

A new species of the genus *Acontosceles* (Coleoptera: Limnichidae: Thaumastodinae) from Indonesia

Hiroyuki Yoshitomi¹ & Nugroho Susetya Putra²

¹ Ehime University Museum, Bunkyo-chô 3, Matsuyama 790-8577 Japan. Corresponding author;
E-mail: hymushi@agr.ehime-u.ac.jp

² Laboratory of Basic Entomology, Faculty of Agriculture, Gadjah Mada University, Jl. Flora 1,
Bulaksumur, Yogyakarta 55281 Indonesia

Abstract. A new species, *Acontosceles javanicus* sp. nov., is described from Java Island, Indonesia.

Key words. Limnichidae, *Acontosceles javanicus*, new species, taxonomy.

INTRODUCTION

Acontosceles Champion, 1924 is a unique limnichid beetle genus that has hypognathous head with large and distinctly dorsally placed eyes, and lives in riverine and hygropetric environment. Pütz (2008) revised the genus and recognized ten described and some new species from Japan, Taiwan, China, the Philippines, Laos, Thailand, Myanmar, Nepal, India, and Indonesia. From Indonesia, two undescribed species were recorded from Kalimantan and Sulawesi Islands (Pütz 2008).

In the present paper, we describe one new species from Java Island, Indonesia. This species is the first representative of the genus from the southern hemisphere.

MATERIALS AND METHODS

The holotype designated here is deposited in the collection of the Entomological Laboratory, Ehime University Museum, Matsuyama (EUMJ), and the paratypes are deposited in the collections of the EUMJ, the Naturhistorisches Museum, Wien (NMW), and the Zoologisches Forschungsmuseum Alexander Koenig (ZFMK).

The abbreviations for measurements of external features used here are as follows: PL—length of pronotum; PW—width of pronotum; EL—length of elytra; EW—width of elytra; TL—total length (head to apex of elytra).

The species of this genus are well characterized by features of the male genitalia, particularly the shape and curvatures of the aedeagus. Therefore we used specific measurements of the aedeagus and detailed terminology for the purpose of morphometric comparison. The terms are as follows (see also Fig. 1): ML—maximum length, from base to apex; MH—maximum height, vertical line from ML line to MH point; BL—basal length, from base to the point where MH and ML lines meet; AL—apical length, ML minus BL; LL—length of lateral lobe, from line at base of

parameres to vertical line connecting apex to line of maximum height; LBA—length of basal piece in apical portion, apex to point of MH minus LL; LBB—length of basal piece in basal portion, the line connected with base to MH point; C—degree of an angle at MH point, formed by LBB and LBC—LL lines crossing.

Acontosceles javanicus sp. nov. (Figs 2–16)

Type materials. Holotype (EUMJ): male, “Dondong river, Pengkol, Yogyakarta special Region, 7°53'8.63”S 110°36'0.37”E Java INDONESIA 3. III. 2010 H. Yoshitomi leg.”. Paratypes (EUMJ, NMW, ZFMK): 1 male and 7 females, same data as for the holotype.

Description. Male. Body oblong, sides subparallel, slightly convex dorsally, strongly shagreened. Coloration of body almost black; basal antennomeres, maxillary palpi and legs yellowish-brown; antennomeres VIII–XI, apical part of femur, and tarsi black.

Head moderate in size, densely covered with yellowish-silver short setae, shallowly depressed in dorsum between eyes; frons, clypeus and labrum closely covered with erect, long silver setae. Eyes large, prominent dorso-laterally. Antennae moderate in length, reaching about proximal 1/2 of pronotum, closely covered with short setae throughout. Pronotum broadest at basal 1/3, depressed dorsally in antero-lateral parts, densely covered with yellowish short setae and minute scale-like setae, with obscure silver spots composed of minute scale-like setae on mesal part and along posterior margin; median part of posterior margin gently upturned; PW/PL 2.38–2.45 (2.41). Scutellum small, subtriangular, closely covered with short setae. Elytra oblong, subparallel-sided near base to apical 1/4, thence gently tapered apically, projecting ventrally in apical part;

