

# NEW AND INTERESTING RECORDS OF TIGER-BEETLES (CICINDELIDAE, COLEOPTERA) FROM THE PHILIPPINES

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## Abstract

In this paper we provided new distributional and ecological data about three poorly known, endemic species of the Philippines. One species, *Myriochila (s. str.) specularis brevipennis* (W. Horn, 1897), is recorded from Philippines for the first time. High quality images of habitus and aedeagus for these species are given for the first time.

Keywords: Philippines, Mindanao, Palawan, fauna, records.

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## INTRODUCTION

The Philippine Islands is truly a fascinating country in terms of its biodiversity. Amongst the seventeen megadiverse countries in the world (Myers et al. 2000), the Philippines stands out for having one of the highest species diversity and endemism (Catibog-Sinha & Heaney 2006, Heaney & Regalado 1998). Due to the unique biogeographic origin of every major island in the Philippines, each island harbors unique species majorly waiting for discovery (Anichtchenko & Medina 2024). Now the time known 158 species of Tiger beetles in the Philippines, majorly of which (about 87%) are endemic in the country (Cabras et al. 2016, Medina et al. 2020a, Anichtchenko 2024). This group of beetles serves diverse ecologic roles, occupy specific

habitats, and spread across continents except in Antarctica (Cassola & Pearson 2000, Medina 2020). The taxonomy of tiger beetles in the Philippines has garnered much attention in the last decade wherein several species have been firstly recorded for Philippine fauna (Anichtchenko & Wiesner 2023, Wiesner & Anichtchenko 2023, Matalin 2023, Anichtchenko & Medina 2019, Anichtchenko & Medina 2020, Medina et al. 2019, Medina et al. 2020b, Medina et al. 2022).

There are two conclusions from this work, good and bad. Firstly, it turned out that local endemics are more widespread in Mindanao than previously thought. Secondly, they are always confined to primary forests and untouched biotopes. Unfortunately, they are fragmentary, their area is extremely small and is rapidly declining, which leads to the

extinction of species. Any endemic species should be considered bio-indicators of the state of the environment and protected.

## MATERIAL AND METHODS

Material used in this study are deposited in the following collections:

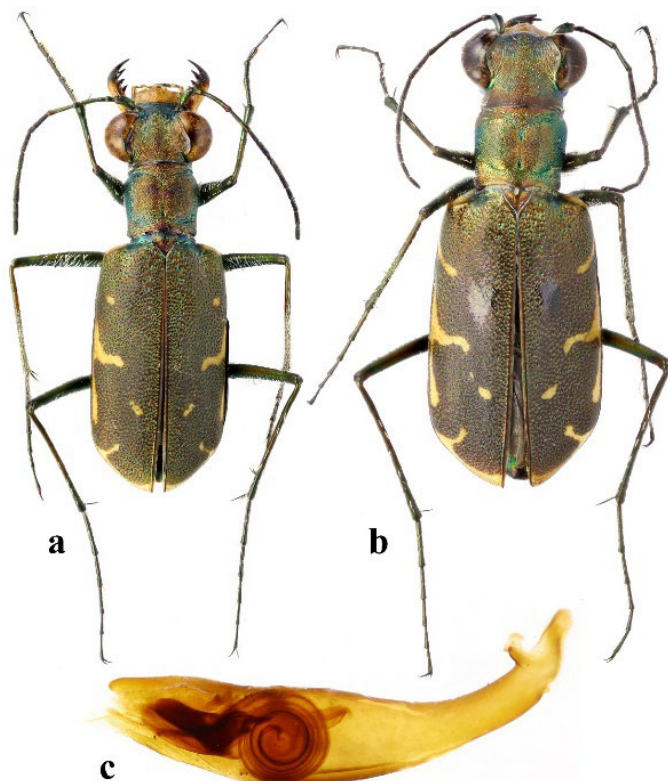
- AAc Alexander Anichtchenko Collection, Daugavpils, Latvia  
DOrSU Davao Oriental State University Beetle Collections, Mati City, Philippines.  
MMCP Milton Medina Collections, Tagum City Philippines.  
PNM Philippine National Museum, Ermita, Manila, Philippines.  
RSc Riccardo Sciaky Collection, Milan, Italy.

