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RESEARCH PAPER

A review of Scaphisomatini from Sulawesi, with descriptions of ten new species (Coleoptera: Staphylinidae: Scaphidiinae)

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Abstract. The species of the scaphidiine tribe Scaphisomatini from Sulawesi are reviewed. The following new species are described and illustrated: *Baeocera inoptata* sp. nov., *Scaphisoma ancora* sp. nov., *S. caricatum* sp. nov., *S. flavolineatum* sp. nov., *S. hulai* sp. nov., *S. ogawai* sp. nov., *S. pellax* sp. nov., *S. sumpichi* sp. nov., *S. versicoloreum* sp. nov., and *Scaphobaeocera jirkai* sp. nov. New records are given for *Scaphisoma obliquemaculatum* Motschulsky, 1863 and *S. palu* Löbl, 1983. Keys to the Sulawesi species of *Baeocera* Erichson, 1845 and *Scaphisoma* Leach, 1815 are provided. A checklist of the Scaphidiinae of Sulawesi is appended.

Key words. Coleoptera, Staphylinidae, Scaphidiinae, *Baeocera*, *Scaphisoma*, *Scaphobaeocera*, taxonomy, new species, new records, Sulawesi, Indonesia, Oriental Region

http://zoobank.org/urn:lsid:zoobank.org:pub:BF2CDC12-C555-4187-BFAB-274C9C674A5D

Introduction

The mycophagous staphylinid subfamily Scaphidiinae is a morphologically well characterized group. The adults may be easily distinguished by their voluminous pronotum with sinuous basal margin, and the abdomen with enlarged ventrites 1 and 5. They are world-wide in distribution, though poorly represented in cooler areas. In the tropics, they are common on fungal growth on dead wood, and in forest floor litter. Four tribes are currently recognized within the subfamily (Leschen & Löbl 1995), the Scaphisomatini with 1,365 valid species is by far the most species-rich. The Scaphisomatini of the Greater Sunda Islands remain inadequately studied. This is particularly true for the species-rich genera *Baeocera* Erichson, 1845, *Scaphisoma* Leach, 1815 and *Scaphobaeocera* Csiki, 1909. At present, only a single species of *Baeocera* and six species of *Scaphisoma* have been described or reported from Sulawesi (Löbl 1983, 2012a), while members of *Scaphobaeocera* have only been mentioned in an unpublished work by Ogawa (2015). The smaller Scaphisomatini genera, such as *Birocera* Löbl, 1970, *Scaphicoma* Csiki, 1909 and *Xotidium* Löbl, 1992 (see Löbl 2011, Ogawa et al. 2014, and Ogawa & Löbl 2016, respectively), and the termitophilous taxa (Ogawa & Maeto 2015), are, obviously, better known. Thus, studies of new material from Sulawesi are expected to significantly increase our knowledge. This is corroborated by the present paper based on recent collections raising the number of Sulawesi Scaphisomatini from 17 to 27; all but three species – *Birocera punctatissima* (Reitter, 1880), *Vituratella termitophila* (Champion, 1927) and *Scaphisoma obliquemaculatum* Motschulsky, 1863 – are probable endemics to the island. Quite unexpected is the discovery of two wingless species of *Scaphisoma*: *S. ancora* sp. nov. and *S. hulai* sp. nov., which appear related to Moluccas congeners, and the comparatively high diversity of species related to *Scaphisoma bugi* Löbl, 1983. Notable is the low number of *Baeocera* and *Scaphobaeocera* in these collections, and the absence of *Scaphoxium* Löbl, 1979, possibly correlated with the collecting methods rather than a natural feature.

Material and methods

The specimens studied are deposited in the following collections:

NMPC Národní muzeum, Praha, Czech Republic;
MHNG Muséum d'histoire naturelle, Geneva, Switzerland;
NKME Naturkundemuseum, Erfurt, Germany.

The locality data are reproduced verbatim for the type material. Author's remarks are in square brackets, separate label lines are indicated by a slash (/). Adequate printed type- and/or identification labels are fixed under each examined specimen. The body length is measured from the anterior pronotal margin to the posterior inner angles of elytra. The length/width ratios of the antennomeres are measured on slide-mounted antennae. Statements about punctation on metaventrite and abdominal ventrite I do not refer to punctures margining subcoxal lines. The sides of the aedeagi refer to their morphological side with the ostium situated dorsally, while it is in resting position rotated 90°. The dissected body-parts are fixed in Euparal.

