

Contribution to the knowledge of the Scaphidiinae (Coleoptera: Staphylinidae) of the Moluccas

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Abstract

The following new species are described from the Moluccan Islands Halmahera, Morotai, and Ternate: *Baeocera vicina* n. sp., *Baeocera vafra* n. sp., *Baeocera variata* n. sp., *Bironium flavapex* n. sp., *Scaphisoma perminutum* n. sp., *Scaphisoma perleve* n. sp., *Scaphisoma persimilans* n. sp., *Scaphisoma perfectum* n. sp., *Scaphisoma perturbator* n. sp., *Scaphisoma permutatum* n. sp., *Scaphisoma peraffirmatum* n. sp., *Scaphisoma perdecorum* n. sp., *Scaphisoma spinosum* n. sp., *Scaphisoma spatulatum* n. sp., *Scaphisoma permixtum* n. sp., and *Scaphisoma peregrinum* n. sp. A key to the Moluccan Scaphidiinae is provided.

Key words: Coleoptera, Staphylinidae, Scaphidiinae, Moluccas, new species, taxonomy.

Zusammenfassung

Die folgenden neuen Arten werden von den Molukken-Inseln Halmahera, Morotai und Ternate beschrieben: *Baeocera vicina* n. sp., *Baeocera vafra* n. sp., *Baeocera variata* n. sp., *Bironium flavapex* n. sp., *Scaphisoma perminutum* n. sp., *Scaphisoma perleve* n. sp., *Scaphisoma persimilans* n. sp., *Scaphisoma perfectum* n. sp., *Scaphisoma perturbator* n. sp., *Scaphisoma permutatum* n. sp., *Scaphisoma peraffirmatum* n. sp., *Scaphisoma perdecorum* n. sp., *Scaphisoma spinosum* n. sp., *Scaphisoma spatulatum* n. sp., *Scaphisoma permixtum* n. sp., and *Scaphisoma peregrinum* n. sp. Eine Bestimmungstabelle der Scaphidiinae der Molukken wird gegeben.

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1 Introduction

Currently, only ten species of the shining fungus beetles, Scaphidiinae, are known from four of the Moluccan Islands Buru, Yamdena, Kai Besar, and Tanimbar (LÖBL 1976, 2014a). They belong to two genera, *Baeocera* Erichson, 1845 with three, and *Scaphisoma* Leach, 1815 with seven Moluccas species. A study of a new collection housed in the Staatliches Museum für Naturkunde in Stuttgart yields an additional genus, *Bironium* Csiki, 1909, represented by a single new species, four species of *Baeocera*, and 12 new species of *Scaphisoma*. The material was collected by a single person, A. RIEDEL, on the Halmahera, Morotai, and Ternate Islands. Thus, Scaphidiinae are at present known by 26 species from seven islands of the Moluccan Archipelago, a quite impressive number

compared to the 45 species in six genera currently known from the Lesser Sunda Islands (LÖBL 2015), or 15 species in six genera reported from Sulawesi (LÖBL 1997, OGAWA et al. 2014).

One of the Moluccan species, though undescribed, remains unnamed, in absence of males.

Among the Moluccan scaphidiines, only *Baeocera yamdena* Löbl, 2014, *Scaphisoma apterum* Löbl, 2014 and *S. semibreve* Löbl, 2014 are apterous and likely endemic to the Yamdena and Kai Besar Islands, respectively. Though all other species have well developed hind wings, most are known from a single island and only *Scaphisoma coarctatum* Löbl, 1976 and *S. luteomaculatum* Pic, 1915 are known to be widely distributed. The latter species was previously reported from Buru (LÖBL 2014a) under the synonymous name *S. dansalanese* Löbl, 1972.

Acronyms of depositories

MHNG	Muséum d'histoire naturelle, Genève, Switzerland
SMNS	Staatliches Museum für Naturkunde Stuttgart, Germany

Acknowledgements

My cordial thanks are due to Dr. WOLFGANG SCHAWALLER, Stuttgart, for the loan of the studied material, and to Dr. VOLKER PUTHZ, Schlitz, and an anonymous colleague who kindly reviewed the manuscript.

2 Material and methods

The body length is measured from the anterior pronotal margin to the inner apical angle of the elytra. The maximal length and width ratios of the antennomeres are given, measured on slides. Characters given for metanepisterna concern their exposed parts. The abdominal sternites are counted from the first visible one (i. e., the third morphological sternite). The statements about abdominal microsculpture do not refer to that of the intersegmental membranes. The sides of the aedeagi refer to their morphological sides, with the ostium situated dorsally, while it is in the resting position rotated 90°. The eventually extruded parts of the internal sacs of the aedeagi are not considered in length measurements. Female characters are described and illustrated only in taxa for which they are considered discriminating.

3 Results

3.1 New species of *Baeocera* Erichson, 1845*Baeocera vicina* n. sp.

(Figs. 1–5)

Holotype ♂: Moluccas, Halmahera Island, 28 km S Tobelo, Togoliua, 2.XI.1999, ca. 200 m, leg. A. RIEDEL (SMNS).

Paratypes: 3 ♂♂, 2 ♀♀, with the same data as the holotype (SMNS, MHNG); 1 ♂, 1 ♀, Moluccas, Halmahera Island, Buli, Maba, 6.XI.1999, ca. 20 m, leg. A. RIEDEL (SMNS, MHNG); 1 ♀, Moluccas, Halmahera Island, Ibu, Kamp. baru, Gn. Alon, 25.XI.1999, 800 m, leg. A. RIEDEL (SMNS); 1 ex., Moluccas, Halmahera Island, Tobelo (SW) 1.XI.1999, 850 m, A. RIEDEL (SMNS); 1 ♂, 1 ♀, Moluccas, Halmahera Island, Sidangoli, Batu putih, 23.XI.1999, 100 m, leg. A. RIEDEL (SMNS, MHNG); 2 ♂♂, 2 ♀♀, Moluccas, Morotai Island, W Daruba, Raja, 16.XI.1999, ca. 250 m, leg. A. RIEDEL (SMNS).

Etymology

The species epithet is a Latin adjective meaning close.

Description

Body length 1.20–1.33 mm, width 0.80–0.95 mm. Body strongly convex, without obvious microsculpture. Head and body very dark brown to blackish, usually with reddish shine. Femora and tibiae somewhat lighter than body, tarsi and antennae light brown. Length ratio of antennomeres as follows: III 30: IV 30: V 36: VI 35: VII 40: VIII 35: IX 42: X 42: XI 46; antennomeres IV–VI evenly nar-

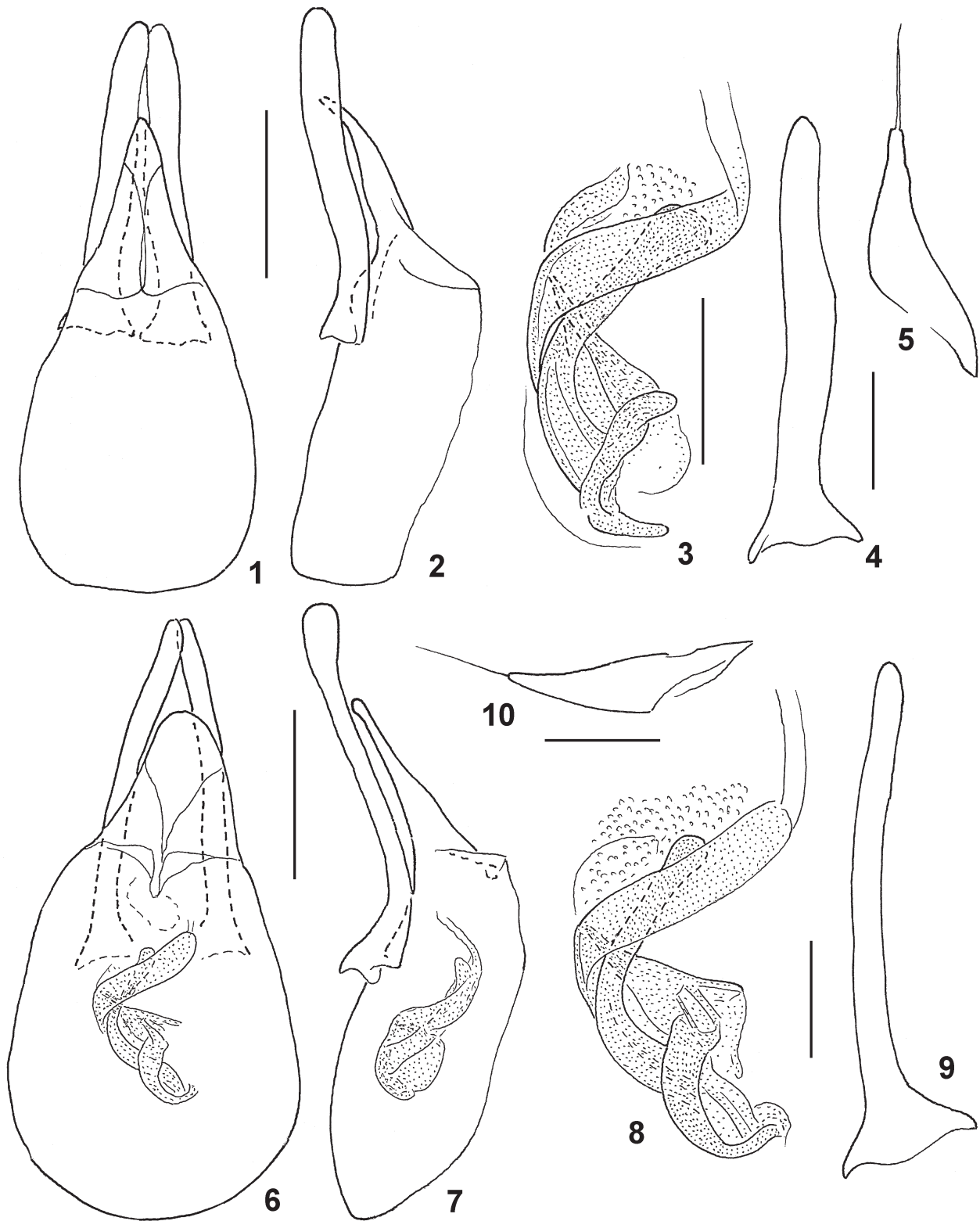
row, slightly wider than III and slightly narrower than VII or VIII; IX about twice as wide as VIII and four times as long as wide, the following gradually widened, XI about three times as long as wide. Lateral contours of pronotum and elytra almost continuously arcuate. Pronotum with punctation very fine, eventually distinct near base, setation hardly visible (50x magnification), lateral margins convex, anterior margin broad, basal lobe well developed; lateral pronotal carinae visible near base or entirely concealed in dorsal view. Minute tip of scutellum exposed. Elytra weakly narrowed apically, almost covering abdominal apex, lateral margin carinae concealed or hardly visible in dorsal view, sutural striae shortened, starting posterior to level of scutellar tip; basal striae absent; adsutural areas flat, parallel, punctate. Elytral punctation distinct and even on entire disc, with puncture intervals mostly as large to three times as large as puncture diameters. Epipleural striae reaching posterior to level of sternite 2, impunctate, supraepipleural areas with puncture row. Hind wings well developed. Hypomera impunctate, smooth. Mesoventral suture indistinct, mesoventrite distinctly punctate, without median ridge. Mesepimera large, each about three times as long as wide and about four times as long as interval to metacoxae. Median part of metaventrite convex, with smooth centre delimited laterally and apically by coarse punctures. Lateral parts of metaventrite coarsely punctate, except on smooth areas near metacoxae. Punctures on lateral parts of metaventrite round or to part slightly elongate, smaller than or about as large as puncture intervals. Submesocoxal lines parallel, with marginal punctures extending laterally, submesocoxal areas about 0.02 mm long, about as one fifth of interval to metacoxae. Metanepisterna very narrow, with suture indicated by weakly impressed outer puncture row. Tibiae straight. Sternite 1 with coarse basal punctures not or slightly elongate, usually contiguous in the middle, basal wrinkles absent; with coarse punctation becoming sparse on median area. Punctation on following sternites distinct.

♂: Protarsomeres hardly widened. Aedeagus (Figs. 1–4) 0.32–0.34 mm long, moderately sclerotized. Median lobe symmetrical, with apical process shorter than basal bulb, gradually narrowed apically and inflexed near tip, with tip acute in lateral view. Articular process indistinct. Parameres long, almost evenly wide, hardly sinuate in lateral view. Internal sac complex, with apical part of flagellar-guide sclerite weakly widened, membranes posterior to sclerite complex extremely finely denticulate.

♀: Ovipositor (Fig. 5) with distal gonocoxite absent, gonostyle weakly curved, gradually narrowed, with one long apical seta.

Comparative notes

Member of the *B. lenta* group and similar to the New Guinean *B. provida* Löbl, 2002 and *B. prolixa* Löbl, 2002.



Figs. 1–10. *Baeocera* spp., genitalia. □ 1–5. *B. vicina* n. sp., aedeagus, without internal sac, in dorsal (1) and lateral (2) views, internal sac in dorsal view (3), paramere in dorsal view (4), ovipositor (5). □ 6–10. *B. vafra* n. sp., aedeagus in dorsal (6) and lateral (7) views, internal sac in dorsal view (8), paramere in ventral view (9), ovipositor (10). – Scale bars: 0.1 mm (1, 2, 6, 7, 9), 0.05 mm (3–5, 8–10).

It may be distinguished by: Body very dark, 1.20–1.33 mm long. Antennomere VIII longer than IV or V. Elytra with sutural striae shortened, basal striae absent, entire elytral disc distinctly punctate. Mesoventral carina absent. Metaventricle coarsely punctate, excepted in the middle. Metanepisternal suture indicated by outer puncture row. Sternite 1 lacking basal wrinkles, basal punctures not or slightly elongate. Aedeagus with tip of median lobe bent, acute. Parameres almost evenly wide in both, dorsal and lateral views. Apex of flagellar guide-sclerite weakly widened.

