



## A new species of *Calochromus* Guérin-Ménéville (Coleoptera: Lycidae) from Fiji

ALISTAIR S. RAMSDALE<sup>†</sup>

Montana Entomology Collection, Montana State University, P.O. Box 173020, Bozeman, MT 59717-3020, U.S.A.

<sup>†</sup>Deceased, 06 September 2007. The manuscript was submitted shortly before the author's most unfortunate and untimely death. The editor was greatly aided by Ladislav Bocák and Milada Bocáková in the finalisation of the manuscript. Correspondence regarding this manuscript should be addressed to Dr. M. Ivie, Montana Entomology Collection, P.O. Box 173020, Bozeman, Montana, 59717-3020, U.S.A.

### Abstract

*Calochromus samuelsoni* **sp. nov.** is described from Viti Levu, Fiji. Photographs of its habitus, antenna and aedeagus are presented. This new species represents the first record of the genus *Calochromus* and the subfamily Calochrominae (Coleoptera: Lycidae) from Fiji.

**Key words:** Coleoptera, Lycidae, Calochrominae, *Calochromus*, new species, Fiji

### Introduction

Sorting of the extensive material generated by the Fiji Terrestrial Arthropod Survey project (Evenhuis & Bickel 2005) yielded the surprising discovery of a large and colorful undescribed species of the genus *Calochromus* Guérin-Ménéville (Coleoptera: Lycidae) from the island of Viti Levu.

### Methods

Photographs were taken with a KY-F75U digital camera attached to a Leica MS5 stereomicroscope, processed using Synchronoscopy Automontage, and modified in Adobe Photoshop CS2. Specimen length was measured from anterior margin of the clypeus to apex of the elytra, and width was measured across widest point of the humeri. Label data are presented exactly as they appear on the specimen labels. The specimens examined for this study are deposited at the Bishop Museum, Honolulu, Hawaii, USA (BPBM), and in the collection of the author (ASRC).

### *Calochromus samuelsoni* **sp. nov.**

(Figs. 1–5)

**Type material.** Holotype ♂ – FIJI, Viti Levu, Naitasiri Prov., 4 km WSW Colo-i-Suva Village, Mt. Nakobalevu, 325m, Malaise 02, 12.X–12.XI.2004, leg. Timoci, 18.056 S, 178.422 E, FBA\_501126 (BPBM). Paratypes (14): FIJI: Viti Levu: 1 ♀ – Naitasiri Prov., Nakobalevu Peak, Radio towers nr. Suva, FJ-5, 22.IX–9.X.02., malaise, M. Irwin, E. Schlinger, M. Tokota'a, 178°25' E, 18°03' S, 460m, FBA008177 (ASRC). 1 ♂ – Vuda Prov., 1 km E. Abaca Vlg. Koroyanitu Ntl. Pk., 800m, Savuione Trail, 17°40'S, 177°33'E, 7–12.X.02, malaise, E. Schlinger, Tokota'a, FJVL01\_M01\_M02, FBA 080835 (BPBM). 2 ♂♂ – Nandarivatu, Tholo

North, 05 Oct 1937, J. M. Vallentine leg. (BPBM). 2 ♂♂ – Nandarivatu, Tholo North, 24 Oct 1937, J. M. Vallentine leg. (BPBM, LMBC). 1 ♂ – Nandarivatu, 3700 ft., 03 Sept 1938, beating, E. C. Zimmerman leg." (BPBM). 1 ♂ – Nandarivatu, 3000 ft., 10 Sept 1938, E. C. Zimmerman leg. (ASRC). 1 ♂ – Nandarivatu, Tholo North, 05 Oct 1937, J. M. Vallentine leg. (ASRC). 2 ♂♂ – Navai Mill, nr. Nandarivatu, 2300 ft., 15 Sept 1938, Y. Kondo leg. (BPBM). 1 ♀ – Navai Mill, nr. Nandarivatu, 2300 ft., 15 Sept 1938, Y. Kondo leg. (BPBM). 1 ♀ – Tholo-i-suva, 27 July 1938, beating, E. C. Zimmerman leg. (BPBM). 1 ♂ – Lami, May 1951, N. L. H. Krauss leg. (BPBM). 1 ♂ – Mba, 6 mi. W Nandarivatu, 16 Sept 1938, Y. Kondo leg. (BPBM).

