A New Species of *Cryptalaus* from Fiji, with Taxonomic and Distributional Notes and a Key to the "Hemirhipini" of Eastern Melanesia and Polynesia (Coleoptera: Elateridae)

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Abstract: Taxonomic and distributional notes are provided for species of the tribe Hemirhipini and the genus *Tetrigus* Candèze, subfamily Agrypninae. Species treated represent *Calais* Laporte, *Chalcolepidius* Eschscholtz, *Conobajulus* Van Zwaluwenburg, *Cryptalaus* Ôhira, and *Tetrigus* Candèze, that occur in Fiji, Hawaii, Marquesas Is, Samoa, and Vanuatu. *Cryptalaus vitilevu* **new species** is described from Viti Levu (Fiji). *Alaus carinulatus* Van Zwaluwenburg and *A. samoensis* Van Zwaluwenburg are transferred to *Cryptalaus*, and are newly reported from Espiritu Santo (Vanuatu) and Tutuila (American Samoa), respectively. The adventitious *Calais speciosus* (Linné) is reported from Viti Levu (Fiji), and Upolu (Western Samoa). *Chalcolepidius porcatus* Eschscholtz is reported as adventitious on Nuku Hiva (Marquesas Islands). *Conobajulus ugiensis* Van Zwaluwenburg is newly reported from Viti Levu (Fiji). *Alaus costulicollis* Fairmaire is treated as a *species inquirendum*. *Tetrigus silvaticus* Van Zwaluwenburg is a **new synonym** of *T. fleutiauxi* Van Zwaluwenburg. A key to the hemirhipine genera and species, and species of *Tetrigus*, of Polynesia and eastern Melanesia is provided.

Despite the extensive work on the click beetles of Oceania by R.H. Van Zwaluwenburg from the 1930s through the 1950s, a number of new records, undescribed species, and nomenclatural changes remain. Because of the diversity of taxa involved these taxonomic changes will be treated through a series of appropriately delimited papers. Here the species of Hemirhipini and *Tetrigus* Candèze from Polynesia and eastern Melanesia, are briefly reviewed.

The Hemirhipini includes 28 genera worldwide. Five of these genera are cataloged for Oceania, including two genera with representatives being adventitious. Of these, *Chalcolepidius* Eschscholtz is represented by two species introduced from the Americas and *Calais* Laporte is represented by a single species introduced from Sri Lanka or southeastern India. The native genera are *Conobajulus* Van Zwaluwenburg, and *Cryptalaus* Ôhira, with the latter containing the bulk of species that are widely distributed in the region from American Samoa and Fiji westward to India and northward to southern Japan. The monobasic *Conobajulus* is the only hemirhipine genus restricted to the region. *Tetrigus* was traditionally assigned to Hemirhipini, hence its inclusion here, but Casari-Chen (1993) excluded the genus from the tribe, noted its polyphyletic composition, and suggested that the genus may warrant a presently undefined placement near Hemirhipini and Pyrophorini.

Taxa treated herein are presented in alphabetical order. Measurements used are length, measured as body length from frontal margin to apex of elytra; width, the widest portion of the body on a transverse line through elytral humeri; and the ocular index (Campbell and Marshall 1964). Terminology for genital structures follow Lawrence and Britton (1991). Geographic names follow Motteler (1986). Collection abbreviations are defined in the acknowledgments.

***Alaus costulicollis* Fairmaire**
Alaus costulicollis Fairmaire, 1878
Alaus costulicollis, of Fairmaire, 1881; Candèze, 1891; Schwarz, 1906; Schenkling, 1925; Fleutiaux, 1926; Van Zwaluwenburg, 1932

The identity of this species remains obscure. Fairmaire (1878) described the species from "Ins. Viti", and subsequently (Fairmaire 1881) noted the species from Viti Levu. More recent treatments were limited to the species' inclusion in synopses and catalogs by Schwarz (1906), Schenkling (1925), Fleutiaux (1926), and Van Zwaluwenburg (1932). Schenkling (1925) listed the species from New Caledonia, and cited Fairmaire (1881), though this latter paper does not mention this erroneous locality. Published descriptions of this species satisfactorily exclude possible attribution of any elaterid recorded from New Caledonia and nearby islands (Fauvel 1904, Fleutiaux 1911).