Baeocera vafra **n. sp.**
(Figs. 6–10)

H o l o t y p e ♂: Moluccas, Halmahera Island, Tobelo (SW) 1.XI.1999, 850 m, A. RIEDEL (SMNS).

P a r a t y p e s: 3 ♂♂, 6 ♀♀, with the same data as the holotype (SMNS, MHNG); 1 ♂, Moluccas, Halmahera Island, Ibu, Kamp. baru, Gn. Alon, 25.XI.1999, 800 m, leg. A. RIEDEL (SMNS).

Etymology

The species epithet is a Latin adjective meaning bright, keen.

Description

Body length 1.05–1.23 mm, width 0.70–0.85 mm. Body strongly convex, without obvious microsculpture. Head and body blackish, eventually with reddish shine. Femora and tibiae reddish-brown, tarsi and antennae lighter than femora. Length ratio of antennomeres as follows: III 26: IV 24: V 29: VI 27: VII 29: VIII 31: IX 38: X 36: XI 42; antennomeres III–VI evenly narrow, slightly narrower than VIII; IX slightly wider than VII and about four times as long as wide, the following gradually widened, XI almost three times as long as wide. Lateral contours of pronotum and elytra separately arcuate. Pronotum with punctation very fine, even, setation hardly visible (50x magnification), lateral margins convex, anterior margin broad, basal lobe well developed; lateral pronotal carinae usually visible near base. Minute tip of scutellum exposed. Elytra weakly narrowed apically, covering abdominal apex, lateral margin carinae concealed or hardly visible in dorsal view, sutural striae entire, curved along pronotal lobe to form very fine basal striae reaching about basal mid-width of elytra; adsutural areas flat, parallel, punctate. Elytral punctation distinct and even on entire disc, with puncture intervals mostly almost as large as to three times as large as puncture diameters. Epipleural striae extending posterior to level of sternite 2, impunctate, supraepipleural areas impunctate. Hind wings well developed. Hypomera impunctate, smooth. Mesoventral suture indistinct, mesoventrite distinctly punctate, without median ridge. Mesepimera large, each about three times as long as wide and about four times as long as interval to metacoxae. Median

part of metaventricle convex, with smooth centre delimited laterally and apically by coarse punctures. Lateral parts of metaventricle coarsely punctate, except on smooth areas near metacoxae. Punctures on lateral parts of metaventricle round or slightly elongate, smaller than or about as large as puncture intervals. Submesocoxal lines parallel, with marginal punctures extending laterally, submesocoxal areas about 0.03 mm long, about as one third of interval to metacoxae. Metanepisterna very narrow, suture indicated by outer puncture row. Tibiae straight. Sternite 1 with coarse basal punctures uninterrupted in the middle, not or slightly elongate, basal wrinkles absent; with coarse punctation becoming sparse on median area. Punctation on following sternites indistinct.

♂: Protarsomeres hardly widened. Aedeagus (Figs. 6–9) 0.35–0.38 mm long, moderately sclerotized. Median lobe symmetrical, with apical process shorter than basal bulb, conspicuously wide and broadly rounded at apex in dorsal view, tip blunt, near tip not inflexed and very narrow in lateral view. Articular process small. Parameres long, almost evenly narrow and weakly curved in dorsal view, slightly sinuate and at apex somewhat widened and bent dorsally in lateral view. Internal sac complex, with apical part of flagellar-guide sclerite slightly widened, membranes posterior to sclerite complex extremely finely denticulate.

♀: Ovipositor (Fig. 10) with distal gonocoxite absent, gonostyle weakly curved, gradually narrowed, with one long apical seta.

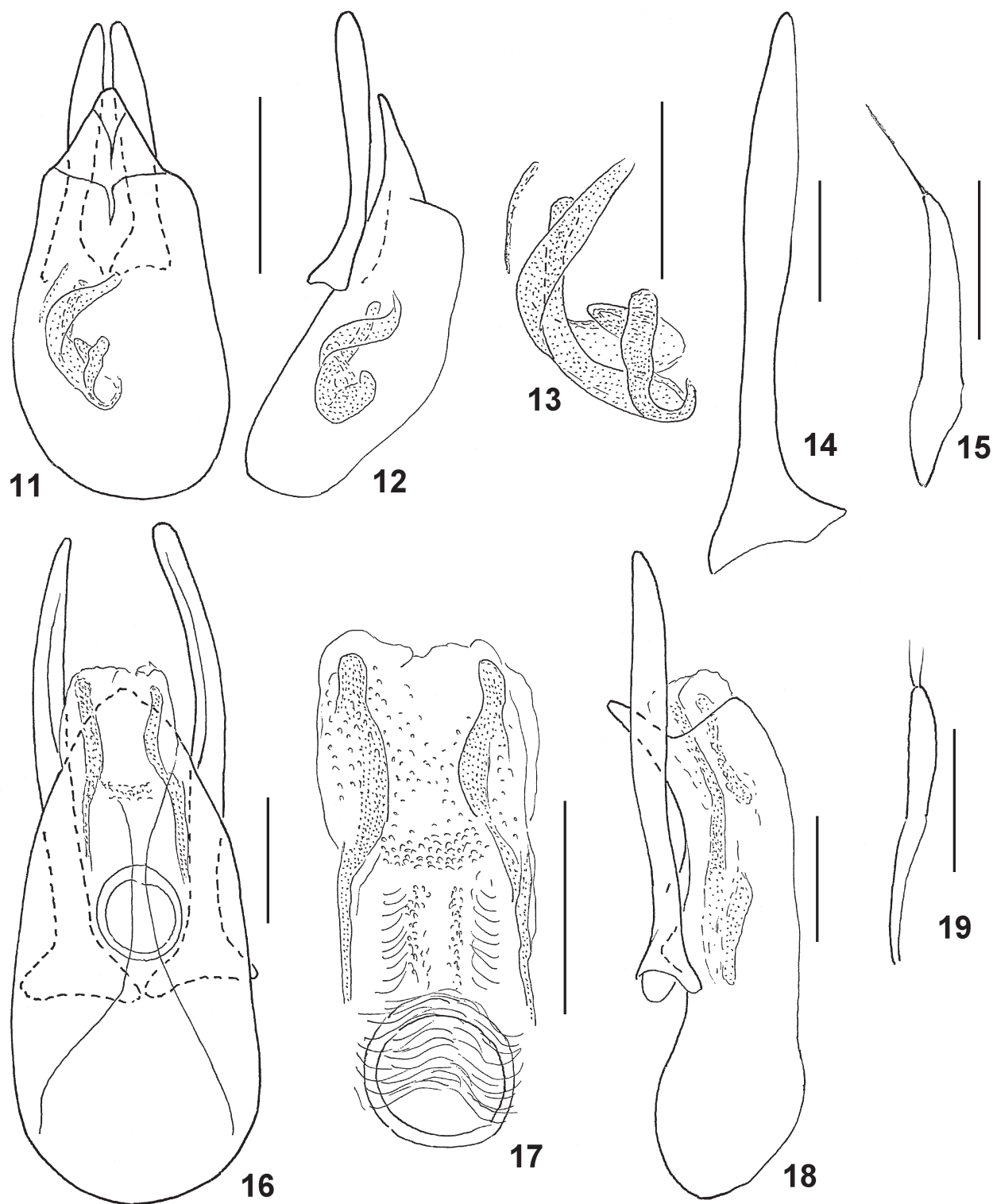
Comparative notes

Member of the *B. lenta* group and similar to *B. vicina* n. sp. It is characterized by: Body blackish, 1.05–1.23 mm long. Antennomere VIII longer than preceding antennomeres. Elytra with sutural striae entire, basal striae present but very fine, entire elytral disc distinctly punctate. Mesoventral carina absent. Metaventricle coarsely punctate, except in the middle and along metacoxae. Metanepisternal suture indicated by outer puncture row. Sternite 1 lacking basal wrinkles, basal punctures not elongate. Aedeagus with tip of median lobe not bent, blunt. Parameres evenly wide in dorsal view, widened and bent dorsally at apices in lateral view. Apex of flagellar guide-sclerite weakly widened.

Baeocera variata **n. sp.**
(Figs. 11–15)

H o l o t y p e ♂: Moluccas, Halmahera Island, Tobelo (SW) 1.XI.1999, 850 m, A. RIEDEL (SMNS).

P a r a t y p e s: 3 ♂♂, with the same data as the holotype (SMNS, MHNG); 1 ♂, 3 ♀♀, Moluccas, Halmahera Island, 28 km S Tobelo, Togoliua, 2.XI.1999, ca. 200 m, leg. A. RIEDEL (SMNS, MHNG); 1 ♂, Moluccas, Halmahera Island, Buli, Maba, 6.XI.1999, ca. 20 m, leg. A. RIEDEL (SMNS).



Figs. 11–19. *Baeocera* and *Bironium* spp., genitalia. □ **11–15.** *Baeocera variata* n. sp., aedeagus in dorsal (11) and lateral (12) views, internal sac in dorsal view (13), paramere in ventral view (14), ovipositor (15). □ **16–19.** *Bironium flavapex* n. sp., aedeagus in dorsal (16) and lateral (18) views, paramere in dorsal view (17), ovipositor (19). – Scale-bars: 0.1 mm (11, 12, 16–19), 0.05 mm (13–15).

Etymology

The species epithet is a Latin adjective meaning different.

Description

Body length 1.05–1.10 mm, width 0.70–0.80 mm. Body strongly convex, without obvious microsculpture. Head, body and femora fairly light reddish-brown, tibiae somewhat lighter, tarsi and antennae distinctly lighter. Length ratio of antennomeres as follows: III 22: IV 22: V 33: VI 28: VII 33: VIII 30: IX 36: X 36: XI 39; antennomeres III–VI evenly narrow, slightly narrower than VIII; IX about as wide as VII and about four times as long as wide, the following gradually widened, XI almost four times as long as wide. Lateral contours of pronotum and elytra continuously arcuate. Pronotum with punctation fairly fine, almost even, distinct at $20\times$ magnification; setation hardly visible ($50\times$ magnification); lateral margins convex, anterior margin broad, basal lobe well developed; lateral pronotal carinae not visible. Minute tip of scutellum exposed. Elytra weakly narrowed apically, covering abdominal apex, lateral margin carinae concealed or hardly visible in dorsal view, sutural striae entire, curved along pronotal lobe to form very fine basal striae almost reaching basal mid-width of elytra; adsutural areas flat, parallel, punctate. Elytral punctation fairly coarse and even on entire disc, with puncture intervals mostly almost as large as to twice as large as puncture diameters. Epipleural striae extending posterior to level of sternite 2, impunctate, supraepipleural areas impunctate. Hind wings well developed. Hypomera impunctate, smooth. Mesoventral suture indistinct, mesoventrite distinctly punctate, without median ridge. Mesepimera large, each about five times as long as wide and about four times as long as interval to metacoxae. Median part of metaventricle convex, with smooth centre delimited laterally and apically by coarse punctures. Lateral parts of metaventricle coarsely punctate, with punctures round, smaller than or about as large as puncture intervals. Submesocoxal lines subparallel, with marginal punctures extending laterally, submesocoxal areas about 0.03 mm long, about as one third of interval to metacoxae. Metanepisterna very narrow, suture indicated by outer puncture row. Tibiae straight. Sternite 1 with basal punctures coarse, interrupted in the middle, not elongate, basal wrinkles absent; with punctation fairly coarse, becoming sparse mesally. Punctation on following sternites very fine.

♂: Protarsomeres hardly widened. Aedeagus (Figs. 11–14) 0.26–0.28 mm long, moderately sclerotized. Median lobe symmetrical, with apical process much shorter than basal bulb, gradually narrowed, not inflexed at tip, tip fairly robust in lateral view. Articular process small. Parameres fairly long, straight and slightly widened posterior to mid-length in dorsal view, barely sinuate, somewhat narrowed at apex and not bent dorsally in lateral view. Internal sac complex, with apical part of fla-

gellar-guide sclerite slightly widened, membranes without denticulate structures.

♀: Ovipositor (Fig. 15) with distal gonocoxite absent, gonostyle distinctly curved, gradually narrowed, with one long apical seta.

Comparative notes

Member of the *B. lenta* group and similar to *B. vicina*. It may be distinguished by: Body reddish-brown, 1.05–1.10 mm long. Antennomere VIII shorter than VII. Pronotal punctation distinct. Elytra with sutural striae entire, basal striae present but very fine, entire elytral disc distinctly punctate. Mesoventral carina absent. Metaventricle coarsely punctate, its centre excepted. Metanepisternal suture indicated by outer puncture row. Sternite 1 lacking basal wrinkles, basal punctures not elongate. Aedeagus with tip of median lobe not bent, fairly acute. Parameres widened posterior to mid-length in dorsal view, widened, not bent dorsally at apices in lateral view. Apex of flagellar guide-sclerite weakly widened.

Undescribed species

Baeocera sp. A

Material examined: 1 ♀, Moluccas, Halmahera Island, Ibu, Kamp. baru, Gn. Alon, 25.XI.1999, 800 m, leg. A. RIEDEL (SMNS).

Diagnostic characters

Body length 1.05 mm, width 0.75 mm. Body lacking microsculpture, uniformly light reddish-brown. Pronotum very finely punctate. Elytra with sutural striae extending along margin of pronotal lobe to form short basal striae, reaching basal mid-width; elytral disc all over distinctly punctate, puncture intervals mostly 1.5 to three times as large as puncture diameters. Hind wings well developed. Hypomera impunctate. Lateral parts of metaventricle transversally convex, appearing impunctate except for coarse punctures along submesocoxal lines and anterior margin. Metanepisterna large, 0.08 mm wide, convex, with impunctate suture. Sternite 1 impunctate except for uninterrupted row of coarse basal puncture.

Comments

The species is possibly undescribed. I prefer to keep it unnamed as long as its male characters are not known.

