

List of known *Galbites* Fleutiaux, 1918 (Coleoptera: Eucnemidae: Eucneminae) of the Philippines with description of a new species from Northern Mindanao

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This paper presents a new species of *Galbites*, *G. roberti* sp. nov., from Northern Mindanao, Philippines. This new species is the 23rd species of *Galbites* in the Philippines and the 14th species from Mindanao Island. High-definition images of species habitus and a checklist of the species in the Philippines are also provided.

Keywords: False Click Beetle, Description, Galbitini, Northern Mindanao, Taxonomy.

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INTRODUCTION

The order Coleoptera includes almost 40% of all insects and over 25% of all known animal species worldwide (Erwin 1995; Hammon 1992; Powell et al. 2009; Bouchard et al.2011). One of the peculiar families of beetles is Eucnemidae or ‘False Click Beetles’, which greatly resembles Elateridae or true ‘Click Beetles’, but they differ in the strength of their click mechanism (more pronounced amongst Elaterids), the structure of their pronotal

hind angles (Eucnemids lacks carina), and Eucnemids have fused last abdominal ventrites (free in Elateridae).

There are about 1,900 species and 200 genera of Eucnemids distributed on all continents except Antarctica (Otto2016). This group is more diverse in oceanic regions, and most species are found within tropical, subtropical, temperate, and boreal regions. Ecologically, Eucnemids are a moderately size group of rarely encountered beetles (Otto 2016). Within the family Eucnemidae, the tribe Galbitini is well

represented in the Philippines, comprising 4 genera and approximately 50 species (Muona 2024).

Galbites Fleutiaux, 1918, is one of the few genera in the Galbitini tribe with 22 described species in the Philippines, along with 3 species of *Achaica* Mouna, 1991, 3 species of *Agastocerus* Bonvouloir, 1871, and one species of *Galbimorpha* Fleutiaux, 1920 (Muona, 1991). *Galbites* as a monophyletic group is characterized by the following synapomorphies: 1.) pronotum with basal median and lateral and anterior median gibbositities 2.) elytra epipleura twisted, 3.) mesosternum with nearly straight margin, 4.) tarsenomers 2-4 with membranous appendages, 5.) elytral vestiture well developed, and 6.) globular spermatheca (Muona, 1991). All these characters are unique, except for the elytral vestiture features within Eucnemidae (Muona, 1991).

Out of the 22 species of *Galbites* in the Philippines, 13 are found in Mindanao Island (Mouna, 1991). One of the relatively unexplored mountain ranges in Mindanao is the Mt. Balatukan Range, located in Misamis Oriental, the northern part of Mindanao. The range comprises various ecosystems, including montane forests, mossy forests, and grasslands, with its highest peak reaching approximately 2,450 m above sea level (8,040 ft) (Pescuela et al. 2024). During our short coleopterological expedition in the area, several species of beetles were collected, including a new species of *Galbites*. This paper presents a new species of *Galbites* recently collected from Northern Mindanao, a new addition to the Philippine fauna. A list of *Galbites* in the Philippines is also presented.

MATERIALS AND METHODS

The specimens were collected using a beating sheet method at an elevation of 1600

meters above sea level (masl) at the Northeastern slope of Mt. Balatukan in Misamis Oriental. The specimen was killed in Falcon Tube with Ethyl Acetate and later examined at Davao Oriental State University (DOrSU) Tropical Genomics and Invertebrate Research Center, City of Mati, Philippines.

Morphological characters were observed under an Olympus SZ51 stereomicroscope. Habitus images were taken using a Canon EOS 6D digital camera equipped with an MP-E 65mm macro lens mounted in a StackShot macro rail, automated with Helicon Remote version 4.3.0.w. All images were stacked using Helicon Focus version 8.1.1 and processed using licensed Photoshop CS6 Portable software.

Measurements of the various body parts are as follows: LB = length of body from head to apices of clothed elytra; WP = maximum width across pronotum; LP = maximum length of pronotum; LE = length of elytra, from level of basal margin to apex of elytra; WF = maximum width at frons; WE = width of elytra.

“/” separates different lines on a label; “//” separates different labels. All measurements are given in millimeters (mm).

Acronyms of depositories of comparative material, specimens used in this study, are as follows:

BMNH: The Natural History Museum, London.

BPBM: Bernice P Bishop Museum, Honolulu, Hawaii.

JMC: J. Muona collection, presently in ZMH (Finnish Museum of Natural History, Helsinki)

MNHM: Muséum national d'Histoire naturelle de Paris, France.