My interpretation of both Fairmaire descriptions for this species suggest that *Conobajulus ugiensis* Van Zwaluwenburg (see below) may be a synonym of *A. costulicollis*, but characters for unequivocal confirmation are lacking from his descriptions. The Fairmaire collections were distributed at various times to individuals and collections, with the elaterids going to E. Candèze and E. Fleutiaux, and eventually acquired by the Institute Royal des Sciences naturelles de Belgique, Brussels, and Museum Nationale d'Histoire Naturelle, Paris, respectively (Horn and Kahle 1935). Unfortunately, the type of *A. costulicollis* is not present in these museums (C. Girard *in litt*., K. Desender *in litt*.). Likewise, C.M.F. von Hayek (*in litt*.) has been unable to locate Fairmaire specimens attributable to this species in her thorough searches of other museums that could potentially hold his material. According to notecards compiled by R.H. Van Zwaluwenburg and held at the B.P. Bishop Museum, he too was unable to locate the type during visits to these and other European museums during 1956–1958. Unless the type of this species can be located and satisfactorily confirmed, an apparently unlikely event, *A. costulicollis* should be regarded as a *species inquirendum*.

***Calais speciosus* (Linné)**
Elater speciosus Linné, 1767; of Fabricius 1787, 1792, 1801; Olivier 1795
Alaus speciosus, of Candeze, 1857, 1874, 1891; Schenkling, 1925
Alaus spesiosus, of Schwarz, 1906 (misspelling)
Calais speciosus, of Ôhira, 1971, 1973b

This species was transferred from *Alaus* to *Calais* by Ôhira (1971). *Calais speciosus* is an attractive and distinctive species through its large size (25–30 mm) and bright mottled appearance from contrasting white and black patches of pubescence over a shining black integument. This species was described and subsequently recorded only from Sri Lanka and southeastern India (Candèze 1857, 1874; Schenkling 1925; Ôhira 1973b). A specimen collected on Upolu, Western Samoa, was received in 1990 from K. Bultman, then a Peace Corps worker in Western Samoa, with a note that the insect was not uncommon on that island, especially around recently felled and sawn timber. Determination was confirmed by C.M.F. von Hayek who (*in litt*.) also suggested that it was probably introduced in timbers. I have since examined specimens collected on Viti Levu, Fiji. Both Upolu and Viti Levu are previously unpublished island records.

Material examined: FIJI: VITI LEVU, Suva, 30.v.1986 (1♀, USPC), 8.iv.1987 (R.A. Beaver) (1♀, USPC); WESTERN SAMOA: UPOLU, Poutasi, Falealili, vi–vii.1989 (K. Bultman) (1♀, PJJ); same island, "Nafanua", 20.ii.1975, M.V. light, UNDP/FAO Pest and Disease Survey 1972–1978 (P.A. Maddison) (1♀, 1 larva, DSIR; examined while on loan to G.W. Ulrich).

***Chalcolepidius erythroloma* Candèze**
Chalcolepidius erythroloma Candèze, 1857
Chalcolepidius erythroloma, of Candèze, 1874, 1886, 1891; Schwarz, 1906; Schenkling, 1925
Chalcolepidius albertisi Candèze, 1878
Chalcolepidius albertisi, of Candèze, 1886, 1891; Blackburn and Sharp, 1885

Candèze (1878) first recorded the South American *C. erythroloma* from Honolulu, Oahu, Hawai'i, when he redescribed and recorded the presence of this species as *C. albertisi*. The latter name was subsequently synonymized by Blackburn and Sharp (1885), but this action was apparently overlooked by Candèze (1891). Jamieson (1999) reported the species from Kaua'i. *Chalcolepidius erythroloma* is natively distributed in northern Chile, Peru, Ecuador and Colombia, but was introduced to and has persisted in Hawai'i. Its actual mode of introduction has not been established but is likely to have occurred during transport of timber from South America to Hawai'i in the mid-1800s.

As with other hemirhipines the larva of *C. erythroloma* is a generalist subcortical predator in decadent and decaying wood. Though most larval specimens from Hawai'i are collected from the dead wood of mango (*Mangifera indica* L.) their possible presence in wood of other trees can be expected. Adults are frequently collected at flowing wounds on mango and *Acacia* species (J. Beardsley, pers. comm.). Larvae of *Alaus*, *Calais*, *Chalcolepidius*, and *Cryptalaus* species prey extensively on larvae and pupae of Cerambycidae and Buprestidae. Though larvae are apparently found most commonly associated with termites (Isoptera) on Oahu, this large predator could be a possible contributing factor in the decline of some species of endemic *Plagithmysus* species (Coleoptera, Cerambycidae).

