

The Genus *Maoraxia* Obenberger in Fiji (Coleoptera: Buprestidae: Maoraxiini)¹

C. L. BELLAMY

*Plant Pest Diagnostic Laboratory, California Department of Food & Agriculture,
3294 Meadowview Road, Sacramento, California, 95832, U.S.A.; email: cbellamy@cdfa.ca.gov*

Abstract. The genus *Maoraxia* Obenberger is reviewed for the four Fijian species: *M. viridis* Bellamy, 1985; *M. viti*, **sp. nov.**; *M. kadavuensis*, **sp. nov.**; *M. tokotaai*, **sp. nov.** The species are fully described, illustrated and differentiated in a key.

INTRODUCTION

The buprestid genus *Maoraxia* Obenberger, 1937 is currently represented in Fiji by a single species: *M. viridis* Bellamy, 1985. At the time of that description (Bellamy *in* Bellamy & Williams 1985), the first modern revision of the genus was conducted resulting in synonymy to a single New Zealand species and new species described from Australia, Fiji, and Tonga. Further studies and additional species of *Maoraxia* are known from Philippines (Bellamy 1990), New Caledonia (Bellamy 1991), Lord Howe Island, New South Wales, Australia (Bellamy & Peterson 2000) and Solomon Islands (Bílý *et al.* 2006). Besides the three new Fijian species described herein, there are also new species from New Caledonia, Samoa, Tonga and Vanuatu awaiting description.

MATERIALS AND METHODS

Abbreviations. The following collection codens are used in the text: BPBM - Bishop Museum, Honolulu; FNIC, Fiji National Insect Collection, Suva; CLBC - Bellamy research collection, this address. Label data are cited verbatim. Holotypes of material deriving from the NSF-funded Fiji Arthropod Survey are to be deposited in FNIC but are currently being held in trust in BPBM.

SYSTEMATICS

Tribe MAORAXIINI

Maoraxiini Hołyński, 1984: 106; Bellamy & Williams, 1985: 148; Bílý, 2000: 110; Volkovitsh, 2001: 56; Bellamy, 2003: 51. Type genus: *Maoraxia* Obenberger, 1937.

Maoraxiina: Hołyński, 1988: 49; Bellamy, 1990: 189; 1991: 458; Hołyński, 1993: 14; Bílý, 2000: 110; Bellamy, 2002: 138.

1. Contribution No. 2007-044 to the NSF-Fiji Arthropod Survey.

Genus *Maoraxia* Obenberger

Maoriella Obenberger, 1924: 19 (name preoccupied by *Maoriella* Attems, 1903 - Myriapoda); Théry, 1925: 225; Obenberger, 1926: 98; 1928: 78; 1936: 142; Bellamy, 1985: 421; 1986: 590; 2002: 139; 2003: 51. Type species: *Maoriella novaezeelandiae* Obenberger, 1924 (fixed by original designation).

Maoraxia Obenberger, 1937: 1449 (replacement name for *Maoriella* Obenberger, 1924); Bellamy & Williams, 1985: 150 (species key); Hołyński, 1988: 49; Bellamy, 1990: 187; 1991: 457 (species key); Hołyński, 1993: 14; Bellamy & Peterson, 2000: 101; Bílý, 2000: 111; Bellamy, 2002: 139; 2003: 51.

This interesting genus occupies a relatively isolated place in the higher classification of the Buprestidae, quite separate from the earlier placements by Obenberger (1928, 1936) who assumed a close relationship with the Haplostethini LeConte. This relationship was later refuted by Hołyński (1984, 1988, 1993) and further refined by Bílý (2000), Volkovitsh (2001) and Bílý & Volkovitsh (2005). What was once known only as a strange relict from New Zealand has increased in number of species to 13 described (and at least four still undescribed) and an ever-widening geographic range (see Introduction) through additional modern collecting and fauna surveys plus sorting the accumulations of small, undetermined specimen holdings of collections in Australia, Europe and Honolulu which have yielded nearly all of the species described since 1985.