TMH: National Museum of Nature and Science, Tokyo, Japan.

ZMHB: Museum für Naturkunde, Berlin, Germany.

Distribution: Philippines (Mindanao: Iligan, Surigao, Basilan; Luzon; Visayas: Panay, Pagol, Sibay, Tangolan).

List of *Galbites* Fleutiaux, 1918, in the Philippines adopted from Muona (1991)

***Galbites sauteri* Muona, 1991**
Type deposition: BPBM
Distribution: Philippines (Marinduque).

Subfamily Eucneminae
Tribe Galbitini Muona, 1991

***Galbites australiae* group**

***Galbites albiventris* group**

***Galbites australiae* (Lea, 1919)**
Former name: *Galba australiae*, Lea 1919:741-742,
Distribution: Philippines (Basilan, Luzon, Mindanao).

***Galbites albiventris* (Chevrolat, 1856)**
Former names: *Galba albiventris* Chevrolat, 1856: 85-86; *Pterotarsus albiventris* sensu Fleutiaux, 1924; 304, 308.
Distribution: Philippines: (Luzon: Mt. Arayat, Pampanga; Mindanao: Kolambugan; Palawan).

***Galbites bakeri* (Fleutiaux, 1926)**
Former name: *Pterotarsus bakeri* Fleutiaux, 1926:36-37,
Distribution: Philippines (Antique, Marinduque, Negros, Panay).

***Galbites striatus* (Fleutiaux, 1926)**
Former name: *Pterotarsus striatus* Fleutiaux, 1926: 36, 38.
Distribution: Philippines: (Mindanao; Negros; Palawan).

***Galbites mouhati* (Fleutiaux, 1924)**
Former name: *Pterotarsus mouhati* Fleutiaux, 1924:303, 305-306
Distribution: Philippines (Luzon, Mindanao, Balcan).

***Galbites auricolor* group**

***Galbites bicolor* group**

***Galbites auricolor* (Bonvouloir, 1875)**
Former names: *Galba auricolor* Bonvouloir, 1875: 808, 821-822,
Pterotarsus auricolor sensu Fleutiaux, 1924; 303, 305, MHNP.
Distribution: Philippines (Marinduque, Panay).

***Galbites bicolor* (Fleutiaux, 1924)**
Former name: *Pterotarsus bicolor* Fleutiaux, 1924: 303, 30, J. Muona Collection (JMC)
Distribution: Philippines (Visayas: Samar, Biliran Island).

***Galbites bonvouloiri* (Fleutiaux, 1924)**
Former name: *Pterotarsus bonvouloiri* Fleutiaux, 1924:304, 308-309, MHNP.
Distribution: Philippines (Luzon; Mindanao; Samar).

***Galbites inexpectatus* Muona, 2024**
Distribution: Philippines (Biliran Island, Visayas).
Type deposition: J. Muona Collection (JMC) (MNHM)

***Galbites chevrolati* (Fleutiaux, 1924)**
Former name: *Pterotarsus chevrolati* Fleutiaux, 1924: 304, 308-309.

***Galbites chrysocomus* group**

***Galbites chrysocomus* (Hope, 1845)**

Former names: *Galba chrysocoma* Hope, 1845: 14; *Pterotarsuschrysocomussensu* Fleutiaux, 1924a: 303, 305.

Synonym: *Pterotarsuschrysocomus* var. *puniceus* Fleutiaux, 1924a: 305, MHNP.

Distribution: Philippines (Luzon, Mindanao, Palawan).

***Galbites marmoratus* group**

***Galbites marmoratus* (Guerin-Meneville, 1830)**

Former names: *Galba marmoratus* Guérin-Meneville, 1830; *Pterotarsus marmoratus* Guérin-Meneville, 1838: 68.

Distribution: Philippines (Basilan, Mindanao).

***Galbites niveopictus* (Bonvouloir, 1875)**

Former name: *Galba niveopictus* Bonvouloir, 1875:807, 809, Distribution: Philippines (Sibuyan).

***Galbites lorai* (Fleutiaux, 1896)**

Former name: *Galba lorai* Fleutiaux, 1896:604.

Distribution: Philippines (Samar).

***Galbites tuberculatus* group**

***Galbites ismaeli* Muona, 2024**

Distribution: Philippines (Luzon, Nueva Vizcaya, Basilan, Butuan, Quirino, Naqtipunan, Palawan, Puerto Princesa). Type deposition: J. Muona Collection

***Galbites nigrilus* Muona, 1991**

Galbitesnigrila Muona, 1991: 45-46, changed to *nigrilus*, themasculine Latin name.

