

Three new species of the genus *Celebia* Thomson, 1857 (Coleoptera: Curculionidae: Eupholini) from the Philippines

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Leitāne L.A., Rukmane A. 2019. Three new species of the genus *Celebia* Thomson, 1857 (Coleoptera: Curculionidae: Eupholini) from the Philippines. *Baltic J. Coleopterol.*, 19(2): 187 – 196.

Three new species of the genus *Celebia* Thomson, 1857 from the Philippines are described and illustrated: *C. barsevskisi* sp. nov. (Mindanao), *C. mindanaoensis* sp. nov. (Mindanao) and *C. negrosensis* sp. nov. (Negros).

Key words: Coleoptera, Curculionidae, Eupholini, *Celebia*, Philippines, taxonomy, new species

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INTRODUCTION

The genus *Celebia* Thomson, 1857 (Entiminae: Eupholini) currently contains 19 species, majority of which occurs in the area of Wallacea and known from Sulawesi. Nevertheless, five species were described from the Philippines: *C. philippinica* Heller, 1921, *C. iligana* Schultze, 1922 and *C. merrillei* Heller, 1929 from Mindanao, widespread Philippine *C. lactospreta* Heller, 1924, and *C. mundocostata* Heller, 1929 from Samar (Thomson 1857; Heller 1921, 1929; Schultze 1922). After the study of material from SNSD (Dresden, Germany) and DUBC (Daugavpils, Latvia), authors discovered three closely related species that are strongly different by morphological char-

acters from other known species. These species are described and illustrated herein.

MATERIAL AND METHODS

The study was based on specimens deposited at the Daugavpils University Beetle Collection (DUBC, Daugavpils, Latvia) and Senckenberg Naturhistorische Sammlungen, Dresden (SNSD, Dresden, Germany; curator: O. Jäger).

The laboratory research and measurements have been carried out using Nikon SMZ 745T and NIS – Elements 6D software. The illustrations were made using digital camera Canon EOS 6D with

Canon MP-E 65mm macro lens, using stack shot system and Helicon Focus auto montage, subsequently was edited using Photoshop.

Label data are cited verbatim. The following symbols and abbreviations were used:

/ = different lines

// = different labels

LB = body length, from apical margin of pronotum to the apex of elytra

LE – elytral length

LP = pronotal length

LR = length of the rostrum

WE = maximum width of the elytra

WP = maximum width of the pronotum

WR = maximum width of the rostrum

Number of specimens examined is written in brackets after citation of the label.

RESULTS

Celebia barsevskisi sp. nov.

Fig. 1, 6E, F.

Type material. Holotype, Male: “PHILIPPINES / Mindanao, Cotabato, Kidapawan / XI.2015 / local collector leg.” (white rectangular label, printed); “HOLOTYPE / Male / *Celebia barsevskisi* / Leitane & Rukmane, 2019 / det. Leitane 2019” (red rectangular label, printed) (DUBC).

Paratype (1 male): “PHILIPPINES / Mindanao, Sarrangani, Kiamba / XI.2015 / local collector leg.” (white rectangular label, printed); “PARATYPE / *Celebia barsevskisi* / Leitane & Rukmane, 2019 / det. Leitane 2019” (red rectangular label, printed) (DUBC).

Description. Male. Measurements (n=2): LB: 17.2–17.9 (holotype: 17.9; mean 17.55); LP: 4.1–4.3 (holotype: 4.3; mean 4.2); WP: 4.2–4.6 (holotype: 4.6; mean 4.4); LE: 12.5–13.5 (holotype: 13.5; mean 13.0); WE: 7.0–7.6 (holotype: 7.6; mean 7.3); LR: 3.1–3.2 (holotype: 3.2; mean 3.15); WR: 2.7–2.9 (holotype: 2.8; mean 2.75). Pronotum slightly wider than long, WP/LP 1.05; elytra distinctly longer than wide: LE/WE 1.78, more than three times longer than pronotum: LE/LP 3.1,

wider than pronotum: WE/WP 1.66; rostrum longer than wide: LR/WR 1.15.