3.2 New species of *Bironium* Csiki, 1909*Bironium flavapex* n. sp.
(Figs. 16–19)

Holotype ♂: Moluccas, Morotai Island, W Daruba, Raja, 16.XI.1999, ca. 250 m, leg. A. RIEDEL (SMNS).

Paratypes: 11 ♂♂, 6 ♀♀, with the same data as the holotype (SMNS, MHNG); 4 ♂♂, 1 ♀, Moluccas, Halmahera Island, 28 km S Tobelo, Togoliua, 2.XI.1999, ca. 200 m, leg. A. RIEDEL (SMNS, MHNG); 1 ♂, Moluccas, Halmahera Island, Buli, Maba, 6.XI.1999, ca. 20 m, leg. A. RIEDEL (SMNS).

Etymology

The species epithet is derived from the Latin adjective flavum, yellow, and the noon apex, meaning summit.

Description

Body length 1.75–1.90 mm, width 1.15–1.28 mm. Head, body and femora black, shining. Tibiae reddish brown. Tarsi and antennae lighter than tibiae, apical antennomeres yellowish. Pronotal punctation extremely fine, hardly visible at 80× magnification. Tip of scutellum exposed, rounded. Elytra lacking humeral humps, each with oblique rows of coarse punctures. Inner puncture row starting about 0.15–0.20 mm posterior to basal margin, in weakly or not impressed line, ending about at or somewhat posterior to elytral mid-length, with punctures becoming smaller apically. Second and third puncture rows in grooves, reaching apical eighth to tenth of elytra; third row irregular in anterior section, starting close to anterior margin. Additional row of few coarse punctures present between third puncture row and lateral margin. Intervals between puncture rows convex. Sutural striae deep, punctate; adsutural areas roof-like. A few fairly coarse punctures present near inner apical angles, remaining discal punctation almost reduced; lateral striae punctate. Hind wings well developed. Mesoventrite extremely finely punctate, without striae, lacking median carina. Median part of metaventricle appearing impunctate, two or three coarse admesal punctures excepted. Submesocoxal lines coarsely punctate. Areas between mesocoxae and metacoxae convex. Lateral parts of metaventricle with a few coarse punctures between mesocoxae and metanepisterna, remaining surface appearing impunctate. Metanepisterna narrow, with deep, sulciform suture evanescent posteriorly. Tibiae evenly narrow, protibiae slightly curved, mesotibiae and metatibiae straight, mesotibiae and protibiae slightly thicker than metatibiae. Abdomen with hardly visible punctulate microsculpture, sternite 1 humped mediobasally, appearing impunctate except for coarse punctures margining submetacoxal lines.

♂: Protarsomeres I to III distinctly widened, much narrower than apices of tibiae, not lobed. Aedeagus (Figs. 16–18) 0.51–0.57 mm long, median lobe with wide, blunt apex in dorsal view, narrow and weakly inflexed in lateral view. Parameres narrow, lacking lobes, with apical halves of inner margins weakly sclerotized, weakly arcuate in dorsal view, in plane with median lobe and moderately widened in apical halves in lateral view. Internal sac with basal circular sclerite joined to weakly sclerotized transverse structure and two long, sinuate rods. Mem-

branes anterior to circular sclerite very finely strigulate, becoming extremely finely denticulate more apically.

♀: Ovipositor (Fig. 19) with distal gonocoxite absent, gonostyle almost straight, narrow, with two apical setae.

Comparative notes

This species shares many diagnostic characters with *B. maculatum* Löbl, 1989 from New Guinea. It may be readily distinguished from the latter by its colour pattern, the absence of mesoventral carina, the tibiae not sinuate and the parameres widened in apical halves. It is defined by the following characters in combination: Body black, antennomere XI yellowish, elytra with puncture rows in grooves, lacking humeral humps, mesoventrite lacking mesal ridge, metaventricle with few coarse punctures between and lateral to mesocoxae. Median lobe weakly inflexed apically, parameres narrow, lacking lobes, arcuate in dorsal view. Internal sac with circular basal sclerite and two long rods.

3.3 New species of *Scaphisoma* Leach, 1815

Scaphisoma perminutum n. sp.

(Figs. 20–23)

Holotype ♂: Moluccas, Ternate Island, Marikurubu, Gn. Gamalama, 700–1500 m, 29.X.1999, leg. A. RIEDEL (SMNS).

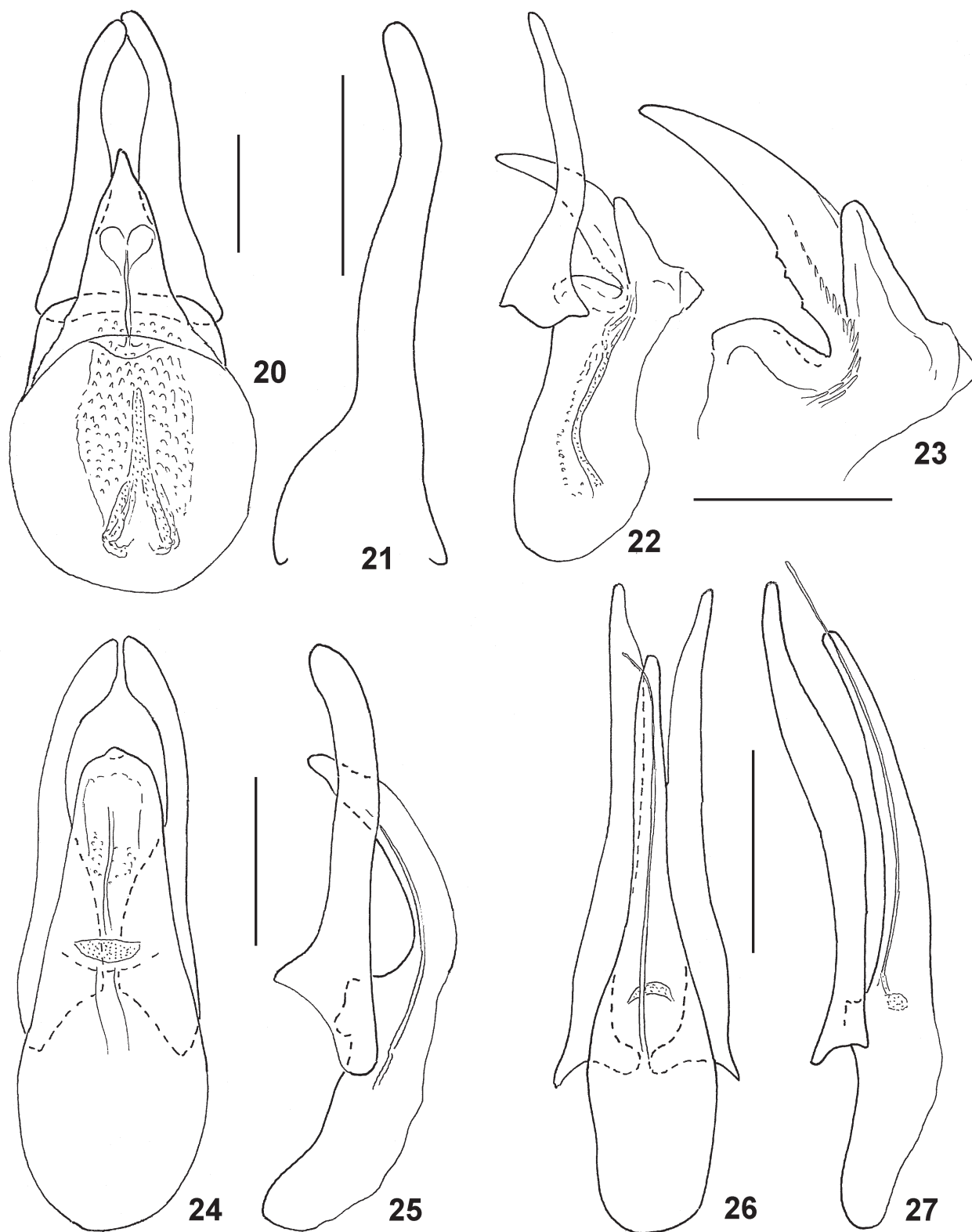
Paratypes: 3 ♂♂, 3 ♀♀, with the same data as the holotype (SMNS, MHNG).

Etymology

The species epithet is formed by the Latin “per” meaning strong, much, and “minutum” meaning small.

Description

Body length 0.98–1.05 mm, width 0.68–0.72 mm. Head, most of body and appendages yellowish-brown, elytra each with fairly well delimited dark brown basal and subapical fasciae, mesoventrite and metaventricle darkened. Basal elytral fascia at middle about as one fifth of sutural length, broadened toward suture. Apical elytral fascia about as broad as middle part of basal fascia, separated from apical margins by very narrow light area. Dorsum of body not microsculptured and not iridescent. Antennae long, relative length/width of antennomeres as: III 13/6: IV 20/5: V 33/5: VI 27/6: VII 38/10: VIII 30/7: IX 38/10: X 37/10: XI 48/11. Pronotum very finely punctate, with lateral margins evenly rounded, lateral margin carinae entirely visible in dorsal view. Exposed tip of scutellum minute. Elytra with lateral margin carinae entirely or almost entirely visible in dorsal view, apical margins weakly rounded, inner apical angles not prominent, situated somewhat posterior to level of outer angles; sutural margin not raised, sutural striae deep, bent at base, not extending along basal margin, weakly converging toward



Figs. 20–27. *Scaphisoma* spp., genitalia. □ **20–23.** *S. perminutum* n. sp., aedeagus in dorsal (20) and lateral (22) views, paramere in dorsal view (21), apical part of median lobe (23). □ **24, 25.** *S. perleve* n. sp., aedeagus in dorsal (24) and lateral (25) views. □ **26, 27.** *S. persimilans* n. sp., aedeagus in dorsal (26) and lateral (27) views. – Scale-bars: 0.05 mm (20–23), 0.1 mm (24–27).

apices; adsutural areas flat, densely and finely punctate. Elytral punctation dense and fairly coarse, puncture intervals mostly about as large as to twice as large as puncture diameters. Hind wings fully developed. Hypomera smooth. Mesepimeron about three times as long as interval to mesocoxa, four times as long as wide. Metaventrite not microsculptured, in the middle slightly convex, lacking mesal or apicomesal impressions or striae, punctation on most surface very fine and sparse, becoming denser and less fine near apical process and posterior to submesocoxal lines, with dense antecoxal puncture row in somewhat impressed line. Submesocoxal areas 0.04 mm, almost as half of interval to metacoxa, submesocoxal lines convex, distinctly punctate. Metanepisternum flat, narrowed anteriorly, inner margin oblique, rounded near angles, not impressed below margin of metaventrite. Protibiae and metatibiae straight, mesotibiae slightly bent. Abdomen with strigulate microsculpture, very finely punctate, submetacoxal areas 0.05 mm, almost as half of interval to apical margin of sternite 1, submetacoxal lines convex, distinctly punctate.

♂: Protarsomeres I to III distinctly widened. Aedeagus (Figs. 20–23) 0.22–0.25 mm long, symmetrical, with basal bulb weakly sclerotized, except for its apical side strongly sclerotized and prominent. Articular process robust, not prominent. Apical process of median lobe bifid. Ventral branch of apical process strongly inflexed, tapering, with several ventral tooth-like tubercles. Dorsal branch of apical process fissured mesally. Parameres sinuate and strongly widened basally in both, dorsal and lateral views, pores sparse, not grouped. Internal sac with proximally bifurcate rod, membranes with minute scale-like structures in basal half, with spine-like structure in apical half.

Comparative notes

The aedeagus of *S. perminutum* is similar to that in *S. napu* Löbl, 1983 from Sulawesi. In particular, these species share the strongly inflexed and ventrally tuberculate apical process of the median lobe. The new species may be distinguished by the elytra darkened along basal margins, the sutural striae of the elytra not shortened, the male sternite 5 simple, the apex of the median lobe thicker, the parameres strongly widened basally, and the internal sac with a proximally bifurcate rod.

Comments

The single female reported from Tanimbar (LÖBL 2014a) is likely conspecific.

Scaphisoma perleve n. sp. (Figs. 24, 25)

Holotype ♂: Moluccas, Halmahera Island, Ibu, Kamp. Baru, Gn. Alon, 25.XI.1999, 800 m, leg. A. RIEDEL (SMNS).

Etymology

The species epithet is a Latin adjective meaning very weak.

Description

Body length 1.20 mm, width 0.80 mm. Head, most of body, and appendages reddish-brown, tarsi and antennae slightly lighter than body. Elytra as dark as pronotum along basal margins, but not so near sutural striae, each elytron with large central dark spot and small dark spot at middle of apex. Surfaces anteriorly and posteriorly, and lateral central spot lighter than pronotum. Pronotum and elytra not microsculptured and not iridescent. Antennae long, relative length/width of antennomeres as: III 10/7: IV 28/67: V 29/7: VI 34/8: VII 42/12: VIII 40/10: IX 45/12: X 45/12: XI 52/13. Pronotum very finely punctate, with lateral margins evenly rounded, lateral margin carinae entirely visible in dorsal view. Tip of scutellum exposed. Elytra with lateral margin carinae almost entirely visible in dorsal view, apical margins weakly rounded, inner apical angles not prominent, situated somewhat posterior to level of outer angles; sutural margin not raised, sutural striae deep, bent at base, not extending along basal margin, parallel posterior to scutellum; adsutural areas flat, densely and finely punctate. Elytral punctation as fine or almost as fine as pronotal punctation on basal third, dense and fairly coarse posterior to basal third, with puncture intervals mostly about as large as to twice as large as puncture diameters. Hind wings fully developed. Hypomera smooth. Mesepimeron about 1.5 times as long as interval to mesocoxa, four times as long as wide. Sides of metaventrite not microsculptured, appearing impunctate, antecoxal puncture rows absent; middle part of metaventrite somewhat convex, with strigulate microsculpture, hardly visible punctation, two minute, shallow apicomesal impressions. Submesocoxal areas 0.02 mm, about as one fifth of interval to metacoxa, submesocoxal lines parallel, finely punctate. Metanepisternum almost flat, narrowed anteriorly, inner margin oblique, rounded near angles, distinctly impressed below margin of metaventrite. Tibiae straight. Abdomen with strigulate microsculpture, very finely punctate, submetacoxal areas 0.04 mm, about as one third of interval to apical margin of sternite 1; submetacoxal lines convex, distinctly punctate.

