriorly, rather straight basally, narrowed to prebasal constriction; base bisinuate, median lobe deep; disc smooth, punctulate, punctures mostly 0.5–0.7 × as large as interspaces; prebasal area feebly and broadly depressed, bearing larger punctures than disc, punctures mostly 0.5 × as large as interspaces. *Elytron* about 2.85 × as long as broad, side slightly convex along middle, obliquely narrowed along preapex; epipleuron ending preapically, bearing row of fine punctures internally; humerus moderately produced; basal area moderately raised, thence transversely depressed; elytral interstices 4 + 6 anastomosed postbasally; central discal punctures mostly 1 × as large as interstices and 2 × as large as transverse interspaces; interstices well-swollen. *Ventral surfaces:* metasternum ± smooth; abdomen sparsely punctulate. *Legs:* metafemur 2.4 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 34: 31: 21; basitarsus nearly as long as remainder. *Wing* fully developed. *Aedeagus* fully 5.3 × as long as breadth at middle, see figure.

♀. Not known.

VARIATION (n = 2). LENGTH 2.2 mm; BREADTH 1.15–1.2 mm; HEAD BREADTH 53–54 cmm; INTEROCULAR SPACE 25–26 cmm; EYE 24–25 cmm; INTEROCULAR INDEX 104; PRONOTAL LENGTH 57 cmm; PRONOTAL BREADTH 66–70 cmm; PRONOTAL INDEX 81–86; PROTHORACIC-HUMERAL INDEX 64–66; ELYTRAL LENGTH 160 cmm. [2 ♂♂]

MATERIAL EXAMINED (n = 2). FIJI: *Viti Levu:* 1 (holotype), Nandarivatu, 1100 m, 6.IX.1938, beating shrubbery, Zimmerman (BPBM); 1, same data as holotype (BPBM). Two specimens from Tholo-i-suva questionably assigned to this species (Bryant & Gressitt, 1957: 83) apparently are not this species.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Allied to *lubricata*, n. sp. [Viti Levu] by having similar facies; differs from same by lacking distinct pronotal ante-basal impression mesally, and by more uniform dorsal coloration (see key).

PLANT ASSOCIATES. None reported.

Manobia thompsoni Samuelson, new species Fig. 15a, 28k.

Holotype ♂. Form robust; prothorax fairly narrow relative to elytral breadth. Dorsum and venter piceous; frons fuscous; antenna and legs largely yellow- to orange-testaceous; metafemur pitchy brown. Length 1.6 mm; breadth 0.95.

Head: frons briefly and finely carinate above; interantennal space concave, breadth subequal to transverse diameter of antennal socket; orbit about 0.5 × as broad as antennal socket; interocular index 100; gena not quite 0.5 × as deep as eye; postantennal swellings subquadrate-rounded, feebly raised, smooth, separated medially by fine groove and delimited from vertex by obscure transverse line; vertex smooth, shining. *Antenna* extending to about middle of elytron; apical segments slightly thickened. *Prothorax* broadest slightly before middle, slightly narrowed prebasally; prothoracic-humeral index 71; pronotal index 78; anterior angle oblique; side gently convex, slightly narrowed basally; base bisinuate, median lobe broad, moderately produced; disc shining, rather smooth, bearing small punctures mostly 0.3 × as large as interspaces; ante-basal impression obsolescent, bearing rather large punctures in confused transverse series, punctures commonly about 2 × as large as interspaces. *Elytron* 2.8 × as long as broad, broadest near basal 2/5, side convex along middle; epipleuron ending preapically, surface somewhat irregular, punctate along inner margin; humerus moderately produced; basal area swollen; postbasal area depressed transversely; interstices 4 + 6 anastomosed postbasally; basal punctures of scutellar row and row 1 large, distinctly larger than other basal punctures; central discal punctures mostly 0.7–1 × as large as interstices and 2 × as large as transverse interspaces; interstices feebly swollen. *Ventral surfaces* smooth to rugulose; abdomen moderately punctulate. *Legs:* metafemur 2.3 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 28: 25: 18; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* about 6 × as long as breadth near middle, see figure.

Allotype ♀. Similar to ♂. Dorsum subpiceous; punctures of pronotal ante-basal area sparser than those of holotype, with central punctures about 1 × as large as interspaces. *Spermatheca* as figured. Length 1.75 mm; breadth 0.95.

VARIATION (n = 10). LENGTH 1.45–1.8 mm, mean 1.55; BREADTH 0.9–1.0 mm; HEAD BREADTH 45–49 cmm; INTEROCULAR SPACE 20–22 cmm; EYE 20–22 cmm; INTEROCULAR INDEX 100–105, mean 101; PRONOTAL LENGTH 45–51 cmm; PRONOTAL BREADTH 57–66 cmm; PRONOTAL INDEX 77–83, mean 78; PROTHORACIC-HUMERAL INDEX 68–74, mean 71; ELYTRAL LENGTH 115–133 cmm. [6 ♂♂, 4 ♀♀]

Ante-basal impression of pronotum sparsely punctate in some specimens.

TYPE SERIES (n = 13). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9819), Nandarivatu, 1130 m, 10.IX.1938, beating shrubbery, E. C. Zimmerman; allotopotype ♀ (BPBM), same data as holotype; 4 paratopotypes, same data as preceding (BPBM); paratypes (BPBM) as follows: 3, Navai-Nasonga Trail, W slope, 760–910 m, 12.IX.1938, beating, Zimmerman; 2, Mt Victoria, 910–1220 m, 13.IX.1938, beating shrubs, Zimmerman; 2 specimens, Vunindawa, 3.V.1941, Krauss (BPBM).

BPBM paratype to BMNH.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. The only member of the genus from Fiji so far as known to have spermatheca appendiculate (see figure), thus considerably set apart from its relatives on Viti Levu. Differs from *metallica* Bryant and *obtusicollis* Gressitt [both Viti Levu] by having pronotal disc ± impunctate instead of distinctly punctate and by smaller size. Named for Mr R. T. Thompson of the British Museum (Natural History), London, whose help in this project has been considerable.

PLANT ASSOCIATES. None reported.

Manobia tomaniiviae Samuelson, new species Fig. 15b.

Holotype ♂. Form subelongate; prothorax gradually narrowed from base to apex and rather narrow relative to elytral breadth. Dorsum black with greenish lustre; antenna with segments 1–3 orange-testaceous, 4–5 darkened, remainder dark fuscous; venter dark fuscous to black; legs mostly orange-testaceous, metafemur becoming pitchy brown. Length 2.35 mm; breadth 1.2.

Head: frons finely carinate above, surface ± smooth; interantennal space concave, about 0.7 × as broad as transverse diameter of antennal socket; orbit 0.3 × as broad as antennal socket; interocular index 77;

gena 0.3 × as deep as eye; postantennal swellings subquadrate, feebly raised, smooth, separated medially by fine groove and delimited from vertex by fine transverse line; vertex smooth, impunctate. *Antenna* extending to about middle of elytron; segments gradually thickened toward apices, apical ones rather stout but longer than broad. *Prothorax* broadest at posterior angles, gradually narrowed from base to anterior angles; prothoracic-humeral index 69; pronotal index 81; anterior angle short, oblique; side weakly convex, gradually narrowed anteriorly; base bisinuate, median lobe deep; disc finely but deeply punctulate, punctures mostly 1 × as large as interspaces; interspaces subalutaceous; ante-basal impression obsolete; ante-basal area with puncturation confused, central punctures mostly 2–3 × as large as discal ones and 1.5–3 × as large as interspaces. *Elytron* 3.1 × as long as broad, broadest near basal 2/5; epipleuron ending preapically, surface feebly swollen, ± smooth, and bearing punctures along inner margin; humerus ± weakly produced; basal area not strongly swollen; postbasal transverse depression shallow and gradual; interstices 4 + 6 anastomosed postbasally; central discal punctures mostly 0.6 × as large as interstices and 2–3 × as large as transverse interspaces; interstices not distinctly swollen. *Ventral surfaces:* metasternum smooth medially; abdomen subgranulate, moderately punctate. *Legs:* metafemur 2.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 39: 33: 32; basitarsus about as long as remainder. *Wing* fully developed. *Aedeagus* about 7.6 × as long as breadth near middle, see figure.

♀. Not known.

VARIATION (n = 2). LENGTH 2.3–2.35 mm; BREADTH 1.1–1.2 mm; HEAD BREADTH 49 cmm; INTEROCULAR SPACE 20–21 cmm; EYE 25 cmm; INTEROCULAR INDEX 77–81; PRONOTAL LENGTH 58 cmm; PRONOTAL BREADTH 72 cmm; PRONOTAL INDEX 81; PROTHORACIC-HUMERAL INDEX 66–69; ELYTRAL LENGTH 170–172 cmm. [2 ♂♂]

TYPE SERIES (n = 2). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9820), Mt Victoria, summit, 1320 m, 13.IX.1938, beating shrubbery, E. C. Zimmerman; paratype ♂, Navai-Nasonga Trail, summit, 1040 m, 12.IX.1938, beating shrubbery, Zimmerman (BPBM).

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Possibly allied to sp. B [Viti Levu] because of facies of prothorax; differs from same by having pronotal disc more closely punctate, slenderer body form, smaller size, and color of dorsum dark instead of pale. The species commemorates Tomaniivi, the Fijian name for the highest mountain [=Mt Victoria] on Viti Levu.

PLANT ASSOCIATES. None reported.

Manobia victoriae Samuelson, new species Fig. 15c, 25, 28l.

Holotype ♂. Form subrobust; prothorax narrow relative to elytral breadth. Dorsum bicolorous: pronotum and elytral disc to apex orange-testaceous, elytral base and basal 1/2 of lateral margin suffused with dark red-fuscous; head orange-testaceous; antenna yellow-testaceous; ventral surfaces largely red-fuscous, prosternum orange-testaceous; legs largely yellow-testaceous, metafemur somewhat pitchy. Length 2.3 mm; breadth 1.15.

Head: frons subalutaceous, finely carinate above; interantennal space weakly concave, about 0.75 × as broad as transverse diameter of antennal socket; orbit 0.65 × as broad as antennal socket; interocular index 103; gena 0.5 × as deep as eye; postantennal swellings subquadrate, feebly raised, surfaces smooth, separated medially by fine line and delimited from vertex by obscure transverse-arched line; vertex smooth. *Antenna* extending to about middle of elytron; apical 5 segments broader than intermediate ones, slightly thickened toward apices. *Prothorax* broadest behind anterior angles well before middle, narrowest prebasally; prothoracic-humeral index 62; pronotal index 89; anterior angle short, oblique; side feebly sinuate, convex anteriorly, thence narrowed to prebasal constriction; base bisinuate, median lobe moderately deep; disc subalutaceous, bearing small punctures mostly 0.5–0.7 × as large as interspaces; ante-basal impression distinct but shallow, bearing larger punctures than disc, punctures mostly 1.5–2 × as large as interspaces. *Elytron* not quite 3 × as long as broad, broadest slightly before middle, side convex; epipleuron not quite reaching apex, surface subalutaceous, finely punctate along inner margin; humerus moderately raised; basal area broadly swollen; postbasal depression shallow; interstice 5 arising postbasally; central discal

punctures mostly 0.5–1 × as large as interstices and 1.5–2 × as large as transverse interspaces; interstices slightly swollen. *Ventral surfaces:* metasternum ± smooth; abdomen sparsely punctulate. *Legs:* metafemur 2.5 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 37: 35: 23; basitarsus about 0.4 × as long as remainder. *Wing* fully developed. *Aedeagus* about 3.8 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Dorsum generally darker than ♂, largely pitchy red-fuscous with elytral base and basal 1/2 of elytral lateral margin piceous. *Spermatheca* as figured. Length 2.6 mm; breadth 1.3.

VARIATION (n = 11). LENGTH 2.1–2.65 mm; BREADTH 1.05–1.4 mm; HEAD BREADTH 55–62 cmm; INTEROCULAR SPACE 25–29 cmm; EYE 23–29 cmm; INTEROCULAR INDEX 100–108, mean 103; PRONOTAL LENGTH 55–68 cmm; PRONOTAL BREADTH 62–80 cmm; PRONOTAL INDEX 80–89, mean 85; PROTHORACIC-HUMERAL INDEX 62–66, mean 64; ELYTRAL LENGTH 152–201 cmm. [8 ♂♂, 3 ♀♀]

Dark elytral markings rather uniform in all specimens.

TYPE SERIES (n = 11). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9821), Mt Victoria, W slope, 910–1220 m, 13.IX.1938, beating, E. C. Zimmerman; allotopotype ♀ (BPBM), same data as holotype, but minus W slope; paratopotypes (BPBM) as follows: 2, same data as allotopotype; 2, same as preceding, but 910 m, 16.IX.1938; paratypes (BPBM) as follows: 1, Nandarivatu, 1100 m, 6.IX.1938, beating shrubs, Zimmerman; 1, same loc., 1130 m, 10.IX.1938, beating shrubbery, Zimmerman; 1, ridge W of Nandarivatu, 610–910 m, 9.IX.1938, beating shrubbery, Zimmerman; 2, Vunidawa, 2.V.1941, Krauss.

BPBM paratype to BMNH.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Differs from rather closely related *lubricata*, n. sp. and *obtusicollis* Gressitt [Viti Levu] by having postbasal transverse depression of elytron shallow and gradual instead of rather deep, and by distinctive dorsal coloration (see key).

PLANT ASSOCIATES. None reported.

Manobia zimmermani Samuelson, new species Fig. 15d, 28m.

Holotype ♂. Form rather robust; prothorax somewhat narrower than elytral breadth. Dorsum and venter largely red-fuscous; frons fulvous; antenna with basal segments yellow-testaceous, remainder fulvous; legs largely orange-testaceous, metafemur pitchy brown. Length 1.95 mm; breadth 1.1.

Head: frons carinate above, surface ± smooth; interantennal space rather flat between raised margins of antennal sockets, breadth about 1.15 × as broad as transverse diameter of antennal socket; orbit 0.85 × as broad as antennal socket; interocular index 113; gena 0.45 × as deep as eye; postantennal swellings subquadrate, slightly raised, smooth, separated medially by fine line and delimited from vertex by transverse line; vertex smooth, shining. *Antenna* extending to about middle of elytron; apical segments turgid but longer than broad. *Prothorax* broadest slightly behind anterior angles, thence slightly narrowed to prebasal constriction; prothoracic-humeral index 72; pronotal index 75; anterior angle oblique; side gently convex, narrowed toward base; base bisinuate, median lobe moderately produced; disc closely punctate, punctures small and deep, mostly ± 1 × as large as interspaces; ante-basal impression obsolescent; ante-basal area confusedly punctate, punctures slightly larger than discal ones and mostly 1–2 × as large as interspaces; interspaces ± smooth. *Elytron* 2.75 × as long as broad, broadest near basal 2/5; epipleuron ending preapically, surface ± smooth, bearing a row of small punctures along inner margin; humerus moderately produced; base rather briefly swollen, punctate; postbasal depression moderately deep; interstices 4 + 6 anastomosed postbasally; central discal punctures mostly 0.6–1 × as large as interstices and 1.5–2 × as large as transverse interspaces; puncture rows continued to preapex; interstices smooth, slightly swollen. *Ventral surfaces* ± smooth; abdomen submoderately punctulate. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 30: 27: 18; basitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* about 5.4 × as long as breadth near middle, see figure.

Allotype ♀. Similar to ♂. *Spermatheca* as figured. Length 2.1 mm; breadth 1.2.

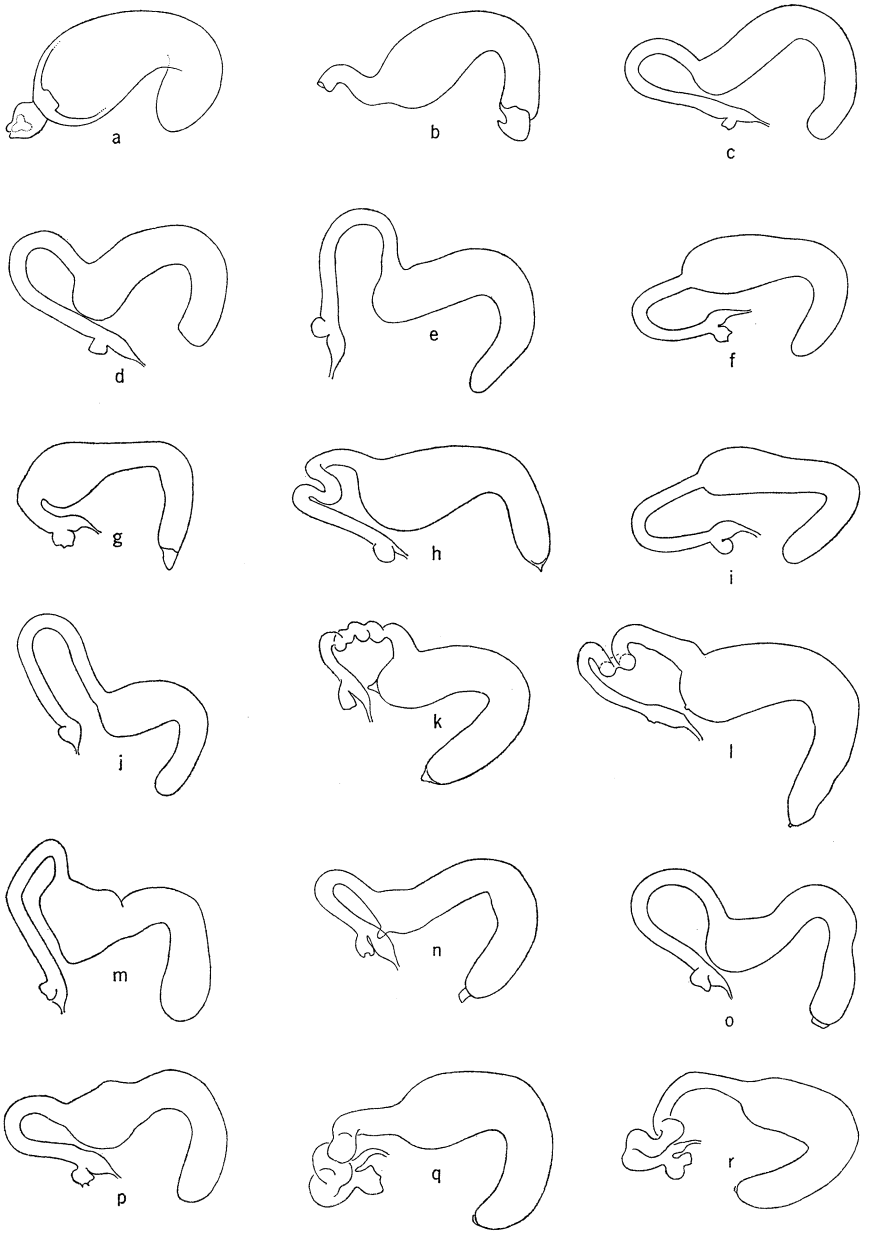

Fig. 26. Spermatheca, lateral view; length of body in cmm: a, *Licyllus bouqueti*, 36 cmm; b, *Trachyaphthona boja*, 18 cmm; c, *T. nana*, 12 cmm; d, *T. lifuana*, 12 cmm; e, *T. atra*, 12 cmm; f, *T. brunnea*, 21 cmm; g, *T. chandleri*, 13 cmm; h, *T. vitiensis*, 17 cmm; i, *T. lauensis*, 16 cmm; j, *T. nigra*, 12 cmm; k, *Linaltica simmondsi*, 20 cmm; l, *L. amicitia*, 19 cmm; m, *Trachytetra rugulosa*, 21 cmm; n, *T. robusta*, 24 cmm; o, *Pleuraltica cyanea*, 23 cmm; p, *P. tyche*, 17 cmm; q, *Altica corusca*, 33 cmm; r, *A. jussiaeae*, 26 cmm.

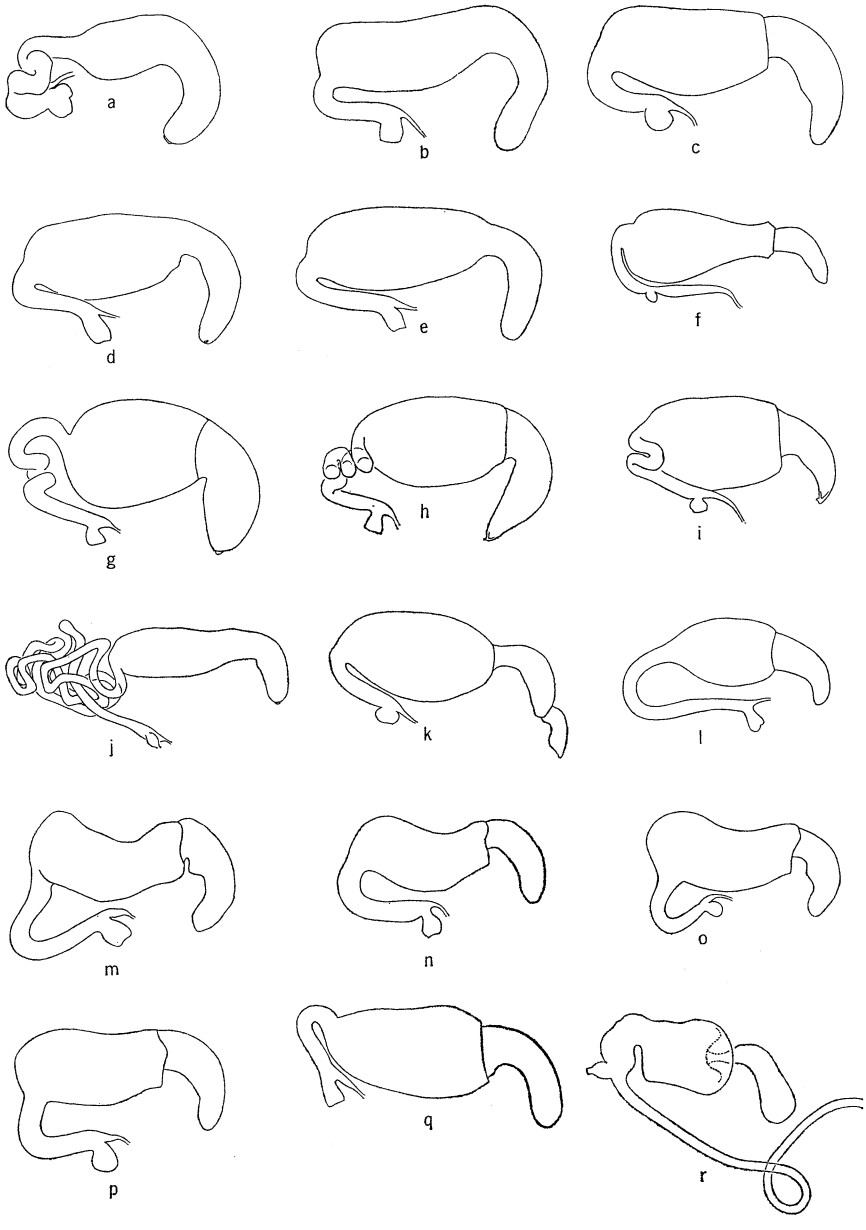

Fig. 27. Spermatheca, lateral view; length of body in cmm: a, *Altica oleracea*, 30 cmm; b, *Aphthona bicolorata*, 23 cmm; c, *A. formosana*, 24 cmm; d, *A. v. veitchi*, 17 cmm; e, *A. veitchi nanyoensis*, 18 cmm; f, *Phyllotreta undulata*, 27 cmm; g, *Longitarsus bimaculatus*, 22 cmm; h, *L. panope*, 30 cmm; i, *L. fuliginosus*, 29 cmm; j, *Mniophila exulans*, 26 cmm; k, *Sphaeroderma wedeliae*, 37 cmm; l, *Schenklingia esakii*, 31 cmm; m, *Argopistes coccinelliformis*, 36 cmm; n, *A. kraussi*, 33 cmm; o, *A. arnetti*, 37 cmm; p, *A. insularis*, 32 cmm; q, *Febra venusta*, 40 cmm; r, *F. ovata*, 29 cmm.

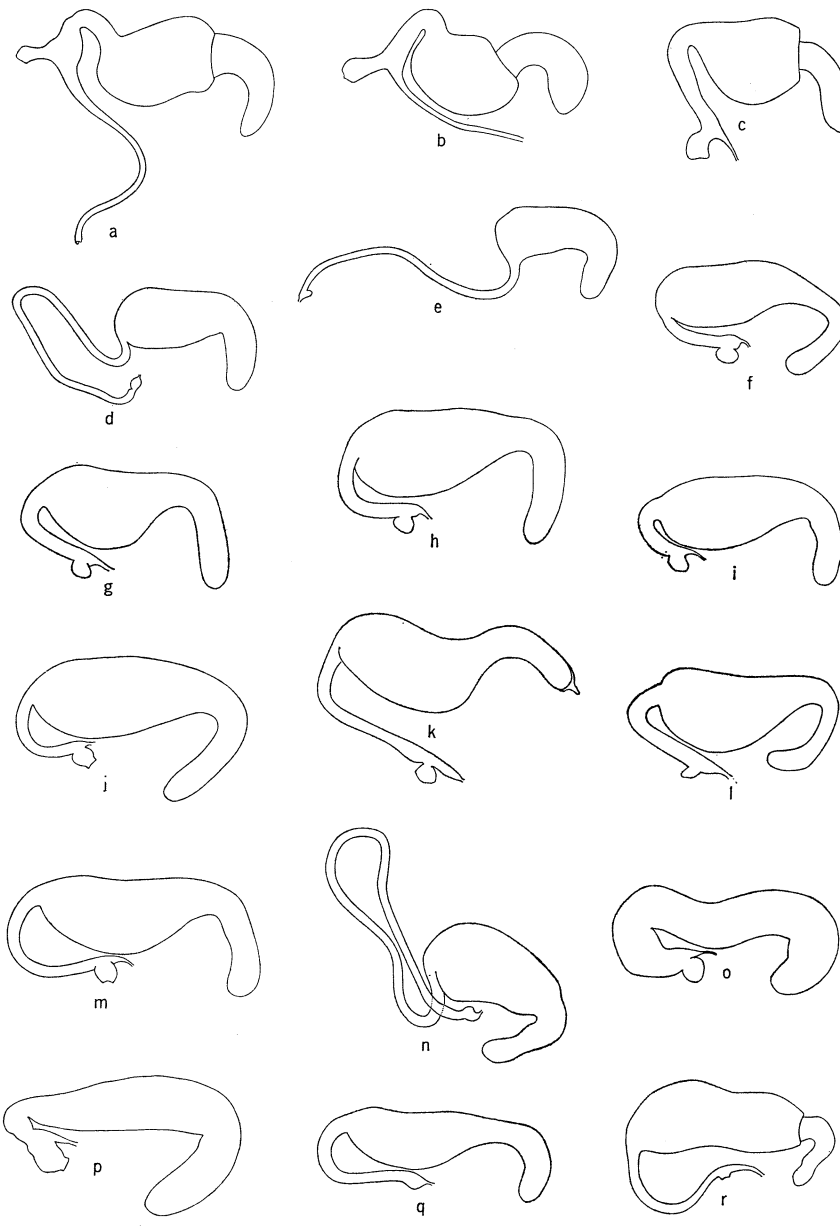

Fig. 28. Spermatheca, lateral view; length of body in cmm: a, *Febra insularis*, 33 cmm; b, *F. rubra*, 33 cmm; c, *F. n. nigroornata*, 20 cmm; d, *Manobia fuscitarsis*, 36 cmm; e, *M. instabilis*, 20 cmm; f, *M. costata*, 20 cmm; g, *M. levicollis*, 20 cmm; h, *M. lubricata*, 23 cmm; i, *M. metallica*, 20 cmm; j, *M. obsolapicalis*, 25 cmm; k, *M. thompsoni*, 25 cmm; l, *M. victoriae*, 21 cmm; m, *M. zimmermani*, 24 cmm; n, *Goweria obscura*, 25 cmm; o, *Alema paradoxa*, 43 cmm; p, *A. spatiosa*, 42 cmm; q, *Analema nigra*, 20 cmm; r, *Epitrix cucumeris*, 25 cmm.

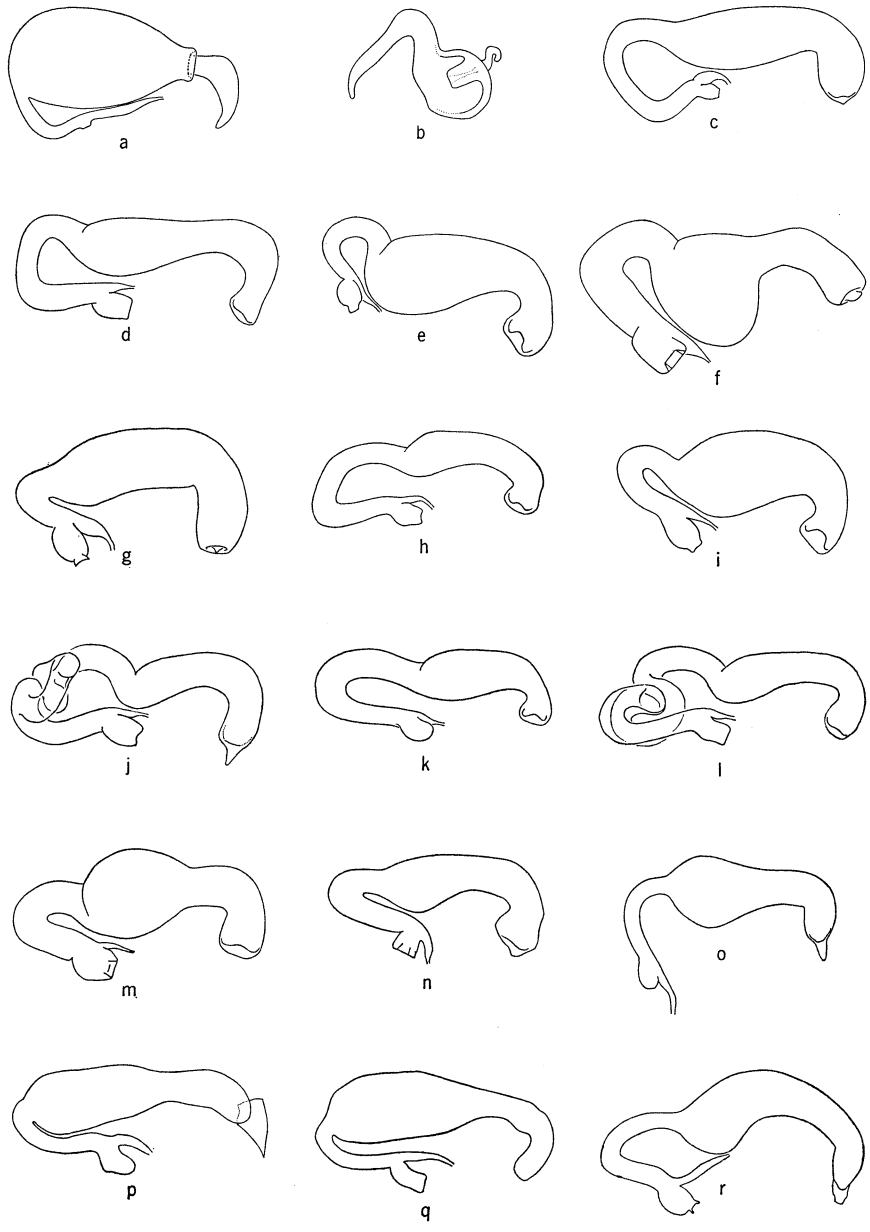

Fig. 29. Spermatheca, lateral view; length of body in cmm: a, *Epitrix hirtipennis*, 24 cmm; b, *Livolia carolina*, 10 cmm; c, *Crepidodera coeruleoviolacea*, 26 cmm; d, *C. erromangana*, 18 cmm; e, *C. elongata*, 22 cmm; f, *C. evansi*, 18 cmm; g, *C. gressitti*, 18 cmm; h, *C. infuscata*, 14 cmm; i, *C. kraussi*, 17 cmm; j, *C. lami*, 12 cmm; k, *C. oceania*, 14 cmm; l, *C. ovalauensis*, 15 cmm; m, *C. parafijiensis*, 14 cmm; n, *C. rotunda*, 15 cmm; o, *Arsipoda evax*, 13 cmm; p, *A. isola*, 24 cmm; q, *A. shirleyae*, 17 cmm; r, *A. yiambiae*, 16 cmm.