Body black, opaque, with markings of brown, shimmery blue, green and yellow round scales. Antenna brown.

Head subovate, with black longitudinal line without scales stretching from base of forehead to apex of rostrum; basal portion of head behind eyes laterally with shimmery blue scales, brown scales at apical part, lateral portions of head covered with shimmery blue, green and yellow scales; forehead slightly elevated dorsally, nearly three times as wide as eye; eyes relatively small, convex, circumscribed laterally by glossy, yellow to green scales; rostrum widest at apex, gradually narrowing to base, slightly incurved along apical 2/3 in dorsal view, densely covered with brown scales except of median longitudinal black line, and with short light hairs laterally; antennal scrobe from subapical part of rostrum to basal margin of eye; antenna slender, scape slightly incurved ventrally, covered with short light hairs; funicle I and II sub-equal, longer than funicles III–VII; club sub-ellipsoidal, base narrowed, with light brown pubescence, remaining antennomers dark brown, about three times as long as wide. Pronotum subcylindrical, evenly covered with blue, green and yellow scales on disc, except black median longitudinal line without scales; lateral parts with longitudinal line of more bright yellow scales and green to blue intense scales on latero-ventral parts; slightly incurved at subapical part in dorsal view, straightened to widest middle and straight to base, basal margin slightly widened, with lots of long brown hairs; straight to middle (lateral view), convex in basal portion and straight to basal margin.

Elytra subovate, strongly rugose, widest in middle, densely covered with glossy, yellow, green and blue scales, interrupted by black longitudinal elevations without scales; scutellum rounded, covered with short light brown hairs.

Underside densely covered with round glossy, yellow and green scales on metasternum, coxa and ventrites I and II; ventrites III–V covered with



Fig. 1. Dorsal habitus of *C. barsevskisi* sp. nov., male

longitudinal light brown scales, mixed with short light brown dense hairs.

Legs thick, densely covered with small light brown to greenish round scales; femur with few short light brown hairs along internal margin; entire length of tibia with longer light brown hairs; tarsomeres I and II subequal in size.

Aedeagus as shown in Fig. 6E, F.

Female unknown.

Differential diagnosis. *C. barsevskisi* sp. nov. is closely related to *C. iligana* Schultze, 1922 from the same island (Mindanao) by its body coloration

and similarities in shape of male aedeagal body, but it can be distinguished by the following characters: 1) elytra of *C. barsevskisi* strongly rugose, with five black longitudinal elevations from basal to apical margin, longitudinal elevations widened along subbasal part, and four shorter longitudinal elevations between each of the five longer elevations, shorter elevations from subbasal part to apical 1/2 of elytra, without punctured intervals; elytra of *C. iligana* Schultze, 1922 less rugose, longitudinal elevations between longer elevation I and II, II and III lack or very indistinct, with punctured intervals; 2) rostrum in dorsal view with indistinct impression along apical 2/3 in *C. barsevskisi* sp. nov. and with more deep impression along midline in *C. iligana* Schultze, 1922, more narrow and elongated; 3) apex of the aedeagus of *C. barsevskisi* sp. nov. distinctly curved, if seen laterally, while that in *C. iligana* straight (Fig. 6C-D); 4) disc of pronotum of *C. barsevskisi* sp. nov. without two bright rows of green scales unlike in *C. iligana* Schultze (Fig. 5).

Distribution. Mindanao Island, Philippines.

Etymology. We named this species after Prof. Arvīds Barševskis, in appreciation of continuous help and advices during the research.

***Celebia negrosensis* sp. nov.**

Fig. 2, 6A, B.

Type material. Holotype. Male. "PHILIPPINES / Negros isl. / V. 2013 / local collector leg." (white rectangular label, printed); "HOLOTYPE / Male / *Celebia negrosensis* / Leitane & Rukmane 2019 / det. Leitane 2019" (red rectangular label, printed) (DUBC).