As this genus becomes better known with the subsequent description of additional new species, I'm sure that a first impression I shared with my colleagues that there should be only a single species in each island group, i.e. *M. bourgeoisi* Bílý, Curletti & Aberlenc from the Solomon Islands, *M. roseocuprea* Bellamy & Peterson from Lord Howe Island, *M. tongae* Bellamy from Tonga and *M. viridis* Bellamy from Fiji and more than a single species from larger land masses, i.e. *M. auroimpressa* (Carter) and *M. storeyi* Williams from eastern Australia, *M. cordicollis* (Fauvel) and *M. excavata* (Fauvel) from New Caledonia is incorrect. That this impression is wrong as is evident from the results of the Fijian Arthropod Survey as three new species are available for description. This pattern of speciation within a small island group in *Maoraxia* is the same pattern observed in several genera, e.g. *Helperella* Cobos and *Micrasta* Kerremans of the Haplostethini. An interesting coincidence considering earlier opinions about the placement of *Maoraxia* within that higher taxon (e.g., Obenberger 1937, 1957). That these unrelated taxa exhibit similar island speciation events suggests, rather than any immediate phylogenetic pattern or relationship, two older lineages that found themselves in habitats and niches that were available for colonization and thus have evolved into more species than might have been expected. I anticipate that the same will be found in the Fijian *Helperella* which I'll turn to next.

A KEY TO THE FIJIAN SPECIES OF *MAORAXIA*

1. Species mostly green on dorsal surface, generally disc of pronotum either green, coppery or black and with two large oblique spots on posterior portion of elytral disc 2
- . Species mostly black, either with perimeter of pronotum or also perimeter of elytra with narrow iridescent margin 3
2. Body more robust, elytra broader (Fig. 1); frontoclypeal margin feebly, broadly concave; dorsal punctation more coarse, slightly more deep; pronotal disc with vestiture subequal to lateral portions of pronotal disc ... (Ringold Islands) ***M. viridis*** Bellamy

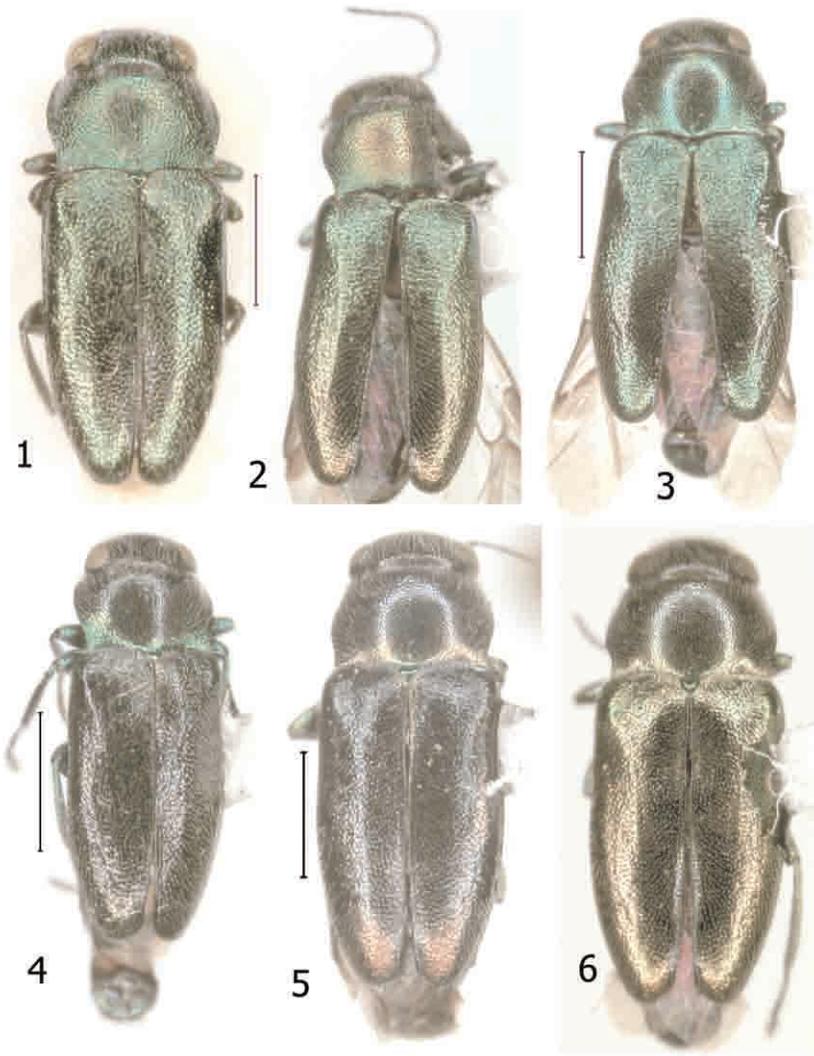
- . Body more slender, elytra narrower (Figs. 2, 3); frontoclypeal margin feebly, broadly convex; dorsal punctation especially frontovertex and pronotal disc less dense, less deep; disc of pronotum with shorter vestiture ... (Viti Levu) **M. viti** Bellamy, **sp. nov.**
- 3. Posterior margin of pronotum with bright green transverse fascia; two small aeneous areas on elytra disc, which is otherwise nitid black (Fig. 4) ... (Viti Levu) **M. tokotaai** Bellamy, **sp. nov.**
- . Posterior margin of pronotum with aeneous to cupreous to roseocupreous transverse fascia, never green except for very narrow medial band above scutellum; four small aeneous to cupreaeous areas on elytral disc on otherwise nitid black disc which can be completely confluent leaving only elongate ovoid medial black area (Figs. 5, 6) ... (Kadavu) **M. kadavuensis** Bellamy, **sp. nov.**

