

***Thopectica (Thopectica) barsevskisi* sp. n. a new tiger beetle (Coleoptera: Cicindelidae) in Bohol Island Philippines**

Milton Norman D. Medina, Analyn A. Cabras, Reagan Joseph T. Villanueva

Medina M. N. D., Cabras A. A., Villanueva R. J. T. 2020. *Thopectica (Thopectica) barsevskisi* sp. n. a new tiger beetle (Coleoptera: Cicindelidae) in Bohol Island Philippines. *Baltic J. Coleopterol.*, 20 (1): 95 – 100.

Thopectica (Thopectica) barsevskisi sp.n. is described from Philippines, Visayas, Bohol. It is characterized by blunt tridentate metallic green labrum, sharp pointed elytra sutural tooth, and bottle-shaped aedeagus with semi hook-like recurved apex.

Keywords: Cicindelini, *Thopectica*, *barsevskisi*, novel.

Milton Norman D. Medina, Analyn A. Cabras. *Coleoptera Research Center, University of Mindanao, Davao City Philippines*

Reagan Joseph T. Villanueva, *Biology Program, College of Arts and Sciences Education, University of Mindanao, Davao City Philippines*

Correspondence: mnd_medina@umindnanao.edu.ph

INTRODUCTION

Tiger beetles (Cicindelidae) in the Philippines remains highly unknown (Cassola & Ward, 2004) particularly the genus *Thopectica*. The genus *Thopectica* is endemic both in the Philippines and Sulawesi. In the Philippines, the genus is represented by two sub-genera *Thopectica* s.str. and *Philippiniella* (Cassola & Ward, 2004). The sub-genus *Thopectica* s.str. currently represented by 25 species and *Philippiniella* with 4 species in the Philippines (Cabras et al., 2016). At present, *Thopectica* species is distributed in the Philippines with concentration in Luzon Island with 18 species, 8 from Mindanao, and 7 from the Visayas mostly from Samar, Leyte, and Negros (Cabras et al. 2016). Only one species is

documented in Bohol, *Thopectica (Thopectica) virginialis* (Horn 1901) (Cabras et al. 2016) which is also documented to be present in the three main islands of the Philippines, Luzon, Visayas, and Mindanao. In this paper, additional species is described and illustrated from Bohol Island below.

MATERIALS AND METHODS

The holotype of this new species is deposited in the University of Mindanao Coleoptera Research Center (UMCRC). The specimens were collected primarily through light trapping using mercury bulb during night time and opportunistic sampling during day time. Specimens were killed in vials with ethyl acetate.

Morphological characters were observed under Luxeo 4D and Nikon SMZ745T stereomicroscopes. Stacked digital habitus images were taken with Nikon D5300 digital camera and Sigma 18-250 macro lens whereas digital images of genitalia were taken with Ricoh WG-50. All images were then stacked and processed using a licensed version of the software Photoshop CS6Portable.

The measurements taken are adopted from Matalin (2015) as follows: total body length (TBL) from anterior margin of clypeus to apex of elytra (without labrum); length of labrum (LL) from anterior margin of clypeus to anterior margin of labrum (without apical tooth); length of pronotum (LP) along midline; length of elytra (LE) from shoulders to apex of sutural angle (without sutural tooth); width of labrum (WL), pronotum (WP), and elytra (WE) in their broadest sense.

Materials examined:

MTD - Museum fur Tienkunde Dresden, Germany

UMCRC - University of Mindanao Coleoptera Research Center, Philippines

JWCG - Jurgen Wiesner Collections, Dresdener Ring Wolfsburg, Germany

RESULTS

Taxonomy

Thopeutica (Thopeutica) barsevskisi sp.nov. (Fig. 1)

Type depository. Holotype male in UMCRC, 3 paratype males and 5 paratype females in UMCRC, 1 paratype male and 1 paratype female in RJVC, 1 paratype male and 1 paratype female in MNMC.

