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Review of the Australian Cyllodini (Coleoptera: Nitidulidae: Nitidulinae), with descriptions of new taxa, and notes on the genus *Macleayania* (Nitidulini)

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Abstract

The genera of the nitiduline tribe Cyllodini occurring in Australia are reviewed and a key is provided for their separation. Each genus is discussed, with an emphasis on the Australian fauna, and an hypothesis is given concerning the source of the introduced *Camptodes* species and its connection with the program for biological control of *Opuntia* cacti. The specimens identified by Kirejtshuk (2003) as *Macleayania amphotiformis* (Reitter, 1880b) were found to represent two widely overlapping species later named by Olliff (1886) in the trogossitid genus *Ancyrona*. The following new genus and species are included: *Cyllopallodes*, **gen. nov**., *Gymnocychramus bicolor*, **sp. nov.**, *Pallodes nigroapicalis*, **sp. nov**. The following new combinations and synonymies are also included: *Coxollodes loriai* (Grouvelle, 1906) (*Pallodes*) (= *Pallodes opacus* Grouvelle, 1906, **syn. nov**.); *Cyllodes ruficeps* (Reitter, 1880a) (*Strongylus*) (= *Pseudocamptodes blackburni* Grouvelle, 1902, **syn. nov**.; *Pseudocamptodes fulviceps* Grouvelle, 1906, **syn. nov**.); *Cyllopallodes limbicollis* (Reitter, 1880b) (*Pallodes*), **comb. nov**.; *Pallodes beccarii* Grouvelle, 1906 (= *Pallodes gestroi* Grouvelle, 1906, **syn. nov**.); *Macleayania amphotiformis* (Reitter, 1880b) (= *Ancyrona amica* Olliff, 1886, **syn. nov**.); *Macleayania vesca* (Olliff, 1886) (*Ancyrona*) **comb. nov**. The lectotypes of *Camptodes humeralis* (Brullé, 1842), *Coxollodes loriai* (Grouvelle, 1906), *C. opacus* (Grouvelle, 1906), *Cyllodes fulvipes* (Grouvelle, 1906), *Pallodes beccarii* Grouvelle, 1906, *P. gestroi* Grouvelle, 1906, and *P. misellus* Grouvelle, 1906 are designated. Information on and syntype information from *Macleayania amica* (Olliff, 1886), *M. vesca* (Olliff, 1886), *Cyllodes blackburni* (Grouvelle, 1906) and *C. rufipes* (Reitter, 1880a) are given.

Key words: new genera, new species, new synonymy, designation of lectotypes, key to genera, fungivory

РЕЗЮМЕ

Ревизованы роды блестянок трибы, встречающиеся в Австралии, и дан ключ для их разделения. Обсуждается каждый род с акцентом на фауну Австрвлии, а также рассмотрена гипотеза инродукции вида рода *Camptodes* и его связи с программой биологического контроля *Opuntia* cacti. Обнаружено, что экземпляры, определенные Кирейчуком (Kirejtshuk, 2003) как *Macleayania amphotiformis* (Reitter, 1880b) представляют два вида, для которых Оллифф (Olliff, 1886) предложил названия в роде трогосситид *Ancyrona*. Включены следующие новые роды и виды: *Cyllopallodes*, **gen. nov**., *Gymnocychramus bicolor*, **sp. nov.**, *Pallodes nigroapicalis*, **sp. nov**. Также предложены следующие новые комбинации и синонимы: *Coxollodes loriai* (Grouvelle, 1906) (*Pallodes*) (= *Pallodes opacus* Grouvelle, 1906, **syn. nov**.); *Cyllodes ruficeps* (Reitter, 1880a) (*Strongylus*) (= *Pseudocamptodes blackburni* Grouvelle, 1902, **syn. nov**.; *Pseudocamptodes fulviceps* Grouvelle, 1906, **syn. nov**.); *Cyllopallodes limbicollis* (Reitter, 1880b) (*Pallodes*), **comb. nov**.; *Pallodes beccarii* Grouvelle, 1906 (= *Pallodes gestroi* Grouvelle, 1906, **syn. nov**.); *Macleayania amphotiformis* (Reitter, 1880b) (= *Ancyrona amica* Olliff, 1886, **syn. nov**.); *Macleayania vesca* (Olliff, 1886) (*Ancyrona*) **comb. nov**. Обозначены лектотипы *Camptodes humeralis* (Brullé, 1842), *Coxollodes loriai* (Grouvelle, 1906), *C. opacus* (Grouvelle, 1906), *Cyllodes fulvipes* (Grouvelle, 1906), *Pallodes beccarii* Grouvelle, 1906, *P. gestroi* Grouvelle, 1906, и *P. misellus* Grouvelle, 1906. Приводятся сведения о синтипах *Macleayania amica* (Olliff, 1886), *M. vesca* (Olliff, 1886), *Cyllodes blackburni* (Grouvelle, 1906) и *C. rufipes* (Reitter, 1880a).

Ключевые слова: новые роды, новые виды, новая синонимия, обозначение лектотипов, определитель родов

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Introduction

The nitiduline tribe Cyllodini, as currently delimited, is a large and widely distributed group containing about 25 genera, over 400 described species and a number of undescribed forms. The most speciose genera include the Neotropical *Camptodes* Erichson, 1843, with more than 150 species, followed by *Cyllodes* Erichson, 1843 (85), *Pallodes* Erichson, 1843 (51) and *Neopallodes* Reitter, 1884 (40). The genus *Pallodes* is in need of a worldwide revision. Although this and related genera have been studied in recent years (Kirejtshuk 1987, 1992, 2008; Leschen 1999; Hisamatsu *et al*. 2016), many species remain undescribed. Leschen (1999) published a cladistic analysis of Cyllodini based on a matrix of 19 cyllodine taxa, 8 outgroups and 66 primarily adult attributes. Kirejtshuk (2008), in his conspectus of nitidulid classification, criticised some of Leschen's conclusions and clarified the limits of several cyllodine genera.

Kirejtshuk (1992, 1998) produced keys for nitidulid subfamilies and tribes occurring in the Palaearctic and Oriental regions, according to which members of the tribe Cyllodini (as Strongylini) were distinguished by several features including the following: 1) body strongly convex dorsally, 2) head and sides of pronotum and elytra somewhat inclined ventrally and not horizontally explanate, 3) dorsal surfaces of head, pronotum and elytra glabrous, 4) pronotum with unbordered sides and base partly covering scutellar shield and elytra, 5) prosternum more or less shortened, 6) mesothorax carinate in distal part, 7) metaventrite usually with distinct intercoxal and postcoxal lines, 8) tegmen usually rather long and sometimes more or less excised at apex and 9) gonocoxites in many genera with sharply acute or transversely truncate apices and gonostyli absent or highly reduced. In the same two works, members of the tribe Cychramini were considered to be similar in most respects, but with the upper surfaces distinctly pubescent, the prosternum less shortened and the pronotal base usually margined. Although a more or less flattened ovipositor with strongly narrowed, contiguous gonocoxites, forming a single acute apex without gonostyli or with extremely small gonostyli (close to apex), is typical for most cyllodines, in several genera the acute or narrowly rounded gonocoxites are well separated at the apex, and in others (for example, *Coxollodes* Kirejtshuk), the ovipositor is short and broad, the gonocoxites partly or completely fused together and bearing large, short, broad, articulated apical lobes. This type of ovipositor is quite similar to that in the genus *Cychramus* Kugelann (Kirejtshuk 1984, 1994; Audisio 1993), while in the Neotropical genus *Cyclocaccus* Sharp (Hisamatsu *et al*. 2016), two of the species groups have narrow, well separated, apically rounded gonocoxites without gonostyli, while a third group has an ovipositor very similar to the one just described. Finally, the ovipositor in *Camptodes* species has very slender, contiguous gonocoxites with well-developed, parallel-sided, apical gonostyli. This last type of ovipositor occurs throughout the family and is generally considered to be plesiotypic.

The tribe Cyllodini is divided into two groups (Kirejtshuk 2008): 1) the *Oxycnemus* complex of genera, characterised by a distinctive, apically diverging labrum, consisting of two rounded lobes flanking a very deep notch, widest at its opening, a fixed tooth or spine at the protibial apex and an association with the fungal order Phallales (Agaricomycetes), and 2) the *Cyllodes* complex with the labrum shallowly emarginate or finely, narrowly notched, the protibial apex without a fixed spine and an association with soft-bodied Basidiomycetes. Within the first group, the genus *Camptodes* is an exception, since adults have been reported to invade cactus flowers in large numbers (Pimienta-Barrios & del Castillo 2002), while larvae feed in the rotting flesh of cactus stems. In the second group, a South American species of *Pycnocnemus* Sharp was recorded feeding in blossoms of *Duguetia cadaveria* (Annonaceae) (Teichert *et al.* 2012) and some Asian species of *Triacanus* Erichson have been recorded from flowers of *Orthidantha fimbriata* (Lowiaceae) (Kirejtshuk 2016); in both cases, however, the plants in question mimic the odor of decay or dung.

Although the tribe Cyllodini is generally recognised and provides a convenient subset of genera for study, the monophyly of the group requires further support. The present study is confined to the cyllodine genera occurring in Australia, although exotic taxa may be mentioned in some diagnoses.

Materials and methods

Descriptions of new species are based on complete dissections of male and female paratypes from the same locality as the holotype, while redescriptions are based on one or more designated plesiotypes. For each species, total length range is given based on a superficial examination of all material examined, and this is followed by the range for a small series usually consisting of 10 or more specimens, including both sexes. The range, mean and standard deviation are given for total length but only the range and mean are given for the various ratios. The following ratios are based on a subset of the type series or a plesiotype series: 1) total length including head in mm; body length/elytral width; 2) length of pronotum plus elytra at midline/greatest width of combined elytra; 3) pronotal length at midline/greatest pronotal width; 4) elytral length at midline but including scutellar shield/greatest width of combined elytra; 5) elytral length/pronotal length; and 6) greatest depth, measured in lateral view from the highest point in the dorsal elytral curvature to the lowest point on the metaventrite/greatest width of combined elytra. Other measurements and ratios given in the descriptions are based on complete dissections of at least one male and female.

Morphological terms are based on those used in Lawrence *et al.* (2011) and Lawrence & Ślipiński (2013). The head length is measured along the midline from the apex of the clypeus to the edge of the occipital foramen. Head width is that between the ends of the temples. The temples in Nitidulidae are usually somewhat gradual, usually without the abrupt angles often occurring in Silvanidae; temple length is compared to the length of the eye as seen from above. The frontoclypeal suture in cyllodines may be present or absent, but the suture is not always clearly expressed externally (even if the internal epistomal ridge is distinct). Among the Australian taxa, the suture is present in *Camptodes*, *Coxollodes*, *Pallodes*, *Cyllopallodes* **gen. nov.** and *Gymnocychramus* Lea, and absent only in *Cyllodes*. In measuring relative antennomere lengths, the narrower connecting portions at the base and apex of some antennomeres are not included. Antennal characters used in the descriptions include: length/width of scape, length of scape/length of pedicel; length of antennomere 3/length of antennomere 4, length of antennal club/combined lengths of antennomeres 3–8; length/width of antennal club; length/width of terminal antennomere. The nature of the antennal grooves has often been used to discriminate groups of nitidulids. The groove is lined mesally by the genal ridge, which extends posteriorly from the genal process (adjacent to the maxillary articulation); the ridges and grooves may be sinuate and posteriorly straight, convergent or occasionally divergent. In some nitidulids the external edge of the groove is provided with a second subocular ridge. In descriptions of the pronotum, as well as the elytra, the sides in cyllodines are said to be obliquely explanate; usually the term explanate is reserved for lateral extensions only. The length of the prosternum is that in front of the middle of the procoxal cavity, which is compared with the length (longitudinal diameter) of the cavity at the same point. The width of the prosternal process is its shortest width, since the process is often expanded apically. Characteristics of the mesoventrite and its posterior connection to the metaventrite may be important in phylogenetic studies, but they are complex and often misunderstood. Because these structures are observed in ventral view, changes in elevation are reversed in descriptions from what would be the normal position in life: terms such as "elevated", "inclined", "depressed", "declined" etc. must be interpreted as if observed in ventral view. The level of the anterior edge of the mesoventrite may be compared to that of its posterior edge (which meets the anterior edge of the metaventrite) or to that of the major portion of the metaventrite. The anterior edge of the metaventrite may have a narrow flattened prosternal rest, and a variously developed median carina may extend posteriorly from this. In a few members of the Cyllodini, the posterior edge of the mesoventrite is abruptly raised and also deeply emarginate, so that two posterolateral lobes of the mesoventrite are visible on either side of the metaventrite. These may appear to be small sclerites and were called "axillary sclerites" by Leschen (1999, p. 366, couplet 11, fig. 16), but here we refer to them as mesothoracic lobes. They are present in the genus *Cyllodes* (Fig. 50) and also in *Cyllopallodes* (Fig. 51). The shortest distance between the mesocoxal cavities is compared with the longest longitudinal cavity diameter, near the mesal edge, since these cavities tend to be narrower laterally. The length of the metaventrite excludes the anterior intercoxal process and may be measured as the shortest distance between the edges of mesocoxal and metacoxal cavities. The term discrimen refers to the metathoracic discrimen, sometimes called the longitudinal suture; this represents the invagination of the metasternum to form the metendosternite or furcula. This structure may extend to the base of the anterior process but is shortened or absent in some taxa. The length of the first abdominal ventrite excludes the intercoxal process and is measured about half way across the posterior edge of the metacoxal cavity. Postcoxal lines at the anterior edges of the metaventrite and first abdominal ventrite are only considered to be present when they deviate to some extent from the edge of the cavity, forming the "axillary spaces" of the metaventrite or the shallow to deep areas on the first abdominal ventrite. In some cases, a fine line may join the mesal edges of the two mesocoxal cavities, passing across the base of the anterior process of metaventrite. The distance between the metacoxae is compared to the shortest (longitudinal) diameter of a coxa. The genital capsule of nitidulids includes the so-called "anal sclerite" (tergite VIII) plus the enclosed segment IX and its attached spiculum gastrale; sternite VIII is membranous and the remnants of the proctiger or segment X appear to be missing in this group. The aedeagus is uninverted and more or less curved ventrally in most nitidulids. Features used in descriptions include length of tegmen (excluding basal strut)/width of tegmen, shape of tegmen, length of tegminal strut/length of tegmen, length of penis (excluding basal strut)/length of tegmen, length/ width of penis, shape of penis and length of penile strut to length of body of penis. The presence of proctigeral, paraproctal and basal coxital bacula associated with the ovipositor appears to be universal in the family. Features used in descriptions include the ratio of length to width of entire ovipositor (including gonostyli), ratio of length of paraproct to that of gonocoxite, orientation of paraprocts, ratio of gonocoxite length to their combined widths, shape of coxital apex, ratio of gonostylus length to length of gonocoxite and ratio of length to width of gonostylus. The basal limit of of the gonocoxite and apical limit of the paraproct is always determined by the junction of their respective bacula. In many beetle ovipositors there is a division of the gonocoxite into proximal and distal lobes. This is not the case in Nitidulidae, although there may be a short outer lobe near the base of each coxite. The internal female tract has not been studied.

Colour descriptions in the text below are based on fully pigmented individuals. Since most specimens are collected at light, in pitfalls or in intercept traps, teneral individuals are not that common. Descriptions of vestiture emphasise the dorsal surfaces; ventral surfaces and legs are usually clothed with short to moderately long, decumbent fine hairs. Vestiture is considered to be dual when that of the elytra, or sometimes both pronotum and elytra, consists of two relatively distinct types of setae, differing in length, thickness and/or angle of inclination. The diameter and density of pronotal and elytral punctures or pits is based mainly on observations made with a Leica MZ16 stereomicroscope and incident light from two fibre optic illuminators set at an angle of 45 degrees. Since punctures vary with respect to depth and angle of puncture walls (gradual versus abrupt), puncture diameter and separation of punctures may differ if observed with a scanning electron microscope or a compound microscope using transmitted light. The structure of setae/bristles is also based primarily on examination with a stereomicroscope at lower magnifications. Additional information on the microstructure of pits, punctures, setae and microtrichia were obtained and all measurements of antennomeres, mouthparts, male and female genitalia were made on specimens in glycerine using a Leitz Wetzlar compound microscope with 10× and 32× objectives. Genitalic and some other photomicrographs were made with a Dino-Eye AM4023XC Eyepiece Camera attached to both compound and dissecting scopes and DinoCapture 2.0 software. These images were basically snap shots and did not involve image stacking. Habitus images (Figs 1–21) were photographed at the Australian National Insect Collection in Canberra using a Visionary Digital Imaging System (Dun Inc., www.duninc.com/dun-inc-microscope.html), a Canon camera with Visionary Digital lift and Canon MPE 65mm lens plus extender. Image stacking was accomplished with Zerene Stacker Pro. The study of the specimens in ZIN was carried out with the stereomicroscopes MBS 10 and Leica MZ 12.0 and the photographs were taken with a Canon EOS 11 40D digital camera with a Canon MP-E 65 mm objective and were combined using Zerene Stacker 1.04 software.

Throughout the text, Australian states and territories are indicated as TAS, VIC, SA, WA, NSW, ACT, QLD and NT, except for Norfolk I and Lord Howe I (NSW). Complete and unaltered label data are given for holotypes, but label data is otherwise is presented in a more or less uniform manner (dates, for instance, are converted to the following format: 22.xii.1990).

The following abbreviations have been used for institutions which have provided specimens for study or which are repositories of types: **ANIC**: Australian National Insect Collection, CSIRO Australian National Research Collections, Canberra, ACT, Australia; **ASCU**: Agricultural Scientific Collections Unit, New South Wales Department of Primary Industries, Orange, NSW; Australia; **BMH**: Bernice P. Bishop Museum, Honolulu, Hawai'i, USA; **CMN**: Canadian Museum of Nature, Ottawa, Canada; **FMNH**: Field Museum of Natural History, Chicago, IL, USA; **MCNG**: Museo Civico di Storia Naturale Giacomo Doria, Genova, Italy; **MIZW**: Museum and Institute of Zoology, Warsaw; **MNHN**: Muséum National d'Histoire Naturelle, Paris, France; **NHML**: The Natural History Museum, London, UK; **NME**: Naturkundemuseum, Erfurt, Germany; **NRS**: Naturhistoriska Riksmuseet, Stockholm, Sweden; **QDPC**: Department of Agriculture and Fisheries, Insect Collection, Biosecurity Queensland, Brisbane, QLD, Australia; **QMB**: Queensland Museum, Brisbane, QLD, Australia; **SAM**: South Australian Museum, Adelaide, SA, Australia; **SMNS**: Staatliches Museum fur Naturkunde, Stuttgart, Germany; **ZIN**: Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia; **ZMC**: Zoologisk Museum, Copenhagen, Denmark.

Systematics

Key to genera of Cyllodini occurring in Australia

1. Mesoventrite with anterior edge strongly oblique, almost vertical, so that most of its surface, including a median carina, is higher (in ventral view, projecting towards the observer) than mesocoxae or metaventrite; metanepisternum less than 3× as long as wide and more or less parallel-sided; mandibular apex unidentate and simple (without serrations or spines); pronotum at least slightly wider than combined elytra (Figs 1, 3); elytra shorter than their combined widths; elytral punctures not forming distinct rows; length at least 4.5 mm; gonocoxites narrowly elongate, parallel-sided and subcontiguous, with distinct, elongate, parallel-sided, apical gonostyli (Fig. 59); northern NSW & southern QLD; associated with *Opuntia* cacti . . . . ***Camptodes* Erichson**

\- Mesoventrite with anterior edge flat or weakly carinate and any change in elevation occurring only at posterior end; metanepisternum more than 3.5× as long as wide and distinctly narrowed posteriorly (Fig. 14); pronotum not wider than combined elytra (Figs 2, 4); mandibular apex, IF unidentate, THEN armed with serrations or spines; IF length greater than 4 mm, elytra distinctly longer than wide; ovipositor never with elongate, parallel-sided, apical gonostyli; associated with various fungi **. 2**

2 (1). Labrum wider than clypeus, consisting of a pair of diverging, rounded lobes flanking a deep notch widest at its opening, narrowing posteriorly and almost reaching the labral base; outer apical angle of protibia with distinct tooth; length always greater than 3.5 mm; associated with the fruiting bodies of Phallales . . . . ***Gymnocychramus* Lea**

\- Labrum never as above, widest at base and not wider than clypeus, its apex usually with small median cleft with parallel sides; outer apical angle of protibia without distinct tooth; length never greater than 3.5 mm; associated with the non-woody fruiting bodies of Basidiomycetes (mushrooms) **3**

3 (2). Mesoventrite with anterior edge on a distinctly different plane than metaventrite, its posterior end more or less vertical and emarginate forming a pair of mesothoracic lobes flanking the truncate anterior edge of metaventrite and visible in ventral view (Figs 50–51); posterior edges of mesocoxal cavities not joined by curved line extending across anterior process of metaventrite . . . . **.4**

\- Mesoventrite with anterior edge on the same plane as or a slightly different plane than metaventrite, its posterior end emarginate but horizontal or only slightly oblique (Figs 52–53); posterior edges of mesocoxal cavities joined by curved line extending across anterior process of metaventrite (Figs. 52–53). **5**

4(3). Upper portion of body strongly convex (Fig. 10); lateral margins of elytra not visible from above (Fig. 2); frontoclypeal suture absent; vertexal line present at sides; mandible unidentate with dorsal and ventral serrations; all basal tarsomeres lobed; abdominal ventrite 1 without postcoxal lines . . . . ***Cyllodes* Erichson**

\- Upper portion of body only slightly convex (Fig. 9); lateral margins of elytra visible for their entire lengths from above (Fig. 5); frontoclypeal suture present (sometimes weakly indicated externally); vertexal line absent; mandible bidentate with dorsal lobe serrate; no basal tarsomeres lobed; abdominal ventrite 1 with postcoxal lines. . . . . ***Cyllopallodes*, gen. nov.**

5(3). Prosternum in front of coxa very short, less than 0.3× as long as mid length of a coxal cavity; mesal portion of prosternum with median carina extending beyond middle of prosternal process; anterior portion of mesoventrite (Fig. 52) with a pair of procoxal rests divided by a pair of posteriorly diverging carinae; metaventrite with short discrimen; axillary spaces absent; outer edge of mesotibia (Fig. 56) evenly curved and usuallly widest just beyond middle; ovipositor (Fig. 43) with broadly truncate apex . . . . ***Coxollodes* Kirejtshuk**

\- Prosternum about 0.5× as long as mid length of coxal cavity, without or with weak median carina and sometimes with acute anterior projection; anterior portion of mesoventrite (Fig. 53) with short longitudinal carina and no procoxal rests; metaventrite without discrimen; axillary spaces (Fig. 54) usually well developed; outer edge of mesotibia in Australian species (Figs 57–58) subapically angulate; ovipositor with acute apex (Figs 48–49) . . . . ***Pallodes* Erichson**

Camptodes Erichson, 1843

Camptodes Erichson 1843: 321. Type species: *Sphaeridium scutellatum* Sturm, 1826.