***Maoraxia viridis* Bellamy**
(Figs. 1, 7, 9)

Maoraxia viridis Bellamy in Bellamy & Williams 1985: 158; Bellamy, 1990: 189; 1991: 461.

Redescription of ♂ Holotype (Fig. 1). Size small, 3.5 mm x 1.5 mm (maximum length vs. width); slightly flattened above, elongate; surface densely punctate generally, clothed with dense semierect, short white setae with brunneous tinge; frontal area of head and dorsal surface of pronotum and elytra shining metallic green with darker tints on pronotum and along elytral margins; ventral surface black with greenish reflections along lateral margins, basal antennomeres and on legs. Head transverse, narrower than pronotum; eyes ovoid, inner margins subparallel; front slightly convex; one sharply elevated carina extends from above antennal cavities down and shallowly, arcuately across frontal surface; frontoclypeus very short and very feebly broadly convex medially; gena grooved for reception of basal antennomeres; antennae slender, one completely missing, other missing antennomeres 7–11, 4–6 serrate, ca. 2 x as long as wide. Pronotum 1.8 x wide as long, widest at middle; lateral margins arcuately rounded to slight constriction before posterior margin; lateroposterior angles slightly acutely rectangular; anterior margin slightly sinuate; posterior margin moderately bisinuate; lateral margin well developed, strongly elevated and explanate dorsally, entire from posterior to anterior margins; disk convex, slightly impressed lateroposteriorly, a slightly indicated medial line entire from posterior to anterior margins and small elongate fovea anterior to scutellum; scutellum cordate, disk slightly depressed, impunctate. Elytra slightly wider than pronotum at base, widest at humeri, sides subparallel to apical 1/3, then converging to separately rounded, finely serrate apices; disk weakly convex, slightly depressed at base between humeri and suture; humeri moderately developed, less densely punctate; one moderately elevated carina separates disc and epipleura; epipleura broad anteriorly, narrowing apically and becoming confluent with lateral margin at posterior 1/4; broadly rounded pygidium visible beyond elytral apices. Prosternum densely punctate, anterior margin straight; metacoxal plates strongly dilated internally; abdomen with suture between 1st and 2nd ventrites vaguely indicated; last visible ventrite broadly rounded. Legs with femora fusiform, unarmed, sparsely shallowly punctate; tibiae slender, unarmed, densely deeply punctate with dense, short recumbent setae; 1st protarsomere subequal to 2nd; 1 meso-, metatarsomere as long as respective 2+3+4 together; 4th with expanded deeply bilobed pulvilli; tarsal claws broadly appendiculate. Aedeagus as in Fig. 9.

Specimens examined. Holotype ♂ (BPBM 13277): FIJI: [Ringold Isles]: Thikombia [Cikobia], 26 Sep 1924, E.H. Bryan, Jr.