Taxonomy

Baeocera Erichson, 1845

The genus comprises 275 species distributed all over the world. Many are common in the forest floor litter, mainly in the subtropics and tropics. Only one species of *Baeocera* was known from Sulawesi, a second species is described below.

Baeocera inoptata sp. nov.

(Figs 1–5)

Type locality. Indonesia, South Sulawesi, Gowa District, 6 km E of Malino, Gunung Bawakaraeng [Mt.] Area, near Lembanna Base camp, ca. 05°15.4′S, 119°54.5′E.

Type material. Holotype: ♂ (NMPC), INDONESIA, S Sulawesi: Gowa Distr. / 6 km E of Malino, Gn. Bawakaraeng Area / border of gardens and mixed forest / (dominant Pinus) nr Lembanna Base camp / 05°15.4′S, 119°54.5′E, 1520 m / J.Hájek & J.Šumpich leg., 11-13.ii.2015. Paratype: 1 ♀ (MHNG), with the same data as the holotype.

Description. Length 2.03 mm, width 1.42 mm. Body convex dorsally; black, elytral apices and apical abdominal segments blackish-brown, mouth-parts ochreous, femora dark reddish-brown near bases and apices, blackish in middle, tibiae dark reddish-brown, tarsi ochreous, lighter than tibiae, antennomeres I to III ochreous, following antennomeres darkened, brown. Eyes large. Length/width ratios of antennomeres as: III 20/10 : IV 20/8 : V 32/8 : VI 35/15 : VII 55/20 : VIII 43/16 : IX 57/20 : X 55/ 23 (Fig. 1; antennae of the holotype broken off, paratype with one antenna only, lacking apical antennomere). Lateral contours of pronotum and elytra separately rounded. Pronotum with lateral margin carinae concealed near angles, discal punctation very fine. Tip of scutellum exposed. Elytra weakly narrowed apically, middle section of lateral margins straight, lateral margin carinae exposed in dorsal view, sutural striae curved at base and extending laterally to form basal striae joined with lateral striae, adsutural areas flat. Elytral punctation on inner halves of disc somewhat coarser than pronotal punctation and finer than on outer discal halves. Hind wings fully developed. Hypomera very finely punctate. Mesoventrite with very shallow mesal stria, lacking large marginal punctures. Mesepimera large, slightly narrowed mesally, about 5 times as long as wide and 6 times as long as intervals to mesocoxae. Median part of metaventrite convex, smooth in middle, with several coarse punctures near metacoxal process. Lateral parts of metaventrite appearing impunctate. Metacoxal process flat, submesocoxal areas 0.03 mm, with marginal punctures coarse, not elongate, extended to inner margins of mesepimera. Metanepisterna flat, about 0.13 mm wide, with suture deep, slightly sinuate. Abdominal ventrite I not microsculptured, with coarse, not elongate basal punctures, lacking basal rugosity; following ventrites distinctly punctate; ventrite VI with punctulate microsculpture. Tibiae straight.

Male characters. Protarsomeres I–III distinctly widened, narrower than apices of protibiae. Mesotarsomeres I and II slightly widened. Aedeagus (Figs 2–4) 0.63 mm long, strongly sclerotized, asymmetrical. Apical process of median lobe short, robust, overlapped by basal bulb. Internal sac with complex sclerites and two apical tufts of spine-like structures. Right parameres simple, bent in middle, in apical half almost evenly wide seen in ventral view, sinuate and widened in apical section in lateral view; left paramere lacking apophyse, wide, expanded ventrally.

Female characters. Protarsomeres not widened. Gonocoxite almost straight, evenly narrow, with subapical pores (Fig. 5).