**Diagnosis.** Pronotum predominantly yellow, with the anterior margin and a narrow transverse band on anterior portion of disk black; elytra bicolored, basal fourth yellow, apical three fourths black with metallic blue luster; femora bicolored, basally yellow and apically black.

**Description.** Habitus as in Fig. 1. Possessing all the characters of *Calochrominae* (*sensu* Bocák & Bocáková 1990: 653) and *Calochromus* (*sensu* Bocáková 1992: 301).

**Coloration:** Head metallic blue-black. Antennae predominantly metallic blue-black, except lighter colored along longitudinal lines at bases of antennomere 3–6 and small lighter colored spot at apex of antennomere 11. Pronotum yellow, except anterior margin and narrow transverse band on anterior portion of disk metallic blue-black. Thoracic sterna and ventrites yellow. Legs bicolored; coxae, trochanters and most of femora yellow; apices of femora, tibiae and tarsi metallic blue-black. Abdomen metallic blue-black. Metallic aspect of coloration strongest on elytra.

**Vestiture:** Head, abdomen and thorax with sparse, short, weak, deflexed pubescence. Antennae with more dense, short, erect pubescence. Coxae with tufts of more dense, more elongate, suberect erect setae. Elytra with extremely sparse pubescence.

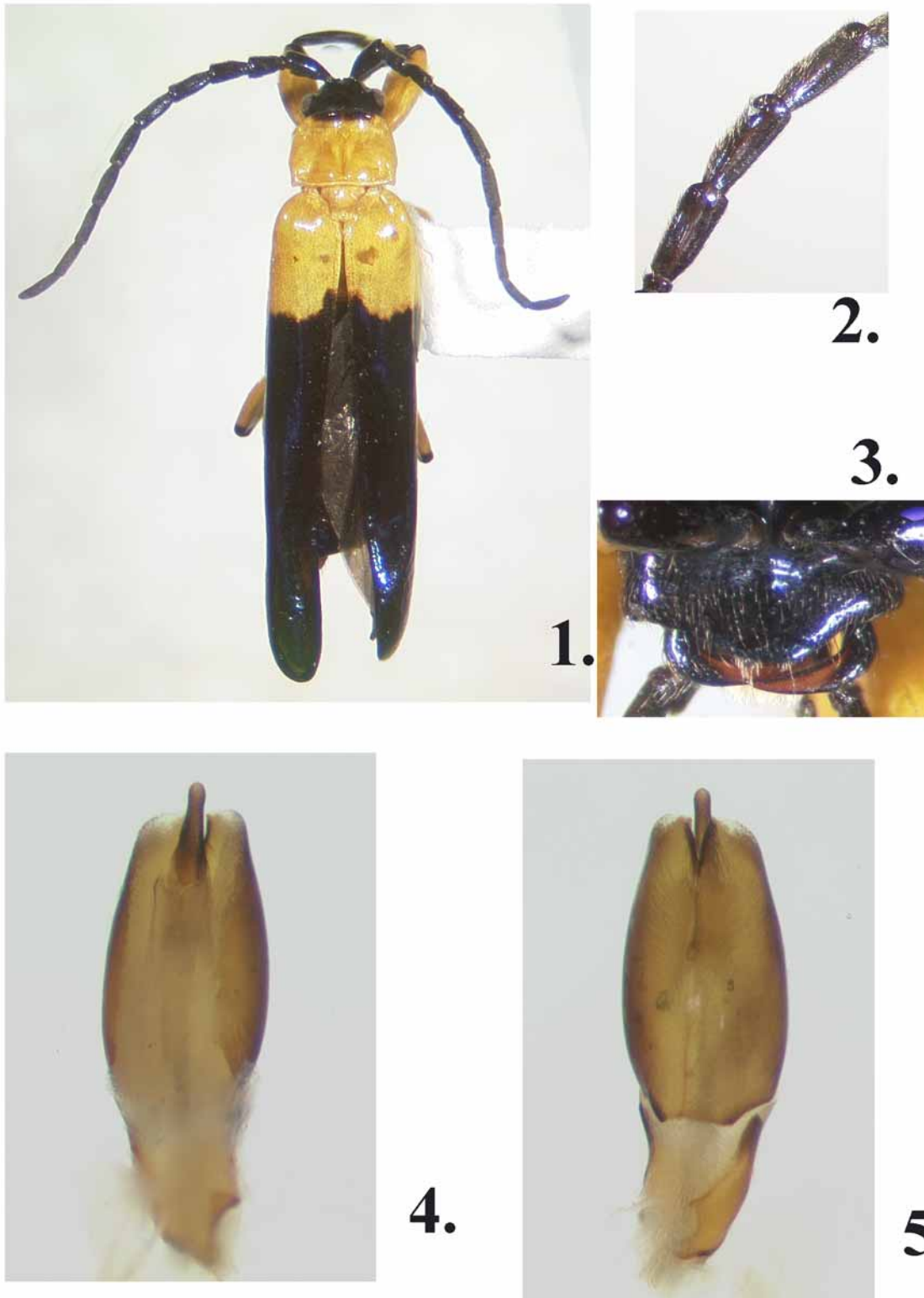
**Male:** Head with antennal tubercles well developed, projecting. Antennae filiform, elongate, extending to apical fourth of elytra, scape enlarged and with basal flagellomeres moderately flattened; vertical sensory grooves present on antennomeres 3–6 (Fig. 2). Clypeus robust, produced anteriorly, with median anterior margin more or less evenly arcuate (Fig. 3), largely concealing labrum. Labrum deeply bilobed. Terminally maxillary palpomeres not swollen, without enlarged sensory area at apex. Pronotum transverse; anterior