Distribution: Philippines (Palawan).

***Galbites sulcifrons* (Fleutiaux, 1932)**

Former name: *Pterotarsus sulcifrons* Fleutiaux, 1932:229.

Distribution: Philippines (Luzon).

***Galbites tuberculatus* (Redtenbacher, 1867)**

Former name: *Galba tuberculata* Redtenbacher, 1867:90.

Distribution: Philippines (Luzon, Mindanao).

***Galbites niger* group**

***Galbites niger* (Fleutiaux, 1897)**

Former name: *Galba niger* Fleutiaux, 1897:178.

Distribution: Philippines (Mindanao).

***Galbites wallacei* group**

***Galbites fulvus* (Fleutiaux, 1924)**

Former name: *Pterotarsus fulvus* Fleutiaux 1947:1

Synonyms: *Pterotarsus wallacei* var. *fulvus* Fleutiaux 1924: 16, MHNP; *Pterotarsus wallacei* var. *fulvus*, J. Muona Collection (JMC).

Distribution: Philippines (Mindanao).

***Galbites wallacei* (Perroud & Montrouzier, 1864)**

Former names: *Galba wallacei* Perroud & Montrouzier, 1864:98-100, J. Muona Collection (JMC); *Pterotarsus wallacei* sensu Fleutiaux, 1924a: 303, 307.

Synonym: *Galba sericata* sensu Fleutiaux 1896a:298.

Distribution: Philippines (Basilan, Mindanao, Palawan).

Taxonomy

***Galbites roberti* sp. nov.**

Fig. 1.

Type material. HOLOTYPE, ♂, PHILIPPINES/ MINDANAO/ Misamis Oriental/ Talisayan/Brgy. Mahayag/ Mt.

BalatukanRange, 3-4.vi.2025/ leg. I.
M.Medina, P.Camposo, J.Ytang,
E.Avergonzado// (written on white card).
HOLOTYPE *Galbites roberti* sp.

nov.,Camposo & Medina sp. nov.',(written
on red card), Currently at MMCP, to be
deposited at PNM. No paratype.