Differential diagnosis. Only a single species of *Baeocera*, *B. derougemonti* Löbl, 1983, has been described from Sulawesi. This species is a member of the *B. lenta* species group defined by symmetrical aedeagi with a long ejaculatory duct extruded in resting position. The new species, a member of the *B. monstrosa* species group, defined by asymmetrical, voluminous aedeagi with complex internal sacs, with the ejaculatory duct not extruded in repos (see Löbl 1971). The sole known Indonesian member of the *B. monstrosa* group is the Sumatran *B. robertiana* Löbl, 1990, a species that differs drastically from *B. inoptata* sp. nov. by the shape of the parameres: it has the right paramere strongly expanded and lamellar, abruptly narrowed and denticular near the tip. Also notable is the internal sac in *B. robertiana* lacking apical tufts of spine-like structures. Both species may be easily distinguished by their antennae: the antennomere IV in *B. robertiana* is about 1.5 times as long as antennomere III and similar to antennomere VI, while antennomeres III and IV are equally long in *B. inoptata* sp. nov. with III much shorter than antennomere VI. The median lobe and the parameres of the new species are comparatively similar with those of the Philippine *B. alticola* Löbl, 2012. However, the internal sac bearing robust, elongate sclerites in the latter species is distinctive (see Löbl 2012b). The "*Baeocera* sp1" in Ogawa (2015) is likely *B. inoptata* sp. nov.

Etymology. The species epithet is a Latin adjective *inoptatus*, *-a*, *-um*, meaning 'not wanted'.

Distribution. Indonesia, South Sulawesi.

Key to Sulawesi species of *Baeocera*

1. Body length about 1.1 mm. Antennomere VI about as wide as antennomere IV. Elytra lacking basal striae. Lateral parts of metaventrite coarsely punctate. .... ***B. derougemonti*** Löbl, 1983
– Body length about 2 mm. Antennomere VI much wider than antennomere IV. Elytra with entire basal striae. Lateral parts of metaventrite appearing impunctate. ..... ***B. inoptata*** **sp. nov.**

Scaphisoma Leach, 1815

Scaphisoma comprises 722 species, and is the most species-rich genus of the subfamily Scaphidiinae. Six of these species are known from Sulawesi. While one is widely distributed (*S. obliquemaculatum* Motschulsky, 1863) and has been reported from Sulawesi by Löbl (1997), five are possibly endemic to the island. An additional eight species are present in the studied collections, one of them is left unidentified because it is represented in collections by a single female.

Scaphisoma ancora sp. nov.

(Figs 6–12, 50, 51)

Type locality. Indonesia, Central Sulawesi, Palu District, Taman Nasional Lore Lindu [National Park], environs of Wuasa, 1°24,445′S, 120°18,801′E.

Type material. Holotype: ♂ (NMPC), SULAWESI, Palu dist. / Lore Lindu N.P., Wuasa env., / 1°24,445'S, 20°18,801'E [sic!], / 15.viii. 2013, V.Hula lgt. Paratypes: 5 ♂♂ 6 ♀♀ (NMPC, MHNG), with the same data as the holotype.

Description. Length 1.64–1.80 mm, width 1.05–1.10 mm. Head, pronotum and elytra reddish-brown, abdomen and appendages lighter, ochreous. Antennae long, length/width ratios of antennomeres as: III 10/9 : IV 38/7 : V 44/8 : VI 39/7 : VII 46/13 : VIII 37/8 : IX 48/12 : X 44/12 : XI 51/13. Pronotum and elytra not microsculptured. Pronotum weakly narrowed anteriad, with regularly rounded lateral margins, lateral margins carinae throughout visible in dorsal view; punctation on disc very fine, sparse, hardly visible at magnification 30×, consisting of sharply delimited punctures, puncture intervals much larger than puncture diameters, punctures along lateral carinae absent. Minute tip of scutellum exposed. Elytra fairly narrowed apically, lateral margins almost regularly curved, lateral margin carinae exposed throughout in dorsal view, shape of apices sexually dimorphic; sutural margin not raised, adsutural areas flat, narrow, each with single puncture row. Sutural striae converging apically, curved near pronotal lobe, not extended laterally along basal margins. Punctures along lateral margins absent. Elytral disc with punctures very fine and shallow, somewhat larger than those on pronotal disc, not clearly delimited, puncture intervals mostly about three to five times as large as puncture diameters. Hind wings completely reduced. Hypomera smooth. Mesepimera almost two times longer than interval to mesocoxae and about five times as long as wide. Metaventrite lacking microsculpture except on minute areas near metacoxae, entirely very finely and sparsely punctate, antecoxal puncture rows absent; margin of intercoxal process slightly concave; submesocoxal lines convex, very finely punctate; submesocoxal areas 0.04 mm, about as long as halves of shortest intervals between them and metacoxae. Metanepisterna flat, not narrowed anteriad, with straight suture. Abdominal ventrite I very finely and sparsely punctate, without obvious microsculpture; submetacoxal lines subparallel, distinctly punctate, 0.03 mm, about as long as seventh of shortest intervals between them and apical margin of ventrite. Following ventrites with conspicuous punctulate microsculpture.

