

Description of two new *Therates* Latreille, 1816 species from Philippines (Coleoptera: Cicindelidae)

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Anichtchenko A., Wiesner J. 2022. Description of two new *Therates* Latreille, 1816 species from Philippines (Coleoptera: Cicindelidae). *Baltic J. Coleopterol.*, 22(1): 75–80.

Two new species of the genus *Therates* Latreille, 1816 from the Philippines are described: *T. barsevskisi* sp. n. (Panay island) and *T. insolitus* sp. n. (Mindanao island). Illustrations of habitus and aedeagus for each new species are provided. Differential diagnosis with closely related species is given.

Key words: Coleoptera, Cicindelidae, *Therates*, taxonomy, new species, Philippines.

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INTRODUCTION

The genus *Therates* occurs from Eastern India to Japan, and from North from Tibet to Papua New Guinea, and it presently includes 124 known species with 65 subspecies. (Anichtchenko, 2022; Wiesner, 2020). The species of this genus from Philippines were recently partially revised (Zettel & Pangantihon, 2017).

Herein we describe two new species of *Therates* from the Philippines, one with an unusual form of labrum and coloration of elytra, the other from the recently revised group, a key is also provided.

MATERIAL AND METHODS

The specimens we examined are from the DUBC – Daugavpils University Beetles collection (Latvia); cRS – private collection of Riccardo Sciaky (Italy); cJW – collection of Jürgen Wiesner (Germany, long term loan of the Zoologische Staatssammlung, München).

Measurements: body length, from anterior margin of clypeus to apex of elytra along suture; length of elytra (LE), from its base to apex along suture; width of elytra (WE), at widest point. All measurements are given in millimeters.

Photographs of the habitus and individual structural details were taken using a Canon EOS 6D camera with a MP-E 65 mm macro lens. All pic-

tures were processed using Helicon Focus 8 and Adobe Photoshop CC software.

High-resolution habitus images of most *Therates* species, including type specimens and additional material, are available at Carabidae of the World web-project <http://carabidae.org>.

Comparative material. *Therates pseudosemperi* W.Horn, 1928: 1m, 1f – Philippines Mindoro, Mt. Halcon, 500m, 27-30.4.1984 leg. J.Bogenberger (cJW); *Therates negrosicola* Zettel & Pangantihon, 2017: 1m, 1f – Philippines, C Visayas, Negros Oriental, 1.2013 (DUBC); 1f – Philippines, Negros, Mt. Canlaon 600-900m, 2.2014 (DUBC); *Therates monticola* Zettel & Pangantihon, 2017: 1m, 2f – Pinukpok, Calinga, North Luzon, June 2018 (DUBC).

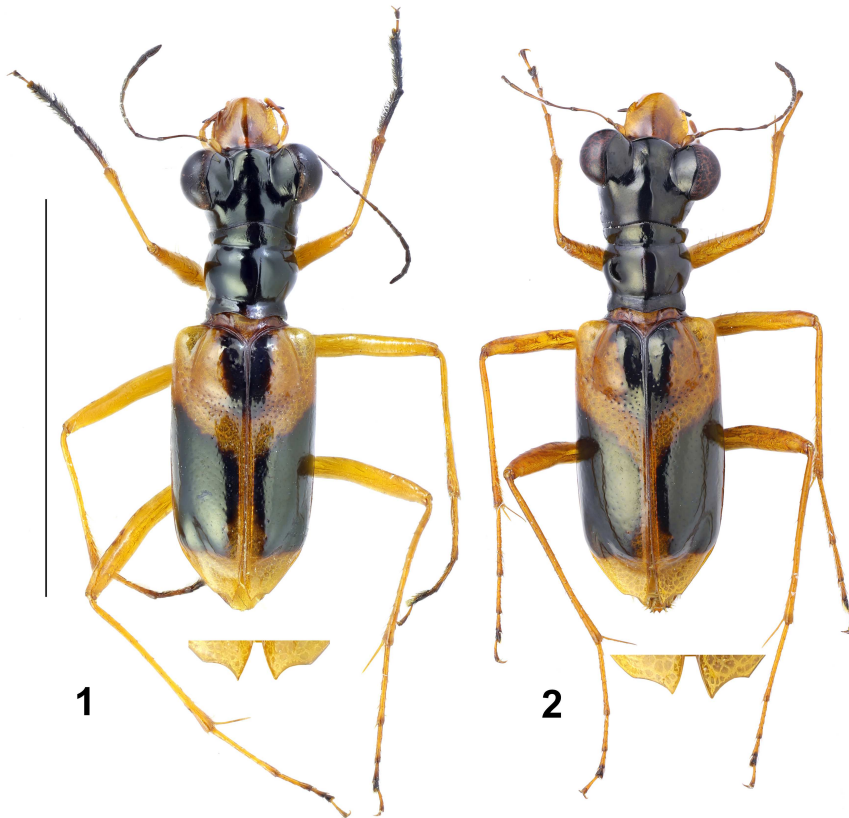
RESULTS

Therates barsevskisi sp. n.