Figures 1–6, Fijian *Maoraxia* spp. 1, *M. viridis* Bellamy, holotype; 2–3, *M. viti*, sp. nov., 2, holotype; 3, paratype; 4, *M. tokolaati*, sp. nov., holotype; 5–6, *M. kandavuensis*, sp. nov., 5, holotype, 6, paratype. Scale bars = 1.0 mm and are equal for 1, 2 and 5, 6.

Etymology. This species is named for the green dorsal coloration.

Fiji Distribution: Ringold Islands

Comments. As the first *Maoraxia* species described from Fiji, *M. viridis*, one may be forgiven for the assumption that any specimen of this genus taken in Fiji would be this species. However, with *M. viridis* coming from a relatively obscure small subset of Fijian islands, that have not been subsequently surveyed, it may be more exception than rule. Being one of the two green species, I initially thought that the two specimens described below as *M. viti*, sp. nov. were variations of *M. viridis* until I began to compare digital images of each and noted the obvious differences in punctuation, vestiture and body proportion.

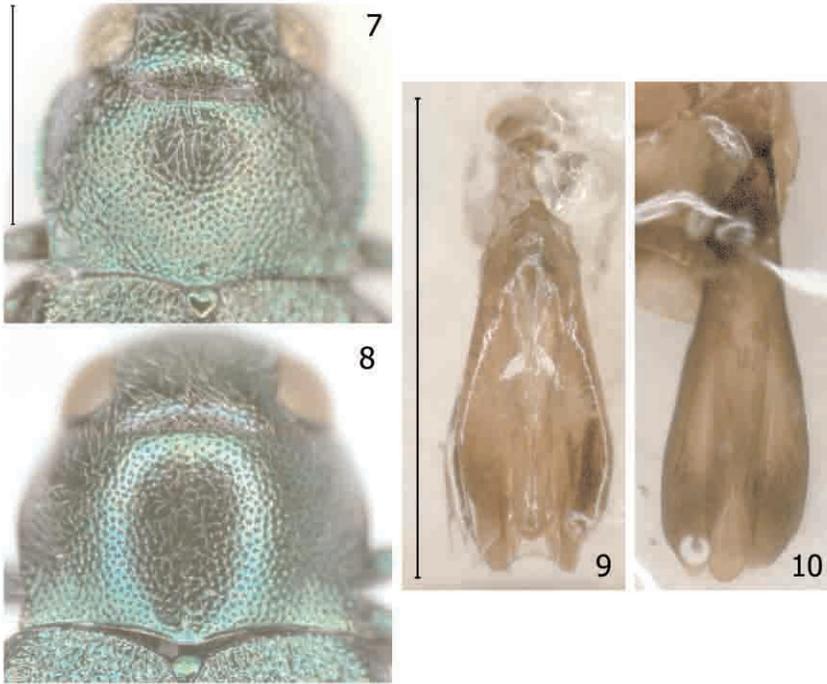
Maoraxia viti Bellamy, sp. nov.

(Figs. 2, 3, 8)