Paratypes (10 males, 5 females): "PHILIPPINES / Negros island, 600-800m / local collector leg." with the following dates: IV. 2013 (1 male), II. 2017 (1 male);

"PHILIPPINES / Negros Island, Mt. Canlaon / local collector leg." with the following dates: IV. 2014 (1 female), III. 2017 (2 males);

"PHILIPPINES / Negros Island, Don Salvador, Benedicto / local collector leg." With the follow-

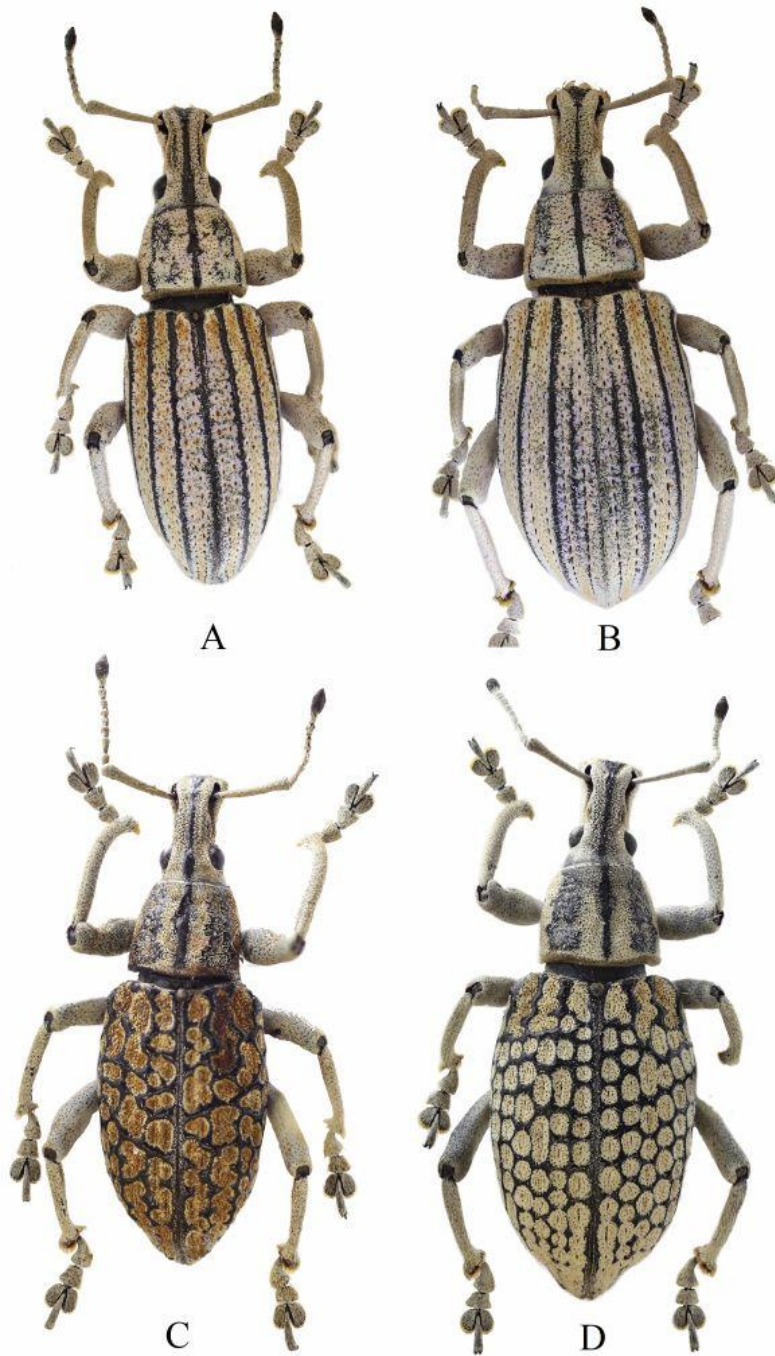


Fig.2. A, B – Dorsal habitus of *C. negrosensis* sp. nov., A – male, B – female; C, D – Dorsal habitus of *C. mindanaoensis* sp. nov., C – male, D – female

ing dates: I. 2016 (1 male), IV. 2018 (1 male), X. 2018 (2 males), XI. 2018 (1 male), IV. 2019 (2 males, 2 females).