Male characters. Protarsomeres I strongly widened, about as wide as apices of protibiae and almost twice as wide as tarsomeres III; protarsomeres II somewhat narrower than protarsomeres I (Fig. 8). Protibiae straight, mesotibiae straight near base, curved posterior basal fourth (Fig. 9), metatibiae slightly curved posterior basal third. Elytral apices truncate, perpendicular to sutural margin, inner apical angles in level with outer apical angles (Fig. 50). Median part of metaventrite with large, subtriangular impression. Abdominal ventrite VI with deeply emarginate apical margin (Fig. 10). Tergite IX with one macroseta on each plate, stalk widened basally, with lateral sections concavely impressed (Fig. 11). Aedeagus (Figs 6, 7) 0.65 mm long, asymmetrical. Median lobe with small basal bulb bearing proximal anchor-like process, apical process asymmetrically curved, with small subapical tooth. Basal parts of parameres strongly expanded, apical parts lobate bearing very dense pores. Internal sac simple, tubular, membranous, lacking sclerotized pieces.

Female characters. Elytra with prominent apical angles, apical margins oblique and concave, inner apical angles situated far posterior outer apical angles (Fig. 51). Median part of metaventrite flattened. Pro- and mesotibiae straight, metatibiae hardly bent, tarsomeres not widened. Gonocoxite bent, evenly narrow (Fig. 12).

Differential diagnosis. The sexually dimorphic elytra are unusual within the Scaphisomatini. They are described in several species of the *Scaphisoma tricolor* species group (see Löbl & Ogawa 2016), which are quite unrelated to *S. ancora* sp. nov. Unlike in *S. ancora* sp. nov., the inner apical elytral angles are usually denticulate in females of the *S. tricolor* group. Members of the *S. tricolor* group differ notably by the elytra with shortened sutural striae, the strigulate abdominal microsculpture, the aedeagi with large, weakly sclerotized basal bulbs lacking proximal processes, the apical processes of the median lobes consisting of asymmetrical dorsal and ventral branches, the parameres lobed and overlapping apically, and the complex internal sacs. An anchor-like aedeagal process is well developed in the Moluccan *S. semibreve* Löbl, 2014. This species also shares reduced hind wings, likely correlated with a short metaventrite. *Scaphisoma semibreve* differs notably from *S. ancora* sp. nov. by the internal sac of the aedeagus bearing rows of robust teeth-like sclerites, and by the abdomen lacking microsculpture.

Etymology. The species epithet is a Latin noun in apposition, *ancora*, meaning 'anchor', and refers to the shape of the proximal aedeagal process.

Distribution. Indonesia, Central Sulawesi.