Notes. In addition to characters given in the above key, the genus *Camptodes* is also chacterised by the widely lobed tarsomeres 1–3, arcuately convergent antennal grooves, more or less shortened elytra with rounded apices and male genital capsule completely invaginated into abdomen.

This Neotropical genus is not native to Australia, but is represented here by at least one introduced species, which feeds as larvae on the succulent stems of *Opuntia* cacti, also introduced. Based on the *Camptodes* specimens available to us, collected from 1962 to 1999, the current distribution of the genus in Australia is from an area about 1000 km from north to south, roughly from Rockhampton, QLD to Muswellbrook, NSW (21°33' to 32°05' S), and 500 km from east to west, roughly from Emerald, QLD and Lightning Ridge, NSW to the Toowoomba area (147°58' to 152°19' E). Although the introduction of *Opuntia* cacti into Australia began as early as 1788 and involved a number of different species, it is most likely that the introduced *Camptodes* arrived with the numerous shipments of *Opuntia* containing eggs and larvae of *Cactoblastis cactorum* (Lepidoptera: Pyralidae) sent to

Australia beginning in 1925. The first specimens of *Cactoblastis* were collected as larvae in northwestern Argentina (Concordia, Entre Rios) from *Opuntia delaetiana* and *O. monacantha* and transported to Buenos Aires, where the emerging adults laid eggs subsequently placed on large quantities of *Opuntia* of the *monacantha* group and shipped to Australia in large wooden cases. These specimens were stored in Brisbane and at the Chinchilla Field Station, the latter of which is in the centre of the current *Camptodes* distribution (Dodd 1940). The fact that the shipments continued until 1935 and involved large quantities of rotting cacti suggests that this could be the source of the introduced *Camptodes* in Australia.

There are two distinct forms of *Camptodes* in Australia, one (Figs 3, 8) entirely black and the other (Figs 1, 7) black with a pair of large, red, irregularly quadrangular maculae extending from the humeri to the lateral edges of the scutellar shield. Their aedeagi are quite similar and the two usually occur together (several of the series included below contain both bicoloured and unicoloured specimens). We have concluded that a single species is involved, but further collecting in remnant patches of *Opuntia* might clarify this problem. Because of the large number of species of *Camptodes* described from South America, the identification of the introduced species is made more difficult. One of authors of this paper (AK) examined the female type of *Strongylus humeralis* Brullé, 1842 from Argentina "la province de Corrientes" (Brulle 1842: 67) which is at least closely related to the introduced Australian species. Reitter (1876) described nine different varieties of *Camptodes vittatus* Erichson collected by Davis from a single locality (Cordoba, as Cordova, Argentina) and deposited in the collection of Dohrn (MIZW); two of these (*lugubris* and *humerosus*) are very similar to the unicoloured and bicoloured forms from Australia. Whether or not these are all varieties of *C. vittatus* is beyond the scope of this study, but it does seem likely that a highly variable species of *Camptodes* occurs in the area from which the shipments of *Opuntia* and *Cactoblastis* originated. Since C. *humeralis* (Brullé) is the oldest name for described *Camptodes* from this region, we consider the introduced Australian species to be at least close to this species.

***Camptodes* aff. *humeralis* (Brullé, 1842)**

(Figs 1, 3, 7–8, 24–25, 59)

Strongylus humeralis Brullé 1842: 66, pl. 5, fig. 2. Type locality: "la province de Corrientes."

Diagnosis. Distinguished from other Australian cyllodines by the characters given in the above key.

Description. Length = 4.00–5.80 (4.95 ± 0.42; n = 19) mm. Body oblong and slightly convex: body length/ elytral width = 1.29–1.45 (1.38); greatest depth/elytral width = 0.47–0.61 (0.53). Head, pronotum, scutellar shield and elytra dark reddish-brown to black, anterior portion of each elytron sometimes with large red macula, which may or may not extend from suture to lateral edge; undersurface dark brown to black; elytral epipleura sometimes red. Dorsal vestiture very short and not visible at lower magnifications. Head about as long as wide. Eyes 0.38× as long as head width. Temples 0.44× as long as eye, straight. Vertexal line at sides only. Frontoclypeal suture indistinct (represented by weak transverse concavity). Clypeus 0.53× as long as wide at base, sides subparallel, apex subtruncate. Labrum about 0.26× as long as wide; anterior edge distinctly emarginate. Antennal scape 2.00× as long as wide and 1.54× as long as pedicel; antennomere 3 about 1.57× as long as 4; club about 0.95× as long as antennomeres 3–8 combined and 1.54× as long as wide; terminal antennomere 0.81× as long as wide. Mandible 2.75× as long as wide; strongly, gradually curved towards apex, which is unidentate and acute; incisor edge with blunt tooth and small notch; mola well-developed, but relatively narrow, with a number of transverse ridges; prostheca long, membranous and pubescent, with longer hairs apically; base of mola, ventrally with densely pubescent lobe; dorsal surface of mandible with curved oblique ridge. Apical maxillary palpomere 3× as long as wide, widest at basal third, with narrowly rounded apex. Mentum about 0.5× as long as wide at middle, sides diverging to basal fourth then converging to apex, which is deeply biemarginate forming paired subapical lobes flanking a low rounded lobe. Prementum longer than wide, with sclerotised ligula slightly emarginate at apex; labial palps attached at about middle; apical labial palpomere about 2.22× as long as wide, with broadly rounded apex. Genal ridges slightly converging and extending almost to ends of temples. Pronotum 0.45–0.53 (0.49)× as long as wide, widest near posterior edge and slightly wider than combined elytra; sides obliquely explanate; anterior edge shallowly emarginate, so anterior angles very slightly produced forward and broadly rounded; lateral margins very narrow, but just visible for their entire lengths from above; posterior angles obtuse and rounded;

posterior edge evenly curved, without marginal bead; disc moderately, evenly convex; punctation very fine and sparse, the punctures usually separated by more than two diameters; interspaces very finely sculptured with microtubercles sometimes forming irregular lines and producing a dull sheen. Prosternum 0.73× as long as mid length of procoxal cavity, weakly convex; prosternal process 0.50× as wide as mid length of procoxal cavity, not curved behind coxae, slightly expanded subapically with broadly rounded apex and no vertical wall; underside (dorsal surface) of process more of less concave, except for pair of apicolateral condyles fitting into the apices of the postcoxal (hypomeral) processes. Scutellar shield 0.32× as wide as pronotum, broadly angulate at apex. Elytra 0.83–0.93 (0.89)× as long as wide and 1.65–1.92 (1.81)× as long as pronotum; sides more or less parallel to beyond middle with lateral edges visible from above; apices broadly, independently rounded, exposing part of pygidium; lateral edges obliquely explanate, concealing epipleura in lateral view; humeri very weak; subsutural lines extending beyond middle; disc slightly convex, gradually declining laterally, with punctures, not forming distinct rows but rather several, somewhat irregular longitudinal clusters separated by finely impressed, vague lines; interspaces finely sculptured, as on pronotum. Anterior edge of mesoventrite on different plane than metaventrite, but with transversely, triangular, almost vertical posternal rest continuing posteriorly as a distinct, curved carina, which is higher in ventral view than the posterior edge of the mesoventrite or the metaventrite; posterior edge of ventrite broadly emarginate. Mesocoxae separated by 1.07× longest longitudinal diameter of mesocoxal cavity. Metaventrite moderately convex, somewhat flattened at middle and slightly concave posterolaterally; distance between meso- and metacoxal cavities 0.21× greatest width of ventrite; discrimen extending almost to base of anterior process, which is short and broadly rounded; coxal line behind mesocoxal cavity beginning near mesal edge and remaining very close to edge of cavity until lateral fifth, where it curves posteriorly and extends to about middle of metaventrite, producing a relatively small axillary space; posterior edges of mesocoxal cavities not joined by line across anterior process of metaventrite. Metanepisternum about 2.2× as long as wide, with sides subparallel and not converging posteriorly. Metacoxae separated by 1.7× mid length (shortest diameter) of metacoxa. Protibia gradually expanded apically, its outer edge lined with short serrations, each of which is associated with a short, blunt spine; outer apex more or less angulate, with longer spines continued along apical edge; posterior face without oblique spine row. Meso- and metatibia narrow at base, abruptly expanded at basal third, then gradually expanded to apex; outer edge lined with to rows of long spines, which are continued onto apical edge. All basal tarsomeres expanded and lobed, metatarsus less than half as long as metatibia. Abdominal ventrite 1 with postcoxal lines barely extending beyond rim of the cavities; ventrites 2–5 each with transverse carina near anterior end; apex of ventrite 5 slightly biemarginate in male. Tergite VIII (anal sclerite) in male apically truncate. Tegmen (Fig. 24) 1.57× as long as wide, sides subparallel; apex subtruncate with slight median emargination; anterior strut 0.61× as long as body of tegmen with slightly expanded, subtruncate apex. Penis (Fig. 25) 2.56× as long as wide and 1.32× as long as tegmen; sides subparallel and apex subangulate; anterior penile strut 2.07× as long as body of penis. Ovipositor 5.5× as long as wide, widest at base, slightly flattened; paraprocts 1.40× as long as gonocoxites, which are 3.07× as long as their combined widths, widest at base; sides gradually narrowing to basal third, then parallel to apices; gonocoxites slightly separated for most of their lengths, heavily pigmented beyond middle and obliquely truncate at apex; gonocoxites (Fig. 59) terminal, 0.16× as long as coxites, 4.3× as long as wide and parallel-sided.

Type specimen. Lectotype of *Camptodes humeralis* here designated (MNHN), apparently female, "*humeralis* Blanch., Corrientes, Mr. d'Orbigny", "17", "17 *Camptodes humeralis* Blanch.", "S925 / 94"; length of lectotype 4.3 mm.

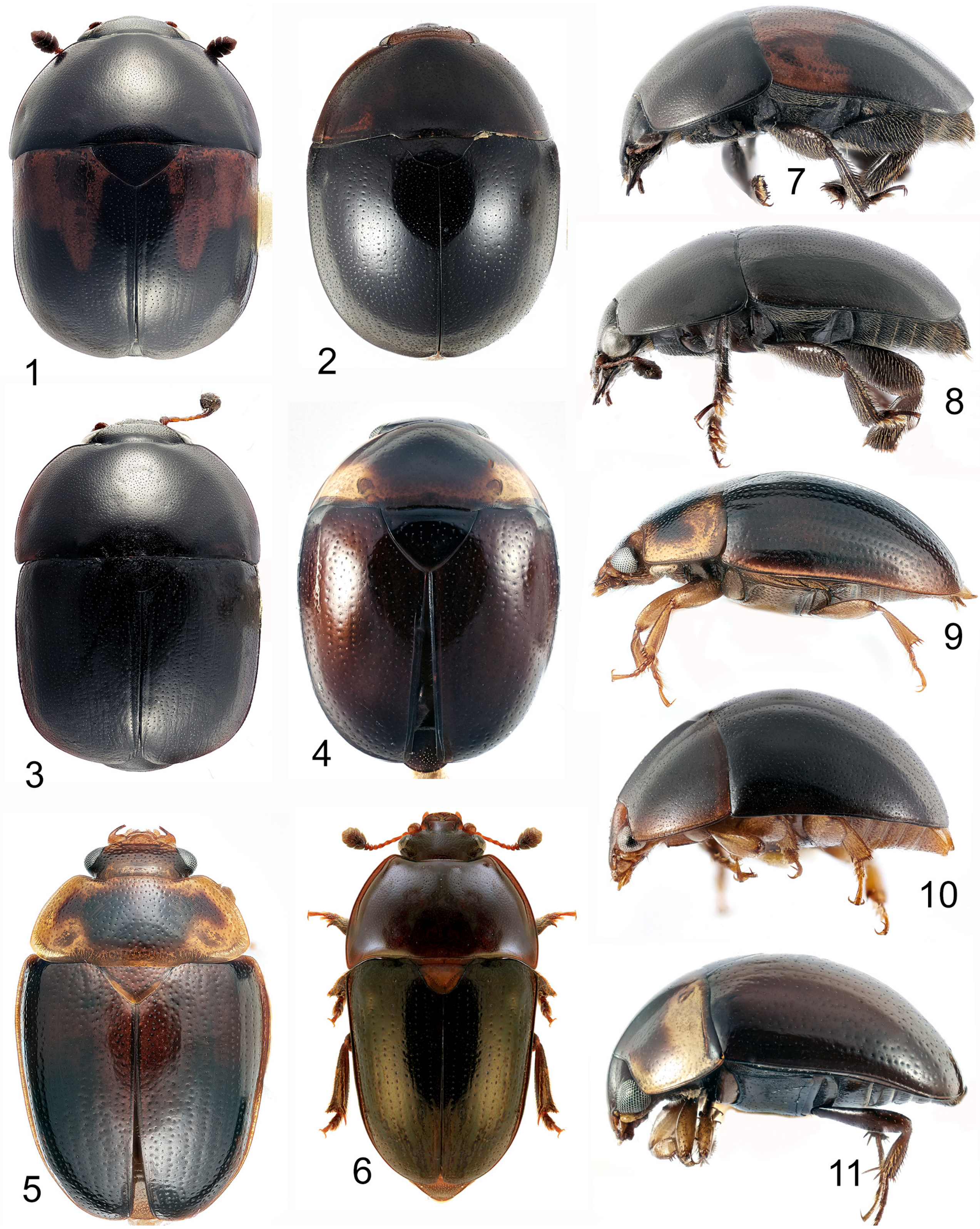
Specimens examined. **NSW**: Armidale (30°31'S, 151°40'E), 15.iv.1992, ex dung trap, J. Feehan (1, ANIC); Kootingal, 7.ii.1979, in rotting *O. inermis*, R. Hosking, Department of Agriculture, Sydney (6, ANIC, ACSU); Lightning Ridge, Le Souef (1, ANIC); Mungindi Road, 200m E along, 3.3km past turnoff for "Abeddar" Station (29°11.20S, 148°53.44'E), 27.xi–17.xii.1999, *E. camaldulensis* remnant, pitfall, Wilkie, Harris, Moulds (1, AMS K511796); Ridgelands, nr. Bunnan, 16.i.1979, in rotting *Opuntia inermis*, J. R. Hosking (10, ACSU); Scone, 27.vi.1977, found in tiger pear, E. Schicha (1, ASCU). **QLD:** Blue Mt., 0.6km SE (21°36'S, 148°58E), 930m, 7.xii.1997–23.iii.2000, 9236, intercept trap, rainforest, G. Monteith (1, QMB); Boggom.30, via Taroom (25°29'S, 150°03'E), 14.xi.1996–1.1997, 057 baited flight intrercept, Cook & Monteith (2, QMB); Brigalow Development Area, Moura, 26.vii.1967, prickly pear (3, QDPC, ANIC); Brigooda, Koy Property) (26°16'S, 151°25'E), 15.xii.1994–26.i.1995, intecept trap, vine scrub, G. B. Monteith (1, QMB); Bunya Mts, 5 km NW of Mt. Mowbullan, 3350', 8.1.1970, beating, Britton, Holloway, Misko (1, ANIC); Chinchilla, "Allinga"(26°41'S, 150°38’E), Grace Lithgow (1, QMB); Edungalba, 90km W of Rockhampton, 1.1.1987, FIT, H. & A. Howden (1, ANIC); Emerald, 31.xii.1986, flight intercept trap, H. & A. Howden (8, ANIC); Expedition Ra. NP, ‘Amphitheatre’ camp (25°12’S, 148°59’E), 560m, 18.xii.1997–5.iii.1998, 5735, open forest, intercept, Cook & Monteith (1, QMB); Fanning Riv. HS, 3.3 km SE (19°45.2’S, 146°27.1;E), 290m, 9.xii.2006–10.ii.2007, 14585, intercept, vine scrub, Monteith & Cook (3, QMB); Fanning Riv. HS, 3.2 km SE (19°45.1’S, 146°27.1;E), 330m, 9.xii.2006–10.ii.2007, 14587, intercept, vine scrub, Monteith & Cook (2, QMB); Footprint Scrub, site 2 (19°41.8’S, 146°26.2’E), 340m, 8.xii.2006–10.ii.2007, 14584, malaise, vine scrub, S. Wright (1, QMB); Glenmorgan, 29.v.1962, G. Monteith (2, QMB); Gold Creek Res. (27°27.9’S, 152°52.5’E), site 1, 140m, 14–23.ii.2004, 51918, open forest, mushroom baited pitfall, G. Monteith (1, QMB); Gregory Dev. Rd., 5.5km SE of Clarke River (19°14.5’S, 145°28.4’E), 420m, 27.ix–17.xii.2006, 14207, pitfall, open forest, QM party (2, QMB); Kroombit Tops, Dawes Range, 45km SSW Calliope, Site 5, rainforest, 10–18.xii.1983, pitfall, Monteith, Davies, Gallon, Thompson (1, QMBN); Kroombit Tops, 45km SSW Calliope, sites 3, 7, 8, 11, 12, 14, 15, open forest, 9–19.xii.1983, pitfall, Monteith, Davies, Gallon, Thompson (23, QMBN); Kroombit Tops, Three Moon Ck. 45km SSW Calliope, rainforest, 9–19.xii.1983, G. Monteith & G. Thompson (1, QMB); Lake Broadwater, via Dalby, sites 3–5, site 7, various dates,1985–1986, pitfall traps, Qld Museum & M. Bennie (7, QMB); Lawes, 10.xii.1962, G. Monteith (2, QMB); Lords Table plateau, site 1 (22°39.4’S, 148°00.9’E), 640m, 7.iii.2006, 13356. pitfalls, C. Burwell (1, QMB); Lords Table plateau, site 2 (22°39.5’S, 148°01.0’E), 640m, 10.i–7.iii.2006, 13361. pitfalls, C. Burwell (1, QMB); Moolayember Creek NP (25°14.5’S, 148°37.3’E),410m, 27.vi –6.ix.2006, 14303, R. Raven, B. Baehr, A. Amey (1, QMB); Moranbah, 5 km S (22°02’S, 148°03’E), 25.vi–20.xii.1997, 5642, intercept, Bendee scrub, G. Monteith & E. Kruck (1, QMB); Moranbah, 5 km S (22°02’S, 148°03’E), 240m, 20.xii.1997–26.iv.1998, 5801, Flt. intercept, G. Monteith (3, QMB); Mt. Castor, west slopes (22°28.1’S, 147°52.5’E), 400m, 12.i–5.iii.2006, 12696, intercept, rocky soil & woodland, C. J. Burwell (2, QMB); Mt. Pollox, SW base, site 1 (22°28.7’S, 147°52.3’E), 400m, 12.i–5.iii.2006, 13307, brigalow, intercept, C. Burwell (1, QMB); Mt. Tregaskis, 3 km NNE (19°15.5’S, 145°29.2’E), 411m, 17.xii.2006–5.ii.2007, 14737, intercept, open forest, Monteith & Cook (5, QMB); Nipping Gully, site 5 (25°42’S, 151°26’E), 240m, 15.xii.1998–26.i.1999, 7580, intercept, rainforest, Monteith & Gough (1, QMB); Nipping Gully, site 6 (25°42’S, 151°26’E), 240m, 26.i–2.vi.1999, 7712, intercept, open forest, Monteith & Thompson (1, QMB); Railway Creek (23°38.4’S, 147°13.8’E), 400m, 27.vi–6.ix.2006, 14307, pitfall, R. Raven, B. Baehr, A. Amey (1, QMB); Rochford Scrub, site 4 (20°07.1’S, 146°37.4’E), 270m, 11.xii.2006–10.ii.2007, 14593, intercept, vine scrub, Monteith & Cook (4, QMB); Rochford Scrub, site 3 (20°06.5’S, 146°37.8’E), 280m, 11.xii.2006–11.ii.2007, 14590, intercept, lacewood/bendee vine scrub, Monteith & Cook (1, QMB); Rochford Scrub, site 6 (20°06.5’S, 146°37.1’E), 290m, 12.xii.2006–11.ii.2007, 14595, intercept, bendee, Monteith & Cook (1, QMB); Rochford Scrub, site 7 (20°06.5’S, 146°37.1’E), 280m, 12.xii.2006–11.ii.2007, 14597, intercept, vine scrub, Monteith & Cook (2, QMB); Stanthorpe, ex prickly pear, P. Turner (2, ANIC); Theodore, 23.xi.1977, ex rotten *Opuntia streptacantha*, J. Barker (3, ANIC); Westwood, 23.xi.1977, ex *Opuntia tomentosa* (2, ANIC); Wetherton, 3km SW (25°34’S, 151°42’E), 22.viii–10.x.1998, 7263, vine scrub FIT, G. B. Monteith, (1, QMB); Wetherton, 3km SW (25°34’S, 151°42’E), 10.x–19.xii.1998, 7508, vine scrub intercept, Monteith, Thompson (5, QMB); Wetherton, 3km SW (25°34’S, 151°42’E), 19.xii.1998–2.vi.1999, 7585, vine scrub intercept, Monteith, Thompson (9, QMB); Wetherton, 3km SW (25°34’S, 151°42’E), 22.i–27.i.1999, 7715, vine scrub intercept, Monteith, Gough (9, QMB); “Windermere” (27°25’S, 149°41E), xii.1990–xi.1991, 9771, pitfall trap, R. Raven, B. J. Smythe (1, QMB); Wolfgang Peak, west slopes (22°33.0’S, 147°49.9’E), 400m, 9.i–5.iii.2006, 12687, FIT, scree slope, C. J. Burwell, G. Monteith (1, QMB); “Wonga Hills”, 10 mi. ENE (26°03’S, 150°35’E), 320m, 11.xii.2001–4.iii.2002, 10405, brigalow, FIT, Monteith & Cook (1, QMB); “Wyseby”, 7.5 km N (24°54.2’S, 148°31.5’E), 331m, 27.vi–6.xi.2008, 14304, pitfall, R. Raven, B. Baehr, A. Amey (2, QMB).