Description of ♂ Holotype (Fig. 2). Size small, 3.6 mm × 1.2 mm (maximum length vs. width); slightly flattened above, elongate, surface generally densely punctate, clothed with dense recumbent, elongate dirty white setae; frontal area of head and dorsal surface of pronotum and elytra shining metallic green; disc of pronotum with golden and golden brown longitudinal bands medially; lateroapical elytral margins with aeneocupreous reflections; ventral surface black with greenish reflections along lateral margins, basal antennomeres and on legs. Head transverse, narrower than pronotum; eyes ovoid, inner margins subparallel; front slightly convex; one sharply elevated carina extends from above antennal cavities down and shallowly, arcuately across frontal surface; frontoclypeus very short, distal margin feebly, broadly convex; gena grooved for reception of basal antennomeres; antennae slender, one completely missing, other missing antennomeres 7–11, 4–6 serrate, ca. 2 × as long as wide. Pronotum (crushed in upper right quadrant) 1.8 × wide as long, widest at middle; lateral margins arcuately rounded to slight constriction before posterior margin; lateroposterior angles slightly acutely rectangular; anterior margin slightly sinuate; posterior margin moderately bisinuate; lateral margin well developed, strongly elevated and explanate dorsally, entire from posterior to anterior margins; disk convex, slightly impressed lateroposteriorly, a slightly indicated medial line entire from posterior to anterior margins and small elongate fovea anterior to scutellum; scutellum cordate, disk slightly depressed, impunctate. Elytra slightly wider than pronotum at base, widest at humeri, sides subparallel to apical 1/3, then converging to separately rounded, finely serrate apices; disk weakly convex, slightly depressed at base between humeri and suture; humeri moderately developed, less densely punctate; one moderately elevated carina separates disc and epipleura; epipleura broad anteriorly, narrowing apically and becoming confluent with lateral margin at posterior 1/4; broadly rounded pygidium visible beyond elytral apices. Prosternum densely punctate, anterior margin straight; metacoxal plates strongly dilated internally; abdomen with suture between 1st and 2nd ventrites vaguely indicated; last visible ventrite broadly rounded. Legs with femora fusiform, unarmed, sparsely shallowly punctate; tibiae slender, unarmed, densely deeply punctate with dense, short recumbent setae; 1st protarsomere subequal to 2nd; 1 meso-, metatarsomere as long as respective 2+3+4 together; 4th with expanded deeply bilobed pulvilli; tarsal claws broadly appendiculate. Genitalia: not described, mounted on card beneath specimen.

Variation: one ♀ paratype (Figs. 3, 8) differs from the holotype as follows: length 3.6 mm from frons to elytral apex, width 1.5 mm across elytra at humeri; the male specimen has the discal markings on the pronotum and elytra are green-aeneous rather than the black of the holotype; the black markings are slightly larger than of the holotype.

Specimens examined. *Holotype* ♂ *Viti Levu*: 1.5 km SW Vatura Dam, 550 m, 23 Sep–5 Oct 2004, Malaise 1, A. Namaqa, 17.744 S, 177.676 E (FBA 511077). *Paratype* 1 ♀, Naraiyawa, 178°5'E, 17°56'S, 28–30 Nov 1986, R.L. Brown, blacklight trap (CLBC).



Figures 7–10, Fijian *Maoraxia* spp. **7, 8**, pronotum; **9, 10**, aedeagus, dorsal aspect; **7, 9**, *M. viridis* Bellamy, holotype; **8, 10**, *M. tokolaati*, sp. nov., holotype; Scale bars = 1.0 mm and are equal for 7, 8 and 9, 10.

Etymology. This new species is named for Viti Levu, the island from which both type specimens came.

Fiji Distribution: Known only from Viti Levu.

Comments. There are a number of subtle differences between this new species and *M. viridis*, e.g. coloration, vestiture, punctation (Fig. 8) and body proportion. This species is slightly more slender overall as are the elytra. Figures 1–3 represent these proportional differences, subtle as they are, better than the measurements and ratios do. With the damage to the holotype, the paratype is also illustrated (Fig. 3). The aedeagus of the holotype is damaged, mounted on a card beneath the specimen and not figured.

Maoraxia tokotaai Bellamy, sp. nov.

(Figs. 4, 10)

Description of ♂ Holotype (Fig. 4). Size small, length 3.2 mm from frons to elytra apex, width 1.1 mm across widest portion of pronotum; slightly flattened above, elongate, surface generally densely