VARIATION (n = 8). LENGTH 1.75–2.1 mm, mean 1.95; BREADTH 1.0–1.2 mm; HEAD BREADTH 47–55 cmm; INTEROCULAR SPACE 23–26 cmm; EYE 20–22 cmm; INTEROCULAR INDEX 109–125, mean 116; PRONOTAL LENGTH 49–58 cmm; PRONOTAL BREADTH 63–74 cmm; PRONOTAL INDEX 75–79, mean 77; PROTHORACIC-HUMERAL INDEX 69–72, mean 71; ELYTRAL LENGTH 133–159 cmm. [4 ♂♂, 4 ♀♀]

TYPE SERIES (n = 8). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9822), Nandarivatu, 1130 m, 10.IX.1938, beating shrubbery, E. C. Zimmerman; allotype ♀ (BPBM), same loc., 910–1130 m, 3.IX.1938, beating, Zimmerman; paratopotypes (BPBM) as follows: 1, same data as holotype;

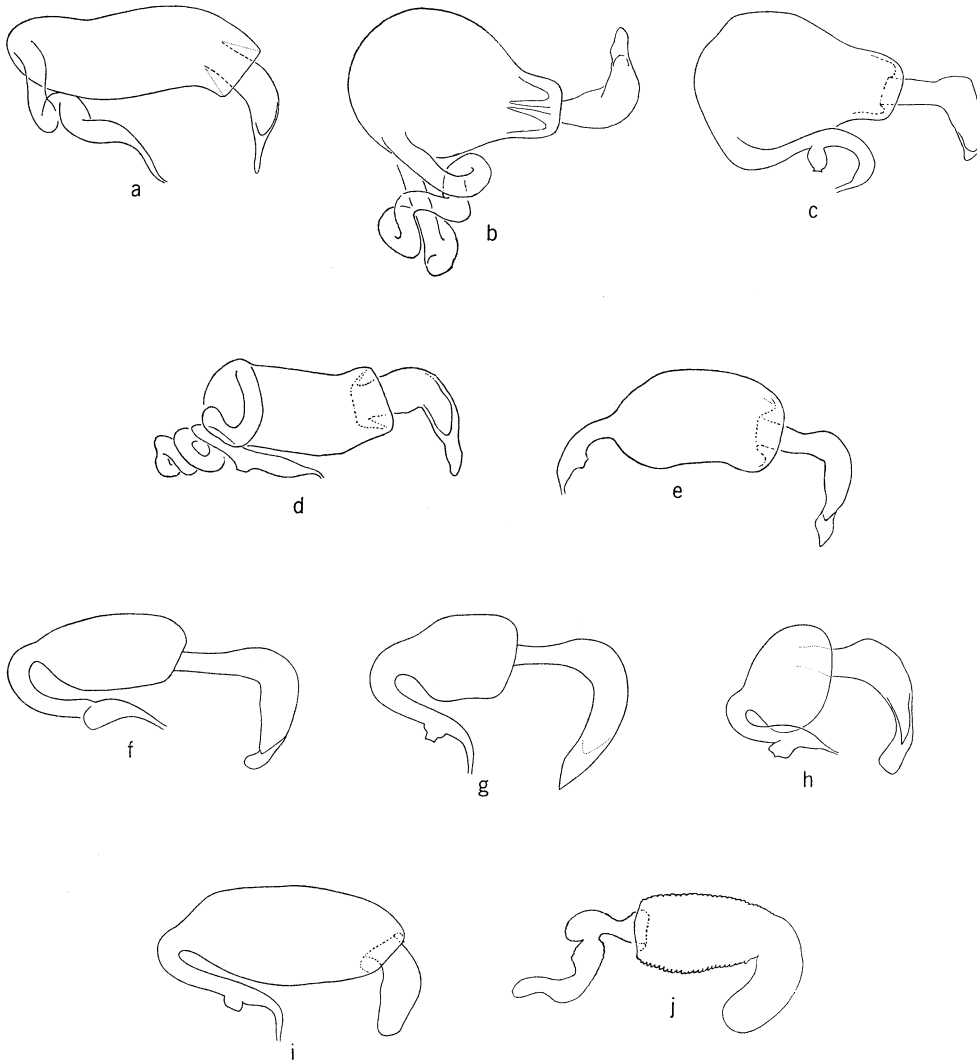

Fig. 30. Spermatheca, lateral view; length of body in cmm: a, *Chaetocnema paspalae*, 39 cmm; b, *C. allardi*, 25 cmm; c, *C. arsipodoides*, 22 cmm; d, *C. basalis*, 24 cmm; e, *C. littoralis*, — cmm; f, *C. moriori*, 15 cmm; g, *C. nitida*, 16 cmm; h, *C. nitida*, 10 cmm; i, *Psylliodes brettinghami*, 28 cmm; j, *Nonarthra cyaneum*, 22 cmm.

1, same loc., 2.IX.1938, beating, Zimmerman; 1, same loc., 1100 m, 6.IX.1938, beating shrubbery, Zimmerman; paratypes (BPBM) as follows: 1, ridge W of Vatuthere, Nandarivatu, 790–910 m, 8.IX.1938, beating, Zimmerman; 1, Lami Quarry nr Suva, 3–75 m, 24.VII.1938, beating shrubs, Zimmerman; 1, Lami, IV.1951, Krauss.

BPBM paratype to BMNH.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Allied to *obsolapicalis*, n. sp. [Viti Levu] because of similar facies; see that species for comments; differs from *obtusicollis* Gressitt [Viti Levu] by having higher interocular index: 109–125 instead of around 104, aedeagus dilated beyond middle instead of rather straight-sided. One of 2 specimens (♂) tentatively assigned to *obtusicollis* by Gressitt in the original description of that species is now included with this species. Named for Dr E. C. Zimmerman, collector of much of the Fijian material treated in this revision.

PLANT ASSOCIATES. None reported.

Genus **Goweria** Lea

Goweria Lea, 1926, *Trans. R. Soc. S. Australia* **50:** 82 (type: *G. obscura* Lea; Lord Howe Island—monobasic).

DIAGNOSIS. Small, subovate alticines with elytra somewhat prolonged apically. Interantennal space distinctly broader than antennal socket; postantennal swellings oblique-triangular, not contiguous, lower apices somewhat extended into interantennal space, delimited from vertex by oblique groove; antenna 11-segmented, attaining elytral disc, apical segments thickened; pronotum lacking ante-basal impression; elytral puncturation seriate; procoxa globose; procoxal cavity open; metatibia rather slender, briefly flattened before apex, otherwise convex on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀; all basitarsi more robust in ♂.

REMARKS. Possibly allied to *Manobia* Jacoby [Old World tropics, SW Pacific] by similar facies of head and slender metatibia, but not so similar in general facies, because pronotum lacks ante-basal impression and elytron is rather evenly convex instead of distinctly swollen basally.

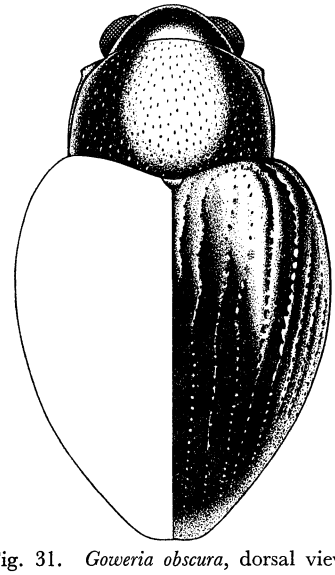

Fig. 31. *Goweria obscura*, dorsal view.

DISTRIBUTION. Lord Howe Island. Endemic.

Goweria obscura Lea Fig. 15e, 28n, 31.

Goweria obscura Lea, 1926, *Trans. R. Soc. S. Australia* **50:** 82 (Lord Howe I.—type in SAMC).

♂ (paratopotype). Form subelongate; rather strongly convex at side along the middle and gradually narrowed apically, producing a rather elongate cordiform appearance to the elytra. Dorsum unevenly orange-fuscous: margins and parts of disc of prothorax obscurely dark fuscous; scutellum, elytral punctures and sutural margins dark fuscous; antenna with segments 1–3 yellow testaceous, 4–5 fuscescent, remainder fuscous; venter largely orange-fuscous; legs largely yellow- to orange-testaceous, metafemur darkest. Length 2.25 mm; breadth 1.25.

Head: frons convex along anterior margin, carinate medially, becoming more broadly swollen above, surface subalutaceous; interantennal space convex, about 1.3 × as broad as transverse diameter of antennal socket; orbit 0.85 × as broad as antennal socket; interocular index 153; gena 0.75 × as deep as eye; postantennal swellings oblique-triangular, moderately swollen, smooth, separated medially by upper extremity of frons and delimited from vertex by deep oblique groove; vertex evenly convex, surface rather smooth. *Antenna* attaining middle of elytron; apical segments turgid, much thicker than intermediate ones. *Prothorax* broadest at posterior angles, base somewhat narrower than elytra at humeral angles; pronotal index 75; anterior angle oblique, slightly convex; side feebly convex; base convex; disc bearing rather small deep punctures, mostly 1 × as large as interspaces, interspaces shining. *Elytron* 2.7 × as long as broad, broadest at basal 1/3, side rather strongly convex along middle but more gradually narrowed apically, apical angle nearly square; epipleuron subhorizontal and continued nearly to apex, surface largely smooth, finely punctulate along internal margin; elytral puncture rows 6 + 7 anastomosed anteriorly near basal 1/5; central discal punctures mostly 0.7–1 × as large as interstices and 2–3 × as large as transverse interspaces; interstices feebly swollen basally and laterally, surfaces rather smooth and often bearing a longitudinal series of micropunctures. *Ventral surfaces* moderately punctate. *Legs:* metafemur 2.2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 58: 51: 35; basitarsus not quite as long as remainder. *Wing* reduced, length 1.2 mm; breadth 0.4. *Aedeagus* 6.3 × as long as breadth near middle, see figure.

♀ (paratopotype). Similar to ♂, but large areas of prothoracic and elytral discs deeply infuscated. *Spermatheca* as figured. Length 2.35 mm; breadth 1.35.

VARIATION (n = 7). LENGTH 1.9–2.65 mm, mean 2.25; BREADTH 1.2–1.45 mm; HEAD BREADTH 55–65 cmm; INTERANTENNAL SPACE 10–12 cmm; INTEROCULAR SPACE 32–36 cmm; EYE 21–22 cmm; INTEROCULAR INDEX 146–162, mean 155; PRONOTAL LENGTH 58–72 cmm; PRONOTAL BREADTH 80–102 cmm; PRONOTAL INDEX 70–75; ELYTRAL LENGTH 140–192 cmm. [3 ♂♂, 4 ♀♀]

Dorsal coloration variable: rufotestaceous to dark castaneous with elytral punctures and indefinite transverse band across middle of pronotum darkest (holotype, 3 paratopotypes); nearly completely black (1 paratopotype, not seen); entirely yellow-testaceous (1 paratype); as preceding, but elytron slightly infuscated (1 paratype); orange-testaceous with fuscous pronotal transverse band and dark fuscous posthumeral discal area on elytron (1 paratype). The 3 last-mentioned specimens were collected at a lower elevation and they are generally smaller and paler than those collected from the summit of Mt Gower. All appear to be conspecific because of similar form of the spermatheca and general body proportions.

MATERIAL EXAMINED (n = 7). LORD HOWE ISLAND: 4 (holotype, 3 paratopotypes), summit of Mt Gower, Lea & Lea (SAMC); 3 (paratypes), at lower elevation, Lea (SAMC). I am indebted to Dr F. Gross, Senior Curator of Invertebrates, SAMC for the privilege of studying the bulk of the type series of this species.

DISTRIBUTION. Lord Howe Island. Endemic.

REMARKS. No close relatives. Thus far, I have not seen material from Australia, New Guinea, or elsewhere that could be assigned to this genus.

PLANT ASSOCIATES. None reported.

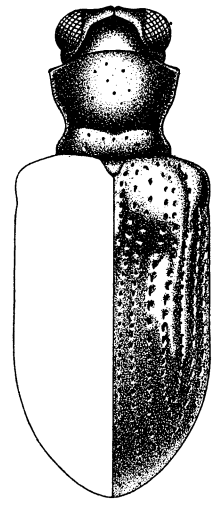

Fig. 32. *Alema paradoxa*, dorsal view.

Genus **Alema** Sharp

Alema Sharp, 1876, *Ent. Mon. Mag.* **13:** 98 (type: *A. paradoxa* Sharp; New Zealand—monobasic).—Broun, 1880, Man. New Zealand Col., part 1, 619.—Shaw, 1957, *Ann. Mag. Nat. Hist.* ser 12, **10:** 561.—Samuelson, 1967, *Pacific Ins.* **9**(1): 140 (key).

DIAGNOSIS. Small to moderate-sized alticines of elongate, parallel-sided form with prothorax much narrower than elytra. Interantennal space ± as broad as diameter of antennal socket; postantennal swellings subquadrate-oblique; antenna 11-segmented, attaining elytral preapex, apical segments slightly swollen; prothorax elongate, not quite as long as broad, constricted prebasally, ante-basal impression reaching side at prebasal constriction; elytral puncturation seriate; procoxa globose; procoxal cavity closed; metatibia with retrotarsal surface convex, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: antenna longer in ♂; apex of last abdominal sternum notched submedially in ♂, entire in ♀; pro- and mesobasitarsus more robust in ♂.

REMARKS. Possible affinities with *Manobia* Jacoby [Africa, S & E Asia, Indonesia, New Guinea and S Pacific] even though procoxal cavity is closed, because of similar facies of head, constricted prothorax, elongate first abdominal sternum, and slender tibiae; form similar to *Lipromela* Chen [Japan, Ryukyus] but differs from same by having procoxa globular instead of subconical, procoxal cavity closed instead of open.

DISTRIBUTION. New Zealand. Recognized here are 2 endemic species.

Key to species of Alema

Prothorax with lateral margin distinct [dorsum yellow- to orange-testaceous; elytron usually with fuscous dark areas postbasally and discally, sutural margin sometimes dark; length 2.1–2.85 mm—New Zealand] ..... **paradoxa**

Prothorax with lateral margin obsolete [dorsum yellow- to orange-testaceous; elytron fuscescent discally, sutural margin pale; length 3.7–4.3 mm—New Zealand] ..... **spatiosa**

Alema paradoxa Sharp Fig. 15f, 28o, 32.

Alema paradoxa Sharp, 1876, *Ent. Mon. Mag.* **13:** 98 (New Zealand: Auckland, Tairua—type in BMNH).—

Broun, 1880, Man. New Zealand Col., part 1, 620.—Shaw, 1957, *Ann. Mag. Nat. Hist.* ser 12, **10:** 564, 566 (key), fig. 2–3, 5 (Auckland). Broun number 1087.

Alema puncticolle Broun, 1880, Man. New Zealand Col., part 1, 620 (New Zealand: Parua, Whangarei Harbour—type in BMNH).—Shaw, 1957, *Ann. Mag. Nat. Hist.* ser 12, **10:** 564, 566 (key), fig. 6 (Auckland) [as *puncticollis* Broun]. Broun number 1088. **New Synonym.**

Lectotype ♂. Form elongate; ± parallel-sided; prothorax much narrower than elytra. Body surfaces and appendages largely orange-testaceous. Length 2.5 mm; breadth 1.0.

Head: frons transversely concave, surface smooth; interantennal space feebly convex between raised margins of antennal sockets; about 1 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 115; gena 0.6 × as deep as eye; postantennal swellings subrectangular, slightly raised and separated medially by a distinct groove and delimited from vertex by rather deep oblique line; vertex subevenly convex, surface subalutaceous. *Antenna* extending to beyond middle of elytron; intermediate segments very gradually thickened toward apices; apical 4 segments slightly swollen. *Prothorax* broadest at anterior angles, rather strongly constricted prebasally, basal breadth much narrower than elytra at humeral angles; prothoracic-humeral index 53; pronotal index 93; anterior angle short, oblique; side sinuate with anterior portion convexly narrowed to concave area behind middle, thence slightly broadened near base; base weakly convex; disc alutaceous and bearing rather deep punctures, mostly 0.5–1 × as large an interspaces; ante-basal impression sinuate and ± deep, largely impunctate; prebasal area bearing a few large punctures. *Elytron* 3.5 × as long as broad, broadest slightly behind middle, side feebly convex along middle; epipleuron continued nearly to apex, surface slightly swollen and bearing a row of punctures internally; basal discal area broadly swollen, postbasal area broadly and transversely depressed; central discal punctures mostly 1.5–2 × as large as interstices and 2–3 × as large as transverse interspaces; interstices generally well-raised, shining. *Ventral surfaces* largely smooth; abdomen sparsely punctate. *Legs:* metafemur 2.6 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 37: 35: 23; basitarsus slightly shorter than remainder. *Wing* fully developed. *Aedeagus* 4.1 × as long as breadth at middle; apex slightly more obtuse than that of figure of different specimen (Waitakere Range).

Allolectotype ♀. Similar to ♂. Largely orange-testaceous with scutellum and area on posterior part of elytral disc fuscescent. *Spermatheca* illustrated from a different specimen (Mangamuka Hills). Length 2.5 mm; breadth 1.0.

VARIATION (n = 20). LENGTH 2.1–2.85 mm, mean 2.5; BREADTH 0.95–1.25 mm; HEAD BREADTH 47–59 cmm; INTEROCULAR SPACE 22–33 cmm; EYE 20–27 cmm; INTEROCULAR INDEX 114–131, mean 121; PRONOTAL LENGTH 44–57 cmm; PRONOTAL BREADTH 54–64 cmm; PRONOTAL INDEX 82–96, mean 89; ELYTRAL LENGTH 164–211 cmm. [11 ♂♂, 7 ♀♀, 3 U]

Dorsum largely yellow- to orange-testaceous; elytron variously darkened with fuscous; commonly fuscescent postbasally and discally, sometimes completely darkened internally with pale restricted to side and apex, sometimes entirely pale.

MATERIAL EXAMINED (n = 87). NEW ZEALAND: Lectotype ♂ (BMNH), Sharp Coll.; allolectotype ♀ (BMNH), Sharp Coll.; 3 paralectotypes, Sharp Coll. (BMNH); 6, Broun Coll. (PPDC); 7, Broun-, Brookes Coll (DSIR); 3, Edwards Coll. (AMNH); 3, Brookes Coll. (DSIR); *Auckland:* 1, Mangamuka, 6.I.1927, Clarke Coll. (AUMC); 4, Mangamuka Hills, forest summit, 382 m, 19.XI.1966, Wise (AUMC); 1, same loc., forest N side, 300 m, 19.XI.1966, Wise (AUMC); 1, Waimatenue, Clarke Coll. (AUMC); 1, Waipoua State Forest, Northland, 18.X.1967, at light, Dugdale (DSIR); 3, Waipu, I.14, Brookes Coll. (DSIR); 1, Auckland, Broun-, Fry Coll. (BMNH); 1, Auckland (BMNH); 2, Auckland, 1902, part of series 398 (a–b), Hudson Coll. (DOMM); 2, Grafton Gully, Auckland, 19.II.1951, Spiller (PPDC); 1, same loc., 8.IX.1951, Spiller (PPDC); 8, Scenic Drive, Auckland, 18.VIII.1951, Spiller (PPDC); 2, Waitakere Scenic Drive, 22.II.1955, Smith (PPDC); 5, Waitakere Drive, 2.XI.1947, Brookes, Brookes Coll. (DSIR); 1, Waitakere, 3.VI.1915, Brookes Coll. (DSIR); 1, same loc., Clarke Coll. (AUMC); 1, Henderson Vall., 30.XI.1958, Wise (AUMC); 1, Titirangi, 26.XII.1914, Brookes Coll. (DSIR); 1, same loc.,

1.II.1947, Pritchard (PPDC); 6, Waitakere Range, VI.1951, Spiller (PPDC); 1, Waitakeres, Swanson, Cascade Track, 14.II.1960, May (PPDC); 2, Hunua Gorge, Clarke Coll. (AUMC); 1, same loc., 23.I.1927, Richardson, Clarke Coll. (AUMC); 2, Hunua, forest above Cosseys Ck. dam, 1.X.1967, Wise (AUMC); 1, Coromandel Penn., S side Te Anaputa Pt., 10.XII.1966, Wise (AUMC); 1, Coromandel, Clarke Coll. (AUMC); 1, Kauaeranga State Forest, 22.X.1967, forest, Dugdale (DSIR); 2, Mt Te Aroha, summit, 944 m, 7.X.1966, Wise (AUMC); 1, E of Lake Rotoma, 5.X.1966, forest, Wise (AUMC); *Wellington:* 5, Wellington, Gollans Vall., 1923, 1925, part of series 398 (c–g), Hudson Coll. (DOMM); Otago: 2, Otago, Fall.1882 (BPBM).

No individual specimen was singled out as the type in the original description and no indication was given in the same of the size of the type series. The syntype series appears to comprise at least 5 specimens, labelled as being from the Sharp Collection (all in BMNH). It is important to note that none of these specimens has locality data any more specific than "N. Zeal'd." and thus it does not seem possible to correlate the two localities of the type series, Auckland and Tairua, with individual syntypes. The specimen indicated as "♂ Type" on the card-mount is a ♀ and it is selected here as allolectotype (this specimen also bears a separate BMNH holotype label, circular with red border). The lectotype, by present designation, is a ♂ and has written on its card-mount, "Ind. typ." together with the same of the species, gross locality, and Sharp's initials.

DISTRIBUTION. New Zealand (North Island, South Island). Endemic.

REMARKS. Allied to *spatiosa* Broun [New Zealand] because of similar facies; differs from same by smaller size, swollen elytral interstices (see key); further differs by having prothorax broadest at anterior angles instead of preapically; pronotal index commonly around 90 instead of 85.

PLANT ASSOCIATES. *Cyathea dealbata* (Forst.) Sw.: Tairua, as reported in original description (Sharp, 1876: 99).

Alema spatiosa Broun Fig. 15g, 28p.

Alema spatiosa Broun, 1880, Man. New Zealand Col., part 1, 621 (New Zealand: Parua, Whangarei Harbour—type in BMNH).—Shaw, 1957, *Ann. Mag. Nat. Hist.* ser 12, **10:** 565, 566 (key), fig. 1, 4, 7. Broun number 1089.

Lectotype ♂. Form ± elongate; prothorax much narrower than elytra, side of elytron feebly broadened apically. Body surfaces and appendages yellow- to brown-testaceous, with vertex, most of pronotum anterior of base, scutellum, and longitudinal area of elytron from humerus to preapex darkest (contrast not greatly pronounced in this specimen). Length 4.2 mm; breadth 1.8.

Head: frons briefly swollen medially, side depressed, surface subgranulate; interantennal space convex between raised margins of antennal sockets, about 0.55 × as broad as transverse diameter of antennal socket; orbit 0.45 × as broad as antennal socket; interocular index 110; gena 0.65 × as deep as eye; postantennal swellings oblique, slightly swollen, separated medially and delimited from vertex by distinct grooves; vertex shallowly convex, surface subalutaceous, shining. *Antenna* extending to beyond middle of elytron; intermediate and apical segments ± cylindrical, slightly thickened toward apices. *Prothorax* broadest near apical 1/3, feebly constricted prebasally, with prothoracic-humeral index 55; pronotal index 84; anterior angle short, obtuse, nearly continuous with anterior margin; side lacking distinct margin, outline sinuate, with greatest convexity before middle; base convex, feebly sinuate across middle; disc shining, bearing small punctures commonly 0.5 × as large as interspaces; ante-basal impression broad, fairly deep, mostly impunctate. *Elytron* 3.5 × as long as broad, broadest slightly behind middle, side feebly convex along middle; epipleuron continued nearly to apex, surface rather smooth, punctulate along internal margin; humerus briefly produced; disc feebly impressed postbasally; central discal punctures mostly 1 × as large as interstices and 1.5 × as large as transverse interspaces; interstices flat to feebly swollen. *Ventral surfaces* largely subgranulate; abdomen sparsely punctate. *Legs:* metafemur 3.1 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 66: 60: 42; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* about 4 ×

as long as breadth at middle; compares with specimen figured (Wellington).

Allolectotype ♀. Similar to ♂. *Spermatheca* of different specimen (Coromandel) figured. Length 4.0 mm; breadth 1.8.

VARIATION (n = 9). LENGTH 3.6–4.3 mm, mean 3.95; BREADTH 1.6–1.9 mm; HEAD BREADTH 76–86 cmm; INTEROCULAR SPACE 37–45 cmm; EYE 31–38 cmm; INTEROCULAR INDEX 108–124, mean 119; PRONOTAL LENGTH 72–84 cmm; PRONOTAL BREADTH 88–99 cmm; PRONOTAL INDEX 80–89, mean 84; ELYTRAL LENGTH 281–315 cmm. [3 ♂♂, 6 ♀♀]

Dorsum largely yellow- to brown-testaceous; fuscescent discal area of elytron narrowed posthumerally, thence broadened near middle in specimens examined. Contrast in dorsal coloration variable, with pale and dark areas well to poorly delimited in different specimens.

MATERIAL EXAMINED (n = 14). NEW ZEALAND: *Auckland:* Lectotype ♂ (BMNH), Parua, Broun Coll.; allolectotype ♀ (BMNH), same data as lectotype; 1, without locality, Broun Coll., same BMNH accession number as preceding (BMNH); 1, Mangamuka Mts, 9.I.1927, Clarke Coll. (BMNH); 1, Coromandel, Clarke Coll. (AUMC): 4, Kaimai Range, Matamata, Waikato, 18.I.1931, Brookes, Brookes Coll. (DSIR); *Taranaki:* 2, Mt Egmont, Broun Coll. (DSIR, PPDC); *Wellington:* 1, Wellington, Clarke Coll. (AUMC); 1, Wellington, Gollans Vall., XI [or II].1923, G.V.H. [Hudson], Clarke Coll. (BMNH); without specific locality: 1, Nov. Zel., Broun-, Fry Coll. (BMNH).

None of the 6 or 7 specimens comprising the type series is indicated as type in the original description. The lectotype, by present designation, is a ♂, with machine printed labels: 1089 (Broun number, on green paper), Parua, BMNH accession number (1922–482), and a handwritten label with species name.

DISTRIBUTION. New Zealand (North Island). Endemic.

REMARKS. Allied to *paradoxa* Sharp [New Zealand]; differs from same by larger size and by having prothorax less constricted prebasally; see key and *paradoxa* for further differences.

PLANT ASSOCIATES. None reported.

GENUS **Analema** Samuelson, new genus

Alticinae. Form subelongate; prothorax narrowed toward base where breadth is much narrower than elytra at humeral angles. Interantennal space slightly narrower than transverse diameter of antennal socket; postantennal swellings subquadrate; antenna 11-segmented, extending to ± middle or preapex of elytron; prothorax elongate, not quite as long as broad, side distinctly margined, base bisinuate with median lobe well produced; ante-basal impression reaching side at prebasal constriction; epipleuron obtusely inflexed (not horizontal); elytral puncturation seriate; procoxa globose; procoxal cavity closed or nearly closed; tibiae slender; metatibia with retrotarsal surface convex, apical spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: antenna longer in ♂; apex of last abdominal sternum notched submedially in ♂, entire in ♀; pro- and mesobasitarsus more robust in ♂.

Type-species of genus: *Alema nigra* Bryant

Genus name derivation: *an-* (=not, from Greek) + *Alema* (an alticine genus).

REMARKS. Allied to *Alema* Sharp [New Zealand] and *Manobia* Jacoby [Africa, S & E Asia, Pacific islands] because of similar facies including slender tibiae; differs from the former by having pronotal base sinuate with pronounced median lobe instead of weakly convex without median lobe and pronotal side with margin well developed instead of fine or absent; from the latter by having procoxal cavity closed or nearly closed instead of more broadly open.

The new genus, aside from the condition of the procoxal cavity, is not well-delimited from *Manobia* Jacoby, possibly its closest ally.

DISTRIBUTION. Fiji.

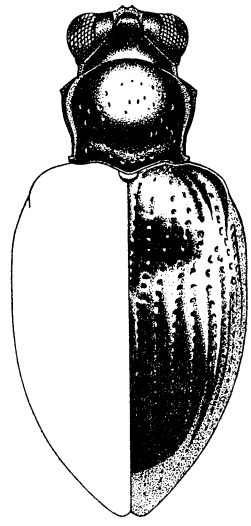

Fig. 33. *Analema nigra*, dorsal view.

KEY TO SPECIES OF ANALEMA

Aedeagus with apex truncate; pronotal disc usually with some punctures 1 × or more as large as interspaces; elytral interstices slightly swollen [dorsum red-fuscous to piceous; length 1.65–2.25 mm—Fiji: Viti Levu, Ovalau]..... **nigra**

Aedeagus with apex emarginate; pronotal disc with punctures much smaller than interspaces; elytral interstices moderately swollen [dorsum dark red-fuscous; length 2.2 mm—Fiji: Taveuni]..... **leveri**

Analema nigra (Bryant), new combination Fig. 15h, 28q, 33.

Alema nigra Bryant, 1938, *Proc. R. Ent. Soc. London* ser B, **7:** 252 (Fiji: Viti Levu—type in BMNH).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 81 (+key).

Manobia producticollis Gressitt, 1957, *Pacific Sci.* **11:** 82 (key), 83 (Fiji: Viti Levu—type in BPBM). **New Synonym.**

♂ (holotype). Form subelongate; prothorax narrow relative to basal breadth of elytra. Dorsum and vertex piceous; frons pitchy brown; antenna orange-testaceous, apical segments darkened; ventral surfaces dark fuscous to piceous; legs orange-testaceous. Length 2.05 mm; breadth 1.0.

Head: frons finely carinate medially, surface alutaceous; interantennal space concave, about 0.65 × as broad as transverse diameter of antennal socket; orbit 0.65 × as broad as antennal socket; interocular index 96; gena 0.5 × as deep as eye; postantennal swellings subquadrate, moderately swollen, separated medially by fine impressed line and delimited from vertex by transverse line; vertex ± smooth, bearing a few small punctures at side. *Antenna* incomplete. *Prothorax* broadest just behind anterior angles, narrowed posteriorly to prebasal constriction; prothoracic-humeral index 62; pronotal index 86; anterior angle short, oblique-convex; side sinuate; base bisinuate, median lobe moderately produced; discal punctures rather deep and close, not of uniform size, mostly 1–2 × as large as interspaces; ante-basal impression ± deep, bearing punctures larger than discal ones, punctures mostly 3 × as large as interspaces. *Elytron* 3.3 × as long as broad, broadest behind middle, side gently convex along middle; epipleuron continued to preapex, surface ± smooth; humerus moderately produced; basal disc slightly swollen, thence gently depressed postbasally; interstices 4 + 6 anastomosed postbasally; central discal punctures mostly 0.7–1 × as large as interstices and 2–3 × as large transverse interspaces; interstices slightly swollen. *Ventral surfaces:* metasternum ± alutaceous, sparsely punctulate; abdomen largely alutaceous, last sternum granulate, surface submoderately

punctulate. *Legs:* metafemur 2.5 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 35: 32: 21; basitarsus nearly as long as remainder. *Wing* fully developed. *Aedeagus* about 7.4 × as long as breadth at middle, see figure.

♀ (Lami). Similar to ♂. *Spermatheca* as figured. Length 1.85 mm; breadth 0.9.

VARIATION (n = 35). LENGTH 1.65–2.25 mm, mean 1.95; BREADTH 0.85–1.15 mm; HEAD BREADTH 43–52 cmm; INTEROCULAR SPACE 18–23 cmm; EYE 20–25 cmm; INTEROCULAR INDEX 75–104, mean 88; PRONOTAL LENGTH 43–55 cmm; PRONOTAL BREADTH 51–64 cmm; PRONOTAL INDEX 77–93, mean 86; PROTHORACIC-HUMERAL INDEX 58–65, mean 62; ELYTRAL LENGTH 121–178 cmm. [15 ♂♂, 11 ♀♀, 9 U]

Pronotal disc commonly with some punctures around 1 × as large as interspaces, but occasional specimens with punctures predominantly larger or smaller than above. Dorsum orange-fulvous to black, usually the latter; legs red-fulvous to flavous.

MATERIAL EXAMINED (n = 67). FIJI: *Viti Levu:* 1 (holotype of *nigra*), Lautoka Mtns, 23.X.1921, Greenwood (BMNH); 13 (holotype, allotype, paratypes of *producticollis*), Lami Quarry nr Suva, V.1951, Krauss (BPBM); BPBM material: 2 (paratypes of *producticollis*), Lami, III.1951, Krauss; 7, same loc., IV.1951, Krauss; 4, same loc., V.1951, Krauss; 1, same loc., XI. 1957, Krauss; 2, Navai, IX.1950, Krauss; 1 (paratype of *producticollis*), same loc., III.1951, Krauss; 6, Navai-Nasonga Trail, W slope, 760–910 m, 12.IX.1948, beating, Zimmerman; 3, Nandarivatu, 1100 m, 6.IX.1938, beating shrubs, Zimmerman; 1, Mt Victoria, 910–1220 m, 10.IX.1938, Kondo; 2, same loc., 13.IX.1938, beating shrubs, Zimmerman; 2, Naqali, XI.1957, Krauss; 1, Vunidawa, 3.V.1941, Krauss; 1, Belt Road, 30 km W of Suva, 22.VII.1938, Zimmerman; 4, Belt Road, 33 km W of Suva, 23.VII.1938, Zimmerman; *Ovalau:* 16, Draiba Trail, 240–300 m, 8.VII.1938, sweeping grasses (part), beating, Zimmerman.

DISTRIBUTION. Fiji (Viti Levu, Ovalau). Endemic.

REMARKS. Allied to *leveri* (Bryant) [Fiji: Taveuni] because of similar facies; differs from same in aedeagal structure (see key, figures). The holotypes of *nigra* and *producticollis* are ♂♂ and are synonymized here without question; both have nearly identical facies, including aedeagus.

PLANT ASSOCIATES. Grasses (Zimmerman, labels).

Analema leveri (Bryant), new combination Fig. 15i.

Alema leveri Bryant, 1945, *Ann. Mag. Nat. Hist.* ser 11, **12:** 428, fig. 3 (Fiji: Taveuni—type in BMNH).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 81 (+key).

♂ (holotype). Form ± robust; prothorax narrow relative to elytral breadth. Body surfaces and legs largely dark red-fuscous; labrum and frons fulvous; antenna orange-fulvous. Length 2.2 mm; breadth 1.0.

Head: frons gently swollen anteriorly, becoming more narrowly swollen medially above, surface subalutaceous; interantennal space concave, about 0.7 × as broad as transverse diameter of antennal socket; orbit 0.7 × as broad as antennal socket; interocular index 96; gena 0.5 × as deep as eye; postantennal swellings ± subquadrate, surfaces swollen, separated by median line and delimited from vertex by transverse line; vertex convex, most strongly declived near orbit, surface ± smooth. *Antenna* not quite reaching apical 1/3 of elytron; intermediate segments ± slender, slightly thickened toward apices; apical 5 broader than preceding and more strongly thickened toward apices. *Prothorax* broadest near anterior angles, narrowest prebasally; prothoracic-humeral index 59; pronotal index 90; anterior angle oblique; side sinuate, narrowed toward prebasal constriction; base bisinuate, median lobe deeper than scutellum; disc ± alutaceous, vaguely punctulate, punctures mostly 0.2–0.5 × as large as interspaces; ante-basal impression well but ± gradually depressed, surface bearing coarse punctures larger than discal ones, punctures mostly 2–3 × as large as interspaces. *Elytron* 3.35 × as long as broad, broadest near middle, side gently convex along middle; epipleuron ending pre-apically, surface ± smooth; humerus moderately produced; basal disc moderately swollen, thence moderately depressed postbasally; interstices 4 + 6 anastomosed postbasally; central discal punctures mostly 0.7–1 × as large as interstices and 2–3 × as large as transverse interspaces; interstices moderately swollen. *Ventral*

surfaces: metasternum ± smooth, sparsely punctulate laterally; abdomen largely smooth but vaguely and transversely rugulose, moderately punctulate laterally, last sternum granulate. *Legs:* metafemur rather slender [dried to unnatural warped position]; relative lengths of metatibia, -tarsus are 34: 25; basitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* about 6.2 × as long as breadth at middle, see figure.

♀. Unknown.

VARIATION. Unique.

MATERIAL EXAMINED (n = 1). FIJI: *Taveuni:* 1 (holotype), Crater Lake, 12.III. 1945, R. A. Lever (BMNH).