♂: Protarsomeres I to III and mesotarsomeres I and II distinctly widened. Aedeagus (Figs. 24, 25) 0.35 mm long, symmetrical, moderately sclerotized. Median lobe gradually narrowed apically in dorsal view, with articular process fairly robust, not prominent, apical process somewhat shorter than basal bulb, almost evenly curved in lateral view, narrowed at apex, tip blunt. Parameres wide in basal part, gradually narrowed to apical fourth, at apex widened and with truncate inner margin in dorsal view, almost evenly wide posterior to base and curved in apical third in lateral view; pores fairly dense in apical part. Internal sac

with membranous tube surrounding flagellum sclerotized and with moderately transversal piece, membranes in apical half very densely and finely denticulate.

Comparative notes

The aedeagal characters suggest relationship with *S. aequum* Löbl, 2015 and *S. aereum* Löbl, 2015 from the Lesser Sundas, though *S. perleve* has the median lobe and parameres symmetrical, the apical process of the median lobe moderately bent and the internal sac possesses a transverse piece. The new species is much smaller than *S. aequum* and *S. aereum*, and differs from them notably by the metaventrite lacking a median groove. See also comments under *S. persimilans*.

Scaphisoma persimilans n. sp. (Figs. 26, 27)

Holotype ♂: Moluccas, Halmahera Island, Sidangoli, Batu putih, 23.XI.1999, 100 m, leg. A. RIEDEL (SMNS).

Paratypes: 2 ♂♂, with the same data as the holotype (SMNS, MHNG); 1 ♀, Moluccas, Ternate Island, Marikurubu, Gn. Gamalama, 700–1500 m, 29.X.1999, leg. A. RIEDEL (SMNS).

Etymology

The species epithet is formed by the Latin “per” meaning strong, much, and “simile” meaning similar.

Description

Body length 1.15–1.20 mm, width 0.82–0.84 mm. Head and most of body light reddish-brown, elytra each with dark basal spot, dark postmedian spot and narrowly darkened apex. Basal spot covers basal fourth of inner two thirds of basal width. Postmedian spot larger than basal spot, extending from mid-length to apical fourth of elytron and to sutural stria, separated from lateral stria by a narrow light stripe. Ventral side of thorax darkened, brown. Abdomen yellowish or yellowish-brown, eventually with slightly darkened sternite 1 and darkened apical part of pygidium. Appendages light, yellowish-brown. Dorsum of body not microsculptured and not iridescent. Antennae long, relative length/width of antennomeres as: III 10/8: IV 20/7: V 31/7: VI 30/7: VII 43/11: VIII 31/8: IX 53/9: X 52/10: XI 73/12. Pronotum very finely punctate, with lateral margins evenly rounded, lateral margin carinae hardly visible in dorsal view. Scutellum concealed. Elytra with lateral margin carinae entirely visible in dorsal view, apical margins rounded, inner apical angles not prominent, situated about in level with outer angles; sutural margin not raised, sutural striae deep, bent near base, not extending along basal margin, parallel toward apices; adsutural areas flat, very finely punctate. Elytral punctation sparse and very fine, almost as fine as pronotal punctation, slightly larger punctures on apical third of disc. Hind wings fully developed. Hypomera smooth. Mes-

epimeron about 1.5 times as long as interval to mesocoxa, three times as long as wide. Metaventrite not microsculptured, convex in the middle, with two shallow apicomesal impressions, punctation very fine and dense, hardly visible, antecoxal puncture rows absent. Submesocoxal areas 0.05 mm, almost as half of interval to metacoxa, submesocoxal lines convex, very finely punctate. Metanepisternum almost flat, narrowed anteriorly, inner margin oblique, rounded near angles, distinctly impressed below margin of metaventrite. Tibiae straight. Abdomen not microsculptured, very finely punctate, submetacoxal areas 0.07 mm, somewhat shorter than interval to apical margin of sternite 1; submetacoxal lines convex, indistinctly punctate.

♂: Protarsomeres I to III distinctly widened. Aedeagus (Figs. 26–27) 0.32–0.35 mm long, symmetrical, moderately sclerotized. Median lobe very narrow and strongly elongate, with basal bulb only somewhat longer than half of apical process. Articular process small, not prominent. Apical process almost in plane with basal bulb, with weakly convex ventral side (lateral view). Parameres sinuate, widest in middle third, narrowed in apical part, with scattered pores. Internal sac simple, with flagellum and small transverse plate situated somewhat anterior to level of parameral bases.

Comparative notes

The aedeagal characters of this new species suggest relationship with *S. perbrincki* Löbl, 1971 from Sri Lanka and *S. sakaii* Löbl, 1988 from Okinawa. The aedeagus differs, however, notably by the parameres narrowed apically. This new species may be readily distinguished from both by the light reddish-brown body, the antennomere IV twice as long as III, and from *S. perbrincki* by the much smaller submetacoxal areas. In addition, it differs drastically by its colour pattern combined with the finely punctate elytra. Both, *S. persimilans* and *S. perleve*, are unique in possessing a transverse sclerotized piece in the basal section of the internal sac.

Scaphisoma perfectum n. sp. (Figs. 28, 29)

Holotype ♂: Moluccas, Morotai Island, W Daruba, Raja, 16.–19.XI.1999, 100 m, leg. A. RIEDEL (SMNS).

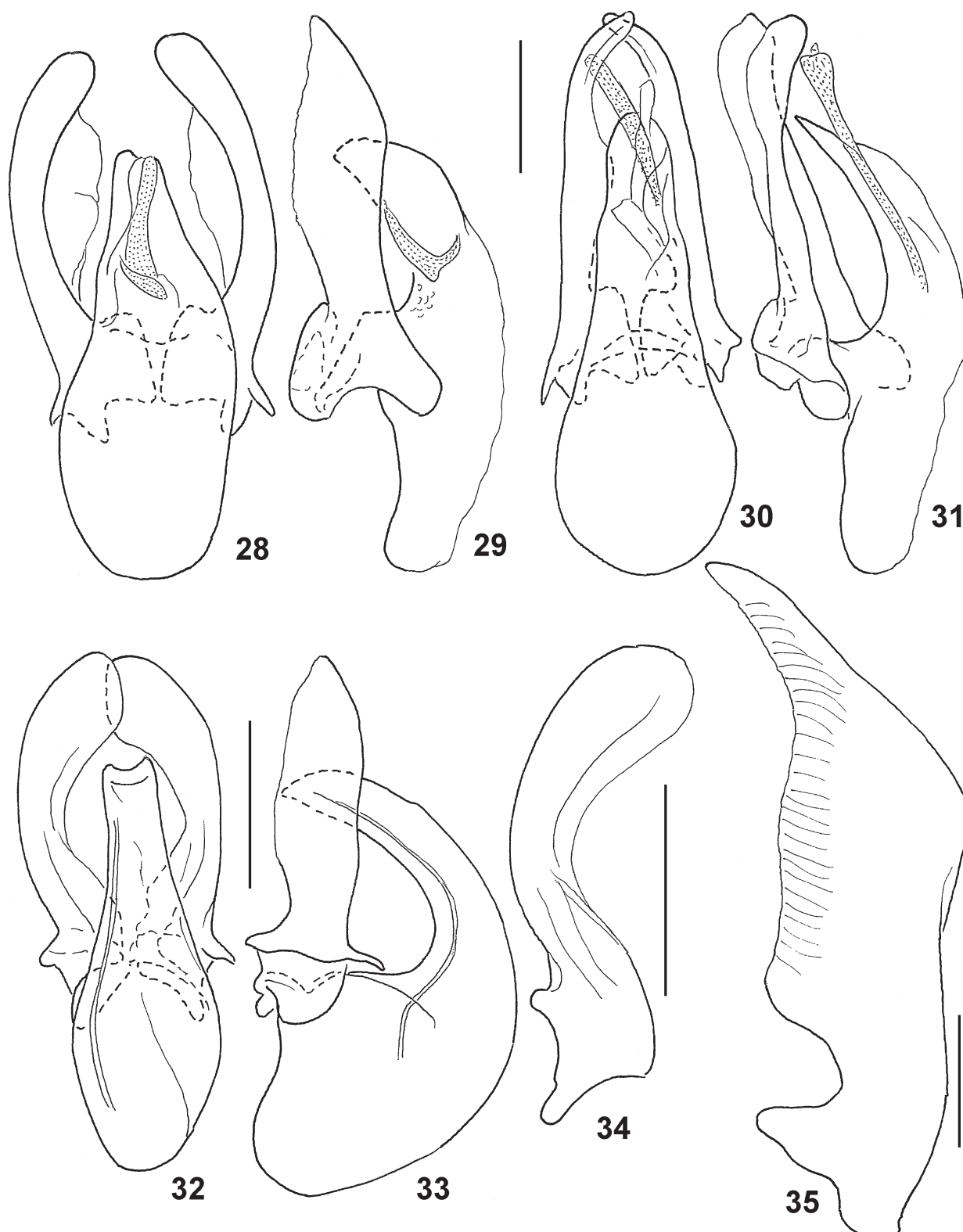
Paratypes: 1 ♂, 2 ♀♀, with the same data as the holotype (SMNS, MHNG).

Etymology

The species epithet is a Latin adjective meaning perfect.

Description

Body length 1.80–1.90 mm, width 1.15–1.32 mm. Head and body dark brown, apical margins of elytra and appendages lighter. Dorsum of body not microsculptured



Figs. 28–35. *Scaphisoma* spp., genitalia. □ 28, 29. *S. perfectum* n. sp., aedeagus in dorsal (28) and lateral (29) views. □ 30, 31. *S. perturbator* n. sp., aedeagus in dorsal (30) and lateral (31) views. □ 32–34. *S. permutatum* n. sp., aedeagus in dorsal (32) and lateral (33) views, paramere in ventral view (34). □ 35. *S. peraffirmatum* n. sp., paramere in lateral view. – Scale-bars: 0.1 mm.

and not iridescent. Antennae long, relative length/width of antennomeres as: III 15/8: IV 34/7: V 40/7: VI 40/8: VII 42/14: VIII 36/7: IX 45/13: X 45/14: XI 62/16. Pronotum very finely and densely punctate, with lateral margins evenly rounded, lateral margin carinae concealed in dorsal view. Tip of scutellum exposed. Elytra with lateral margin carinae concealed in dorsal view, apical margins rounded, inner apical angles not prominent, situated about in level with outer angles; sutural margin not raised, sutural striae shallow, bent along pronotal lobe, extending along basal margin to form basal striae reaching beyond basal mid-width, parallel toward apices; adsutural areas flat, very finely punctate. Elytral punctation dense and very fine, on basal halves about as fine as pronotal, somewhat less fine on apical halves, with puncture intervals mostly two to three times as large as puncture diameters. Hind wings fully developed. Hypomera smooth. Mesepimeron shorter than interval to mesocoxa, about twice as long as wide. Metaventricle not microsculptured, flattened apicomeresally, lacking mesal or apicomeresal impressions or striae, punctation on most surface very fine, on median part denser than on lateral parts, antecoxal puncture rows absent. Submesocoxal areas 0.03 mm, as one fifth of interval to metacoxa, submesocoxal lines parallel, very finely punctate. Metanepisternum flat, narrowed anteriorly, inner margin oblique, rounded at anterior angle, in level with margin of metaventricle. Tibiae straight. Abdomen with strigulate microsculpture, very finely punctate, submetacoxal areas hardly 0.05–0.06 mm, about as one third of interval to apical margin of sternite 1; submetacoxal lines convex, indistinctly punctate.

♂: Protarsomeres I to III distinctly widened. Aedeagus (Figs. 28, 29) 0.42–0.43 mm long, median lobe fairly sclerotized, asymmetrical. Basal bulb fairly wide and comparatively flat. Articular process robust, not prominent. Apical process weakly inflexed, much shorter than basal bulb, with blunt apex, irregularly narrowed in dorsal view, with asymmetrical dorsal valve. Parameres symmetrical, with ventrally and dorsally expanded bases, in dorsal view arcuate, in lateral view almost in plane with median lobe, each with inner membranous lobe; pores scattered. Internal sac with sclerotized rod bearing basal anchor-like apophysis.

Comparative notes

The aedeagal characters suggest relationship with *S. triste* Löbl, 1975 from New Guinea, though the parameres are asymmetrical and strongly expanded basally. This new species may be readily distinguished by: Body smaller, 1.80–1.90 mm long, very finely punctate. Antennomere XI about 1.4 times as long as X and four times as long as wide. Elytra with basal striae extending beyond basal mid-width. Abdomen microsculptured. Submesocoxal lines parallel, submetacoxal lines convex, submetacoxal areas

much smaller. Median lobe asymmetrical, basal bulb longer than apical process of median lobe, parameres with bases expanded ventrally and dorsally, and with membranous inner lobes, internal sac with sclerotized rod.

Scaphisoma perturbator n. sp.

(Figs. 30, 31)

Holotype ♂: Moluccas, Ternate Island, Marikurubu, Gn. Gamalama, 300–600 m, 28.X.1999, leg. A. RIEDEL (SMNS).

Paratype: 1 ♀, with the same data as the holotype (MHNG).

Etymology

The species epithet is a Latin noun meaning disturber, upsetter.