punctuate, clothed with dense semierect, short white setae; dorsal surface nitid black with frontoclypeus, basal antennomeres, mentum, posterior margin of pronotum, scutellum and legs metallic green; anterior margin of pronotum and on anterior portion, on medial third and before posterior apex of disc with faint irregular, iridescent reflections; ventral surface entirely black. Head transverse, narrower than pronotum; eyes ovoid, inner margins subparallel; frontoclypeus very short, slightly convex, margin shallowly arcuate; one sharply elevated carina extends from above antennal cavities down and shallowly, arcuately across frontal disc; gena grooved for reception of basal antennomeres; antennae slender, elongate, antennomeres slender, subrectangular. Pronotum 1.5 x wide as long, widest just anterior to middle; lateral margins arcuately rounded to slight constriction before posterior margin; lateroposterior angles slightly acutely rectangular; anterior margin very narrowly sinuate on either side of midpoint; posterior margin moderately bisinuate; lateral margin well developed, strongly elevated and explanate dorsally, entire from posterior to anterior margins; disk convex; scutellum subcordate, disk slightly depressed, impunctate. Elytra slightly wider than pronotum posteriorly, widest across humeri, sides subparallel to apical 1/3, then converging to separately rounded, finely serrate apices; disk weakly convex, slightly depressed at base between humeri and suture; humeri moderately developed, less densely punctate; one vague sinuate costa extends from each humeral elevation posterior and inward then subparallel to about posterior 1/3; one moderately elevated carina separates disc and epipleura; epipleura broad anteriorly, narrowing apically and becoming confluent with lateral margin preapically; broadly rounded pygidium visible beyond elytral apices. Prosternum densely punctate, anterior margin feebly concave laterally; metacoxal plates strongly dilated internally; abdomen with suture between 1st and 2nd ventrites vaguely indicated; last visible ventrite broadly rounded. Legs with femora fusiform, especially metafemora, unarmed, sparsely shallowly punctate; tibiae slender, unarmed, densely deeply punctate with dense, short recumbent setae; 1st protarsomere subequal to 2nd; 1st meso-, metatarsomere as long as respective 2+3+4 together; 3rd with small pulvillus, 4th with expanded deeply bilobed pulvillus; 5th short, narrow, tarsal claws broadly appendiculate. Aedeagus as in Fig. 10.

Variation. Known only from the holotype.

Specimens examined. Holotype ♂ (FNIC): **Viti Levu:** Navai, Malaise 6, 15 Jun 2003, 700 m, Eteni, 177°59'E, 17°37'S [FBA 013513].

Etymology. This new species is named to honor Moala Tokota'a for his substantial involvement and varied contributions in the entire Fiji Arthropod survey and for keeping special watch over the four visiting beetle gringos (see Acknowledgments) in November 2005.

Fiji Distribution: Viti Levu.

Comments. *Maoraxia tokotaii* differs from the Fijian congeners by virtue of its coloration, surface sculpture and vestiture, as indicated in the species key.

***Maoraxia kadavuensis* Bellamy, sp. nov.**

(Figs. 5, 6)

Description of ♀ Holotype (Fig. 5). Size small, 3.5 mm from frons to elytra apex x 1.3 mm across widest portion of pronotum; slightly flattened above, elongate; surface generally coarsely, shallowly, moderately punctuate, clothed with dense semierect, short white setae; dorsal surface generally nitid black; posterior margin of pronotum with transverse cupreoaeneus fascia, slightly iridescent green

medially; scutellum bright iridescent green; elytra with iridescent markings as follows: one short sinuate mark on each humerus, cupreous; along sutural margin from scutellum to about anterior 1/4, cupreoaeneous; one sinuate mark just anterior and posterior to midpoint at lateral edge of disc, cupreous; most of disc of separately rounded apices, cupreous; ventral surface black; antennae brunneous except antennomeres 1–3 blue-green; dorsal-distal portion of profemora and protibiae iridescent blue-green; dorsal-distal portion of meso- and metafemora slightly golden green; a slight blue-green band on posterior margin of metacoxal plate. Head transverse, narrower than pronotum; eyes ovoid, inner margins subparallel; front slightly convex; one sharply elevated carina extends from above antennal cavities down and shallowly, arcuately across frontal surface; frontoclypeus very short and distal margin shallowly arcuate; gena grooved for reception of basal antennomeres; antennae slender, widely subserrate from antennomere 4. Pronotum 1.75 x wide as long, widest at middle; lateral margins arcuately rounded to slight constriction before posterior margin; lateroposterior angles feebly acute; anterior margin slightly sinuate; posterior margin moderately bisinuate; lateral margin well developed, strongly elevated and explanate dorsally, entire from posterior to anterior margins; disk convex, slightly impressed lateroposteriorly, one small elongate fovea anterior to scutellum; scutellum subcordate, disk slightly depressed, impunctate. Elytra slightly wider than pronotum at base, widest at humeri, sides subparallel to apical 1/3, then converging to separately rounded, finely serrate apices; disk weakly convex, slightly depressed at base between humeri and suture; humeri moderately developed, less densely punctate; one moderately elevated carina separates disc and epipleura; epipleura broad anteriorly, narrowing apically and becoming confluent with lateral margin at posterior 1/4; broadly rounded pygidium visible beyond elytral apices. Prosternum densely punctate, anterior margin straight; metacoxal plates strongly dilated internally; abdomen with suture between 1st and 2nd ventrites vaguely indicated; last visible ventrite broadly rounded. Legs with femora fusiform, unarmed, sparsely shallowly punctate; tibiae slender, unarmed, densely deeply punctate with dense, short recumbent setae; 1st protarsomere subequal to 2nd; 1 meso-, metatarsomere as long as respective 2+3+4 together; 4th with expanded deeply bilobed pulvilli; tarsal claws broadly appendiculate.

