

A journal of world insect systematics

INSECTA MUNDI

0877

A new species of *Coomanius* Fleutiaux, 1924
(Coleoptera: Eucnemidae: Macraulacinae: Nematodini)
from Southeast Asia

Robert L. Otto
W4806 Chrissie Circle
Shawano, WI 54166, USA

Date of issue: July 30, 2021

Center for Systematic Entomology, Inc., Gainesville, FL

Otto RL. 2021. A new species of *Coomanius* Fleutiaux, 1924 (Coleoptera: Eucnemidae: Macraulacinae: Nemotodini) from Southeast Asia. *Insecta Mundi* 0877: 1–5.

Published on July 30, 2021 by
Center for Systematic Entomology, Inc.
P.O. Box 141874
Gainesville, FL 32614-1874 USA
<http://centerforsystematicentomology.org/>

INSECTA MUNDI is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, checklists, faunal works, and natural history. *Insecta Mundi* will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. *Insecta Mundi* publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

Insecta Mundi is referenced or abstracted by several sources, including the Zoological Record and CAB Abstracts. *Insecta Mundi* is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology.

Guidelines and requirements for the preparation of manuscripts are available on the *Insecta Mundi* website at <http://centerforsystematicentomology.org/insectamundi/>

Chief Editor: David Plotkin, insectamundi@gmail.com
Assistant Editor: Paul E. Skelley, insectamundi@gmail.com
Layout Editor: Robert G. Forsyth
Editorial Board: Davide Dal Pos, Oliver Keller, M. J. Paulsen
Founding Editors: Ross H. Arnett, Jr., J. H. Frank, Virendra Gupta, John B. Heppner, Lionel A. Stange, Michael C. Thomas, Robert E. Woodruff
Review Editors: Listed on the *Insecta Mundi* webpage

Printed copies (ISSN 0749-6737) annually deposited in libraries

Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA
The Natural History Museum, London, UK
National Museum of Natural History, Smithsonian Institution, Washington, DC, USA
Zoological Institute of Russian Academy of Sciences, Saint-Petersburg, Russia

Electronic copies (Online ISSN 1942-1354) in PDF format

Archived digitally by Portico
Florida Virtual Campus: <http://purl.fcla.edu/fcla/insectamundi>
University of Nebraska-Lincoln, Digital Commons: <http://digitalcommons.unl.edu/insectamundi/>
Goethe-Universität, Frankfurt am Main: <http://nbn-resolving.de/urn/resolver.pl?urn:nbn:de:hebis:30:3-135240>

Copyright held by the author(s). This is an open access article distributed under the terms of the Creative Commons, Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. <http://creativecommons.org/licenses/by-nc/3.0/>

A new species of *Coomanius* Fleutiaux, 1924 (Coleoptera: Eucnemidae: Macraulacinae: Nematodini) from Southeast Asia

Robert L. Otto

W4806 Chrissie Circle
Shawano, WI 54166, USA
tar1672@yahoo.com

<https://orcid.org/0000-0002-5679-4044>

Abstract. A new species of false click beetle, *Coomanius badius* Otto (Coleoptera: Eucnemidae), is described from Sarawak, Malaysia. An identification key is provided for species of *Coomanius* Fleutiaux distributed in the Southeast Asian region. Images for each species are provided.

Key words. Taxonomy, systematics, Malaysia, Laos, Philippines, false click beetles.

ZooBank registration. urn:lsid:zoobank.org:pub:42335434-F835-4243-B081-DF4C74CFCCE4

Introduction

During the spring and summer of 2020, many new species were discovered during identifications of beetles loaned from BMNH and other collections. One is described here in the first of many planned papers covering these new discoveries. Additional insights within Eucnemidae from around the world are still bound to continue as new information comes to light during the course of ongoing research.

Coomanius was first described by Fleutiaux (1924) to include a single Vietnamese species, *Coomanius lugubris* Fleutiaux. The holotype is a female. Otto (2013) described and imaged what was thought to be a male of *C. lugubris*. However, it turned out to be misidentified and later Otto (2017) described it as *Miruantennus cuneiformis* Otto based on two specimens from Southeast Asia.

