

## ***Yapen bilyi* gen. and sp. nov. (Coleoptera: Tenebrionidae: Alleculinae: Alleculini) from Indonesia, Yapen Island**

Vladimír NOVÁK

Nepasické náměstí 796, CZ-190 14 Prague 9 - Klánovice, Czech Republic  
e-mail: alleculinae.vn@centrum.cz  
<https://orcid.org/0000-0001-9287-2014>

**Taxonomy, new genus, new species, description, Coleoptera, Tenebrionidae, Alleculinae, Alleculini, *Yapen*, Indonesia, Yapen Island**

**Abstract.** A new genus of Alleculini Laporte, 1840 - *Yapen* gen. nov. with type species *Yapen bilyi* sp. nov. from Indonesia (Yapen Island) is described and illustrated. The new genus is compared to similar genera from this area - *Durducha* Novák, 2024 and *Sulawesica* Novák, 2021.

### INTRODUCTION

A new Alleculine genus *Yapen* gen. nov. is described with a type species *Yapen bilyi* sp. nov. from Indonesia (Papua, Yapen Island). Similar genera are *Sulawesica* Novák, 2021 and *Durducha* Novák, 2024. The genus *Sulawesica* was described by Novák (2021) to include *Sulawesica robusta* Novák, 2021 as the type species, with two additional species described later (Novák 2024a). The genus *Durducha* was described by Novák (2024b) to include *Durducha keiica* Novák, 2024 as the type species. Additional species were described from Indonesia and Papua-New Guinea (Novák 2024b).

Species of the genus *Yapen* gen. nov. clearly differs from similar species of the genus *Durducha* and *Sulawesica* mainly by these characters: dorsal surface of pronotum and elytra glabrous, distinct anterior angles of pronotum, male protibiae without angle on inner side, male mesotibiae slightly arcuate, protarsal claws with less teeth (male with 7 teeth) and antennomeres 4-10 slightly serrate (only 2.5-3.2 times longer than wide).

*Yapen bilyi* gen. and sp. nov. is described, illustrated (including male genitalia) and compared with similar species.

### MATERIAL AND METHODS

Two important morphometric characteristics used for the descriptions of species of the subfamily Alleculinae, the 'ocular index' dorsally (Campbell & Marshall 1964) and 'pronotal index' (Campbell 1965), are used in this paper as well. The ocular index equals  $(100 \times \text{minimum dorsal distance between eyes}) / (\text{maximum width of head across eyes})$ . The pronotal index is calculated as  $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$ .

'Type material' information is taken from locality labels.

In the list of type material, a slash (/) separates data in separate rows.

The following collection code is used:

NMPC collection of National Museum, Praha, Czech Republic.

Measurements of body parts and corresponding abbreviations used in text are as follows: AL - total antennal length, BL - maximum body length, EL - maximum elytral length, EW - maximum elytral width, HL - maximum length of head (visible part), HW - maximum width of head, OI - ocular index dorsally, PI - pronotal index dorsally, PL - maximum pronotal length, PW - pronotal width at base, RLA - ratios of relative lengths of antennomeres 1-11 from base to apex (3=1.00), RL/WA - ratios of length / maximum width of antennomeres 1-11 from base to apex, RLT - ratios of relative lengths of tarsomeres 1-5 respectively 1-4 from base to apex (1=1.00).

Other abbreviations used in the text: hb = handwritten black; wl = white label.

Measurements were made with an Olympus SZ 40 stereoscopic microscope with continuous magnification and with the Soft Imaging System AnalySIS. Snapshots were taken by using a Canon EOS 550 D camera and Canon Macro Photo Lens MP-E and software Helicon Focus 7.7.5.