***Chalcolepidius porcatus* (Linné)**
Elater porcatus Linné, 1767; of Fabricius 1787, 1792, 1801; Olivier 1795
Chalcolepidius porcatus, of Erichson, 1841; Candèze, 1857, 1874, 1886, 1891; Schwarz 1906; Schenkling 1925

This widely distributed and variable species is native throughout northern South America, from Brasil and Peru to Panama. The species is here newly reported from Nuku Hiva, Marquesas Islands. Two females, each approximately 26 mm in length, are of the olive colored variant with white strial scales nearly absent and the slightly elevated alternate elytral interval that is more typical of specimens from Peru, Ecuador, and western Colombia. The collector, G.M. Nishida (pers. comm.), noted that the specimens were active during the mid-day and were flying about and alighting upon recently felled trees in a secondary forest. It is probable that introduction occurred through the importation of timber from Peru and Ecuador early in the 1900s.

Material examined: MARQUESAS IS., Nuku Hiva, Taiohae to Uauka Val., 0–150 m, 10.vi.1984; on fallen trees; Bishop Museum acc. #1984.281 (G.M. Nishida)(2 ♀, BPBM).

***Conobajulus ugiensis* Van Zwaluwenburg**
Conobajulus ugiensis Van Zwaluwenburg, 1940

Conobajulus ugiensis was described (Van Zwaluwenburg, 1940) from a single male labeled from Ugi I., Solomon Islands. This island is located off the northern coast of the western extreme of San Cristobal I. Ugi is presently known as Uki Ni Masi, or Uki I. (Motteler 1986). Casari-Chen (1994) listed Viti Levu, Fiji.

Conobajulus ugiensis is readily distinguished from all other hemirhipine genera by having the pronotum depressed and broad, and the posterior portion of the mesosternum elevated and projecting anteriorly as a conical horn to a greater extreme than that suggested by Casari-Chen's (1994) figure 235.

Viti Levu and Uki Ni Masi remain the only known records for *C. ugiensis* and are over 2000 km apart. The apparent restricted distribution of this species to the Fijian region and Casari-Chen's (1994) phylogenetic analysis of hemirhipine genera showing a sister taxon relationship to *Austrocalais*+*Cryptalaus* [as *Paracalais*] may further support the faunal distinction of the region based on endemic elaterids, other insects, and plants between Fiji and the Solomon Islands (Johnson 1997 and references therein). Nevertheless, the apparent absence of this beetle from other islands in Melanesia may be the result of insufficient sampling, or a mislabeling of the holotype. Females of this species remain unknown.

Material examined: FIJI, VITI LEVU, Naraiyawa, 178°5'E, 17°56'S; 20–23.xi. 1986, R.L. Brown; blacklight trap (22♂, MSUC); same island, Colo-1-Suva, 18.i.1975, P.A. Maddison, M.V. light (2♂, on loan to G.W. Ulrich); same island, Nandarivatu, 16–20.xii.1968, H.S. and G.S. Robinson (1♂, CAS).

Cryptalaus Ôhira

Neboiss (1967) reviewed the generic placement of some Australian species formerly assigned to *Alaus* Eschscholtz, including the establishment of *Paracalais* Neboiss for 21 Australian species. Subsequent assignments of species from eastern Asia and the western Pacific to *Paracalais* were made by Ôhira (1969–1978). Ôhira (1990) noted that *Paracalais* is a junior synonym of *Cryptalaus* Ôhira (1967). Casari-Chen (1994) presented the widely distributed *Cryptalaus* (as *Paracalais*) as the sister genus to the Australian *Austrocalais* Neboiss.

Cryptalaus can be diagnosed with the following combination of characteristics: head with supra-antennal ridges bearing two angular projections, angles obtuse to acute; pronotum moderately to strongly convex and with no or only simple discal spots of dark pubescence; scutellum depressed to shallowly convex, horizontal to strongly declined anteriorly; mesosternum with sides of fossa horizontal; elytral bases with third interval costate or tuberculate, and apices truncate to emarginate and usually acutely mucronate; abdominal ventrite 5 rounded in male, truncate in female, the latter fringed with elongate, stiff setae that are apically clavate and cupped, or "ladle-like" (C.M.F. von Hayek, *in litt.*); bursa copulatrix with U-shaped collar darkly sclerotized; and aedeagus with parameres acuminate and each with a lateral incisure and ventroapical portions membranous.