Morphological characters were observed under Leica MZ 12.5 stereomicroscope. Habitus images were taken using Canon EOS 6D digital camera equipped with an MP-E 65mm macro lens mounted in 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 a licensed Photoshop CS6 Portable software version. Map created with <https://www.simplemappr.net>

## RESULTS

### *Myriochila (s. str.) specularis brevipennis* (W. Horn, 1897) (Fig. 1)

**Material.** 1 m, 1 f: “Roxas, Palawan, Philippines, July 2023” (DUBC); 1 m, 1 f: “Indonesia, Sumatra, Z. Aceh, 24.3.1993, leg. Dr. E.W. Diehl” (AAc).



**Figure 1.** *Myriochila (s. str.) specularis brevipennis* (W. Horn, 1897). Habitus (dorsal view): a – male; b – female; c – aedeagus. Photo: A. Anichtchenko.

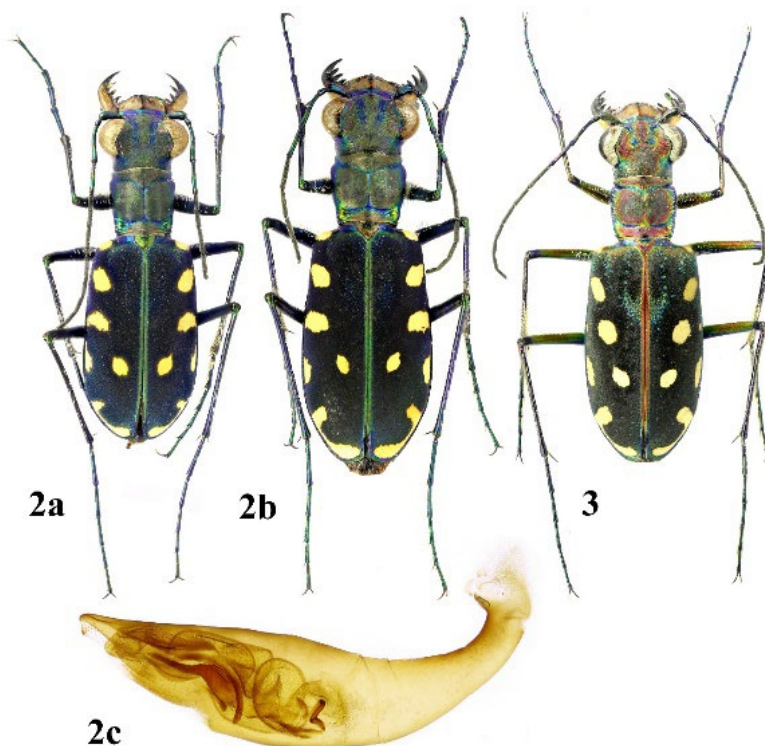
**Comments.** Specimens from Palawan were carefully compared with the material of *M. (s. str.) specularis brevipennis* (W. Horn, 1897) from Sumatra. No substantial differences in external morphology and aedeagus structure were found. High quality image of the aedeagus, showing the endophallus structure (Fig. 1c) is provided here for the first time. Species first time recorded for the Philippines.

**Distribution.** This species is widely distributed in SE Asian region: Cambodia, China, Indonesia, Japan, Laos, Malaysia, Thailand, Taiwan, and Vietnam. The subspecies *brevipennis* is known from

Indonesia (Sumatra: Aceh, S. Utara, S, Barat, Bengkulu, Jambi, S. Selatan, Lampung; Jawa; Sumbawa; Selei Is; Sulawesi: S. Selatan, Sumba), Malaysia (Borneo: Sarawak), Philippines (Palawan).

***Calomera cabigasi* Cassola, 2011** (Fig. 2, Fig. 6)

**Material.** 2 m: “Philippines: Mindanao, Davao Oriental, Cateel, Brgy. Maglahus, elevation ~1000 masl, M.Camposo, leg.” (MMCP). 2 f: same label data (DORSU); 1 m, 1 f: “Philippines, Mindanao, Bukidnon, Cabanglasan, Oct. 2014” (DUBC).