Distribution. Native to northern Argentina and probably southern Brazil and Uruguay. In Australia distributed from northern NSW to southern QLD, but never in coastal regions (see above under genus).

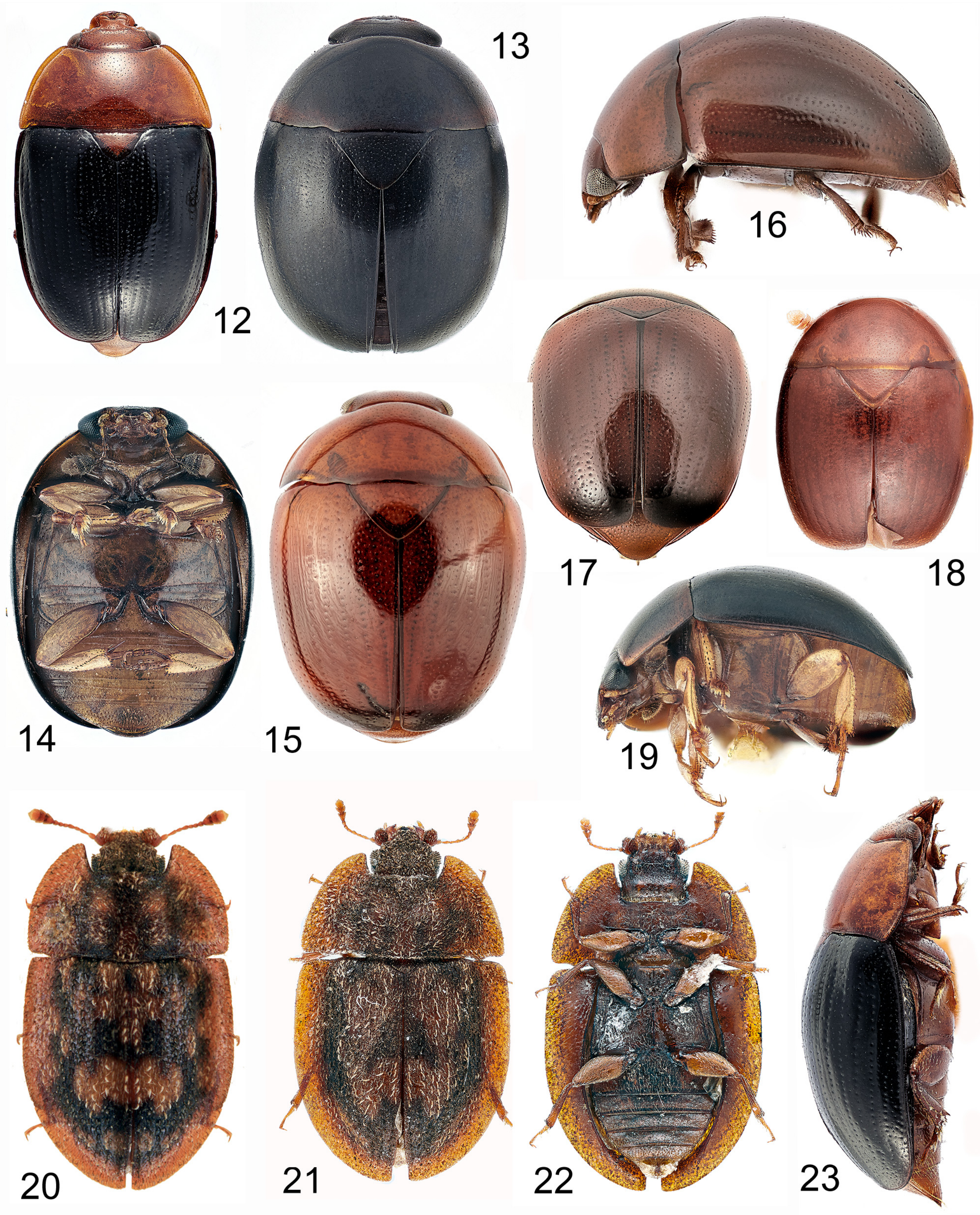
Biology. Larvae and adults found in rotting stems of *Opuntia* cacti. Recorded from *Opuntia stricta* (Haw.) Haw. (as *O. inermis*), *O. streptacantha* Lem., *O. tomentosa* Salm.-Dyck. and *O. aurantiaca* Lind. (as tiger pear).

Coxollodes Kirejtshuk, 1987

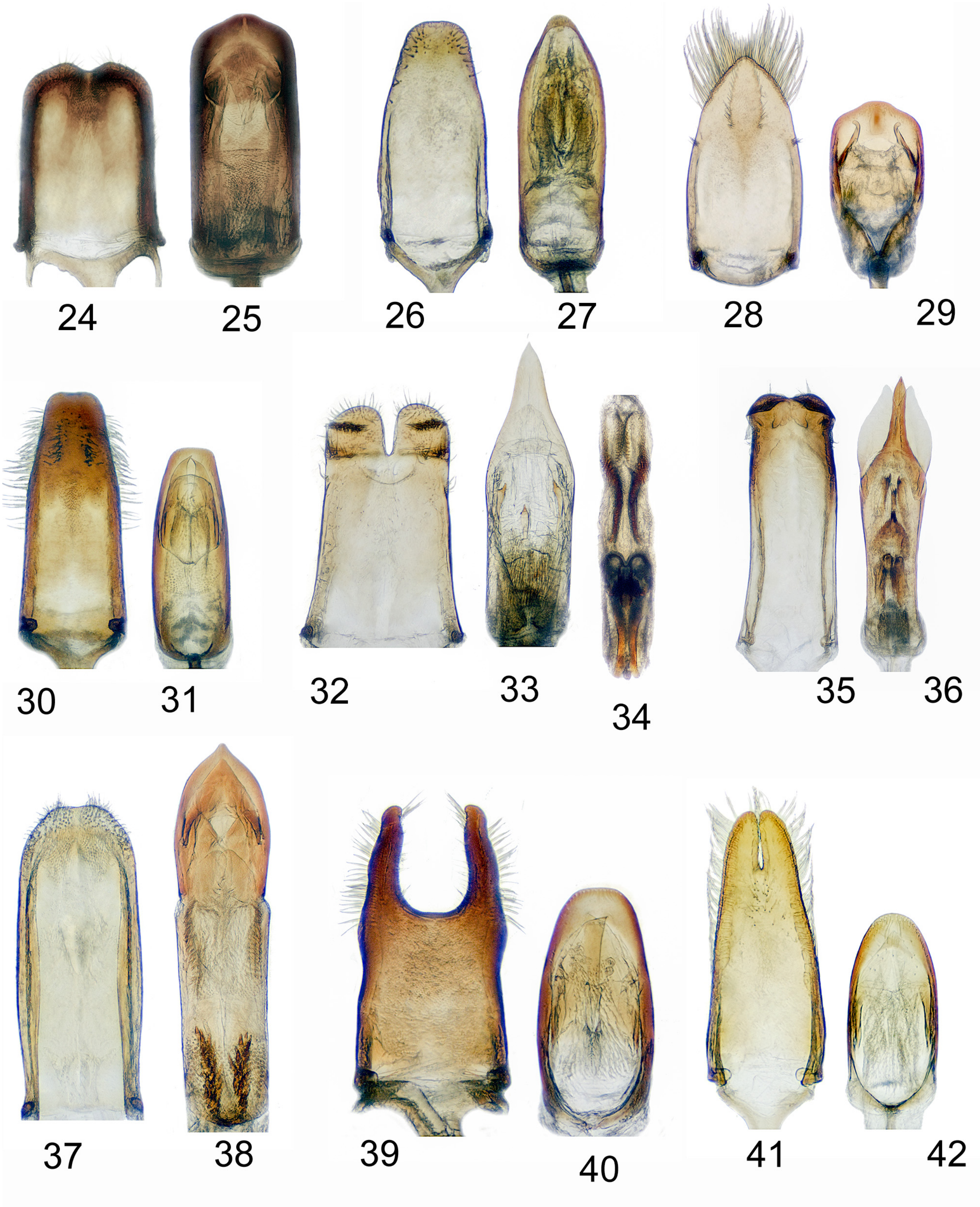
Coxollodes Kirejtshuk 1987: 168. Type species: *Pallodes cyrtusoides* Reitter, 1884.



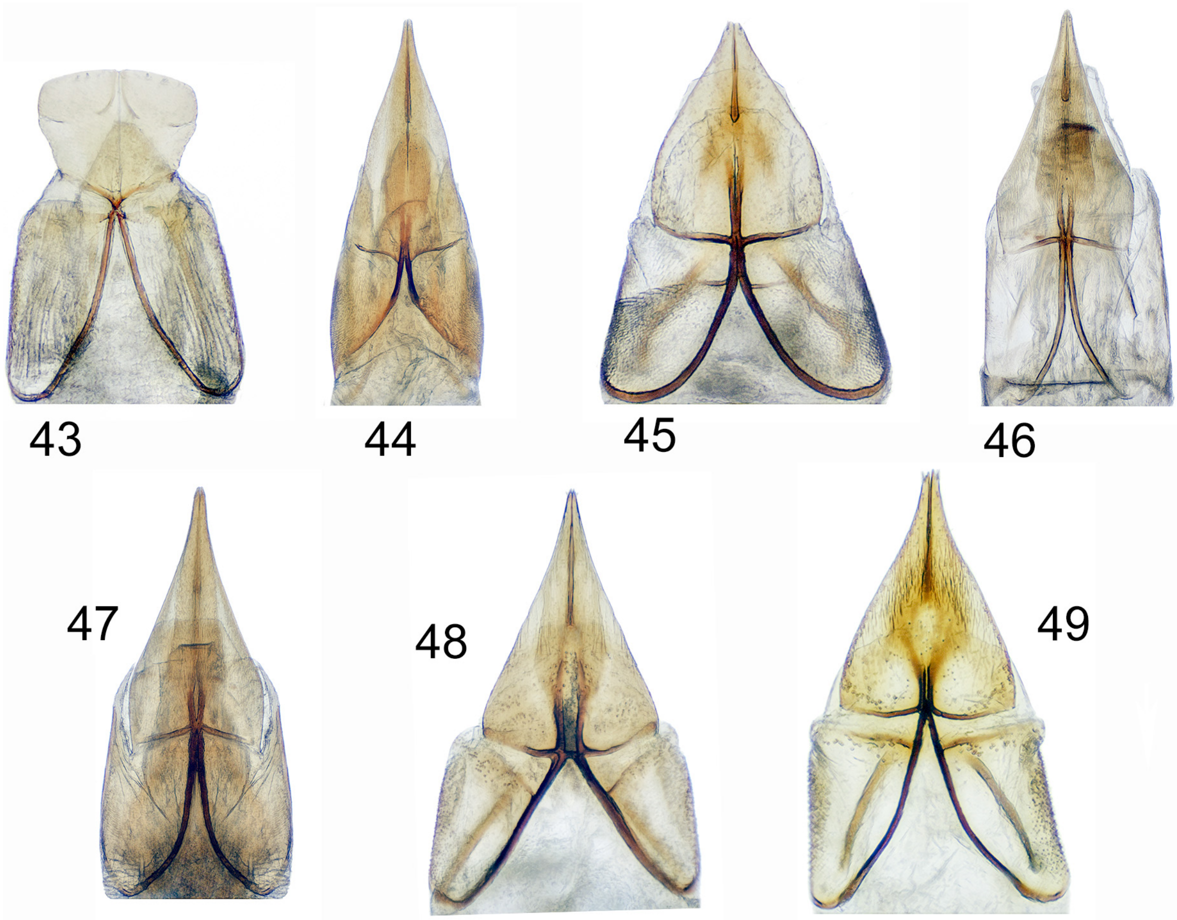
FIGURES 1–11. Habitus: 1–6, dorsal: 1, *Camptodes* aff. *humeralis* (Brullé), bicoloured (5.0 mm); 2, *Cyllodes ruficeps* (Reitter) (3.1 mm); 3, *Camptodes* aff. *humeralis* (Brullé), unicoloured (5.2 mm); 4, *Coxollodes loriai* (Grouvelle) (1.9 mm); 5, *Cyllopallodes limbatus* (Reitter) (2.9 mm); 6, *Gymnocychramus politus* Lea (5.0 mm). 7–11, lateral: 7, *Camptodes* aff. *humeralis* (Brullé), bicoloured; 8, same, unicoloured; 9, *Cyllopallodes limbatus* (Reitter); 10, *Cyllodes ruficeps* (Reitter); 11, *Coxollodes loriai* (Grouvelle). Fig. 10 from Lawrence & Ślipiński (2013). All figures © CSIRO, Australia.



FIGURES 12–23. Habitus: 12, *Gymnocychramus bicolor* **sp. nov.** (4.0 mm), dorsal; 13, *Pallodes beccarii* Grouvelle (3.0 mm), dorsal; 14, same, ventral; 15, *Pallodes nigroapicalis* **sp. nov.** (2.8 mm), dorsal; 16, same, lateral; 17, same, posterodorsal; *P. beccarii*, dorsal, teneral (2.5 mm); 19, *P. beccarii*, ventrolateral; 20, *Macleayania vesca* (Olliff) (3.3 mm), dorsal; 21, *M. amphotiformis* (Reitter) (4.2 mm), dorsal; 22, same, ventral; 23, *G. bicolor*, lateral. Fig. 20 from Lawrence & Ślipiński (2013). All figures © CSIRO, Australia.

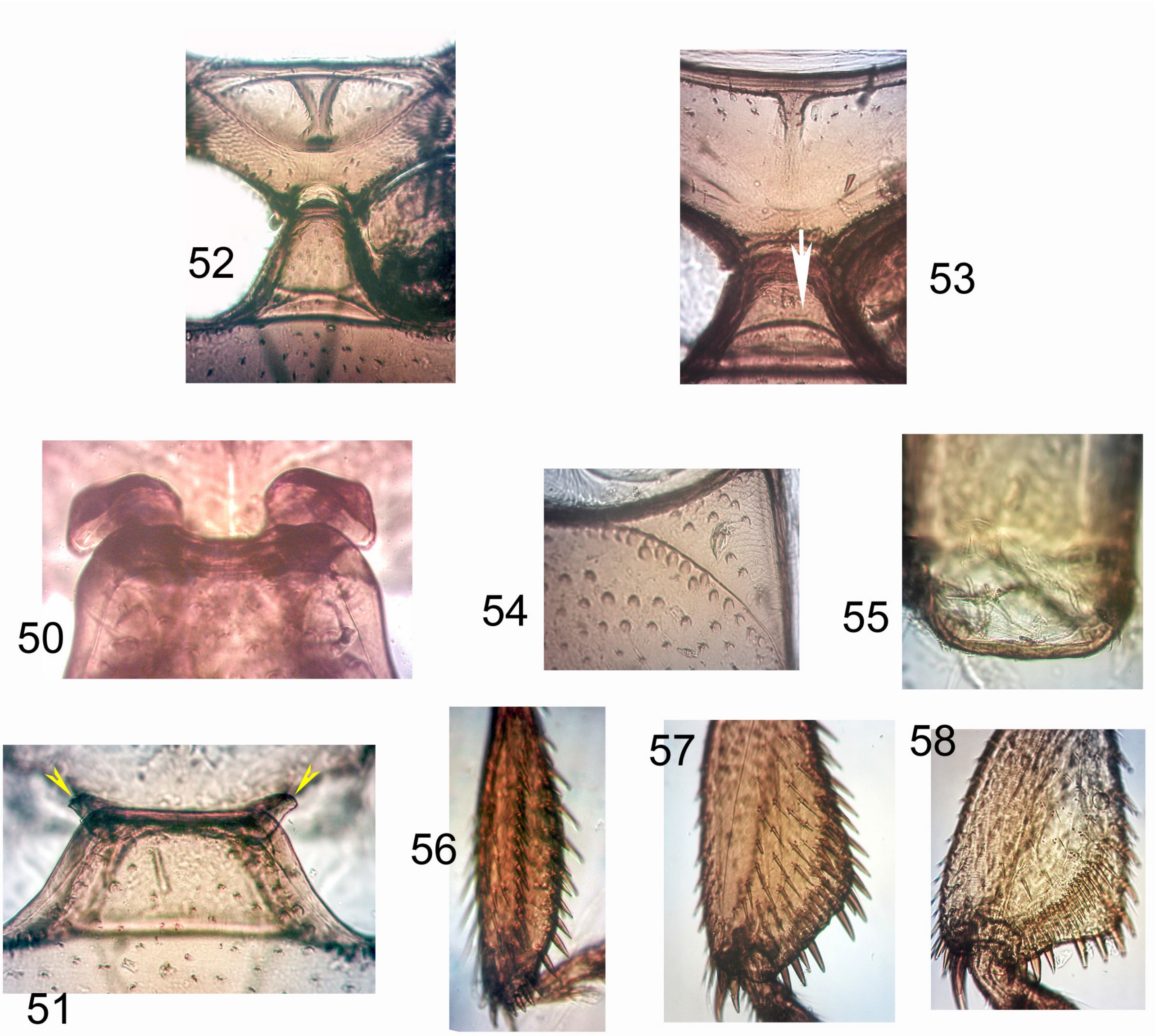


FIGURES 24–42. Tegmina, ventral and penises, dorsal, with tegminal strut and penile strut deleted: 24–25, *Camptodes* aff. *humeralis* (Brullé): 24, tegmen; 25, penis; 26–27, *Coxollodes loriai* (Grouvelle): 26, tegmen; 27, penis; 28–29, *Cyllodes ruficeps* (Reitter): 28, tegmen; 29, penis; 30–31, *Cyllopallodes limbatus* (Reitter): 30, tegmen; 31, penis; 32–34, *Gymnocychramus bicolor* **sp. nov.**: 32, tegmen; 33, penis; 34, endophallus; 35–36, *Gymnocychramus politus* Lea: 35, tegmen; 36 penis, showing endophallus; 37–38, *Macleayania amphotiformis* (Reitter): 37, tegmen; 38, penis; 39–40, *Pallodes beccarii* Grouvelle: 39, tegmen; 40, penis; 41–42, *Pallodes nigroapicalis* **sp. nov.**: 41, tegmen; 42, penis. All figures © Zoological Institute, Russian Academy of Sciences, St. Petersburg.



FIGURES 43–49. Ovipositors, ventral: 43, *Coxollodes loriai* (Grouvelle); 44, *Cyllodes ruficeps* (Reitter); 45, *Cyllopallodes limbatus* (Reitter); 46. *Gymnocychramus bicolor* **sp. nov.**; 47, *Gymnocychramus politus* Lea; 48, *Pallodes beccarii* Grouvelle; 49, *Pallodes nigroapicalis* **sp. nov.**

Note. This genus was described by Kirejtshuk (1987: 168) as a subgenus of *Pallodes*, based on the type, *P. cyrtusoides* Reitter. The taxon was later elevated to the generic level, based in large part on the unusual type of ovipositor (Kirejtshuk 2005: 68). Currently, the genus includes the following species: *C. amamiensis* (Hisamatsu, 1956) (Japan (Amami-Oshima); *C. cyrtusoides* (Reitter, 1884) (Japan, Korea, East and South China, Taiwan, Philippines, Nepal, India, Vietnam); *C. loriai* (Grouvelle, 1906) (Aru, New Guinea); *C. parvulus* (Grouvelle, 1909) (West Africa); *C. parvus* (Grouvelle, 1903) (Madagascar) and *C. reitteri* (Kirejtshuk, 1987) (Philippines, Mindanao). Species of *Coxollodes* may be distinguished from those of *Pallodes* by the very short, carinate prosternum with the carina extending onto the very short prosternal process, and the ovipositor, which is relatively short and broad, with the paraproctal bacula joined at the junction with the oblique gonocoxal bacula, the gonocoxites fused together forming a single structure with narrowly acute apex, on each side of which are large, short and broad, apically blunt and laterally placed lobes which thus form almost all of the blunt ovipositor apex. The other features used in the above generic key appear to work quite well for separating *Coxollodes* from *Pallodes*, where they occur widely in Queensland, but outside Australia variation within both genera appears to be greater. This group seems to be monophyletic, although its prosternum could be an extreme form of that occurring in the genus *Pallodes*. As noted above, the unusual ovipositor in this genus is also found in *Cychramus* and *Cyclocaccus*. This raises the question of whether this distinctive type of ovipositor reflects a particular deviation in the habits of some of these groups. The acute ovipositor of most cyllodines is probably used to insert eggs into the relatively compact tissue of mushrooms, while the modified version might indicate oviposition on a surface or within a very soft matrix.