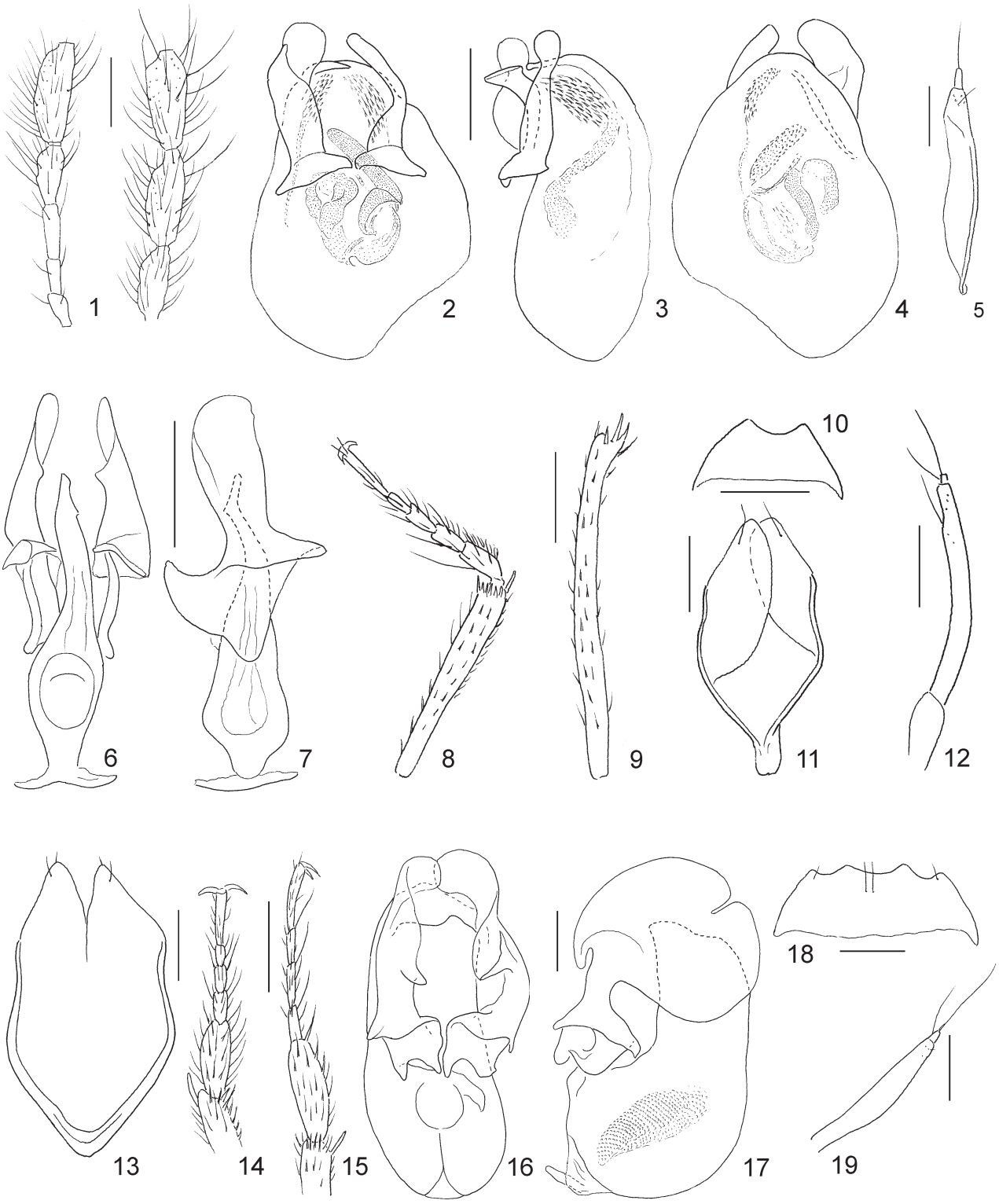
Scaphisoma hulai sp. nov.

(Figs 13–19)

Type locality. Indonesia, Central Sulawesi, Palu District, Taman Nasional Lore Lindu [National Park], environs of Wuasa, 1°24,445′S, 120°18,801′E.

Type material. Holotype: ♂ (NMPC), SULAWESI, Palu dist. / Lore Lindu N.P., Wuasa env., / 1°24,445'S, 20°18,801'E [sic!], / 15.viii. 2013, V.Hula lgt. Paratypes: 2 ♂♂ 3 ♀♀ (NMPC, MHNG), with the same data as the holotype.

Description. Length 1.90–2.24 mm, width 1.38–1.62 mm. Body uniformly light reddish-brown or ochreous, apex of abdomen, tibiae, tarsi and antennae ochreous, lighter than body. Antennae long, length/width ratios of antennomeres as: III 15/10 : IV 47/10 : V 63/10 : VI 60/9 : VII 62/14 : VIII 45/10 : IX 65/15 : X 55/15 : XI 58/15. Pronotum and elytra not microsculptured. Pronotum strongly narrowed anteriad, with regularly arcuate lateral margins, lateral margins carinae throughout visible in dorsal view; punctation on disc very fine, sparse, hardly visible at magnification 20×, consisting of sharply delimited punctures, puncture intervals much larger than puncture diameters, punctures



Figs 1–19. 1–5 – *Baeocera inoptata* sp. nov.: 1 – antennomeres 3 to 10; 2–4 – aedeagus in ventral, lateral and dorsal views (laterally impressed basal buld is an artefact), scale 0.2 mm; 5 – gonocoxite. 6–12 – *Scaphisoma ancora* sp. nov.: 6, 7 – aedeagus in dorsal and lateral views; 8 – male protibia and protarsus in lateral view; 9 – male mesotibia in lateral view; 10 – male ventrite 6; 11 – male tergite 9; 12 – gonocoxite. 13–19 – *S. hulai* sp. nov.: 13 – male tergite 9; 14 – male protarsus in dorsal view; 15 – male mesotarsus; 16, 17 – aedeagus in ventral and lateral views; 18 – male ventrite 6; 19 – gonocoxite. Scale bars: 0.1 mm (Figs 1, 5, 12, 19); 0.2 mm (Figs 2–4, 6–9, 14–17); 0.3 mm (10–11, 13, 18).