All paratypes with additional white printed label "DUBC", and with red rectangular printed label: "PARATYPE / *Celebia negrosensis* Leitane & Rukmane, 2019 / det. Leitane 2019". All paratypes are deposited in DUBC.

Description. Male. Measurements (n=5): LB: 14.2–15.1 (holotype: 14.8; mean 14.76); LP: 3.3–3.8 (holotype: 3.7; mean 3.68); WP: 4.2–5.2 (holotype: 4.3; mean 4.38); LE: 10.9–11.6 (holotype: 11.6; mean 11.14); WE: 5.8–6.1 (holotype: 6.1; mean 6.02); LR: 3.0–3.1 (holotype: 3.1; mean 3.04); WR: 2.0–2.3 (holotype: 2.2; mean 2.18). WP/LP: 1.19; LE/WE: 1.85; LR/WR: 1.39; LE/LP: 3.03; WE/WP: 1.37.

Dorsal view of habitus as in Fig. 2A.

Body and antennae black, elytra and head shiny, pronotum, legs and underside opaque. with markings composed of light brown scales with pink luster.

Head subovate, with black longitudinal line without scales stretching from base of forehead to apex of rostrum; light brown scales at remaining parts, light, shimmery scales circumscribing each eye and behind eyes; forehead slightly elevated dorsally, more than three times as wide as eye; eyes small, convex; rostrum widest at apical 1/3, then gradually decreasing, impressed just before middle, narrowing to base; densely covered with light brown scales except of median longitudinal black line, underside with short, sparse, light hairs, hairs denser and longer near labrum; antennal scrobe from subapical part of the rostrum to basal margin of the eye; antenna slender, scape incurved ventrally, mixed with short light hairs along internal margin; funicle I slightly shorter than II, two and a half times as long as wide, funicle II three times as long as wide, funicle III two times shorter than II, longer than IV, funicles IV–VI sub-equal, same in proportions, funicle VII longer, one and half times as long as wide; club sub-ellipsoidal, with narrowed base,

with light brown pubescence, remaining antennomer dark brown, about three times as long as wide.

Pronotum subcylindrical, evenly covered with light brown scales on disc, except of black median longitudinal line without scales; lateral parts with longitudinal line along midline of markedly denser scales; moderately rounded (dorsal view), widest at middle.

Elytra subovate, moderately rugose, narrowed at basal 1/3, straightened to apical ¼ and narrowed to apex, densely covered with light brown scales, interrupted by black longitudinal elevations without scales; each elytron with sutural longitudinal elevation and five additional elevations from suture to lateral margin; scutellum rounded, covered with short light brown hairs. Underside densely covered with round light brown scales, mixed with short light brown dense hairs.

Legs thick densely covered with small light brown scales with pink luster; entire length of femur with short light brown hairs; entire length of tibia with longer light brown hairs, hairs markedly denser along internal margin; tarsomeres I and II subequal, base of basal tarsomere narrow.

Aedeagus as shown in Fig.6A, B.

Female. Dorsal view of habitus as in Fig. 2B. Measurements (n=5): LB: 16.5–18.7 (mean 11.78); LP: 3.7–4.0 (mean 3.88); WP: 4.4–5.1 (mean 4.82); LE: 12.1–15.0 (mean 13.48); WE: 7.8–9.0 (mean 8.4); LR: 3.1–3.4 (mean 3.2); WR: 2.4–2.8 (mean 2.52). WP/LP: 1.24; LE/WE: 1.6; LR/WR: 1.27; LE/LP: 3.47; WE/WP: 1.74.