DISTRIBUTION. Fiji (Taveuni). Endemic.

REMARKS. Closely related to *nigra* (Bryant) [Viti Levu, Ovalau] because of similar facies; see that species for comments.

PLANT ASSOCIATES. None reported.

Genus **Epitrix** Foudras

Epitrix Foudras, 1860, *Ann. Soc. Linn. Lyon* (n.s.) **6:** 147; 1860, ibid. **7:** 52.—Maulik, 1926, Fauna India, Chrys. & Halt., 130 (key), 133 (type: *E. atropae* Foudras; Europe).—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 743 (key), 756.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 401 (key), 419.

Epithrix: Heikertinger, 1912, *In* Reitter, Fauna Germanica **4:** 145 (key), 156; 1924, *Kol. Rundschau* **11**(1–2): 41 (key); 1925, ibid. **11**(3–4): 52 (key), 67 (key), 69 (key).—Chen, 1933, *Sinensia* **3**(9): 217 (key).—Arnett, 1962, Beetles of United States, fasc. 104, 915 (key), 938.

DIAGNOSIS. Small, subovate alticines with close, uniform subdense elytral pubescence. Interantennal space ± as broad as diameter of antennal socket; postantennal swellings distinct, delimited from vertex by oblique impression; antenna 11-segmented, apical segments swollen; pronotum with ante-basal impression, impression usually bounded at side by short longitudinal fovea; elytral puncturation seriate; procoxa globose; procoxal cavity closed; metatibia briefly flattened preapically, otherwise convex on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀; pro- and mesobasitarsus more robust in ♂.

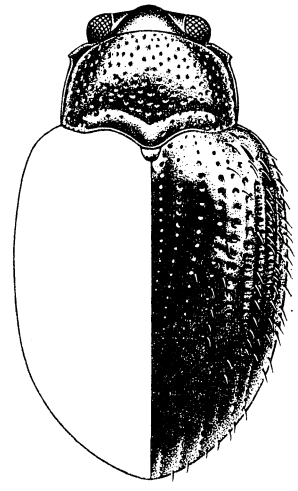

Fig. 34. *Epitrix cucumeris,* dorsal view.

REMARKS. Allied to *Livolia* Jacoby [Africa, SE Asia, Indonesia, Australia, New Guinea, Ryukyus, Micronesia] which also has vertex delimited anteriorly by oblique groove, but dorsal pubescence is denser and shorter, body size generally larger; allied to *Lipromima* Heikertinger [China, Japan], but groove delimiting vertex anteriorly is straighter and deeper, prothorax more transverse; differs from *Crepidodera* Chevrolat [Cosmopolitan] by having dorsum pubescent instead of glabrous.

DISTRIBUTION. Cosmopolitan.

Key to Pacific island species of Epitrix

Ante-basal impression of pronotum deep; dorsum black [length 1.7–1.9 mm—North America, New Caledonia]..... **cucumeris**

Ante-basal impression of pronotum shallow; dorsum yellow- to orange-fuscous, sometimes elytron fuscous in part [length 1.45–1.95 mm—North America, Hawaii: all major islands]..... **hirtipennis**

Epitrix cucumeris (Harris) Fig. 15j, 28r, 34.

Haltica cucumeris Harris, 1851, *J. Agric.* **1:** 103.

Haltica pubescens Illiger, 1807, *Mag. Inskde.* **6:** 58 (part).

Crepidodera seminulum Leconte, 1861, *Proc. Acad. Nat. Sci. Philadelphia* **1861:** 358 (California).

Epitrix cucumeris: Crotch, 1873, *Proc. Acad. Nat. Sci. Philadelphia* **1873:** 72 (Middle United States, California).—Horn, 1889, *Trans. American Ent. Soc.* **16:** 244 (key), 245.—Beller & Hatch, 1932, *Univ. Washington Publ. Biol.* **1**(2): 130 (+key) (Washington).—Gentner, 1944, *Proc. Ent. Soc. Washington* **46**(6): 143, 144 (key) (E United States westward to Dakotas, Kansas).

Epithrix cucumeris: Heikertinger, 1950, *Kol. Rundschau* **31**(4–6): 123 (key), 124 (key).

♂ (New Caledonia). Form subrobust, side briefly straight along middle. Elytron moderately pubescent, hairs silvery. Dorsum piceous; vertex piceous, frons brown-testaceous; antenna yellow-testaceous, last segment fuscescent; venter brown-testaceous to piceous, metasternum darkest; legs yellow-testaceous to fuscous, femora darkest. Length 1.7 mm; breadth 0.95.

Head: frons broadly swollen below, broadly carinate above, surface subgranulate; interantennal space broadly convex, breadth subequal to transverse diameter of antennal socket; orbit about 0.9 × as broad as antennal socket; interocular index 116; gena 0.45 × as deep as eye; postantennal swellings oblique, slightly swollen, separated medially and delimited from vertex by deep oblique groove; vertex subalutaceous. *Antenna* extending to about middle of elytron; apical segments slightly flattened and gradually thickened toward apices. *Prothorax* broadest near posterior angles, base slightly narrower than elytron at humeral angles; pronotal index 66; anterior angle oblique; side convex, rather finely serrate with each tooth briefly rounded; base sinuate, median lobe about as deep as scutellum; disc coarsely punctate, punctures deep and mostly 3 × as large as interspaces, interspaces subalutaceous; ante-basal impression deep, bearing punctures. *Elytron* 2.9 × as long as broad, broadest near middle, side rather straight along middle; epipleuron continued nearly to apex, surface alutaceous, bearing a row of large shallow punctures internally; central discal punctures mostly 1.5–3 × as large as interstices and 3–4 × as large as transverse interspaces; interstices swollen, rather shining. *Ventral surfaces:* metasternum ± smooth; abdomen submoderately punctulate. *Legs:* metafemur 2.2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 46: 41: 27; basitarsus distinctly shorter than remainder. *Wing* fully developed. *Aedeagus* about 5.5 × as long as breadth at middle, see figure.

♀ (New Caledonia). Similar to ♂. *Spermatheca* as figured. Length 1.8 mm; breadth 1.0.

VARIATION (n = 4). LENGTH 1.7–1.9 mm; BREADTH 0.95–1.05 mm; HEAD BREADTH 46–49 cmm; INTERANTENNAL SPACE 7 cmm in all specimens; INTEROCULAR SPACE 25–27 cmm; EYE 21–25 cmm; INTEROCULAR INDEX 107–118, mean 114; PRONOTAL LENGTH 46–49 cmm; PRONOTAL BREADTH 70–77 cmm; PRONOTAL INDEX 64–69, mean 66; ELYTRAL LENGTH 132–146 cmm. [2 ♂♂, 1 ♀, 1 U]

Dorsum dark red-fuscous to piceous.

MATERIAL EXAMINED (n = 4). NEW CALEDONIA: 4, Hienghene, 8.V.1945, Milliron (BPBM). New to New Caledonia.

DISTRIBUTION. North and Central America; introduced to New Caledonia. The species was undoubtedly carried by man to New Caledonia. The introduction may have taken place during World War II, for the specimens were collected during that time. Whether the species has become established on New Caledonia is an unanswered question.

REMARKS. Allied to *similaris* Gentner [California] and *tuberis* Gentner [western United States]; differs from both species by having punctures of pronotal disc commonly smaller than interspaces instead of distinctly larger.

PLANT HOSTS. Numerous records on solanaceous plants; for citations see Csiki & Heikertinger, 1939, Junk, Col. Cat. **25**(166): 331; Gentner (1944: 145).

Epitrix hirtipennis (Melsheimer) Fig. 15k, 29a.

Crepidodera hirtipennis Melsheimer, 1847, (*nec* Jacoby, 1887), *Proc. Acad. Nat. Sci. Philadelphia* **3:** 165 (Pennsylvania).

Haltica hirtipennis: Suffrian, 1868, *Arch. f. Naturg.* **34:** 209.—Crotch, 1873, *Proc. Acad. Nat. Sci. Philadelphia* **25:** 72 (Middle, S & W United States).—Gentner, 1944, *Proc. Ent. Soc. Washington* **46**(6): 145 (+footnote).

Epithrix hirtipennis: Heikertinger, 1950, *Kol. Rundschau* **31**(4–6): 124 (key).

Epitrix parvula: auct. (part) (nec *Crioceris parvula* Fabricius, 1801; America meridionali).

Epithrix parvula: auct. (part).

♂ (Hawaii: Oahu). Form subovate. Elytron subdensely clothed with pale pubescence of short suberect hairs. Head and prothorax orange-testaceous; elytron yellow-testaceous with broad fulvescent transverse band behind middle; antenna with segments 1–5 yellow-testaceous, remainder reddish fuscous; venter largely fuscous; legs yellow- to orange-testaceous, metafemur darkest. Length 1.65 mm; breadth 0.9.

Head: frons triangular, broadly swollen medially, surface alutaceous; interantennal space convex, about 1.5 × as broad as transverse diameter of antennal socket; orbit about as broad as antennal socket; interocular index 126; gena nearly 0.5 × as deep as eye; postantennal swellings narrow-oblique, delimited from vertex by deep oblique groove; vertex subalutaceous. *Antenna* extending slightly beyond middle of elytron; apical 5 segments broader than intermediate ones, thickened toward apices. *Prothorax* broadest near middle, base narrower than elytra at humeral angles; pronotal index 65; anterior angle short, oblique; side convex; base broadly convex mesally; disc rather densely punctate, punctures mostly 2–3 × as large as interspaces, interspaces ± smooth; ante-basal impression faint. *Elytron* 2.7 × as long as broad, broadest slightly before middle, side gently convex along middle; epipleuron not quite reaching apex, surface alutaceous, subrugulose apically; central discal punctures mostly large, mostly 2 × as large as interstices and 1.5 × as large as transverse interspaces; interstices not distinctly raised. *Ventral surfaces:* metasternum ± smooth, finely and transversely rugulose mesally; abdomen sparsely punctulate. *Legs:* metafemur 2.25 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 29: 27: 19; basitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* about 7 × as long as breadth at middle, see figure.

♀ (Hawaii: Oahu). Similar to ♂. *Spermatheca* as figured. Length 1.85 mm; breadth 1.0.

VARIATION (n = 20). LENGTH 1.45–1.95 mm, mean 1.75; BREADTH 0.8–1.0 mm; HEAD BREADTH 43–51 cmm; INTEROCULAR SPACE 23–29 cmm; EYE 17–21 cmm; INTEROCULAR INDEX 124–147, mean 136; PRONOTAL LENGTH 34–48 cmm; PRONOTAL BREADTH 61–73 cmm; PRONOTAL INDEX 60–68, mean 63; ELYTRAL LENGTH 113–140 cmm. [7 ♂♂, 10 ♀♀, 3 U]

Ante-basal impression of pronotum shallow to obsolescent. Dorsum yellow- to orange-testaceous: elytron frequently with irregular fulvescent transverse band slightly behind middle, or sometimes with only sutural margin darkened, or infrequently lacking dark markings altogether.

MATERIAL EXAMINED (n = 173). BPBM material. HAWAIIAN ISLANDS: *Nihoa:* 78, 11–13.VI.1923, some on *Pritchardia* or palm, Bryan; 1, 10.VI.1962, Beardsley; *Kauai:* 14,

Kumuwela, 3.VIII.1925, on poha, Swezey; 2, Anahola, 26.X.1942, ex eggplant, Krauss; 5, Kokee, 4–6.VIII.1961, Maa, Miyatake & Yoshimoto; *Oahu:* 1, V.1914, Illingworth; 1, Honolulu, Crawford; 2, Manoa, 6.X.1929, Krauss; 1, Kalihi, 14.III.1960, sweeping, Suehiro; 3, Waipio, 4.IV.1934, on eggplant, Krauss; 1, Manana Island [Rabbit I.] nr Oahu, 25.VIII.1934, on tomato, Bryan; 1, same loc., 27.VIII.1934, sweeping, Bryan; 2, same loc., 19.I.1936, Usinger; 50, same loc., 18.VIII, 12.IX.1967, Spadoni; 2, Waimanalo, 25.III.1970, ex eggplant, Tsuda; *Molokai:* 3, Molokai Mts, 910 m, 6.IX.1893, Perkins; 2, same locality, 19–20.IX.1893, Perkins; 5, Kainalu, sealevel, 23.VII.1927, tomato patch, Bryan; *Lanai:* 4, 610 m, XII.1893, Perkins; 1, same locality, I.1894, Perkins; *Maui:* 3, no. 2049, Koebele; *Hawaii:* 1, Kilauea, 10.X.1929, vegetable garden, Swezey.

DISTRIBUTION. North America, Hawaii (Nihoa, Kauai, Oahu, Molokai, Lanai, Maui, Hawaii).

REMARKS. Closely related to *fasciata* Blatchley [Florida and Texas] because of similar facies, including coloration; Hawaii specimens of *hirtipennis* differ from Florida specimens of *fasciata* by having eye distinctly larger with interocular index 124–147 instead of 166–178; body form appears to be slightly more slender in specimens of the former.

PLANT HOSTS. Numerous records on solanaceous plants; for citations see Csiki & Heikertinger, 1939, Junk, Col. Cat. **25**(166): 334 [under *parvula* Fabricius]. Hawaiian records include tomato, eggplant, and poha or *Physalis peruviana* L.

Genus **Livolia** Jacoby

Livolia Jacoby, 1903, *Trans. Ent. Soc. London* **1903:** 15 (type: *L. sulcicollis* Jac.; Africa).—Scherer, 1961, *Ent. Arb. Mus. Frey* **12:** 268 (key), 284 (key); 1969, *Pacific Ins. Monogr.* **22:** 10 (key), 19 (key), 118, 242; 1971, *Ent. Arb. Mus. Frey* **22:** 1–37.

Micrepitrix Laboissière, 1933, *Bull. Mus. Paris* ser 2, **5:** 205 (type: *M. coomani* Lab.; Indo-China).—Gressitt, 1955, *Ins. of Micronesia* **17**(1): 31 (key), 35.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B**: 743 (key), 757.—Samuelson, 1965, *Pacific Ins.* **7**(2): 219; 1967, ibid. **9**(1): 140 (key).—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 10 (key), 19 (key), 98.

DIAGNOSIS. Very small alticines with sparse dorsal pubescence of long erect setae. Form subelongate; side convex, slightly constricted at base of prothorax. Antenna 11-segmented, apical segments swollen; pronotum with distinct ante-basal impression reaching or nearly reaching side; elytral puncturation seriate; procoxa globular; procoxal cavity closed; metatibia ± convex on retrotarsal surface, spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀; 1 species [New Guinea] has posthumeral area of elytron of normal curvature in ♂, but strongly inflated in ♀.

REMARKS. Allied to *Epitrix* Foudras [Cosmopolitan]; chiefly differing from same by lacking short longitudinal fovea at side of pronotal ante-basal impression; dorsal pubescence of sparse erect setae instead of subdense short recurved hairs.

DISTRIBUTION. Africa, S Asia, Indonesia, Australia, New Guinea, Ryukyus, Micronesia.

Livolia carolina (Chûjô) Fig. 15l, 29b, 35.

Epithrix carolina Chûjô, 1943, *Mem Fac. Sci. Agric. Taihoku Imp. Univ.* **24**(3): 304, fig. 10 (Yap—type in TARI).
Micrepitrix carolina: Gressitt, 1955, *Ins. of Micronesia* **17**(1): 35, fig. 11a–b (Western Carolines).
Livolia carolina: Scherer, 1971, *Ent. Arb. Mus. Frey* **22:** 13 (key), 18, text fig. 7; pl. 1, fig. 5; pl. 3, fig. 5.

♂ (Koror). Form subrobust, side convex; dorsum with sparse pubescense of erect bristles. Dorsum piceous, pubescence pale; antenna yellow-testaceous, last segment fuscescent; venter piceous to dark fuscous; legs pitchy brown to orange-testaceous, femora darkest. Length 1.15 mm; breadth 0.65.

Head: frons briefly depressed along anterior margin, rather broadly carinate above, surface ± smooth;

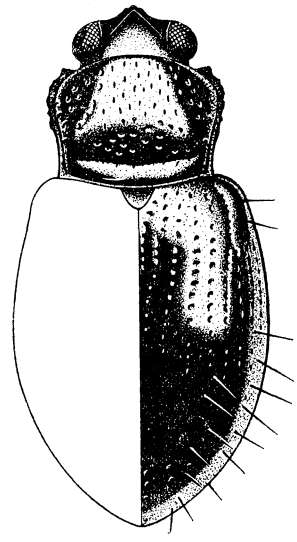

Fig. 35. *Livolia carolina*, dorsal view.

interantennal space convex, about 1.5 × as broad as transverse diameter of antennal socket; orbit with breadth subequal to diameter of antennal socket; interocular index 116; gena 0.5 × as deep as eye; postantennal swellings obsolescent, but general area delimited from vertex by deep straight oblique groove; vertex rather evenly convex, shining. *Antenna* extending to middle of elytron; intermediate segments somewhat dilated at apices; apical 4 segments strongly flattened and thickened to preapical regions, apices ± rounded. *Prothorax* broadest before middle, base slightly narrower than elytra at humeral angles; pronotal index 66; anterior angle short, transverse-rounded; side strongly convex anteriorly, nearly straight but narrowed posteriorly; base broadly convex; disc rather smooth, bearing deep punctures, mostly 1.5–2 × as large as interspaces, interspaces smooth; ante-basal impression deep, bearing a transverse row of punctures. *Elytron* 2.5 × as long as broad, broadest slightly before middle, side convex; epipleuron continued nearly to apex, surface somewhat swollen and bearing a row of punctures internally; basal disc feebly and broadly swollen; central discal punctures mostly 1–1.5 × as large as interstices and 1.5–3 × as large as transverse interspaces; interstices flat to feebly swollen, shining. *Ventral surfaces:* metasternum bearing large deep punctures; abdomen ± impunctate, surface subalutaceous. *Legs:* metafemur 2.3 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 23: 22: 14; basitarsus not as long as remainder. *Wing* fully developed. *Aedeagus* about 5.2 × as long as breadth at middle, see figure.

♀ (Koror). Similar to ♂. *Spermatheca* as figured. Length 1.25 mm; breadth 0.6.

VARIATION (n = 20). LENGTH 1.0–1.45 mm, mean 1.25; BREADTH 0.5–0.75 mm; HEAD BREADTH 30–41 cmm; INTEROCULAR SPACE 15–21 cmm; EYE 13–19 cmm; INTEROCULAR INDEX 105–130, mean 115; PRONOTAL LENGTH 26–36 cmm; PRONOTAL BREADTH 38–55 cmm; PRONOTAL INDEX 61–70, mean 66; ELYTRAL LENGTH 73–101 cmm. [12 ♂♂, 6 ♀♀, 2 U]

Dorsum dark fuscous to piceous; yellow-testaceous in several teneral specimens.

MATERIAL EXAMINED (n = 93). PALAU ISLANDS: *Angaur:* 1, 4.II.1948, Dybas (BPBM); *Aurapushekaru* [Ulebsehel]: 1, 13.I.1948, sweeping, Dybas (USNM); 1, IX.1952, Krauss (BPBM); *Peleliu:* 3, East coast, 27.I.1948, beating, Dybas (BPBM); *Babelthuap:* 9, wooded peak SW of Ulimang, 12.XII.1947, beating, Dybas (BPBM, USNM); 15, same data but 20.XII. 1947 (BPBM, USNM); 1, E Ngatpang, 65 m, 7.XII.1952, light trap, Gressitt (BPBM); 4, Ngarard, 26.VII.1953, Beardsley (BPBM); *Koror:* 3, 21.XI.1947, Dybas (BPBM, USNM); 3, limestone

ridge N of inlet, 16.I.1948, beating, Dybas (BPBM); 13, limestone ridge S of inlet, 18.I.1948, beating, Dybas (BPBM, USNM); 1, same as preceding but 21.I.1948 (BPBM); 2, same as preceding but 22.I.1948 (BPBM, USNM); 5, limestone ridge, 10.II.1948, Dybas (BPBM); 1, 15.II. 1948, Dybas (BPBM); 17, limestone ridge, 40 m, 14.XII.1952, Gressitt (BPBM, USNM); 1, 30.V. 1953, Beardsley (BPBM); YAP: 2, nr Yaptown, 14.VII.1946, Townes (USNM); 1, 8.VII.1951, Gressitt (BPBM); 2, hill behind Yaptown, 60 m, 28.XI.1952, Gressitt (BPBM, USNM); 1, Mt Matade, 60 m, 2.XII.1952, Gressitt (BPBM).

DISTRIBUTION. Micronesia (Western Carolines). Endemic.

REMARKS. Rather closely related to *okinawana* (Kimoto & Gressitt) [Ryukyus] **New Combination** (from *Micrepitrix* to *Livolia*); differs from same by having dorsum dark fuscous to piceous instead of brown-testaceous; eye smaller: interocular index commonly around 115 instead of 100; elytral punctures generally smaller than interstices instead of larger; submesal elytral interstices flat instead of slightly swollen.

PLANT ASSOCIATES. Leaves of native woody plants (Gressitt, 1955: 36).

Genus **Crepidodera** Chevrolat

Crepidodera Chevrolat, 1837, *In* Dejean Cat. Col., ed. 3, 415.—Chapuis, 1875, Gen. Col. **11:** 52 (key), 53.—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 42 (key); 1925, ibid. **11**(3–4): 52 (key), 69 (key); 1948, ibid. **31**(1–3): 15, 20 (key), 21 (key), 33 (key), 54.—Maulik, 1926, Fauna India, Chrys. & Halt., 175 (key), 234 (type: *Chrysomela nitidula* L.; Europe).—Chen, 1933, *Sinensia* **3**(9): 218 (key); 1934, ibid. **5**(3–4): 227 (key), 261.—Hincks, 1952, *J. Soc. British Ent.* **4:** 113.—Arnett, 1962, Beetles of United States, fasc. 104, 914 (key), 938.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 744 (key), 773.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 402 (key), 425.

Chalcoides Foudras, 1859, Hist. Nat. Col. France, Altisides, 312; 1861, *Ann. Soc. Linn. Lyon* **7:** 56.—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 43 (key); 1925, ibid. **11**(3–4): 52 (key), 67 (key), 69 (key); 1948, ibid. **31**(1–3): 34 (key); 1950, ibid. **31**(4–6): 106 (type: *Chrysomela nitidula* L.; Europe).—Chen, 1933, *Sinensia* **3**(9): 219 (key).

Foudrasia des Gozis, 1882, *Bull. Soc. Ent. France* ser 6, **1:** 134 (new name for *Chalcoides* Foudras).

DIAGNOSIS. Subovate to ± parallel-sided alticines. Postantennal swellings oblique-transverse,

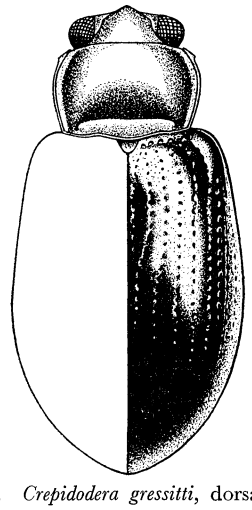

Fig. 36. *Crepidodera gressitti*, dorsal view.

separated by median carina and delimited from vertex by distinct sulcus; antenna 11-segmented, apical segments slightly thickened; pronotum with ante-basal impression delimited at side by short longitudinal groove, rarely devoid of all such impressions; elytral puncturation seriate; procoxa globose; procoxal cavity closed; metatibia flattened on retrotarsal margin, apex denticulate, spine simple; claw tarsomere not dilated, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀; probasitarsus usually more robust in ♂.

REMARKS. Although the presence or absence of ante-basal impression of the pronotum is generally useful in segregating alticine genera, it should be used with some caution. This genus is a case in point, for some species have the impression typically deep to shallow to obsolescent, and in *erromangana* (Bryant) [New Hebrides] it is so feebly developed that the species was originally assigned to a different genus.

Somewhat allied to *Asiorestia* Jacobson [Eurasia] because of similar general facies; differs from same by having postantennal swellings oblique-transverse and delimited from vertex by fine sulcus instead of rounded and not or feebly delimited above.

DISTRIBUTION. Cosmopolitan.

Key to Pacific island species of Crepidodera

1. Dorsum entirely pale or bicolorous....2
   Dorsum dark fuscous to black, sometimes surfaces with lustres differing in color....14
2. Elytron unicolorous....3
   Elytron bicolorous, sometimes dark areas restricted to side....9
3. Elytral puncturation entirely seriate....4
   Elytral puncturation dominantly irregular, internal rows confused [dorsum: pronotum brown-testaceous, elytron yellowish; length 1.8–2.2 mm—Ecuador: Paita, not Tahiti]...(**bicolor** Boheman)
4. Elytral interstices not swollen; dorsum: prothorax pale, elytron dark....5
   Elytral interstices swollen; dorsum entirely yellow- to orange-testaceous [length 3–3.35 mm—Fiji: Ovalau, Viti Levu]....**elongata**
5. Ante-basal impression of pronotum distinct; metafemur partly or entirely dark....6
   Ante-basal impression of pronotum obsolete, barely evident at most; metafemur entirely orange-testaceous [dorsum: prothorax orange-testaceous, elytron black; length 2.3–2.7 mm—New Hebrides: Eromanga]....**erromangana**
6. Interocular index 95 or less....7
   Interocular index 105 or more....8
7. Metabasitarsus rather slender (♂), narrower than breadth of retrotarsal surface of metatibia; aedeagus obliquely narrowed apically to briefly rounded extremity [pronotum yellow- to orange-testaceous; length 2.2–3.2 mm—Fiji: Viti Levu]....**oceanica**
   Metabasitarsus swollen (♂), broader than breadth of retrotarsal surface of metatibia; aedeagus weakly dilated before small apical prolongation [pronotum yellow-testaceous; length 3.0 mm—New Hebrides: Pentecost]....sp. A
8. Elytron deep metallic blue or greenish [pronotum yellow-testaceous; length 2.85–3.55 mm—Fiji: Viti Levu]....**gressitti***
   Elytron shining black [pronotum yellow-testaceous; length 3.0 mm—New Hebrides: Tana]....sp. B
9. Interocular index 90 or less....10
   Interocular index 97–105....13
10. Prothorax and elytron largely orange- to red-testaceous with lateral margins infuscated....11
    Prothorax and basal 3/8 of elytron yellow-testaceous, remainder of elytron fuscous [length 2.8–2.95 mm—Fiji: Viti Levu]....**semifuscata***
11. Labrum, antennal scape, prothoracic pleuron yellow-testaceous....12

Labrum, antennal scape, prothoracic pleuron fuscescent [aedeagus narrowed preapically to briefly rounded apex; length 2.3–2.7 mm—Fiji: Viti Levu].....**infuscata***

12. Elytron 3.2–3.6 × as long as prothorax [aedeagus prolonged apically, preapex with sides parallel before rounded apex; length 2.8 mm—Fiji: Viti Levu].....sp. C

Elytron 3.6–4 × as long as prothorax [length 2.7 mm—Fiji: Taveuni].....sp. D

13. Elytron costate sublaterally [dorsum largely orange-testaceous, fuscous to black along lateral and sutural elytral margins; length 2.85 mm—Fiji: Taveuni].....**evansi**

Elytron not costate [dorsum: pronotum and elytral humerus orange-testaceous, remainder of elytron dark fuscous; length 2.9 mm—Fiji: Lau].....sp. E

14. Ante-basal impression of pronotum absent or shallow, very gradually impressed at most.....15

Ante-basal impression deep, abruptly impressed.....17

15. Ante-basal impression faint or shallow.....16

Ante-basal impression absent, not evident at all [dorsum shining black; length 2.2 mm—New Hebrides: Malekula].....sp. F

16. Body form subovate; dorsum piceous, lacking metallic lustre; antennal scape pale [length 2.2–2.3 mm—Fiji: Viti Levu].....**rotunda**

Body form subelongate; elytron with metallic violaceous lustre; antennal scape fuscous [length 2.45–2.95 mm—Fiji: Ovalau].....**ovalauensis***

17. Dorsum lacking metallic lustre.....18

Dorsum with metallic lustre.....20

18. Aedeagus with preapex parallel-sided or dilated, apex not prolonged.....19

Aedeagus with preapex narrowed, thence slightly prolonged to briefly rounded apex [length 2.2 mm—Fiji: Vanua Levu].....**fijiensis**

19. Abdominal sterna 2–3 with conspicuous pale submesal hair-tufts in ♂; aedeagus with preapex dilated, apex broadly convex; distal part of spermathecal duct coiled [length 1.9–2.35 mm—Fiji: Viti Levu].....**lami***

Abdominal sterna 2–3 lacking hair-tufts in ♂; aedeagus with preapex ± parallel-sided, apex convexly and obtusely narrowed; distal part of spermathecal duct not coiled [length 2.2–2.6 mm—Fiji: Viti Levu].....**parafijiensis***

20. Antennal scape entirely pale; aedeagus 6–7 × as long as breadth at middle [dorsum shining: elytron with blue-violaceous lustre; length 2.75–3.35 mm—New Hebrides].....**coeruleoviolacea**

Antennal scape largely piceous; aedeagus about 11 × as long as breadth at middle [dorsum: pronotum with greenish lustre, elytron violaceous; length 2.35–2.5 mm—Fiji: Viti Levu]...**kraussi**

Crepidodera coeruleoviolacea Bryant Fig. 15m, 29c.

Crepidodera coeruleoviolacea Bryant, 1936, *Ann. Mag. Nat. Hist.* ser 10, **17:** 251 (New Hebrides—type in BMNH).

Lectotype ♀. Form subelongate, slightly narrowed apically. Dorsum black, elytron with slight violaceous lustre; head dark; antenna yellow-testaceous with apical segments slightly darkened; venter dark fuscous to black; legs orange-testaceous to subpiceous, metafemur darkest. Length 3.3 mm; breadth 1.55.

Head: frons with median carina well-developed; interantennal space carinate, about 1 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 76; gena 0.45 × as deep as eye; postantennal swellings oblique, slightly raised and delimited from vertex by distinct groove; vertex shining. *Antenna* extending slightly beyond middle of elytron; apical segments slightly thickened toward apices. *Prothorax* broadest at posterior angles, base distinctly narrower than elytra at humeral angles; pronotal index 68; anterior angle oblique; side feebly convex; base weakly bisinuate, median lobe broad and feebly produced; disc shining, micropunctate with most punctures 0.2–0.3 × as large as interspaces; ante-basal impression deep, impunctate. *Elytron* 3.3 × as long as broad, broadest near basal 2/5, side weakly convex and gradually narrowed beyond middle; epipleuron continued nearly to apex, surface rather smooth; humerus briefly produced; disc moderately raised basally, thence rather deeply and transversely impressed postbasally; central discal punctures mostly 0.5 × as large as interstices and 1 × as large

as transverse interspaces; interstices not swollen. *Ventral surfaces:* metasternum ± smooth; abdomen submoderately punctate. *Legs:* relative lengths of metafemur, -tibia, -tarsus are 59: 46: 32; basitarsus slender, not quite long as remainder. *Wing* fully developed. *Spermatheca* as in figure (from another specimen of syntype series).

Allolectotype ♂. Similar to ♀, but frons and pro- and mesolegs largely pale; abdomen with circular impression preapically; metabasitarsus distinctly broadened. *Aedeagus* (different specimen, from Efate) about 7.0 × as long as breadth at middle, see figure. Length 2.9 mm; breadth 1.4.

VARIATION (n = 8). LENGTH (n = 12) 2.75–3.5 mm, mean 3.05; BREADTH (n = 12) 1.3–1.75 mm; HEAD BREADTH 67–78 cmm; INTEROCULAR SPACE 25–33 cmm; EYE 34–41 cmm; INTEROCULAR INDEX 76–86, mean 80; PRONOTAL LENGTH 61–72 cmm; PRONOTAL BREADTH 84–105 cmm; PRONOTAL INDEX 67–73, mean 70; ELYTRAL LENGTH 204–258 cmm. [4 ♂♂, 4 ♀♀, 4 U]

♂♂ tend to have frons yellow-testaceous, pro- and mesoleg yellow- to brown-testaceous, while ♀♀ tend to have frons, pro- and mesoleg dark fuscous.

MATERIAL EXAMINED (n = 13). NEW HEBRIDES: *Malekula:* Lectotype ♀ (BMNH), I.1938, on foliage, L. E. Cheesman; allolectotype ♂ (BMNH), same data as lectotype; 4 paralectotypes, same data as preceding (BMNH); 1 paralectotype, same data, 535 m (BMNH); 1, same data, but II.1930, on foliage, 550 m (BMNH); 1, same loc., no date, feeding on young leaves of *Kleinhovia hospita*, Cheesman (BMNH); *Espiritu Santo:* 1 paralectotype, Santo, VIII. 1929, bush, Cheesman (BMNH); 1, 15 km NE of Luganville, 11.III.1964, Straatman (BPBM); *Epi:* 1, Vlava, 2.VIII.1967, J. & M. Sedlacek (BPBM); *Efate:* 1, Vila, II.1959, Krauss (BPBM). New to Epi and Efate.

The lectotype designated here bears a type label (BMNH circular label with red border), as no specimen is singled out as type in the original description.

DISTRIBUTION. New Hebrides (Espiritu Santo, Malekula, Epi, Efate). Endemic.

REMARKS. Somewhat allied to *erromangana* (Bryant) [New Hebrides: Eromanga] because of similar form of spermatheca; differs from same by having ante-basal impression of pronotum distinct instead of obsolete, dorsum unicolorous instead of bicolorous. Affinities with Fijian species are more difficult to ascertain, but *oceanica* Gressitt and *infuscata*, n. sp. [both from Viti Levu] have a relatively long distal spermathecal duct as does *coeruleoviolacea*, however, the duct is more evenly arcuate in the Fijian species (see figures).

PLANT ASSOCIATES. *Kleinhovia hospita* L.: Malekula (Cheesman, label).

Crepidodera erromangana (Bryant), new combination Fig. 15n, 29d.

Aphthona erromangana Bryant, 1936, *Ann. Mag. Nat. Hist.* ser 10, **17:** 250 (New Hebrides—type in BMNH).

Lectotype ♀. Dorsum bicolorous: head, prothorax, and scutellum orange-testaceous, elytron shining black with slight brassy cast; antenna orange-testaceous basally becoming pitchy reddish apically; ventral surfaces with prothorax orange-testaceous, remainder dark fuscous; legs orange-testaceous. Length 2.7 mm; breadth 1.4.