Type status. Holotype male: Philippines, Visayas, / Bohol, / Antiquera, / Hinambakan, / 1.iv.2019, local collector leg.”, “PARATYPE / *Thopeutica (Thopeutica) barsevskisi* n. sp. /ded. Medina, Cabras & Villanueva 2019 [printed, red]”.

Paratypes: 3 males and 5 females with same label data in UMCRC. One male and 1 female with the following label data: “Philippines, Visayas, / Bohol, / Antiquera, / iv.2019, local collector leg.”, “ PARATYPE / *Thopeutica (Thopeutica) barsevskisi* n. sp. /ded. Medina, Cabras & Villanueva 2019 [printed, red]”.

Etymology. This new species is named in honour of our good friend Dr. Arvids Barsevskis, a coleopterist in Daugavpils University Latvia who is instrumental in advancing coleoptera research and conservation in the Philippines.

Description. Male. Length without labrum 8.5-9.0 mm (Fig. 1). Head dorsal metallic green, ventral metallic blue including gula and genae finely striated, frons striated metallic green with shade of metallic blue, vertex coppery black, with striated supraorbital striae, clypeus smooth metallic green, antennal plates glabrous. Eyes large as wide as elytra, protruding, globose, supraorbital area striated, with two setae near each eyes. Labrum coppery metallic green, transversal 3.5 times wider than long, tridentate slightly blunt teeth, 10-11 labral setae (Fig. 3). Mandibles, labial palp white at base, dark brown otherwise, length 1mm. Labial and maxillary palpi half towards the base white, dark brown otherwise. Antennae filiform, when projected posteriorly until one fourth of the elytra; scape metallic blue with shade of coppery green, scape and antenommeres coppery green, pubescent all segments. Pronotum coppery green, 1.5 times longer than wide, hairs distributed mostly at the lateral side; pronotal disc finely striated metallic green; pronotal groove shallow; dorsal bulging at the middle, slight depression near the anterior and posterior side. Prosternum and proepisternum metallic green, prosternal epimeron metallic green, prosternal process metallic green, mesepisternum metallic yellow covered with hairs, mesosternum metallic blue, metasternum glabrous, metallic blue at the middle otherwise metallic green, coxa of front, middle, lower legs coppery metallic green, all trochanters dark brown, femur copper green covered with hairs, tibia coppery black, tarsus dark