Differential diagnosis. This is the first record of *Celebia* from the Negros Island and current species is similar to *C. iligana* Schultzze, 1922 and *C. barsevskisi* sp. nov. by its longitudinal elevations on elytra, but it can be distinguished by the following characters: 1) body of *C. negrosensis* sp. nov. covered with light brown scales with pink luster, body of *C. iligana* and *C. barsevskisi* sp. nov. covered with metallic

green, blue and yellow scales; 2) aedeagal body of *C. negrosensis* **sp. nov.** much smaller, less convex, apex with small V-shaped curvature.

Distribution. Negros Island, Philippines.

Etymology. This species is named after the Negros Island where it is originally distributed.

***Celebia mindanaoensis* sp. nov.**

Fig. 2C, D, 6G, H.

Differential diagnosis. *C. mindanaoensis* sp. nov. is frequently confused with *C. philippinica* Heller, 1921 by dealers and amateur entomologists, but after the study of the type specimens from SNSD (Fig. 3) it was clear, that, based on the scally rounded markings on elytra, the new species is more similar to *C. merrilli* Schultze, 1919 (Fig. 4) and can be distinguished from it by the following characters: 1) Differences in the shape of the aedeagus (Fig. 6I, J); 2) elytra of *C. mindanaoensis* sp. nov. elongated, narrower, flattened in lateral view, while that in *C. merrilli* Schultze, 1919 more rounded, shorter and convex in lateral view; 3) body of *C. mindanaoensis* sp. nov. covered with light brown to orange scales, while that in *C. merrilli* Schultze, 1919 covered with glossy green, yellow and golden scales.

Description. Male. Measurements (n=5): LB: 13.9–15.8 (holotype: 15.8; mean 14.86); LP: 3.3–4.0 (holotype: 3.9; mean 3.74); WP: 3.7–4.2 (holotype: 4.1; mean 3.96); LE: 11.0–11.8 (holotype: 11.8; mean 11.42); WE: 5.7–6.2 (holotype: 6.2; mean 5.94); LR: 3.0–3.2 (holotype: 3.2; mean 3.1); WR: 2.0–2.2 (holotype: 2.2; mean 2.1). WP/LP: 1.06; LE/WE: 1.92; LR/WR: 1.48; LE/LP: 3.05; WE/WP: 1.5.

Dorsal view of habitus as in Fig. 2C.

Body black, elytra slightly glossy, with markings of light brown to orange round scales. Antenna dark brown.

Head subovate, with black longitudinal line without scales stretching from subbasal part of forehead to apex of rostrum; two black longitudinal lines without dorso-lateral apex; lateral portions of head around and behind eyes with pale, oval scales; dorsal and ventral parts densely covered with light brown scales; forehead slightly elevated dorsally, about two times as wide as medium-sized, convex eyes; rostrum (dorsal view) narrowing towards middle, widened to basal 1/3 and straightened to base; underside with short light hairs and longer hairs near labrum.

Pronotum subcylindrical, widest slightly before middle, wrinkled dorsally, with black longitudinal line in middle of disc and with two brown longitudinal lines at sides of black line; dorsolateral edge with brown longitudinal line; lateroventral portions with large patch of brown scale; basal margin covered with short brown hairs, slightly arched medially; contour of pronotum, if seen laterally, gradually elevated from narrowest apical to widest basal margin.

Elytra subovate, somewhat straight from base to apical ¼ and then narrowed to apex, strongly rugose, covered with patches of brown to orange scales, patches arranged in five to seven longitudinal rows; suture with short brown hairs. Underside densely covered with round light brown scales, mixed with short light brown dense hairs.

Aedeagus as in Fig. 6G, H.

Female. Dorsal habitus as shown in Fig. 2D. Measurements: LB 16,8–18,7 (mean 17,52); LP: 3,5–4,4 (mean 4); WP: 4,3–5,3 (mean 4,78); LE: 12,5–14,0 (mean 13,18); WE: 7,8–8,8 (mean 8,16); LR: 3,1–3,4 (mean 3,24); WR: 2,2–2,5 (mean 2,34). WP/LP 1,2; LE/WE 1,92; LR/WR 1,38; LE/LP 3,92; WE/WP 1,71. N=5 for all measurements.