FIGURES 50–58. Various structures: 50–51, junction of mesoventrite and metaventrite: 50, *Cyllodes ruficeps* (Reitter), showing large metathoracic lobes; 51, *Cyllopallodes limbicollis* (Reitter), showing small mesothoracic lobes (arrow); 52, *Coxollodes loriai* (Grouvelle), mesoventrite, showing large procoxal rests separated by pair of diverging carinae; 53, *Pallodes nigroapicalis* **sp. nov.**, mesoventrite showing short median carina and lack of procoxal rests (arrow points to curved line connecting mesocoxal cavities); 54, *P. nigroapicalis*, anterolateral portion of metaventrite, showing postcoxal line and axillary space; 55, *Cyllodes ruficeps* (Reitter), base of tegmen, showing highly reduced, broadly rounded strut; 56–58, mesotibial apex: 56, *Coxollodes loriai*; 57, *Pallodes nigroapicalis*; 58, *Pallodes beccarii* (Grouvelle). Figs 43–49 © Zoological Institute, Russian Academy of Sciences, St. Petersburg. Figs 50–58 © CSIRO, Australia.

Coxollodes loriai (Grouvelle, 1906)

(Figs 4, 11, 26–27, 43, 52, 56)

Pallodes loriai Grouvelle 1906: 327. Type locality: "N^{lle} Guinée Britannique: Bujakori, coll. Loria" (MCNG); Kirejtshuk 2008: 118.

Pallodes opacus Grouvelle 1906: 330, **syn. nov**. Type locality: "Iles Arou, Wokan" (= Tanahbesar I. or Wokam I., Aru Islands, Indonesia), coll. O. Beccari (MCNG).

Diagnosis. This species has a characteristic shape of the antennal club, although this feature shows a rather wide variation probably depending on body size. Indo-Malayan and Australian specimens are very similar to each other, but exhibit a series of parallel variations. *Coxollodes loriai* differs from *C. cyrtusoides* and *C. amamiensis* from the only in the ultimate antennomere more or less longer than two previous ones combined (in *C. cyrtusoides* the ultimate antennomere not longer than two previous antennomeres) and also from *C. reitteri* from in the moderately narrow tibiae and more raised median carina on prosternum. The specimens of the type series and other specimens from New Guinea in general have somewhat larger body size: length of the lectotype of *Pallodes loriai* is 2.6 mm and the length of the holotype of *P. opacus* is 2.8 mm. Additionally, the Australian specimens usually have a shining dorsal integument and with distinct and deeper punctures.

Redescription. Length = 1.80–2.90: 1.80–2.10 (1.96 ± 0.10, n = 11) mm. Body broadly ovate, strongly convex: body length/elytral width = 1.28–1.61: 1.28–1.41 (1.34); greatest depth/elytral width = 0.58–0.64 (0.61). Posterior part of head, anteromesal portion of pronotum, scutellar shield and elytra dark reddish-brown to black; lateral portions and posterior edge of pronotum yellow; pygidium, ventral surfaces and legs varying from yellow to black. Dorsal vestiture very short and not visible under lower magnification; ventral vestiture consisting of short, fine setae. Head about 0.92× as long as wide. Eyes about 0.44× as long as head width. Temples about 0.18× as long as eye, more or less straight. Frontoclypeal suture distinct. Clypeus 0.37× as long as wide at base, sides subparallel to weakly concave apex. Labrum 0.36× as long as wide; sides rounded, anterior edge weakly, broadly rounded with very fine median incision. Antennal scape 1.75× as long as wide and 1.56× as long as pedicel; antennomere 3 about 2.0× as long as 4; club 1.16× as long as antennomeres 3–8 combined and 2.00× as long as wide; terminal antennomere as long as wide. Mandible strongly, abruptly curved at apex, which is obliquely bidentate and dorsally serrate; mola well-developed with a number of transverse ridges; prostheca a slender membrane lined with hairs; base of mola ventrally with densely setose lobe. Apical maxillary palpomere 2.5× as long as wide, widest near base with narrowly rounded apex. Mentum 0.45× as long as wide, widest subapically, apex slightly, broadly emarginate, with pair of broadly angulate anterior processes flanking shallow median emargination. Apical labial palpomere 1.5× as long as wide, broadly rounded at apex. Genal ridges sinuate and strongly converging, extending almost to posterior edges of eyes. Pronotum 0.42–0.47 (0.44)× as long as wide, widest at about posterior fourth, sides obliquely explanate, lateral margins very narrow, not visible for their entire lengths from above; anterior edge emarginate forming broadly rounded anterior angles; posterior angles almost right; posterior edge broadly rounded but sinuate on either side of scutellar shield; disc evenly convex; punctation very fine and sparse, punctures usually separated by more than two diameters; interspaces smooth and shiny. Prosternum 0.27× as long as mid length of procoxal cavity, with median carina extending beyond middle of prosternal process, which is 0.31× as wide as mid length of procoxal cavity, not curved behind coxae, and apically slightly emarginate, without distinct vertical or oblique wall. Scutellar shield 0.40× as wide as pronotum, with subacute apex; punctation about as fine and sparse as that on pronotum. Elytra 0.87–1.00 (0.93)× as long as wide and 2.05–2.60 (2.32)× as long as pronotum; lateral margins not visible from above; apices independently rounded, usually exposing part of pygidium; humeri weakly developed; disc convex; subsutural lines extending almost to anterior end; megapunctures distinctly larger than scutellar punctures, forming irregular, often incomplete rows and relatively widely separated within rows, punctation more confused posteriorly; micropunctures irregularly distributed; interspaces usually smoth or lightly sculptured and shiny. Epipleura oblique, wider anteriorly, gradually narrowed posteriorly and extending to posterior edge of abdominal ventrite 4. Anterior edge of mesoventrite on same plane as metaventrite, with low mesal carina extending to about middle and separating a pair of impressions; posterior edge of mesoventrite between mesocoxae deeply emarginate. Mesocoxae separated by about 0.5× longest longitudinal diameter of mesocoxal cavity. Metaventrite slightly convex; shortest distance between meso- and metacoxal cavities 0.31× as long as width of ventrite; discrimen about 0.50× as long as metaventrite, excluding anterior process; axillary spaces absent; posterior edges of mesocoxal cavities joined by fine, anteriorly curved line near base of anterior process of metaventrite, which is narrowly rounded at apex. Metanepisternum 4.7× as long as wide, widest near anterior end and narrowed posteriorly. Metacoxae separated by about 0.5× mid length (shortest diameter) of metacoxa. Protibia slightly expanded apically, its outer edge densely lined with serrations, each of which bears a short, stout, blunt spine; outer apex rounded with 5 long, dark, spines. Mesotibia (Fig. 56) moderately expanded, widest at apical third, then narrowed to apex, its outer edge lined with long, spines. Metatibia not or barely expanded, lined with long spines. Anterior faces of meso- and metatibia each with longitudinally oblique setal row. Basal pro- and mesotarsomeres moderately expanded and lobed. Metatarsomeres simple and metatarsus about equal in length to metatibia. Abdomen with ventrite 1 at lateral third slightly shorter than ventrite 2, with intercoxal process narrowly rounded, without postcoxal lines and with a double row of small pits behind metacoxae; ventrites 3 and 4 subequal to 1; ventrites 2–5 each with two transverse carinae near anterior edge; ventrite 5 1.22× as long as 4, broadly rounded in female and very slightly truncate in male. Pygidium with straight transverse basal carina, its apex broadly rounded in both sexes. Tergite VIII (anal sclerite) in male apically rounded. Tegmen (Fig. 26) 2.50× as long as wide, sides parallel for basal three-fourths, then slightly converging to broadly rounded apex; anterior tegminal strut 0.37× as long as body of tegmen, with narrowly truncate apex; penis (Fig. 27) slightly shorter than tegmen and 3.27× as long as wide, sides subparallel for basal four-fifths, then rather abruptly converging to narrowly rounded apex; anterior penile strut 1.32× as long as body of penis, slightly enlarged at apex. Ovipositor (Fig. 43) 1.36× as long as wide, somewhat flattened; paraprocts 1.79× as long as gonocoxites, which are 1.08× as long as their combined widths, with subparallel sides and broadly truncate, contiguous apices, without gonostyli.

Types. Lectotype of *Pallodes loriai* here designated (MCNG), male, "N.Guinea, Bujakori, Agosto 1890, Loria", "*Pallodes Loriae* ty. Grouv.", "Typus" and 27 paralectotypes (MCNG, ZIN) with the same labels; lectotype of *Pallodes opacus* here designated (MCNG), female, "Isole, Aru, Wokau, O. Beccari, 1873", "*Pallodes opacus* ty. Grouv."

Notes on synonymy. The specimens in the type series of *Pallodes loriai* (including lectotype) are somewhat smaller (with length 2.4–2.7 mm) than the lectotype of *Pallodes opacus* (with length 2.8 mm). Additionally, the types series of the first includes mostly specimens with very characteristic appearance and proportions of sclerites, while the lectotype of the second is more or less unicolourous brown, and also the latter has more regular longitudinal rows on elytra and wider mesotibia.

Specimens examined. NSW: Beaury St. For.(28.29S, 152.23E), c700m, 15–17.ii.1983 JFL Lot 83-9, *Ganoderma applanatum*, T. Weir, A. Calder (1, ANIC); Unumgar S. F. (28.27S, 152.45E), Coxs Rd., nr. Grevillia, Site 789, 580m, 2–11.i.1997, subtropical rainf., FMHD #87-176, flight intercept (window) trap, A. Newton, M. Thayer (3, FMNH, ANIC); Unumgar S. F. (28.24S, 152.40E), Pole Bridge Rd., nr. Woodenbong, Site 788, 430m, 2–11.i.1997, dry rainf., Arauc., Euc., FMHD #87-172, flight intercept (window) trap, A. Newton, M. Thayer (1, FMNH); Waiangaree St. For., Brindle Ck., 740m, 29.ii–3.iii.1980, subtrop. rainf., A. Newton, M. Thayer (4, ANIC, FMNH); **QLD:** Atherton, 21km S, 1050–1100m, rainforest, 5.xi.1983, Pyrethrum, D. Yeates, G. Thompson (6, QMB); Bellenden Ker Ra., 1 km S of Cable Tower 6, 500m, 17.x–5.xi.1981, pyrethrum knockdown, Earthwatch/ Queensland Museum (12, ANIC, QMB, ZIN); Bellenden Ker Range, Summit TV Stn., 1560m, rainforest, 28.x.1983, Pyrethrum knockdown, Monteith, Yeates, Thompson (1, QMB); Black Mtn., 17km ESE of Julatten (16°39'S, 145°29'E), 1000m, rainforest, 14.iv.1982, QM Berlesate 388, moss ex rocks, Monteith, Yeates, Cook (1, QMB); Black Mtn., 17km ESE of Julatten, 800–1000m, rainforest, 29–30.iv.1982, Pyrethrum knockdown, Monteith, Yeates, Cook (1, QMB); Bones Knob, 3km W (17°13'S, 145°25'E), 1100m, 10.xii.1995, Pyrethrum trees & logs, Monteith, Cook, Thompson (2, QMB); Cape Tribulation, 4.0 km W (Site 8), 720m, rainforest, 28.ix.1982, Pyrethrum knockdown, Montieth, Yeates, Thompson (1, QMB); Cape Tribulation, 4.5–5.0 km W (Top Camp), 760–780m, rainforest, 1–6.x.1982, Pyrethrum knockdown, Montieth, Yeates, Thompson (2, QMB); Carbine Tableland, Upper Doolins Ck., 1050m, 10.xi.1990, Pyrethrum fogging logs & rocks, Monteith, Janetzki, Sheridan (1, QMB); Charmill Ck. Xing, Tully Falls Rd., 950m, 8.xii.1989–5.i.1990, pitfall & intercept traps, Monteith, Thompson, Janetzki (1, QMB); Danbulla S. F., 13km NE of Yungaburra, MDPI Intercept Trap Site No. 27, Storey & Faveri (1, QDPC); Graham Range (17°17'S, 145°58'E), 550m, 1.xi.1995, Pyrethrum trees & logs, G. Monteith (1, QMB); Graham Range (17°17'S, 145°58'E), 550m, 8.xii.1995, Pyrethrum trees, Monteith, Thompson, Cook (2, QMB); Hann Tableland, 13km WNW of Mareeba, MDPI Flight Intercept Trap Site No. 31, 3.v–20.vi.1988, 13.vii–4.viii.1988, Storey & De Faveri (2, QDPC); Heberton, Mjöberg (24, (NRS, ZIN); Hugh Nelson Range, 21 km S of Atherton, MDPI Flight Intercept Trap Site No. 16, 5.xi.1983–9.i.1984, Storey & Brown (11 QDPC, ANIC); Hugh Nelson Range, 21 km S of Atherton, MDPI Flight Intercept Trap Site No. 17, 1.xii.1983–10.ii.1984, 7.ix–1.xi.1984, Storey & Brown (4 QDPC); Hugh Nelson Range, 2.5 kmS of Crater NP, 1100m, pyrethrum logs & trees, Monteith, Thompson (1, QMB); Kenny Road (17°28'S, 145°32'E), 850m, 25.xi.1994–10.i.1995, Flt. Intercept trap, Monteith, Hasenpusch (2, QMB); Kirrama Range, Douglas Ck. Rd., 800m, rainforest, 10.xii.1986–11.i.1987, FIT, Monteith, Thompson, Hamlet (2, QMB); Kirrama Range, Douglas Ck. Rd., 850m, rainforest, 10–12.xii.1986, Pyrethrum knockdown, Monteith, Thompson, Hamlet (10, QMB); Kirrama Range, Mt. Pershouse, 950m, 12.xii.1986, Pyrethrum knockdown, Monteith, Thompson, Hamlet (4, QMB); Kirrama Range, Mt. Hosis, 930m, 11.xii.1986, Pyrethrum knockdown, Monteith, Thompson, Hamlet (4, QMB); Kuranda St. For., 360m, 27.vii.1982, SBP92, rainforest litter, S. & J. Peck (5, ANIC, CNC, ZIN); Kuranda St. For. 360m, 27.vii.1982, SBP 92, rainforest litter (2, ANIC); Lamb Range, Douglas Ck., 900m, rainforest, 12.x.1982, Pyrethrum knockdown, Monteith, Yeates, Thompson (2, QMB); Massey Range, 6km NW of Bellenden

Ker (17°14'S, 145°48'E), 1150m, 11.x.1991, Pyrethrum, Monteith, Janetzki (2, QMB); Millaa Millaa Falls, MDPI Flight Intercept Trap Site No. 34, 4.i–10.iv.1990, Storey & Halfpapp (6. QDPC); Mt. Demi (16°30'S, 145°19'E), 100m, 16–17.xii.1995, Pyrethrum trees, G. Monteith (1, QMB); Mt. Finnigan, via Helenvale, 850m, 3.xii.1990, Pyrethrum, logs, Monteith, Sheridan (1, QMB); Mt. Finnigan, 37km S of Cooktown, 1100m, 20.xii.1982, Pyrethrum knockdown, L. Roberts (1, QMB); Mt. Finnigan, 37km S of Cooktown, 850–1100m, 19–27.iv.1982, Pyrethrum knockdown, Monteith, Yeates, Cook (2, QMB); Mt. Fisher, 7km SW of Millaa Millaa, 1050–1100m, 27–29.iv.1982, Pyrethrum knockdown, Monteith, Yeates, Cook (2, QMB); Mt. Fisher, 7km SW of Millaa Millaa (Whiteing Rd.), 1200m, rainforest, 5.v.1993, Pyrethrum knockdown, Monteith, Yeates (1, QMB); Mt. Fisher summit (17°33'S, 145°33E), 1360m, 8.ii.1999, 2176, Pyrethrum trees & logs, rainforest, G. B. Monteith (5, QMB); Mt. Graham, 8km N Abergowre, 700m, 26.xii.1986, Pyrethrum knockdown, S. Hamlet (2, QMB); Mt. Lewis Rd., 11 km up via Julatten, 900m, MDPI Flight Intercept Trap Site No. 1, 11.xi–25.xii.1987, Storey & Walford-Huggins (1, QDPC); Mt. Williams (16°55'S, 145°40'E), 1000m, 2.xii.1993, Pyrethrum trees & logs, Monteith, Janetzki (3, QMB); O'Reilly's Guesthouse, Lamington Nat. Pk., 27.xii.1981–15.i.1982, flight intercept trap, G. B. Monteith (1, QMB); Paluma, 7 km NW, MDPI Intercept Trap Site No. 32, 13.xi.1988–14.ii.1989, Storey & Brown (5, QDPC); Ravenshoe St. For., Tully Falls Rd., 10.x–15.xi.1987, intercept trap, rainforest (3, ANIC); Roaring Meg Ck., 6km W of Cape Tribulation, 710m, rainforest, 6.x.1982, Pyrethrum knockdown, Monteith, Yeates, Thompson (1, QMB); Roaring Meg Valley (16°04'S, 145°25'E), 720m, 22.xi.1993, Pyrethrum trees & logs, Monteith, Janetzki (4, QMB); Rosina Creek, 14km SE Millaa Millaa, 720m, 24.vi–2.viii.1982, SBP48, flight intercept trap, rainforest, S. & J. Peck (1, ANIC); South Johnston R. S., MDPI Flight Intercept Trap Site No. 36, 11.x–29.xi.1990, K. H. Halfpapp (1, QDPC); Springbrook Repeater (28°15'S, 153°16'E), 1000m, 9.i–19.ii.1995, intercept traps, G. B. Monteith (1, QMB); Tinnaroo Creek Rd., 26 km up via Mareeba, MDPI Flight Intercept Trap Site No. 7, 23.xii.1982–12.i.1983, 16.iii–12.iv.1983, Morgan, Brown, Storey (7, QDPC); Topaz, Pei Road (17°24'S, 145°41'E), 580m, rainforest, 6.xii.1993–25.ii.1994, intercept, Monteith, Cook, Janetzki (1, QMB); Tully Falls S. F., 9.5km SSW Ravenshoe, 1000m, MDPI Flight Intercept Trap Site No. 29A, 5.xi. 1987–20.iv.1988, Storey & Dickinson (5, QDPC, 2 ANIC); Tully Falls S. F., 11km SSW Ravenshoe, 900m, 1.x.1987–25.v.1988, 15.xi–7.xii.1988, MDPI Flight Intercept Trap Site No. 29B, Storey & Dickinson (6 QDPC, 2 ANIC); Tully Falls S. F. 16km SSW Ravenshoe, 730m, 1.x.1987–3.iii.1988, MDPI Flight Intercept Trap Site No. 29C, Storey & Dickinson (8 QDPC); Windsor Tableland, 35km NNW of Mt. Carbine, 1050m, 25–26.iv.1993, Pyrethrum knockdown, Monteith, Yeates, Cook (1, QMB); Windsor Tableland, site 6, 27.xii.1988–9.i.1999, flt. Intercept, E. Schmidt & ANZSES (1, QMB); Windsor Tableland, via Mt. Carbine, MDPI Intercept Trap Site No. 14a, 15, 23.xii.1983–24.i.1984, Storey & Halfpapp (5, QDPC); Wongabel S. F., 6km S of Atherton, MDPI Intercept Trap Site No.19, 10.xi–1.xii.1983, Storey & Brown (2, QDPC); **Indonesia**: Irian Jaya, Asori, Nabire area, road Nabire-Ilage (03°29'517"S, 135°43'913"E), 750m, x.1997, M. Balke (19, NME, ZIN); Irian Jaya: Jayawijaya, Taramiu, 1500–1700 m, 6.9.1994, A. Reidel (24, SMNS, ZIN); Irian Jaya, Testaga, 1100–1300 m, 30.iii–2.iv.1993, A. Riedel (1, SMNS).