Variation. The three ♀ paratypes differ as follows: size: 3.6–4.2 x 1.4–1.7 mm (length from head to elytral apices vs. maximum width of pronotum); dorsal coloration varies in an apparent allometric way with the larger specimens having more of the dorsal surface with the iridescent colors. The largest paratype (FBA 044132) has the entire perimeter of the elytral disc with connected via longitudinal and transverse bands of both cupreous and viridoaeneous color surrounding an elongate ovoid central disc. The two smaller paratypes, both of which are slightly larger than the holotype, are intermediate between the color of the holotype and largest paratype. One of these paratypes (FBA 017560) has the posterior pronotal fascia slightly expanded anterolaterally and with the color transitioning from nitid aureous to roseocupreous; the elytral coloration is very close to that of the holotype. The other paratype (FBA 044124) has the slightly longer posterior pronotal fascia but the color is aeneous on posterior margin to cupreous anterolaterally; the elytra coloration has the midpoint discal sinuate vita extending posteriorly and connecting with preapical spots, with this marking being feebly roseocupreous to cupreous.

Specimens examined. *Holotype* ♀ (FNIC): **Kadavu:** 0.25 km SW Solodamu Vlg, Moanakaka Bird Snctry, 19°04'39" S, 178°07'15.5"E, 60 m, 19 Dec 2003–Jan 2004, Malaise, Schlinger, Tokota'a [FBA 087344], 3 *paratypes*: 1 ♀ same data as holotype [FBA 044132]; 1 ♀, Solodamu, 29 Aug–23 Oct 2003, Malaise in coastal limestone forest, M. Irwin, E. Schlinger, M. Tokota'a, 178°07'E, 19°04'S 128 m [FBA 017560]; 1 ♀, Solodamu, Malaise in coastal limestone forest, 29 Oct–19 Dec 2003, M. Irwin, E. Schlinger, M. Tokota'a, 178°07'E, 19°04'S 128 m [FBA 044124]. One paratype will be deposited in FNIC, BPBM and CLBC.

Etymology. This species is named for the island of Kadavu.

Fiji Distribution: Only known from Kadavu.

Comments. This new species from Kadavu is immediately distinguished from its three Fijian congeners as indicated the species key above. With the range of dorsal coloration discussed under Variation above, one of the paratypes is also figured (Fig. 6).

ACKNOWLEDGMENTS

I first thank Neal Evenhuis, BPBM for including me on the beetle team of the Fiji Arthropod project; Al Samuelson, Chris Reid, Steve Lingafelter and Moala Tokota'a for the interesting and entertaining two week field trip companionship in November of 2005; again to Al for so many favors and loans over the years; and to Shepherd Myers, BPBM Entomology for locating and making the loan of additional specimens used herein and for other papers on the Fijian Buprestidae. The Government of Fiji, especially the Ministries of Forestry and Environment, are thanked for their support of this project and allowing us to collect. Fieldwork for this study was supported in part by NSF DEB grant 0425970 "Fiji Arthropod Survey" and the Schlinger Foundation.