Head: frons carinate medially; interantennal space swollen medially, about 1.1 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 97; gena 0.55 × as deep as eye; postantennal swellings separated by upper part of median carina, delimited from vertex by deep oblique groove; vertex rather smooth. *Antenna* extending slightly beyond middle of elytron; apical segments cylindrical, slightly thickened toward apices. *Prothorax* broadest near middle, base distinctly narrower than elytra at humeral angles; pronotal index 68; anterior angle oblique, margin feebly concave; side evenly convex; base weakly bisinuate, median lobe very broad and shallow; disc shining, sparsely micropunctate, punctures mostly 0.2 × as large as interspaces; ante-basal impression obsolete. *Elytron* 2.9 × as long as broad, broadest near middle, side gently convex along middle; epipleuron rather smooth and continued nearly to apex; humerus briefly swollen; disc weakly impressed postbasally; central discal punctures commonly 0.3 × as large as interstices and 0.5 × as large as transverse interspaces; interstices smooth,

not swollen. *Ventral surfaces:* metasternum ± smooth; abdomen subgranulate, moderately punctate. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 41: 32: 27; basitarsus rather slender, nearly as long as remainder. *Wing* fully developed. *Spermatheca* as in figure of different specimen (paralectotype).

Allolectotype ♂. Similar to ♀. Metabasitarsus also rather slender. *Aedeagus* about 7.5 × as long as breadth at middle, see figure. Length 2.35 mm; breadth 1.2.

VARIATION (n = 2). LENGTH (n = 5) 2.3–2.7 mm, mean 2.45; BREADTH (n = 5) 1.2–1.45 mm; HEAD BREADTH 63–64 cmm; INTEROCULAR SPACE 26–29 cmm; EYE 30–31 cmm; INTEROCULAR INDEX 85–97; PRONOTAL LENGTH 57–59 cmm; PRONOTAL BREADTH 82–86 cmm; PRONOTAL INDEX 68–71; ELYTRAL LENGTH 187–199 cmm. [2 ♂♂, 2 ♀♀, 1 U]

MATERIAL EXAMINED (n = 5). NEW HEBRIDES: *Eromanga:* Lectotype ♀ (BMNH), VIII.1930, L. E. Cheesman; allolectotype ♂ (BMNH), same data as lectotype; 2 paralectotypes, same data as preceding (BMNH); 1, Nawolai, 300 m, 2.III.1964, Straatman (BPBM).

None of the 9 specimens comprising the type series is indicated as type in the original description. The lectotype, by present designation, is a ♀.

DISTRIBUTION. New Hebrides (Eromanga). Endemic.

REMARKS. Closely related to sp. F [Malekula] because of similar facies, including obsolete ante-basal impression of the pronotum; differs from same by having dorsum bicolorous instead of entirely black, aedeagus with side weakly concave behind middle instead of nearly straight.

PLANT ASSOCIATES. None reported.

Crepidodera elongata Gressitt Fig. 15o, 29e.

Crepidodera elongata Gressitt, 1957, *Pacific Sci.* **11:** 77 (key), fig. 41b (Fiji: Ovalau—type in BPBM).

♀ (Ovalau). Form elongate, side feebly convex along middle and gradually broadened to greatest breadth preapically. Dorsum yellow- to orange-testaceous, elytron with basal and lateral margins, and preapical area slightly darker than central disc; antenna yellow-testaceous; venter and metafemur orange-testaceous to pitchy brown; legs otherwise yellow- to orange-testaceous. Length 3.0 mm; breadth 1.4.

Head: frons broadly but weakly swollen anteriorly and medially, sides impressed; interantennal space convex, about 1.2 × as broad as transverse diameter of antennal socket; orbit 0.45 × as broad as antennal socket; interocular index 93; gena 0.55 × as deep as eye; postantennal swellings obsolescent, not well delimited from vertex, distinct groove absent; vertex broadly convex, surface shining. *Antenna* extending nearly to middle of elytron; apical segments flattened, gradually thickened toward apices. *Prothorax* broadest near middle, base much narrower than elytra at humeral angles; pronotal index 71; anterior angle brief, oblique; side convex; base feebly sinuate, median lobe broad, weakly produced; disc subgranulate, with shallow punctures mostly 0.7–1 × as large as interspaces; ante-basal impression distinct but not deep, vaguely punctured. *Elytron* 3.3 × as long as broad, broadest at apical 1/3, side feebly convex along middle; epipleuron continued nearly to apex, surface rather smooth; humerus moderately but briefly swollen; disc vaguely depressed postbasally; central discal punctures mostly 1.5 × as large as interstices and 2–3 × as large as transverse interspaces; interstices costate. *Ventral surfaces:* metasternum ± smooth; abdomen submoderately punctate. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 84: 52: 56; basitarsus slender, distinctly longer than remainder. *Wing* fully developed. *Spermatheca* as figured.

♂ (holotype). Similar to ♀. Antenna extending beyond middle of elytron. *Aedeagus* about 6.3 × as long as breadth at middle, see figure. Length 2.85 mm; breadth 1.25.

VARIATION (n = 4). LENGTH 2.85–3.4 mm, mean 3.1; BREADTH 1.25–1.5 mm; HEAD BREADTH 73–75 cmm; INTEROCULAR SPACE 30–33 cmm; EYE 34–38 cmm; INTEROCULAR INDEX 78–93, mean 88; PRONOTAL LENGTH 65 cmm in all specimens; PRONOTAL BREADTH 87–94 cmm; PRONOTAL INDEX 69–75, mean 71; ELYTRAL LENGTH 223–265 cmm. [1 ♂, 3 ♀♀]

MATERIAL EXAMINED (n = 4). FIJI: *Ovalau:* 1 (holotype ♂), Andubangda, 450–550 m, 15.VII.1938, beating, Zimmerman (BPBM); additional specimens: 2 ♀♀, same data as holotype (BPBM); *Viti Levu:* 1, Mt Victoria, Tholo North, W slope, 910 m, 16.IX.1938, beating, Zimmerman (BPBM). New to Viti Levu.

DISTRIBUTION. Fiji (Ovalau, Viti Levu). Endemic.

REMARKS. Allied to sp. D [Fiji: Taveuni] because of form of spermathecal receptacle; differs from same and *infuscata*, n. sp. [Fiji: Viti Levu] by having elytral interstices swollen instead of flat.

PLANT ASSOCIATES. None reported.

Crepidodera evansi Bryant Fig. 29f.

Crepidodera evansi Bryant, 1938, *Proc. R. Ent. Soc. London* ser B, **7:** 251 (Fiji: Taveuni—type in BMNH).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 77 (key), 79. (part)

Lectotype ♀. Subelongate; elytral breadth barely broadest behind middle. Dorsum bicolorous: head, pronotum, and most of elytron orange-testaceous; remainder of elytron with dark fuscous sutural area gradually narrowed from base to about apical 1/3 along margin and with lateral submarginal area shining black; antenna with segments 1–4 yellow-testaceous, 5–7 darker, 8–11 fuscous; venter yellow-testaceous to dark fuscous, mesepimeron and parts of abdomen darkest; legs yellow-testaceous. Length 2.85 mm; breadth 1.4.

Head: frons rather briefly flattened along anterior margin, surface depressed laterally, swollen medially above middle; interantennal space convexly swollen, breadth subequal to transverse diameter of antennal socket; orbit about 0.45 × as broad as antennal socket; interocular index 97; gena 0.55 × as deep as eye; postantennal swellings oblique, feebly raised; vertex shining, rather smooth. *Antenna* extending beyond middle of elytron; apical segments gradually thickened toward apices. *Prothorax* broadest before middle; pronotal index 69; anterior oblique; side convex; base bisinuate; disc subalutaceous, shining, obscurely punctulate, punctures mostly 0.3 × as large as interspaces; ante-basal impression moderately deep. *Elytron* 3.35 × as long as broad, broadest slightly behind middle; elytral length 3.45 × as long as pronotum; epipleuron continued to preapex, surface rather smooth; humerus moderately produced; central discal punctures mostly 0.5–0.7 × as large as interstices and 0.7–1 × as large as transverse interspaces; interspaces alutaceous. *Ventral surfaces:* metasternum rather smooth; abdomen submoderately punctate. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus 50: 35: 28; basitarsus not quite as long as remainder. *Wing* fully developed. *Spermatheca* as figured.

♂. Unknown.

VARIATION. Unique.

MATERIAL EXAMINED (n = 1). FIJI: *Taveuni:* Lectotype ♀ (BMNH), Qilai [Quilai], 240 m, 18.X.1924, H. S. Evans.

Of the 2 specimens comprising the type series, the specimen bearing the circular type label is designated here as lectotype; neither specimen is mentioned as type in original description. The other specimen (BMNH) is not this species.

DISTRIBUTION. Fiji (Taveuni). Endemic.

REMARKS. Closely related to an undescribed species from Viti Levu because of similar facies and spermathecal form; *parafijiensis*, n. sp. [Viti Levu] also has a similar type of spermatheca; differs from all Fiji members of genus by presence of 1 elytral costa on interstice 8; the costa is slightly accentuated by weakly impressed puncture row 8.

The other specimen described as *evansi* is referred here as sp. D [Taveuni]. It is also a ♀ and it bears a BMNH cotype label (circular with yellow border), but it represents a different, undescribed species which is related to *elongata* Gressitt [Ovalau, Viti Levu] because of the characteristic robust form of the spermatheca.

PLANT ASSOCIATES. None reported.

Crepidodera fijiensis Csiki Fig. 15p.

Crepidodera nigra Bryant, 1925, *Ann. Mag. Nat. Hist.* ser 9, **15:** 597 (Fiji: Vanua Levu—type in BMNH). (part)
Crepidodera fijiensis Csiki, 1939, Junk, Col. Cat. **25**(166): 298 (new name for *nigra* Bryant, *nec* Schilsky, 1908).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 77 (key), 79 (Fiji: Vanua Levu, Viti Levu). (part)

Lectotype ♂. Form subelongate, elytron feebly broadened to apical 1/3, thence abruptly rounded to apex. Dorsum subevenly dark fuscous; head with frons and gena yellow-testaceous, labrum and vertex fuscous; antenna yellow-testaceous to dark fuscous, basal 4 segments palest, apical 4 darkest; venter and legs largely brown-testaceous. Length 2.2 mm; breadth 1.05.

Head: frons swollen along anterior margin and raised medially, rather sharply depressed at side, surface ± smooth; interantennal space carinate, about 0.9 × as broad as transverse diameter of antennal socket; orbit 0.45 × as broad as antennal socket; interocular index 67; gena 0.5 × as deep as eye; postantennal swellings oblique, moderately swollen and smooth, separated medially by frontal carina and delimited from vertex by deep oblique groove; vertex rather smooth. *Antenna* extending to apical 1/3 of elytron; intermediate segments feebly thickened toward apices; apical segments slightly flattened and gradually thickened toward apices. *Prothorax* broadest along middle, base distinctly narrower than elytra at humeral angles, pronotal index 71; anteriorangle oblique-slightly concave; side weakly convex; base weakly sinuate; disc shining, finely punctulate, punctures mostly 0.2 × as large as interspaces; ante-basal impression rather deep. *Elytron* 2.85 × as long as broad, broadest slightly behind middle, side rather feebly convex along middle; epipleuron continued to apex, surface bearing a series of fine internal punctures basally; humerus and basal area submoderately swollen; disc slightly depressed postbasally, central discal punctures mostly 0.5–1 × as large as interstices and 1–1.5 × as large as transverse interspaces; interstices rather smooth; punctures becoming obsolete apically. *Ventral surfaces:* abdomen submoderately punctate, broadly but shallowly depressed before extremity. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 58: 52: 44; basitarsus distinctly longer than remainder. *Wing* fully developed. *Aedeagus* about 5.4 × as long as breadth at middle, see figure.

This specimen appears to be teneral; the dorsum is probably capable of becoming black instead of dark fuscous; also, the aedeagus is not fully tanned.

♀. Unknown.

VARIATION. Unique.

MATERIAL EXAMINED (n = 1). FIJI: *Vanua Levu:* Lectotype ♂ (BMNH), Labasa, IX. 1922, R. Veitch.

The lectotype of *Crepidodera nigra* Bryant (= *fijiensis* Csiki), by present designation, restricts the species to Vanua Levu. That specimen bears a BMNH type label (circular with red border), but it is not indicated as such in the original description. Of the 2 remaining syntypes, one, from Labasa, has not been seen; the other, from Mt Evans, Lautoka [Viti Levu], is transferred to *parafijiensis*, n. sp. Additional specimens from Viti Levu previously reported as this species are now assigned to *lami*, n. sp. and *parafijiensis*, n. sp.

DISTRIBUTION. Fiji (Vanua Levu). Endemic.

REMARKS. Rather close external resemblance to *lami*, n. sp. and *parafijiensis*, n. sp. [both from Viti Levu]; differs from these 2 species by having aedeagus narrowly prolonged apically instead of having apex broadly convex or obliquely narrowed (see figures).

PLANT ASSOCIATES. None reported.

Crepidodera gressitti Samuelson, new species Fig. 16a, 29g, 36.

Holotype ♂. Form subelongate, side gradually broadened to greatest breadth preapically. Dorsum bicolorous: head and prothorax, pro- and mesolegs yellow-testaceous, elytron piceous, with greenish-blue metallic lustre, antenna with segments 1–4 yellow-testaceous, 5 fuscescent, 6–11 fuscous; pro- and mesosterna

yellow-testaceous, metasternum piceous with blue lustre, abdomen fuscous; metafemur piceous with blue lustre, tibia and tarsus largely piceous. Length 2.85 mm; breadth 1.5.

Head: frons slightly swollen anteriorly and rather broadly carinate medially, side depressed; interantennal space convex, about 1.3 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 107; gena 0.55 × as deep as eye; postantennal swellings oblique, ± flat and delimited from vertex by distinct groove; vertex broadly convex, surface smooth. *Antenna* extending slightly beyond middle of elytron; apical segments somewhat flattened and gradually thickened toward apices. *Prothorax* broadest near middle, base much narrower than elytra at humeral angles; pronotal index 66; anterior angle short, oblique; side convex; base bisinuate, median lobe broadly and feebly produced, disc shining, micropunctate, punctures mostly 0.3 × as large as interspaces; antebasal impression moderately but not deeply impunctate. *Elytron* 2.9 × as long as broad, broadest at apical 2/5, side feebly convex along middle; epipleuron continued to apex, surface rather smooth but vaguely punctured along middle; humerus submoderately produced; disc not depressed postbasally, central discal punctures mostly 0.3–0.5 × as large as interstices and 0.7–1 × as large as transverse interspaces; interstices not swollen. *Ventral surfaces:* metasternum ± smooth; abdomen ± smooth, sparsely punctulate, surface with broad depression preapically. *Legs:* metafemur 2 × as long as broad. *Wing* fully developed. *Aedeagus* about 4.4 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Interantennal space 2 × as broad as transverse diameter of antennal socket; orbit 0.85 × as broad as antennal socket; interocular index 118; gena 0.65 × as deep as eye; abdomen flattened preapically. *Spermatheca* as figured. Length 3.1 mm; breadth 1.45.

VARIATION (n = 5). LENGTH 2.85–3.35 mm, mean 3.1; BREADTH 1.45–1.7 mm; HEAD BREADTH 77–87 cmm; INTEROCULAR SPACE 36–44 cmm; EYE 31–34 cmm; INTEROCULAR INDEX 107–130, mean 120; PRONOTAL LENGTH 61–75 cmm; PRONOTAL BREADTH 100–112 cmm; PRONOTAL INDEX 60–68, mean 65; ELYTRAL LENGTH 226–265 cmm. [1 ♂, 4 ♀♀]

TYPE SERIES (n = 5). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9823), Lami, V.1951, N. L. H. Krauss; allotopotype ♀ (BPBM), same locality as holotype, but IV.1951, Krauss; 1 paratopotype, same data as allotopotype (BPBM); 1 paratype, Colo-i-suva [Tholo-i-suva], 3–6.III.1963, Yoshimoto (BPBM); 1, Rewa, III.1906, Muir (BPBM).

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Related to undescribed unique specimen, sp. E (Fiji: Lau] because of similar form of spermatheca; differs from same by dorsal coloration: elytron black with metallic blue or green lustre instead of largely fuscous; similar in appearance to *oceanica* Gressitt [Fiji: Viti Levu], but interocular index is higher: commonly 120 instead of 95 or less; differs from sp. B [New Hebrides: Tana] by having elytron as above instead of merely black.

PLANT ASSOCIATES. None reported.

Crepidodera infuscata Samuelson, new species Fig. 16b, 29h.

Holotype ♂. Form subovate-elongate, rather parallel-sided along middle. Dorsum largely orange-testaceous with sides of prothorax and basal 2/3 of elytron moderately margined with piceous; head largely orange-testaceous, labrum piceous; antenna largely orange-testaceous, segments 1, 7–11 fuscescent to fuscous, propleuron piceous, prosternum orange-testaceous, ventral surfaces otherwise pitchy to dark fuscous; legs largely yellow- to orange-testaceous, metafemur dark pitchy brown. Length 2.35 mm; breadth 1.2.

Head: frons briefly raised along anterior margin, side depressed, finely carinate medially, surface alutaceous; interantennal space carinate, about 0.9 × as broad as transverse diameter of antennal socket; orbit 0.35 × as broad as antennal socket; interocular index 72; gena 0.4 × as deep as eye; postantennal swellings narrow-oblique, delimited from vertex by oblique groove; vertex shining, impunctate. *Antenna* extending to about apical 1/3 of elytron; intermediate and apical segments gradually thickened toward apices, apical 4 broadest. *Prothorax* broadest along middle, base narrower than elytra at humeral angles; pronotal index 73; anterior angle oblique, margin straight; side convex; base feebly sinuate, median lobe not produced;

disc smooth, micropunctate, punctures mostly 0.2–0.3 × as large as interspaces; ante-basal impression deep but briefly impressed, impunctate. *Elytron* 3 × as long as broad, broadest near middle, side feebly convex along middle; epipleuron continued nearly to apex, surface rather smooth; humerus weakly raised; disc feebly raised basally, thence shallowly and gradually depressed postbasally; central discal punctures mostly 0.7 × as large as interstices and 0.6–1 × as large as transverse interspaces; interstices not raised. *Ventral surfaces:* metasternum ± smooth; abdomen alutaceous, moderately punctulate. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 65: 55: 42; basitarsus about as long as remainder. *Wing* fully developed. *Aedeagus* about 7.2 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. *Spermatheca* as figured. Length 2.7 mm; breadth 1.35.

VARIATION (n = 8). LENGTH 2.35–2.7 mm, mean 2.55; BREADTH 1.2–1.4 mm; HEAD BREADTH 61–70 cmm; INTEROCULAR SPACE 24–29 cmm; EYE 31–34 cmm; INTEROCULAR INDEX 72–85, mean 78; PRONOTAL LENGTH 58–63 cmm; PRONOTAL BREADTH 62–70 cmm; PRONOTAL INDEX 68–76, mean 70; ELYTRAL LENGTH 187–215 cmm. [4 ♂♂, 4 ♀♀]

Dorsum largely bright orange-testaceous in most specimens; 1 specimen with dorsum more yellowish and another with elytron more reddish.

TYPE SERIES (n = 8). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9824), Nandarivatu, 910–1130 m, 3.IX.1938, beating, E. C. Zimmerman; allotype ♀ (BPBM), Navai Mill nr Nandarivatu, 760 m, 17.IX.1938, beating, Zimmerman; 1 paratopotype, same data as holotype (BPBM); paratypes (BPBM) as follows: 2, Mt Victoria, Tholo North, 910–1220 m, 13.IX.1938, beating shrubbery, Zimmerman; 1, Navai-Nasonga trail, W slope, 760–910 m, 12.IX.1938, beating, Zimmerman; 1, ridge W of Nandarivatu, 850 m, 11.IX.1938, beating shrubbery, Zimmerman; 1, Tholo-i-suva, 150 m, 25.VII.1938, beating shrubs, Zimmerman.

BPBM paratypes to BMNH, USNM.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Related to *oceanica* Gressitt [Fiji: Viti Levu] because of similar form of spermatheca; differs from same by paler elytral coloration; aedeagus with apex flat in lateral outline instead of raised.

PLANT ASSOCIATES. None reported.

Crepidodera kraussi Gressitt Fig. 16c, 29i.

Crepidodera kraussi Gressitt, 1957, *Pacific Sci.* **11:** 78 (key), 79 (Fiji: Viti Levu—type in BPBM).

♂ (Lami). Form elongate, parallel-sided. Dorsum piceous: pronotum with slight greenish lustre, elytron with violaceous lustre; antenna orange-testaceous, segments 1, 6–11 fuscescent; ventral surfaces and legs dark fuscous to piceous. Length 2.4 mm; breadth 1.1.

Head: frons briefly swollen along anterior margin and carinate medially, side well impressed; interantennal space carinate, breadth subequal to transverse diameter of antennal socket; orbit about 0.35 × as broad as antennal socket; interocular index 78; gena 0.45 × as deep as eye; postantennal swellings oblique, slightly raised and delimited fron vertex by distinct groove; vertex broadly convex, surface shining, micropunctate. *Antenna* extending nearly to apical 1/5 of elytron; apical segments gradually thickened toward apices. *Prothorax* broadest near middle, base much narrower than elytra at humeral angles; pronotal index 73; anterior angle oblique, margin feebly convex; side slightly convex; base sinuate, median lobe broad and feebly produced; disc shining, micropunctate with most punctures 0.2 × as large as interspaces; ante-basal impression deep, impunctate. *Elytron* 3.25 × as long as broad, broadest along middle, side feebly convex along middle; epipleuron continued nearly to apex, surface ± smooth; humerus briefly swollen; disc broadly swollen basally, thence transversely impressed postbasally; central discal punctures mostly 1–1.5 × as large as interstices and 2 × as large as transverse interspaces; interstices not or feebly swollen. *Ventral surfaces:* metasternum ± smooth, sparsely micropunctate; abdomen smooth to subgranulate, sparsely punctulate, surface with large deep circular impression apically. *Legs:* metafemur 2.2 × as long as broad; relative

lengths of metafemur, -tibia, -tarsus are 67: 53: 48; basitarsus slender, slightly longer than remainder. *Wing* fully developed. *Aedeagus* about 11.0 × as long as breadth at middle, see figure.

♀ (Lami). Similar to ♂. Abdomen lacking circular impression apically. *Spermatheca* as figured. Length 2.5 mm; breadth 1.2.

VARIATION (n = 10). LENGTH 2.4–2.6 mm, mean 2.45; BREADTH 1.05–1.25 mm; HEAD BREADTH 58–66 cmm; INTEROCULAR SPACE 20–25 cmm; EYE 31–33 cmm; INTEROCULAR INDEX 63–78, mean 70; PRONOTAL LENGTH 53–61 cmm; PRONOTAL BREADTH 75–85 cmm; PRONOTAL INDEX 68–76, mean 72; ELYTRAL LENGTH 180–203 cmm. [6 ♂♂, 3 ♀♀, 1 U]

MATERIAL EXAMINED (n = 11). FIJI: *Viti Levu:* 3 (holotype, allotopotype, paratopotype), Lami Quarry nr Suva, V.1951, Krauss (BPBM); additional specimens (BPBM): 1, same data as preceding; 3, Lami, IV.1951, Krauss; 1, same locality, 1920, Pemberton; 1, Nandarivatu, ridge W of Vatuthere, 790–910 m, 8.IX.1938, beating, Zimmerman; 1, Navai Mill nr Nandarivatu, 760 m, 17.X.1938, beating, Zimmerman; *Ovalau:* 1, Wainiloka, 60 m, 11.VII. 1938, beating, Zimmerman. New to Ovalau.

DISTRIBUTION. Fiji (Viti Levu, Ovalau). Endemic.

REMARKS. Related to *parafijiensis*, n. sp. [Viti Levu] because of somewhat similar form of spermatheca, but the distal part of spermathecal duct is narrower (see figures) and aedeagus about 10 × as long as breadth at middle instead of 7 × or less; differs from other blackish species from Fiji by having greenish lustre on pronotum and violaceous lustre on elytron.

PLANT ASSOCIATES. None reported.

Crepidodera lami Samuelson, new species Fig. 16d, 29j.

Holotype ♂. Form subrobust-elongate, side gently convex along middle. Dorsum piceous; head dark fuscous to piceous, vertex darkest; antenna orange-testaceous to dark fuscous, segments 3–5 palest; venter and legs largely orange-fulvous to dark fuscous. Abdominal sterna 2–3 with submedian hair-tufts; hairs pale, slender, directed toward meson. Length 2.2 mm; breadth 1.15.

Head: frons briefly raised along anterior margin, finely carinate medially, side depressed, surface alutaceous; interantennal space carinate, about 0.9 × as broad as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 66; gena 0.5 × as deep as eye; postantennal swellings oblique, surfaces slightly raised, smooth, delimited from vertex by oblique groove; vertex shining, impunctate. *Antenna* extending to apical 1/5 of elytron; intermediate and apical segments gradually thickened toward apices, apical 4 distinctly broader than preceding ones. *Prothorax* broadest near middle, base much narrower than elytra at humeral angles; pronotal index 71; anterior angle oblique, surface weakly concave; side convex; base feebly sinuate, slightly produced across middle; disc ± smooth, finely punctulate, punctures mostly 0.2–0.3 × as large as interspaces; ante-basal impression deep but briefly impressed, bearing a transverse row of obscure punctures. *Elytron* 3 × as long as broad, broadest near middle, gently convex along middle; epipleuron continued nearly to apex, surface ± smooth; humerus slightly produced; disc weakly swollen basally, slightly and gradually depressed postbasally; central discal punctures mostly 0.3–0.7 × as large as interstices and 0.5–1 × as large as transverse interspaces; interstices not raised. *Ventral surfaces:* metasternum ± smooth; abdomen smooth to subgranulate, moderately punctulate. *Legs:* metafemur 1.85 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 37: 34: 25; basitarsus about as long as remainder. *Wing* fully developed. *Aedeagus* about 7.1 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Abdomen rather sparsely set with pale hairs submedially on apical 4 sterna. *Spermatheca* as figured. Length 2.4 mm; breadth 1.2.

VARIATION (n = 25). LENGTH 1.90–2.45 mm, mean 2.25; BREADTH 0.9–1.2 mm; HEAD BREADTH 51–66 cmm; INTEROCULAR SPACE 16–27 cmm; EYE 27–34 cmm; INTEROCULAR INDEX 58–72, mean 67; PRONOTAL LENGTH 44–58 cmm; PRONOTAL BREADTH 65–83 cmm; PRONOTAL INDEX 67–72, mean 70; ELYTRAL LENGTH 160–195 cmm. [20 ♂♂, 5 ♀♀]

TYPE SERIES (n = 28). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9825), Lami, III.1951,

N. L. H. Krauss; allotopotype ♀ (BPBM), same data, but IV.1951; paratopotypes (BPBM) as follows: 1, Lami, III.1951, Krauss; 2, Lami, IV.1951, Krauss; 3, Lami, V.1951, Krauss; 1, Lami, I.1955, Krauss; 19, Lami Quarry nr Suva, V.1951, Krauss.

BPBM paratypes to BMNH, FREY, USNM.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Rather closely related to *ovalauensis*, n. sp. [Fiji: Ovalau] because of similar form of spermatheca, including coiled distal spermathecal duct; differs from same by smaller size, absence of violaceous lustre on dorsum, pronotal ante-basal impression deep instead of shallow; differs from *parafijiensis*, n. sp. [Fiji: Viti Levu] by having distal spermathecal duct coiled instead of simply arched; differs from all Pacific island species of *Crepidodera* by having apex of aedeagus dilated and nearly circular in outline.

PLANT ASSOCIATES. None reported.

Crepidodera oceanica Gressitt Fig. 16e, 29k.

Crepidodera oceanica Gressitt, 1957, *Pacific Sci.* **11:** 78 (+key), fig. 41a (Fiji: Viti Levu—type in BPBM).
Crepidodera dimidiata: Bryant, 1936, *Ann. Mag. Nat. Hist.* ser 10, **17:** 251 (?Australia, Fiji) (part).

♂ (Lami). Form subelongate, ± parallel-sided. Dorsum bicolorous: head and prothorax yellow-testaceous, elytron piceous with slight shiny lustre; antenna yellow-testaceous with apical segments fuscescent; ventral surfaces and metafemur dark fuscous to piceous; legs otherwise yellow- to orange-testaceous. Length 2.4 mm; breadth 1.2 mm.

Head: frons feebly swollen anteriorly and rather finely carinate medially, side not strongly depressed; interantennal space carinate, about 1.1 × as broad as transverse diameter of antennal socket; orbit 0.55 × as broad as antennal socket; interocular index 75; gena 0.45 × as deep as eye; postantennal swellings oblique, not strongly swollen, delimited from vertex by distinct groove; vertex evenly convex, surface rather smooth. *Antenna* extending to about apical 1/5 of elytron; apical segments flattened and gradually thickened toward apices. *Prothorax* broadest near middle, base distinctly narrower than elytra at humeral angles; pronotal index 70; anterior angle oblique, almost continuous with side; side convex; base sinuate, median area not distinctly produced; disc shining, punctures mostly 0.2–0.3 × as large as interspaces; ante-basal impression moderately but not deeply impressed, impunctate. *Elytron* 3.0 × as long as broad, broadest slightly behind middle, side rather straight along middle; epipleuron continued to apex, surface rather smooth and bearing a few punctures anteriorly; humerus feebly swollen; disc weakly swollen basally, thence weakly impressed postbasally; central discal punctures mostly 0.5–1.3 × as large as interstices and 1–2 × as large as transverse interspaces; interstices not swollen. *Ventral surfaces:* metasternum ± smooth; abdomen smooth to alutaceous, sparsely punctulate, surface with shallow circular impression preapically. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 42: 37: 31; basitarsus slender, slightly longer than remainder. *Wing* fully developed. *Aedeagus* about 6.2 × as long as breadth at middle, see figure.

♀ (Lami). Similar to ♂. Basal antennal segments fuscescent; abdomen with surface broadly convex preapically. *Spermatheca* as figured. Length 2.55 mm; breadth 1.25.

VARIATION (n = 30). LENGTH 2.2–3.25 mm, mean 2.6; BREADTH 1.1–1.55 mm; HEAD BREADTH 65–78 cmm; INTEROCULAR SPACE 23–32 cmm; EYE 31–35 cmm; INTEROCULAR INDEX 68–95, mean 81; PRONOTAL LENGTH 58–71 cmm; PRONOTAL BREADTH 78–100 cmm; PRONOTAL INDEX 69–76, mean 73; ELYTRAL LENGTH 172–254 cmm. [13 ♂♂, 17 ♀♀]

Pronotum yellow- to orange-testaceous, rarely infuscated at side; elytron usually black, sometimes dark red-fuscous discally.

MATERIAL EXAMINED (n = 112). FIJI: *Viti Levu:* 46 (holotype, allotopotype, paratopotypes), Lami Quarry nr Suva, V.1951, Krauss (AMNH, BPBM); mostly BPBM material: 7 (paratypes), Lami, V.1951, Krauss; 2 (paratypes), same loc., I.1955, Krauss; 4 (paratypes), same loc., III.1955, Krauss; additional specimens: 7, Lami, III.1951, Krauss; 30, same loc., IV.1951, Krauss; 2, same loc., XI.1957, Krauss; 1, Tholo-i-suva, 150 m, 25.VII.1938, beating shrubs,

Zimmerman; 1, same loc., II.1951, Krauss; 3, same loc., IV.1951, Krauss (BPBM, USNM); 1, same loc. [Colo-i-suva], 3–6.III.1963, Yoshimoto; 2, Mt Korombamba, 370 m, 1.VIII.1938, beating shrubs, Zimmerman; 1, Nandarivatu, 1100 m, 10.IX.1938, beating shrubbery, Zimmerman; 2, ridge W of Nandarivatu, 850 m, 11.IX.1938, beating shrubs, Zimmerman; 2, Navai Mill nr Nandarivatu, 760 m, 17.IX.1938, beating, Zimmerman; 1, Belt Road, 70–73 km W of Suva, 90 m, beating shrubs, Zimmerman.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Related to *infuscata*, n. sp. [Fiji: Viti Levu] by having spermatheca of similar form (see figures); differs from same by dorsal coloration: elytron entirely black instead of largely fuscous; see *infuscata*, n. sp. for comments on aedeagi; allied to sp. A [New Hebrides: Pentecost], but differs from same by having aedeagus obliquely narrowed to apex instead of weakly dilated before a small apical prolongation; differs from *gressitti*, n. sp. [Viti Levu] by having interocular index not more than 95 instead of commonly 120, elytron merely black without bright blue or green lustre.

Crepidodera dimidiata Baly [Australia] was cited for Fiji by Bryant (1936: 251), but Gressitt pointed out differences (Bryant & Gressitt, 1957: 78) and went on to describe one Fijian form as *oceanica*. These species appear to be somewhat related because of ± similar facies of body; *oceanica* differs from *dimidiata* as follows: smaller size, length commonly less than 3.25 mm instead of 3.65; elytron black without metallic lustre instead of with metallic violaceous lustre; scutellum with apex acute instead of U-shaped; metatibia linear instead of distinctly bent near middle; aedeagus ± parallel-sided postbasally instead of narrowed. Dr E. C. Zimmerman is to be credited for most of the original observations distinguishing these 2 species.

In general appearance, *gressitti*, n. sp. [Fiji: Viti Levu] even more closely resembles *dimidiata* because of the metallic elytra, but they can be separated as follows: smaller, body length commonly less than 3.35 mm instead of 3.65; elytron with blue or blue-green lustre instead of violaceous; interocular index 107–130 (mean 120) instead of 98; scutellum with apex subacute instead of U-shaped; metatibia linear instead of bent; aedeagus more robust, about 4.4 × as long as breadth at middle instead of 6.4 ×.

PLANT ASSOCIATES. None reported.

Crepidodera ovalauensis Samuelson, new species Fig. 16f, 29l.

Holotype ♂. Form subrobust-elongate, side gently convex along middle. Dorsum piceous with slight metallic violaceous lustre; head orange-fuscous to piceous, vertex darkest; antenna with segments 1, 8–11 fuscescent, 2–7 yellow-testaceous; venter and legs largely orange pitchy brown to fuscous, metafemur piceous with violaceous lustre. Abdominal sterna 2–3 with submedian hair-tufts, hairs pale, obliquely directed toward meson. Length 2.7 mm; breadth 1.35.