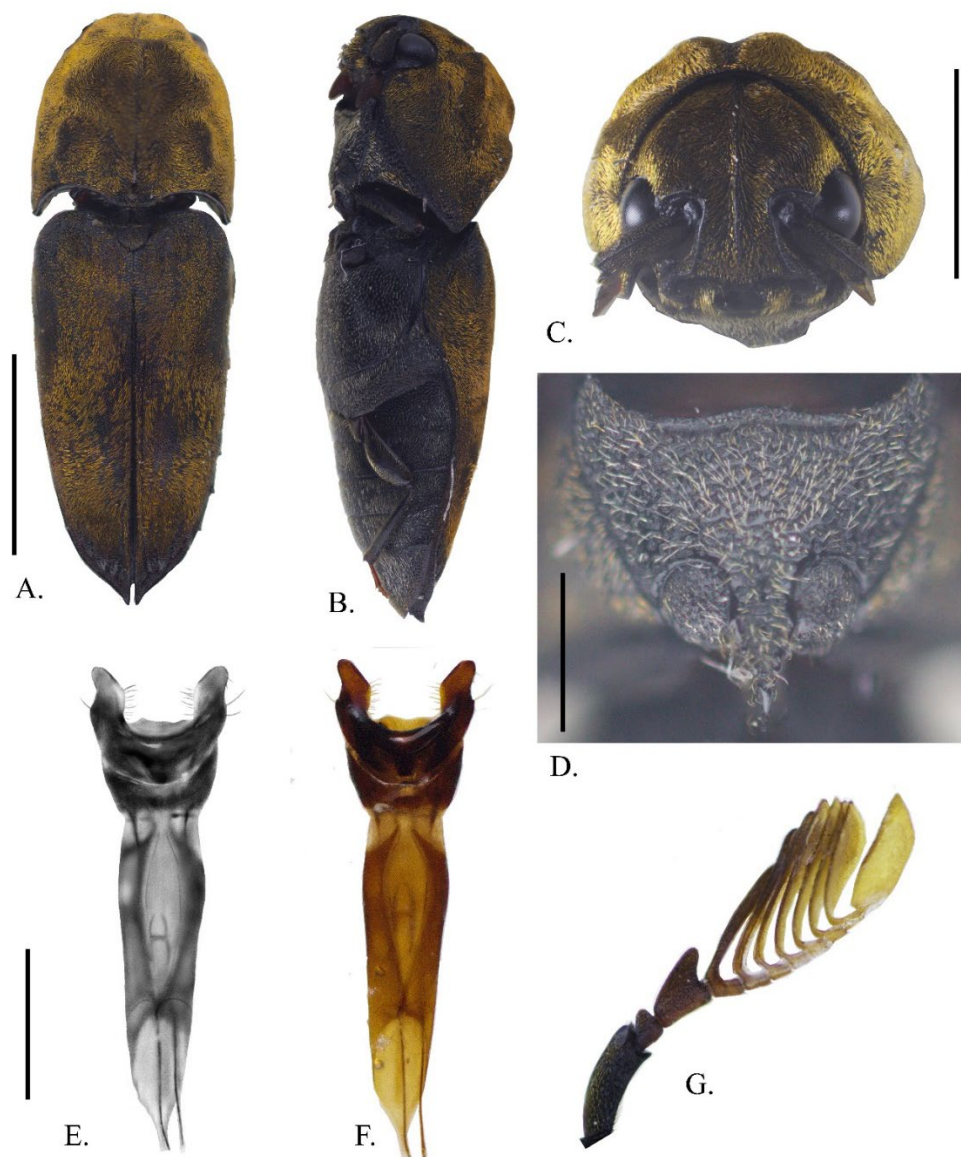


Fig. 1. Habitus of *Galbites roberti* sp. nov. Misamis Oriental: A. Dorsal aspect, B. lateral aspect, C. Frontal aspect, D. close-up view of prosternal process, E. Illustration of male genitalia, F. idem, original photo. E. antennae, dorsal aspect. Scales: A-B: 1.7 mm, C: 1.0 mm, E-F: 1.3 mm.

Diagnosis. The new species belongs to the *Galbites wallacei* species group due to its male genitalia featuring spatulate lateral lobes. Although the species also shares a character with the *G. chrysocomus* species group, having a unicolored elytral vestiture with a coppery tinge, this character is somewhat variable among species in Galbitini. The new species is distinct from other species within the *G. wallacei* group, i.e., *G. wallacei* and *G. samuelsoni*, in having flat interstices, not keeled, and dense vestiture on the pronotum (sparser at the sides in both *G. wallacei* and *G. samuelsoni*). Lateral lobes of aedeagus with basally blunt and broad apical tooth (vs. base of lateral lobes narrower in *G. wallacei*). Lateral lobes of aedeagus lined with long, soft, yellowish hairs. Median lobe with medial tooth in *G. samuelsoni* (vs. absent in both *G. wallacei* and *G. robertis* sp. nov.).

Description. Dimension: LB: 8.3 mm, WP: 3.0 mm, LP: 3.0, WF: 2.2 mm, LE: 5.4 mm, WE: 3.0 mm. Tegument. Head, antennae, elytra, legs including coxa, and underside of body matte black. Upper half of eyes goldish, lower half mate black. Head, pronotum, and elytra densely covered with goldish vestiture interspersed with black vestiture. Head with very shallow median frontal keel, with prominent frontal groove. **Head.** Antenna. Antennal groove prominent, lining along scape; Antennomere II and III pectinate; Antennomeres IV to X flabellate, antennomere XI expanded flabellate or somewhat clavate; Sensory pegs of antennomeres of different types. Pronotum convex, with median groove; with median, lateral, and anterior gibbosities. Pronotal base imarginate, with highly pointed posterior angles. **Elytra.** Elytra apices produced, elevated; with very faint, finely punctured striae; interstices flat; without patches; elytral vestiture not divided in densely haired bands; Elytral vestiture directed caudad, well-developed, dense, normal in length. **Underside of the body.**

Margin of mesoternum straight; mesepimera as wide as metepisterna. Metepisterna moderately widened caudad. Mesocoxa with well-defined medial groove. Hind coxa lightly widened laterally. Apex of last visible ventrite beak-like. **Genitalia.** Median lobe modified to variably shaped median sclerite; base of median lobe, elongated, dorsally open; lateral lobes of aedeagus medially smooth. Apex of lateral lobe twisted; Lateral lobes of aedeagus with basally blunt apical tooth. Lateral lobes of aedeagus with long, soft, yellowish hairs. Median sclerite of aedeagus flat (Fig. 1E-F).

Etymology. The species name is attributed to Robert L. Otto, of the Department of Entomology at the University of Wisconsin, United States of America, one of the leading scientific experts on Eucnemidae in the world a noun in apposition.

Distribution: Philippines (Mindanao: Misamis Oriental, Talisayan, Brgy. Mahayag Mt. Balatukan Range).

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