In contrast, *Alaus*, considered by Neboiss (1967), Casari-Chen (1994), and Casari (1996) to be strictly an American genus, is differentiated through the character combination of head with supra-antennal ridges broadly rounded, at most with short obtuse projections; pronotum shallowly to moderately convex, with a pair of large dark-pubescence maculae rung by pale pubescence; scutellum horizontal to shallowly inclined anteriorly; mesosternum declivous at midlength; elytral bases not or only slightly elevated and without costae or carinae, and apices rounded; abdominal ventrite 5 evenly rounded in both sexes, and female with marginal fringe of simple setae; bursa copulatrix with U-shaped collar thin and moderately sclerotized; and aedeagus with parameres expanded and hooked at apex, lacking lateral incisures.

The morphology of the rim of the mesosternal fossa, scutellum, truncation of female ventrite 5, and the costate to tuberculate elytral interval 3 are traits supposedly diagnostic of *Cryptalaus*, but in my assessment these character states overlap with species of *Alaus*,

Conobajulus, *Austrocalais* , the African and south-Asian *Calais*, and the African *Neocalais* Girard. The preliminary phylogenetic analysis by Casari-Chen (1994) indicates that further study throughout the hemirhipine genera is required to confirm generic distinctions and relationships, as well as completion of generic revisions of each of the genera.

***Cryptalaus carinulatus* (Van Zwaluwenburg) NEW COMBINATION**
Alaus carinulatus Van Zwaluwenburg, 1940

Van Zwaluwenburg (1940) described *Alaus carinulatus* from Aneityum and also cited Malekula, both of these islands are in Vanuatu (New Hebrides). To these records, can be added the island of Espiritu Santo, Vanuatu. Van Zwaluwenburg also cited Viti Levu, Fiji, as a locality for the allotype and some paratypes.

A good series of this species was examined from montane sites on Viti Levu. These specimens show considerable variation in body length, details of patterning formed by pubescence coloration, and degree of acuity of the elytral mucrones. In the original description Van Zwaluwenburg gave 17–19 mm as the length range, while the series at hand measures 15–20 mm. Integument coloration is generally reddish-brown, but occasional specimens are reddish-black. An dark fascia extends obliquely from near the scutellum along the suture to the lateral elytral midlength but is frequently evanescent and may be either obscured by mottling with pale pubescence, or dark throughout and well defined. The elytral apices are shallowly to moderately-deeply emarginate, with the sutural and apical mucrones short and blunt to extended and acute (Fig. 6). The aedeagus is as in Fig. 5.

Material examined: FIJI, VITI LEVU, Nandarivatu, 16–20.xii.1968; 14 km W Lami, 7–10.xii.1986, blacklight trap (R.L. and B.B. Brown) (20♂, MSUC); same island, Narayiawa, 178°5'E, 17°56'S, 28–30.xi.1986, blacklight trap (R.L. Brown)(3♂, MSUC); [VANUATU] NEW HEBRIDES, ESPIRITU SANTO, Narango, 90 m, xi.1960 (W.W. Brandt) (3♂, BPBM).

***Cryptalaus samoensis* (Van Zwaluwenburg) NEW COMBINATION (Figs. 1, 2)**
Alaus samoensis Van Zwaluwenburg, 1928

This species was described as *Alaus samoensis* (Van Zwaluwenburg 1928) from Upolu, Western Samoa, and has not since recorded elsewhere. Here, a new island record, Tutuila, American Samoa, is added to the known distribution of this species.

There seems to be little variation in this species from the description by Van Zwaluwenburg or evident by my examination of the holotype and other specimens. However, as yet, few specimens and no large series have been seen. *Cryptalaus samoensis* can be separated from *C. carinulatus* and *C. vitilevu* n.sp. by the characters noted in the key below, and its apparent restriction to the Samoan archipelago.

Material examined: [AMERICAN] SAMOA, TUTUILA, 16.vi.1958 (W.B. Kellen) (1♂, BPBM); [same island], Mt. Alava 450–480 m, 3.iv.1979 (N.L.H. Krauss) (1♂, BPBM); [same island], Taputimu Farm, 20.iv.1964, light trap (N.R. Spencer)(1♂, BPBM); [same island], Fagatogo, 10.i.1954, ex light (1♂, BPBM); [same island], Fagatogo, nr. reservoir, 800', beating, 3.viii.1940 (E.C. Zimmerman) (1♂, BPBM); [same island], Pago Pago, 16.ix.1953, at light (C. Hoyt) (1♂, BPBM).