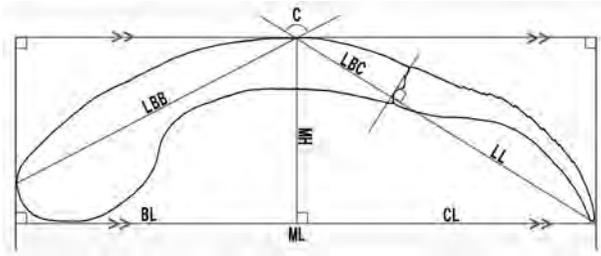
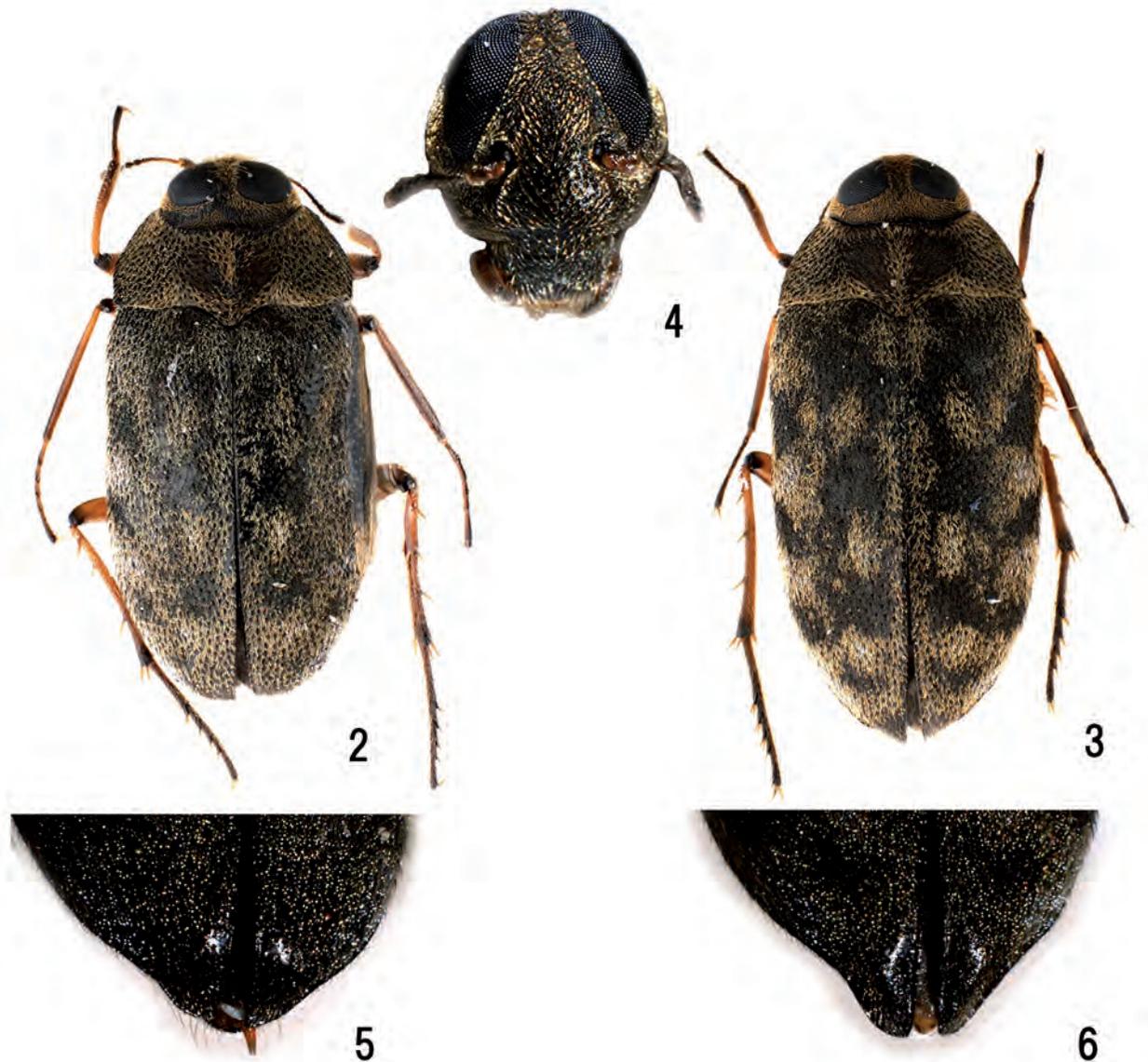