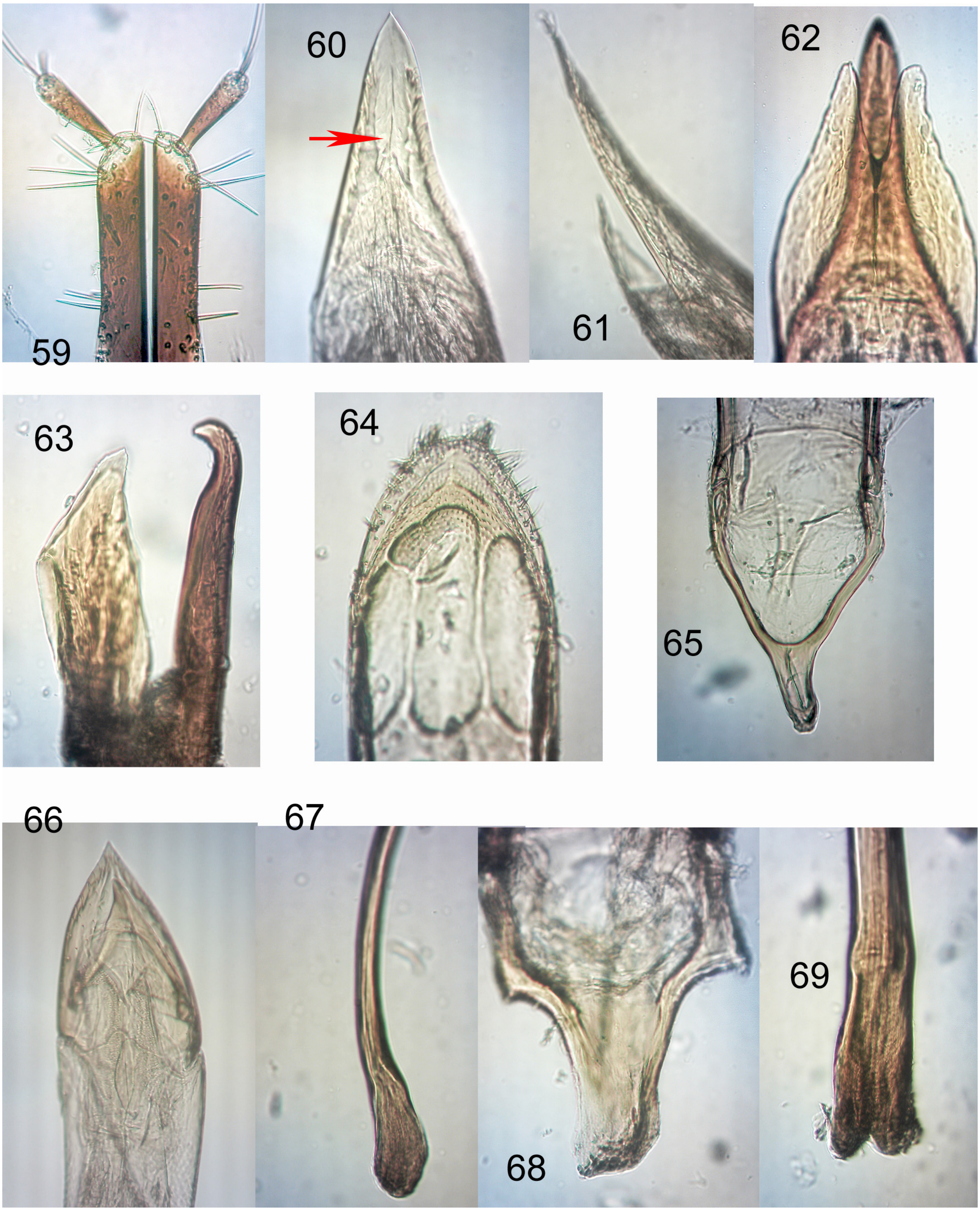
Distribution. Indonesia (Irian Jaya, Aru Islands), Papua New Guinea, Australia (Northern NSW to northern QLD).

Biology. The vast majority of Australian specimens have been collected in flight intercept traps and only one individual was found associated with a *Ganoderma applanatum* (Persoon) Patouillard (Basidiomycetes: Ganodermataceae). The gut of one dissected specimen from northern NSW contained fungal spores only.

Cyllodes Erichson, 1843

Cyllodes Erichson 1843: 342. Type species: *Strongylus ater* Herbst, 1792.
Strongylus Herbst 1792: 179 (non Muller, 1780). Type species: *Strongylus ater* Herbst, 1792.
Pseudocamptodes Grouvelle 1896: 76. Type species: *Pseudocamptodes africanus* Grouvelle, 1896.

Notes. The genus *Cyllodes* is mainly tropicopolitan in distribution with maximum representation in the Indo-Malayan Region, although some species extend into the temperate parts of the Nearctic and Palaearctic regions. It differs from other Australian cyllodines in having the mesoventrite steeply elevated (in ventral view), the mandibular apex serrate both dorsally and ventrally, metatarsomeres 1–3 lobed, and the frontoclypeal suture absent. There is apparently only one variable species in New Guinea and Australia.



FIGURES 59–69. Genitalia: 59, *Camptodes* aff. *humeralis* (Brullé), apex of Ovipositor, ventral; 60–61, *Gymnocychramus bicolor* **sp. nov.**, apex of penis: 60, dorsal (arrow pointing to apex of dorsal lobe); 61, same, lateral; 62–63, *Gymnocychramus politus* Lea, apex of penis: 62, dorsal; 63, lateral; 64–67, *Macleayania vesca* (Olliff): 64, apex of tegmen, dorsal; 65, base of tegmen, dorsal; 66, apex of penis; 67, apex of penile strut; 68–69, *Macleayania amphotiformis* (Reitter): 68, base of tegmen; 69, apex of penile strut. All figures © CSIRO, Australia.

***Cyllodes ruficeps* (Reitter, 1880a)**
(Figs 2, 10, 28–29, 44. 50, 55)

Strongylus ruficeps Reitter 1880a: 459. Type locality: "Yule Island" (Papua New Guinea).
Pseudocamptodes blackburni Grouvelle 1902: 184, **syn. nov.** Type locality: "Australie".
Pseudocamptodes fulviceps Grouvelle 1906: 325, **syn. nov.** Type locality: "Salvatti".

Redescription. Length = 3.00–5.20: 3.00–3.80 (3.50 ± 0.28, n = 5) mm. Body broadly ovate, strongly convex: body length/elytral width = 1.18–1.31 (1.23); greatest depth/elytral width = 0.55–0.63 (0.58). Pronotum, scutellar shield and elytra primarily black; head reddish-brown or dark brown anteriorly and red posteriorly; lateral and anterolateral portions of pronotum red; pygidium, undersurfaces, legs and antennal funicle yellow to reddish-yellow; antennal club darker. Dorsal vestiture very short and not visible under lower magnification; undersurfaces and legs with short, fine setae. Head 1.06× as long as wide. Eyes 0.37× as long as head width. Temples 0.18× as long as eye, straight. Vertexal line present at sides only. Frontoclypeal suture absent. Clypeus with sides subparallel to weakly concave apex. Labrum about 0.39× as long as wide; anterior edge weakly, broadly rounded with distinct notch at middle. Antennal scape 1.47× as long as wide and 1.83× as long as pedicel; antennomere 3 about 1.5× as long as 4; club as long as antennomeres 3–8 combined and 1.75× as long as wide; terminal antennomere 0.85× as long as wide. Mandible strongly but gradually curved towards apex, which is unidentate with dorsal and ventral serrations; mola well-developed with a number of transverse ridges; thin membrane of prostheca lined with hairs, which are longer apically; base of mola, ventrally with densely setose lobe. Apical maxillary palpomere about 2.27× as long as wide, widest near base with narrowly rounded apex. Mentum 0.88× as long as wide, sides slightly curved and apex deeply biemarginate forming one pair of broadly rounded lateral lobes and one shorter, subacute median lobe. Apical labial palpomere about 1.50× as long as wide, widest at base with broadly rounded apex. Genal ridges converging, extending to just beyond middle of eye; anterior genal lobes broadly truncate; postocular ridges present but weakly developed; submental region with relatively large patch of large, shallow pits. Pronotum 0.39–0.44 (0.43)× as long as wide, widest at posterior end; sides strongly rounded and obliquely explanate; anterior edge moderately deeply and abruptly emarginate forming relatively sharp anterior angles; lateral margins very narrow, barely visible for their entire lengths from above; posterior angles more or less right; posterior edge broadly curved laterally, distinctly produced mesally forming a short, broad prescutellar lobe; disc strongly, evenly convex; punctation very fine and sparse, punctures separated by at least two diameters; interspaces smooth and shiny. Prosternum 0.67× as long as mid length of procoxal cavity, weakly carinate, with carina extending onto prosternal process, which is 0.4× as wide as mid length of procoxal cavity, weakly expanded with truncate at apex, but continued behind coxae as a slightly oblique wall with emarginate apex. Scutellar shield 0.34× as wide at base as pronotum, subpentagonal, with both sides and apex angulate; punctation as on pronotum. Elytra 0.77–0.89 (0.83)× as long as wide and 1.88–2.29 (2.11)× as long as pronotum; sides steep and lateral margins not visible from above; apices broadly, independently rounded, exposing part of pygidium; disc with all punctures relatively small, but larger than those on pronotum; megapunctures forming somewhat irregular rows, the punctures relatively widely spaced within a row; interspaces relatively shiny, with scattered micropunctures and very fine sculpturing; epipleuron strongly declined and somewhat concave, not visible in lateral view, wider anteriorly and gradually narrowing to posterior edge of abdominal ventrite 3. Anterior edge of mesoventrite on distinctly different plane than metaventrite, with small, triangular prosternal rest continued as a long weak median carina separating two weakly concave prosternal rests; posterior edge vertical and deeply emarginate, visible in ventral view as a pair of mesothoracic lobes (Fig. 50) visible on either side of truncate anterior process of metaventrite. Mesocoxae separated by distance equal to longest longitudinal diameter of mesocoxal cavity. Metaventrite slightly convex; shortest distance between meso- and metacoxal cavities 0.29× as great as width of ventrite; discrimen absent; axillary spaces relatively small; posterior edges of mesocoxal cavities not joined by line across base of anterior process of metaventrite. Metanepisternum 4.75× as long as wide, widest near anterior end and narrowed posteriorly. Metacoxae separated by 0.86× mid length of metacoxa. Protibia slightly expanded apically, its outer edge densely lined with short serrations, each bearing short, stout, blunt spine; outer apex angulate, with apical spine sometimes enlarged to form blunt tooth and without additional spines along apical edge. All femora excavate to receive tibiae. Meso- and metatibiae relatively narrow at base, but abruptly expanded at basal fifth and more or less parallel to apex; outer edge finely crenulate with blunt spines similar to those on protibia; outer apex more or less angulate; apex densely lined with long spines. Anterior face of meso- and metatibiae each with subapical, transversely oblique setal row. All tarsomeres expanded and lobed and metatarsus about 0.68× as long as metatibia. Abdomen with ventrite 1 at lateral third 0.65× as long as ventrite 2, without postcoxal lines and with broadly rounded intercoxal process; ventrites 2–4 more or less equal in length; ventrites 2–5 each with fine transverse carina near base and a more prominent one anterior to middle; ventrite 5 2.25× as long as 4, with apex biemarginate in both sexes. Pygidium with straight transverse basal carina, and apex broadly rounded in both sexes. Tergite VIII (anal sclerite) in male apically truncate. Tegmen (Fig. 28) 1.81× as long as wide, sides parallel and apex subtruncate and densely lined with long setae; tegminal strut (Fig. 55) very short, broad and apically rounded; penis (Fig. 29) 0.71× as long as tegmen and 1.5× as long as wide, with penile strut 2.37× as long as body of penis and expanded at apex. Ovipositor (Fig. 44) 2.30× as long as wide, widest at base, more or less flattened; paraprocts 0.50× as long as gonocoxites, which are 1.68× as long as their combined widths, more or less fused together, widest at base and gradually narrowing to subacute apex, with finely crenulate sides in distal two-thirds (not visible under lower magnifications), without gonostyli.

Types. Two syntypes of *Strongylus ruficeps* (MCNG), "Yule Island, VI.1875, L. M. D'Albertis", "*Strongylus ruficeps* m. n. sp.", "*Strongylus rufipapillus* m. n. sp."; one syntype of *Pseudocamptodes blackburni* (MNHN), "Australie, C.H.French","type", "*Pseudocamptodes blackburni*","Grouvelle"; lectotype of *Pseudocamptodes fulviceps* here designated (MCNG), "N. Guinea, Salvatti, XI, Becarri, 1875", "Typus", "*Pseudocamptodes fulviceps* Grouv.".

Notes on *Cyllodes fulviceps*. Grouvelle (1906: 325) wanted to include in the type series some specimens regarded by him as *Pseudocamptodes fulviceps*, pointed out the variability in body size as between 3–5 mm ("Long. 3 mill. à 5 mill."), designated some specimens with label "Nuova Guinea, Andai, Ag, 72, L.N.D'Albertis" as types of *P. fulviceps* and deposited them in MNHN and NHML, although the specimen from Andai in MCSG remains without an identification label. Nevertheless, Grouvelle in the original description included only one locality (Salvatti – see above) and wrote (Grouvelle 1906: 326): "Je rapporto provisoirement à cette espèce un exemplaire imparfaitement colore provenant des lies Arou (O. Beccari)." It means that the latter specimen can be regarded only as an additional one. Thus there is only one specimen named by Grouvelle and included by him in the original description and all other specimens identified by him as *Pseudocamptodes fulviceps* cannot be part of the type series. Therefore this specimen alone named and referred to by Grouvelle in his description should be interpreted as the lectotype of *P. fulviceps*.

Note on synonymy. The genus *Cyllodes* is represented in Australia and New Guinea by a single species demonstrating a wide variability in body size and colouration. Nevertheless this variability is comparable with that in other members of the genus *Cyllodes* and other cyllodines. The original descriptions of the "*Pseudocamptodes blackburni*" and "*P. fulviceps*" almost completely correspond to the characters of *C. ruficeps* in the current interpretation, although the dorsal colouration in the specimens was characterised as "nigro-cyaneus" (blackish blue) (Grouvelle 1902: 184; 1906: 325), while in the original description of "*Strongylus ruficeps*" (Reitter 1880a: 459) the dorsal colouration of the specimens was described as: "das Halsschild bis auf die Seiten schwarz; die Flügeldecken schwarz mit schwach grünlichem Scheine" (elytra are black with slight greenish shine). The type series of *C. ruficeps* and *C. fulviceps* are known to the authors based only on the photos made by Roberto Poggi (MCNG); however, the characters seen on these photographs completely support the synonymy of all mentioned names here proposed.

Specimens examined. QLD: Cairns Distr., A. M. Lea (2, SAM, ZIN); Cameron Ck.,upper (21°35'S, 149°12'E), 100m, rainforest, 18.xii.1999–22.iii.2000, 9244, intercept trap, G. Monteith (1, QMB); Cockatoo Creek Crossing, 17 km NW Heathlands (11.36S, 142.27E), 25.iv–7.vi.1992, malaise a5, open forest, T. McLeod (1, ANIC); Cook's Hut, 1 km N of Lamond Hill, Iron Range Nat. Park (12.43S, 143.18E), 7–10.vii.1998, surfaces at night, closed forest, T. A. Weir (1, ANIC); Iron Range, West Claudie R., 50m, rainforest, 3–10.xii.1985, G. Monteith, D. Cook (6, QMB); Iron Range, Cape York Pen., 1–9.vi.1971, G. B. Monteith (2, QMB); Kenny Road (17°28'S, 145°32'E), 850m, 25.xi.1994–10.i.1995, FIT intercept, Monteith, Hasenpusch (1, QMB); Lockerbie, 3km E, Cape York, rainforest, 19–23.iii.1987, Pyrethrum on logs, G. B. Monteith (4, QMB); Lockerbie, Cape York Pen., 6–10.vi.1969, G. B. Monteith (1, QMB); Mt. Hayward (20°25'S, 148°45'E), 350m, 20.xi.1992–mid-iv.1993; intercept & pitfalls, rainforest, D. Cook, G. B. Monteith (2, QMB); Mt. Tozer, 11 km ENE (12.43S, 143.18E), 11–16.vii.1986, T. Weir, A. Calder (1, ANIC); Normantown (1 FD, ANIC); Packers Creek, via Portland Roads, 6.xii.1985, Pyrethrum, rainforest, G. Monteith, D. Cook (1, QMB); Thompson Creek, Daintree, 19.xi–19.xii.1998, flight intercept trap 26, S. Grove (10, ANIC); Upper Hall Creek via Camila (21°52'S, 147°18'E), rainforest at creek, 4.xii.1996–6.iv.1997, G. Monteith, E. Mulder (2, QMB); Upper N Funnel Ck (ridge) (21°34'S, 149°12'E), 250m, rainforest, 16.xi.1992–mid.IV.1993, intercept & pitfalls, D. Cook, G. Monteith (1, QMB); Upper N Funnel Ck (21°34'S, 149°12'E), 200–450m, Monteith, Thompson, Cook, Janetzki (1, QMB). **Papua New Guinea**: Andai, Ag. 72, L.N. D'Albertis (cotype of *Pseudocamptodes fulviceps* Grouvelle) (2, MNHN, NHML); Hatam, VA, Beccari, 1895 (1, MCNG); New Ireland (Latangai), Danu, Kalili Bay, 30.iv.1962, Noona Dan Exp. 61-62 (named as *fauveli*) (1, ZMC); **Indonesia (Aru Islands)**: Maluku Prov.: Isole Aru, O. Beccari, 1895 (1, MCNG).

Distribution. Papua New Guinea, Indonesia, Australia (Northern QLD).

Biology. Collected primarily in flight intercept or Malaise traps, but likely to breed in soft basidiomes (mushrooms).

Cyllopallodes Lawrence & Kirejtshuk, gen. nov.

Type species: *Pallodes limbicollis* Reitter, 1880b.

Diagnosis. This new genus may be distinguished from all other cyllodine genera by a combination of the following features: 1) posterior portion of the mesoventrite sharply inclined, so that its apex is concealed in ventral view except for a pair of small lateral mesothoracic lobes lying on either side of truncate anterior process of metaventrite (Fig. 51), 2) presence of a weakly impressed frontoclypeal suture (represented by a transverse shallow depression), 3) simple, non-lobed tarsi on all legs, 4) narrow lateral elytral margins which are visible for their entire lengths from above, 5) absence of a vertexal line; 6) bidentate mandibles with only the dorsal lobe serrate, 7) presence of very fine erect hairs on the dorsal surfaces (often abraded and difficult to see), and 8) the postcoxal lines on abdominal ventrite 1 extending well behind the posterior edges of the metacoxae, to about middle of the ventrite.

Etymology. From the generic names *Cyllodes* and *Pallodes*, referring to the presence of some features occurring in each genus.

Cyllopallodes limbicollis (Reitter, 1880b), comb. nov.

(Figs 5, 9, 30–31, 45, 51)

Pallodes limbicollis Reitter 1880b: 4.

Redescription. Length = 2.70–3.50 (3.10 ± 0.26, n = 11) mm. Body broadly ovate, moderately convex dorsally, slightly so ventrally: body length/elytral width = 1.31–1.37 (1.34); greatest depth/elytral width = 0.57–0.62 (0.58). Colouration rather variable; most of head, centre of pronotum, most of elytra and posteromesal portion of metaventrite black; posterior portion of head, clypeus, labrum, lateral portions of pronotum with anterior and/or posterior mesal incursions, and lateral elytral margins, as well as most of ventral surfaces and legs yellow to yellowish-brown; scutellar shield either black or yellowish-brown; antennae usually reddish-brown with black club. Dorsal vestiture of very short, fine hairs, barely visible under lower magnifications and often abraded; ventral vestiture of moderately long, fine sparse setae. Head about 0.88× as long as wide. Eyes 0.33× as long as head width. Temples 0.2× as long as eye, curved. Vertexal line absent. Frontoclypeal suture straight, weakly impressed (represented by a transverse shallow depression). Clypeus with sides parallel for most of their lengths, apex truncate. Labrum 0.28× as long as wide, with sides curved; apex broadly rounded with small median incision. Antennal scape 1.50× as long as wide and 1.36× as long as pedicel; antennomere 3 about 1.33× as long as 4; club 1.09× as long as antennomeres 3–8 combined and 1.67× as long as wide; terminal antennomere 0.71× as long as wide. Mandible strongly, abruptly curved at apex, which is obliquely bidentate and dorsally serrate; mola well-developed with a number of transverse ridges; prostheca slender and densely setose; base of mola, ventrally with densely setose lobe. Apical maxillary palpomere about 2.0× as long as wide, widest at base with narrowly rounded apex. Mentum 0.54× as long as wide, slightly widened to subapex, then narrowed to form paired rounded lobes on either side of truncate apex; apical labial palpomere 2.0× as long as wide, widest near base with narrowly rounded apex. Genal ridges sinuate and slightly converging, extending to ends of temples; subocular ridges well-developed, also extending to ends of temples; anterior genal process with truncate apex. Anterior half of submentum with a cluster of large, shallow pits. Pronotum 0.34–0.42 (0.37)× as long as wide, widest near base; anterior edge weakly emarginate forming broadly subangulate anterior angles; lateral margins visible for their entire lengths from above; posterior angles more or less right; posterior edge broadly curved but slightly sinuate on each side of scutellar base; disc moderately, evenly convex; punctation moderately fine and sparse, punctures often separated by one to two diameters; interspaces relatively smooth and shiny. Prosternum 0.91× as long as mid length of procoxal cavity, moderately convex mesally, not carinate, with slight depression on each side; prosternal process 0.86× as wide as mid length of procoxal cavity, not curved behind coxae; apex subtruncate with short, vertical wall, capable of abutting anterior edge of metaventrite and concealing mesoventrite in ventral view, but usually separated from metaventrite in dead specimens. Scutellar shield 0.44× as wide as pronotum, broadly angulate at apex; punctation slightly coarser than that on pronotum. Elytra 0.99–1.05 (1.01)× as long as wide and 2.73–3.50 (3.05)× as long as pronotum; lateral margins visible for their entire lengths from above; adsutural lines present in posterior half; apices conjointly rounded, usually exposing part of pygidium; humeri weakly developed; disc moderately convex; adsutural lines ending well before middle; with nine rows of megapunctures which are larger than scutellar punctures and relatively narrowly separated within a row; interstices with scattered micropunctures; surfaces smooth and shiny. Epipleura slightly oblique, not or barely visible in lateral view, broader anteriorly, gradually narrowed posteriorly and extending to posterior edge of abdominal ventrite 3. Anterior edge of mesoventrite on distinctly different plane than metaventrite, with small triangular prosternal rest and short, low median carina; posterior edge vertical and not visible in ventral view, except for a pair of small mesothoracic lobes (Fig. 51) visible on either side of truncate anterior process of metaventrite. Mesocoxae separated by 1.11× longest longitudinal diameter of mesocoxal cavity. Metaventrite moderately convex, shortest distance between meso- and metacoxal cavities 0.25× greatest width of ventrite; discrimen absent; axillary spaces relatively small, postcoxal lines arising at about mesal third of coxal cavity and more or less straight, extending almost to lateral edge of ventrite before curving posteriorly; posterior edges of mesocoxal cavities not joined mesally by fine line; anterior process of metaventrite truncate; punctation relatively coarse anterolaterally and along posterior edge of ventrite, but much finer and sparser at middle. Metanepisternum 4.4× as long as wide, widest near anterior end and narrowed posteriorly. Metacoxae separated by 1.25× mid length (shortest diameter) of metacoxa. Protibia expanded, widest and more or less angulate at apical fifth, with six moderately long spines between this point and apex; outer edge finely serrate, each serration bearing a short, stout, blunt spine. Mesotibia and metatibia both similarly expanded and subapically angulate, but with outer edge lined with slender spines. Anterior faces of meso- and metatibiae each with longitudinally oblique setal row. All tarsomeres narrow and subcylindrical dorsally, without expanded lobes, tarsomeres 1–3 with brushes of setae beneath; metatarsus 0.60× as long as metatibia. Abdomen with ventrite 1 at lateral third about equal in length to ventrite 2, with intercoxal process subtruncate at apex and with postcoxal lines broadly, gradually curved, extending to about middle of ventrite and located close to intercoxal process; ventrites 2–4 more or less equal in length, and 5 about 1.5× as long as 4; ventrites 2–4 each with a fine anterior transverse carina and a more prominent transverse carina closer to middle; ventrite 5 with two transverse carinae both near anterior edge and apex broadly rounded in female and distinctly biemarginate in male. Pygidium with straight, transverse basal carina, its apex subtruncate in male and broadly rounded in female. Tergite VIII (anal sclerite) in male apically rounded, not visible beyond pygidial apex. Tegmen (Fig. 30) 2.50× as long as wide, sides parallel for basal two-thirds, then converging to subtruncate apex; basal strut 0.4× as long as body of tegmen. Penis (Fig. 31) 0.75× as long as tegmen and 2.3× as long as wide, with subtruncate apex; basal penile strut 1.76× as long as body of penis, slightly expanded at tip. Ovipositor (Fig. 45) 1.60× as long as wide, more or less flattened; paraprocts 0.84× as long as gonocoxites, which are 1.29× as long as their combined widths, widest at base and gradually narrowing to subacute contiguous apices, without distinct gonostyli, but with small sockets for gonostyli located just at apex and not visible under lower magnifications.