Head: frons briefly swollen along anterior margin and carinate medially, side depressed, surface alutaceous; interantennal space carinate, about 0.85 × as large as transverse diameter of antennal socket; orbit 0.5 × as broad as antennal socket; interocular index 69; gena 0.45 × as deep as eye; postantennal swellings oblique, delimited from vertex by distinct groove; vertex weakly convex, surface shining, impunctate. *Antenna* extending beyond middle of elytron; apical segments somewhat flattened and gradually thickened toward apices. *Prothorax* broadest near middle, base slightly narrower than elytra at humeral angles; pronotal index 69; anterior angle short, oblique; side convex; base feebly sinuate, broadly but feebly produced medially; disc shining, micropunctate, punctures mostly 0.3 × as large as interspaces; ante-basal impression feebly impressed, set with a transverse row of ± obscure punctures. *Elytron* 3 × as long as broad, broadest slightly before middle, side gently convex along middle; epipleuron continued nearly to apex, surface shining, vaguely punctate internally along middle; humerus moderately swollen; disc weakly swollen basally, thence feebly impressed postbasally; central discal punctures 0.5–0.7 × as large as interstices and 1 × as large as

transverse interspaces; interstices not swollen. *Ventral surfaces:* metasternum ± smooth; abdomen alutaceous, sparsely punctulate, surface with large shallow circular impression preapically. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 74: 58: 47; basitarsus slender, slightly longer than remainder. *Wing* fully developed. *Aedeagus* about 5.7 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Abdomen rather sparsely set with slender pale hairs submedially on apical 4 sterna, surface broadly convex apically. *Spermatheca* as figured. Length 2.95 mm; breadth 1.4.

VARIATION (n = 15). LENGTH 2.45–2.95 mm, mean 2.65; BREADTH 1.25–1.45 mm; HEAD BREADTH 65–71 cmm; INTEROCULAR SPACE 22–28 cmm; EYE 33–36 cmm; INTEROCULAR INDEX 66–79, mean 72; PRONOTAL LENGTH 56–68 cmm; PRONOTAL BREADTH 85–97 cmm; PRONOTAL INDEX 66–72, mean 69; ELYTRAL LENGTH 192–221 cmm. [11 ♂♂, 4 ♀♀]

TYPE SERIES (n = 15). FIJI: *Ovalau:* Holotype ♂ (BPBM 9826), Wainiloka, 28.IX. 1937, J. M. Valentine; allotopotype ♀ (BPBM), same data as holotype; 8 paratopotypes, same data as preceding (BPBM); 5 paratypes, same locality, 30–60 m, 11.VII.1938, Kondo (BPBM).

BPBM paratypes to BMNH, CASC, USNM.

DISTRIBUTION. Fiji (Ovalau). Endemic.

REMARKS. Rather closely related to *lami*, n. sp. [Fiji: Viti Levu] because of abdominal hair-tufts on sterna 2 and 3 in ♂ and similar form of spermatheca in ♀; differs from same by having ante-basal impression of pronotum shallow instead of deep; see *lami*, n. sp. for other differences; also similar to *fijiensis* Csiki [Fiji: Vanua Levu] by having aedeagus prolonged apically (see figure); differs from preceding by having ante-basal impression shallow, coloration of dorsum violaceous instead of black; differs from *rotunda* Gressitt [Viti Levu] by having ante-basal impression more distinct, narrower body form.

PLANT ASSOCIATES. None reported.

Crepidodera parafijiensis Samuelson, new species Fig. 16g, 29m.

Holotype ♂. Form subrobust-elongate, parallel-sided along middle. Body surfaces and legs largely piceous to shining black; antenna partly orange-testaceous, scape and apical segments darkened; apex of metafemur pale. Length 2.25 mm; breadth 1.15.

Head: frons briefly raised along anterior margin, side impressed, carinate medially, surface alutaceous; interantennal space carinate, about 0.75 × as broad as transverse diameter of antennal socket; orbit 0.35 × as broad as antennal socket; interocular index 74; gena 0.4 × as deep as eye; postantennal swellings oblique, slightly raised, smooth, delimited from vertex by deep oblique groove; vertex slightly convex, smooth, shining. *Antenna* extending beyond middle of elytron [incomplete]. *Prothorax* broadest near middle, base distinctly narrower than elytra at humeral angles; pronotal index 69; anterior angle rather short, oblique; side weakly convex; base feebly sinuate, feebly convex across middle; disc smooth, shining, sparsely micropunctate, punctures mostly 0.2 × as large as interspaces; ante-basal impression deep but briefly impressed, impunctate. *Elytron* 3.2 × as long as broad, broadest near middle, side nearly straight along middle; epipleuron ending preapically, surface ± smooth; humerus weakly produced; disc barely swollen basally, feebly and gradually depressed postbasally; central discal punctures mostly 0.7–1 × as large as interstices and transverse interspaces; interstices not raised. *Ventral surfaces:* metasternum ± smooth; abdomen smooth to subgranulate, submoderately punctulate, lacking hair-tufts submedially. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 41: 31: 25; basitarsus distinctly longer than remainder. *Wing* fully developed. *Aedeagus* about 7 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Antenna extending beyond middle of elytron. *Spermatheca* as figured. Length 2.6 mm; breadth 1.35.

VARIATION (n = 7). LENGTH 2.25–2.65 mm, mean 2.4; BREADTH 1.15–1.35 mm; HEAD BREADTH 58–66 cmm; INTEROCULAR SPACE 22–30 cmm; EYE 28–34 cmm; INTEROCULAR INDEX 70–98, mean 82; PRONOTAL LENGTH 51–60 cmm; PRONOTAL BREADTH 77–90 cmm; PRONOTAL INDEX 66–72, mean 68; ELYTRAL LENGTH 182–215 cmm. [2 ♂♂, 5 ♀♀]

TYPE SERIES (n = 8). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9827), Tholo-i-suva, 150 m, 25.VII.1938, beating shrubs, E. C. Zimmerman; allotype ♀ (BPBM), Mt Victoria, Tholo North, 910–1220 m, 13.IX.1938, beating shrubbery, Zimmerman; paratypes (mostly BPBM) as follows: 1 ♀, same data as allotype; 2 ♀♀ paratypes, same loc., W slope, 910 m, 16.IX.1938, beating, Zimmerman; 1 ♀ paratype, Navai, V.1951, Krauss; 1 ♂ paratype, Mt Korombamba, 240–370 m, 1.VIII.1938, beating shrubs, Zimmerman; 1 ♂ paratype, Mt Evans, Lautoka, 4.IV.1920 (BMNH, syntype of *nigra* Bryant). Additional specimens (BPBM), probably this species: 2 ♀♀, Lami Quarry nr Suva, V.1951, Krauss; 1 ♀, Lami, V.1951, Krauss.

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Close resemblance to *lami*, n. sp. [Fiji: Viti Levu] and *fijiensis* Csiki [Fiji: Vanua Levu]; tends to differ from both species by having basal area of elytron flatter with punctures usually 0.5 × or larger than interstices instead of more strongly raised with punctures mostly 0.5 × or smaller than interstices; ♂ lacks abdominal hair-tufts that are characteristic in *lami*, n. sp. [Viti Levu] and *ovalauensis*, n. sp. [Ovalau], also significant differences in form of aedeagus (see figures).

PLANT ASSOCIATES. None reported.

Crepidodera rotunda Gressitt Fig. 29n.

Crepidodera rotunda Gressitt, 1957, *Pacific Sci.* **11:** 78 (key), 80 (Fiji: Viti Levu—type in BPBM).

♀ (holotype). Form subovate, side rather convex. Dorsum piceous; antenna yellow-testaceous; ventral surfaces and metafemur piceous; legs otherwise orange-testaceous to fuscescent, femora darkest. Length 2.3 mm; breadth 1.3.

Head: frons weakly swollen anteriorly, rather broadly carinate medially, side impressed; interantennal space carinate, breadth about 1.45 × as broad as transverse diameter of antennal socket; orbit 0.55 × as broad as antennal socket; interocular index 80; gena 0.4 × as deep as eye; postantennal swellings oblique, delimited from vertex by distinct groove; vertex evenly convex, surface shining, sparsely micropunctate. *Antenna* extending to about middle of elytron; apical segments gradually thickened toward apices. *Prothorax* broadest at posterior angles; base slightly narrower than elytra at humeral angles; pronotal index 63; anterior angle oblique, margin rather straight; side convex; base sinuate, median lobe broad and slightly produced; disc shining, micropunctate, punctures mostly 0.2–0.3 × as large as interspaces; ante-basal impression shallow, set with a transverse row of punctures. *Elytron* 3 × as long as broad, broadest at apical 1/3, side convex along middle; epipleuron continued nearly to apex, surface ± smooth, with an internal row of ± large shallow punctures along middle; humerus broadly but weakly produced; disc not impressed postbasally; central discal punctures mostly 1 × as large as interstices and 0.5–1 × as large as transverse interspaces; interstices not swollen. *Ventral surfaces:* metasternum ± smooth; abdomen granulate, sparsely punctulate. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 64: 50: 42; basitarsus slender, distinctly longer than remainder. *Wing* fully developed. *Spermatheca* as figured.

♂. Not known.

VARIATION (n = 3). LENGTH 2.25–2.5 mm, mean 2.35; BREADTH 1.25–1.35 mm; HEAD BREADTH 61–66 cmm; INTEROCULAR SPACE 25–27 cmm; EYE 30–32 cmm; INTEROCULAR INDEX 80–84, mean 82; PRONOTAL LENGTH 54–60 cmm; PRONOTAL BREADTH 87–95 cmm; PRONOTAL INDEX 63 in all specimens; ELYTRAL LENGTH 187–191 cmm. [3 ♀♀]

MATERIAL EXAMINED (n = 3). FIJI: *Viti Levu:* 2 (holotype ♀, paratopotype ♀), Lami Quarry nr Suva, Krauss (BPBM); 1 additional ♀, Lami, XI.1957, Krauss (BPBM).

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Allied to *parafijiensis*, n. sp. [Fiji: Viti Levu] because of similar form of spermatheca; differs from same and *lami*, n. sp. [Viti Levu] by more robust body form (see figures) and ante-basal impression of pronotum shallow instead of deep.

PLANT ASSOCIATES. None reported.

Crepidodera semifuscata Samuelson, new species Fig. 16h.

Holotype ♂. Form elongate, side feebly convex along middle. Dorsum bicolorous: head, prothorax, basal 3/8 of elytron yellow-testaceous, remainder of elytron dark fuscous with slight metallic blue lustre; antenna with basal segments pale, apical ones missing; venter and legs largely yellow-testaceous. Length 2.85 mm; breadth 1.25.

Head: frons swollen along anterior margin, carinate medially; interantennal space carinate, about 0.85 × as broad as transverse diameter of antennal socket; orbit 0.35 × as broad as antennal socket; interocular index 86; gena 0.5 × as deep as eye; postantennal swellings oblique, surfaces somewhat swollen and delimited from vertex by oblique-arched groove; vertex evenly convex, surface shining, micropunctate. *Antenna* incomplete. *Prothorax* broadest slightly before middle, base much narrower than elytra at humeral angles; pronotal index 80; anterior angle short, oblique; side feebly convex; base weakly sinuate, nearly straight across middle; disc vaguely punctulate, punctures mostly 0.3–0.5 × as large as interspaces; antebasal impression fairly broad and deep, impunctate. *Elytron* 3.4 × as long as broad, broadest near middle, side feebly convex along middle; epipleuron continued nearly to apex, surface ± smooth; humerus weakly produced; disc slightly swollen basally, barely depressed postbasally; central discal punctures mostly 1–1.5 × as large as interstices and 1–2 × as large as transverse interspaces; interstices not raised. *Ventral surfaces:* metasternum ± smooth; abdomen finely subgranulate, sparsely punctulate. *Legs:* metafemur 2.4 × as long as broad; relative lengths of metafemur, -tibia are 25: 17; basitarsus fully 0.5 × as long as tibia. *Wing* fully developed. *Aedeagus* about 7.3 × as long as breadth at middle, see figure.

♀. Unknown.

VARIATION (n = 2). LENGTH 2.85–3.0 mm; BREADTH 1.25–1.3 mm; HEAD BREADTH 75–78 cmm; INTEROCULAR SPACE 29–31 cmm; EYE 36–38 cmm; INTEROCULAR INDEX 76–86; PRONOTAL LENGTH 68–71 cmm; PRONOTAL BREADTH 85–90 cmm; PRONOTAL INDEX 79–80; ELYTRAL LENGTH 215–230 cmm. [2 ♂♂]

TYPE SERIES (n = 2). FIJI: *Viti Levu:* Holotype ♂ (BPBM 9828), Lami, IV.1951, N. L. H. Krauss; 1 paratopotype, same data as holotype (BPBM).

DISTRIBUTION. Fiji (Viti Levu). Endemic.

REMARKS. Allied to *elongata* Gressitt [Fiji: Ovalau, Viti Levu] because of similar facies including elongate body form; differs from same by having prothorax more subquadrate: pronotal index 79–80 instead of around 71, elytral interstices flat instead of swollen, elytron fuscous apically instead of entirely pale, aedeagus more bluntly narrowed at apex (see figures).

PLANT ASSOCIATES. None reported.

Incertae Sedis

Crepidodera brullei Montrouzier Eumolpinae?

Crepidodera brullei Montrouzier, 1861, *Ann. Soc. Ent. France* ser 4, **1:** 300 (Lifu—type lost?).—Fauvel, 1867, *Bull Soc. Linn. Normandie* ser 2, **1:** 207.—Heller, 1916, *In* Sarasin & Roux, Nova Caledonia ser A, **2**(3): 258.

Eight eumolpines from Coll. A. Fauvel (ISNB) are determined as "*Dumbea brullei* Montr.". Five of these specimens bear locality labels, which indicate various localities on New Caledonia, but not Lifou. Two of these specimens have determination labels only.

Genus **Arsipoda** Erichson

Arsipoda Erichson, 1842, *Archiv. f. Naturg.* **8:** 235 (type: *A. bifrons* Erichson; Tasmania—monobasic).—Chapuis, 1875, Gen. Col. **11:** 36, 38 (key).—Blackburn, 1896, *Trans. R. Soc. S. Australia* **20:** 43 (+key).—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 39 (footnote); 1951, ibid. **32**(1–3): 164 (footnote).

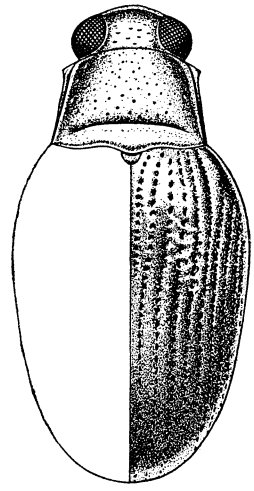

Fig. 37. *Arsipoda shirleyae*, dorsal view.

Eratosthenes Clark, 1865, *J. Ent.* **2:** 261, pl. 12, fig. 6 (type: *E. flavus* Clark; Australia).—Chapuis, 1875, Gen. Col. **11:** 38 (synonymized).

DIAGNOSIS. Subovate, ovate alticines of small (New Caledonia species) to moderate size. Interantennal space generally broader than diameter of antennal socket; postantennal swellings ± obsolete; antenna 11-segmented, attaining elytral disc to apex, apical segments thickened; pronotum with ante-basal impression, impression bounded at side by short longitudinal fovea; elytral puncturation seriate; procoxa globose; procoxal cavity closed; metatibia dilated preapically, excavated apically with apical margins set with fine bristles; metatibial spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀; probasitarsus larger in ♂.

REMARKS. Allied to *Xenidea* Baly [Australia, New Guinea] and *Crepicnema* Scherer [India to Philippines, also Australia, New Guinea], but further study is needed before the relationships of these genera can be ascertained. Differs from *Chaetocnema* Stephens [Cosmopolitan] by not having mesotibia excised.

DISTRIBUTION. Australia, New Guinea, Solomons, New Caledonia.

Key to Pacific island species of Arsipoda

1. Groove delimiting side of vertex along inner eye margin distinct and continued to postantennal region 2
   Groove delimiting side of vertex along inner eye margin absent or obsolescent: at most, a fine sulcus not continued to postantennal region 3
2. Vertex rather flat between eyes; dorsum orange-testaceous [length 2.9–3.0 mm—New Caledonia] ..... **agalma***
   Vertex raised, transeversely convex between eyes; dorsum black with bright lustre [length 1.75–2.5 mm—Solomons] ..... (**salomonensis** Bryant)
3. Form relatively slender: body commonly about 2 × as long as broad; length exceeding 1.7 mm; dorsum yellow- to orange-testaceous 4
   Form relatively robust: body commonly about 1.8 × as long as broad; length 1.5–1.7 mm; dorsum evenly dark fuscous to subpiceous [New Caledonia] ..... **evax***

4. Pronotum with lateral margin straight or concave.....5
Pronotum with lateral margin slightly convex [dorsum yellow- to orange-testaceous; length 2.1–2.45 mm—New Caledonia].....**yiambiae***
5. Discal punctures of pronotum deep, subequal in size to those on basal 1/2 of elytron; ante-basal impression not bounded at side by distinct fovea; antennal segment 3 usually shorter than 2 and subequal to 4 [length 1.8–2.2 mm—New Caledonia].....**isola***
Discal punctures of pronotum distinct but much smaller than those on basal 1/2 of elytron; ante-basal impression bounded at side by distinct fovea; antennal segment 3 slightly longer than 2 and much longer than 4 [length 2.1–2.5 mm—New Caledonia].....**shirleyae***

Arsipoda agalma Samuelson, new species Fig. 16i.

Holotype ♂. Form subelongate. Dorsum orange-testaceous; antenna with basal 4 segments yellow-testaceous, remainder darker, reddish brown; venter and metaleg orange-testaceous; pro- and mesoleg yellow-testaceous. Length 3.0 mm; breadth 1.55.

Head: frons slightly raised, punctulate; interantennal space slightly convex, about 2 × as broad as transverse diameter of antennal socket; orbit 0.6 × as broad as antennal socket; interocular index 97; gena 0.25 × as deep as eye; postantennal swellings obsolete; groove delimiting frons and vertex distinct and continued along inner eye margin; vertex rather flat between eyes, surface granulate and bearing punctures. *Antenna* extending to about middle of elytron; segments becoming gradually thickened apically. *Prothorax* broadest at posterior angles, slightly narrower than elytra at humeral angles; pronotal index 54; anterior angle oblique; side straight; base weakly sinuate, median lobe broad and weakly produced; disc coarsely punctate, punctures mostly 2–4 × as large as interspaces, interspaces granulate; ante-basal impression moderately deep, lateral fovea distinct. *Elytron* 2.85 × as long as broad, broadest near basal 1/4; epipleuron ending preapically, surface subgranulate, finely punctate along inner margin; humerus moderately produced; disc gradually and shallowly depressed postbasally; central discal punctures mostly 1 × as large as interstices and 3–4 × as large as transverse interspaces; interstices swollen, moderately costate, surfaces subgranulate. *Ventral surfaces* largely subgranulate; abdominal sternum 1 moderately punctate. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 59: 44: 26; basitarsus not as long as remainder. *Wing* fully developed. *Aedeagus* 4.5 × as long as breadth at middle, see figure.

♀. Not known.

VARIATION (n = 2). LENGTH 2.9–3.0 mm; BREADTH 1.45–1.55 mm; HEAD BREADTH 71–80 cmm; INTERANTENNAL SPACE 16–17 cmm; INTEROCULAR SPACE 32–39 cmm; EYE 33–37 cmm; INTEROCULAR INDEX 97–105; PRONOTAL LENGTH 55–62 cmm; PRONOTAL BREADTH 102–103 cmm; PRONOTAL INDEX 54–60; ELYTRAL LENGTH 212–215 cmm. [2 ♂♂]

A second ♂ from a lower elevation (Valley d'Amoa) in the vicinity of the type locality (Mt Panier) generally resembles the holotype ♂, but the apical prolongation of the aedeagus is shorter and the pronotal and interocular indices are higher.

TYPE SERIES (n = 2). NEW CALEDONIA: Holotype ♂ (BPBM 9829), Mt Panier, 500–1000 m, 11.X.1967, J. & M. Sedlacek; 1 ♂ specimen, Vall. d'Amoa, 7.II.1963, C. M. Yoshimoto (BPBM).

DISTRIBUTION. New Caledonia. Endemic.

REMARKS. This is the only known New Caledonia member of the genus which has a distinct sulcus delimiting the anterior portion of the vertex.

PLANT ASSOCIATES. None reported.

Arsipoda evax Samuelson, new species Fig. 16j, 29o.

Holotype ♂. Form subovate, side moderately convex. Dorsum dark fuscous; antenna orange-testaceous; venter fuscous; legs orange-testaceous to pitchy brown, metafemur darkest. Length 1.55 mm; breadth 0.85.

Head: frons slightly elevated, flattened, surface subgranulate; interantennal space flat but broadly raised,

about 1.9 × as broad as transverse diameter of antennal socket; orbit 0.6 × as broad as antennal socket; interocular index 97; gena 0.25 × as deep as eye; postantennal swellings obsolete; vertex delimited from upper frons by ± broadly impressed oblique line, surface rather evenly convex, granulated and bearing small deep punctures, mostly a little smaller than interspaces. *Antenna* extending nearly to middle of elytral disc; apical segments rather strongly flattened and thickened toward apices. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 56; anterior angle short, oblique-rounded; side rather feebly but evenly convex; base sinuate, median lobe broad and deeper than scutellum; disc granulate and bearing small deep punctures, mostly 0.7–1 × as large as interspaces; ante-basal impression fine but distinct. *Elytron* 2.7 × as long as broad, broadest at basal 1/4, side moderately convex before middle, nearly straight behind middle, apical angle obtuse; epipleuron not attaining apex, surface alutaceous and bearing a row of punctures internally; central discal punctures deep, mostly 0.7–1 × as large as interstices and 2 × as large as transverse interspaces; interspaces slightly convex, subgranulate and bearing micropunctures. *Ventral surfaces:* largely subgranulate. *Legs:* metafemur 1.8 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 49: 33: 26; basitarsus distinctly longer than remainder. *Wing* fully developed. *Aedeagus* 5.8 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Antenna extending to about basal 1/3 of elytron. *Spermatheca* as figured. Length 1.5 mm; breadth 0.85.

VARIATION (n = 11). LENGTH 1.45–1.8 mm, mean 1.55; BREADTH 0.8–1.0 mm; HEAD BREADTH 41–47 cmm; INTERANTENNAL SPACE 8–9 cmm; INTEROCULAR SPACE 20–23 cmm; EYE 20–24 cmm; INTEROCULAR INDEX 93–100, mean 99; PRONOTAL LENGTH 34–41 cmm; PRONOTAL BREADTH 60–71 cmm; PRONOTAL INDEX 54–60, mean 56; ELYTRAL LENGTH 111–133 cmm. [7 ♂♂, 4 ♀♀]

Dorsum dark fuscous to subpiceous. One specimen [Ile d'Art] represents a disjunct population which is probably this species; it differs from material from New Caledonia proper by having pronotal punctures generally larger than interspaces instead of smaller.

TYPE SERIES (n = 21). NEW CALEDONIA: Holotype ♂ (BPBM 9830), Thio, III.1959, N. L. H. Krauss; allotopotype ♀ (BPBM), same data as holotype; 6 paratopotypes, same data as preceding (BPBM); paratypes (BPBM) as follows: 1, in mountains above Ouaco, 20.X.1958, Joyce; 7, Mokoue to Dothio, 150–200 m, 20–22.III.1968, Gressitt, Maa; 1, same loc., 22.III.1968, on *Styphelia* sp., Gressitt; 1, same data, but on unidentified host (host number 6814), Gressitt; 1, behind Plum, 20–80 m, 24.III.1968, on *Grevillea gillivrayii*, Gressitt; 1, Poindime, 0–50 m, I.1969, Krauss; *Ile d'Art:* 1 specimen, Ile d'Art, Coll. Fauvel (ISNB).

BPBM paratypes to BMNH, PMHN, USNM.

DISTRIBUTION. New Caledonia. Endemic.

REMARKS. Allied to *shirleyae*, n. sp. and other New Caledonia species treated here; differs from all by more robust form, smaller size, and darker coloration.

PLANT ASSOCIATES. *Grevillea gillivrayii* (Gressitt, label); *Styphelia* sp. (Gressitt, label); undetermined plant (Gressitt number 6814).

Arsipoda isola Samuelson, new species Fig. 16k, 29p.

Holotype ♂. Form subelongate, side feebly convex along middle. Dorsum orange- to brown-testaceous, elytron generally darker than pronotum; antenna largely yellow-testaceous, apical 3 segments vaguely fuscescent; venter yellow-testaceous to fuscous, abdomen darkest; legs yellow- to orange-testaceous, metafemur darkest. Length 1.85 mm; breadth 0.85.

Head: frons rather broadly swollen, rather short, surface granulate; interantennal space broadly convex, about 1.8 × as broad as transverse diameter of antennal socket; orbit 0.65 × as broad as antennal socket; interocular index 110; gena 0.25 × as deep as eye; postantennal swellings obsolete; vertex broadly convex with surface ± continuous with upper frons, surface granulate and bearing small deep punctures mostly 0.7–1 × as large as interspaces. *Antenna* extending nearly to middle of elytral disc; flagellar segments gradu-

ally thickened towards apices. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 70; anterior angle short, oblique-rounded; side nearly straight; base sinuate, median lobe broad, not deep; disc finely rugulose-granulate, bearing deep punctures which are nearly as large as the smaller punctures of basal part of elytron; punctures mostly 0.7–1.5 × as large as interspaces; antebasal impression fine, very shallow. *Elytron* fully 3.2 × as long as broad, broadest at basal 1/3, side rather straight along middle; epipleuron ending preapically, surface alutaceous and bearing a row of punctures internally; basal part of disc vaguely swollen; central discal punctures deep, mostly 1.5–2 × as large as interstices and 3 × as large as transverse interspaces; interstices slightly swollen, subgranulate and bearing occasional micropunctures. *Ventral surfaces* smooth to subgranulate. *Legs:* metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 60: 45: 31; basitarsus slightly longer than remainder. *Wing* fully developed. *Aedeagus* about 5.3 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Antenna not quite reaching middle of elytron. *Spermatheca* as figured. Length 2.05 mm; breadth 0.9.

VARIATION (n = 30). LENGTH 1.6–2.25 mm, mean 1.95; BREADTH 0.75–1.05 mm; HEAD BREADTH 45–58; INTERANTENNAL SPACE 7–12 cmm; INTEROCULAR SPACE 23–31 cmm; EYE 23–31 cmm; INTEROCULAR INDEX 88–110, mean 102; PRONOTAL LENGTH 37–51 cmm; PRONOTAL BREADTH 54–77; PRONOTAL INDEX 62–73, mean 68; ELYTRAL LENGTH 117–164 cmm. [14 ♂♂, 16 ♀♀]

Dorsum usually with head and pronotum orange-testaceous, elytron brown-testaceous; rarely uniformly pitchy brown.

TYPE SERIES (n = 135). NEW CALEDONIA: Holotype ♂ (BPBM 9831), Plaine des Lacs, 2.II.1963, C. M. Yoshimoto; allotopotype ♀ (BPBM), same data as holotype; paratopotypes (BPBM) with preceding locality and date as follows: 16, Yoshimoto; 4, Kuschel; 1, Krauss; 1, host no. 4004, Gressitt; 4, host no. 4011, Gressitt; 1, paratopotype, III.1959, Krauss (BPBM); 1 paratopotype, 30.X.1958, Joyce (BPBM); paratypes (mostly BPBM) as follows: 6, La Coulee, 26.I.1962, Krauss; 9, La Coulee-Yate Road, VI.1950, Krauss; 5, Yate, 2–50 m, 26.III. 1968, ?*Sapium*, Gressitt; 2, road checkpoint above Yate, 300 m, 25.III.1968, host no. 6841, Gressitt; 3, Riviere Bleue (Yate), 35 km SE of Noumea, 160–180 m, 14.XI.1963, Straatman; 1, between Plum and Yate, 25.III.1968, Maa; 5, 10 km NW of Plum, 24.III.1968, Gressitt & Maa; 6, same loc., but 40–100 m, 24.III.1968, on *Pancheria elliptica*, Gressitt; 3, same data, but on slender leaf, Gressitt & Maa; 2, NE of Plum, 25 m, 25.III.1968, on *Stenocarpus* sp., Gressitt; 8, above Plum, 29.X.1958, Joyce; 1, Plum, 20–60 m, 23–25.III.1968, Maa; 1, same data, but light trap, Gressitt; 5, Montagne des Sources, VIII.1950, Krauss; 15, Dumbea Vall., VI.1950, Krauss; 1, same loc., but 1200 m, Yoshimoto; 11, Mt Koghi, 500–750 m, 25–26.X.1967, dry scrub, J. & M. Sedlacek; 1, same loc., but 450–600 m, 4–6.X.1967, no. 67–31, J. Sedlacek; 1, Mt Mou, 1200 m, 3.II.1963, Yoshimoto; 5, Mt Dzumao, 4.IX.1940, *Tristania* fls. (bush), Williams; 1, Mt d'Or, fleur d'un arbre, août [VIII], Coll. Fauvel (ISNB); 1, Tongnoue, janvier [I], Coll. Fauvel (ISNB); 1, up Boulari River, 17.XI.1958, light trap, Joyce; 1, 6 km N of Paita, 25.I.1963, Krauss; 3, Foret de Thy, 550 m, 6.III.1960, Gressitt; 1, Mouriance Pass, 10.II.1963, Krauss; 6, Thio, III.1959, Krauss.

BPBM paratypes to AUMC, BMNH, CASC, DSIR, FREY, MCZC, PMHN, USNM.

DISTRIBUTION. New Caledonia. Endemic.

REMARKS. Allied to *shirleyae*, n. sp. [New Caledonia] because of similar facies; see that species for differences. This is the only New Caledonian species having spermathecal appendix broadly spatulate.

PLANT ASSOCIATES. ?*Sapium* sp.: Yate (Gressitt, labels); *Pancheria elliptica:* NW of Plum (Gressitt, labels); *Stenocarpus* sp.: NE of Plum (Gressitt, labels); flowers of *Tristania* sp.: Mt Dzumao (Williams, labels); plus undetermined plants (Gressitt numbers 4004, 4011, 6841; Sedlacek no. 67–31).

Arsipoda shirleyae Samuelson, new species Fig. 16l, 29q, 37.

Holotype ♂. Form rather elongate, side weakly convex along middle. Dorsum yellow-testaceous, but lateral and sutural margins of elytron vaguely stained with fuscous; head fulvous, slightly darker than pronotum; antenna yellow-testaceous, apical 3 segments fuscescent; ventral surfaces and legs yellow- to orange-testaceous. Length 2.0 mm; breadth 0.95.

Head: frons broadly and evenly convex, surface granulate and bearing punctures; interantennal space broadly convex, about 2 × as broad as transverse diameter of antennal socket; orbit 0.4 × as broad as antennal socket; interocular index 102; gena 0.35 × as deep as eye; postantennal swellings obsolete; vertex broadly and evenly convex, continuous with frons, surface granulate and bearing deep punctures, mostly about as large as interspaces. *Antenna* extending to middle of elytron; flagellar segments somewhat flattened and gradually thickened toward apices. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 68; anterior angle short, oblique-rounded; side nearly straight; base sinuate, median lobe shallow; disc granulate, bearing deep punctures which are smaller than those of elytron, punctures mostly 0.7 × as large as interspaces; ante-basal impression deep. *Elytron* 3 × as long as broad, broadest at basal 1/4, side feebly convex along middle; epipleuron continued nearly to apex, surface alutaceous and bearing a row of obscure elongate punctures internally; central discal punctures large, mostly 0.7–1 × as large as interstices and 1–1.5 × as large as transverse interspaces; interstices slightly swollen, alutaceous and bearing occasional micropunctures. *Ventral surfaces* smooth to subgranulate. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 67: 47: 30; basitarsus about as long as remainder. *Wing* fully developed. *Aedeagus* about 4.2 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Antenna extending to basal 1/3 of elytron. *Spermatheca* as figured. Length 2.45 mm; breadth 1.2.

VARIATION (n = 30). LENGTH 1.8–2.65 mm, mean 2.25; BREADTH 0.9–1.25 mm; HEAD BREADTH 49–70 cmm; INTERANTENNAL SPACE 11–16 cmm; INTEROCULAR SPACE 25–36 cmm; EYE 24–34 cmm; INTEROCULAR INDEX 93–111, mean 102; PRONOTAL LENGTH 44–60 cmm; PRONOTAL BREADTH 66–94 cmm; PRONOTAL INDEX 63–70, mean 67; ELYTRAL LENGTH 135–194 cmm. [15 ♂♂, 15 ♀♀]

The largest sized specimens in the series are those collected from higher elevations, particularly Mt Koghi, 500–700 m. Dorsum evenly or unevenly yellow- to orange-testaceous and usually with sutural margin of elytron narrowly infuscated; in some specimens, the sutural, basal, and lateral elytral margins are ± broadly infuscated, producing pale discal area delimited by darkened margins.

TYPE SERIES (n = 116). NEW CALEDONIA: Holotype ♂ (BPBM 9832), La Coulee-Yate Road, VI.1950, N. L. H. Krauss; allotopotype ♀ (BPBM), same data as holotype; 34 paratopotypes, same data as preceding (BPBM); paratypes (BPBM) as follows: 1, Plaine des Lacs, 30.X.1958, Joyce; 4, same loc., 6.XI.1958, Joyce; 1, same loc., 2.II.1963, Yoshimoto; 10, Riviere Bleue (Yate), 35 km SE of Noumea, 160–180 m, 14.XI.1963, Straatman; 1, between Plum and Yate, 25.III.1968, Maa; 6, Montagne des Sources, VIII.1950, Krauss; 1, Mt Koghi, I.1962, Krauss; 5, same locality, 500 m, 26–30.I.1963, Kuschel; 3, same data, but by Yoshimoto; 1, same loc., I.1963, Krauss; 2, same loc., 450–600 m, 4–6.X.1967, J. & M. Sedlacek; 1, same data, but 500–750 m, 25–26.X.1967, dry scrub, J. & M. Sedlacek; 1, Mts des Koghis, 600–900 m, 19.III. 1968, Maa; 1, same loc., 400–600 m, I.1969, Krauss; 2, Mt Mou, 3.II.1963, Kuschel; 1, Bois du Sud, VII.1950, Krauss; 4, 10 km NW of Plum, 50–100 m, 24.III.1968, on slender leaf, Gressitt; 31, Mouriance Pass, 10.II.1963, Krauss; 2, Col d'Amieu, 130 km N of Noumea, 350–650 m, 13.XI. 1963, Straatman; 1, same loc., but 650 m, 31.III.1968, Gressitt & Maa; 1, Foret de Thy, 550 m, 6.III.1960, Gressitt.