Type material. Holotype. Male. "PHILIPPINES / Mindanao, Mt.Apo / V. 2015 / local collector leg." (white rectangular label, printed); "HOLOTYPE / *Celebia mindanaoensis* Leitane & Rukmane,



Fig.3. Dorsal and lateral habitus of *C. philippinica* Heller, 1921, TYPE (SMTD)



Fig.4. Dorsal and lateral habitus of *C. merrilli* Schultze, 1919, TYPE (SMTD)



Fig.5. Dorsal and lateral habitus of *C. iligana* Schultze, 1922, TYPE (SMTD)

2019 / det. Leitane 2019” (red rectangular label, printed) (DUBC).

Paratypes (69 males, 24 females). “PHILIPPINES / Mindanao, Lanao, Wao / local collector leg.” With the following dates: X. 2016 (3 males, 2 females), II. 2017 (11 males, 2 females), IV. 2017 (8 males, 5 females), V. 2017 (4 males), IX. 2017 (7 males), X. 2017 (2 males), X. 2018 (4 males, 2 females), XI. 2018 (5 males, 1 female), I. 2019 (1 male), III. 2019 (1 male);

“PHILIPPINES / Mindanao, N Cotabano, Alamada / local collector leg.” With the following dates: X. 2018 (2 males), XI. 2018 (1 males), XII. 2018 (2 males, 1 female), I. 2019 (1 male, 1 female), II. 2019 (3 males);

“PHILIPPINES / Mindanao, Bukidnon, Bulacao / VI. 2014 / local collector leg.” (4 males);

“PHILIPPINES / Mindanao, Agusan, Borbon / local collector leg.” With the following dates: X. 2018 (2 males, 1 female), XI. 2018 (2 males);

“PHILIPPINES / Mindanao, Cabanglasan / local collector leg.” With the following dates: XI. 2015 (3 females), X. 2016 (2 males), XII. 2018 (1 male, 1 female), I. 2019 (1 male);

“PHILIPPINES / Mindanao, Surigao, Tandag / VII. 2013 / local collector leg.” (1 female);

“PHILIPPINES / Mindanao, Bukidnon, Mt. Kitanglad / II. 2014 / local collector leg.” (1 female);

“PHILIPPINES / Mindanao, Bukidnon, 600-1000m, Kalatungan / local collector leg.” With the following dates: V. 2014 (1 female), XII. 2018 (1 male, 1 female);

“PHILIPPINES / Mindanao, Agusan, Rosario / X. 2018 / local collector leg.” (1 male);

“PHILIPPINES / Mindanao, Davao, Gumitan / II. 2019 / local collector leg.” (2 males);



Fig.6. Male aedeagal body in lateral view (A, C, E, G, I), dorsal view (B, D, F, H, J); *C. negrosensis* sp. nov. (A, B); *C. iligana* Schultzze, 1922 (C, D); *C. barsevskisi* sp. nov. (E, F); *C. mindanaoensis* sp. nov. (G, H); *C. merrilli* Schultzze, 1919 (I, J)

“PHILIPPINES / Mindanao, Dinagat / II. 2019 / local collector leg.” (1 male);

“PHILIPPINES / Mindanao, Bukidnon, Nam Nam / I. 2019 / local collector leg.” (1 female).

All with additional red rectangular printed label: “PARATYPE / *Celebia mindanaoensis* Leitane & Rukmane, 2019 / det. Leitane 2019”. All paratypes are deposited in DUBC.

Distribution. Mindanao Island, Philippines.

Etymology. This new species was named after the Mindanao Island where it is originally distributed.

ACKNOWLEDGEMENTS

We wish to express our gratitude to Arvīds Barševskis and Alexey Shavrin (both from Daugavpils, Latvia) for their help during the research. We also thank Alex Bramo (Pietrasanta, Italy) for comments and advices, and Klaus-Dieter Klass (Dresden, Germany) for help and hospitality during the visit of the first author to SNSD.

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Received: 19.11.2019.

Accepted: 20.12.2019.

Published: 31.12.2019.