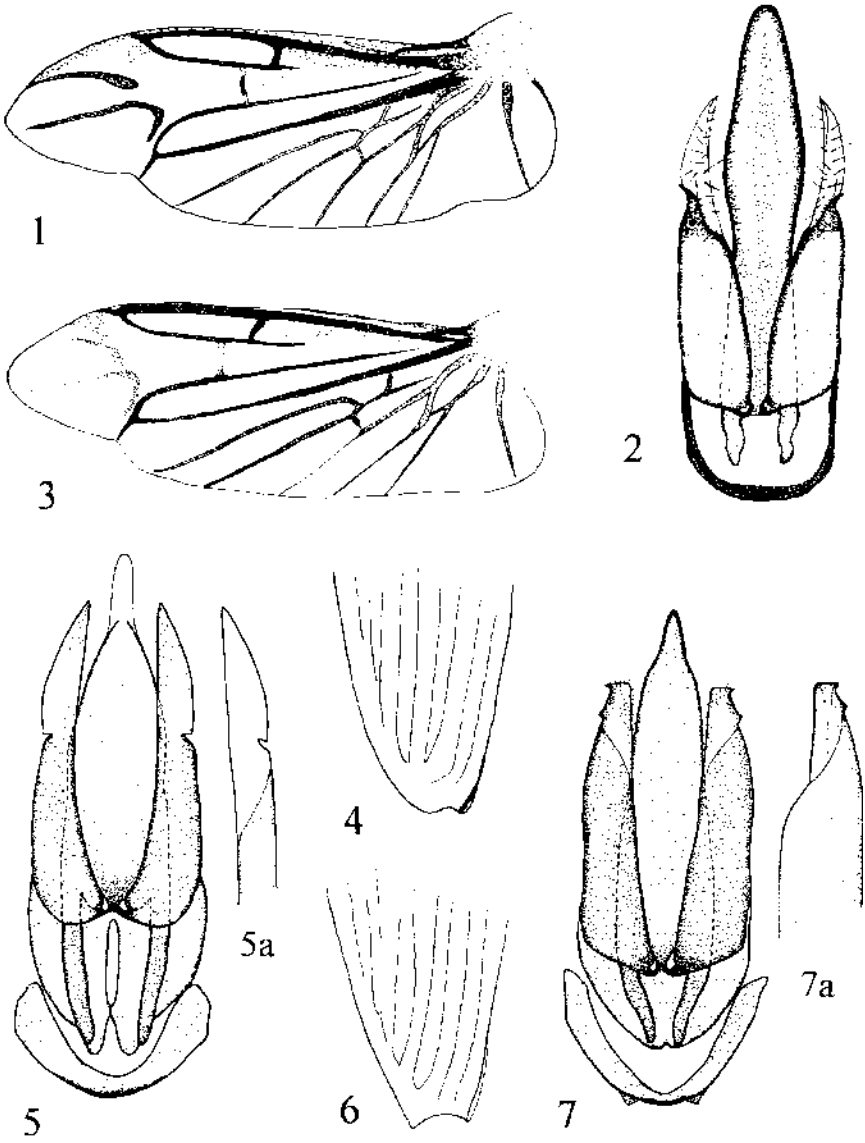

Plate 1. Figures 1–2, *Conobajulus ugiensis*; Fig. 1, metathoracic wing; Fig. 2, aedeagus, dorsal view. **Figures 3–5**, *Cryptalaus vitilevu* n.sp.; Fig. 3, metathoracic wing; Fig. 4, elytral apex; Fig. 5, aedeagus, dorsal view. **Figures 6–7**, *Cryptalaus carinulatus*; Fig. 6, elytral apex; Fig. 7, aedeagus, dorsal view.