BPBM paratypes to AUMC, BMNH, CASC, DSIR, FREY, ISNB, MCZC, PMHN, USNM.

DISTRIBUTION. New Caledonia. Endemic.

REMARKS. Allied to *isola*, n. sp. [New Caledonia] because of similar facies; differs from same by having generally paler coloration, finer pronotal puncturation (see key), aedeagus abruptly narrowed to acute extremity instead of gradually narrowed, spermatheca with appendix acute instead of broadly spatulate.

PLANT ASSOCIATES. None reported.

Arsipoda yiambiae Samuelson, new species Fig. 16m, 29r.

Holotype ♂. Form subovate-elongate. Dorsum largely yellow-testaceous, pronotal base and elytral suture finely margined with pitchy brown; antenna with basal segments yellow-testaceous, remainder fuscescent; venter yellow- to orange-testaceous; legs yellow-testaceous. Length 2.15 mm; breadth 1.1.

Head: frons broadly but shallowly convex along middle, surface granulate; interantennal space slightly convex, about 2.1 × as broad as transverse diameter of antennal socket; orbit 0.65 × as broad as antennal socket; interocular index 121; gena 0.25 × as deep as eye; postantennal swellings obsolescent, transverse; vertex barely delimited from frons by feeble transverse line, surface granulate, finely punctulate. *Antenna* extending to about middle of elytron; apical segments thickened toward apices. *Prothorax* broadest at posterior angles, slightly narrower than elytra at humeral angles; pronotal index 61; anterior angle oblique; side slightly convex; base sinuate, median lobe ± broad; disc granulate; central discal punctures fine, mostly 0.3–0.5 × as large as interspaces; ante-basal impression shallow, bearing larger punctures than disc. *Elytron* 2.9 × as long as broad, broadest at basal 1/4; epipleuron ending preapically, surface subalutaceous; humerus slightly produced; basal disc lacking impression; central discal punctures mostly 1–1.5 × as large as interstices and 2–3 × as large as transverse interspaces; interstices slightly convex, subgranulate. *Ventral surfaces* largely subalutaceous. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 44: 30: 20; basitarsus as long as remainder. *Wing* fully developed. *Aedeagus* 8.7 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. *Spermatheca* as figured. Length 2.35 mm; breadth 1.2.

VARIATION (n = 6). LENGTH 2.1–2.45 mm, mean 2.25; BREADTH 1.1–1.25 mm; HEAD BREADTH 52–55 cmm; INTERANTENNAL SPACE 12–14 cmm; INTEROCULAR SPACE 26–28 cmm; EYE 23 cmm; INTEROCULAR INDEX 112–121, mean 119; PRONOTAL LENGTH 49–55 cmm; PRONOTAL BREADTH 80–90 cmm; PRONOTAL INDEX 60–61; ELYTRAL LENGTH 160–188 cmm. [3 ♂♂, 3 ♀♀]

TYPE SERIES (n = 6). NEW CALEDONIA: Holotype ♂ (BPBM 9833), Yiambi, 940 m, 14.X.1967, J. & M. Sedlacek; allotopotype ♀ (BPBM), same data as holotype; 4 paratopotypes, same data as preceding.

DISTRIBUTION. New Caledonia. Endemic.

REMARKS. Resembles *shirleyae*, n. sp. [New Caledonia]; differs from same by having pronotal side margin convex instead of straight, ante-basal impression obsolescent and lacking distinct lateral fovea instead of distinct with lateral fovea, and aedeagus slender instead of fairly robust (see figures).

PLANT ASSOCIATES. None reported.

GENUS **Chaetocnema** Stephens

Chaetocnema Stephens, 1831, Illustr. British Ent., Mandibulata **4:** 325.—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 36 (key); 1925, ibid. **11**(3–4): 53 (key), 61 (key), 69 (key).—Maulik, 1926, Fauna India, Chrys. & Halt., 175 (key), 202 (type: *Altica hortensis* Geoffroy; Eurasia).—Chen, 1933, *Sinensia* **3**(9): 215 (key); 1934, ibid. **5**(3–4): 226 (key), 244.—Heikertinger, 1951, *Kol. Rundschau* **32**(1–3): 163.—Arnett, 1962, Beetles of United States, fasc. 104, 913 (key), 938.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 744 (key), 776.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 401 (key), 411.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 7 (key), 16 (key), 154.

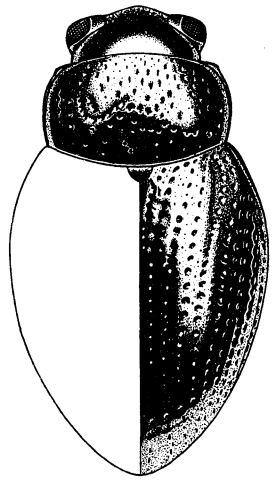

Fig. 38. *Chaetocnema moriori*, dorsal view.

Plectroscelis Chevrolat, 1837, *In* Dejean Cat. Col. ed. 3, 393.—Chapuis, 1875, Gen. Col. **11:** 48 (+key).—Blackburn, 1896, *Trans. R. Soc. S. Australia* **20:** 41 (key), 56.—Monros & Bechyne, 1956, *Ent. Arb. Mus. Frey* **7**(3): 1134 (type: *P. aridula* Gyllenhal; Eurasia).

Tlanoma Motschulsky, 1845, *Bull. Soc. Moscou* **18**(1): 108.—Heikertinger, 1951, *Kol. Rundschau* **32**(1–3): 170 (type: *Chrysomela concinna* Marsham; Eurasia). Subgenus.

Further synonymy includes *Odontocnema* Stephens, 1861; *Udorpes* Motschulsky, 1845; *Ydorpes* Motschulsky, 1845; *Hydropus* Motschulsky, 1860; *Exorhina* Weise, 1886; *Carcharodis* Weise, 1910; *Halticops* Brethes, 1929; *Brinckaltica* Bechyne, 1959. For citations see Scherer (1969: 154).

DIAGNOSIS. Ovate to subovate alticines of generally small size. Interantennal space usually more than 2 × as broad as diameter of antennal socket, but less than 1 × in 1 New Caledonian species; postantennal swellings ± obsolete; antenna 11-segmented; pronotum lacking ante-basal impression; elytral puncturation seriate, sometimes confused medially, rarely obsolescent-irregular (2 New Zealand species); procoxa globose; procoxal cavity closed; meso- and metatibia dilated preapically with apex excavated and apical margins set with fine bristles; metatibial spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀; probasitarsus more robust in ♂.

REMARKS. Somewhat related to *Arsipoda* Erichson [Australia, Tasmania, New Guinea, Solomons, New Caledonia] which has metatibia similarly excavated, but not mesotibia; differs further from same by absence of pronotal ante-basal impression.

DISTRIBUTION. Members of the 2 recognized subgenera, the nominate and *Tlanoma* Motschulsky, are distributed together throughout the World. Most Pacific island species belong to *Tlanoma*, including all of the species endemic to New Zealand and New Caledonia. Of the 2 species of the nominate *Chaetocnema* treated here, one is based on an unique specimen from New Caledonia, while the other, *paspalae* (Broun), has the broadest distribution for the whole genus on Pacific islands.

Key to Pacific island species of Chaetocnema

1. Interantennal space flattened and strongly punctured; vertex rather evenly and deeply punctured (subgenus *Chaetocnema*).....2

Interantennal space swollen, impunctate; vertex impunctate or with a few punctures at side (subgenus *Tlanoma*).....3

2. Elytron with all puncture rows seriate excepting short geminate scutellar row [dorsum dark with bronze-violaceous lustre; length 2.4–2.8 mm—New Zealand, Norfolk, New Caledonia, Lifou, New Hebrides].....**paspalae**

Elytron with internal puncture rows confused to irregular [dorsum dark; length 2.4 mm—New Caledonia].....species

3. Elytron with fine fringing hairs along apical part of lateral margin.....4

Elytron lacking fringing hairs along lateral margin.....6

4. Elytral epipleuron largely smooth, punctures confined to internal margin.....5

Elytral epipleuron largely rugose-punctate, punctures occupying much of surface [wing vestigial; dorsum black; length 1.6–2.05 mm—New Zealand].....**nitida**

5. Pronotum with discal interspaces smooth-alutaceous, shining; wing vestigial [dorsum black with slight brassy lustre; length 2.4–2.6 mm—Chatham Islands].....**moriori***

Pronotum with discal interspaces granulate, dull; wing fully developed [dorsum black with bronze-green lustre; length 1.95–2.3 mm—New Caledonia].....**arsipodoides***

6. Elytron unicolorous.....7

Elytron bicolorous: dark fuscous with flavous longitudinal stripe between puncture rows 2 and 5 [length 2.5–2.45 mm—New Caledonia].....**allardi**

7. Pronotum lacking a faintly impressed line of fine punctures along basal margin; wing vestigial.....8

Pronotum with a faintly impressed line of fine punctures along basal margin; wing fully developed [dorsum black, shining; length 1.7 mm—New Caledonia, S & E Asia].....**basalis**

8. Elytral puncture-rows irregular or obsolescent in part, forming less than 9 distinct serial discal rows (not counting short scutellar row and extreme lateral row); dorsum smooth-alutaceous, black with glossy lustre.....9

Elytral puncture-rows regular, forming 9 distinct serial discal rows; dorsum granulate, black with metallic bronze-violaceous lustre [length 1.55 mm—New Zealand].....**aotearoa***

9. Elytron with central discal punctures frequently as large as interspaces; apex of elytron convexly narrowed to extremity [length 1.5–1.8 mm—New Zealand].....**graminicola**

Elytron with central discal punctures mostly obsolescent, much smaller than interspaces; apex of elytron truncate [length 1.7 mm—New Zealand].....**littoralis**

Chaetocnema (s. str.) paspalae (Broun), new combination Fig. 16n, 30a.

Phyllotreta paspalae Broun, 1923, *Bull. New Zealand Inst.* **1:** 708 (New Zealand: Lake Ohia—type in BMNH). Broun number 4323.

♂ (New Zealand: Lake Ohia). Form subrobust, side convex. Head, dorsum, venter fuscous with slight bronze-violaceous lustre; antenna largely yellow-testaceous, apical segments fuscescent; legs mostly yellow-testaceous, metafemur fulvous with bronze lustre. Length 2.4 mm; breadth 1.35.

Head: frons broadly convex, surface coarsely punctate, punctures mostly 3–4 × as large as interspaces; interantennal space broadly convex, about 2.6 × as broad as transverse diameter of antennal socket; orbit punctate, 0.8 × as broad as antennal socket; interocular index 126; gena 0.55 × as deep as eye; postantennal area delimited from vertex by well-impressed transverse-feebly arched line; vertex punctate, punctures deep, mostly 0.7–1 × as large as interspaces and generally smaller than those of frons. *Antenna* extending to about middle of elytron; intermediate segments gradually thickened toward apices; apical ones broader than preceding and ± flattened. *Prothorax* broadest at posterior angles, base nearly as broad as elytra at humeri; pronotal index 72; anterior angle oblique, ± elongate; side convex; base convex; disc punctate, punctures deep, mostly 0.7–1 × as large as interspaces, meson briefly impunctate prebasally, interspaces flattened. *Elytron* 2.6 × as long as broad, broadest near basal 3/7, side convex; epipleuron continued nearly to apex, surface alutaceous, sparsely punctate, punctulate along inner margin; humerus feebly produced; scutellar puncture row geminate; serial puncture rows regular; central discal punctures mostly 0.5–1 × as large as interstices and 1–2 × as large as transverse interspaces; interstices barely raised. *Ventral surfaces* largely

coarsely and deeply punctate, but propleuron impunctate, shining. *Legs:* metafemur 1.85 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 70: 60: 43; basitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* about 3.7 × as long as breadth at middle, see figure.

♀ (New Zealand: Lake Ohia). Similar to ♂. Antenna extending to about basal 1/3 of elytron. *Spermatheca* as figured. Length 2.4 mm; breadth 1.4.

VARIATION (n = 19). LENGTH 2.4–2.85 mm, mean 2.55; BREADTH 1.3–1.5 mm; HEAD BREADTH 66–77 cmm; PRONOTAL LENGTH 66–78 cmm; PRONOTAL BREADTH 97–119 cmm; PRONOTAL INDEX 65–72, mean 68; ELYTRAL LENGTH 178–207 cmm. [7 ♂♂, 11 ♀♀, 1 U]

MATERIAL EXAMINED (n = 22). NEW CALEDONIA: 1, Bourail, Coll. Fauvel (ISNB); 1, Yahoue, 8.XII, Coll. Fauvel (ISNB); 1, Bai du Prony, Noumea, Coll. Fauvel (ISNB); 1, Koe, août [VIII], Coll. Fauvel (ISNB); LOYALTY ISLANDS: *Lifou:* 1, We, 30–31.I.1962, Krauss (BPBM); NORFOLK ISLAND: 4, Kingston, 14–15.II.1958, Liepa (BPBM); NEW ZEALAND: *Auckland:* 2 (probably paratypes), Lake Ohia, Mangonui, 17.II.1918, Broun Coll. [Brookes leg.] (PPDC); 1 (probably a paratype), same as preceding but lacking Lake Ohia label (PPDC); 2, as preceding with Lake Ohia label, plus A. E. Brookes Coll. (DSIR); *Wellington:* 8, Kaukapa = Kapa nr Well. [probably Wellington], 1887, George Good (BPBM). New to Norfolk, New Caledonia, Loyalty Islands.

Broun described the species from 4 examples. Three of these are probably the PPDC specimens cited above. The 2 DSIR specimens were collected together with the preceding ones by Brookes, but they were not cited by Broun.

DISTRIBUTION. New Caledonia, Loyalty Islands (Lifou), New Hebrides (Eromanga), Norfolk, New Zealand (North Island).

REMARKS. Status of this species is not yet clear. What is being called *paspalae* (Broun) here possibly may be insular populations of *calida* (Blackburn) or *olliffi* (Blackburn) [both Australia]. This species is also close to *ingenua* (Baly) [China, Japan] because of similar facies; differs from same by lacking deep punctures on propleuron and elytral epipleuron. Differs from undetermined species in key [New Caledonia] by having internal discal puncture rows of elytron regular instead of irregular or confused. The preceding is not *costulata* (Motschulsky) [E Palearctic], a species with similar confused elytral puncturation, because punctures of vertex are larger than interspaces instead of subequal and interspaces of pronotal disc are smooth instead of granulate. I am indebted to Dr Gerhard Scherer of Museum G. Frey in Tutzing for sending specimens of *costulata* for comparison.

PLANT ASSOCIATES. None reported.

Chaetocnema (Tlanoma) allardi Perroud Fig. 16o, 30b.

Chaetocnema allardi Perroud, 1864, *Ann. Soc. Linn. Lyon* **11:** 201 (New Caledonia—type in PMHN).—Heller, 1916, *In* Sarasin & Roux, *Nova Caledonia* ser A, **2**(3): 259 [err. *Chaelocnema*].

Plectroscelis allardi: Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.

♂ (holotype). Form robust. Dorsum bicolorous: head and pronotum dark fuscous with slight aeneous lustre; elytron dark fuscous, but interstices between puncture rows 2–5 flavus with several adjacent lateral interstices briefly suffused with flavus preapically; antenna orange-testaceous; ventral surfaces and metafemur red-fuscous; legs otherwise yellow-to orange-testaceous. Length 2.45 mm; breadth 1.2.

Head: generally granulate; frons feebly convex, bearing a row of punctures laterally; interantennal space feebly raised, about 1.5 × as broad as transverse diameter of antennal socket; orbit bearing a group of 3 or 4 large punctures above middle, breadth nearly 1 × as broad as antennal socket; interocular index 135; gena strongly and densely punctured, 0.45 × as deep as eye; postantennal swellings obsolete; vertex delimited from upper frons by shallow transverse groove medially and by deep oblique groove laterally. *Antenna* not quite reaching middle of elytron; apical segments slightly thickened toward apices, not much broader

than intermediate segments. *Prothorax* broadest along middle, base nearly as broad as elytra at humeri; pronotal index 63; anterior angle oblique-rounded; side weakly convex; base broadly convex across middle; disc subgranulate, bearing circular punctures mostly 0.5–0.7 × as large as interspaces. *Elytron* 2.6 × as long as broad, broadest near basal 1/4; side more convex basally than along middle; apical angle subdentate; epipleuron continued to apex, surface smooth anteriorly, rugose posteriorly, punctures confined to internal margin; central discal punctures mostly 1–1.5 × as large as interstices and 1.5–2 × as large as transverse interspaces; interstices slightly swollen, rather smooth but bearing irregular series of micropunctures. *Ventral surfaces:* metasternum alutaceous to smooth; abdomen alutaceous to subgranulate, moderately punctate. *Legs:* metafemur 1.75 × as long as broad; metabasitarsus not quite as long as remainder. *Wing* fully developed. *Aedeagus* briefly constricted at middle, about 5.7 × as long as breadth at apical 3/8.

♀ (Kanala?). Similar to ♂. *Spermatheca* as figured. Length 2.3 mm; breadth 1.25.

VARIATION (n = 5). LENGTH 2.2–2.45 mm, mean 2.35; BREADTH 1.2–1.3 mm; HEAD BREADTH 72–75 cmm; INTEROCULAR SPACE 43–48 cmm; EYE 28–32 cmm; INTEROCULAR INDEX 135–155, mean 149; PRONOTAL LENGTH 58–62 cmm; PRONOTAL BREADTH 95–99 cmm; PRONOTAL INDEX 59–65, mean 62; ELYTRAL LENGTH 160–179 cmm. [2 ♂♂, 3 ♀♀]

One specimen with number of punctures of upper orbit reduced to 1 instead of 3 or 4.

MATERIAL EXAMINED (n = 5). NEW CALEDONIA: 1 (holotype ♂), Kanala, Coll. Pic (PMHN); 1, Kanala, Coll. Fauvel (ISNB); 2, without locality, Coll. Fauvel (ISNB); 1, 10 km S of Pouebo, 480 m, 22.I.1964, Straatman (BPBM).

DISTRIBUTION. New Caledonia. Endemic.

REMARKS. Allied to *arsipodoides*, n. sp. [New Caledonia] because of similar form of spermathecal receptacle, but distal spermathecal duct is many-coiled instead of simple; differs further by having dorsum bicolorous instead of unicolorous. This species may be recognized immediately by the longitudinal flavus strip on each elytron. The only other alticine on Pacific islands with a flavus elytral stripe is *Phyllotreta undulata* (Kutschera), and it is separable by generic characters.

PLANT ASSOCIATES. *Carex* sp., as indicated in the original description (Perroud, 1864: 202).

Chaetocnema (Tlanoma) arsipodoides Samuelson, new species Fig. 16p, 30c.

Holotype ♂. Form subelongate, side weakly convex along middle. Dorsum piceous, with slight aeneous lustre; antenna with basal 5 segments yellow-testaceous, remainder fuscescent; venter piceous; legs orange-testaceous. Length 2.1 mm; breadth 1.0.

Head: frons broadly triangular, ± flattened anteriorly, moderately carinate medially, surface finely granulate below, ± smooth above; interantennal space convex, about 0.8 × as broad as transverse diameter of antennal socket; orbit 0.6 × as broad as antennal socket; interocular index 93; gena 0.35 × as deep as eye; postantennal swellings obsolescent, separated medially by short impression, faintly delimited from vertex by fine oblique line; vertex granulate. *Antenna* extending to middle of elytron; apical 5 segments slightly flattened and gradually thickened toward apices. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeri; pronotal index 62; anterior angle rather short, oblique-rounded; side slightly convex; base convex medially, rather straight laterally; disc coarsely punctate, punctures deep, mostly 1–1.5 × as large as interspaces; interspaces granulate. *Elytron* 3.15 × as long as broad, broadest near basal 1/3, side feebly convex along middle; epipleuron continued to apex, surface subalutaceous, bearing punctures along internal margin; humerus slightly swollen; disc feebly and broadly depressed postbasally; scutellar puncture row uniseriate, punctures larger than adjacent ones; central discal punctures deep, mostly 1.5–2 × as large as interstices and 3–4 × as large as transverse interspaces; interstices swollen, rather shiny and bearing occasional micropunctures. *Ventral surfaces:* metasternum ± smooth; abdomen finely granulate, sparsely punctulate. *Legs:* metafemur 2.15 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 39: 26: 19; basitarsus slightly longer than remainder. *Wing* fully developed. *Aedeagus* about 7.5 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. Apical antennal segments fuscous. *Spermatheca* as figured. Length 2.2 mm; breadth 1.15.

VARIATION (n = 34). LENGTH 1.9–2.35 mm, mean 2.15; BREADTH 0.95–1.2 mm; HEAD BREADTH 48–58 cmm; INTERANTENNAL SPACE 6–10 cmm; INTEROCULAR SPACE 22–27 cmm; EYE 25–28 cmm; INTEROCULAR INDEX 81–100, mean 91; PRONOTAL LENGTH 41–49 cmm; PRONOTAL BREADTH 61–82 cmm; PRONOTAL INDEX 56–72, mean 62; ELYTRAL LENGTH 144–182 cmm. [16 ♂♂, 18 ♀♀]

The interantennal space is generally narrower in the series from Col d'Amieu (type locality) than in the other paratypes mostly from various localities at the southern extremity of New Caledonia. Metafemur orange-testaceous to dark pitchy brown. Elytron with flattened to feebly concave postbasal area evident in most specimens.

TYPE SERIES (n = 57). NEW CALEDONIA: Holotype ♂ (BPBM 9834), Col d'Amieu, 750 m, 3.III.1960, J. L. Gressitt; allotopotype ♀ (BPBM), same locality, 650 m, 31.III.1968, Gressitt & Maa; 1 paratopotype, same data as holotype; 14 paratopotypes, same data as allotopotype; paratypes (BPBM) as follows: 2, Col des Roussettes, 450–550 m, 4–6.II.1963, Kuschel; 8, same loc., 300–400 m, 29.I.1969, Krauss; 1, Ciu, 9.I.1969, Krauss; 1, Sartamea, 12.II.1963, Kuschel; 5, 10 km S of Koh, 31.I.1963, Yoshimoto; 1, Mt Koghi, II.1962, Krauss; 1, same loc., II.1963, Krauss; 3, same loc., 500 m, 26–30.I.1963, Yoshimoto, Kuschel; 1, Mts des Koghis [Mt Koghi], 300–600 m, 19.III.1968, Gressitt & Maa; 4, same loc. & date, 600–900 m, Maa; 9, same loc., 400–600 m, I.1969, Krauss; 2, Yahoe, 20.II.1963, Yoshimoto; 1, Yahoe, Gallery Forest, 22.I.1963, Kuschel; 1, Plum, 20–60 m, 24.III.1968, on *Cryptocarya odorata*, Gressitt.

BPBM paratypes to CASC, DSIR, FREY, MCZC, PMHN, USNM.

DISTRIBUTION. New Caledonia. Endemic.

REMARKS. Allied to *allardi* Perroud [New Caledonia] because of similar form of spermathecal receptacle, but very different externally, having more slender form and unicolorous dorsum instead of bicolorous; differs from *discreta* (Baly) [SE Asia, Japan, Ryukyus] by more slender form, elytron with postbasal area ± depressed instead of convex, dorsum duller, more granulate instead of smooth, central discal elytral punctures as large or larger than interstices instead of smaller; differs from *concinna* (Marshall) [Eurasia] by having side of pronotum straighter together with other points above.

This species has a striking resemblance to certain small species of *Arsipoda*, but it can be separated from them by the absence of a pronotal ante-basal impression, plus other generic differences.

PLANT ASSOCIATES. *Cryptocarya odorata* (Gressitt, label).

Chaetocnema (Tlanoma) basalis Baly Fig. 17a, 30d.

Chaetocnema basalis Baly, 1877, *Trans. Ent. Soc. London* **1877:** 310 (India—type in BMNH).—Maulik, 1926, Fauna India, Chrys. & Halt., 204 (key), 209, fig. 78 (India, Ceylon, Burma, Tenasserim).—Chen, 1934, *Sinensia* **5**(3–4): 246 (key), 250, fig. 37 (Tonkin); 1934, *Ann. Soc. Ent. France* **103:** 176 (key), 180 (Formosa).—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 86 (Loo-Choo: Sakishima Group), 466 (key), 467 (Loo-Choo: Iriomote, Formosa).

Chaetocnema parvula Baly, 1877, *Trans. Ent. Soc. London* **1877:** 310 (Ceylon—type in BMNH).

Chaetocnema gestroi Jacoby, 1889, *Ann. Mus. Civ. Genova* ser 2, **7:** 283 (Nias—type in GMSN); 1896, ibid. **16:** 442 (Sumatra, Borneo).—Heikertinger, 1951, *Kol. Rundschau* **32**(1–3): 204 (synonymized).

Chaetocnema geniculata Jacoby, 1896, *Ann. Soc. Ent. Belgique* **40:** 270 (Burma).

Chaetocnema (Tlanoma) basalis: Heikertinger, 1951, *Kol. Rundschau* **32**(1–3): 202 (key), 204 (Sumatra, Borneo, Banguey [Banggi], Philippines), 206 (key), 208 (key).—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 778 (key), 782 (China, Hainan).—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 411 (key), 413

(Ryukyus: Tokara, Amami, Sakishima Groups).—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 155 (key), 164 (India, E Pakistan, W Siam, N Vietnam).

♀ (New Caledonia). Form robust. Body surfaces black; antenna largely yellow-testaceous, fuscescent apically; legs yellow-testaceous to dark pitchy brown, meso- and metafemur darkest, but with apices pale. Length 1.7 mm; breadth 1.05.

Head: frons ± broadly swollen along anterior margin and medially, surface ± alutaceous, bearing a few small punctures along side; interantennal space convex, about 2.25 × as broad as transverse diameter of antennal socket; orbit 0.75 × as broad as antennal socket; interocular index 107; gena 0.45 × as deep as eye; postantennal area delimited from vertex by arched line medially and by oblique groove laterally; vertex shining, finely subgranulate. *Antenna* extending to middle of elytron; apical segments ± slender, slightly flattened. *Prothorax* broadest at posterior angles, base narrower than elytra at humeri; pronotal index 58; anterior angle oblique; side weakly convex; base sinuate, convex medially; disc moderately punctate, punctures mostly 0.5–1 × as large as interspaces, interspaces flattened, shining; prebasal area with series of closely set punctures adjacent to margin. *Elytron* 2.45 × as long as broad, broadest at basal 3/10, side more strongly convex basally than along middle; epipleuron continued to apex, surface ± alutaceous, bearing internal row of small punctures along basal 3/4; humerus slightly produced; scutellar puncture row single; central discal punctures mostly 0.7–1 × as large as interstices and 1.5–2 × as large as transverse interspaces; interstices flattened to feebly swollen. *Ventral surfaces:* metasternum largely smooth, punctate along basal margin; abdomen ± coarsely punctate. *Legs:* metafemur 1.7 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 51: 40: 27; basitarsus not quite as long as remainder. *Wing* fully developed. *Spermatheca* as figured.

♂ (New Guinea). Similar to ♀. *Aedeagus* about 5.6 × as long as breadth at middle. Length 1.95 mm; breadth 1.2.

VARIATION. One specimen only (♂ is from outside of treated area); see comments below.

MATERIAL EXAMINED (n = 1). NEW CALEDONIA: 1, La Crouen, 12.III.1961, J. Sedlacek (BPBM). New to New Caledonia. Introduced.

DISTRIBUTION. South Asia: Afghanistan through southern China including Ceylon and Hainan, Ryukyus, Taiwan, Philippines, Indonesia, New Caledonia.

REMARKS. The row of fine punctures along the basal margin of the pronotum together with color and form separate this species from all others except *yaosanica* Chen [China: Fukien, Kwangsi]; differs from the latter by having profemur red-fuscous with paler apex instead of entirely yellow, also by smaller size. Smallest sized specimens (1.3–1.5 mm) in BPBM collection are from southern China where the species is possibly sympatric with its larger-sized relative *yaosanica* Chen (1.9–2.3 mm).

PLANT HOSTS. *Oryza sativa* L. var. *terrestris* Makino (Gressitt & Kimoto, 1963: 782).

Chaetocnema (Tlanoma) aotearoa Samuelson, new species Fig. 17b.

Holotype ♂. Form robust-subovate. Body surfaces, antenna, legs except tarsi granulate, dull black: dorsum, vertex, femora, tibiae with slight bronze-violaceous lustre; tarsi dark fuscous. Length 1.55 mm; breadth 0.85.

Head: frons slightly swollen, surface granulate; interantennal space feebly convex, about 3 × as broad as transverse diameter of antennal socket; orbit 1.4 × as broad as antennal socket; interocular index 193; gena 0.65 × as deep as eye; eye small, ± narrowly ovate; postantennal swellings obsolete; upper frons and vertex delimited by transverse-arched line; vertex granulate, punctulate, punctures mostly smaller than interspaces. *Antenna* not exceeding basal 1/4 of elytron; intermediate segments turgid; apical ones robust with 8–10 slightly broader than long. *Prothorax* broadest behind middle where breadth is subequal to breadth of elytra at humeral angles; pronotal index 75; anterior angle nearly square; side convex; base convex, weakly so across middle; disc granulate-punctulate, central punctures mostly 0.5–0.7 × as large as interspaces, sublateral area near base bearing a group of larger closer punctures. *Elytron* 2.85 × as long as broad, broadest at basal 3/7, side convex; epipleuron continued nearly to apex, surface granulate, bearing small distant punc-

tures along inner margin; humerus not produced; scutellar puncture row single, punctures subequal in size to discal ones; central discal punctures large, deep, mostly 1–1.5 × as large as interstices and 2–3 × as large as transverse interspaces; interspaces slightly raised, surfaces granulate. *Ventral surfaces* granulate. *Legs:* metafemur 1.9 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 23: 18: 15+; basitarsus distinctly shorter than remainder. *Wing* vestigial. *Aedeagus* about 4.8 × as long as breadth at middle, see figure.

♀. Unknown.

VARIATION. Unique.

MONOTYPE. NEW ZEALAND: *Otago:* Holotype ♂ (DSIR), Old Man Range, 1080 m, 16.I.1965, moss in tussock, J. I. Townsend.

DISTRIBUTION. New Zealand (South Island). Endemic.

REMARKS. The unique example of *aotearoa*, n. sp. appears sufficiently distinct from other New Zealand species to warrant naming; differs from *nitida* (Broun) [New Zealand] and *moriori*, n. sp. [Chathams] by having dorsum granulate with bronze-violaceous lustre instead of smooth, shining black; differs from *graminicola* (Broun) and *littoralis* (Broun) [both New Zealand] by having elytral puncturation entirely regular and deeply seriate; differs from all preceding by having aedeagal apex simply angulate instead of minutely truncate or subacuminate (see figures).

PLANT ASSOCIATES. Moss in tussock grass (Townsend, label).

Chaetocnema (Tlanoma) graminicola (Broun), new combination Fig. 17c.

Phyllotreta graminicola Broun, 1893, Man. New Zealand Col., part. 6, 1391 (New Zealand: Moeraki—type in BMNH).

♂ (holotype). Form robust, side convex, particularly along basal portion of elytron. Dorsum shining black, with faint violaceous lustre; antenna with segments 1–7 brown-testaceous, remainder dark fuscous; ventral surfaces black, with bronze to violaceous lustre, last abdominal segments particularly violaceous; legs brown-testaceous to dark fuscous; femora darkest. Length 1.5 mm; breadth 0.9.

Head: frons broadly swollen, surface granulate and bearing marginal punctures; interantennal space feebly convex but somewhat irregular by presence of punctures and granulate surface, about 2.2 × as broad as transverse diameter of antennal socket; orbit granulate, about 1.1 × as broad as antennal socket; interocular index 172; gena 0.55 × as deep as eye; postantennal swellings obsolescent, somewhat delimited from frons by transverse line and separated by median impression, but otherwise continuous with vertex; vertex bearing a few deep punctures anteriorly, surface largely subalutaceous, shining. *Antenna* extending to basal 1/3 of elytron; intermediate segments gradually thickened toward apices, 7 flattened and strongly thickened toward apex; remaining ones robust. *Prothorax* broadest nearest posterior angles where breadth is subequal to breadth of elytra; pronotal index 67; anterior angle short, oblique; side feebly convex; base ± straight across middle, convex laterally; disc shining, surface vaguely subalutaceous, punctures smaller than interspaces, rather shallow and difficult to define. *Elytron* 2.45 × as long as broad, broadest at basal 2/7, side rather strongly convex basally, rather evenly narrowed apically; epipleuron continued nearly to apex, surface rather smooth, bearing a few small punctures internally along basal portion; punctures of short scutellar row and those along basal margin largest and deepest; discal punctures distinct in certain lights but puncture rows either hard to define or irregular; central discal punctures mostly smaller than interspaces; interspaces strongly shining, making entire surface highly lustrous. *Ventral surfaces* granulate to coarsely punctate. *Legs:* metafemur 1.8 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 36: 32: 23; basitarsus not quite as long as remainder. *Wing* entirely absent. *Aedeagus* about 5 × as long as breadth at middle, see figure.

♀. Unknown.

VARIATION (n = 2). LENGTH 1.5–1.8 mm; BREADTH 0.9–1.1 mm; INTEROCULAR SPACE 31–43 cmm; EYE 18–20 cmm; INTEROCULAR INDEX 170–208; PRONOTAL LENGTH 44–61 cmm; PRONOTAL BREADTH 65–87 cmm; PRONOTAL INDEX 67–71; ELYTRAL LENGTH 138 cmm in larger specimen. [2 ♂♂]

The second specimen is also a ♂ and is tentatively assigned to *graminicola;* it differs from the holotype by having serial puncturation of elytron more strongly developed (7 rows) and by larger size along with the points mentioned above.