**Figures 2 - 3.** Fig. 2: Habitus (dorsal view) of *Calomera cabigasi* Cassola, 2011, a – male; b – female; c – aedeagus. Fig. 3: Habitus (dorsal view) of *C. mindanaoensis* (Cassola, 2000). Photo: A. Anichtchenko.

**Comments.** This species can be confused with *C. mindanaoensis* (Cassola, 2000) (Fig. 3) for having similar elytral maculation, but can be easily distinguished by the pronotum, coppery green or bluish with scarce setae at the lateral

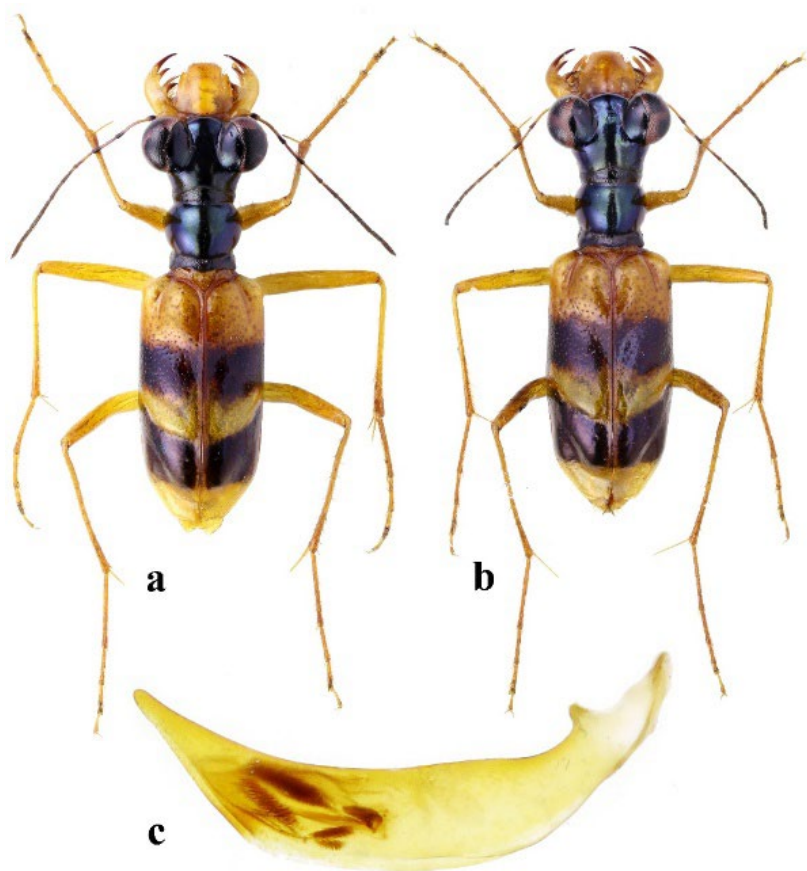
sides in *C. cabigasi* (vs. highly pubescence with coppery bluish green sometimes coppery red in *C. mindanaoensis*). Moreover, the elytral suture in *C. mindanaoensis* is lined with coppery red (vs. absent in *C. cabigasi*).

Most specimens of *C. cabigasi* are dark blue when viewed dorsally, sometimes almost black and with dull elytra. The elytral punctation is not visible through (unlike *C. mindanaoensis* and *C. lacrymosa*). Two discal dots show a tendency to almost coalesce with each other through a narrow lineole in between, which is sometimes poorly visible or almost effaced (Medina et al. 2021). Unfortunately, Cassola (2011) in the description of this species did not provide an image of the aedeagus. High quality image of aedeagus, showing endophallus structure (Fig. 2c) is provided here for the first time.

**Ecology.** Consistent with the previous observations (Medina et al. 2021), the species were collected in relatively higher elevations with good forests along the fluvial ecosystem. Among the three *Calomera* species in Mindanao, this one is considered the rarest to find.