along lateral carinae absent. Apical part of scutellum exposed. Elytra weakly narrowed apically, lateral margins almost regularly curved, lateral margin carinae exposed throughout in dorsal view, apical margin truncate, inner apical angles situated about in same level as outer angles, apical serration inconspicuous, sutural margin not raised, adsutural areas flat, narrow, each with single puncture row. Sutural striae almost parallel between level of scutellum up to apices, curved near pronotal lobe and extended laterad to form basal striae, extended laterally to outer halves or thirds of basal width. Punctures along lateral margins absent. Elytral disc with punctures very fine and shallow, somewhat larger than those on pronotal disc, not clearly delimited, puncture intervals mostly about three to four times as large as puncture diameters, punctures near apical margins denser, to part about as large as puncture intervals. Hind wings reduced. Exposed tergites impunctate, with punctulate microsculpture. Hypomera not microsculptured, smooth. Mesepimera somewhat longer than intervals to mesocoxae and about five times as long as wide. Metaventrite not microsculptured; punctation very fine and sparse on prevailing surface, antecoxal puncture rows absent; apical intercoxal margin straight. Submesocoxal lines convex, finely punctate; submesocoxal areas 0.04–0.05 mm, about as long as fourth of shortest intervals between them and metacoxae. Metanepisterna flat, slightly narrowed anteriad. Abdominal ventrite I not microsculptured, with punctation very fine and sparse, as that on lateral parts of metaventrite; submetacoxal lines convex, finely punctate; submetacoxal areas each 0.05 mm, about as long as fifth of intervals between them and apical margin of ventrite. Following ventrites with conspicuous punctulate microsculpture, lacking punctation.

Male characters. Pro- and mesotarsomeres I strongly enlarged, wider than apices of tibiae (Figs 14, 15). Pro- and mesotarsomeres II and III slightly widened. Pro- and mesotibiae straight, metatibiae slightly curved and narrowed in apical halves. Mesal part of metaventrite with large, subtriangular impression and very densely punctate anterior metacoxal process, punctures to part about as large as puncture intervals. Apical margin of abdominal ventrite VI emarginate in middle (Fig. 18). Tergite IX with two macrosetae on each plate, stalk widened basally, with lateral sections to part concave (Fig. 13). Aedeagus (Figs 16, 17) 1.10–1.20 mm long, asymmetrical. Median lobe with short, robust basal bulb bearing basoventral sclerotized apophysis. Articular process inconspicuous. Apical process stout, not bent. Parameres expanded by large, overlapping lobes. Inner sac compact, vesicular, bearing dense rows of scale-like structures; sclerotized pieces absent.

Female characters. Pro- and mesotarsi narrow. Tibiae straight, evenly thick. Metaventrite convex in middle, flattened between metacoxae, with dense punctation limited onto small areas near coxae. Gonocoxite slightly bent, widened in middle, with subapical microtrichiae (Fig. 19).

Differential diagnosis. The new species resembles *S. latitarse* Löbl, 2012, by its large-sized, finely punctate body, the presence of basal elytral striae, and the strongly enlarged basal protarsomeres. It may be readily distinguished from *S. latitarse* by its light body colour, the reduced hind wings, the long mesepimera and the abdominal ventrite I lacking microsculpture. The aedeagi of these two species are very distinctive. Several Moluccan congeners have aedeagi with basoventral processes, expanded parameres and bulbous internal sacs lacking sclerites (*S. perdecorum* Löbl, 2015, *S. spatulatum* Löbl, 2015, *S. spinosum* Löbl, 2015, *S. permixtum* Löbl, 2015). *Scaphisoma hulai* sp. nov. differs from all of them by its robust median lobe with wide, non-inflexed apical process, and by the much wider parameres.

Etymology. The species is named in honour of its collector, Vladimír Hula, Brno, Czech Republic; the name is a noun in the genitive case.

Distribution. Indonesia, Central Sulawesi.

Scaphisoma ogawai sp. nov.