MATERIAL EXAMINED (n = 2). NEW ZEALAND: *Otago:* 1 (holotype ♂), Moeraki, Waterhouse bush, on grass, Sandager (BMNH); *Nelson:* 1, Iron Hill, Cobb Area, 1460 m, 16.III.1968, mat plants, Dugdale (DSIR) [presumed to be this species].

DISTRIBUTION. New Zealand (South Island). Endemic.

REMARKS. Closely related to *littoralis* (Broun); the differences between the holotypes of each species may be sexual, particularly the outline of the elytral apex (convexly narrowed in *graminicola* ♂ and subtruncate in *littoralis* ♀). It is possible that these species are synonymous, but further material should be seen before passing judgment.

PLANT ASSOCIATES. Grass: Moeraki (Broun, 1893: 1391); mat plants: Iron Hill (Dugdale, label).

Chaetocnema (Tlanoma) littoralis (Broun), new combination Fig. 30e.

Phyllotreta littoralis Broun, 1893, Man. New Zealand Col., part 6, 1391 (New Zealand: Moeraki—type in BMNH).

♀ (holotype). Form robust, side convex, apex truncate, pygidium partly exposed. Dorsum shining black, elytra with slightly duller lustre than pronotum; antennal segments 1–5 brown-testaceous, remainder dark red-fuscous; venter dark fuscous with slight violaceous lustre on abdomen; legs pitchy to dark fuscous, femora with slight brassy lustre. Length 1.7 mm; breadth 0.9.

Head: frons broadly swollen, convex medially, surface granulate and bearing a few large punctures sublaterally; interantennal space broadly convex, about 2.7 × as broad as transverse diameter of antennal socket; orbit 1.25 × as broad as antennal socket; interocular index about 190; gena about 0.55 × as deep as eye; postantennal swellings subrounded, weakly raised, delimited anteriorly and medially by distinct grooves; vertex ± smooth anteriorly. *Antenna* extending to about basal 1/4 of elytron; apical 5 segments robust. *Prothorax* broadest at posterior angles; pronotal index 70; anterior angle oblique-rounded, strongly deflexed; side convex anteriorly, rather straight posteriorly; base feebly concave across middle, convex laterally; disc subalutaceous-shining, central punctures shallow, mostly 0.3–0.5 × as large as interspaces. *Scutellum* capable of being barely concealed by pronotum. *Elytron* 2.4 × as long as broad, broadest at anterior 1/3, side convex, most strongly broadened basally, margin subtruncate preapically, apical angle obtuse-rounded; epipleuron obtusely inflexed, narrow posteriorly and not reaching apex, surface ± smooth; scutellar puncture row consisting of about 4 large punctures with diameters as large as adjacent interstices; discal puncturation dominantly obsolescent-irregular with central punctures about 0.5 × as large as interstices and transverse interspaces; interstices alutaceous-shining; lateral puncture row regular, rather strongly impressed, punctures ± deep. *Ventral surfaces* granulate; abdomen with apical sternum moderately punctate. *Legs* largely granulate; metafemur 2 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 38: 32: 21; basitarsus shorter than remainder. *Wing* completely reduced. *Spermatheca* as figured.

♂. Unknown.

VARIATION. Unique.

MATERIAL EXAMINED (n = 1). NEW ZEALAND: *Otago:* 1 (holotype ♀), Moeraki, Broun Coll. [Sandager leg.] (BMNH).

DISTRIBUTION. New Zealand (South Island). Endemic.

REMARKS. Closely related to *graminicola* (Broun); see discussion under *graminicola.*

PLANT ASSOCIATES. None reported.

Chaetocnema (Tlanoma) moriori Samuelson, new species Fig. 17d, 30f, 38.

Phyllotreta nitida: Broun, 1911, *Trans. New Zealand Inst.* **43:** 95 (Chatham Islands).

Holotype ♂. Form subovate, pygidium not exposed. Dorsum shining black; antenna orange-testaceous; venter black; legs fuscous to orange-testaceous with tibiae and tarsi palest. Length 2.4 mm; breadth 1.25.

Head: frons broadly swollen, convex medially, surface smooth to slightly subgranulate, punctate laterally; interantennal space convex, 2.5 × as broad as transverse diameter of antennal socket; orbit finely granulate, bearing 2 small punctures above middle, breadth slightly greater than antennal socket; interocular index 189; gena punctate-granulate, 0.5 × as deep as eye; postantennal swellings obsolescent, but general area is slightly swollen above upper frons; vertex delimited anteriorly by deep oblique-sinuate groove which extends above eye, surface evenly convex above swollen postantennal area, derm impunctate-finely granulate; supraorbital area with 3 small punctures. *Antenna* extending to basal 2/5 of elytron; apical 5 segments flattened and broadened. *Prothorax* broadest near middle; pronotal index 62; anterior angle oblique; side convex; posterior angle obtuse; base broadly convex medially; disc deeply punctate, punctures mostly 1–2 × as large as interspaces, interspaces subgranulate and bearing small punctures. *Scutellum* slightly broader than long, rounded apically. *Elytron* 2.8 × as long as broad, broadest at basal 1/3, side more convex basally and apically than along middle; apical angle obtuse-dentate; epipleuron continued nearly to apex, surface largely smooth but punctate along inner margin; dorsal puncturation seriate, scutellar row single, consisting of about 8 punctures; central discal punctures mostly 1.5–2 × as large as interstices and 2–3 × as large as transverse interspaces; interstices feebly swollen, micropunctate. *Ventral surfaces* moderately punctate. *Legs* largely subgranulate; metafemur 1.8 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 63: 49: 38; basitarsus shorter than remainder. *Wing* strongly reduced. *Aedeagus* 5.2 × as long as breadth at middle, see figure.

Allotype ♀. Similar to ♂. *Spermatheca* as figured. Length 2.45 mm; breadth 1.3.

VARIATION (n = 5). LENGTH 2.4–2.65 mm, mean 2.55; BREADTH 1.25–1.35 mm; HEAD BREADTH 71–78 cmm; INTERANTENNAL SPACE 19–21 cmm; INTEROCULAR SPACE 49–54 cmm; EYE 25–28 cmm; INTEROCULAR INDEX 188–200, mean 193; PRONOTAL LENGTH 58–68 cmm; PRONOTAL BREADTH 99–109 cmm; PRONOTAL INDEX 60–62; ELYTRAL LENGTH 176–197 cmm. [1 ♂, 4 ♀♀]

TYPE SERIES (n = 5). CHATHAM ISLANDS: *Chatham*: Holotype ♂ (DSIR), Awatotara River mouth, 23.II.1967, litter, A. K. Walker; allotopotype ♀ (DSIR), same data as holotype; 1 paratopotype, same data as preceding (DSIR); 1, paratype, Awatotara, 6–19.II. 1967, on *Myositidium hostensia*, Kuschel (DSIR); 1, Waitangi, 13.II.1967, at night, Kuschel (DSIR).

DSIR paratype to BPBM.

DISTRIBUTION. Chatham Islands (E of New Zealand). Endemic.

REMARKS. Allied to *nitida* (Broun) [New Zealand] because of similar general facies; differs, as mentioned under that species, in body size and in form of spermathecal receptacle (see figures); differs from *aotearoa*, n. sp. [New Zealand] by lacking metallic bronze-violaceous lustre, larger size; differs from *graminicola* (Broun) and *littoralis* (Broun) [both from New Zealand] by having elytral puncturation deep and entirely seriate.

PLANT ASSOCIATES. *Myositidium hostensia* (Kuschel, label).

Chaetocnema (**Tlanoma**) **nitida** (Broun), new combination Fig. 17e, f; 30g, h.

Phyllotreta nitida Broun, 1880, Man. New Zealand Col., part 1, 636 (New Zealand: Otago—type in BMNH).

♀ (holotype). Form subovate, pygidium not exposed. Dorsum shining black; antenna with basal 4 segments yellow-testaceous, remainder fuscescent; venter black; metafemur dark pitchy brown to black; tibiae and tarsi orange-testaceous. Length 2.2 mm; breadth 1.05.

Head: frons broadly swollen, convex medially, surface rather smooth, punctate at side; interantennal space broadly convex, about 2.1 × as broad as transverse diameter of antennal socket; orbit bearing 4 small punctures above middle, breadth slightly greater than diameter of antennal socket; interocular index 168; gena coarsely punctate, about 0.55 × as deep as eye; postantennal swellings obsolete; postantennal area delimited from vertex by deep oblique groove which continues above eye, broadens and bears a large supraorbital puncture and 3 smaller ones; vertex smooth. *Antenna* extending nearly to middle of elytral disc; apical 5 segments thickened. *Prothorax* broadest near middle, base nearly as broad as elytra at humeral angles; pronotal index 69; anterior angle oblique-rounded, deflexed; side convex; base broadly convex, nearly straight across middle; disc with punctures of 2 sizes: deep large punctures mostly 1–2 × as large as inter-

spaces and finer ones on ± flat interspaces; interspaces shining. *Scutellum* at least 0.5 × as deep as broad, apex broadly rounded. *Elytron* 2.8 × as long as broad, broadest near basal 1/3, side convex, apical angle nearly square; epipleuron continued nearly to apex, surface ± rugulose and bearing internal row of large punctures; discal puncturation seriate, short scutellar row consisting of about 10 punctures; central discal punctures mostly 0.7–1 × as large as interstices and 1.5 × as large as transverse interspaces; interspaces rather flat, shining. *Legs:* metafemur 1.8 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 38: 29: 17; basitarsus shorter than remainder. *Wing* entirely absent. *Spermatheca* as figured.

♂ (Moeraki). Similar to ♀. Interantennal space 1.9 × as broad as transverse diameter of antennal socket; orbit bearing 2 small punctures above middle; interocular index 187; elytral scutellar row consisting of about 8 punctures; central discal elytral punctures mostly ± 1 × as large as interstices and 0.7–2 × as large as transverse interspaces. *Aedeagus* 6 × as long as breadth near middle, see figure. Length 2.05 mm; breadth 1.0.

Broun Coll. is indicated on the BMNH accession labels of the holotype ♀ and the ♂, but neither specimen bears date nor collector data on labels. Apparently, Broun had only the ♀ at the time of description, "Described from one mutilated individual sent me from Professor Hutton from Otago." (Broun, 1880: 636). Actually, the holotype is not so "mutilated" as one might imagine—only a few parts of legs are missing.

The ♂ bears a close resemblance to the holotype and may have been collected from the same population, but no specific locality data is given for the holotype. Perhaps, further collecting in the Moeraki area or study of letters between Broun and Hutton (if any exist) may shed further light on the location of the type population.

VARIATION (n = 8). LENGTH 1.6–2.2 mm, mean 1.8; BREADTH 0.8–1.05; HEAD BREADTH 48–59 cmm; INTERANTENNAL SPACE 12–15 cmm; INTEROCULAR SPACE 34–44 cmm; EYE 18–24 cmm; INTEROCULAR INDEX 168–200, mean 184; PRONOTAL LENGTH 44–62 cmm; PRONOTAL BREADTH 68–91 cmm; PRONOTAL INDEX 62–69, mean 64; ELYTRAL LENGTH 113–129 cmm in Marlborough specimens. [5 ♂♂, 3 ♀♀]

The Otago specimens have a larger average body length (2 mm) than those from Marlborough (1.7 mm).

MATERIAL EXAMINED (n = 8). NEW ZEALAND: *Otago:* 1 (holotype ♀), Otago [Hutton leg.], Broun Coll. (BMNH); 1 ♂, Moeraki, Broun Coll. (BMNH); 1, Queenstown, Lake County, 19.II.1924 [month not clear], Clark (AUMC); *Marlborough:* 2, Saxton Pass, Molesworth, 1220 m, 17.III.1966, *Polystrichum* moss, Townsend & Walker (DSIR); 1, same data, but 1190 m, moss & mat plants (DSIR); 1, same data, but 1100 m, on lichen (DSIR); 1, Ward's Pass, Molesworth, 1160 m, 19–22.III.1968, pit trap, Watt (DSIR).

DISTRIBUTION. New Zealand (South Island). Endemic.

REMARKS. Allied to *moriori*, n. sp. [Chathams], because of similar general facies; differs from same by generally smaller size: mean length 1.8 mm instead of 2.55, vertex rather smooth instead of subgranulate, spermathecal receptacle globose instead of elongate.

Specimens from Marlborough-Nelson at the North of the South Island differ from the 2 Otago specimens by a number of small points, including genital structures to some extent (aedeagus and spermatheca from members of each population illustrated here). It is possible that the northern populations may prove not to be conspecific with these in the Otago area, but further material throughout the whole range of this complex should be studied before deciding.

PLANT ASSOCIATES. *Polystrichum* moss (Townsend & Walker, labels); moss & mat plants (Townsend & Walker, label); lichen (Townsend & Walker, label).

Genus **Psylliodes** Latreille

Psylliodes Latreille, 1825, Fam. Nat. Regne Anim., 405.—Chapuis, 1875, Gen. Col. **11:** 140.—Heikertinger, 1921, *Kol. Rundschau* **9**(1–3): 39; 1924, ibid. **11**(1–2): 28 (key); 1925, ibid. **11**(3–4): 53 (key), 62 (key), 70 (key); 1926, ibid. **12**(2): 101.—Maulik, 1926, Fauna India, Chrys. & Halt., 124 (+key) (type: *Chrysomela chrysocephala* L.; Europe).—Chen, 1933, *Sinensia* **3**(9): 213 (key).—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 354 (key), 362.—Arnett, 1962, Beetles of United States, fasc. 104, 913 (key), 939.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 743 (key), 751.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 401 (key), 406.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 4 (key), 13 (key), 234.

Synonymy includes *Macrocnema* Stephens, 1816; *Eupus* Wollaston, 1854; *Psyllomima* Bedel, 1898. For citations see Gressitt & Kimoto (1963: 751) or Kimoto (1965: 406) or Scherer (1969: 234).

DIAGNOSIS. Subelongate, convex-sided alticines of small to moderate size. Interantennal space ± as broad as or distinctly smaller than diameter of antennal socket; postantennal swellings obsolescent to feebly raised, oblique; antenna 10-segmented, apical segments slightly thickened; pronotum devoid of impressions; elytral puncturation seriate; procoxa globular; procoxal cavity closed; metatibia notably prolonged beyond tarsal insertion, apex dentate, apical spine simple; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum notched submedially in ♂, entire in ♀.

REMARKS. Close relatives not known. These alticines are unique by having the antenna 10-segmented. *Nonarthra* Baly [predominantly Asian] is the only other alticine genus to exhibit reduced antennal segmentation, but in spite of having fewer antennal segments, these 2 genera do not seem to be very closely related. *Psylliodes* differs from *Nonarthra* by having one more antennal segment, apical antennal segments slightly thickened instead of strongly flattened, procoxa subglobose instead of subconical-projecting, prosternal intercoxal piece flattened and readily visible between procoxae instead of narrow and not or barely visible, metatibia with apical spine present instead of absent.

DISTRIBUTION. Cosmopolitan. Of Pacific island species, 1 (*brettinghami*) is widespread through S Asia and the W Pacific as far east as Fiji; a second species (undetermined) has also been found on Fiji. *Psylliodes simmondsi* Bryant [Fiji] neither belongs to the preceding species nor

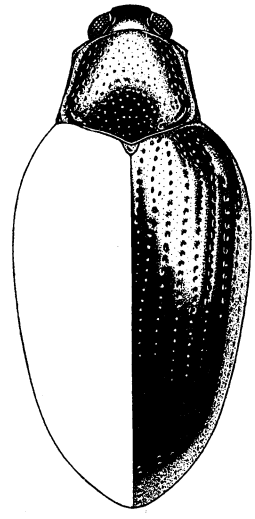

Fig. 39. *Psylliodes brettinghami*, dorsal view.

Psylliodes; it is now transferred to *Linaltica*, a new genus which has fairly close affinities with *Trachyaphthona* Heikertinger.

KEY TO PACIFIC ISLAND SPECIES OF PSYLLIODES

Pronotum with surface feebly convex in lateral view; outline of flagellar antennal segments readily visible through weak to moderate pubescence [dorsum dark with metallic greenish or bluish lustre; length 2.2–4 mm—S & E Asia, Australia, S Pacific islands].....**brettinghami**

Pronotum with surface strongly convex in lateral view; outline of flagellar antennal segments barely visible through dense pubescence of bristles [dorsum dark with metallic blue-violaceous lustre; length 3.4 mm—Fiji: Viti Levu].....species

Psylliodes brettinghami Baly Fig. 17g, 30i, 39.

Psylliodes brettinghami Baly, 1862, *J. Ent.* **1:** 457 (India—type in BMNH).—Maulik, 1926, Fauna India, Chrys. & Halt., 125 (key), 126, fig. 48 (Bengal, Burma).—Chen, 1934, *Ann. Soc. Ent. France* **103:** 175 (key), 179 (Formosa, Tonkin); 1934, *Sinensia* **5**(3–4): 240 (key), 241 err. *Berttinghami* (Yunnan, Tonkin).—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 364 (key), 368 (Formosa).—Chûjô & Kimoto, 1961, *Pacific Ins.* **3**(1): 190.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 752 (key), 753.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 407 (key), 408 (Ryukyus).—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 236 (key), 238, abb. 123 (India, Nepal, Malaya, Vietnam, Sumatra, Java, Borneo, Philippines).

Psylliodes illigeri Perroud, *Ann. Soc. Linn. Lyon* **11:** 199 (New Caledonia—type in PMHN).—Fauvel, 1867, *Bull. Soc. Linn. Normandie* ser 2, **1:** 207.—Heller, 1916, *In* Sarasin & Roux, *Nova Caledonia* ser A, **2**(3): 259. **New Synonym.**

Psylliodes difficilis Baly, 1874, *Trans. Ent. Soc. London* **1874:** 210 (Japan—type in BMNH).—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 364 (key), 367 (Japan).—Chûjô & Kimoto, 1961, *Pacific Ins.* **3**(1): 190 (Ryukyus).—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 752 (key), 753 (Japan, N China).—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 408 (key), 409, fig. 2a (Japan, Ryukyus).—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 238 (synonymized).

Psylliodes novaecaledoniae Baly, 1876, *Trans. Ent. Soc. London* **1876:** 600 (New Caledonia—type in BMNH).—Bryant, 1936, *Ann. Mag. Nat. Hist.* ser 10, **17:** 252 (New Hebrides). **New Synonym.**

Psylliodes splendida Harold, 1877, *Deutsche Ent. Zeits.* **21:** 364 (Luzon—type in Berlin).—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 238 (synonymized).

Psylliodes fulvipes Jacoby, 1896, *Ann. Mus. Civ. Genova* ser 2, **16:** 455 (Sumatra—type in GMSN).—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 238 (synonymized).

Psylliodes lubricata Blackburn, 1896, *Trans. R. Soc. S. Australia* **20:** 78 (Australia: Victoria—type in SAMC?).—Lea, 1929, ibid. **53:** 239 (var. *howensis* Lea; Lord Howe Island—type in SAMC and var. *norfolcensis* Lea; Norfolk Island—type in SAMC). **New Synonyms.**

Psylliodes solanae Broun, 1910, *Trans. New Zealand Inst.* **42:** 302 (Kermadec Islands: Sunday Island—type in AUMC). **New Synonym.**

Psylliodes sera Jacobson, 1922, *Ann. Mus. Zool. Acad. Sci. Russie* **23:** 527 (China—type in Leningrad?).—Csiki & Heikertinger, 1940, Junk, Col. Cat. **25**(169): 550 (synonymized).

Psylliodes vitiensis Bryant, 1925, *Ann. Mag. Nat. Hist.* ser 9, **15:** 597 (Fiji: Viti Levu—type in BMNH).—Bryant & Gressitt, 1957, *Pacific Sci.* **11:** 81 (+key). **New Synonym.**

Psylliodes cucurbitae Gressitt, 1955, *Ins. of Micronesia* **17**(1): 42, fig. 14 (Bonin Islands: Chichi Jima, Volcano Islands—type in USNM).—Chûjô & Kimoto, 1961, *Pacific Ins.* **3**(1): 190.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 409 (synonymized).

♂ (New Caledonia). Form subovate-elongate. Dorsum piceous, with bright metallic green lustre; antenna with basal 4 segments yellow-testaceous, apical 6 segments subpiceous; venter piceous to orange-testaceous, metasternum darkest; legs largely brown-testaceous, metafemur dark pitchy orange becoming fuscous preapically and bearing slight metallic lustre. Length 2.8 mm; breadth 1.4.

Head: frons swollen along anterior margin and broadly carinate medially, sides depressed, surface largely alutaceous; interantennal space broadly convex, about 1.4 × as broad as transverse diameter of antennal socket; orbit obsolete, margin of antennal socket touching eye; interocular index 84; gena 0.35 × as deep as eye; postantennal swellings oblique, smooth, delimited from vertex by obscure oblique line; vertex briefly but deeply impressed anteriorly at middle, remainder of surface rather smooth and bearing small deep punctures mostly 0.5 × as large as interspaces, interspaces micropunctate. *Antenna* extending nearly to middle of elytron; flagellar segments gradually thickened toward apices. *Prothorax* broadest at posterior angles, slightly narrower than elytra at humeral angles; pronotal index 73; anterior angle oblique, nearly straight; side nearly straight; base weakly bisinuate, median lobe briefly convex before scutellum; disc rather smooth, bearing small deep punctures mostly 0.7–1.0 × as large as interspaces, interspaces sparsely micropunctate, shining. *Elytron* 3.1 × as long as broad, broadest near anterior 1/3, side feebly convex along middle, narrowed posteriorly; epipleuron not quite reaching apex, surface subalutaceous, bearing a row of punctures internally; central discal punctures mostly 0.5 × as large as interstices and 1.5 × as large as transverse interspaces; interspaces flat, shining and usually bearing a regular row of micropunctures. *Ventral surfaces* rather smooth; abdomen punctulate. *Legs:* metafemur 2.1 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 47: 36: 32; basitarsus distinctly longer than remainder. *Wing* fully developed. *Aedeagus* about 6.2 × as long as breadth at middle, see figure.

♀ (New Caledonia). Similar to ♂. *Spermatheca* as figured. Length 3.3 mm; breadth 1.65.

VARIATION (n = 20). LENGTH 2.3–3.85 mm, mean 3.1; BREADTH 1.15–2.05 mm; HEAD BREADTH 50–78 cmm; INTEROCULAR SPACE 21–33 cmm; EYE 25–43 cmm; INTEROCULAR INDEX 78–93; PRONOTAL LENGTH 57–82 cmm; PRONOTAL BREADTH 76–132 cmm; PRONOTAL INDEX 60–74, mean 68; ELYTRAL LENGTH 177–309 cmm. [12 ♂♂, 8 ♀♀]

Preceding measurements are based on selected specimens from Bonin Islands, New Caledonia, Norfolk Island, New Hebrides, Fiji, Kermadecs, and Lord Howe Island.

Dorsum generally dark metallic green in members of Pacific island populations; coloration more variable in those from continental Australia and Asia ranging from metallic green, aeneous, dark to bright metallic blue-green, blue, dark blue, violaceous; antenna usually with basal 3 segments yellow-testaceous, apical 7 usually dark fuscous to piceous, or sometimes fulvescent. Discal punctures of pronotum range 0.5–1.5 × as large as interspaces; central discal punctures of elytron mostly range 0.5–1.5 × as large as interstices and 1–2 × as large as transverse interspaces.

MATERIAL EXAMINED (n = 628). BONIN ISLANDS: *Chichi Jima:* 1 (paratype of *cucurbitae* Gressitt), Miyanohama, 22.VI.1949, Mead (BPBM); 17 (paratypes of preceding), Tsurihama, 23.VI.1949, Mead (BMNH, BPBM); 1 (paratype of preceding), Ogiura, 25.VI.1949, Mead (BPBM); 4 (paratypes of preceding), no loc. data, VI–VII.1949, pumpkin & weeds, Langford (BPBM); 1 (paratype of preceding), 10.VII.1951, Bohart (BPBM); 17, Omura, "Camp Beach," 2–25.IV.1958, Snyder (BPBM); 17, same loc., 5.V–9.VI.1958, Snyder (BPBM); 9, Yatsuae Riv. (Minato-ko), "Gen's Beach," 10–22.IV.1958, Snyder (BPBM); 7, Chihiro-iwa, "Mulberry Beach," 11–22.IV.1958, Snyder (BPBM); 2, Tatsumi Wan, SE Bay, 11–22.IV.1958, Snyder (BPBM); 28, Miyanohama, "Jack Wm's Beach," 15–21.IV.1958, Snyder (BPBM); 9, same loc., 12.V–9.VI.1958, Snyder (BPBM); 2, Yoake Yama, 21.IV.1958, Snyder (BPBM); 7, Takayama Bay, 22.IV.1958, Snyder (BPBM); 1, Okumura, "Yankee Town," 12.V–9.VI.1958, Snyder (BPBM); *Ani Jima:* 6, Sen-zan (NE Bay), 28.V.1958, Snyder (BPBM); *Ototo Jima:* 1, Kammuri-iwa (SW Bay), 3.VI.1958, Snyder & Mitchell (BPBM); VOLCANO ISLANDS: *Iwo Jima:* 4, 10.VI.1958, Snyder (BPBM); NEW CALEDONIA: 1, no data, Coll. Fleutiaux (BPBM); 1, Hienghene, 6.X.1940, Williams (BPBM); 1, Poindimie, 11.II.1963, Krauss (BPBM); 1, Canala, Coll. Fauvel (ISNB); 5, same loc., III.1955, Cohio & Rageau (BPBM); 31, La Crouen, III.1959, Krauss (BPBM); 6, same loc., 16.III.1961, J. Sedlacek (BPBM); 5, Sarramea, 100–200 m, 2.III.1960, *Solanum nigrum*, Gressitt (BPBM); 8, same loc., 4.III.1960, weeds, Gressitt; 1, Col. d'Amieu,

750 m, 3.III.1960, Gressitt (BPBM); 2, La Foa, 2.III.1960, *Hibiscus*, Gressitt (BPBM); 1, Mt Mou, 11.II.1962, Krauss (BPBM); 1, Col. de la Pirogues, VII.1950, Krauss (BPBM); 6, Noumea, III.1955, Cohio & Rageau (BPBM); 1, St Louis, 25.IX.1940, Williams (BPBM); 8, Couli, 30.I. 1963, Krauss (BPBM); 4, Yate, VI.1950, Krauss (BPBM); 1, Koue, Coll. Fauvel (ISNB); *Isle of Pines:* 2, Coll. Fauvel (ISNB); 1, Kuto, 13.VII.1958, Malkin (BPBM); LOYALTY ISLANDS: *Ouvea:* 4, Fayaoue, II.1963, Krauss (BPBM); *Lifou:* 1, We, 30–31.I.1962, Krauss (BPBM); 32, same loc., II.1962, Krauss (BPBM); 10, same loc., 4 m, 27.III.1968, Gressitt (BPBM); *Mare:* 7, LaRoche, 7–8.X.1958, Malkin (BPBM); 3, same loc., III.1959, Krauss (BPBM); 2, Tadine, 9–14. X.1958, Malkin (BPBM); NORFOLK ISLAND: 9 (holotype of *lubricata* var. *norfolcensis* Lea, 8 of same series), Norfolk Island, A. M. Lea (SAMC); 1, Pine Vall., 29.X.1967, beating, Kuschel (DSIR); NEW HEBRIDES: *Espiritu Santo:* 4, Segond Channel, VIII.1950, Krauss (BPBM); 2, below Namatasopa, 250 m, 1.IX.1957, plant host no. 3021, Gressitt (BPBM); 1, Narango, 90 m, V.1960, Brandt (BPBM); 3, same loc., VI.1960, Brandt (BPBM); *Aoba:* 2, Dunduy, 6–8.IX. 1958, Malkin (BPBM); *Epi:* 1, Vaemali, 150 m, 10.VIII.1967, M. Sedlacek (BPBM); *Efate:* 1, Coll. Fauvel (ISNB); 1, Port Vila, 12.IV.1925, Ford (BPBM); 9, Vila, VIII.1950, Krauss (BPBM); FIJI: 1 (*vitiensis* Bryant), "Fiji 223," 1910–111 (BMNH); KERMADEC ISLANDS: *Raoul Island:* 2 (cotypes of *solanae* Broun), Sunday Island, on *Solanum*, Wallace (AUMC); 8, N slopes, 100 m, 4.IX.1962, on *Solanum nigrum*, Samuelson (BPBM); 2, same loc., 100 m, 5.X.1962, sweeping *Ageratum conyzoides*, Samuelson (BPBM); 20, N Beach track, 50 m, 8.IX.1962, on *Solanum nigrum*, Samuelson (BPBM); 1, N Terrace, 75 m, 8.X.1962, sweeping *Nicotiana tabacum*, Samuelson (BPBM); 13, W Crater Rim, 125 m, 3.IX.1962, sweeping *Ageratum conyzoides*, Samuelson (BPBM); 56, N Crater Rim, 100 m, 11.X.1962, on *Solanum nigrum*, Samuelson (BPBM); 4, same loc., 100 m, 17.X.1962, sweeping *Imperata*, *Pteridium*, *Solanum*, *Sporobolus*, Samuelson (BPBM); 3, Blue Lake, nr shore, 3 m, 3.IX.1962, sweeping ferns & *Ageratum conyzoides*, Samuelson (BPBM); 1, Bell's Ravine, 75 m, 7–12.IX.1962, Malaise trap, Samuelson (BPBM); 1, Denham Bay, 2 m, 19–21.X. 1962, sweeping *Kyllingia*, Samuelson (BPBM); 1, no loc., XI.1966, at light, Watt (DSIR); 1, on rhubarb leaves, 9.XII.1966, Watt (DSIR); 1, Low Flat, 10.XII.1966, *Macropiper excelsum*, Watt (DSIR); 2, Lava Point, 13.XII.1966, wet bank, Watt (DSIR); 12, Raoul, 21.XII.1966, *Solanum nigrum*, Watt (DSIR); 1, 24.XII.1966, roadside weeds, Watt (DSIR); 17, Crater, 19.XII.1966, *Solanum nigrum*, Watt (DSIR); 1, Hostel, I.1967, Blake (DSIR); 1, I.1967, Blake (DSIR); *S Meyer Island:* 74, W slopes, 50 m, 15.X.1962, on *Solanum nigrum*, Samuelson (BPBM); 3, same loc., 50 m, 15.X.1962, sweeping, Samuelson (BPBM); 58, summit, 100 m, 15.X.1962, *Ageratum*, *Carex*, grasses, Samuelson (BPBM); 1, summit, 100 m, 15.X.1962, sweeping, Samuelson (BPBM); 15, 27.XII.1966, *Solanum nigrum*, Watt (DSIR); 1, 27.XII.1966, *Ageratum conyzoides*, Watt (DSIR); 2, 29.XII.1966, *Metrosideros kermadecensis*, Watt (DSIR); 1, 29.XII.1966, *Myoporum laetum*, Watt (DSIR); 1, 29.XII.1966, *Corynocarpus laevigatus*, Watt (DSIR); LORD HOWE ISLAND: 5 (holotype of *lubricata* var. *howensis* Lea, 4 of same series), Lord Howe I., A. M. Lea (SAMC); 2, same loc. (MCLY); 1, same loc., 20.II–6.III.1957, Liepa (BPBM).

DISTRIBUTION. Widespread throughout S & E Asia, Japan to Indonesia, Australia, Micronesia, and S Pacific islands.

REMARKS. Possibly allied to *punctifrons* Jacoby [SE Asia, China, Japan to Indonesia] because of similar form of body including rather straight side-margin of prothorax; differs from same by having body surfaces generally smooth instead of granulate; aedeagus truncate instead of narrowed to rounded apex.

PLANT HOSTS. *Solanum nigrum* L.: Australia (Lea, 1929: 239); New Caledonia (Gressitt); Kermadecs (Samuelson, labels; Watt, labels). Probable hosts: *Solanum oleraceum:* New Caledonia

(Perroud & Montrouzier, 1864: 200); *Physalis* sp.: New Caledonia (Perroud & Montrouzier, 1864: 200); *Physalis angulata:* (Scherer, 1969: 238); brinjal [eggplant]: (Gressitt & Kimoto, 1963: 753); *Datura stramonium* L.: New Caledonia (Perroud & Montrouzier, 1864: 200).

PLANT ASSOCIATES. Pumpkin: Bonins (Langford, labels); *Hibiscus:* New Caledonia (Gressitt, labels); *Nicotiana tabacum* L.: Kermadecs (Samuelson, labels); *Ageratum conyzoides* L.: Kermadecs (Samuelson, labels; Watt, labels); *Imperata Cheesemanii* Hack.: Kermadecs (Samuelson, labels); *Sporobolus* sp.: Kermadecs (Samuelson, labels); *Carex* sp.: Kermadecs (Samuelson, labels); *Kyllingia* sp.: Kermadecs (Samuelson, labels); ferns: Kermadecs (Samuelson, labels); *Macropiper excelsum* (Forst.) Miq.: Kermadecs (Watt, labels); *Metrosideros kermadecensis* Oliver: Kermadecs (Watt, labels); *Myoporum laetum* Forst.: Kermadecs (Watt, labels); *Corynocarpus laevigatus:* Kermadecs (Watt, labels); undetermined plant: Espiritu Santo (Gressitt number 3021).

Genus **Nonarthra** Baly

Nonarthra Baly, 1862, *J. Ent.* **1:** 455 (type: *N. variabile* Baly; N India).—Chapuis, 1875, Gen. Col. **11:** 142.—Heikertinger, 1924, *Kol. Rundschau* **11**(1–2): 27 (key); 1925, ibid. **11**(3–4): 53 (key).—Maulik, 1926, Fauna India, Chrys. & Halt., 114 (+key).—Chen, 1933, *Sinensia* **3**(9): 212 (key); 1934, ibid. **5**(3–4): 225 (key), 235.—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 354 (key), 357.—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 743 (key), 748.—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 401 (key), 404.—Scherer, 1969, *Pacific Ins. Monogr.* **22:** 4 (key), 13 (key), 239.

Enneamera Harold, 1875, *Col. Hefte* **13:** 185 (new name for *Nonarthra*).—Blackburn, 1896, *Trans. R. Soc. Australia* **20:** 41 (key).