**Distribution.** Endemic to Mindanao (Misamis Oriental, Gingoog (type. loc.); Bukidnon, Impasug-ong; Davao de Oro: New Bataan, Cagan; Davao Oriental: Cateel, Brgy. Maglahus – a new faunistic record.

***Therates hubertusi* Medina & Cabras, 2022**  
(Fig. 4, Fig. 6)



**Figure 4.** *Therates hubertusi* Medina & Cabras, 2022. Habitus (dorsal view): a – male; b – female; c – aedeagus. Photo: A. Anichtchenko.

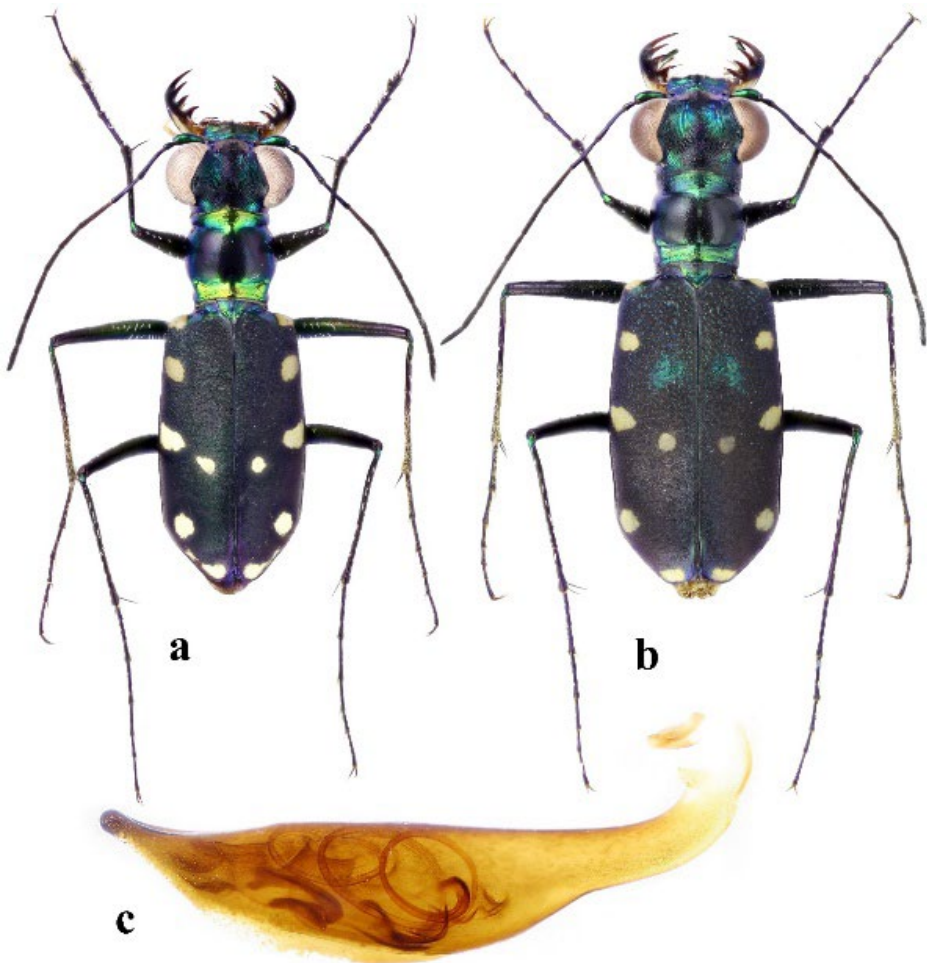
**Material.** 2 m, 1 f: “Philippines, Mindanao. Davao del Sur, Karilongan Mt., 850m, 7.126816, 125.357420, 16-17.v.2023, Anichtchenko A. leg.” (AAc); 1 m, 1 f: “Mindanao, Misamis or., Cagayan de Oro, IV.2023” (RSc).

**Comments.** The species was previously known only from the type locality, where it occurs extremely locally, over an area of several tens of meters, despite the fact that there are a large number of similar biotopes nearby. Therefore, it is very encouraging to find this species in another part of the island.