LITERATURE CITED

- Bellamy, C.L.** 1985. A catalogue of the higher taxa of the family Buprestidae (Coleoptera). *Navorsinge van die Nasionale Museum, Bloemfontein* **4**(15): 405–472.
- . 1986. The higher classification of Australian Buprestidae with the description of a new genus and species (Coleoptera). *Australian Journal of Zoology* **34**: 583–600.
- . 1990. A new species of *Maoraxia* Obenberger from Mindanao, with a comments on its relationships within the Anthaxiini (Coleoptera: Buprestidae). *Elytron* **3**[1989]: 187–194.
- . 1991. Further review of the genus *Maoraxia* Obenberger (Coleoptera: Buprestidae). *Invertebrate Taxonomy* **5**: 457–468.
- . 2002. Coleoptera: Buprestoidea. In: Houston, W.W.K. (ed.), *Zoological Catalogue of Australia*. Volume 29.5. CSIRO Publishing, Melbourne. xii + 492 pp., 4 color pls.
- . 2003. An illustrated summary of the higher classification of the superfamily Buprestoidea (Coleoptera). *Folia Heyrovskyana, Supplementum* **10**, 197 pp., 44 pls.
- . & **M. Peterson**. 2000. Contributions to the taxonomy of Australian Buprestidae (Coleoptera) Part II. Three new species and a new coraebine generic member of the Australian fauna. *Folia Heyrovskyana* **8**(2): 101–108.
- . & **G. A. Williams**. 1985. A revision of the genus *Maoraxia* with a new synonym in *Acmaeodera* (Coleoptera, Buprestidae). *International Journal of Entomology* **27**(1-2): 147–161.
- Bílý, S.** 2000. A new concept of Anthaxiini (Coleoptera: Buprestidae). *Folia Heyrovskyana* **8**(2): 109–114.
- , **G. Curletti & H.-P. Aberlenc**. 2006. Entomofauna of Vanikoro (Solomon Islands). Part 1. Introduction and Coleoptera: Buprestidae. *Folia Heyrovskyana* **13**(4): 163–172.

- . & **M. G. Volkovitsh**. 2005. Larvae of Australian Buprestidae (Coleoptera) Part 3. Genera *Maoraxia* and *Anthaxoschema* with a review of larval characters of known anthaxiine taxa. *Folia Heyrovskyana A* **13**(1-2): 7–26.
- Holyński, R.** 1984. On Notogean and Oriental Mastogeniini LeC. Horn (Coleoptera, Buprestidae). *Polskie Pismo Entomologiczne* **54**: 105–114.
- . 1988. Remarks on the general classification of Buprestidae Leach as applied to Maoraxiina Hol. *Folia Entomologica Hungarica* **49**: 49–54.
- . 1993. A reassessment of the internal classification of the Buprestidae Leach (Coleoptera). *Crystal (Zoologica)* **1**: 1–42.
- Obenberger, J.** 1924. Druhá řada nových rodu čeledi Buprestidae (Coleoptera). Deuxième série de nouveaux genres de Buprestides. *Acta Entomologica Musaei Nationalis Pragae* **2**: 7–44.
- . 1926. Réponse aux observations de A. Théry sur les genres nouveaux publiés dans "Sbornik" 1924. *Bulletin de la Société Entomologique de France* **1926**(15): 97–100.
- . 1928. Opuscula Buprestologica I. Beiträge zur Kenntnis der Buprestiden (Col.). *Archiv für Naturgeschichte* **92** (A) 9–11[1926]: 1–350.
- . 1936. Eine Festarbeit zum sechzigjährigen Jubiläum meines Freundes Univ.-Prof. Dr. Embrik Strand. *Festschrift zum 60. Geburtstag von Professor Dr. Embrik Strand* **1**: 97–145.
- . 1937. Buprestidae 6. *Coleopterorum Catalogus* **13**(157): 1247–1714.
- . 1957. Eine neue Buprestidenart aus dem baltischen Bernstein nebst Bemerkungen über einige fossile Buprestiden (Coleoptera: Buprestidae). *Beiträge zur Entomologie* **7**: 308–316.
- Théry, A.** 1925. Observations sur les genres nouveaux publiés par M. Obenberger dans "Sbornik" 1924. *Bulletin de la Société Entomologique de France* **1925**(14): 223–227.
- Volkovitsh, M. G.** 2001. The comparative morphology of antennal structures in Buprestidae (Coleoptera): evolutionary trends, taxonomic and phylogenetic implications. Part 1. *Acta Musei Moraviae, Scientiae Biologicae* **86**: 43–169.