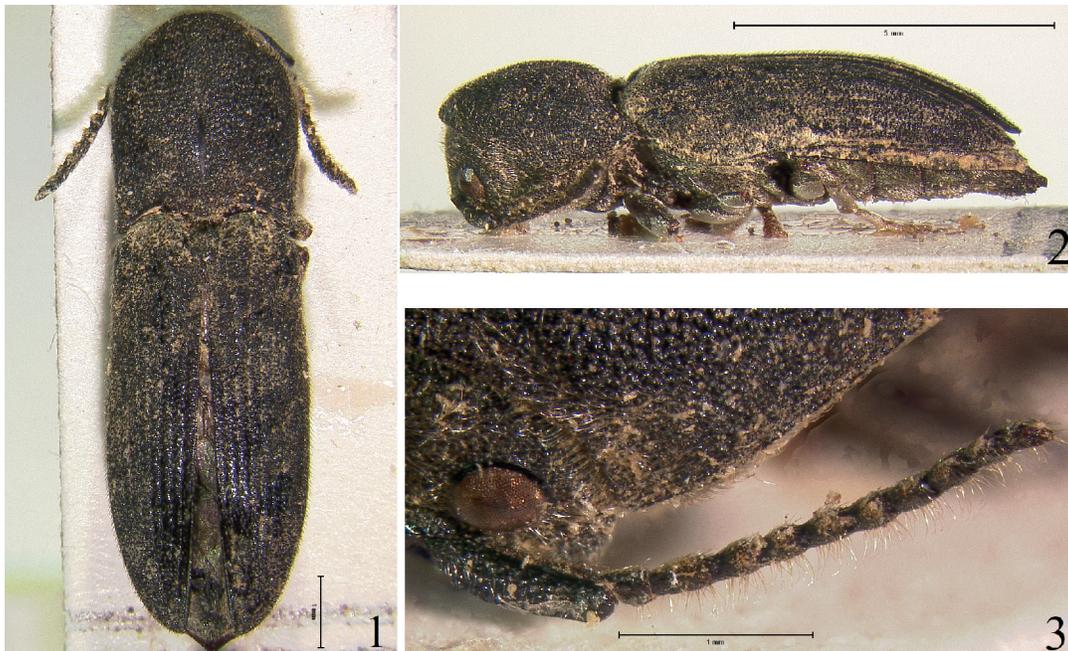
This previously monotypic genus now consists of two species. *Coomanius lugubris* Fleutiaux (Fig. 1–3) is distributed in Laos and Vietnam. The new species is widespread across Southeast Asia including Sarawak, Laos, and the Philippine Islands.

Materials and Methods

Specimens were examined through a Wild M3C 6.4–40× zoom stereo binocular microscope with 20× oculars under a gooseneck table lamp. Habitus and other structural images were taken with a JVC KY-F75U digital camera attached to a Leica® Z16 APO dissecting microscope with apochromatic zoom objective and motor focus drive, using a Synchronscopy Auto-Montage® Pro System and software version 5.01.0005, and resulting image stacks were processed using CombineZP®. All images were captured as TIFF files during the imaging process. Each image was modified through a paint program and Photoshop Elements 10® software on a Toshiba Satellite® C55 series laptop computer and all were collated into plates through the computer's paint program. Size of each plate was modified to 300 dpi.

Measurements were taken using a ruler. Length was measured from the apex of the head to the apex of the elytra, and width was measured across the elytral humeri just below the base of the pronotum. Pronotal lengths were measured across the midsection from the apex to the base above the scutellar shield. Pronotal widths were measured across the base of the pronotum above the elytral humeri.

The study was based on the direct examination of six dry mounted and pinned specimens borrowed from a small number of collections as noted below, including some which were communicated to me by J. Muona (Helsinki, Finland):



Figures 1–3. *Coomanius lugubris* Fleutiaux. 1) Male, dorsal habitus. 2) Male, lateral habitus. 3) Male, antenna. (Scale: 1, 3 = 1.0 mm; 2 = 5.0 mm.).