Types. Lectotype here designated (MNHN), male, "h ^{n} Sall"; 3 paralectotypes (MNHN), males and female, "Australia", "*Pallodes limbicollis* m.n.sp." (Reitter 1880b: 4: "In der Sammlung des Herrn A. Grouvelle in Mans."). Lectotype: length 3.3, width 2.3, height 1.5 mm.

Other specimens examined. VIC: Alfred N. P., 200m, 21,v,1978, in brown rotten wood, S. & J. Peck (2, ANIC, ZIN); Baw Baw Alpine Res., 0.7 km NE of Neulynes Mill (37.51S, 146.15E), 1035m, Site 930, 26.ii.1993, pyrethrum fogging large, old, fungusy eucalypt logs, A. Newton, M. Thayer (5, ANIC, FMNH); Baw Baw Alpine Res., 0.7 km NE of Neulynes Mill (37.51S, 146.15E), 1035m, Site 930, 14–26.ii.1993, FMHD#93-97, window trap, A. Newton, M. Thayer (1, ANIC); Cape Conran, 18 km E of Marlo, 22.v.1984, ANIC Berlesate 969, mushrooms, J. F. Lawrence (1, ANIC); Cement Creek, N of Warburton, 670m, Site 812, 26.i–11.ii.1987, FMHD#87-222, flight intercept (window) trap, A. Newton, M. Thayer (1, ANIC); Cement Creek, N of Warburton, 625m, Site 814, 27.i–11.ii.1987, FMHD#87-232, flight intercept (window) trap, A. Newton, M. Thayer (1, FMNH); Cement Creek, N of Warburton, 625m, Site 814, 27.i–11.ii.1987, on white wavy gilled mushroom on tree, A. Newton, M. Thayer (1, FMNH); Cement Creek, nr. Warburton, 500m, 7.v.1978, *Eucalyptus* rotten bark, S. & J. Peck (3, ANIC, ZIN); Cement Creek Res., Dona Buang turnoff, nr. Warburton, gilled fungus, rainforest floor, C. Reid (1, ANIC); Cumberland Scenic Res. (nr. Cambarville) (37.34S, 145.53E), Cora Lynn Falls Track, 880m, 17–27.ii.1993, FMHD#93-111, ex window trap, A. Newton, M. Thayer (1, ANIC); Erinundra N. P., Coast Rdg. Rd. 8.3 km E of Jct. Gunmark Rd. (37.15S, 148.47E), 1040m, Site 924, 24.ii.1993, pyrethrum fogging fungusy logs, A. Newton, M. Thayer (1, ANIC); Erinundra N. P., Coast Rdg. Rd. 8.8 km E of Jct. Gunmark Rd. (37.17S, 148.57E), 1040m, Site 925, 11–24.ii.1993, FMHD#93-82, ex window trap, A. Newton, M. Thayer (9, ANIC, FMNH); Erinundra N. P., Coast Rdg. Rd. 8.3 km E of Jct. Gunmark Rd. (37.17S, 148.57E), 1040m, Site 926, 11–24.ii.1993, FMHD #93-85, ex window trap, A. Newton, M. Thayer (4, ANIC, FMNH); Keppel Falls Scenic Res. (ENE of Marysville) (37.29S, 145.50E), Myrtle Loop Track, 16.ii.1993, 780m, Site 932, on *Pleurotus* mushrooms on stump, A. Newton, M. Thayer (2, ANIC); Lind N. P., Euchre Valley at Olive Branch Creek (37.34S, 148.57E), 140m, Site 923, pyrethrum fogging old fungusy logs, A. Newton, M. Thayer (2, ANIC); Mallacoota N. P., 10m, 22.v.1978, log litter & fungi, S. & J. Peck (1, ANIC); Mt. Margaret Rd. at Yanks Folly Track, NNE of Marysville (37.28S, 145.47E), 750m, Site 934, 17–28.ii.1993, FMHD#93-108, ex window trap, A. Newton, M. Thayer (1, ANIC); Otway N. P., Bin Rd. 4, 3 km N Cape Horn (38.43S, 143.35E), 390m, Site 808, 25.i–8.ii.1987, FMHD#87-210, flight intercept (window) trap, A. Newton, M. Thayer (9, ANIC, FMNH); Otway N. P., Maits Rest (38.45S, 143.33E), 260m, Site 807, 25.i–8.ii.1987, on tan-topped white mushrooms on ground, A. Newton, M. Thayer (12, ANIC, FMNH); Otway N. P., Maits Rest (38.45S, 143.33E), 260m, Site 807, 25.i–8.ii.1987, FMHD#87-206, flight intercept (window) trap, A. Newton, M. Thayer (13, ANIC, FMNH); Otway N. P., Maits Rest (38.45S, 143.33E), 260m, Site 807, 25.i–8.ii.1987, FMHD#87-208, berlesate leaf & log litter, A. Newton, M. Thayer (1, ANIC); Otway N. P., Maits Rest (38.45S, 143.33E), 260m, Site 807, 25.i–8.ii.1987, Site 807, pyrethrum fogging *Nothofagus* logs, A. Newton, M. Thayer (1, ANIC); Traralgon, 11.9 km S (38.22S, 146.34E), 560m, 25.ii.1993, orange-gilled mushroom on *Pinus radiata* plantation, A. Newton, M. Thayer (3, ANIC); Tarra Bulga N.P., Grand Ridge Rd. at Traralgo-Balook Rd. (38.25S, 148.34E), 690m, 13–25.ii.1993, FMHD#93-90, ex window trap, A. Newton, M. Thayer (5, ANIC, FMNH); Tarra Bulga N.P., Tarra Valley nr. Picnic Area (38.27S, 148.32E), 340m, 13–25.ii.1993, FMHD#93-87, ex window trap, A. Newton, M. Thayer (8, ANIC, FMNH); Wahroonga, 1.1928, ex fungus, H. J. Carter (1, ANIC); Warburton, 2.2 km NE on Acheron Way (37.44S, 145.43E), 320m, Site 931, 15.ii.1993, FMHD#93-101, berlesate leaf & log litter, A. Newton & M. Thayer (2, ANIC, FMNH); Warburton, 2.2 km NE on Acheron Way (37.44S, 145.43E), 320m, Site 931, 15.ii.1993, pyrethrum fogging old fungusy *Eucalyptus regnans* logs, A. Newton & M. Thayer (1, ANIC); Warburton, Acheron Way , 495m, 11–16.i.1980, berlesate, leaf litter, A. Newton, M. Thayer (1, ANIC); Warburton, 2.2 km NE on Acheron Way (37.44S, 145.43E), 320m, Site 931, FMHD#93-99, ex window trap, A. Newton & M. Thayer (1, FMNH); Wilson's Promontory N. P., Lilly Pilly Track, 14.v.1978, log litter & fungi, S. & J. Peck (3, ANIC, ZIN); Wilson's Promontory N. P., Lilly Pilly Track, 15.v.1978, leaf & log litter, S. & J. Peck (4, ANIC, CMN, ZIN); Wilson's Promontory N. P., Sealer's Cove Track, 13.v.1978, under bark & in fungi, S. & J. Peck (2, ANIC); Wingan Inlet, 23.iii.1978, log litter & fungi, S. & J. Peck (1, ANIC); **ACT**: Blundells Ck. 3 km E of Piccadilly Circus (35.22S, 148.50E), 850m, ii.1984, flight intercept window/trough trap, Weir, Lawrence, Johnson (2, ANIC); **NSW**: Barrengarry Mt., 24 km SW of Mossvale, c600m, 9.vi–29.viii,1982, SBP31, flight intercept trap, S. & J. Peck (4, ANIC, ZIN); Barrington House, 92 km NMW of Singleton (32.09S, 151.32E), 28.vi.1976, W. Allen (1, ANIC); Barrington House, Barrington Tops, 420m, 16.vi.1978, log litter & fungi, S. & J. Peck (1, ANIC); Batemans Bay, 27.v.1978, ex leaf & log litter, SD. & J. Peck (5, ANIC, CMN, ZIN); Batemans Bay, 3 km NW, 50m, 3.vi–10.viii.1982, SBP30, flight intercept trap, S. & J. Peck (1, ANIC); Beaury S. F., c700m, 15–15.ii.1983, under bark, T. Weir, A. Calder (2, ANIC); Beaury S. F., c700m, 15–15.ii.1983, collected at light, T. Weir, A. Calder (1, ANIC); Bodalla Forest Park, 21.vi.1981, JFL 81-8, unidentified Agaricales, J. F. Lawrence (1, ANIC); Brindle Ck., nr. Kyogle, Waiangaree S. F. 800m, 20–21.vi.1978, leaf & log litter, S. & J. Peck (5, ANIC, ZIN); Brindle Ck, N of Kyogle, 800m, 21.vi.1978, JFL 78-139, unidentified Agaricales, S. & J. Peck (2, ANIC, CMN); Bruxner Park, 8 km N of Coffs Harbour, c140m, 12.vi–15.viii.1982, SBP15, flight intrercept trap, S. & J. Peck (2, ANIC); Budawang NP, Clyde Mtn. (35°33'S, 149°58'E), rainforest, 11.x.1992, Pyrethrum mossy log, J. Stanisic, G. Ingram (1, QMB); Clayton, 10.90, Lea (1, SAM); Dorrigo, W. Heron (8, ANIC, SAM, ZIN); Dorrigo N. P., E East Blackbutt Track, 710m, 28.ii–5.iii.1980, in and under rotten mushrooms, A. Newton, M. Thayer (6, ANIC, FMNH, ZIN); Dorrigo N. P., West Blackbutt Track, 790m, 5.iii.1980, on gilled mushrooms, A. Newton, M. Thayer (6, ANIC, FMNH, ZIN); Fitzroy Falls, 15 km SE of Mossvale, 4.vi.1978, ex leaf & log litter, S. & J. Peck (2, ANIC); Galston, 5871 (9, SAM); Galston, Lea & Dfumbrell (5, SAM); Glen Innes, 4.93, Lea (4, SAM); Illawarra, E. W. Ferguson (2, ZIN); Ingalla S. F., 13 km S of Macksville, 40m, 12.vi–6.viii.1982, SBP34, flight intercept trap, S. & J. Peck (5, ANIC, CMN); Jamberoo Pass, 15 km NW of Kiama, 530m, 11.vi.1978, ex leaf & log litter, S. & J. Peck (2, ANIC); Kioloa S. F. 15 km NE of Batemans Bay (35.30S, 150.18E), iv.1987, ex sticky trap, M. G. Robinson (2, ANIC); Kioloa S. F. 15 km NE of Batemans Bay (35.30S, 150.18E), iv.1987, flight intercept trap, M. G. Robinson (1, ANIC); Kioloa S. F., 4–5.iii.1986, ANIC Berlesate 1057, leaf & log litter, J. & N. Lawrence (1, ANIC); Macquarie Pass, Illawarra Dist. 9.i.1956, J. Balderson (1, ANIC); Minnamurra Falls, 10 km W of Kiama, 200m, 11.vi.1978, under bark, S. & J. Peck (1, ANIC); Minnamurra Falls (34.38S, 150.43E), 11.1969, Britton & Misko (1, ANIC); Monga, 5 km E, v.1068, rotting wood, Colless & Liepa (2, ANIC); New England N. P., Wright's Lookout Tr., 1300m, 27.ii–6.iii.1980, *Nothofagus moorei* rainf., window trough trap, A. Newton, M. Thayer (2, ANIC, FMNH); O'Sullivans Gap Res., 11km NE Buledela, c50m, 11.vi–27.viii.1982, SBP33, flight intercept trap, S. & J. Peck (2, ANIC); Red Cedar F. R., Wild Cattle Creek S.F. (30.10S, 152.41E), 7.iv.1993, gilled fungus on tree, C. Reid (1, ANIC); Royal N. P., 10 km S of Sydney, 14.vi.1978, under bark, S. & J. Peck (5, ANIC, CMN, ZIN); Sheepstation Ck., 16 km NE of Wiangaree, 600m, 13.vi–24.viii.1982, SBP16, flight intercept trap, S. & J. Peck (1, CMN); Sugarloaf Ck, 4 km W of Currawan Ck., 26.ii.1987, ANIC Berlesate 1071, leaf & log litter, J. F. Lawrence (1, ANIC); Waiangaree S. F., Isaksson Ridge, 1050m, 29.ii–3.iii.1980, Berlesate log & leaf litter, A. Newton, M. Thayer (4, ANIC, FMNH, ZIN); Wright's Lookout Track, New England Nat. Park, 1300m, 27.ii–6.iii.1980, *Nothofagus moorei* rainforest, A. Newton, M. Thayer (2, ANIC); **QLD**: Bare Rock, 2km N of Mt. Cordeaux (28°02'S, 152°23'E), 1100m, 20.ii–4.iv.1994, Flt. Intercept, G. Monteith (6, QMB); Bellenden Ker Range, Cable Tower 3, 1054m, 17.x–5.ii.1981, baited window trap, Earthwatch/QLD Museum (1, QMB); Binna Burra, Lamington N. P., 27.x.1993, under bark & in rotten wood & fungi, S. A. Slipinski, J. F. Lawrence (2, ANIC); Bunya Mts. N. P., 1000m, viii.1982, SBP108, rainforest litter, S. & J. Peck (3, ANIC); Conondale Range, site 3, 20.iv–2.v.1995, intercept trap, Norman, Thompson (1, QMB); Corran Tbld. BS68 (26°16'S, 152°50'E), 350m, 12.iv.1995, Pyrethrum, Monteith, Koch, Thompson (1, QMB); Eungella, Pease's Lkt. (21°07'S, 148°31'E), 900m, rainforest, 17.xi.1992–mid.iv.1993, Intercept & Pitfalls, D. Coook, G. B. Monteith (2, QMB); Heberton, Mjöberg (5, NRS, ZIN); Hugh Nelson Range, GS3 (17.27S, 145.29E), 1150m, flight intercept traps, P. Zborowski (1, ANIC); Hugh Nelson Range, S of Atherton, 30.i.1989, at light, R. I. Storey (1, QDPC); Joalah Nat. Park, Mt. Tamborine, 500m, 22.vi.1978, ex leaf & log litter, S. & J. Peck (4, ANIC, CMN, ZIN); Kirrama St. For., 32 km NW of Cardwell, 800m, 23.vi–8.viii.1982, SBP46, flight intercept trap, S. & J. Peck (1, ANIC); Koombooloomba Dam, S of, 1.5km N of Tully R. Xing, 750m, 8.xii.1989–5.i.1990, pitfalls & intercepts, Monteith, Thompson, Janetzki (1, QMB); Lamington N. P., nr. O'Reilly's, 25 & 28.x.1993, S. A. Slipinski, J. F. Lawrence (1, ANIC); Longlands Gap Rd.20.vi.1950, G. Brooks (1, ANIC); Longlands Gap BS1 (17.28S, 145.29E), 1150m, 1.xii.1994–1.viii.1995, flight intercept traps, P. Zborowski (8, ANIC); Longlands Gap BS1 (17.28S, 145.29E), 1150m, 3.i–26.iii.1996, flight intercept traps, P. Zborowski; L. Umback (3, ANIC); Mary Cairn Cross Pk., 7 km SE of Maleny, c900m, 18.vi–15.viii.1982, SBP40, flight intercept trap, S. & J. Peck (2, ANIC); Massey Creek BS3 (17.37S, 145.34E), 2.vii–3.x.1995, flight intercept traps, L. Umback, P. Zborowski (2, ANIC); Mossman, 5–10km W, Mossman Bluff Track, Site 8, 1180m, 20.xii.1989–15.i.1990, flt. Intercept, Monteith, Thompson, ANZSES (1, QMB); Mt. Fisher BS2 (17.33S, 145.32E), 1150m, 4.vii–2.viii.1995, flight intercept traps, P. Zborowski (3, ANIC); Mt. Edith GS2 (17.06S, 145.37E), 1050m, 30.vi–31.vii.1995, flight intercept traps, P. Zborowski (1, ANIC); Mt. Fisher BS2 (17.33S, 145.32E), 1150m, 31.i–27.ii.1996, flight intercept traps, P. Zborowski (1, ANIC); Mt. Fisher, 7km SW of Millaa Millaa, 1050–1100m, 27–29.iv.1982, Pyrethrum knockdown, Monteith, Yeates, Cook (2, QMB); Mt. Fisher summit (17°33'S, 145°33'E), 1360m, rainforest, 8.ii.1999, 2176, pyrethrum trees & logs, G. B. Monteith (1, QMB); Mt. Glorious, 630m, 14.xi.1986–30.i.1987, flight intercept trough trap, T. Hiller (2, ANIC); Mt. Glorious, 800m, 28.vi.1978, ex leaf & log litter, S. & J. Peck (1, ANIC); Mt. Glorious, 850m, 28.vi.1978, ex leaf & log litter, S. & J. Peck (1, ANIC); Mt. Lewis, 20 km SW of Mosmann, 900–1000m, 26.vi–1.viii.1982, SBP53–53, flight intercept traps, S. & J. Peck (2, ANIC); Mt. Tamborine, Joalah N. P. 500m, 22.vi.1978, ex leaf & log ltter, S. & J. Peck (2, ANIC); Mt. William (21°02'S, 148°36'E), 1240m, 21.xii.1992–10.i.1993, Flt. Intercept, ANZSESExp. (1, QMB); Nelson Range, 19 km NW of Millaa Millaa, 1080m, 24.vi–2.viii.1982, SBP49, flight intercept traps, S. & J. Peck, coll. (1, ANIC); Rosina Creek, 14 km SE of Millaa Millaa, 720m, 21.vi–2.viii.1982, SBP48, flight intercept traps, S. & J. Peck (1, ANIC); Springbrook Repeater (28°15'S, 153°16'E), 1000m, 6.iv.1985. QM Berlesate 883, Sieved litter, G. B. Monteith (1, QMB); Sprngbrook Repeater (28°15'S, 153.16'E), 1000m, 9.i–19.ii.1995, intercept traps, G. B. Monteith (4, QMB); Springbrook Repeater (28°15'S, 153.16'E), 1000m, rainforest, 22.vii.2004,12192, Pyrethrum, G. B. Monteith (1, QMB); Yabba Creek For., 7 km SW of Kenilworth, 150m, 18.vi–15.viii.1982, SBP41, flight intercept trap, S. & J. Peck (5, ANIC, ZIN).

Distribution. Eastern Australia, from VIC to northern QLD, but most common in the southern part of the range.

Biology. Collected by various means but apparently feeding on the soft-bodied, gilled basidiomes (mushrooms) of various Hymenomycetes, including a *Pleurotus* and an orange-gilled mushroom.

Gymnocychramus Lea, 1921

Gymnocychramus Lea 1921: 184. Type species: *Gymnocychramus politus* Lea, 1921.

Notes. This genus is the only Australian member of the *Oxycnemus* complex and as such differs from all other Australian Cyllodini in having 1) a distinctive labrum, which is wider than the clypeus and consists of a pair of diverging, rounded lobes flanking a deep notch widest at its opening, narrowing posteriorly and almost reaching the labral base, 2) a distinct tooth at the outer apical angle of the protibia, and 3) an association with phallaceous fungi. It also differs from *Pallodes*, *Coxollodes* and *Cyllopallodes* **gen. nov.** in the presence of a vertexal line, from *Cyllodes* in the presence of a frontoclypeal suture (represented by a transverse shallow depression), from *Camptodes* in the structure of the mesoventrite, the serrate incisor area of the mandible, the posteriorly narrowing metanepisternum, and the seriate elytral punctation.