Description

Body length 1.70 mm, width 1.22 mm. Head and body dark brown, apical margins of elytra, apex of abdomen and appendages lighter. Dorsum of body not microsculptured and not iridescent. Antennae fairly long, relative length/width of antennomeres as: III 15/9: IV 25/8: V 36/8: VI 35/10: VII 46/16: VIII 34/12: IX 47/15: X 45/15: XI 53/15. Pronotum very finely and densely punctate, with lateral margins evenly rounded, lateral margin carinae concealed in dorsal view. Tip of scutellum exposed. Elytra with lateral margin carinae concealed in dorsal view, apical margins rounded, inner apical angles not prominent, situated about in level with outer angles; sutural margin not raised, sutural striae shallow, parallel toward apices, bent along pronotal lobe, extending along basal margin to form basal striae almost reaching basal mid-width; adsutural areas flat, very finely punctate. Elytral punctation dense and very fine, about as fine as pronotal on basal halves, somewhat less fine on apical halves, with puncture intervals mostly two to four times as large as puncture diameters. Hind wings fully developed. Hypomera smooth. Mesepimeron much shorter than interval to mesocoxa, about twice as long as wide. Metaventricle not microsculptured, weakly convex in the middle, with two shallow, not clearly delimited apicomeresal impressions, very finely and sparsely punctate; antecoxal puncture rows absent. Submesocoxal areas 0.03 mm, as one fifth of interval to metacoxa, submesocoxal lines parallel, indistinctly punctate. Metanepisternum flat, hardly narrowed anteriorly, inner margin straight, somewhat rounded at anterior angle, below level of margin of metaventricle. Tibiae straight. Abdomen with strigulate microsculpture, very finely punctate, submetacoxal areas hardly 0.05–0.06 mm, about as one third of interval to apical margin of sternite 1; submetacoxal lines convex, indistinctly punctate.

♂: Protarsomeres I to III distinctly widened. Aedeagus (Figs. 30, 31) 0.42 mm long, asymmetrical. Median lobe fairly sclerotized. Basal bulb fairly wide and com-

paratively flat. Articular process robust, not prominent. Apical process weakly inflexed, with asymmetrical dorsal valves, longer than basal bulb, tapering and with acute tip in lateral view, apex blunt and irregularly narrowed in dorsal view. Parameres asymmetrical, with ventrally and dorsally expanded bases, each with inner membranous lobe, oblique except at curved apices in dorsal view, almost in plane with median lobe in lateral view, right paramere narrowed in the middle and bent dorsally at apex; pores scattered in basal halves. Internal sac with long sclerotized rod, membranes lacking scale-like or denticulate structures.

Comparative notes

This species appears to be related, and is in external characters very similar, to *S. perfectum*, with which it shares expanded parameral bases. It may be distinguished by: Body smaller, 1.70 mm long; antennomere XI about 3.5 times as long as wide and 1.2 times as long as X; elytra with basal striae shorter, not reaching basal mid-width; parameres asymmetrical, lacking large inner lobes, right paramere narrowed in the middle and bent dorsally at apex; internal sac with long rod widened at apex.

Scaphisoma permutatum n. sp.

(Figs. 32–34)

Holotype ♂: Moluccas, Halmahera Island, 28 km S Tobelo, 23.XI.1999, 100 m, leg. A. RIEDEL (SMNS).

Paratypes: 2 ♂♂, 2 ♀♀, with the same data as the holotype (SMNS, MHNG).

Etymology

The species epithet is formed by the Latin “per”, here in sense of strongly, and the adjective “mutatum” meaning different, changed.

Description

Body length 1.05–1.17 mm, width 0.76–0.81 mm. Head, most of body and appendages yellowish-brown or light brown-reddish, middle part of each elytron with broad, dark brown to black transverse fascia, apical third of elytra, antennae, tibiae, and tarsi lighter than head, pronotum or basal fifth to fourth of elytra. Dark elytral fascia reaching sutural stria and almost reaching lateral stria, covering about two thirds of elytral disc, with irregular anterior and posterior margins. Dorsum of body not microsculptured and not iridescent. Antennae fairly short, relative length/width of antennomeres as: III 10/6: IV 23/5: V 28/5: VI 25/6: VII 36/9: VIII 25/8: IX 35/12: X 35/12: XI 37/14. Pronotum very finely punctate, with lateral margins evenly rounded, lateral margin carinae hardly visible in dorsal view. Tip of scutellum exposed. Elytra with lateral margin carinae entirely or almost entirely visible in dorsal view, apical margins truncate, inner apical angles

not prominent, situated about in level with outer angles; sutural margin not raised, sutural striae shallow, bent along pronotal lobe, not extending along basal margin, parallel toward apices; adsutural areas flat, very finely punctate. Elytral punctation sparse and very fine, about as fine as pronotal punctation on light basal and apical areas, less fine on dark fascia, with puncture intervals mostly three to five times as large as puncture diameters. Hind wings fully developed. Hypomera smooth. Mesepimeron somewhat longer than interval to mesocoxa, almost four times as long as wide. Metaventrite not microsculptured, flattened apicomically, lacking mesal or apicomical impressions or striae, punctation on most surface very fine and sparse, denser and less fine near apical process, antecoxal puncture rows absent. Submesocoxal areas 0.04 mm, as half of interval to metacoxa, submesocoxal lines convex, very finely punctate. Metanepisternum almost flat, narrowed anteriorly, inner margin oblique, rounded near angles, hardly impressed below margin of metaventrite. Tibiae straight. Abdomen not microsculptured, very finely punctate, submetacoxal areas hardly 0.03 mm, about as one third of interval to apical margin of sternite 1; submetacoxal lines subparallel, indistinctly punctate.

♂: Protarsomeres I to III distinctly widened. Aedeagus (Figs. 32–34) 0.33 mm long, median lobe moderately sclerotized, asymmetrical. Basal bulb narrow and high. Articular process indistinct. Apical process strongly inflexed, tubular, with blunt apex. Parameres symmetrical, arcuate in dorsal view, straight in lateral view, with complex bases, weakly sclerotized inner sides; pores very dense, covering most surfaces, absent from basal parts and areas along outer margins. Internal sac with very narrow flagellum, membranes appearing papillate.

Comparative notes

This new species shares with *S. perfectum* and *S. perturbator* expanded parameral bases, and with *S. perleve* and *S. persimilans* the presence of a long, thin flagellum. It may be distinguished by the finely punctate elytra with a dark transverse central band, the parallel submesocoxal lines and the subparallel submetacoxal lines, in combination.

Scaphisoma peraffirmatum n. sp.

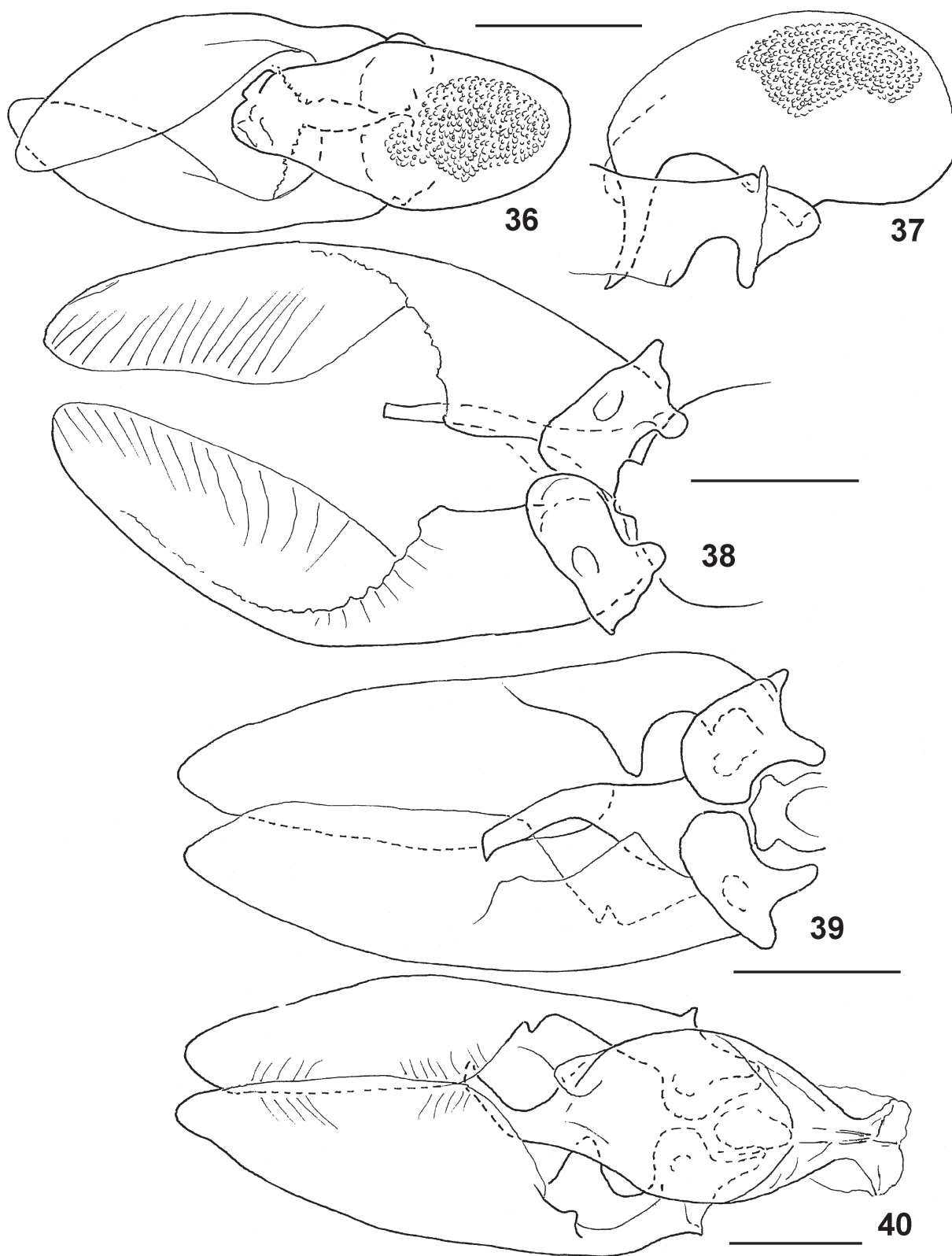
(Figs. 35–38)

Holotype ♂: Moluccas, Halmahera Island, 28 km S Tobelo, Togoliua, 2.XI.1999, ca. 200 m, leg. A. RIEDEL (SMNS).

Paratypes: 7 ♂♂, 3 ♀♀, with the same data as the holotype (SMNS, MHNG).

Etymology

The species epithet is formed by the Latin “per”, here meaning strongly, and “affirmatum” meaning making sure, secure.



Figs. 36–40. *Scaphisoma* spp., genitalia. □ **36–38.** *S. peraffirmatum* n. sp., aedeagus in dorsal view (36), in lateral view, without apical part of paramere (37), in ventral view, without basal part of bulb and internal sac (38). □ **39, 40.** *S. perdecorum* n. sp., aedeagus in ventral view, without basal bulb (39), in dorsal view (40). – Scale-bars: 0.2 mm (36, 37, 39, 40), 0.1 mm (38).

Description

Body length 1.23–1.32 mm, width 0.87–0.96 mm. Head and most of body light reddish-brown to yellowish-brown, or pronotum dark brown, middle part of elytra with wide, dark brown to black transverse fascia; apical third of elytra, most of abdomen, and appendages lighter than head, pronotum or basal fifth to fourth of elytra. Mesoventrite, metaventrite and sternite 1 darkened. Dark elytral fascia reaching both, sutural and lateral striae, covering about two thirds of elytral disc, with irregular anterior and posterior margins. Body not microsculptured and not iridescent. Antennae fairly short, relative length/width of antennomeres as: III 7/6: IV 27/6: V 30/7: VI 30/6: VII 37/10: VIII 25/7: IX 39/12: X 36/12: XI 39/12. Pronotum very finely punctate, with lateral margins evenly rounded, lateral margin carinae visible in dorsal view. Tip of scutellum exposed. Elytra with lateral margin carinae entirely or almost entirely visible in dorsal view, apical margins truncate, inner apical angles not prominent, situated about in level with outer angles; sutural margin not raised, sutural striae shallow, bent along pronotal lobe, not extending along basal margin, posterior to scutellum parallel except near apices; adsutural areas flat, very finely punctate. Elytral punctation dense and fairly coarse, much coarser than pronotal punctation on anterior two thirds of disc, with puncture intervals mostly about as large to twice as large as puncture diameters. Punctuation on light apical third of elytra much finer, with punctures about as minute as those on pronotum. Hind wings apparently fully developed. Hypomera smooth. Mesepimeron about twice as long as interval to mesocoxa, about four times as long as wide. Metaventrite not microsculptured, flattened apicomeresally, lacking mesal or apicomeral impressions or striae, punctation on most surface very fine and sparse, denser and less fine near apical process, antecoxal puncture rows absent. Submesocoxal areas 0.04 mm, as half of interval to metacoxa, submesocoxal lines convex, finely punctate. Metanepisternum somewhat convex, moderately narrowed anteriorly, inner margin oblique, rounded near angles, impressed below margin of metaventrite. Tibiae straight. Abdomen not microsculptured, very finely punctate, submetacoxal areas hardly 0.02 mm, less than one tenth of interval to apical margin of sternite 1; submetacoxal lines parallel, coarsely punctate.

♂: Protarsomeres I to III and mesotarsomeres I and II strongly widened, protarsomeres III moderately widened; tarsomeres I about as wide as tibial apices. Aedeagus (Figs. 35–38) 0.64–0.69 mm long, median lobe strongly sclerotized, asymmetrical. Basal bulb narrow and high. Articular process distinct, not prominent. Apical process strongly inflexed, tapering, with acute apex in lateral view, appearing short and blunt in dorsal view. Parameres symmetrical, with complex, strongly sclerotized bases, abruptly narrowed posterior to bases, in the middle almost

evenly wide, narrowed in apical parts in lateral view; with strongly crenulate margins delimiting basal section, followed by large, partly overlapping lobes, latter finely striate in dorsal view; pores grouped to form dense fields along apical halves of outer margins. Internal sac forming compact bulb situated in basal part of median lobe, covered by scale-like and denticulate structures.