(Figs. 1–2)

Type material: Holotype, male – “Philippines | W Visayas, Antique | Panay 2018. VII | local collector leg” (DUBC). Paratypes: 1 female – “Philippines | Panay isl. | Antique VII. 2017” (cJW); 1 male, 1 female – “Philippines, W.Visayas, Panay island, M. Madia-as, VI.2018” (cRS).

Diagnosis. This new species belongs to “*fasciatus*” – group, characterized by clypeus without setae, and by elytra without tumescence at mid length. By its elytral pattern it is similar to *T. pseudosemperi* (Mindoro isl.) and *T. negrosicola* (Negros isl.), but this new species can be easily distinguished by its entirely black pronotum.



Figs. 1–2. Habitus of *Therates barsevskisi* sp. n.: 1 – holotype, male; 2 – paratype, female. Scale line = 1 sm.

Description. Body length 11.0-11.5 mm, mean = 11.1.

Head and pronotum black with light gold luster; elytra black with gold luster and orange transverse bands. Labrum, mouth parts and legs orange.

Head without microsculpture, temples not protruding, slightly convergent towards pronotum; clypeus without setae; frons wide, frontal grooves shallow, gradually curved; eyes very protruding; each supra-orbital plate with one seta. Labrum (Figs. 6–7) relatively long; with extremely shallow microsculpture, almost isodiametric on the disc and slightly transverse on sides; with nine submarginal setae and ten teeth: with six short frontal central teeth's, with rounded apices in four central and slightly pointed in lateral ones, as well as a pair of slightly longer and narrower latero-apical teeth and longer and pointed latero-basal teeth on both sides. Mandibles orange with dark brown tooth's. Antennae relatively long; blackish brown, scape and pedicel yellow, except blackish dorsal side.

Pronotum as long as wide, smooth; midline barely visible; anterior and posterior grooves glabrous.

Elytra relatively short, almost twice as long as wide ($EL/EW = 1.91-2.0$), parallel sided, orange. Elytral maculation black with weak gold luster, consisting of elongate spot along suture in basal third of elytra and wide transversal band, interrupted on suture; the front edge of the band is beveled towards the middle, the posterior edge is straight and transverse. Without microsculpture. Sutural tooth on apices of elytra relatively long and acute, exterior angle of elytra obtuse. Epipleura and scutellum orange.

Prosternum and proepisternum black, with brown area around procoxal cavity. Mesosternum black, with posterior half brownish, mesepisternum black, with brown area near mesocoxal cavities. The rest of ventral sternites brown.

Legs uniformly orange, except black apex of third tarsomere and tarsomere 4 of all tarsi in females; protarsa, mesotarsomeres 3–4 and apex of 2; metatarsomere 4 and apices of 1–4 black in males.

Aedeagus (Fig. 8) relatively large; with a wide, gradually curved basal bulb; ventral side of median lobe straight; apical third moderately downturned, apex relatively wide and rounded; internal sack with big and thick flagellum, hook-shaped at the base.

Distribution. Philippines, Panay island.

Etymology. Species is named after our friend and colleague Dr. Arvids Barševskis, a coleopterist in Daugavpils University (Latvia) in appreciation of his contribution to the study of coleoptero-fauna of Philippines.

***Therates insolitus* sp. n.**

(Fig. 3)



Fig. 3. Habitus of *Therates insolitus* sp. n., holotype, female. Scale line = 1 mm.

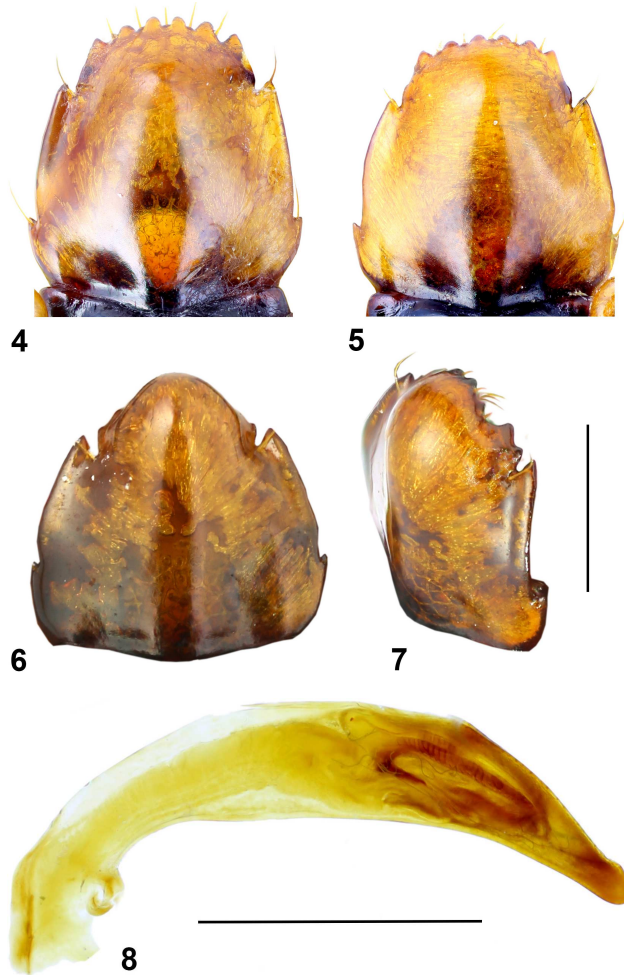
Type material: Holotype, female – “Philippines | Mindanao | Cotabato | 3.2013” (DUBC).