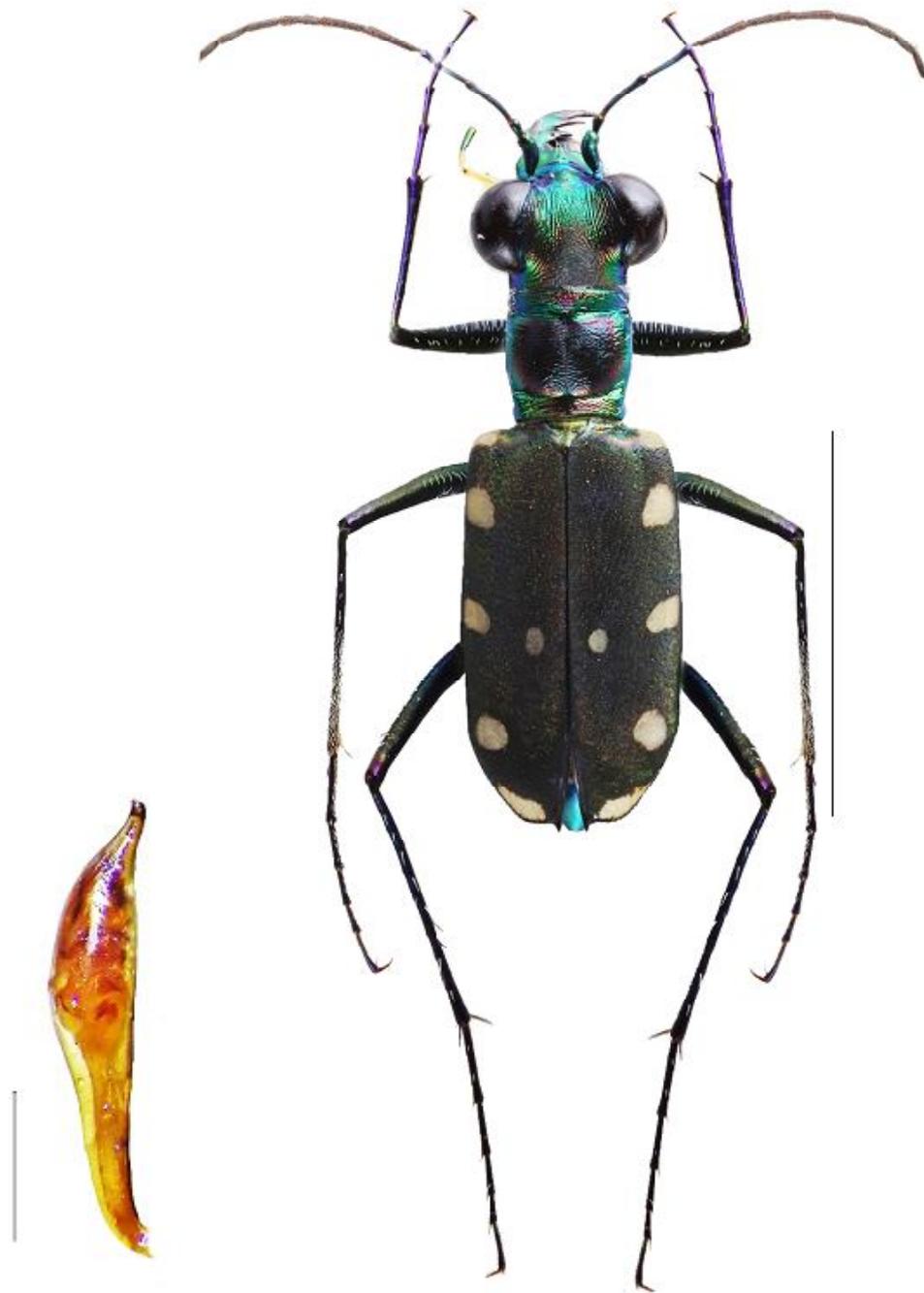


Fig. 1. *Thopeutica (Thopeutica) barsevskisi* sp.n.: habitus holotype male, scale =5mm; detail aedeagus holotype, lateral view, scale= 1mm

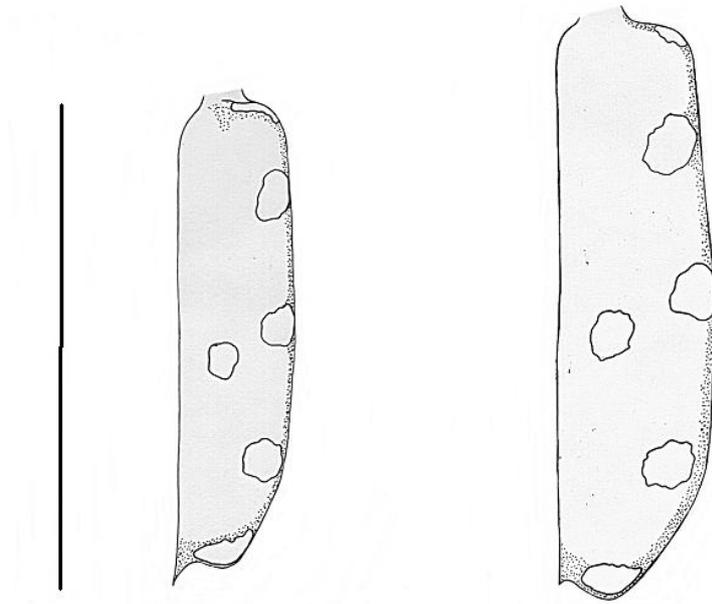


Fig. 2. Elytra of *Thopeutica (Thopeutica) barsevskisi* sp.n.; elytra of *Thopeutica (Thopeutica) virginalis* Horn (1901) scale=5mm