BMNH The Natural History Museum, London, United Kingdom

GERP Global Eucnemid Research Project, UW Dept. of Entomology, Madison, WI, USA

JMC Jyrki Muona Collection, University of Helsinki, Finland

Label data are presented verbatim, with text for each individual label placed in quotation marks and separated from an underlying label by a slash (/). Each line on an individual label is separated by a semicolon (;). Observed metadata for some labels are placed in parenthesis and/or brackets. Each specimen deposited in the collection of the Global Eucnemid Research Project (GERP) bears a green-framed white label, “Collection of the Global Eucnemid Research Project, (Robert L. Otto)”.

Systematics

Subfamily Macraulacinae Fleutiaux, 1922

Tribe Nematodini Leiler, 1976

Diagnosis. Mandibles short, with ventral secondary tooth, without expanded lateral surfaces; prothoracic tibiae each with one apical spur; male prothoracic tarsomere I with basal sex combs; tarsomere IV usually bilobed; lateral sides of mesothoracic and metathoracic tibiae variable, either with setae and simple spines or with setae and transverse rows of spine combs; hypomera with antennal grooves or without antennal grooves; prosternal peg high, either truncated or excavated; median lobe without dorsal basal struts, fused with lateral lobes, distinct, with narrowly and deeply bifurcate apex; bursa divided, simple; spermatheca sclerotized, divided and U-shaped (Otto 2017).

Genus *Coomanius* Fleutiaux, 1924

Diagnosis. Nematodini genus with apical margin of frontoclypeal region feebly trilobed and more than twice as wide as the base; antennal grooves absent; metathoracic coxal plates medially 3.0–6.0 times wider than laterally;

last visible ventrite strongly produced; tarsal claws basally toothed; lateral surfaces of mesothoracic and metathoracic tibiae with setae and irregularly placed spines (Otto 2016).

Key to the species of *Coomanius* in Southeast Asia

1. Habitus dark brown to black; antennomeres IV and V each as long as VI *Coomanius lugubris* Fleutiaux
 — Habitus chestnut or reddish-brown; antennomeres IV and V each shorter than VI *Coomanius badius* Otto, sp. nov.