DIAGNOSIS. Broadly ovate alticines of moderate size. Interantennal space much broader than diameter of antennal socket; postantennal swellings subtriangular; antenna 9-segmented, attaining posthumeral region of elytron, apical segments strongly flattened; pronotum devoid of impressions; elytral puncturation confused; procoxa subconical, prominent; procoxal cavity closed; metatibia channeled on retrotarsal surface, spine not present, but apex dentate; metatarsal insertion slightly preapical; claw tarsomere not swollen, ungues appendiculate. Sexual dimorphism: apex of last abdominal sternum minutely notched submedially in ♂, entire in ♀.

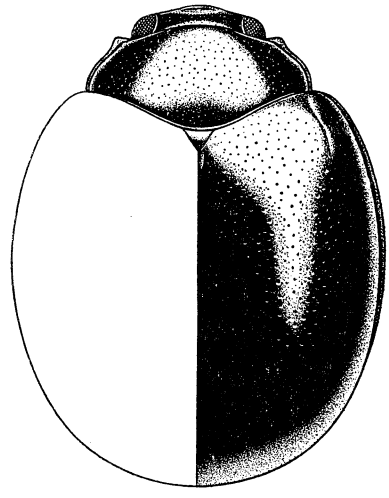

Fig. 40. *Nonarthra cyaneum*, dorsal view.

REMARKS. Close relative not known. So far as known, these alticines are unique by having the antenna 9-segmented, the fewest number of segments recorded for the subfamily.

DISTRIBUTION. S & E Asia, Japan to Indonesia, Australia, Micronesia.

Nonarthra cyaneum Baly Fig. 17h, 30j, 40.

Nonarthra cyaneum Baly, 1874, *Trans. Ent. Soc. London* **1874:** 210 (Japan—type in BMNH).—Chen, 1933, *Sinensia* **3**(9): 212 footnote (China, Japan).—Chûjô, 1935, *Trans. Nat. Hist. Soc. Formosa* **25:** 358 (+key) (Japan).—Gressitt & Kimoto, 1963, *Pacific Ins. Monogr.* **1B:** 748 (key), 749 (China).—Kimoto, 1965, *J. Fac. Agric. Kyushu Univ.* **13**(3): 404 (key), 405 (Japan).—Kimoto & Gressitt, 1966, *Pacific Ins.* **8**(2): 480 (key), 538 (Yakushima).

Nonarthra fulvum Baly, 1874, *Trans. Ent. Soc. London* **1874:** 210 (Japan—type in BMNH).

Enneamera cyanea: Gemminger & Harold, 1876, Cat. Col. **12:** 3554.

Argopistes cyaneum: Matsumura, 1931, 6000 Illustr. Ins. Japan, 225, fig. 617.

Nonarthra cyanea: Chen, 1934, *Sinensia* **5**(3–4): 235 (key), 239 (China, Tonkin).—Gressitt, 1955, *Ins. of Micronesia* **17**(1): 43 (Bonin Islands).

♂ (China: Hupeh). Form broadly ovate, rather abruptly rounded anteriorly and posteriorly, side gently convex along middle. Dorsum piceous, with slight greenish blue lustre; antenna with basal 3 segments yellow-testaceous, remainder fuscous; thoracic sterna and base of abdomen fuscous, remainder of abdomen orange-testaceous; legs fuscous. Length 3.45 mm; breadth 2.3.

Head: frons broad, rather flat, surface bearing a few large punctures; interantennal space broadly but weakly convex, about 2.5 × as broad as transverse diameter of antennal socket; orbit concave, 0.5 × as broad as antennal socket; interocular index 128; gena 0.35 × as deep as eye; postantennal swellings obsolescent, somewhat oblique, surfaces continuous with plane of frons but feebly delimited from vertex by obscure oblique line; vertex broadly depressed anteriorly, remainder evenly convex, surface submoderately punctate. *Antenna* extending to about basal 1/3 of elytron; segments 4–9 strongly flattened. *Prothorax* broadest at posterior angles, not quite as broad as elytra at humeral angles; pronotal index 46; anterior angle rounded, continuous with weakly convex side; base convex; disc bearing small deep punctures, mostly 0.5–1 × as large as interspaces, interspaces smooth. *Elytron* 2.5 × as long as broad, broadest at basal 3/8, side weakly convex along middle, abruptly rounded apically; epipleuron acutely inflexed anteriorly and continued to about apical 1/4, surface rather smooth; central discal punctures deep, mostly 1.5 × as large as interspaces; interspaces rather flat, bearing occasional micropunctures. *Ventral surfaces* moderately punctulate. *Legs:* metafemur 1.8 × as long as broad; relative lengths of metafemur, -tibia, -tarsus are 54: 53: 30; basitarsus about as long as remainder. *Wing* fully developed. *Aedeagus* about 5 × as long as breadth at middle, see figure.

♀ (China: Hupeh). Similar to ♂. Dorsum rather evenly dark orange-fuscous, with slight lustre. *Spermatheca* as figured. Length 3.55 mm; breadth 2.5.

VARIATION (Continental Asia and Japan). Dorsum greenish-blue to blue black, several possibly teneral specimens are fulvescent with slight bluish lustre. LENGTH 2.8–4.15 mm in BPBM material.

MATERIAL EXAMINED. Examples of Chichi Jima population (Bonin Islands) were not seen. A number of specimens from China and Japan (BPBM) and a series of 8 specimens collected by G. Lewis in Japan (BMNH) were seen.

DISTRIBUTION. SE Asia, China, Japan, Taiwan, and Micronesia (Bonin Islands).

REMARKS. Somewhat closely allied to *tibiale* Jacoby [Japan] because of similar facies; differs from same by having antennal segment 4 triangular instead of oblong, as illustrated in Kimoto (1965: 407, fig. 1a-b).

PLANT ASSOCIATES. *Beta vulgaris* L. var. *altissima* Rossig. (Chûjô & Kimoto, 1961: 186); *Rosa Wishuraiana* Crep. (Chûjô & Kimoto, 1961: 186).

ZOOGEOGRAPHY

Oceanian Alticinae are predominantly Oriental in origin. Although a number of lineages represented on Pacific islands today are directly related to modern Oriental elements, many had opportunity to differentiate in the Papuan Subregion, particularly New Guinea, before spreading further. Interchange is evident between Oriental-Papuan and Australian chrysomelids, but subsequent spread of Australian-derived elements beyond New Guinea, the Solomons, and New Caledonia seems relatively minor. The isolated faunas of New Zealand, Norfolk Island, and Lord Howe Island have the most obscure affinities to present day Oriental and Papuan forms. Species endemic to the aforementioned islands appear to represent lineages that have been isolated for a very long time. Most of these species have no known close relatives on continents and only a few have close allies on neighboring islands.

Source Faunas

Oriental. The greatest influx of chrysomelids into the Pacific likely has been that of Oriental forms passing through Indonesia into western Melanesia. Also, there may have been a number of independent invasions of chrysomelids into western Micronesia from continental islands ranging from southern Japan to the Philippines.

Australian. Two lines of Alticinae of possible Australian derivation appear to have produced autochthones on Pacific islands beyond New Guinea or the Solomons. *Arsipoda*, predominantly of Australian-Papuan distribution, has also reached and speciated on New Caledonia. The New Caledonian elements, however, do not closely resemble those of Australia and New Guinea. *Licyllus*, a genus containing only a few species ranging from Indonesia through New Guinea to Australia, is also represented by one species restricted to New Caledonia, Loyalty Islands, and New Hebrides.

Palearctic. One species of *Phyllotreta* of broad continental distribution also reaches Australia and SW Pacific islands. Another alticine, *Altica oleracea*, was undoubtedly carried by man to New Caledonia, but it has not been definitely established there.

Nearctic. Two species of *Epitrix* were undoubtedly carried by man to New Caledonia and Hawaii during very recent times.

Austral. It is not yet known what affinities may exist between the alticine faunas of southern regions.

Insular Faunas

Each island or island group is ranked by the size of its alticine fauna in the discussion that follows. In each case, the first number gives the total of valid species, the second gives the proportion of endemic species.

Fiji. 42 Alticinae, 38 endemic. Total land area about 18,300 km^2. Principal islands: Viti Levu, Vanua Levu, and Taveuni; about 320 islands altogether, including Yasawa Group and Rotuma. The highest percentage (90%) of endemic Oceanian Alticinae occur in Fiji, particularly on Viti Levu, the largest island. Only Viti Levu and Ovalau have been reasonably well sampled; there are yet no records of Alticinae from Rotuma, Yasawa Group, and others. The second and third largest islands, Vanua Levu and Taveuni, have been poorly sampled. Of the 38 alticines endemic to Fiji, 29 (or 76%) are of monoinsular distribution, with 23 of the 29 restricted to Viti Levu. Most of the endemics of broader distribution (7 of 9) occur on Viti Levu and nearby

Ovalau, separated by about 15 km. Only 1 alticine is apparently endemic to Ovalau. Evidently, the 7 others restricted to Ovalau and Viti Levu have either crossed too recently to have speciated or are being maintained by sufficient interchange between insular populations.

Fiji, particularly Viti Levu, is the most important focus for evolution of Oceanian Alticinae eastward of the Solomons. The large number of endemics on Viti Levu may be proportional to the relatively large land area of the island. Furthermore, some species belong to 3 geographically restricted genera which probably arose in the same area; they are: *Febra* with 5 endemic to Fiji and 1 to Vanua Lava (Banks Islands); *Analema* with 2 endemic to Fiji, and *Linaltica* with 1 endemic to Fiji and 1 to Tonga. The largest genus is *Crepidodera* with 12 species occurring throughout Fiji and many of them are fairly well differentiated; 2 closely related species occur in the New Hebrides, but none appears to have reached the Loyalty Islands or New Caledonia. All examples of *Manobia* thus far known from Fiji are endemic to Viti Levu; some forms appear to be speciating and many remain poorly delimited morphologically; 1 related species occurs throughout the New Hebrides. *Trachyaphthona* has speciated to some extent throughout Fiji; relatives occur in New Hebrides, New Caledonia, and Samoa. One endemic assigned to *Mniophila* is close to undescribed material from New Guinea, but further work is necessary to clarify generic status of all these minute forms. All 4 non-endemic alticines occurring on Fiji are distributed on New Caledonia, Loyalty Islands, and New Hebrides; of these species, 1 *Aphthona* reaches Tonga, Samoa, and Niue; 1 *Altica* ranges from Australia through the S Pacific and reaches Hawaii; 1 *Psylliodes* is widespread throughout S Asia, Australia, W and SW Pacific, but does not occur as far east as Samoa; 1 *Phyllotreta* of broad Eurasian distribution reaches Australia and New Zealand.

New Caledonia. 21 Alticinae, 11 endemic. Land area: New Caledonia, 16,200 km^2; Isle of Pines, 150 km^2. The percentage of endemic forms is fairly low at 52%. Of the 11 endemics, 8 are restricted to New Caledonia proper, 1 is limited to Isle of Pines, and 2 occur on both. One species of *Trachyaphthona* is restricted to New Caledonia and Lifou, but some divergence is noted between the disjunct populations. The outstanding endemic forms belong to *Arsipoda*, whose distribution is predominantly Australian-Papuan. As a group, the New Caledonia species are not too closely related to the Australian-Papuan elements. *Licyllus* is of particular interest, as it contains only 4 species with different species in Indonesia, New Guinea, Australia, and finally 1 of New Caledonia-Loyalty-New Hebrides distribution. Two endemic species of *Chaetocnema* (*Tlanoma*), although bearing no close superficial resemblance to each other, are nevertheless closely related and of monophyletic origin. The closest known relatives occurring outside of New Caledonia could possibly be the similarly restricted New Zealand members of the subgenus, but this relationship seems vague. One species of *Argopistes* endemic to New Caledonia and Isle of Pines has relatives in the Loyalty Islands, Fiji, and Samoa. One endemic species of *Longitarsus* seems not to be closely related to Asian or Australian forms; it occurs on New Caledonia and Isle of Pines and some divergence is evident between the populations. Of the 10 non-endemic species, 1 *Trachyaphthona* is no further distributed than Lifou; 1 *Licyllus* occurs no further than Loyalty Islands and New Hebrides; 2 (*Aphthona*, *Chaetocnema*) do not occur outside of the S Pacific; 1 *Altica* from Australia reaches S Pacific and Hawaii; 1 *Psylliodes* ranges through S Asia, Australia, W and SW Pacific; 1 *Phyllotreta* from Eurasia reaches Australia and SW Pacific; 1 *Chaetocnema* occurs throughout S Asia; 1 *Altica* is Eurasian and 1 *Epitrix* is N American.

New Zealand. 14 Alticinae, 11 endemic. Total land area over 265,000 km^2. Principal islands: South Island, North Island, Stewart Island. The percentage of Alticinae endemic to greater New Zealand is fairly high at 79%, but the number of species is not large. The North Island has been fairly well sampled, but the South Island has not, and there are no records at all

for Stewart Island. The Chatham Islands, 750 km east of the South Island contain 1 endemic *Chaetocnema*. One widespread species of *Psylliodes* occurs in the Kermadec Islands (Raoul Island), about 1000 km north of the North Island. Of the 11 species endemic to New Zealand, 7 are of monoinsular distribution and the remaining ones occur on both the North and South Islands.

Alticines which have undergone greatest radiation in New Zealand are members of the subgenus *Chaetocnema* (*Tlanoma*). They are quite distinctive as a group and their distribution is limited to the South Island (5 species) and the Chathams (1 species). The isolated species on the Chathams is rather closely related to one of the South Island forms. No close relatives of the subgenus are known from Australia or Pacific islands other than New Caledonia, perhaps. One species of the nominate *Chaetocnema* described from the North Island also occurs on Norfolk Island, New Caledonia, Loyalty Islands and possibly may prove to be an Australian species. *Trachytetra*, containing 2 species, is restricted to New Zealand and is related to *Pleuraltica*, whose distribution is limited to New Zealand and Norfolk Island, with 1 species on each and to *Linaltica*, with 1 species in Fiji and 1 in Tonga. The preceding genera are also related to *Trachyaphthona* of Asian and Pacific distribution. Two species of *Alema* endemic to New Zealand appear not to be very closely related to 2 species of *Analema* from Fiji. One species of *Longitarsus* endemic to New Zealand possibly has relatives in Asia. One non-endemic species of *Phyllotreta* occurs throughout SW Pacific islands, Australia, and Eurasia.

Micronesia. 14 Alticinae, 6 endemic. Total land area about 1820 km², comprising over 2000 islands. Principal island groups are the Bonins, Volcanos, Marianas, Carolines, Marshalls, and Gilberts. The fauna is rather small and only 43% of the species are restricted to Micronesia.

All the endemic species occur in the Carolines and have close relatives in both Asia and Melanesia. Of the 6 endemics, only the 3 species of *Schenklingia* are of monoinsular distribution. Two endemics (*Altica*, *Livolia*), although confined to the Carolines, occur on more than 1 island. A subspecies of a SW Pacific distributed species of *Aphthona* is restricted to the Marianas and Carolines. One species of *Sphaeroderma* described from the Carolines occurs in the Solomons and probably elsewhere in Melanesia. Another species of *Aphthona* reaches New Guinea and New Hebrides. One species of *Psylliodes* widely distributed in S Asia, Australia, and S Pacific occurs in the Bonin and Volcano Islands. *Argopistes*, *Longitarsus*, and *Nonarthra* each have 1 species of Asian distribution that also reaches the Bonins. *Hemipyxis* unidentified species from Saipan appears not to have close relatives in Japan or Ryukyus.

New Hebrides. 11 Alticinae, 5 endemic. Total land area about 13,000 km², comprising a double chain of about 80 islands. Principal islands are Espiritu Santo, Malekula, Efate, Eromanga, among others. The Banks Islands, principally Vanua Lava and Gaua, are included here with the New Hebrides because of their close proximity. This alticine fauna is characterized by a rather low number of species and a fairly low percentage of endemic forms (45%); however, these islands remain poorly sampled and more species are expected to come to light. Three of the 5 endemic forms are distributed on more than 1 island. Of these endemic species, 2 *Crepidodera*, 1 *Febra*, and 1 *Manobia* have close relatives on Fiji and 1 *Trachyaphthona* has close relatives on Fiji and New Caledonia. One species of *Licyllus*, although not endemic, has a limited distribution within the SW Pacific. One species of *Aphthona* also occurs in New Guinea and Micronesia and has a close relative in Australia. Of the 4 remaining non-endemic species, all reach New Caledonia, Fiji, and probably Loyalty Islands: 1 *Aphthona* reaches Tonga, Samoa, and Niue; 1 *Altica* occurs in Australia, S Pacific and reaches Hawaii; 1 *Phyllotreta* from Eurasia reaches Australia and SW Pacific; 1 *Psylliodes* occurs throughout S Asia, Australia, W and SW Pacific.

Loyalty Islands. 6 Alticinae, 0 endemic. Total land area over 2000 km². Principal

islands: Lifou, Mare, and Uvea. Not included in the tally are 4 species of *Argopistes* under incertae sedis. The closest faunal affinities are with nearby New Caledonia, about 100 km distant. The Lifou and New Caledonia populations of *Trachyaphthona lifuana* seem to have diverged to some extent and perhaps should be regarded as subspecies. All 6 species counted here also occur on New Caledonia and 4 of them reach the New Hebrides.

Lord Howe Island. 4 Alticinae, 3 endemic. Land area 13 km². The alticine fauna is distinctive but small. The monobasic genus *Goweria* is restricted to the island and accordingly has the smallest range of any alticine genus in Oceania. The species of *Manobia* form a group that is quite unrelated to species on other Pacific islands, Australia, and New Guinea. There may exist further related species of *Manobia* on the island, because Lea's material seems to represent more than the 2 species he named (see key). A widely distributed species of *Psylliodes* is the only non-endemic alticine to occur on the island and is probably a relatively recent arrival.

Norfolk Island. 4 Alticinae, 2 endemic. Land area 34 km². One endemic species of *Pleuraltica* is closely related to a New Zealand form. They together comprise the genus and thereby seem to closely relate the 2 areas. The other endemic, a species of *Argopistes*, does not appear to be closely related to the several other species treated herein, but it is somewhat related to a species from the Solomons. Of the non-endemics, 1 *Chaetocnema* (s. str.) occurs in New Zealand, New Caledonia, and Loyalty Islands and may have Australian affinities; 1 *Psylliodes* from S Asia and Australia also occurs on Lord Howe Island and elsewhere in the Pacific.

Tonga. 4 Alticinae, 1 endemic. Total land area about 670 km², comprising 3 principal island groups: Tongatapu, Haapai, and Vavau; about 200 islands altogether. Close faunal affinities with Fiji. The 1 endemic alticine belongs to *Linaltica*, a genus restricted to Fiji and Tonga. All 3 non-endemic alticines occur on Fiji; of these, 1 *Aphthona* ranges throughout the Pacific; 1 *Altica* from Australia is spread throughout the S Pacific and reaches Hawaii; 1 *Psylliodes* is widespread on Pacific islands, Australia, and S Asia, but evidently has not reached points east of Tonga.

Samoa. 3 Alticinae, 2 endemic. Total land area over 3100 km². Principal islands: Savaii, Upolo, and Tutuila. The 2 endemic species belong to *Argopistes* and *Trachyaphthona*. Both are multi-insular, but no significant divergence is evident between the disjunct populations in each of the species. Each has close relatives on various islands to the west, particularly Fiji. The non-endemic form, a species of *Aphthona*, is widely distributed on Pacific islands including Niue.

Other Islands. Species of Alticinae reach Niue and Hawaii, but they are recent introductions. Thus far, alticines have not been collected in the Cook and Society Islands, Tuamoto Archipelago, Austral Islands, or the Marquesas.

Routes

Alticinae endemic to New Zealand, Norfolk Island, Lord Howe Island, and possibly some of the forms of New Caldeonia appear to be relicts of long duration. Autochthonous species belonging to fairly broadly distributed genera occur on each of these islands, but the faunas neither seem to be closely interrelated nor closely related to faunas on more distant islands or continents.

More can be inferred on the faunation of New Caledonia than of the other islands mentoned above. Autochthones of obvious Australian-Papuan lineage are present on New Caledonia. These belong to *Arsipoda* and *Licyllus* and their presence suggests that ancestral stock arrived via the once exposed land of the Inner Melanesian Arc (Ross, 1956: 170; Hennig, 1966: 69) which connected (perhaps as a series of islands) the eastern part of New Guinea to New Caledonia to New Zealand for a brief period during the late Mesozoic or early Cenozoic. Whether the flow

of ancestral forms along the Inner Arc extended as far as New Zealand is not clear. The strongest criterion uniting the New Zealand and New Caledonia Alticinae is that each possesses its own delimited "species group" in the subgenus *Chaetocnema* (*Tlanoma*), but the two groups do not seem to be closely related.

The Outer Melanesian Arc is more recent and formed a route leading from New Guinea through the Solomons onward to Fiji and beyond. The composition of Solomons and Fijian Alticinae suggests that the Outer Arc served as an important if not exclusive pathway through which ancestral forms reached Fiji. Although the pathway to Fiji may have been more amenable for faunal movements at certain brief times, arrivals of propagules probably occurred throughout a fairly broad period. The disharmonic composition of Fijian Alticinae suggests that considerable filtering took place during the movement of ancestral forms, indicating that land connections were not extensive or of long duration. Today, a disjunct series of related alticine genera are spread from New Guinea, through the Solomons, and onto Fiji. The roots of this line were probably founded on New Guinea, which received ancestral stock from Asia via Indonesia. Present species of *Axillofebra* and *Maaltica*, endemic to New Guinea, arose from this stock. This line extended farther outward through the Solomons giving rise to modern species of *Profebra*, and then farther outward to Fiji where the further effect of filtering and isolation resulted in present day species of *Febra*. Other filtered lineages are evident along the Outer Arc. *Manobia*, which contains a number of diverse and even bizarre forms in the Solomons, has also reached Fiji where at least one line seems to be radiating. The Fijian elements, in contrast, are not remarkably diverse and appear to be derived from only a few founders, ones that came by way of the Solomons.

The New Hebrides appear to have the youngest alticine fauna in the SW Pacific. All alticines endemic to this island group have close relatives in Fiji. Four of the 5 endemics have close relatives nowhere else but Fiji and the other has close relatives on Fiji and New Caledonia. One of the preceding belongs to *Febra*, a genus which probably arose much farther outward on the Outer Arc on or near present Fiji. A non-endemic species belonging to *Licyllus*, no further distributed than New Hebrides-Loyalty Islands-New Caledonia, probably reached or evolved on New Caledonia first and spread later into the New Hebrides, because the genus is represented in Australia and New Guinea, but not in the Solomons or Fiji. Although the New Hebrides has received elements from more than one direction, the fauna appears to be predominantly Fijian.

Recent Distributions

Some species of Alticinae obviously have been spread around on Pacific islands since the advent of man into the region. *Psylliodes brettinghami* and *Aphthona veitchi* may have been carried very early in the history of man into the Pacific, for some divergence has taken place among certain of their insular populations; also, they are associated with weedy plant hosts which could have been easily carried about by man. The occurrence of *Phyllotreta undulata* on Pacific islands seems to be coincident with recent agriculture. The following species are also believed to have been generally assisted by man in commerce and war in reaching Pacific islands from their original, continental homes: *Altica oleracea* from Eurasia to New Caledonia, *Altica corusca* from Tasmania and Australia to throughout the South Pacific and to Hawaii, *Epitrix cucumeris* from North America to New Caledonia, *Epitrix hirtipennis* from North America to Hawaii, and *Chaetocnema* (*Tlanoma*) *basalis* from Asia to New Caledonia.

Distributions for all Oceanian Alticinae are shown in Table 1 below.

Table 1 Distribution of Pacific island species of Alticinae.

	MICRONESIA	LORD HOWE	NORFOLK	NEW ZEALAND	NEW CALEDONIA	LOYALTY IS.	NEW HEBRIDES	FIJI	TONGA	SAMOA, NIUE	HAWAII	OTHER LOCALITIES
Licyllus bouqueti					×	×	×					
Trachyaphthona boja					×							
T. nana					×							
T. lifuana					×	×						
T. atra							×					
T. brunnea								×				
T. chandleri								×				
T. greenwoodi								×				
T. senetiki								×				
T. vitiensis								×				
T. lauensis								×				
T. nigra										×		
Linaltica simmondsi								×				
L. amicitia									×			
Trachytetra rugulosa				×								
T. robusta				×								
Pleuraltica cyanea				×								
P. tyche			×									
Altica corusca					×	×	×	×	×		×	Australia Solomons
A. jussiaeae	×											
A. oleracea					×							Eurasia Japan
Hemipyxis sp.	×											
Aphthona bicolorata	×						×					New Guinea Solomons
A. formosana	×											S Japan to Taiwan
A. veitchi veitchi					×	×	×	×	×	×		
A. veitchi nanyoensis	×											
Phyllotreta undulata				×	×		×	×				Eurasia, Australia
Longitarsus bimaculatus	×											China Japan Ryukyus
L. panope					×							
L. fuliginosus				×								
Mniophila exulans								×				
Sphaeroderma wedeliae	×											Solomons
Schenklingia esakii	×											
S. yasumatsui	×											

Table 1 (continued)

	MICRONESIA	LORD HOWE	NORFOLK	NEW ZEALAND	NEW CALEDONIA	LOYALTY IS.	NEW HEBRIDES	FIJI	TONGA	SAMOA, NIUE	HAWAII	OTHER LOCALITIES
S. yoshimurai	×											
Argopistes coccinelliformis	×											SE Asia Ryukyus Taiwan Japan
A. armipes			×									
A. kraussi					×							
A. arnetti								×				
A. insularis										×		
Febra venusta								×				
F. ovata							×					
F. insularis								×				
F. rubra								×				
F. varioloidea								×				
F. nigroornata nigroornata								×				
F. nigroornata vanuana								×				
Manobia fuscitarsis		×										
M. instabilis		×										
M. costata							×					
M. levicollis								×				
M. lubricata								×				
M. metallica								×				
M. obsolapicalis								×				
M. obtusicollis								×				
M. thompsoni								×				
M. tomaniiviae								×				
M. victoriae								×				
M. zimmermani								×				
Goweria obscura		×										
Alema paradoxa				×								
A. spatiosa				×								
Analema nigra								×				
A. leveri								×				
Epitrix cucumeris					×							N America
E. hirtipennis											×	N America
Livolia carolina	×											
Crepidodera coeruleoviolacea							×					
C. erromangana							×					

Table 1 (continued)

	MICRONESIA	LORD HOWE	NORFOLK	NEW ZEALAND	NEW CALEDONIA	LOYALTY IS.	NEW HEBRIDES	FIJI	TONGA	SAMOA, NIUE	HAWAII	OTHER LOCALITIES
C. elongata								×				
C. evansi								×				
C. fijiensis								×				
C. gressitti								×				
C. infuscata								×				
C. kraussi								×				
C. lami								×				
C. oceanica								×				
C. ovalauensis								×				
C. parafijiensis								×				
C. rotunda								×				
C. semifuscata								×				
Arsipoda agalma					×							
A. evax					×							
A. isola					×							
A. shirleyae					×							
A. yiambiae					×							
Chaetocnema paspalae			×	×	×	×	×					
C. allardi					×							
C. arsipodoides					×							
C. basalis					×							S Asia Ryukyus to Indonesia
C. aotearoa				×								
C. graminicola				×								
C. littoralis				×								
C. moriori				(×)								(Chathams)
C. nitida				×								
Psylliodes brettinghami	×	×	×	(×)	×	×	×	×	×			(Kermadecs) S Asia Japan to Indonesia
Nonarthra cyaneum	×											SE Asia China Japan Taiwan

APPENDIX

Material seen too late for inclusion in text is treated here. Genera and species are listed alphabetically, with further material examined cited for each species.

Alema paradoxa Sharp (n = 3). All in BMNH. NEW ZEALAND: *Auckland:* 1, Parua, Broun Coll.; 1, Tairua, Broun Coll.; 1, Waitakerei, Broun Coll.

Altica corusca Erichson (n = 169). All in BPBM. NEW CALEDONIA: 1, Anse Vata, III.1966, light trap, Cochereau; 10, Nossirah, 100 m, 20.III.1968, *Jussiaea suffruticosa*, Gressitt; 3, Col d'Amieu, 650 m, 21.III.1968, Gressitt & Maa; LOYALTY IS.: *Ouvea:* 1, Fayaoue, 0–50 m, I.1969, Krauss; NEW HEBRIDES: *Espiritu Santo:* 9, Santo, VIII.1950, Krauss; 5, Narango, 90 m, VI.1960, Brandt; *Efate:* 1, Port Vila, 4.XII.1925, Ford; 3, Efate, 4.VII.1944, Murray; 28, Devil's Pt., 22.VII.1958, Malkin; 1, Limestone plateau N of Maat, 100 m, 17.VIII.1957, Gressitt; FIJI: *Viti Levu:* 1, Lami, 1920, Pemberton; 2, Yayu-Nandrau trail, 27–29.VI.1958, Malkin; 66, Mt Victoria, trail from Navai, 660–900 m, 2.VII.1958, Malkin; *Ovalau:* 3, Levuka, 0–200 m, XII.1969, Krauss; TONGA: *Tongatapu:* 35, Nukualofa, 0–100 m, X.1969, Krauss. New to Tonga.

Altica jussiaeae Gressitt (n = 1). GUAM: 1, Pt. Oca, V.1945, Bohart (BPBM). New to Guam.

Analema nigra (Bryant) (n = 1). FIJI: *Viti Levu:* 1, Tholo-i-suva [Colo-i-suva], 3–6. III.1963, C. M. Yoshimoto (BPBM).

Aphthona veitchi veitchi Bryant (n = 1). TONGA: *Tongatapu:* 1, Ha'amonga, 0–50 m, 19.III.1969, Krauss (BPBM). New to Tonga.

Argopistes insularis (Maulik) (n = 1). SAMOA: *Savaii:* 1, Asan, 0–300 m, IX.1969, Krauss (BPBM). New to Savaii. This is the first example to have orange-testaceous maculation on elytral disc; the pale area occupies basal 0.5 of elytron, nearly reaching basal and sutural margins but fairly distant from lateral margin.

Chaetocnema (s. str.) paspalae (Broun) (n = 4). NEW HEBRIDES: *Eromanga:* 4, Dillon Bay, sea level, 29.II.1964, sweeping, Straatman (BPBM). New to New Hebrides.

Chaetocnema (Tlanoma) littoralis (Broun) (n = 2). NEW ZEALAND: *Canterbury:* 2, Cass, S Alps, 549 m, 14.X.1961, Broom, Wise (BPBM). 2 ♀♀; length 1.35–1.5 mm.

Chaetocnema (Tlanoma) nitida (Broun) (n = 3). NEW ZEALAND: *Canterbury:* 1, Mt Bailey, 980–1220 m, 13.III.1962, swept, White (TGLC); 1, Mt Lyndon, 840 m, 23.II.1961, swept, White (TGLC); 1, Mt Sugar Loaf, 1070–1400 m, 2.XII.1962, White (TGLC). 1 ♂, 2 ♀♀; length 1.7–1.85 mm.

Crepidodera erromangana (Bryant) (n = 1). NEW HEBRIDES: *Eromanga:* 1, 8 km W of Ipota, 100–200 m, III.1970, Krauss (BPBM).

Epitrix hirtipennis (Melsheimer) (n = 7). HAWAII: *Kauai:* 1, Kokee, 8.I.1944, ex *Physalis peruviana*, Krauss (BPBM); *Hawaii:* 6, end of Wright Rd above Kilauea, *c.* 1100 m, 17.IX.1970, on *Physalis peruviana*, *Solanum nigrum*, Samuelson (BPBM).

Febra nigroornata nigroornata Bryant (n = 6). FIJI: *Viti Levu:* 2, Lami, IV.1951, Krauss (BPBM); 1, same loc., V.1951, Krauss (BPBM); 2, Tholo-i-suva [Colo-i-suva], 3–6.III. 1963, Yoshimoto (BPBM); *Ovalau:* 2, Levuka, XII.1969, Krauss (BPBM).

Manobia levicollis Gressitt (n = 1). FIJI: *Viti Levu:* 1, Nandarivatu, 810 m, 27.VI–4.VII.1958, rain forest, Malkin (BPBM).

Manobia metallica Bryant (n = 1). FIJI: *Viti Levu:* 1, Navai, V.1952, Krauss (BPBM).

Psylliodes brettinghami Baly (n = 111). Mostly in BPBM. NEW CALEDONIA: 31, Hienghene, 0–50 m, I.1969, *Solanum nigrum*, Krauss; 1, Mts des Koghis, 400–600 m, I.1969,

Krauss; 9, Voh, 0–50 m, 22.I.1969, Krauss; 1, La Crouen, 15.III.1961, J. Sedlacek; LOYALTY ISLANDS: *Ouvea:* 1, Fayaoue, 0–50 m, XII.1968, Krauss; NEW HEBRIDES: *Malekula:* 1, Lamap, 19–21.IX.1967, J. & M. Sedlacek; 1, Lakatoro, 29.IX.1967, light trap, J. & M. Sedlacek; *Efate:* 1, NW Efate, V.1905 (AUSM); 3, 40 km NE of Vila, 4.VIII.1967, J. & M. Sedlacek; 1, Vila, 0–5 m, II.1970, Krauss; 5, Vila, 0–100 m, III.1970, Krauss; 2, Pango Point, 0–50 m, 19. III.1970, Krauss; FIJI: *Ovalau:* 3, Levuka, 0–200 m, XII.1969, Krauss; TONGA: *Eua:* 9, Hafu, 150–200 m, III.1969, Krauss; *Tongatapu:* 3, Mu'a, 30–100 m, 1.XI.1969, Krauss; 39, Nukualofa, 0–100 m, XI.1969, Krauss. New to Tonga.

Trachyaphthona brunnea (Bryant) (n = 1). FIJI: *Viti Levu:* 1, Nandarivatu, 850 m, 23.XII.1963, Gressitt (BPBM).

Trachyaphthona chandleri, n. sp. FIJI: *Viti Levu:* 3 additional paratypes, Nandarivatu, 850 m, 23.XII.1963, Gressitt (BPBM).

Trachytetra rugulosa (Broun) (n = 8). All in BMNH. NEW ZEALAND: *Auckland:* 1, Northcote, Broun Coll.; 2, Waitakerei, Broun Coll.; *Wellington:* 2, Ohakune, 1.I.1917, Broun Coll.; 2, Waimarino, I.1909, Broun Coll.; *Nelson:* 1, Glenhope, 19.VIII.1915, Broun Coll.

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New names are indicated by **bold face** type, synonyms by *italics*

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