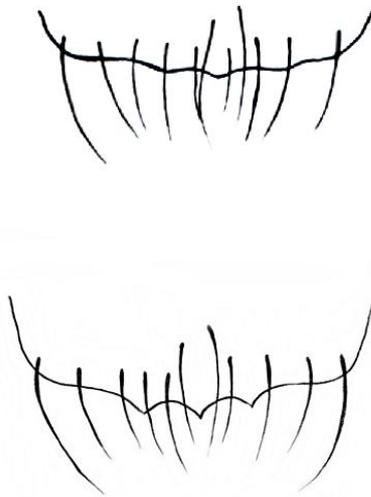


Fig. 3. Labrum of *Thopeutica (Thopeutica) barsevskisi* sp.n. (Upper); Labrum of *Thopeutica (Thopeutica) virginalis* (Horn 1901) (Lower)

brown, unguiculus dark brown to black. Abdominal sternites 1-5 coppery green pubescent at the lateral side up to near the middle, anal sternite light brown. Elytra twice longer than wide, length from base to apex 5.5mm, widest 2.5mm. Scutellum metallic green, elytral suture sharp black, basal, medial, and apical green, coppery green at near the margin, sutural tooth pointed 0.5mm, coppery black, epipleura color metallic blue. Aedeagus 3 mm long, 0.5mm widest, bottle shape, expanded from half and tapering towards the apex, apex slightly recurved.

Female. Length without labrum 9.0 mm. Female is selfsame with male, without a glass in the elytra. The only way to determine the sexes is through examining their genitalia. Head dorsal metallic green, ventral metallic blue including gula and genae finely striated, frons striated metallic green with shade of metallic blue, vertex coppery black, with striated supraorbital striae, clypeus smooth metallic green, antennal plates glabrous. Eyes large as wide as elytra, protruding, globose, supraorbital area striated, with two setae near each eyes. Labrum coppery metallic green, transversal 3.5 times wider than long, tridentate slightly blunt teeth, 11 labral setae. Mandibles, labial palp white at base, dark brown otherwise, length 1mm. Labial and maxillary palpi half towards the base white, dark brown otherwise. Antennae filiform, when projected posteriorly until one fourth of the elytra; scape metallic blue with shade of coppery green, scape and antennomeres coppery green, pubescent all segments. Pronotum metallic blue, 1.5 times longer than wide, hairs distributed mostly at the lateral side; pronotal disc finely striated metallic green; pronotal groove shallow; dorsal bulging at the middle, slight depression near the anterior and posterior side. Prosternum and proepisternum metallic green, prosternal epimeron metallic green, prosternal process metallic green, mesepisternum metallic yellow highly pubescent, mesosternum metallic blue, metasternum glabrous, metallic blue at the middle otherwise metallic green, coxa of front, middle, lower legs coppery metallic green, all trochanters dark brown, femur copper green covered with hairs, tibia coppery black, tarsus dark brown,

unguiculus dark brown to black. Abdominal sternites 1st and 2nd metallic blue, 3rd to 5th metallic green with hairs at the lateral side up to near the middle, anal sternite light brown. Elytra twice longer than wide, length from base to apex 5.5mm, widest 2.5mm. Scutellum metallic green, elytral suture sharp black, basal, medial, and apical green, coppery green at near the margin, sutural tooth pointed 0.5mm, coppery black, epipleura color metallic blue.

Distribution. *Thopeutica (Thopeutica) barsevskisi* sp. nov., is known only from the type locality in the Municipality of Antiquera in Bohol Philippines.

Ecology. The present species is collected near the river banks of Antiquera at lower elevation between 30 to 50 masl, partly shaded with Big-Leaf Mahogany (*Swietenia macrophylla*).