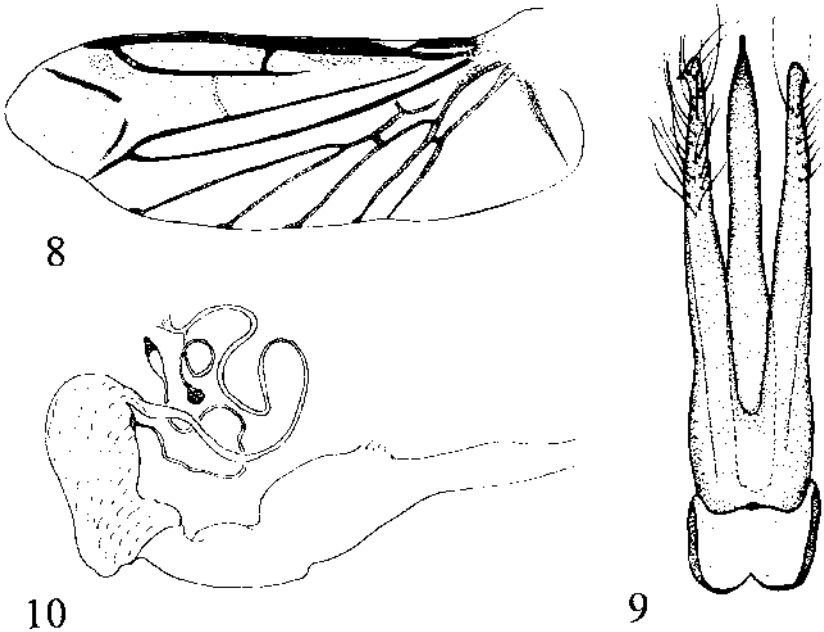

Plate 2. Figures 8–10, *Tetrigus fleutiauxi*; **Fig. 8**, metathoracic wing; **Fig. 9**, aedeagus, dorsal view; **Fig. 10**, vagina and bursa copulatrix with spermatheca, lateral view.

***Cryptalaus vitilevu* NEW SPECIES (Figs. 3, 4)**

Length 14.5–18.0 mm, width 4.5–5.0 mm; elongate, subparallel; integument usually reddish-black, elytra brownish-black basally to dark brown apically, antennae and legs brown. Pubescence of narrow scale-like setae, appressed; mottled white and brown, and with an oblique dark brown patch mediolaterally on each elytron.

Head with punctures evenly distributed and separated by their own diameter or less; frons moderately, evenly concave, densely punctate at center; supra-antennal ridges subcarinate, obtusely projecting anterad of antennal sockets; frontoclypeal margin slightly elevated above labrum, subcarinate; compound eyes large, interocular distance = 57. Antenna 11-segmented; short, extending to posterior margin of prothoracic coxa; serrate from segment 4; segment 2 short and cylindrical, segment 3 slightly longer than segment 2, cylindrical. Maxillary palpus with ultimate segment narrowly elongate-securiform.

Pronotum moderately convex, subparallel laterally, shallowly sinuate immediately before the slightly divergent hind angles; disc punctures moderately large and shallow, sepa-

rated by >1.5x their diameters, becoming denser laterally; posterior declivity shallow and with a transversely sinuate, obtuse carina dorsad; antescutellar tubercle absent; hind angles with dorsal carina closer and subparallel to lateral margin. Scutellum elongate, flattened, pentagonal, subparallel laterally. Elytra subparallel in basal two-thirds, gradually narrowing apically, together moderately convex; apices narrowly and shallowly emarginate (Fig. 4), sutural and interval 3 angles short, obtuse; striae shallowly striatopunctate, intervals flat, interval 3 subcostate at base. Hypomeron finely punctate, concave at midlength and mediad; mesal margin simple, anteriorly reflexed and excavate. Prosternum punctured as on pronotum; lateral margin simple; shallowly grooved on posterior intercoxal process. Mesosternum with rim of fossa horizontal, shallowly sinuate at midlength of fossa; suture at metasternum distinct at surface. Tarsal claws each with 2 large setae arising ventro-laterally; small dorsal setae indistinct.

Abdominal ventrite 5 broadly rounded in male, truncate and fringed with unmodified stiff hairs in female; aedeagus as in Fig. 5; bursa copulatrix with a darkly sclerotized dentate band.

Material examined: Holotype male, FIJI: VITI LEVU, Naraiyawa, 178°5'E, 17°56'S, 28–30.XI.1986, blacklight trap (R.L. Brown) (USNM, on permanent loan from MSU). Paratypes, 9♂, 1♀, [same data], 20–23.xi.1986 (6♂ 1♀, MSU), (2♂, PJJ); 1♂, [same island], Namoji Rd., 3.XI.1981, at light, 4254 (R.A. Beaver)(1♂, BPBM).

Name Derivation: The specific epithet refers to Viti Levu, island of provenance for known specimens; it is treated as a noun in apposition.