## TAXONOMY

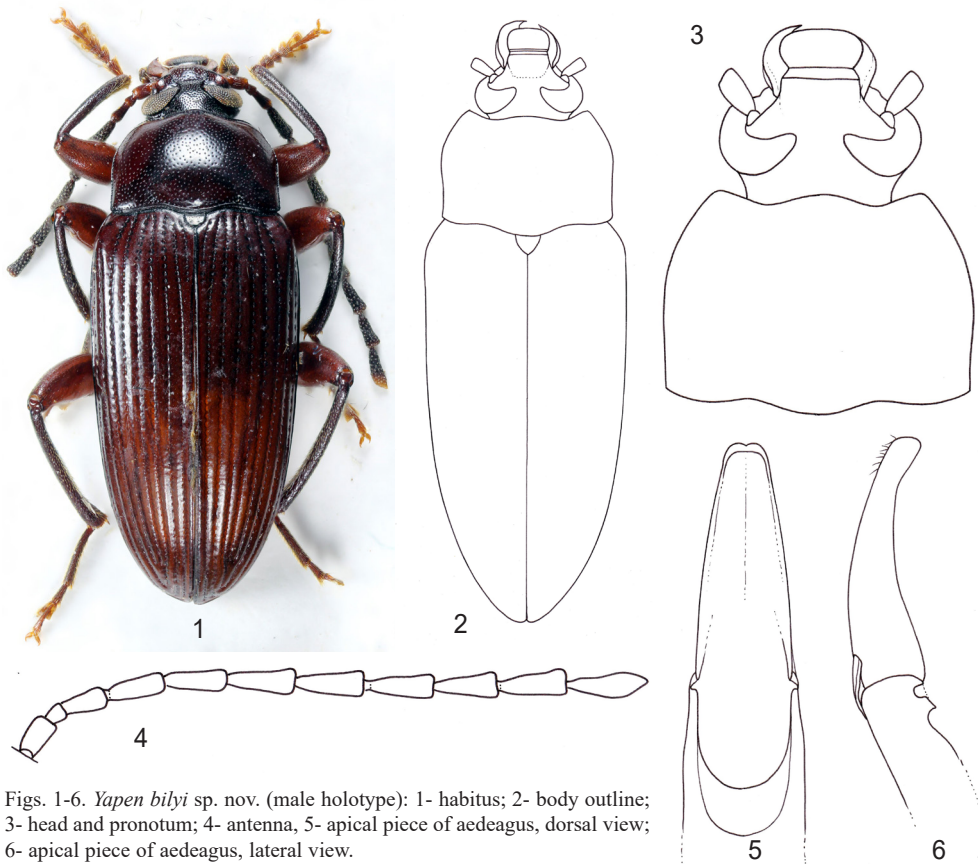
### genus *Yapen* gen. nov.

(Figs. 1-6)

**Type species:** *Yapen bilyi* sp. nov. (by monotypy).

**Description (male).** Habitus as in Fig. 1, body outline as in Fig. 2, medium-sized, elongate, shiny, dorsal surface glabrous, with punctures and microgranulation, widest near elytral humeri. Head (Fig. 3) distinctly wider than long, through the eyes approximately as wide as anterior margin, narrower than base of pronotum. Dorsal surface shiny with dense punctures. Eyes large, transverse, excised, space between eyes narrower than diameter of one eye. Antenna (Fig. 4) long, exceeding half body length. Antennomeres 4-10 slightly serrate. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3. Ultimate antennomere widest before apex, half drop-shaped. Ultimate maxillary palpomere widely triangular. Pronotum (Fig. 3) shiny, glabrous, slightly convex, widest near middle, almost as wide as elytra at humeri. Dorsal surface with punctures. Border lines narrow, margins conspicuous from dorsal view. Base and anterior margin bisinuate, anterior and posterior angles distinct, obtuse. Elytra elongate, slightly convex, shiny, glabrous, widest near humeri. Elytral striae with rows of coarse punctures, elytral intervals finely convex, with very small, sparse punctures. Scutellum pentagonal, with fine microgranulation and a few small, shallow punctures. Elytral epipleura well-developed, shiny, glabrous. Legs long and narrow. Mesotibiae slightly arcuate. Protarsomeres 2-4, penultimate meso- and metatarsomere widened and lobed. Protarsal claws small, both with a few teeth. Abdomen shiny with recumbent setae, small punctures and fine microgranulation, ultimate ventrite with large and coarse, oval impression at middle. Aedeagus (Figs. 5, 6) large, ochre yellow, shiny.

**Female.** Unknown.



Figs. 1-6. *Yapen bilyi* sp. nov. (male holotype): 1- habitus; 2- body outline; 3- head and pronotum; 4- antenna, 5- apical piece of aedeagus, dorsal view; 6- apical piece of aedeagus, lateral view.

**Differential diagnosis.** Similar genera from this area are *Durducha* Novák, 2024 from Indonesia and Papua-New Guinea and *Sulawesica* Novák, 2021 from Indonesia.

Species of the genus *Yapen* gen. nov. clearly differs from similar species of the genus *Durducha* mainly by dorsal surface of pronotum and elytra glabrous, by male protibiae without angle on inner side, by male mesotibiae slightly arcuate, by protarsal claws with less teeth (male with 7 teeth), by antennomeres 4-10 slightly serrate (only 2.5-3.2 times longer than wide); while species of *Durducha* has dorsal surface of pronotum and elytra covered by setae, male protibiae have almost angle on inner side, mesotibiae are straight, protarsal claws of male have more than 20 teeth, antennomeres 4-10 are long and narrow (3.6-5.0 times longer than wide).

The type species of the genus *Yapen* gen. nov. is distinctly different from similar species of the genus *Sulawesica* mainly by dorsal surface of pronotum and elytra glabrous, by distinct anterior angles of pronotum, by space between eyes wider (OI 23 in male), by mesotibiae of male slightly arcuate; species of *Sulawesica* have dorsal surface of pronotum

and elytra covered by setae, anterior angles of pronotum are indistinct, space between eyes is narrower (OI 6.5 in male; 8-18 in females) and mesotibiae are normally shaped.