angles weakly rounded; lateral margins weakly arcuate; disc with a strong swelling in each lateral area of posterior third; areas of disk near anterior and posterior corner and just to the interior along posterior margin impressed; posterior margin with a distinct, raised, transverse lip. Scutellum large, apically truncate, laterally arcuate. Elytra approximately 3.5 times as long as wide, weakly expanded towards the apex; primary elytral costae virtually absent, only evident as faint traces; secondary costae absent. Abdominal ventrite 7 about as wide as preceding ventrite, with a deep median, arcuate emargination. Aedeagus as in Figs. 4–5; parameres widened near mid-length; parameres with apices truncate and with a median v-shaped dorsal notch; penis extending distinctly beyond apex of the parameres. Length 7.2–12.8 mm. Width 1.6–3.1 mm.

**Female:** Differing from the male in the following respects: Antennae shorter, extending to about half the length of the elytra, scape not enlarged and basal flagellomeres less flattened; with lighter colored lines present on antennomeres 3–6 but with grooves apparently absent. Clypeus less robust, usually exposing much of labrum. Terminal maxillary palpomeres distinctly swollen, with enlarged, lighter colored sensory area at apex. Pronotum with anterior angles more acute; lateral margins less arcuate; disc with a weak swelling in each lateral area of posterior third. Abdominal ventrite 7 approximately two-thirds as wide as preceding ventrite, more or less trapezoidal, posterior margin with a shallow median emargination. Length 8.4–9.8 mm. Width 1.9–2.4 mm.

**Distribution.** Known only from the island of Viti Levu, Fiji

**Etymology.** The specific epithet was chosen to honor my good friend G. Allen Samuelson, who has spent a lifetime studying the Coleoptera of the Pacific region.