The specimens representing this species were discovered intermixed with *C. carinulatus*. These species are easily confused by gross morphology, but can be differentiated by the emargination of the elytral apex (c.f. Figs. 4 and 6) and aedeagal morphology (c.f. Figs. 5 and7). Other traits for ready discrimination of *C. vitilevu* include a slightly narrower and elongate form, the less distinct sinuate and transverse pronotal carina, and the less distinct mediolateral brown patch of pubescence.

***Tetrigus fleutiauxi* Van Zwaluwenburg**

Tetrigus fleutiauxi Van Zwaluwenburg, 1933: 176
Tetrigus silvaticus Van Zwaluwenburg, 1934: 262 **new synonym**

Tetrigus fleutiauxi was described from Viti Levu. *Tetrigus silvaticus* was described from Ongea-ndriti in the Lau Group of eastern Fiji, and subsequently recorded from the main islands Ovalau and Kandavu (Van Zwaluwenburg, 1940). Holotypes of both species are females. These specimens differ only in coloration. The type of *T. fleutiauxi* is entirely dull yellowish and teneral as based on the pallid coloration that is atypical for a mature *Tetrigus*, the distorted abdominal ventrites, and lightly sclerotized structures on the ovipositor and internal genitalia. In contrast, the type of *T. silvaticus* is fully colored, being largely brunneus with infuscate patches on the disc of the pronotum and bases of the elytra, and decumbent pallid pubescence. Comparison of the external sclerites and internal genital morphology reveals a lack of difference between the specimens, including sclerotization of distal bulbs on the spermathecae.

Van Zwaluwenburg (1940) stressed the value of the degree of acuity of the mesosternal declivity for separation of *T. silvaticus* and *T. fleutiauxi*. The former species has the declivity angle obtuse and gradual, and the latter sharper and relatively steeper. However, examinations of the types and additional specimens attributable to *T. silvaticus*, shows that this character state was overemphasized. The mesosternal declivity is quite variable between individuals to an extent that the types of *T. silvaticus* and *T. fleutiauxi* do not even represent

extreme examples of variation.

Van Zwaluwenburg (1933, 1934, 1940) did not examine a male of *T. fleutiauxi*. The male of this species is similar in most respects to the female, differing primarily by structure of the antenna and sexual organs. Antennal segment length ratios are often important for species discrimination in elaterids, but none was previously given for this species so are here presented for segments 2–11 on both sexes: 1.0:1.7:2.3:1.7:2.0:2.7:2.7:2.7:4.0:19.7 (♂), 1.0:1.0:3.8:3.4:3.2:3.4:3.4:3.2:3.2:5.2 (♀). As in other species of *Tetrigus* the male antenna is flabellate, with segments 4–10 bearing elongate and flattened rami extending ventrally. The female antenna is strongly serrate as illustrated by Van Zwaluwenburg (1933). The length ratio of the male rami is 1.0:1.1:1.2:1.2:1.2:1.2:1.0. The metathoracic wing (Fig. 8) of *T. fleutiauxi* is generally typical of Hemirhipini, though the apical RP2 sclerotization is completely lacking on the specimen examined and the anterior membranous portions are lightly sclerotized throughout. These characters differ from those presented for *T. parallelus* Candèze by Casari-Chen (1993, cf. Figs. 129, 130, 131, 136, and 137) and may support her suggestion that the genus is a composite of two species groups.

Material examined: Holotypes of *T. fleutiauxi* from Viti Levu and *T. silvaticus* from Ongea-ndriti, as cited by Van Zwaluwenburg (1933, 1934); additional specimens from: FIJI, VITI LEVU, Naraiyava, 178°5'E 17°56'S, 20–23.xi.1986, blacklight trap, R.L. Brown (2♂ 1♀, MSUC); 28–30.xi.1986 (1♂, MSUC), 14 km W of Lami, 7–10.xii.1986, R.L. and B.B. Brown (1♂, MSUC).

***Tetrigus valentini* Van Zwaluwenburg**

Tetrigus valentini Van Zwaluwenburg, 1940

Tetrigus valentini was described from Viti Levu and appears to be the most commonly collected *Tetrigus* species in Fiji, from Viti Levu and Kandavu. Van Zwaluwenburg (1940) illustrated the aedeagus. No new island records are presented here, but a good series was studied that confirmed the validity of this species and allowed an assessment of variation.