Gymnocychramus differs from all other members of the *Oxycnemus* complex, except *Eugoniopus* Reitter, in having metatarsomere 1 equal to or shorter than 2. The posteriorly narrowed metanepisternum and conjointly rounded elytral apices exposing only part of the pygidium distinguish it from all members of the group except *Oxycnemus* Erichson. The relatively short prosternal process terminated by a vertical wall and not extending posteriorly to meet or overlap the metaventrite is shared only with *Oxycnemus*; in *Psilopyga* LeConte, *Eugoniopus* and *Interfaxia* Kirejtshuk this process extends to the edge of the metaventrite, while in *Triacanus* Erichson (including *Monafricus* Kirejtshuk) it extends well beyond this, fitting into one or more grooves on the metaventrite. A more or less concealed anal sclerite also occurs in *Oxycnemus*, *Interfaxia*, *Triacanus* and *Monafricus*, but this sclerite is exposed in *Psilopyga* and *Eugoniopus*. In *Gymnocychramus* and *Oxycnemus* the body of the penis is about as long as the tegmen, while in all other members of the group it is much shorter than the tegmen.

Key to the species of *Gymnocychramus*

1. Colour primarily dark reddish-brown or black (Fig. 6); prothorax wider than combined elytra; sides of pronotum broadly rounded and sides of elytra straight and slightly converging almost to apex; macropunctures on elytra placed more sparsely within longitudinal rows, the distances between them usually greater than a puncture diameter; prosternum strongly tumid; mesal lobe at apex of mentum subacute; ventral surfaces with a number of large, elongate-oval pits lining postmesocoxal lines and anterior edges of metacoxal cavities and occurring on all abdominal ventrites; dorsal lobe of penis (Figs 62–63) about as long as ventral lobe, deeply incised, with small tooth at base of incision; total length 4.70–6.20 mm (mean 5.54) . . . . *G. politus* **Lea**

\- Colour primarily reddish-orange, with elytra black (Figs 12, 23); prothorax as wide as or slightly narrower than combined elytra; sides of prothorax and elytra evenly, continuously curved; macropunctures on elytra placed more densely within longitudinal rows, the distances between them often less than a puncture diameter; prosternum weakly convex; mesal lobe at apex of mentum broadly rounded; ventral abdominal pits, if present, very small; dorsal lobe of penis (Figs 60–61) much shorter than ventral lobe, apically acute, not incised and without tooth; total length 3.00–5.00 mm (mean 3.98) . . . . . . *G. bicolor* **sp. nov.**

***Gymnocychramus bicolor* sp. nov.**
(Figs 12, 23, 32–34, 46, 60–61)

Diagnosis. This species differs from *G. politus* in its smaller size, primarily reddish-orange colour, more densely packed elytral macropunctures, weakly convex prosternum and absence of large, elongate-oval pits on the ventral surface.

Description. Length = 3.00–5.00 (3.98 ± 0.50, n = 12) mm. Body ovate, slightly convex: body length/elytral width = 1.36–1.46 (1.42); greatest depth/elytral width = 0.59–0.67 (0.62). Head, pronotum, scutellar shield, pygidium, undersurfaces and legs reddish-orange; elytra black. Dorsal vestiture very short and not visible under lower magnifications. Head 0.85× as long as wide. Eyes 0.27× head width. Temples 0.66× as long as eye, distinctly curved. Frontoclypeal suture represented by a transverse shallow depression. Clypeus 0.43× as long as wide at base, sides subparallel to weakly concave apex. Labrum about 0.30× as long as wide. Antennal scape 1.25× as long as wide and 1.50× as long as pedicel; antennomere 3 about 1.25× as long as 4; club 0.75× as long as antennomeres 3–8 combined and 1.50× as long as wide; terminal antennomere 0.90× as long as wide. Mandible strongly, gradually curved towards unidentate apex; incisor edge densely lined with spines; mola well-developed with numerous transverse ridges; narrow membrane of prostheca becoming broader and setose apically. Apical maxillary palpomere 2.0× as long as wide, widest at base, with narrowly rounded apex. Mentum 0.5× as long as wide, widest at base; apex biemarginate on either side of short, rounded lobe and between paired anterolateral rounded lobes. Apical labial palpomere about 1.67× as long as wide, widest near base, with broadly rounded apex. Genal ridges slightly sinuate, but almost straight, extending to ends of temples; subocular ridges absent. Pronotum 0.36–0.46 (0.42)× as long as wide, widest at base, lateral margins visible for their entire lengths from above; anterior edge weakly emarginate, forming slightly produced and subangulate anterior angles; posterior angles more or less right; posterior edge evenly curved, with distinct marginal bead, obscured at middle; disc slightly, evenly convex; punctation fine and sparse, punctures usually separated by one to two diameters; interspaces finely sculptured, with irregular, curved ridges, producing dull sheen. Prosternum 0.65× as long as mid length of procoxal cavity, slightly convex, with large, obliquely oval pubescent patch at middle in male; prosternal process 0.40× as wide as mid length of procoxal cavity, not or only slightly curved behind coxae, with angulate apex and distinct vertical wall. Scutellar shield 0.28× as wide as pronotum, with subacute apex slightly rounded at tip. Elytra 0.97–1.06 (1.03)× as long as wide and 2.20–3.03 (2.59)× as long as pronotum; lateral margins moderately broad and visible for their entire lengths from above; elytral apices more or less truncate, exposing most of pygidium; humeri weakly developed; disc with nine more or less regular rows of larger punctures, densely placed within rows, with scattered smaller punctures in between, some of them forming less regular rows; epipleura slightly oblique and partly visible in lateral view, broad at base, gradually narrowing apically and extending to posterior edge of ventrite 4. Anterior edge of mesoventrite on almost the same plane as metaventrite, without posternal rest or median carina, slightly raised posteriorly, its posterior edge emarginate. Mesocoxae separated by 0.40× longest longitudinal diameter of mesocoxal cavity. Metaventrite strongly convex, distance between meso- and metacoxal cavities 0.31× greatest width of ventrite; discrimen extending almost to base of anterior process; postcoxal lines beginning at about mesal third of each coxal cavity, adjacent to edge of coxal cavity until about middle, then gradually curving posteriorly and extending to about middle of lateral edge of ventrite, forming relatively small axillary spaces and lined with series of very small oval pits; posterior edges of mesocoxal cavities not joined by fine line. Metanepisternum 3.58× as long as wide, widest near anterior end and narrowed posteriorly. Metacoxae separated by 0.82× mid length (shortest diameter) of metacoxa. Protibia distinctly expanded apically, its outer edge lined with short serrations, each of which is associated with a short, blunt spine; outer apex with fixed tooth. Mesotibia moderately expanded and apically subacute, its outer edge lined with long spines, the longest in a cluster at the outer apical angle and several more along apical edge; metatibia slightly expanded, its anterior edge lined with spines. Anterior faces of meso- and metatibiae each with longitudinally oblique setal row. All basal tarsomeres expanded and lobed. Abdominal ventrite 1 at lateral third 0.80× as ventrite 2, with intercoxal process broadly rounded and postcoxal lines shallowly curved and not extending to middle of ventrite; ventrites 2–4 subequal in length, each with a fine transverse carina near anterior end and another near posterior end; ventrite 5 1.73× as long as 4, with a fine transverse carina near base and broadly rounded at apex. Pygidium in both sexes with straight basal carina and broadly rounded apex. Tergite VIII (anal sclerite) in male apically rounded. Tegmen (Fig. 32) 2.0× as long as wide, not strongly curved at apex; sides subparallel; apex with two broadly rounded lobes separated by deep cleft, side of each lobe bearing three ventral setal tufts; anterior strut 0.50× as long as body of tegmen with expanded, rounded apex. Penis (Figs 33–34) subequal in length to body of tegmen and 3.0× as long as wide; sides subparallel for basal two-thirds, then converging to form a short dorsal lobe, broad at base and acute at apex, and a much longer ventral lobe broad at base and narrowing to acute apex; anterior penile strut 1.2× as long as body of penis. Ovipositor (Fig. 46) 2.37× as long as wide, widest at base, flattened; paraprocts 0.80× as long as gonocoxites, which are 1.65× as long as their combined widths, widest at base and gradually narrowing to subacute, contiguous apices, without gonostyli.

Type specimen: Holotype, ♂: "Dorrigo Nat. Park, NSW, on fungus, 24.i.67, N. Fenton" (ANIC type #25-014996).

Paratypes. NSW: Booyong (28.45S, 153.27E), xi.1904, Helms Colln (4, ANIC, BMH); Dorrigo, W. Heron (2, SAM, ZIN); Dorrigo Nat. Park, 24.i.1967, on fungus, N. Fenton (5, ANIC, ZIN); Minnamurra Falls, 16.ii.1958, on *Clathrus cibarius*, C. E. Chadwick (33, ACSU, ANIC, QMB); Waiangaree St. For. (28.22S, 153.05E), 1050m, 10–12.ii.1983, T. Weir, A. Calder (1, ANIC); **QLD:** Bald Mtn area, 3–4000', via Emu Vale, 27–31.i.1972, G. B. Monteith (2, QMB); Bally Knob Summit (17°39'S, 145°30'E), 1100m, open forest, 6.xii.1998–6.ii.1999, 2148, intercept, Monteith & Cook (1, QMB); Innisfail, G. L. Froggatt (5, ANIC, QMB, ZIN); Julatten, 24.iii.1992, stinkhorn, B. P. Moore (1, ANIC); Kuranda, Griffith Collection (1, SAM); Mt. Glorious, 630m, 14.xi.1986–30.i.1987, flight intercept trough trap, T. Hiller (2, ANIC, ZIN); National Park, i.1928, H. J. Carter (2, ANIC); National Park, xi.1930, H. Hacker (2, QMB); North Queensland, H. Peters (1, ANIC); Palm Island, M. J. Mackerras (1, ZIN); Shipton's Flat, 1981, Lewis, Roberts (1, ZIN); Tamborine Mt. 16.ii.1966, E. M. Exley (8, ANIC, QMB, ZIN); Wallaville, T. L. Bancroft (1, ANIC); Windsor Tableland, 28.ii–6.iii.1992, flight intercept trap, J. Hasenpusch (QDPC).

Distribution. Northern NSW to northern QLD.

Biology. A series of adults were collected on the fruiting body of *Ileodictyon cibarium* Tul. (as *Clathrus cibarius*) (Phallales: Clathraceae) (Coetzee 2010). One specimen was also collected from an unidentified "stinkhorn".

Etymology. From the Latin *bis*, two and *color*, *coloris*, hue, tint.

Gymnocychramus politus Lea, 1921

(Figs 6, 35–36, 47, 62–63)

Gymnocychramus politus Lea 1921: 185. Type locality: Richmond River, NSW.

Diagnosis. This species differs from *G. bicolor* in its larger size, brown or black colour, sparser elytral macropunctures, strongly convex prosternum and presence of large, elongate-oval pits on the ventral surface.

Redescription. Length = 4.70–6.20 (5.54 ± 0.54, n = 8) mm. Body ovate, slightly flattened: body length/ elytral width = 1.49–1.54 (1.52); greatest depth/elytral width = 0.56–0.61 (0.58). Head and elytra black, pronotum dark reddish-brown, underside and legs yellowish-brown to black; scutellar shield and pygidium either yellow or dark-reddish brown; antennae usually brownish with darker club. Dorsal vestiture very short and not visible under lower magnifications. Head about as long as wide. Eyes 0.28× head width. Temples 0.52× as long as eye, distinctly curved. Frontoclypeal suture distinct. Clypeus 0.60× as long as wide at base, sides concave and converging to truncate apex. Labrum 0.32× as long as wide. Antennal scape 1.26× as long as wide and 1.93× as long as pedicel; antennomere 3 about 1.5× as long as 4; club 0.60× as long as antennomeres 3–8 combined and 1.31× as long as wide; terminal antennomere 0.74× as long as wide. Mandible with outer edge deeply emarginate at base and strongly, gradually curved towards apex, which is unidentate; incisor edge lined with spines; mola well-developed with a number of transverse ridges; prostheca a narrow membrane becoming broader and setose apically. Apical maxillary palpomere 1.67× as long as wide, widest at base with narrowly rounded apex. Mentum 0.67× as long as wide, parallel-sided; apex biemarginate on either side of subacute mesal lobe. Apical labial palpomere about 1.60× as long as wide, widest near base, with narrowly rounded apex. Genal ridges more or less parallel, only slightly sinuate, extending to ends of temples. Pronotum 0.46–0.51 (0.49)× as long as wide, widest at base, lateral margins visible for their entire lengths from above; anterior edge moderately emarginate forming produced and rounded anterior angles; posterior angles more or less right; posterior edge more or less evenly curved but slightly sinuate laterally, with distinct marginal bead, obscured at middle; disc strongly, evenly convex; punctation fine and sparse, punctures usually separated by more than two diameters; interspaces finely sculptured, with irregular curved ridges, producing a dull sheen. Prosternum 0.95× as long as mid length of procoxal cavity, strongly tumid, without pubescent patch in male; prosternal process 0.48× as wide as mid length of procoxal cavity, not or only slightly curved behind coxae, with angulate apex and distinct vertical wall. Scutellar shield 0.22× as wide as pronotum, with broadly rounded apex. Elytra 1.01–1.07 (1.03)× as long as wide and 1.94–2.33 (2.10)× as long as pronotum; elytral apices independently weakly rounded, but almost meeting at suture, exposing most of pygidium; lateral margins moderately broad and visible for their entire lengths from above; humeri weakly developed; disc with nine more or less regular rows of larger punctures, separated by more than one puncture diameter within a row, with scattered smaller punctures in between, some of them forming less regular rows; fine sculpture similar to that on pronotum but less regular; epipleura slightly oblique and partly visible in lateral view, broad at base and gradually narrowing apically and extending to posterior edge of ventrite 4. Anterior edge of mesoventrite on almost same plane as metaventrite, without posternal rest or median carina, not raised posteriorly, its posterior edge emarginate. Mesocoxae separated by 0.38× longest longitudinal diameter of mesocoxal cavity. Metaventrite slightly convex; distance between meso- and metacoxal cavities 0.32× width of ventrite; discrimen extending almost to base of anterior process; postcoxal lines beginning at about mesal third of each coxal cavity and adjacent to edge of coxal cavity until lateral third, then gradually curving posteriorly to meet lateral edge of ventrite at posterior third; postcoxal lines lined with elongate-oval pits, sometimes acute at one end, and similar pits border the anterior edges of metacoxal cavities. Metanepisternum 4.76× as long as wide, widest near anterior end and narrowed posteriorly. Metacoxae separated by 0.71× mid length (shortest diameter) of coxa. Protibia distinctly expanded apically, its outer edge lined with short serrations, each of which is associated with a short, blunt socketed spine; outer apex with distinct fixed tooth. Mesotibia and metatibia moderately expanded and apically subacute, its outer edge lined with moderately long, acute spines. Anterior faces of meso- and metatibiae each with longitudinally oblique setal row. All basal tarsomeres expanded and lobed, metatarsus less than half as long as metatibia. Abdominal with ventrite 1 at lateral third 0.90× as ventrite 2, with intercoxal process broadly rounded and postcoxal lines shallowly curved and not extending to middle of ventrite; ventrites 2–4 subequal in length, each with one fine transverse carina near anterior end and a more prominent carina just behind it, the latter lined with a series of large longitudinally oval pits; ventrite 5 1.65× as long as 4, with a fine transverse carina near base; apex broadly rounded in both sexes. Pygidium in both sexes with straight transverse basal carina, apex strongly narrowed and truncate. Tergite VIII (anal sclerite) in male apically rounded. Tegmen (Fig. 35) 2.64× as long as wide, its apex strongly curved in lateral view; sides parallel for basal two-thirds, then slightly converging to apex, which consists of two rounded lobes separated by deep incision; side of each lobe with ventral setal tuft; anterior strut 0.37× as long as body of tegmen with narrowly truncate apex; base of tegmen ventrally with pair of short, apically truncate lobes attached to a long, slender strut. Penis (Figs 36, 62–63) slightly longer than body of tegmen and 4.0× as long as wide; distinctly curved at apex; sides subparallel at base, divided apically into broad, lightly sclerotised dorsal lobe with rounded, medially incised apex and ventral lobe about the same length, more heavily sclerotised, widest at base but abruptly narrowed at basal third to form parallel sided process with acute, upturned apex; anterior penile strut about as long as body of penis. Ovipositor (Fig. 47) 1.87× as long as wide, widest at base, flattened; paraprocts slightly longer than gonocoxites, which are 1.12× as long as their combined widths, widest at base and gradually narrowing to subacute, contiguous apices, without gonostyli.

Variation. In a specimen from northern QLD (near Mareeba), the dorsal lobe of the penis bears a distinct recurved tooth arising at the base of the median incision and the ventral lobe is not upturned. It is possible that two species are involved, but the rarity of specimens prevents us from determining whether or not this variation is infraspecific.

Types. Holotype, C/2272, New South Wales, Richmond River, in fungi (QMB); paratype, same data (SAM).

Other specimens examined. NSW: Brindle Creek, Border Ranges N. P. (28.22S, 153.05E), 14.ii.1985, ex ethanol, I. D. Naumann (1, ANIC); Dorrigo Nat. Park, 24.i.1967, on fungus, N. Fenton (3, ANIC, ZIN); **QLD:** Bartle Frere, west base (17°28'S, 145°46'E), 700m, 10.i–31.iii.1995, Flt. Intercept trap, Monteith & Hasenpusch (1, QMB); Charmillin Ck. Xing, Tully Falls Rd., 950m, 8.xii.1989–5.i.1990, pitfall & intercept traps, Monteith, Thompson, Janetzki (1, QMB); Glastonbury Ck., 15 km W of Gympie, 27.x.1980, MV light, A. Neboiss (1, QMB); Julatten, vii.1994, B. P. Moore (1, ANIC); Mapleton Falls NF (26°38'S, 152°51'E), 500m, rainforest, 10.xi.1991–8.i.1992, intercept, D. J. Cook (1, QMB); Mossman Bluff track, 5–10 km W of Mossman, 360m, 1–16.i.1989, flight intercept trap, Monteith, Thompson, ANANZSES (1, QMB); Mt. Cotton, upper gully (27°36'S, 153°13'E), 150m, rainforest, 12.xii.1997–7.v.1998, 5811, intercept, G. B. Monteith (1, QMB); Mt. Glorious, 630m, 14.xi.1986–30.i.1987, flight intercept trough trap, rainforest, T. Hiller (1, ANIC); Numinbah Arch (28°14'S, 153°14'E), 320m, rainforest, 2.xii.1991–1.i.1992, intercept, D. J. Cook (1, QMB); Numinbah Arch (28°14'S, 153°14'E), 320m, rainforest, 1.i–23.ii.1992, intercept, D. J. Cook (1, QMB); One Tree Hill, 1.5km NE (25°17'S, 151°55'E), 160m, vine scrub, 6.xii.1998–6.ii.1999, 9004, intercept, D. & I. Cook (1, QMB); Ravensbourne NF (27°22'S, 152°11E), 740m, rainforest, 7.i–1.iii.1992, intercept, D. J. Cook (1, QMB); Tamborine Mt., 16.ii.1960, E. M. Exley (4, QMB/UQIC); Tinaroo Creek Rd., 26 km up via Mareeba, MDPI Intercept Trap Site 7, 23.xii.1982–12.i.1983, Morgan, Brown, Storey (1, QDPC); Tully Falls, 750m, 8.xii.1989–5.i.1990, pitfall & intercept traps, Monteith, Thompson, Janetzki (2, QMB); Yarraman (26°51'S, 152°00'E), 440m, rainforest, 1.xii.1991–7.i.1992, intercept, D. J. Cook (1, QMB); Yarraman, Cooyar Ra. (26°52'S, 151°54'E), 540m, rainforest, 2.iii–12.iv.1992, intercept, D. J. Cook (1, QMB).

Distribution. Northern NSW to northern QLD.

Biology. At least one adult of this species has been collected on the fruiting body of *Dictyophora indusiata* (Vent. Ex Pers.) Desv. (Phallales: Phallaceae) (Lawrence & Milner 1996).

Pallodes Erichson, 1843

Pallodes Erichson 1843: 50. Type species: *Pallodes silaceus* Erichson, 1843 (= *Sphaeridium pallidus* Palisot de Beauvois, 1805).

Notes. As mentioned above, the genus *Pallodes*, as currently understood, is large and variable. All known species have relatively long and simple metatarsi, and the posterior edges of mesocoxal cavities are joined mesally by a fine line extending across the anterior process of the metaventrite. The Australian species also have a distinct frontoclypeal suture, while most Indo-Malayan species have either a weak transverse depression, a pair of small concavities or no depression at all. Australian species also lack a metathoracic discrimen, while in the those from some other areas a suture can be more or less traced at the posterior end of the metaventrite. Although the type species, *P. pallidus* (Palisot de Beauvois), and other species from the Western Hemisphere have a distinct frontoclypeal suture, they differ from all Australian species, including the two described here, in having the labrum broadly, weakly impressed, the prosternum only weakly convex, the mesocoxal cavities more narrowly separated, and the axillary spaces absent. *Pallodes* adults and larvae are often associated with the softer fruiting bodies (mushrooms) of a wide variety of Basidiomycetes, including species of *Pleurotus* (Tricholomataceae), *Amanita* (Amanitaceae), *Boletus* (Boletaceae), *Strobilomyces* (Boletaceae), *Lactarius* (Russulaceae), *Russula* (Russulaceae), *Laccaria* (Hydnangiaceae) and *Pluteus* (Pluteaceae) (Leschen 1988; Cline & Leschen 2005). A number of unnamed Australian species have been seen in collections, but a species-level revision is beyond the scope of the present work. Here we include a distinctive species previously described from New Guinea and known from northern QLD and new species based on a small series from southern QLD.