Comparative notes

This new species is possibly related with *S. bacchusi* Löbl, 1975 from New Guinea. Both have large, strongly sclerotized, asymmetrical and comparatively high median lobe of the aedeagus, and strongly widened parameres. The internal sac forms a compact bulb in *S. peraffirmatum* and, unlike that in *S. bacchusi*, lacks sclerotized pieces and large triangular plates. These two species may be readily distinguished by their elytral coloration and punctuation (the elytra are black and very finely punctate in *S. bacchusi*).

Scaphisoma perdecorum n. sp.

(Figs. 39–41)

Holotype ♂: Moluccas, Halmahera Island, Tobelo (SW) 1.XI.1999, 850 m, A. RIEDEL (SMNS).

Paratypes: 2 ♀♀, with the same data as the holotype (SMNS, MHNG); 1 ♂, Moluccas, Halmahera Island, Ibu, Kamp. baru, Gn. Alon, 25.XI.1999, 800 m, leg. A. RIEDEL (MHNG).

Etymology

The species epithet is formed by the Latin “per”, here in sense of strongly, and “decorum” meaning ornamented.

Description

Body length 1.40–1.48 mm, width 1.01–1.05 mm. Head and most of body very dark brown with weak reddish lustre to blackish-brown. Elytra each with subbasal, well delimited, transverse reddish fascia, extending from sutural striae up to outer fourth of basal width, separated from basal margin by narrow dark strip, and reaching middle third of disc. Apical third of elytra light reddish or yellowish; adsutural areas reddish-brown. Femora somewhat darker than apical third of elytra, antennae, tibiae and tarsi about as light as apical third of elytra. Body not microsculptured and not iridescent. Antennae fairly long, relative length/width of antennomeres as: III 9/7: IV 30/6: V 35/6: VI 35/7: VII 48/11: VIII 33/9: IX 46/14: X 46/14: XI 47/13. Pronotum very finely punctate, with lateral margins evenly rounded, lateral margin carinae visible in dorsal view. Tip of scutellum exposed. Elytra with lateral margin carinae entirely or almost entirely visible in dorsal view, apical margins truncate, inner apical angles not prominent, situated posterior to level of outer angles; sutural margin not raised, sutural striae shallow, bent along pronotal lobe, not extending along basal

margin, parallel posterior to scutellum except near apices; adsutural areas flat, very finely punctate. Elytral punctation dense and fairly coarse, much coarser than pronotal punctation, with puncture intervals mostly about as large to twice as large as puncture diameters. Punctuation on light apical third of elytra finer, but still much coarser than that on pronotum. Hind wings fully developed. Hypomera smooth. Mesepimeron about as long as interval to mesocoxa, about three times as long as wide. Metaventrite not microsculptured, flattened apicomesally, lacking mesal or apicomедial impressions or striae, punctation on most of surface very fine and sparse, dense and coarse near apical process, antecoxal puncture rows absent. Submesocoxal areas 0.04 mm, about as half of interval to metacoxa, submesocoxal lines convex, coarsely punctate. Metanepisternum somewhat convex, narrowed anteriorly, inner margin oblique, rounded near angles, impressed below margin of metaventrite. Tibiae straight. Abdomen not microsculptured, very finely punctate, submetacoxal areas about 0.02 mm, as one fifth of interval to apical margin of sternite 1; submetacoxal lines parallel, coarsely punctate.

♂: Protarsomeres and mesotarsomeres I and II strongly widened, tarsomeres III moderately widened; tarsomeres I narrower than tibial apices. Aedeagus (Figs. 39–41) 1.02–1.03 mm long, strongly sclerotized, asymmetrical. Basal bulb narrow and high, with basal apophysis. Articular process distinct, not prominent. Apical process strongly inflexed, bent to right side in dorsal view, tapering, with tip fairly acute in lateral view. Parameres with complex bases, abruptly widened posterior to bases, with small dorsal and large ventral teeth-like protuberances, in posterior two thirds strongly expanded and overlapping, finely striate; pores forming dense fields in apical parts, scattered in middle parts of parameres. Internal sac forming compact, elongate bulb covered by scale-like and denticulate structures.

Comparative notes

This species is allied with *S. apterum* Löbl, 2014 and *S. semibreve* Löbl, 2014, both from the Tanimbar Islands group. These three species, and the three species described below, possess a semi-hyaline process situated at the ventro-proximal side of the basal bulb of the aedeagus. The character is unknown from other congeners and is likely a synapomorphy defining a group of six Molukkan species, named here *apterum* group. These species are also similar in external characters, in particular they share parallel submetacoxal lines and very finely punctate metaventrite and abdomen. *Scaphisoma perdecorum* may be readily distinguished from *S. apterum* and *S. semibreve* by the colour pattern and the fairly coarse punctation of the elytra, the well developed hind wings, the coarse punctures anterior to apical process of the metaventrite, the apical process of the median lobe much shorter, reaching about para-

meral mid-length, the parameres broad posterior to bases and with crenulated margins, and the internal sac lacking robust, teeth-like sclerites. *Scaphisoma riedeli* Löbl, 2014 from New Guinea possesses a quite similar aedeagus, but lacks the ventro-proximal process of the median lobe (see LÖBL 2014b).

Scaphisoma spinosum n. sp.

(Figs. 42, 43)

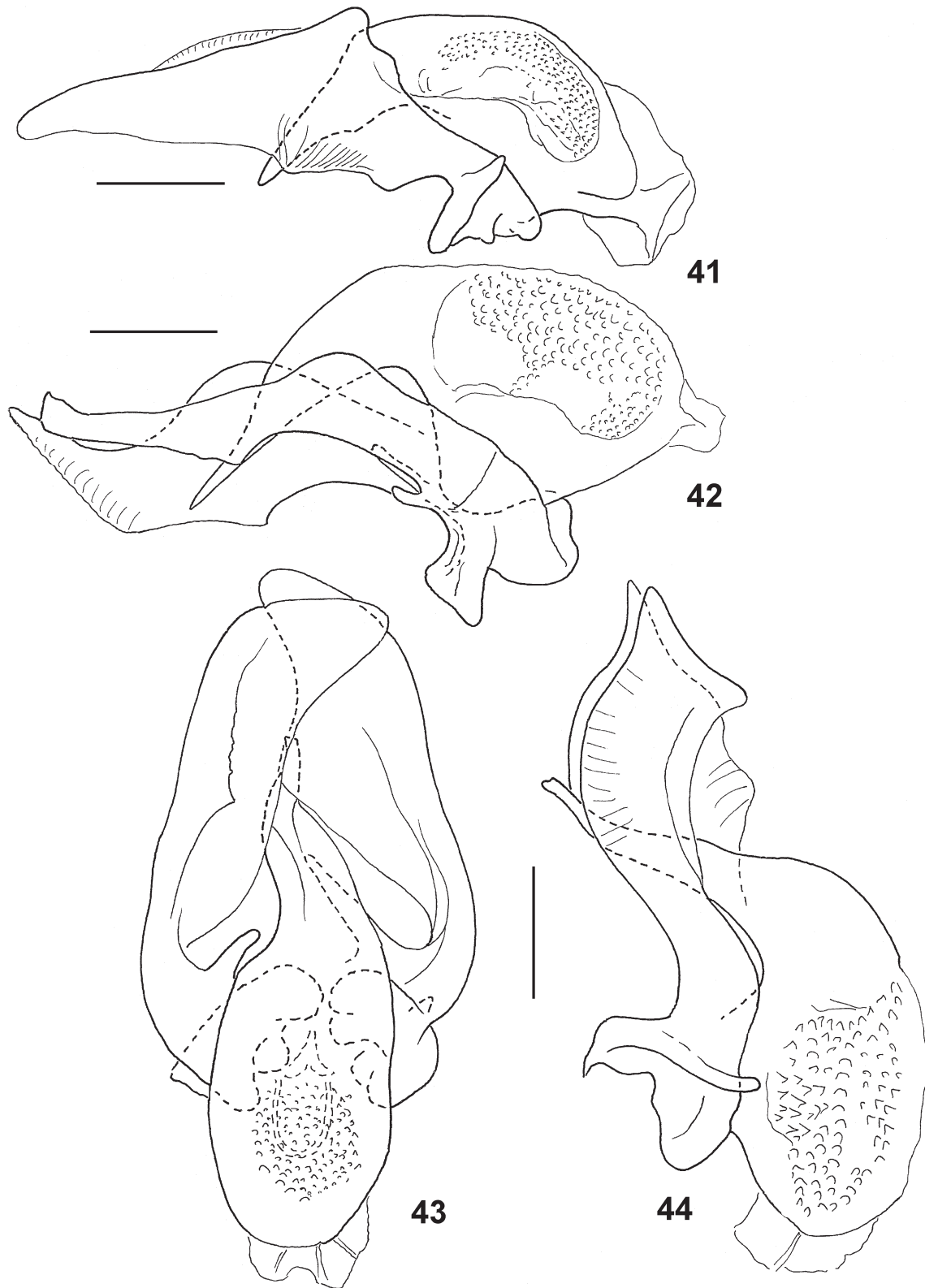
Holotype ♂: Moluccas, Halmahera Island, Sidangoli, Batu putih, 23.XI.1999, 100 m, leg. A. RIEDEL (SMNS).

Etymology

The species epithet is a Latin adjective referring to the presence of large parameral spines.

Description

Body length 1.25 mm, width 0.90 mm. Head, pronotum and anterior third of elytra fairly light reddish-brown. Middle third of elytra somewhat darkened, apical third of elytra lighter, yellowish. Ventral side of thorax and abdomen about as pronotum, femora slightly lighter than pronotum, antennae, tibia and tarsi almost yellowish. Body not microsculptured and not iridescent. Antennae fairly short, relative length/width of antennomeres as: III 10/7: IV 25/6: V 32/7: VI 32/6: VII 37/12: VIII 27/7: IX 37/14: X 35/14: XI 40/14. Pronotum very finely punctate, with lateral margins evenly rounded, lateral margin carinae visible in dorsal view. Tip of scutellum exposed. Elytra with lateral margin carinae entirely visible in dorsal view, apical margins truncate, inner apical angles not prominent, situated in level with outer angles; sutural margin not raised, sutural striae moderately deep, bent along pronotal lobe, not extending along basal margin, posterior to scutellum parallel except near apices; adsutural areas flat, very finely punctate. Elytral punctation dense and fairly coarse on anterior two thirds of disc, much coarser than pronotal punctation, with puncture intervals mostly about as three times as large as puncture diameters. Punctuation on light apical third of elytra finer, still much coarser than that on pronotum. Hind wings fully developed. Hypomera smooth. Mesepimeron about 1.3 times as long as interval to mesocoxa, about three times as long as wide. Metaventrite not microsculptured, flattened apicomesally, lacking mesal or apicomедial impressions or striae, punctation on most surface very fine and sparse, dense and fairly coarse along apical process, antecoxal puncture rows absent. Submesocoxal areas 0.05 mm, somewhat longer than half of interval to metacoxa, submesocoxal lines convex, distinctly punctate. Metanepisternum somewhat convex, narrowed anteriorly, inner margin oblique, rounded near angles, impressed below margin of metaventrite. Tibiae straight. Abdomen not microsculptured, very finely punctate, submetacoxal areas about 0.02 mm, about as one



Figs. 41–44. *Scaphisoma* spp., genitalia. □ 41. *S. perdecorum* n. sp., aedeagus in lateral view. □ 42, 43. *S. spinosum* n. sp., aedeagus in lateral (42) and dorsal (43) views. □ 44. *S. spatulatum* n. sp., aedeagus in lateral view. – Scale-bars: 0.2 mm (41), 0.1 mm (42–44).

seventh of interval to apical margin of sternite 1; submetacoxal lines parallel, coarsely punctate.

♂: Protarsomeres I to III weakly widened. Aedeagus (Figs. 42, 43) 0.60 mm long, strongly sclerotized, asymmetrical. Basal bulb narrow and high, with basal apophysis. Articular process robust, not prominent. Apical process strongly inflexed, bent to right side in dorsal view, tapering, with apex acute in lateral view, narrow and truncate in dorsal view. Parameres with complex bases, each with oblique subbasal spine, spine on left paramere much larger than that on right paramere. Both parameres lobed and overlapping apically, with crenulate ventral ridge, finely striate; pores grouped to form dense fields in apical parts, scattered in middle and basal parts of parameres. Internal sac forming compact bulb covered by scale-like and denticulate structures.

Comparative notes

This species is in external characters very similar to *S. peraffirmatum* and *S. perdecorum* from which it may be distinguished by the shape of the parameres and of the apical process of the median lobe. The large spine on the left paramere and the smaller spine on the right paramere are diagnostic.

Scaphisoma spatulatum n. sp.

(Figs. 44, 45)

Holotype ♂: Moluccas, Halmahera Island, Sidangoli, Batu putih, 23.XI.1999, 100 m, leg. A. RIEDEL (SMNS).

Etymology

The species epithet is a Latin adjective referring to the spatulate shape of the parameres.