Diagnosis. This new species can be easily differentiated from all known species of the genus by its unusual shape of labrum (Figs. 6–7), apically strongly inflated, with downturned apical margin. From other species known from the island Mindanao, it also differs by the short sutural tooth of elytra and by golden green color of elytral pattern, which in the rest of species is purple.

Description. Body length 11 mm in holotype.

Head and pronotum black with light gold luster; elytra black with gold luster and orange transverse bands. Labrum, mouth parts and legs orange.

Head without microsculpture, temples not protruding, slightly convergent towards pronotum; clypeus without setae; frons wide, frontal grooves shallow, gradually curved; eyes protruding; each supra-orbital plate with one seta. Labrum (Figs. 6–7) elongate; without microsculpture; apical part strongly inflated and apical margin downturned; with 9 submarginal setae and 12 teeth: with 4 short frontal marginal teeth, two large and wide double teeth on both side (submarginal setae between them missing), as well as a pair of long and pointed latero-apical teeth and small latero-basal teeth on both sides. Mandibles orange with dark brown teeth. Antennae relatively long; blackish brown, scape and pedicel yellow, except blackish dorsal part.



Figs. 4–7. Labrum of *Therates* spp. 4 – *T. barsevskisi* sp. n., male; 5 – idem, female; 6–7 – *T. insolitus* sp. n., female. Scale line = 1 mm.

Fig. 8. Aedeagus of *Therates barsevskisi* sp. n., holotype. Scale line = 1 mm.

Pronotum as long as wide, smooth; midline indistinct; anterior and posterior grooves glabrous.

Elytra relatively short (EL/EW = 1.85), parallel sided, black with gold luster. Elytral maculation orange, consisting of wide basal band; transversal middle spot, not reaching lateral margin and suture; and relatively narrow apical band. Without microsculpture. Sutural tooth on apices of elytra right and short, exterior angle of elytra obtuse and widely rounded. Epipleura and scutellum orange.

Pro- and mesosternum; pro-, mes- and metepisternum black. Metasternum black with brown central part and narrow posterior margin. The rest of ventral sternites orange brown.

Legs uniformly orange, except apex of third tarsomere and 4–5 tarsomeres entirely black. Male unknown.

Distribution. Known only from type locality in Mindanao island.

Etymology. The name derived from the Latin, *insolitus*, meaning ‘unusual, odd, queer’, in reference to the somewhat atypical appearance of the labrum.

Key to the new species (modification and supplementation of the key by Zettel and Pangantihon 2017: 101, 102)

1. Pronotum entirely black. 5
– Pronotum entirely or partly orange to brown, at least in middle of disc; Aedeagus without dorsal emargination. Northern and western Philippines. 2
2. Pronotum and mesoepisternum entirely orange. Black circumscutellary mark often lacking. Luzon. *T. semperi* Schaum, 1860
– Pronotum laterally slightly infuscated, at least on collar. Mesoepisternum black or at least dorsally infuscated. Black circumscutellary mark always present. 3

3. Small species, body length 8.8–10.5 mm. Black central mark of elytron short, positioned farther from the apex than its total length. Area of coarse puncturation on anterior depression extended posteriorly. Northern Luzon. *T. monticola* Zettel & Pangantihon, 2017
– Body length 10.7–12.0 mm. Black central mark of elytron long, reaching closer to apex. Different distribution areas. 4

4. Subapical tooth of elytron obtuse. Coarse puncturation of anterior depression of elytron extended to posterior part of basal tumescence. Basal tumescence posteromedially weakly limited, thus appearing heart-shaped. Mindoro.
..... *T. pseudosemperi* Horn, 1928
– Subapical tooth of elytron well developed. Coarse puncturation of anterior depression of elytron not extended to basal tumescence. Basal tumescence posteromedially limited, thus appearing ovate. Negros. *T. negrosicola* Zettel & Pangantihon, 2017

5. Elytron without circumscutellary mark. Aedeagus with weak dorsal emargination. South-eastern Philippines, Sulawesi, Halmahera.
..... 6
– Elytron with circumscutellary mark. Aedeagus without weak dorsal emargination. Panay.
..... *T. barsevskisi* sp. n.

6. Labrum normal *T. fasciatus* sensu lato
– Labrum inflated apically, with downturned anterior margin *T. insolitus* sp. n.

ACKNOWLEDGMENTS

The authors are grateful to Arvids Barševskis (Daugavpils University, Latvia) for providing the specimens for study and to David L. Pearson (Tempe, Arizona) for proof reading of the manuscript.

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Received: 12.06.2022.

Accepted: 09.09.2022.