Pallodes beccarii Grouvelle, 1906

(Figs 13–14, 18–19, 39–40, 48, 58)

Pallodes beccarii Grouvelle 1906: 328. Type locality: "N^{lle} Guinée: Hatam" (MCG); Kirejtshuk 2008: 119.
Pallodes gestroi Grouvelle 1906: 329. Type locality: "Nouvelle Guinée: Andai" (MCG); Kirejtshuk 2008: 119. **Syn. nov.**
Pallodes misellus Grouvelle 1906: 329. Type locality: "Nouvelle Guinée: Andai" (MCG); Kirejtshuk 2008: 119 (syn. of *P. gestroi*).

Diagnosis. Compared to the relatively large number of unnamed *Pallodes* in Australia, this species may be distinguished by the dark dorsal surfaces and contrasting light ventral surfaces. The heavily sclerotised and deeply, broadly emarginate tegmen also separate this species from *P. nigroapicalis* and at least some other undescribed Australian *Pallodes*.

Description. Length 2.3–3.2 (2.73 ± 0.25, n = 12) mm. Body broadly ovate and moderately convex: body length/elytral width 1.20–1.36 (1.27); greatest depth/elytral width 0.45–0.66 (0.58). Head, pronotum, scutellar shield and elytra usually black; pygidium, ventral surfaces, legs and antennal funicle yellow; antennal club darker; teneral specimens not yet emerged from host fungus may be various shades of yellow to reddish-brown. Dorsal vestiture very short and not visible at lower magnifications; ventral surfaces with very short to moderately long, fine hairs, very dense on abdominal ventrite 5 in male. Head 0.93× as long as wide. Eyes 0.36× as long as head width. Temples 0.30× as long as eye, straight. Vertexal line absent. Frontoclypeal suture distinct, very weakly curved. Clypeus 0.33× as long as wide at base, sides converging to truncate. Labrum about 0.17× as long as wide; anterior edge weakly, broadly rounded with very weak, broad impression at middle. Antennal scape 1.73× as long as wide and 1.63× as long as pedicel; antennomere 3 about 2.0× as long as 4; club about 0.73× as long as antennomeres 3–8 combined and 1.26× as long as wide; terminal antennomere 0.8× as long as wide. Mandible strongly, abruptly curved at apex, which is obliquely bidentate and dorsally serrate; mola well developed with many transverse ridges; prostheca an elongate membrane, narrow basally, widest apically, lined with hairs; base of mola, ventrally with densely pubescent lobe. Apical maxillary palpomere 2.00× as long as wide, subcylindrical with truncate apex. Mentum about 0.43× as long as wide; sides diverging from base to subapex, then converging to form a pair of angulate projections on either side of truncate apex; apical labial palpomere about 1.33× as long as wide, cylindrical with blunt apex. Genal ridges sinuate, converging to about middle of eyes, then straight to just behind eyes; anterior genal process subtruncate. Pronotum 0.36–0.44 (0.40)× as long as wide, widest at posterior third; anterior edge deeply emarginate forming distinct almost right anterior angles; sides obliquely explanate; lateral margins narrow, not visible for their entire lengths from above; posterior edge more or less evenly curved laterally, but sinuate on either side of short prescutellar lobe; disc strongly, evenly convex; punctation very fine and sparse, the punctures usually separated two or more diameters; interspaces sculptured with fine beading, producing a dull sheen. Prosternum 0.53× as long as mid length of procoxal cavity, weakly convex, with short, broad anterior projection; prosternal process 0.29× as wide as mid length of procoxal cavity, not curved behind coxae, with truncate apex and short vertical wall. Scutellar shield 0.36× as wide at base as pronotum, with subacute apex; punctation slightly coarser and denser than that on pronotum. Elytra 0.85–1.00 (0.91)× as long as wide and 2.19–3.00 (2.57)× as long as pronotum, sides steep and lateral edges not visible from above; apices broadly, independently rounded, usually exposing pygidial apex; disc with nine rows of very small, somewhat irregularly aligned megapunctures with scattered, very fine punctures in between them; interspaces distinctly sculptured with fine microtubercles forming wavy lines and producing dull sheen. Epipleura strongly oblique, broader anteriorly, gradually narrowed posteriorly and extending to posterior edge of ventrite 4. Anterior edge of mesoventrite on slightly different plane than metaventrite, with short, low median carina, its posterior edge slightly elevated (in ventral view) and broadly emarginate to receive anterior process of metaventrite. Mesocoxae separated by 0.31× longest longitudinal diameter of mesocoxal cavity. Metaventrite slightly convex, shortest distance between meso- and metacoxal cavities 0.28× greatest width of ventrite; without discrimen; axillary spaces well-developed, postcoxal lines deviating from posterior edges of mesocoxae at about mesal fourth, extending posteriorly to about middle of metaventrite; posterior edges of mesocoxal cavities joined by fine, anteriorly curved line near base of anterior process of metaventrite, which is broadly rounded at apex. Metanepisternum 5.5× as long as wide, widest near anterior end and narrowed posteriorly. Metacoxae separated by 0.35× mid length (shortest diameter) of metacoxa. Protibia moderately strongly expanded apically, its outer edge densely lined with short serrations; outer apex rounded, with eight long, dark, spines. Mesotibia (Fig. 58) very strongly expanded, 2.5× as long as wide, widest at apical fifth, where it is more or less angulate, its outer edge lined with short, acute, spines, becoming somewhat thicker near apex; metatibiae slightly expanded to apex, which is sharply angulate, outer edge lined with setae and moderately long, acute spines. Anterior faces of meso and metatibiae each with longitudinally oblique setal row. Basal protarsomeres and mesotarsomeres expanded and lobed; metatarsomeres simple and metatarsus about as long as metatibia. Abdomen with ventrite 1 at lateral third 0.6× as long as ventrite 2, with intercoxal process narrowly rounded at apex and without postcoxal lines; ventrites 3 and 4 each slightly longer than the one preceding it and 5 about 1.78× as long as 4; ventrites 2–5 each with one fine anterior transverse carina and a more prominent transverse carina at about middle; apex of ventrite 5 broadly rounded in female, weakly biemarginate and densely setose in male. Pygidium with straight basal carina, its apex broadly rounded in both sexes. Tergite VIII (anal sclerite) in male apically rounded. Tegmen (Fig. 39) 2.12× as long as wide, sides subparallel, apex deeply and broadly emarginate, forming a pair of widely separated, slender, apically truncate lobes; basal strut about 0.33× as long as body of tegmen with subtruncate apex. Penis (Fig. 40) 0.75× as long as tegmen, 2.14× as long as wide, parallel-sided with subtruncate apex; basal strut twice as long as body of penis, very slightly expanded and truncate at apex. Ovipositor (Fig. 48) 1.51× as long as wide, flattened; paraprocts 0.73× as long as gonocoxites, which are 1.43× as long as their combined widths, gradually narrowing to subacute, subcontiguous apices, with extremely small gonostyli at apex not visible under lower magnifications.

Types. Lectotype of *Pallodes beccarii* here designated, male (MCNG) and 1 paralectotype, female (MCNG), "N. Guinea, Hattam, VI.1875, Beccari", "*Pallodes Beccarii* Grouv."; lectotype of *Pallodes gestroi* here designated, female (MCNG) and 4 paralectotypes, females (MCNG, ZIN), "Nuova Guinea, Andai, Ag, 72, L.N.D'Albertis", "*Pallodes Gestroi* Grouv."; lectotype of *Pallodes misellus* here designated, male (MCNG) and 1 paralectotype, male (MCNG), "Nuova Guinea, Andai, Ag, 72, L.N.D'Albertis", "*Pallodes misellus* ty. Grouv."

Notes on synonymy. The type specimens of the names synonymised were described in the same publication (Grouvelle 1906) and two of them (*Pallodes gestroi* and *P. misellus*) from the same locality. In addition, the type specimens of *Pallodes gestroi* are females and those of *P. misellus* are males. Grouvelle (1906: 330) pointed out that the latter series are somewhat different in body size, sculpture of dorsal integument (punctation and microreticulation) and density of punctation on pygidium. The examination of the type specimens shows that all differences are within the range of variation of other congeners (length of the type specimens of *P. beccarii* is 3.6–3.8, *P. gestroi* is 2.9–3.0 and *P. misellus* is 2.6–2.7 mm). The lectotype of *P. beccarii* (male) has wider and more triangular mesotibia than that in the types of *P. misellus* (male).

Specimens examined. QLD: Keatings Gap, Cooktown, 28–29.vi.1982, fleshy fungi, S. & J. Peck (12, ANIC, CMN, ZIN); Lake Barrine N., 750m, 31.vii.1982, SBP97, rainforest rotted bark litter, S. & J. Peck (1, ANIC); Mt. Finnigan S1, 30km S of Cooktown, 400m, 1.vii.1982, SBP56, litter & fungi, rainforest, S. & J. Peck (1, ANIC); Mt. Finnigan, 30km S of Cooktown, 350–400m, 30.vii.1982, S. & J. Peck (1, ANIC); Mt. Spec S2 (18°55'S, 146°10'E), 880m, 10.i–6.ii.1995, flight intercept traps, M. Cermak (1, ANIC); Peeramon Scrub (17°19'S, 145°37'E) 9.xii.1995, Pyrethrum trees, G. Monteith (1, QMB); Tully River Crossing, 10km S of Koombooloomba Dam, 750m 4–5.i.1990, GB. & S. R. Monteith (1, QMB). Indonesia: Irian-Jaya, Testaga, 1100–1300 m, 30.iii.1993, A. Riedel (4, SMNS, ZIN).

Distribution. Indonesian and Papuan New Guinea, northern QLD.

Biology. Specimens from Keating's Gap were collected in fleshy fungi.

Pallodes nigroapicalis sp. nov.

(Figs 15–17, 41–42, 49, 53–54, 57)

Diagnosis. This species may be distinguished by the reddish-orange colour of the most of the dorsal surface with a contrasting dark patch at the apex of each elytron. There are a number of similar species in Queensland, and a complete diagnosis must await a species-level revision of this group in the Australo-Pacific region. The tegmen may be distinguished from that of *P. beccarii* by the slender cleft at the apex.

Description. Length = 2.15–2.90 (2.54 ± 0.24, n = 12) mm. Body broadly ovate and strongly convex; body length/elytral width = 1.24–1.31 (1.28); greatest depth/elytral width = 0.57–0.63 (0.60). Dorsal surfaces reddish-orange with elytral apices dark brown or black; pygidium, undersurfaces, legs and antennal funicle yellow or reddish-yellow, antennal club dark brown or black. Dorsal vestiture very short and not visible under lower magnifications; vestiture of ventral surfaces varied, very short and fine on most surfaces, but thicker and darker on metanepisterna and denser at the apex of ventrite 5. Head 0.88× as long as wide, punctation very fine and sparse, obliterated posteriorly. Vertexal line absent. Eyes 0.31× head width. Temples 0.25× as long as eye, straight. Frontoclypeal suture distinct. Clypeus 0.35× as long as wide at base, sides converging for basal half, then subparallel; apex subtruncate. Labrum about 0.30× as long as wide; anterior edge truncate with small notch at middle. Antennal scape 1.36× as long as wide and 1.87× as long as pedicel; antennomere 3 about 1.67× as long as 4; club 0.97× as long as antennomeres 3–8 combined and 1.62× as long as wide; terminal antennomere 0.83× as long as wide. Mandible strongly, abruptly curved at apex, which is obliquely bidentate and dorsally serrate; mola well-developed with a number of transverse ridges; prostheca widest at base, narrowing apically, lined with hairs, which are longer at apical end; base of mola, ventrally with densely setose lobe. Apical maxillary palpomere about 2.5× as long as wide, widest near base with sides gradually converging to narrowly rounded apex. Mentum 0.5× as long at middle as wide, with apex broadly emarginate forming two rounded anterior processs. Apical labial palpomere about 1.5× as long as wide, widest near base, with curved sides and narrowly rounded apex. Genal ridges sinuate, but almost straight, extending to ends of temples. Pronotum 0.32–0.44 (0.36)× as long as wide, widest at middle; anterior edge distinctly emarginate; anterior angles broadly rounded; sides obliquely explanate; lateral margins narrow, not visible for their entire lengths from above; posterior angles more or less right and posterior edge strongly curved, unmargined, slightly sinuate on either side of very short, broad prescutellar lobe; disc very finely and sparsely punctate, the punctures usually separated by more than four diameters; interspaces lightly sculptured and shiny, the sculpturing consisting of very fine, transversely aligned ridges. Prosternum 0.56× as long as mid length of procoxal cavity, weakly carinate with small, acute, anterior projection; prosternal process 0.44× as wide as mid length of procoxal cavity, not curved behind coxae, with truncate apex and short vertical wall. Scutellar shield 0.40× as wide as pronotum, subacute at apex but with tip somewhat rounded; surface punctation similar to that on pronotal disc. Elytra 0.91–0.99 (0.95)× as long as wide and 2.64–3.29 (2.86)× as long as pronotum; sides steep and lateral edges not visible from above; apices broadly, independently rounded, usually exposing pygidial apex; disc with nine distinct rows of moderately large, closely aligned punctures with scattered, very fine punctures in between them; punctures in the outer row and two inner rows larger than those in remaining rows; interspaces not or very finely sculptured and shiny. Epipleura slightly oblique, broader anteriorly, gradually narrowed posteriorly and extending almost to posterior edge of ventrite 4. Anterior edge of mesoventrite (Fig. 53) on a slightly different plane than metaventrite, its anterior edge with short, low median carina, its posterior edge slightly elevated (in ventral view) and broadly emarginate to receive anterior process of metaventrite. Mesocoxae separated by 0.59× longest longitudinal diameter of mesocoxal cavity. Metaventrite moderately convex, shortest distance between meso- and metacoxal cavities 0.33× greatest width of ventrite; discrimen absent; axillary spaces (Fig. 54) large, extending posterior beyond middle of ventrite and lined with row of punctures; posterior edges of mesocoxal cavities joined by fine, anteriorly curved line at about middle of the anterior process of metaventrite, which is broadly rounded at apex. Metanepisternum 4.9× as long as wide, widest near anterior end and narrowed posteriorly Metacoxae separated by 0.50× mid length (shortest diameter) of metacoxa. Protibia slightly expanded apically, its outer edge densely lined with short serrations; outer apex rounded with six long spines. Mesotibia (Fig. 57) moderately expanded, 3.0× as long as wide, widest at apical third and rounded subapically, its outer edge lined with long spines; metatibiae not or barely expanded. Anterior edges of meso- and metatibiae each with longitudinally oblique setal row. Basal pro- and mesotarsomeres moderately expanded and lobed. Metatarsomeres simple and metatarsus almost as long as metatibia. Abdominal ventrite 1 with shallowly curved postcoxal lines sparsely lined with small oval pits; ventrites 2–5 each with transverse carina near anterior end. Abdomen with ventrite 1 at lateral third 0.86× as long as ventrite 2, with intercoxal process subtruncate at apex and with postcoxal lines broadly, gradually curved, extending to about middle of ventrite and located close to intercoxal process; ventrites 2–4 more or less equal in length, and 5 about 1.3× as long as 4; ventrites 2–4 each with a fine anterior transverse carina and a more prominent transverse carina closer to middle; ventrite 5 with two transverse carinae both near anterior edge and apex broadly rounded in female, very weakly biemarginate in male. Pygidium with straight basal carina, its apex broadly rounded in female and slightly truncate in male. Tergite VIII (anal sclerite) in male apically rounded. Tegmen (Fig. 41) about 2.4× as long as wide, widest near base, with sides converging to moderately broadly rounded, deeply cleft apex; sides and apex densely lined with short setae; anterior strut 0.25× as long as body of tegmen with subtruncate apex. Penis (Fig. 42) 0.63× as long as body of tegmen and 1.59× as long as wide, with anterior penile strut 3.3× as long as body of penis. Ovipositor (Fig. 49) 2.00× as long as wide, widest at base, flattened; paraprocts 0.81× as long as gonocoxites, which are 1.34× as long as their combined widths, widest near base and gradually narrowing to subacute, contiguous apices, with extremely small gonostyli at apex.

Variation. Some specimens collected in 1970 have darker dorsal surfaces (more or less fuscous with somewhat blackish elytral apices).

Type specimen: Holotype, ♂: "McDonald Nat. Park, Tamborine Mtn. QLD, 29 Oct. 1983, S. A. Slipinski &, J. F. Lawrence colls, ex mushrooms" (ANIC type #25-014997).

Paratypes. QLD: Bunya Mts. Nat. Park (26.50S, 151.33E), 5 km NW of Mt. Mowbullan, Bunya pine forest, c. 3500', 8.i.1970, in bracket fungus, Britton, Holloway, Misko (9, ANIC, ZIN); Bunya Mts. Nat. Park, 1000m, 10.vii.1982, SBP108, rainforest litter, S. & J. Peck (5, ANIC, CMN); McDonald Nat. Park, Tamborine Mtn., 29.x.1993, in mushrooms, S. A. Slipinski, J. F. Lawrence (13, ANIC, ZIN).

Distribution. Southern QLD.

Biology. Adults in mushrooms.

Etymology. Derived from the Latin *niger*, *nigra*, *nigrum*, black and *apex*, *apicis*, tip, referring to the dark pigment at the elytral apices.

Notes on the genus *Macleayania* Kirejtshuk, 2003 (Nitidulini)

The genus *Macleayania* was described by Kirejtshuk (2003) based on specimens identified as *Soronia amphotiformis* Reitter, 1880b. Unfortunately the series used for the description of the genus was a mixture of two species, both of which had been described by Olliff (1886) in the trogossitid genus *Ancyrona* Reitter. The name of larger of the two species, *Ancyrona amica,* is synonymous with Reitter's *Soronia amphotiformis*, which is the older name. Olliff's *A. vesca* is here recognised as a distinct species. Although we have not reexamined specimens returned to the South Australian Museum or the Museum of Victoria, sufficient material has been studied to determine that these two species have broadly overlapping distributions in an area extending from central NSW, the ACT and western VIC to SA and southern WA. No specimens of *M. amphotiformis* have been seen from NSW or the ACT, and both occur in southern WA. Nothing is known about their biology; a number of specimens have been collected under bark, while a few were taken in litter, at light or on surfaces at night with ants.

The two *Macleayania* may be distinguished by the following key characters:

1. Body (Figs 21–22) length less than 1.40× as great and greatest depth less than 0.4× as great as combined elytral width; central portion of elytral disc somewhat flattened with a reddish-orange subcircular ring surrounding a small dark spot, in turn partly surrounded by a dark U-shaped area between this and the broad reddish-orange explanate sides; labrum more or less semicircular, its margin forming a continuous curve between posterior angles; elytra slightly shorter than combined width; scutellar shield broadly rounded; apex of tegmen weakly emarginate (Fig. 39), its basal strut broader and truncate (Fig. 68); penis distinctly inflated subapically and less narrowly acute at apex (Fig. 38), apex of penile strut blunt and slightly forked (Fig. 69); length usually greater than 3.75 mm . . . . ***M. amphotiformis* (Reitter)**

\- Body (Fig. 20) length more than 1.40× as great and greatest depth more than 0.4× as great as combined elytral width; central portion of elytral disc more convex and black, with a distinctive group of reddish-orange maculae on either side of suture: a pair of small parasutural maculae just behind scutellar shield, a pair of transverse maculae behind this, a slender pair of longitudinal maculae, a larger zig-zag transverse macula crossing elytra just behind middle and two pairs of smaller maculae near the posterior end; labrum with slightly curved sides and subtruncate apex; elytra slightly longer than combined width; scutellar shield somewhat angulate at apex; apex of tegmen (Fig. 64) evenly rounded, not emarginate, its basal strut slender, narrowly rounded at apex (Fig. 65); penis not or only slightly inflated subapically with narrowly acute apex (Fig. 66); apex of penile strut (Fig. 67) narrowly rounded; length usually less than 3.75 mm . . . . ***M. vesca* (Olliff)**

Macleayania amphotiformis (Reitter, 1880b)
(Figs 21–22, 37–38, 68–69)

Soronia amphotiformis Reitter 1880b: 1. One example from Adelaide in the collection of Herr A. Grouvelle in Mans.
Ancyrona amica Olliff 1886: 713, **syn. nov.** "Albany, West Australia; Port Lincoln, South Australia. Syntype, Albany. AMS K209341".
Macleayania amphotiformis (Reitter): Kirejtshuk 2003: 245.

Type specimens: Holotype, female (MNHN), determined as specimen with labels "Adelaide", "*Soronia amphotiformis* m. sp. n."; 1 additional specimen (probably from the same series), female (MNHN), "Adelaide"; length of lectotype 5.2 mm, additional specimen 4.6 mm.

Specimens examined from **VIC**: Hattah, Kiata; **SA**: Adelaide (Grouvelle Colln. Reitter type, 5 mm); Brookfield Conservation Park, Whyalla; **WA**: Albany (*amica* type), Moora (Grouvelle id. as *amphotiformis*).

Macleayania vesca (Olliff, 1886), comb. nov.
(Figs 20, 64–67)

Ancyrona vesca Olliff 1886: 713. "Monaro, New South Wales; South Australia; King George's Sound, West Australia." Syntypes (2 on card), Monaro, AMS K209344.

Specimens examined from **ACT**: Black Mountain, Canberra; **VIC**: Hattah; **SA**: Brookfield Conservation Park, 8 km W of Pacilla; Port Lincoln; **NSW**: Bogan River; Kosciusko Nat. Park (Bett's Camp), Monaro (*vesca* type); **WA**: King George's Sound.

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