Description

Body length 1.26 mm, width 0.88 mm. Head, pronotum and anterior third of elytra fairly light reddish-brown. Middle third of elytra somewhat darkened, apical third of elytra lighter, yellowish. Ventral side of thorax about as light as pronotum, abdominal sternite 1 almost as pronotum, following sternites lighter, femora slightly lighter than pronotum, antennae, tibia and tarsi almost yellowish. Body not microsculptured and not iridescent. Antennae fairly short, relative length/width of antennomeres as: III 8/8: IV 23/6: V 29/7: VI 28/7: VII 40/10: VIII 26/8: IX 37/12: X 42/12: XI 42/12. Pronotum very finely punctate, with lateral margins evenly rounded, lateral margin carinae visible in dorsal view. Tip of scutellum exposed. Elytra with lateral margin carinae entirely visible in dorsal view, apical margins truncate, inner apical angles not prominent, situated in level with outer angles; sutural margin not raised, sutural striae moderately deep, bent along pronotal lobe, not extending along basal margin, parallel

posterior to scutellum except near apices; adsutural areas flat, very finely punctate. Elytral punctation dense and fairly coarse on anterior two thirds of disc, much coarser than pronotal punctation, with puncture intervals mostly about 1.5 to three times as large as puncture diameters. Punctation on light apical third of elytra finer, but still much coarser than that on pronotum. Hind wings apparently fully developed. Hypomera smooth. Mesepimeron about 1.4 times as long as interval to mesocoxa, about three times as long as wide. Metaventricle not microsculptured, flattened apicomeresally, lacking mesal or apicomeresal impressions or striae, punctation on most surface very fine and sparse, dense and fairly coarse anterior to apical process, antecoxal puncture rows absent. Submesocoxal areas 0.03 mm, somewhat longer than third of interval to metacoxa, submesocoxal lines hardly convex, indistinctly punctate. Metanepisternum somewhat convex, narrowed anteriorly, inner margin oblique, rounded near angles, impressed below margin of metaventricle. Tibiae straight. Abdomen not microsculptured, very finely punctate, submetacoxal areas about 0.01 mm, about as $1/15$ of interval to apical margin of sternite 1; submetacoxal lines parallel, coarsely punctate.

♂: Protarsomeres I and II distinctly widened, III weakly widened. Mesotarsomeres I distinctly widened. Aedeagus (Figs. 44, 45) 0.65 mm long, strongly sclerotized, asymmetrical. Basal bulb narrow and high, with basal apophysis. Articular process robust, not prominent. Apical process strongly inflexed, bent to left side, narrowed toward apical section, with apex slightly widened in lateral view, distinctly widened and obliquely truncate in dorsal view. Parameres asymmetrical, with complex bases, lacking spines, apically lobed. Left paramere wider than right one, lobed almost from mid-length, with crenulate ventral ridge, ventral ridge of left paramere hardly crenulate; parameral lobes finely striate, pores forming dense fields in apical parts, scattered in middle and basal parts of parameres. Internal sac forming compact bulb covered by scale-like and denticulate structures.

Comparative notes

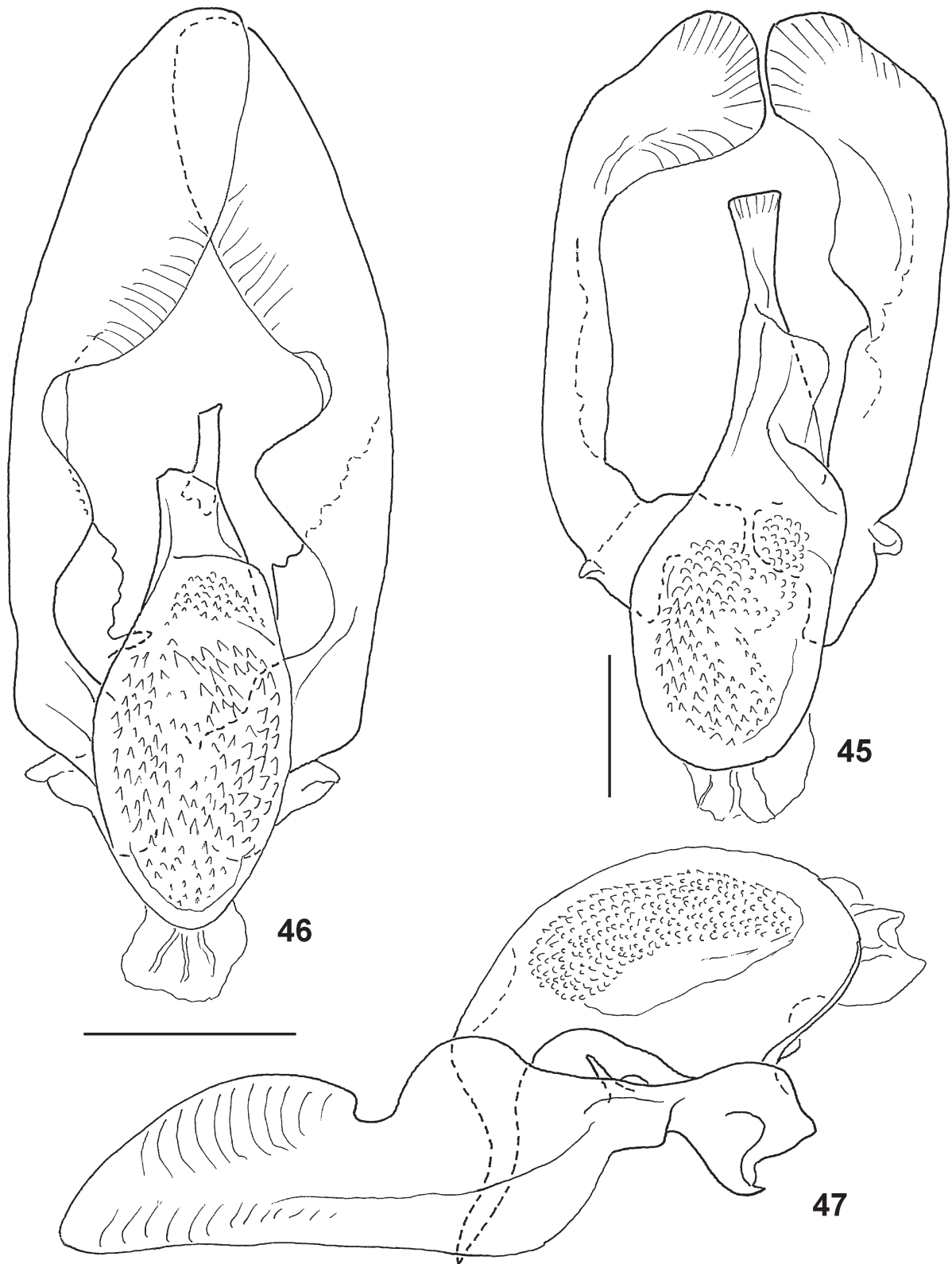
This species is closely related with and very similar to *S. perdecorum* and *S. spinosum*, it differs however drastically by the longer and at the tip widened apical process of the median lobe and by the shape of the parameres, as on Figs. 44 and 45.

Scaphisoma permixtum n. sp.

(Figs. 46, 47)

Holotype ♂: Moluccas, Halmahera Island, 28 km S Tobelo, Togoliua, 2.XI.1999, ca. 200 m, leg. A. RIEDEL (SMNS).

Paratypes: 4 ♂♂, 5 ♀♀, with the same data as the holotype (SMNS, MHNG).



Figs. 45–47. *Scaphisoma* spp., genitalia. □ **45.** *S. spatulatum* n. sp., aedeagus in dorsal view. □ **46, 47.** *S. permixtum* n. sp., aedeagus in dorsal (46) and lateral (47) views. – Scale-bars: 0.1 mm (45), 0.2 mm (46, 47).

Etymology

The species epithet is formed by the Latin “per” in sense of strongly, and the adjective “mixtum” meaning mixed, combined.

Description

Body length 1.27–1.48 mm, width 0.93–1.06 mm. Head and most of body reddish-brown. Basal third of elytra usually somewhat lighter than pronotum, adsutural areas as pronotum; middle third of elytra darkened, dark brown to blackish, darkened area extending to sutural striae, not reaching lateral striae; apical third of elytra usually distinctly lighter than basal third, almost yellowish. Femora about as pronotum, remainder of appendages lighter. Pronotum and elytra not microsculptured and not iridescent. Antennae fairly long, relative length/width of antennomeres as: III 7/7: IV 30/7: V 35/7: VI 33/7: VII 45/11: VIII 30/9: IX 45/12: X 43/13: XI 45/15. Pronotum very finely punctate, with lateral margins evenly rounded, lateral margin carinae visible in dorsal view, except near anterior angles. Tip of scutellum exposed. Elytra with lateral margin carinae entirely or almost entirely visible in dorsal view, apical margins truncate, inner apical angles not prominent, situated slightly posterior to level of outer angles; sutural margin not raised, sutural striae shallow, bent along pronotal lobe, not extending along basal margin, parallel except near apices; adsutural areas flat, very finely punctate. Elytral punctation dense and fairly coarse, much coarser than pronotal punctation, with puncture intervals mostly about as large to twice as large as puncture diameters, near apices irregular and sparser. Hind wings fully developed. Hypomera smooth. Mesepimeron about as long as interval to mesocoxa, about three times as long as wide. Metaventrite not microsculptured, flattened apicomically, lacking mesal or apicomedial impressions or striae, punctation on most surface very fine and sparse, dense and coarse near apical process, antecoxal puncture rows absent. Submesocoxal areas 0.04 mm, about as half of interval to metacoxa, submesocoxal lines convex, coarsely punctate. Metanepisternum flat, hardly narrowed anteriorly, inner margin parallel, rounded near anterior angle, impressed below margin of metaventrite. Tibiae straight. Abdomen not microsculptured, very finely punctate, submetacoxal areas about 0.03 mm, as one fifth of interval to apical margin of sternite 1; submetacoxal lines parallel, coarsely punctate.

♂: Protarsomeres and mesotarsomeres I and II strongly widened, pro- and mesotarsomeres III moderately widened; tarsomeres I narrower than tibial apices. Aedeagus (Figs. 46, 47) 0.87–0.90 mm long, strongly sclerotized. Median lobe asymmetrical, with narrow and high basal bulb, articular process robust, not prominent, apical process long, sinuate and abruptly narrowed in distal half, tip acute in lateral view, base with ventro-proximal process consisting of weakly sclerotized, irregular plate surrounding trifid structure. Parameres lobed, overlapping in dor-

sal view, each with conspicuous tooth-like apophysis on inner side, near base (hardly visible in dorsal view); upper margin notched posterior to mid-length; lower margin crenulate; dense pores on large area along inner margin and at apex, scattered elsewhere, finely striate areas distinct in apical halves. Internal sac bulbous, without obvious sclerites, membranes very densely denticulate.

Comparative notes

Very similar and with most diagnostic characters as in the three previously described species. It may be readily distinguished by the parameres dorsally notched, each bearing a tooth-like apophysis. It shares with *S. perdecorum* the crenulated lower margin of the parameres and the shape of the apical process of the median lobe.

Scaphisoma peregrinum n. sp.

(Figs. 48–51)

Holotype ♂: Moluccas, Ternate Island, Marikurubu, Gn. Gamalama, 700–1500 m, 29.X.1999, leg. A. RIEDEL (SMNS).

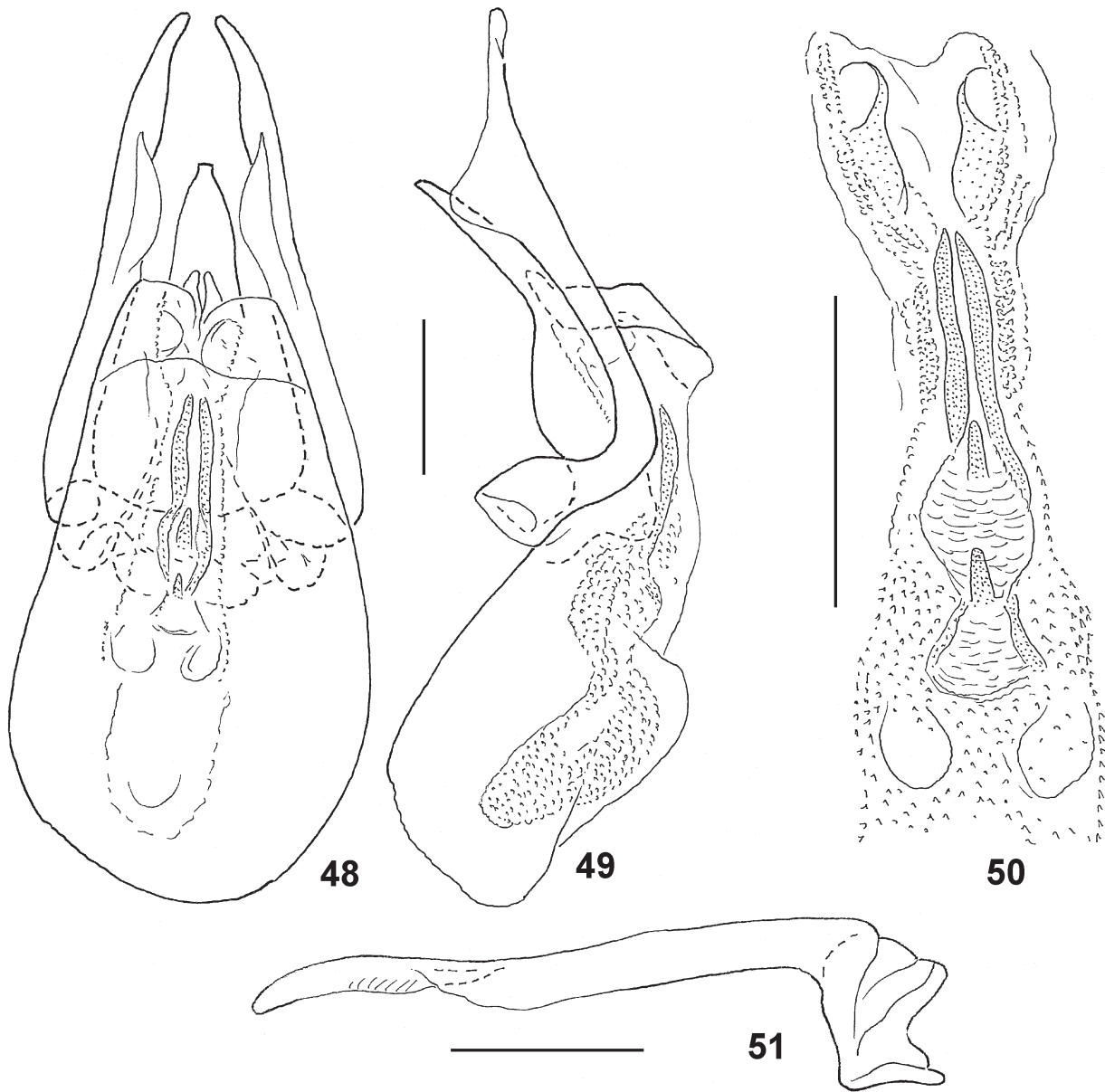
Paratypes: 2 ♂♂ with the same data as the holotype (SMNS, MHNG).