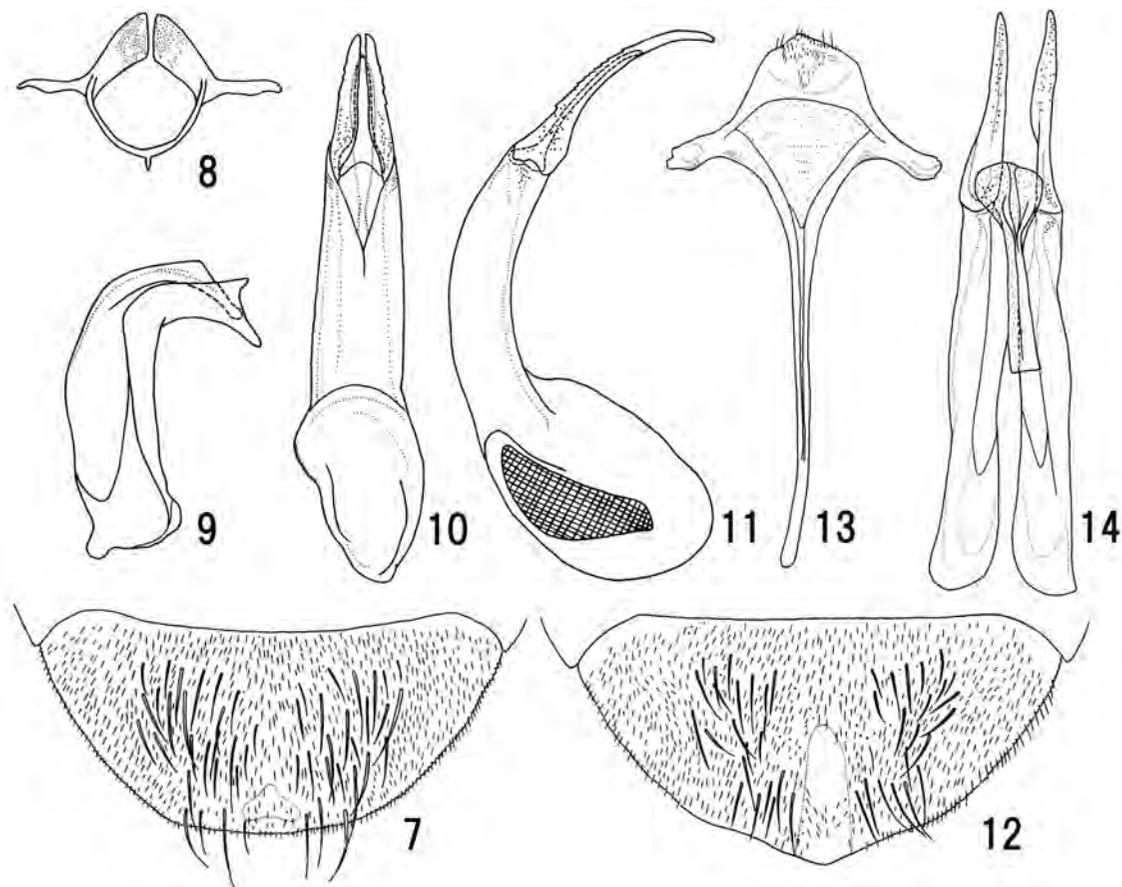
Fig. 1. Aedeagus in left aspect, showing the morphometric measurements. For abbreviations see text.

dorsal surface densely covered with yellowish short setae and minute scale-like setae, with about 10 obscure and small silver spots composed of minute scale-like setae; EL/EW 1.55–1.57 (1.56); EL/PL 4.08–4.13 (4.10); EW/PW 1.07–1.11 (1.09); TL/EW 2.10–2.29 (2.19). Prosternum between procoxae densely covered with long silver setae.

Sternite VII broad, gently arcuate in caudal margin, shallowly concave in near apical part, closely covered with short setae, bearing about 40 long setae in mesal part. Sternite VIII moderately sclerotized, U-shaped, closely covered with fine furrows in apical part, projecting laterally



Figs 2–6. *Acontosceles javanicus* sp. nov. 2–3. habitus in dorsal views; 2. male, holotype; 3. female, paratype; 4. head in anterior view, female, paratype; 5–6. apices of elytra in dorso-posterior view; 5. male, holotype; 6. female, paratype.



Figs 7–14. *Acontosceles javanicus* sp. nov. 7–11. male, paratype; 7. sternite VII; 8. sternite VIII; 9. sternite IX; 10. aedeagus in ventral aspect; 11. ditto in lateral aspect. 12–14. female, paratype; 12. sternite VII; 13. urosternite; 14. ovipositor.

in mesal parts. Sternite IX well sclerotized, asymmetrical, strongly curved in apical part. Aedeagus long, well sclerotized, strongly curved ventrally; basal piece oval, strongly expanded ventrally; lateral lobes long and slender, serrate in lateral margins, punctate in basal parts, pointed at apices; median lobe long and slender, about 0.7 times as long as lateral lobe, tapered evenly apically, pointed at apex; ML = 0.85 mm; MH = 0.42 mm; BL = 0.44 mm; CL = 0.41 mm; LL = 0.36 mm; LBC = 0.23 mm; LBB = 0.51 mm; C = 104°.