**Etymology.** Toponymic, named after the name of island of its origin Yapen (Indonesia). Gender: masculine.

**Distribution.** Indonesia, Papua (Yapen Island).

***Yapen bilyi* sp. nov.**  
(Figs. 1-6)

**Type locality.** Indonesia, Papua, Yapen Island, Serui, 01°52.11S, 135°14.18E.

**Type material.** Holotype (♂): INDONESIA, Papua / Yapen, Serui, 28.12.-9.1.07 01°52.11S, / 135°14.18E, Bílý leg., (NMPC). The holotype is provided with a printed red label: 'Yapen / bilyi sp. nov. / HOLOTYPUS / V. Novák det. 2024'.

**Description of holotype.** Habitus as in Fig. 1, body outline as in Fig. 2, medium-sized, elongate, shiny, from pale reddish brown to dark brown, dorsal surface glabrous, with punctures and microgranulation, BL 8.84 mm. Widest near elytral humeri; BL/EW 2.82.

Head (Fig. 3) distinctly wider than long, through the eyes approximately as wide as anterior margin, narrower than base of pronotum. Dorsal surface shiny with dense punctures. Posterior part dark brown, glabrous, anterior part dark reddish brown with pale setae. Clypeus dark brown, transverse, rounded, surface with pale setae, small punctures and microgranulation, apex pale reddish brown. Mandibles pale reddish brown, glabrous, shiny with sides and apex darker and pale setae on sides. HW 1.53 mm; HW/PW 0.61; HL (visible part) 1.26 mm. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye, a little wider than length of antennomere 1; OI equal to 23.24.

Antenna (Fig. 4) long (AL 5.31 mm, almost reaching two thirds body length - AL/BL 0.60). Dorsal surface with pale setae, microgranulation and small punctures. Antennomeres 1 and 2 shiny, reddish brown, antennomere 3 shiny, dark brown with reddish brown apex, antennomeres 4-11 blackish brown, matte. Antennomeres 4-10 slightly serrate. Antennomere 2 shortest, antennomeres 4-11 longer than antennomere 3. Ultimate antennomere widest before apex, half drop-shaped.

RLA(1-11): 0.90 : 0.55 : 1.00 : 1.78 : 1.83 : 1.83 : 1.83 : 1.86 : 1.78 : 1.70 : 2.10.

RL/WA(1-11): 1.44 : 1.41 : 2.03 : 2.93 : 3.15 : 2.93 : 3.07 : 3.12 : 2.93 : 2.49 : 3.63.

Maxillary palpus matte, with long pale setae and fine microgranulation. Palpomeres blackish brown with pale brown apex, palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere widely triangular.

Pronotum (Fig. 3) brown, shiny, slightly convex, widest near middle, almost as wide as elytra at humeri. Disk with two very small and shallow oblique impressions near base from both sides between posterior angles and scutellum and one circular on ante-scutellar area. Dorsal surface glabrous, with dense, small and coarse punctures and very

fine microgranulation. Interspaces between punctures distinctly wider than diameter of punctures. PL 1.85 mm; PW 2.53 mm; PI equal to 73.12. Border lines narrow, margins conspicuous from dorsal view. Base and anterior margin bisinuate, anterior and posterior angles distinct, obtuse.

Elytra. Brown, distinctly paler than pronotum, elongate, slightly convex, shiny, widest near humeri. Dorsal surface glabrous. EL 5.73 mm; EW 3.13 mm; EL/EW 1.83. Elytral striae with rows of coarse punctures, elytral intervals finely convex, with very fine microgranulation and very small, sparse punctures.

Scutellum. Brown, pentagon, with sides darker, semi-matte, with fine microgranulation and a few small, shallow punctures.

Elytral epipleura well-developed, brown, shiny, glabrous, narrowing to ventrite 1, then parallel on apical part.

Legs. Long and narrow, femora brown, tibiae, mesotarsomeres 1-3 and metatarsomeres 1 and 2 blackish brown. Dorsal surface with setae, dense, coarse punctures and fine microgranulation. Mesotibiae slightly arcuate. Protarsomeres 2-4, penultimate meso- and metatarsomere widened and lobed. RLT: 1.00 : 0.54 : 0.79 : 1.33 : 2.07 (protarsus); 1.00 : 0.24 : 0.29 : 0.40 : 0.77 (mesotarsus); 1.00 : 0.30 : 0.25 : 0.51 (metatarsus) 1/2-4= 1.18.

Protarsal claws small, pale, both with 7 teeth.

Ventral side of body blackish brown with small punctures. Abdomen dark brown, shiny with recumbent, pale setae, dense, small punctures and fine microgranulation, ultimate ventrite with large and coarse, oval impression at middle.

Aedeagus (Figs. 5, 6) large, ochre yellow, shiny. Basal piece rounded laterally and slightly narrowing in dorsal view. Apical piece elongate triangular dorsally, beak-shaped from dorsal and lateral views. Ratio of length of apical piece to length of basal piece in dorsal view 1: 4.97.

**Female.** Unknown.

**Differential diagnosis.** See the differential diagnosis of the genus *Yapen* gen. nov.

**Etymology.** Named in honour Svatopluk Bílý (†) - world renown specialist on the beetle family Buprestidae and collector of the new species.

**Distribution.** Indonesia West Papua, Yapen Island.

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