Coomanius badius Otto, new species

Fig. 4–7

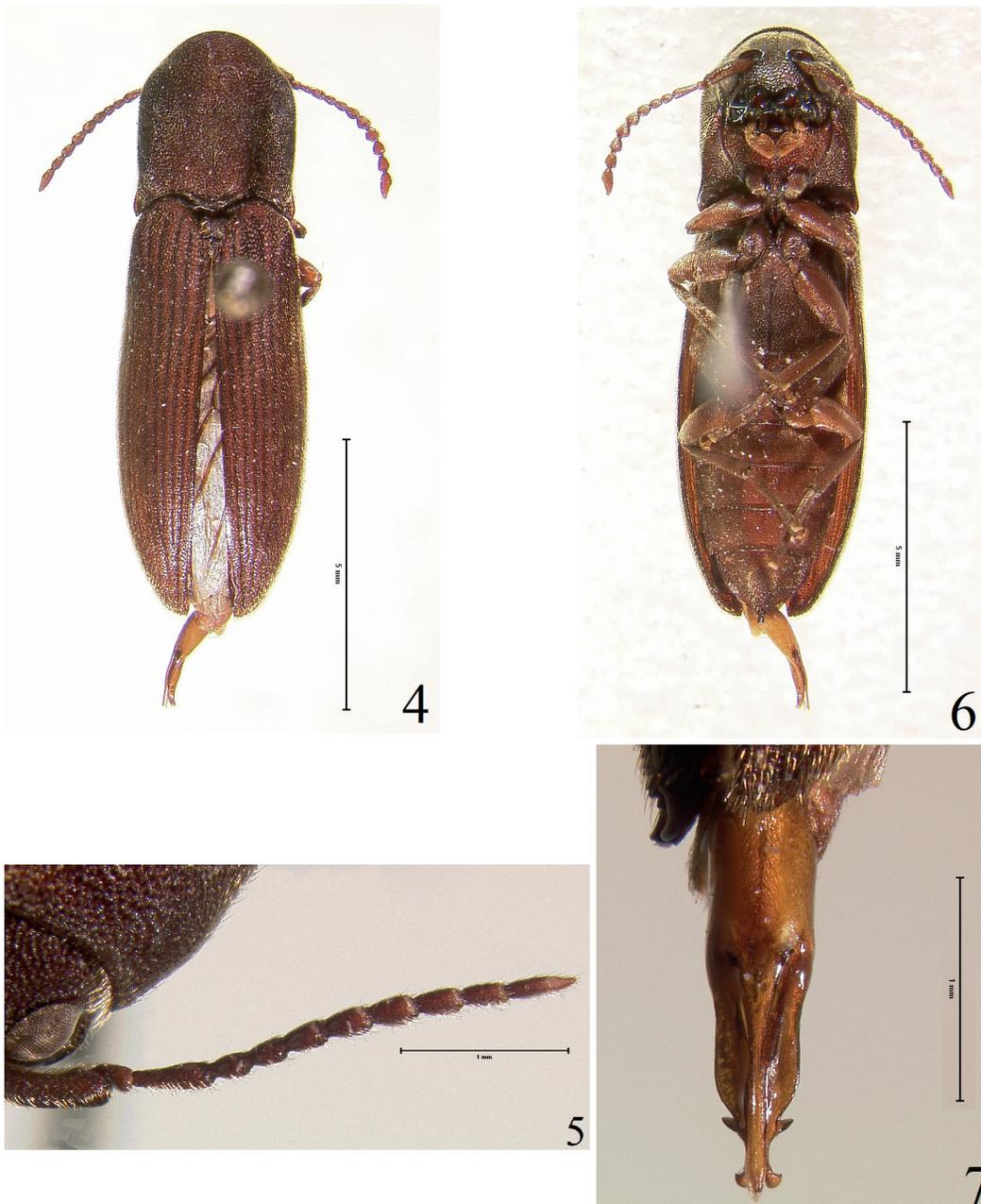
Differential diagnosis. Chestnut or reddish-brown coloration as well as loosely moniliform antennae with antennomeres IV and V each shorter in relation to VI distinguish the new species from *C. lugubris*.

Type material. Male holotype: “SARAWAK: 4th Division; Gn. Mulu NP” / “Camp 2.5; on trunks” (handwritten) / “near; *Coomanius*; det. W. Lucht; 1989” (black-framed white label; “near *Coomanius*” handwritten; “1989” handwritten along right side of label) / “Diapodius; J. Muona det. 90” (“Diapodius” and “90” handwritten) / “**HOLOTYPE:** *Coomanius; badius* ♂; Otto; Det. R.L. Otto; 2020” (red printed label). Holotype is deposited in BMNH.

Paratypes. 3 ♂, 1 ♀: **LAOS:** 1 ♂, “Umgeb. Paklay” / “Laos 1963” / “**PARATYPE:** *Coomanius; badius* ♂; Otto; det. R.L. Otto; 2020” (yellow printed label) (JMC); **PHILIPPINES:** 1 ♀, “**PHILIPPINES:** Mindanao; Lanao del Sur; Wao; January 2020; Ismael Lumawig” / “Collection of the Global; Eucnemid Research Project; (Robert L. Otto)” (green-framed white label) / “**PARATYPE:** *Coomanius; badius* ♀; Otto; det. R.L. Otto; 2020” (yellow printed label) (GERP); 2 ♂♂, “**PHILIPPINES:** Central Visayas; Negros Oriental; Don Salvador Benedicto; February 2020; Ismael Lumawig” / “Collection of the Global; Eucnemid Research Project; (Robert L. Otto)” (green-framed white label) / “**PARATYPE:** *Coomanius; badius* ♂; Otto; det. R.L. Otto; 2020” (yellow printed label) (GERP). Paratypes are deposited in GERP and JMC.