Etymology

The species epithet is a Latin adjective meaning strange.

Description

Body length 1.85–1.88 mm, width 1.25–1.28 mm. Head, dorsal surface of body, abdomen and femora light brown, apical parts of elytra lighter than remaining dorsal surface. Ventral side of thorax darkened. Tibiae, tarsi and antennae yellowish. Body not iridescent, thorax not microsculptured. Antennae long, relative length/width of antennomeres as: III 12/9: IV 45/7: V 65/9: VI 52/8: VII 65/15: VIII 54/8: IX 65/11: X 59/13: XI 65/14. Pronotum very finely punctate, with lateral margins weakly rounded, lateral margin carinae distinct in dorsal view. Tip of scutellum exposed. Elytra with lateral margin carinae entirely well visible in dorsal view, apical margins rounded, inner apical angles not prominent, situated posterior to level of outer angles; sutural margin not raised, sutural striae deep, bent at pronotal lobe, not extending along basal margin, almost entirely parallel; adsutural areas flat, finely punctate. Elytral punctation dense and fairly coarse, much coarser than pronotal punctation, with puncture intervals mostly about as large to twice as large as puncture diameters. Hind wings fully developed. Mesepimeron about as long as interval to mesocoxa, almost four times as long as wide. Metaventrite not microsculptured, flattened apicomically, lacking mesal or apicomedial impressions or striae, punctation on most of surface very fine and sparse, dense near apical process, antecoxal puncture rows absent. Submesocoxal areas 0.05 mm, about as one third of inter-



Figs. 48–51. *Scaphisoma peregrinum* n. sp., genitalia, aedeagus in dorsal (48) and lateral (49) views, internal sac in dorsal view (50), paramere in ventral view (51). – Scale-bars: 0.2 mm.

val to metacoxa, submesocoxal lines convex, coarsely punctate. Metanepisternum flat, narrowed anteriad, inner margin oblique, rounded near angles, in level with margin of metaventrite. Protibiae and metatibiae straight, mesotibiae curved. Abdomen with strigulate microsculpture, very finely punctate, submetacoxal areas about 0.05 mm, as one fourth of interval to apical margin of sternite 1; submetacoxal lines weakly convex, fairly coarsely punctate.

♂: Protarsomeres I and II strongly widened, almost as wide as protibial apices, III weakly widened; mesotarsome

I and II distinctly widened, narrower than tibial apices. Aedeagus (Figs. 48–51) 1.14–1.15 mm long, symmetrical. Basal bulb weakly sclerotized, elongate, about as long as apical process. Apical process trifid, ventral branch swollen proximally, obliquely inflexed in apical half, with truncate tip. Dorsal branches short and robust, to a large part overlapped. Articular process not prominent. Parameres long and fairly narrow, lobed posterior to mid-length, with strongly bent basal section (lateral view); pores scattered, mostly situated near bases. Internal sac complex, with two

long admesal rods between tubular, denticulate structures, two short mesal sclerites in a sacculus, narrow proximal apophyses joint by bridge-like structure, and membranes bearing very dense denticles.

Comparative notes

This species is a member of the *S. haemorrhoidale* group and its aedeagal characters suggest relationship with *S. gracilicorne* Achard, 1920, known from Sumatra and Lombok (LÖBL 2015). It may be easily distinguished from *S. gracilicorne* by the larger body (1.50–1.55 mm long in the latter species), the middle of the elytral disc not darkened, the parallel sutural striae, the elytral punctation coarse and dense all over the disc, the shape of the parameres, and the internal sac bearing two long admesal rods and two short mesal sclerites.

3.4 New record of *Scaphisoma* Leach, 1815

Scaphisoma irideum Löbl, 2012

Material examined: 1 ♀, Moluccas, Halmahera Island, 28 km S Tobela, Togoliua, 2.XI.1999, ca. 200 m, leg. A. RIEDEL (SMNS).

Distribution

The species is known only from the Island Halmahera.

3.5 Key to the Scaphidiinae of the Moluccan Islands

- 1 Antennae inserted at upper eye margins, longer than body. Basal pronotal angles rounded, not prominent. Mesepimera concealed. Elytra with coarse punctures in grooves. – Body black, antennomere XI light. ***Bironium flavapex* n. sp.**
- Antennae inserted at lower eye margins, shorter than body. Basal pronotal angles prominent. Mesepimera visible. Elytra lacking grooves and coarse puncture rows. **2**
- 2 Antennomere III subcylindrical. Segment 4 of maxillary palpi aciculate. Submetacoxal lines absent. **3**
- Antennomere III subtriangular. Segment 4 of maxillary palpi gradually narrowed. Submetacoxal lines present. **9**
- 3 Metanepisterna distinct. Lateral parts of metaventricle very finely punctate. **4**
- Metanepisterna indistinct. Lateral parts of metaventricle very coarsely punctate. **5**
- 4 Larger species, 1.70 mm long. ***Baeocera agostii* Löbl, 2014**
- Smaller species 1.05 mm long. ***Baeocera* sp. A**
- 5 Elytra with sutural striae shortened, starting posterior to level of scutellum. **6**
- Elytra with sutural striae not shortened, starting near elytral basal margin. **7**
- 6 Body length 0.90 mm. Pronotum and elytra reddish-brown. Apex of median lobe abruptly inflexed (lateral view). ***Baeocera kaibesara* Löbl, 2014**
- Body length 1.20–1.33 mm. Pronotum and elytra dark brown to blackish. Apex of median curved (lateral view). ***Baeocera vicina* n. sp.**

- 7 Centre of metaventricle punctate. Hind wings reduced. ***Baeocera yamdene* Löbl, 2014**
- Centre of metaventricle impunctate. Hind wings well developed. **8**
- 8 Body blackish. Pronotal punctation indistinct, or eventually only near base distinct. Aedeagus 0.35–0.38 mm long, parameres sinuate and widened apically in lateral view. ***Baeocera vafra* n. sp.**
- Body reddish-brown, light. Pronotal punctation distinct. Aedeagus 0.26–0.28 mm long, parameres straight and widened in apical halves in lateral view. ***Baeocera variata* n. sp.**
- 9 Pronotum microsculptured and iridescent. ***Scaphisoma irideum* Löbl, 2012**
- Pronotum not microsculptured and not iridescent. **10**
- 10 Elytral and pronotal punctation similar, very fine, or elytral punctation distinctly coarser than pronotal punctation restricted onto minor discal surface. **11**
- Elytral punctation much coarser than pronotal punctation on entire, or most of discal surface. **17**
- 11 Sternite 1 with submetacoxal lines convex, submetacoxal areas larger than submesocoxal areas. **12**
- Sternite 1 with submetacoxal lines parallel, submetacoxal areas about as large as or smaller than submesocoxal areas. **15**
- 12 Elytra with sutural striae not bent along base and not extending to form basal striae. **13**
- Elytra with sutural striae bent along base and extending laterally to form basal striae. Aedeagus with long flagellum. **14**
- 13 Elytra and pronotum uniformly light reddish-brown. Aedeagus asymmetrical, with parameres very narrow and lobed apically. ***Scaphisoma coarctatum* Löbl, 1976**
- Elytra with distinctive colour pattern. Aedeagus symmetrical, parameres not lobed. ***Scaphisoma persimilans* n. sp.**
- 14 Antennomere XI about four times as long as wide and 1.4 times as long as X. Aedeagus with parameres arcuate in dorsal view, expanded and lobed ventrally. ***Scaphisoma perfectum* n. sp.**
- Antennomere XI about 3.5 times as long as wide and about 1.2 times as longer as X. Aedeagus with parameres straight except at apices, not lobed ventrally. ***Scaphisoma perturbator* n. sp.**
- 15 Body yellowish-brown or light reddish-brown, elytra with large dark transverse fascia. Hind wings well developed. Aedeagus with flagellum; large teeth-like sclerites lacking. ***Scaphisoma permutatum* n. sp.**
- Pronotum and elytra uniform dark brown or reddish-brown. Hind wings reduced. Aedeagus without flagellum, with large, teeth-like sclerites. **16**
- 16 Aedeagus with internal sac with bunch of very large, teeth-like sclerites. ***Scaphisoma apterum* Löbl, 2014**
- Aedeagus with internal sac with two rows of robust, teeth-like sclerites. ***Scaphisoma semibreve* Löbl, 2014**
- 17 Larger species, body length 1.85–1.88 mm. Pronotum and elytra uniformly light brown. ***Scaphisoma peregrinum* n. sp.**
- Smaller species, body length below 1.70 mm. Elytra with distinctive colour pattern. **18**
- 18 Elytra light, yellowish, each darkened along base and along apical margin. Metaventricle with antecoxal puncture row. ***Scaphisoma perminutum* n. sp.**
- Colour pattern of elytra different. Metaventricle without antecoxal puncture row. **19**

- 19 Elytra with sutural striae converging from bases to apices. Middle of metaventrite and sternite 1 microsculptured, submetacoxal lines convex. *Scaphisoma luteomaculatum* Pic, 1915
- Elytra with sutural striae parallel posterior to level of scutellar tip. Metaventrite and sternite 1 usually not microsculptured. 20
- 20 Elytra each either with small dark apical spot, or darkened on large apical area. Abdominal sternite 1 with submetacoxal lines convex, submetacoxal areas larger than submesocoxal areas. 21
- Elytra without dark apical spot and not darkened apically; apical third of elytra usually light. Abdominal sternite 1 with parallel submetacoxal lines, submetacoxal areas smaller than submesocoxal areas. 22
- 21 Body length 1.50 mm. Elytra darkened on large apical area extending along sides to middle third of elytral length. Abdominal sternite 1 not microsculptured. *Scaphisoma toxopeusi* Löbl, 1976
- Body length 1.20 mm. Elytra darkened along basal margins and in the middle, and with small apical spots. Abdominal sternite 1 microsculptured. *Scaphisoma perleve* n. sp.
- 22 Elytra dark, with small reddish subbasal band and light apical third. Apical process of aedeagus robust and oblique in lateral view, with acute tip in dorsal view. *Scaphisoma perdecorum* n. sp.
- Entire or almost entire basal fourth to third of elytra reddish-brown, about as pronotum. Apical process of aedeagus narrow and usually sinuate in lateral view, with truncate tip in dorsal view. 23
- 23 Basal bulb of aedeagus without proximal apophysis, parameres not notched in lateral view, lacking subbasal spines, with inner margin crenulate. *Scaphisoma peraffirmatum* n. sp.
- Basal bulb of aedeagus with proximal apophysis. 24
- 24 Parameres not overlapping, lacking subbasal spines, median lobe widened at tip. *Scaphisoma spatulatum* n. sp.
- Parameres overlapping apically, each with subbasal spine, median lobe with narrow tip. 25
- 25 Upper margin of parameres emarginate posterior to mid-length in lateral view. Ventral margin of parameres crenulate. *Scaphisoma permixtum* n. sp.
- Upper margin of parameres not emarginate. Ventral margin of parameres not crenulate. *Scaphisoma spinosum* n. sp.

4 Discussion

The Scaphidiinae are common and diverse in the tropics but usually inadequately sampled and if collected, remain frequently unstudied because of poverty in experts (personal observation and experience). This is also true for the Moluccan Scaphidiinae. The currently known 26 species were collected by three persons only, on the Island Buru, and on the Yamdena and Halmahera island groups, respectively. Currently, only two species, *Scaphisoma coarctatum* and *S. luteomaculatum* are more widely distributed, three species have been found on two islands of the Halmahera group, the remaining species are from a single island, some represented in collections by a single specimen. Gaps in the knowledge of the Scaphidiinae are suggested, in addition, by the absence of members of some species-rich and widely distributed genera in South East Asia, New Guinea and Australia, such as *Scaphobaeocera* Csiki, 1909 and *Scaphoxium* Löbl, 1979.

5 References

- LÖBL, I. (1976): Drei neue Arten der Gattung *Scaphisoma* Leach (Coleoptera, Scaphidiidae) von Indonesien. □ Entomologische Berichten **36**: 8–11.
- LÖBL, I. (1997): Catalogue of the Scaphidiinae (Coleoptera: Staphylinidae). □ Instrumenta biodiversitatis **1**: I–XII, 1–190.
- LÖBL, I. (2014a): On the Scaphidiinae (Coleoptera, Staphylinidae) of the Moluccas. □ Mitteilungen der Schweizerischen entomologischen Gesellschaft **87**: 49–60.
- LÖBL, I. (2014b): A new apterous species of *Scaphisoma* Leach (Coleoptera: Staphylinidae: Scaphidiinae) from Western New Guinea [Nový bezkřídý druh rodu *Scaphisoma* Leach (Coleoptera: Staphylinidae: Scaphidiinae) ze Západní Nové Guineje]. □ Klapalekiana **50**: 61–64.
- LÖBL, I. (2015): On the Scaphidiinae (Coleoptera: Staphylinidae) of the Lesser Sunda Islands. □ Revue suisse de Zoologie **122**: 75–120.
- OGAWA, R., LÖBL, I. & MAETO, K. (2014): Three new species of the genus *Scaphisoma* Motschulsky, 1863 (Coleoptera, Staphylinidae, Scaphidiinae) from Northern Sulawesi, Indonesia. □ ZooKeys **403**: 1–13.

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Manuscript received: 11.X.2014, accepted: 23.X.2014.

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Jahr/Year: 2015

Band/Volume: [NS_8_A](#)

Autor(en)/Author(s): Löbl Ivan

Artikel/Article: [Contribution to the knowledge of the Scaphidiinae \(Coleoptera: Staphylinidae\) of the Moluccas 165-187](#)