Female. Sexual dimorphism distinct in the following characteristics: 1) frons, clypeus and labrum covered with yellowish-silver short setae; 2) apical part of elytra projecting ventro-apically; 3) prosternum between procoxae sparsely covered with short setae; 4) sternite VIII slightly pointed at apex, grabrous in median part; PW/PL 2.19–2.80 (2.55); EL/EW 1.61–1.65 (1.63); EL/PL 3.85–4.86 (4.52); EW/PW 1.07–1.11 (1.09); TL/EW 2.16–2.23 (2.20). Urosternite well sclerotized, with long and slender apodeme; lateral projections long, expanded apically. Ovipositor well sclerotized; coxite closely punctate, pointed at apices; approximate ratio of coxite and baculus (n = 1) as 5.5 : 10.5.

Measurements. Male (n = 2): TL 2.20 & 2.40 mm; PW 0.95 & 0.98 mm; PL 0.40 mm; EL 1.63 & 1.65 mm; EW 1.05 mm. Female (n = 5): TL 2.23–2.50 (2.39) mm; PW 0.90–1.05 (1.00) mm; PL 0.35–0.48 (0.39) mm; EL 1.65–1.85 (1.76) mm; EW 1.00–1.15 (1.08) mm.

Biological notes. The type locality is a small river, with a water depth of ca. 10–30 cm. This species was found at the spray zone on the surface of sandy rocks with *Pseudeucinetus javanicus* Yoshitomi & Putra, 2010 and *Limnichus* sp.

Remarks. This species is similar to *Acontosceles jaechi* Pütz, 2008 and *A. negrosensis* Pütz, 2008, but differs from them by the following characteristics: lateral lobes serrate in lateral margins (not serrate in *A. negrosensis*); apex of sternite VII evenly arcuate (with small projection as in *A. jaechi*); curvature and morphometric ratios of aedeagus (see Fig. 1).

The new species belongs to the *Acontosceles hydroporoides* species group (sensu Pütz 2008), because the shape of male genitalia is similar to the other species in this species group.



Figs 15–16. *Acontosceles javanicus* sp. nov. **15.** type locality; **16.** female.

Table 1. Morphometric details of the aedeagi of *Acontosceles* spp.

Species	Distribution	C angle	MH/ML	morphometric ratio			reference
				BL/CL	LL/ (LBC+LBB)	LBC/ LBB	
hydroporoides-group							
<i>chujoi</i>	Laos	121°	0.32	0.92	0.55	0.37	Yoshitomi & Satô (2005)
<i>hydroporoides</i>	India	121°	0.34	0.82	0.61	0.41	Spilman (1959)
<i>jaechi</i>	Philippines	99°	0.46	1.39	0.52	0.25	Pütz (2008)
<i>javanicus</i>	Indonesia	104°	0.49	1.06	0.49	0.44	present study
<i>negrosensis</i>	Philippines	94°	0.53	1.17	0.53	0.32	Pütz (2008)
<i>tagalog</i>	Philippines	102°	0.36	0.90	0.42	0.38	Spilman (1959)
<i>yorioi</i>	Japan, Taiwan	119°	0.37	0.82	0.45	0.61	Yoshitomi & Satô (2005)
quatuordecimmaculosus-group							
<i>quatuordecimmaculosus</i>	Myanmar	127°	0.28	1.11	0.38	0.44	Pütz (2008)
<i>siwalikensis</i>	Nepal	133°	0.27	0.81	0.46	0.58	Pütz (2008)
<i>yunnanensis</i>	China	136°	0.23	0.97	0.41	0.47	Pütz (2008)
<i>zetteli</i>	Thailand	127°	0.29	0.77	0.35	0.70	Pütz (2008)

Etymology. The species is named after the type locality.

Acknowledgements. We wish to express our hearty thanks to Dr. Tatsuo Sweda (Ehime University), Dr. Masahiro Sakai (EUMJ) and Andreas Pütz for their kind suggestions and support for this study, Dr. William D. Shepard (Essig Museum of Entomology, University of California) for critiquing a draft of this paper, and Mr. Ahmad Taufiq Arminudin, Mr. Mohammad Ikbal, and Miss Atu Ira (Gadjah Mada University) for their help in field investigations. A part of this work was supported by JSPS Exchange Program for East Asian Young Researchers in Ehime University (Dr. Sweda).

REFERENCES

- Pütz A (2008) Zur Kenntnis der Gattung *Acontosceles* Champion, 1924 (Coleoptera: Limnichidae: Thaumastodinae). *Koleopterologisch Rundschau* 78: 305–327
- Spilman TJ (1959) A study of the Thaumastodinae, with one new genus and two new species (Limnichidae). *The Coleopterists' Bulletin* 13: 111–122
- Yoshitomi H, Satô M (2005) A new species of the genus *Acontosceles* (Coleoptera, Limnichidae) from Laos, with the description of the genitalia of *A. yorioi* M. Satô. *Elytra* 33: 34–41