**Ecology.** In the type locality species was collected approximately 200 meters from the riparian secondary forest ecosystem, around 700 m a.s.l., perching in *Cyatheaconta minans* (Giant Tree Fern). The biotype has clayish soil partially covered with shrubs mostly members of *Pteridophyta* and *Anthophyta* (Medina et al. 2022). High-quality image of aedeagus, showing endophallus structure (Fig. 4c) is given for the first time.

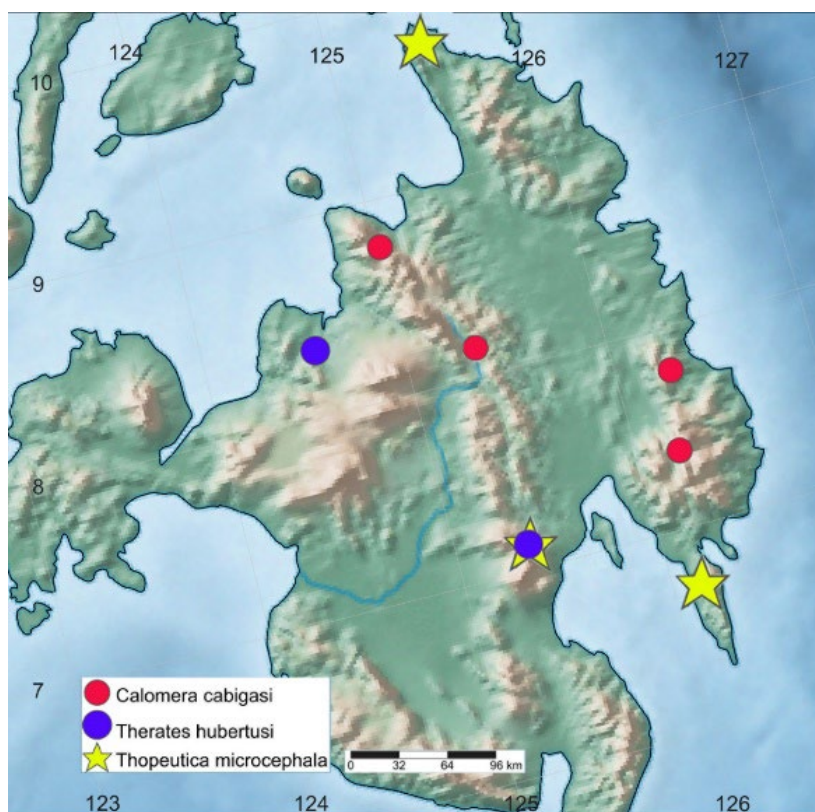
**Distribution.** Endemic to Mindanao.

*Thoepitica microcephala* (W. Horn, 1924)  
(Fig. 5, Fig. 6)



**Figure 5.** *Thoepitica microcephala* (W. Horn, 1924). Habitus (dorsal view): a – male; b – female; c – aedeagus. Photo: A. Anichtchenko.





**Figure 6.** Distribution map of *Calomera cabigasi* Cassola, 2011; *Therates hubertusi* Medina & Cabras, 2022 and *Thopeutica microcephala* (W. Horn, 1924). Base map source: <https://www.simplemappr.net/>.

**Material.** 4 m, 2 f: “Philippines, Mindanao. Davao del Sur, Karilongan Mt., 850m, right side of river, 7.127466, 125.358581, 16-17.v.2023, Anichtchenko A. leg.” (AAc); 1 m: “Philippines, Mindanao, Mt. Hamiguitan, 410-500m, 6.73493N, 126.14129E, near waterfall, 19-24.V.2023, Anichtchenko A. leg.” (AAc).

**Comments.** This is rare species, previously known by three specimens from Surigao (Mindanao) (Cassola & Ward 2004). High quality image of aedeagus, showing endophallus structure (Fig. 5c) is given for the first time.

**Ecology.** The species is found on moist shady paths crossed by small streams, on steep slopes covered with forest.

**Distribution.** Endemic to Mindanao.

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