Van Zwaluwenburg (1940) described this species from nine males and one female. The 22 specimens cited examined show very little variation from the original description, except that one large specimen was measured at 25.5 mm in length. The pronotal and elytral brunneus integument and golden yellow pubescence patterns are constant throughout the series, and this can be used to help discriminate this species from *T. fleutiauxi* which has tessellate patterns on the pronotum and elytra. Most specimens of *T. valentini* have a noticeable pair of lateromedial swirls of pubescence near the midlength of the pronotum, but several specimens lack these swirls. The scutellum is more slender and triangular than suggested by Van Zwaluwenburg's habitus drawing of the holotype.

Not noted by Van Zwaluwenburg, but potentially of some future importance in establishing relationships of the two Fijian *Tetrigus* species, is the presence of a pair of longitudinal carinae on the clypeal remnant. The carinae partially circumscribe the adjacent antennal insertions and are not recorded elsewhere in Hemirhipini. Also, not previously described is the setation of the tarsal claw. In *T. valentini* and *T. fleutiauxi* there is a single large dark seta projecting ventrad from the lateral face of the basal angle of the claw. Dorsally, the basal half of the claw bears numerous small pale setae that are usually prostrate or appressed.

Material examined: FIJI, VITI LEVU, Naraiyava, 178°5'E 17°56'S, 20–23.xi.1986, blacklight trap, R.L. Brown (15♂, MSUC); 28–30.xi.1986 (5♂, MSUC), 14 km W of Lami, 7–10.xii.1986, R.L. and B.B. Brown (2♂, MSUC).

Key to the Hemirhipini of Eastern Melanesia and Polynesia

1. Body broad, ovoid, depressed; elytral apices broadly rounded to subtruncate 2
   Body narrow, subparallel, moderately to strongly convex; elytral apices shallowly sinuate or emarginate, mucronate 4
2. Intercoxal process of metasternum enlarged, conical and projecting anteriorly, horn-like; Fiji: Viti Levu; Solomon Is: Uki Ni Masi ..... *Conobajulus ugiensis* Van Zwaluwenburg
   Intercoxal process of mesosternum coplanar with metasternal intercoxal process 3
3. Lateral margins of pronotum and elytra with orange to dull yellow bands of pubescence; Hawaii: Oahu, Kauai ..... *Chalcolepidius erythroloma* Candèze
   Dorsum concolorous dull green to olive;
   Marquesas Is: Nuku Hiva ..... *Chalcolepidius porcatus* (Linné)
4. Antenna serrate; elytral apices shallowly sinuate to emarginate, sutural angle right or mucronate; tarsal claw with 2–4 large ventrolateral setae 5
   Antenna strongly serrate to flabellate; elytral apices attenuate to acute, mucro is extension of interval 3; tarsal claw with single ventral seta 8
5. Body larger, 25–30 mm; pronotum strongly convex and with a large obtuse antescutellar tubercle; integument reddish-black to black;
   Fiji: Viti Levu; Western Samoa: Upolu ..... *Calais speciosus* (Linné)
   Body smaller, <20 mm; pronotum shallowly to moderately convex, lacking antescutellar tubercle 6
6. Pronotum shallowly convex, ecarinate on declivity, lateral margin distinctly sinuate anterad of hind angle; elytral apex truncate to shallowly emarginate, without spines;
   W. Samoa: Upolu; Am. Samoa: Tutuila ..... *Cryptalaus samoensis* Van Zwaluwenburg
   Pronotum moderately convex, declivity with transverse carina, lateral margin subparallel to shallowly sinuate 7
7. Elytral apex broadly emarginate, lateral angle extended, angularly acute (Fig. 6); aedeagus as in Fig. 2; Fiji: Viti Levu, Vanuatu: Malekula, Aneityum, Espiritu Santo .... *Cryptalaus carinulatus* Van Zwaluwenburg
   Elytral apex narrowly, shallowly emarginate, not mucronate (Fig. 4); aedeagus as in Fig. 3; Fiji: Viti Levu ..... *Cryptalaus vitilevu* n.sp.
8. Body shorter, ca.15–18 mm long; anterior prosternal lobe with spines laterally; scutellum subparallel at midlength; antenna brownish-black;
   Fiji: Ongea-ndriti, Ovalau, Kandavu, Viti Levu .. *Tetrigus fleutiauxi* Van Zwaluwenburg
   Body longer, ca. 17–25 mm long; prosternal lobe not spined laterally; scutellum narrowing from base; antenna reddish-yellow;
   Fiji: Viti Levu, Kandavu ..... *Tetrigus valentini* Van Zwaluwenburg

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