Differential diagnosis. This new species is very similar with *Thopeutica (Thopeutica) virginalis* (Horn, 1901) but easily recognized in their size difference. *Thopeutica (Thopeutica) barsevskisi* sp. nov. is smaller compared to *T. virginalis* (Horn, 1901) (8.5-9.0mm) vs. 11-12mm) respectively. Elytral suture of *Thopeutica (Thopeutica) barsevskisi* sp. nov. is more pointed than *T. virginalis* (Horn, 1901) (Fig.2). *Thopeutica virginalis* (Horn, 1901) frons is metallic blue while *Thopeutica (Thopeutica) barsevskisi* sp. nov. is metallic to coppery green. Ventral side in the abdomen of *T. virginalis* (Horn, 1901) is metallic blue while *Thopeutica (Thopeutica) barsevskisi* sp. nov. is metallic green. Both species have tridentate labrum but *T. virginalis* (Horn, 1901) have 3 prominent serrated teeth while *Thopeutica (Thopeutica) barsevskisi* sp. nov. have blunt teeth (Fig.3). Ultimately, aedeagus of *T. virginalis* (Horn, 1901) have sharp pointed apex while *Thopeutica (Thopeutica) barsevskisi* sp. nov. have bottle-shaped recurved to semi hook-like apical structure (Fig.2).

This new species is also similar to Mindanao endemic species *T. anichtchenkoi* (Wiesner, 2015) and *T. rollandmulleri* (Cassola, 2000) for having

greenish elytra but distinctly smaller compared to *T. rollandmulleri* (Cassola, 2000) with 10.5-11.5mm total length and *T. anichtchenkoi* (Wiesner, 2015) with 9.4-10.8mm total length. *Thopeutica (Thopeutica) barsevskisi* sp. nov. have blunt teeth compared to *T. anichtchenkoi* (Wiesner, 2015) have three prominent teeth and distinctly much inflated aedeagus after the base.

Carabidae: Cicindilinae) from Northern Vietnam. Journal of Asia-Pacific Entomology, 18, 409-412.

Wiesner, J. 2015. Two new *Thopeutica* species from the Philippines (Coleoptera: Carabidae: Cicindelinae). Mitt. internat. entomol. Ver. Band 40 'Heft 112 Frankfurt.

ACKNOWLEDGEMENT

We thank Herr Jurgen Wiesner for the kind review of the manuscript. Our gratitude to Dr. Klaus-Dieter Klass Sectionsleiter Coleoptera, MTD, Olaf Jager Preparator Coleoptera MTD. We also thank the anonymous reviewers and Rufford Small Grant Foundation for the funding support of the previous expeditions.

Received: 15.05.2020

Accepted: 15.08.2020

Published: 31.08.2020

REFERENCES

Cabras, A., Cabigas, E. & Wiesner, J. 2016. An Updated Checklist of the Tiger Beetles (Coleoptera: Cicindilinae) of the Philippines. Lambillionea. CXVI 3, 2016: 188-201.

Cassola, F. 2000. Studies on tiger beetles. CII. The Cicindilidae collected by Roland A. Muller in the Philippine Islands, with description of three new species (Coleoptera: Cicindilidae). Zool. Med. Leiden, 73(33), 491-509.

Cassola, F.- & Ward, R. D. 2004. Systematics and zoogeography of the Philippine species of the genus *Thopeutica* Chaudoir, 1861. – Annali del Museo Civico di Storia Naturale di Genova 96: 1-32.

Kibby, G. 1985. A review of *Thopeutica*, a subgenus of *Cicindela*, (Coleoptera: Cicindelidae), with a key to species and descriptions of two new taxa. Journal of Natural History, 1985, 19:21-36.

Matalin, A.V. 2015. A new species of tiger beetles of genus *Cylindera* Westwood, 1831 (Coleoptera,