**Remarks.** The holotype, which was preserved in 95% ethanol, experienced some distortion after being dry mounted, as is commonplace for soft-bodied Coleoptera, and this is evident in the habitus photograph.



**FIGURES 1–5.** 1. *Calochromus samuelsoni*, holotype, habitus, dorsal. 2. *Calochromus samuelsoni*, holotype, base of right antenna, dorsal. 3. *Calochromus samuelsoni*, holotype, clypeus, dorsal. 4. *Calochromus samuelsoni*, holotype, aedeagus, ventral. 5. *Calochromus samuelsoni*, holotype, aedeagus, dorsal.

## Discussion

In the key presented by Bocáková (1992), *C. samuelsoni* would key to couplet three, where it would fit neither choice. If one would ignore couplet three's stipulation that the pronotum be *entirely* yellow, *C. samuelsoni* would key out as *C. humeralis* Pic, of the Solomon Islands, which is likely its closest relative. Obvious differences between *C. samuelsoni* and *C. humeralis* exist in the coloration of the pronotum (bicolored vs. entirely yellow) and metafemora (bicolored vs. entirely black) and in the structure of the aedeagus with the parameres widened near mid-length vs. more or less parallel-sided, and the apex of the parameres truncate vs. more acute.

*Calochromus samuelsoni* represents a significant range extension for the subfamily Calochrominae into the Pacific. The closest occurrence of another species of Calochrominae, *Calochromus humeralis* Pic, is on San Cristobal in the Solomon Islands (Bocáková 1992: 305), a distance of over 1100 km northwest of Fiji. This distribution suggests that species of *Calochromus* may eventually be found on one of the larger islands of Vanuatu, which lie between Fiji and the Solomon Islands. *Calochromus* is a cosmopolitan genus known from forest or shrub habitats in all zoogeographical regions. Typically, *Calochromus* species resemble in coloration and sympatrically occur with species of Lycidae representing other genera in mimicry complexes. *Calochromus samuelsoni* most closely resembles in coloration species from New Guinea and the Solomon Islands. This fact suggests possibly recent long distance dispersal from the Papuan Region to the Fiji Islands as the similar coloration pattern of *C. samuelsoni* has not yet been found in any other region where other lycids occur.

*Calochromus samuelsoni* is the third species of Lycidae known to occur in Fiji. The other two species, *Melaneros lugubris* Fairmaire and *M. praelongus* Fairmaire, are only known from Viti Levu (Blair 1928, Fairmaire 1877, Kleine 1936). Another species, *M. atroviolaceous* Fairmaire was removed from the Fijian fauna by Blair (1928: 3).

## Acknowledgements

I would like to thank Michael Ivie and Katie Hopp (Montana State University, Bozeman, USA) for reviewing a draft of this manuscript.

## References

- Blair, G. K. (1928) Family: Lycidae. *Insects of Samoa and other Samoan terrestrial Arthropoda*, 4(2), 98–103.
- Bocák, L. & Bocáková, M. (1990) Revision of the supergeneric classification of the family Lycidae (Coleoptera). *Pol-skie Pismo Entomologiczne*, 59, 623–676.
- Bocáková, M. (1992) Revision of the genus *Calochromus* Guérin-Méneville (Coleoptera, Lycidae) from New Guinea and adjacent islands. *Acta Societatis Zoologicae Bohemicae*, 89, 301–308.
- Evenhuis, N.L. & Bickel, D.J. (2005) The NSF Fiji Terrestrial Arthropod Survey: Overview. *Bishop Museum Occasional Papers*, 82, 3–25.
- Fairmaire, M.L. (1877) Diagnoses de Coléoptères australiens et mélanésien. *Petites Nouvelles Entomologiques*, 2, 173–174.
- Kleine, R. (1936) Check list of Pacific Lycidae. *Bernice P. Bishop Museum Occasional Papers*, 12(4), 3–7.