Description. Male holotype: Length 10.0 mm. Width 2.5 mm. Body cylindrical, elongate and tapering towards elytral apex; uniformly dark reddish-brown; antennae dark reddish, except pedicel; pedicel dark reddish-brown; legs dark reddish-brown; head, pronotum and elytra clothed with very short, yellowish, recumbent setae (Fig. 4). **Head:** Very closely punctate to confluent rugose, subspherical; frons convex, with median groove; surface dull; apical margin of frontoclypeal region feebly trilobed, 2.0 times wider than base; mandibles stout, bidentate, densely punctate and rugose. **Antennae** (Fig. 5): loosely moniliform to weakly serrate, reaching to hind angles of pronotum; antennomere III shorter than combined lengths of IV and V; antennomeres IV–V each shorter than VI, slightly longer than wide; antennomere VI slightly shorter than VII, slightly longer than wide; antennomeres VII–X subequal, slightly longer than wide; antennomere XI asymmetrically elongate, longer than X. **Pronotum:** granulose; surface dull; longer than wide, with moderately sharp hind angles; sides gradually wider toward front, apical 1/4 strongly arcuate, hooded over vertex; disc convex, without circular foveae; median groove extends from base to middle; base sinuous. **Scutellar shield:** dull, rugose, rectangular and distally bifid with median groove. **Elytra:** striate; interstices slightly elevated; surfaces transversely rugose. **Legs:** first tarsomere as long as combined lengths of remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate, with basally toothed claws. **Venter** (Fig. 6): finely punctate to rugose, with very short, yellowish recumbent setae; hypomeron simple, without antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.0–6.0 times wider than laterally. **Aedeagus** (Fig. 7): basal piece obscured, inserted inside abdomen; remaining genitalia elongate, without secondary lateral lobes; lateral lobes strongly sinuous, constricted at anterior 1/4; lateral tooth present at anterior 1/4; apices of lateral lobe rounded, divergent anterolaterally; median lobe as long as lateral lobe, narrowly bifid.

Variations. Three male and one female paratypes were examined, including one Laotian male communicated from J. Muona. The female paratype is 12.5 mm long and 3.0 mm wide, much larger and wider than the holotype.



Figures 4–7. *Coomanius badius* Otto **sp. nov.** male holotype (BMNH). **4)** Dorsal habitus. **5)** Antenna. **6)** Ventral habitus. **7)** Aedeagus. (Scale: 5, 7 = 1.0 mm; 4, 6 = 5.0 mm.).

The three male paratypes are 7.5–8.0 mm long and 2.0 mm wide, all being shorter and narrower than the holotype. A median groove on the frons is slightly indicated in all paratypes compared against the holotype. No other exoskeletal differences were observed between these paratypes and the holotype.

Distribution. *Coomanius badius* **new species** is currently known from the type locality of Sarawak, a Malaysian state on the island of Borneo, a single locale in Laos and two locales in the Philippine Islands.

Biology. One specimen was taken on the trunk of an unknown tree species. Larvae and pupae are unknown.

Etymology. The specific epithet is derived from the chestnut or reddish-brown coloration of the new species.

Acknowledgements

I would like to extend my thanks to Max Barclay and Michael Geiser (both of BMNH) for lending their specimens to my care during the course of my study; Jyrki Muona for providing data for his specimens and information during the course of the study; Daniel Young (UW-Madison) for blocking off time to allow me to operate the Auto-Montage equipment in the laboratory; Daniel Young (UW-Madison, Madison, WI) and Scott Gilmore (Lantzville, British Columbia) for reviewing and offering their input on the manuscript.

Literature Cited

- Fleutiaux E. 1924.** Genre nouveau et espèces nouvelles de Melasidae du Tonkin. Bulletin de la Société Entomologique de France 15: 156–158.
- Otto RL. 2013.** Description of the male of *Coomanius lugubris* Fleutiaux, 1924 (Coleoptera: Eucnemidae: Macraulacinae: Nematodini). The Coleopterists Bulletin 67(1): 50–51.
- Otto RL. 2016.** The false click beetles (Coleoptera: Eucnemidae) of Laos. Entomologica Basiliensia et Collectionis Frey 35: 181–427.
- Otto RL. 2017.** Descriptions of six new species of false click beetles (Coleoptera: Eucnemidae: Macraulacinae), with new identification keys for one tribe and two genera. Insecta Mundi 0558: 1–19.

Received May 31, 2021; accepted June 15, 2021.

Review editor †Jiri Zidek.