(Figs 20–24)

Type locality. Indonesia, Central Sulawesi, Palu District, Taman Nasional Lore Lindu [National Park], environs of Wuasa, 1°24,445′S, 120°18,801′E.

Type material. Holotype: ♂ (NMPC), SULAWESI, Palu dist. / Lore Lindu N.P., Wuasa env., / 1°24,445'S, 20°18,801'E [sic!], / 15.viii. 2013, V.Hula lgt. Paratypes: 2 ♀♀ (NMPC, MHNG), with the same data as the holotype.

Description. Length 1.55–1.58 mm, width 1.05–1.07 mm. Body convex. Head and pronotum black, elytra slightly lighter than pronotum, blackish-brown, ventral side of thorax and abdomen dark brown, appendages ochreous. Antennae long, length/width ratios of antennomeres as: III 12/7 : IV 36/8 : V 44/8 : VI 40/8 : VII 48/11 : VIII 38/10 : IX 45/12 : X 48/12 : XI 53/13. Pronotum and elytra not microsculptured. Pronotum strongly narrowed anteriad, with regularly arcuate lateral margins, lateral margins carinae concealed near angles, distinct in middle section; punctation on disc very fine, dense, hardly visible at magnification 30×, consisting of sharply delimited punctures, puncture intervals much larger than puncture diameters, punctation along lateral carinae extremely fine. Tip of scutellum exposed. Elytra moderately narrowed apically, lateral margins almost regularly curved, lateral margin carinae exposed throughout in dorsal view, apical margin slightly rounded, inner apical angles situated posterior of level of outer angles, apical serration inconspicuous, sutural margin not raised, adsutural areas flat, narrow, each with single puncture row. Sutural striae parallel in basal halves, converging apically, curved near pronotal lobe and ending at basal margins, not extended laterad of pronotal lobe. Punctures along lateral margins very fine. Elytral disc with punctures fine, larger than those on pronotal disc, almost evenly large, sharply delimited, puncture intervals mostly about two to three times as large as puncture diameters, punctures near apical margins denser, to part about as large as puncture intervals. Hind wings fully developed. Exposed tergites with strigulate microsculpture, punctures about as large as those on elytra, less clearly delimited. Hypomera not microsculptured. Mesepimera two times as long as intervals between them and mesocoxae and four times as long as wide. Metaventrite with strigulate microsculpture,

sparsely and extremely finely punctate, slightly impressed between metacoxae, with conspicuous mesal stria, antecoxal puncture rows absent, apical intercoxal margin slightly concave. Submesocoxal lines convex, distinctly punctate; submesocoxal areas 0.03 mm, about as long as fifth of shortest intervals between them and metacoxae. Metanepisterna flat, slightly narrowed anteriad. Tibiae straight. Abdomen with microsculpture and punctation as that on metaventrite. Abdominal ventrite I with submetacoxal line convex, distinctly punctate; submetacoxal areas each 0.05 mm, about as long as third of shortest intervals between them and apical margin of ventrite.

Male characters. Pro- and mesotarsomeres I to III moderately enlarged, narrower than apices of respective tibiae. Apical margin of abdominal ventrite VI narrow, subangular. Tergite IX with two macrosetae on each plate, stalk evenly narrow, oblique laterally (Fig. 21). Aedeagus (Figs 22–24) 0.75 mm long, symmetrical. Basal bulb large, narrowed apically, with pair of apicodorsal, inconspicuous plate-like areas. Apicoventral side of basal bulb oblique, articular process minute. Apical process strongly bent, almost vertical to axis of basal bulb, comparatively short, tapering in lateral view. Parameres with wide bases, gradually narrowed toward apical third, bent in apical halves, inner margins weekly sclerotized. Internal sac tubular, small sclerotized structures absent.

Female characters. Protarsi and mesotarsi narrow. Apical margins of elytra as in males. Gonocoxite slightly bent, evenly wide (Fig. 20).

Differential diagnosis. The aedeagal characters suggest close relationships of *S. ogawai* sp. nov. and *S. bugi*. These species have a similar shape of the median lobe and parameres, and a simple, tubular internal sac lacking sclerotized pieces. The apicoventral side of the basal bulb is oblique in *S. ogawai* sp. nov. and differs drastically from that in *S. bugi*. The new species may be readily distinguished by its external characters, notably by the elytra lacking spots (spotted in *S. bugi*), the antennomere IV three times as long as III (only two times as long as III in *S. bugi*), the metaventrite striate in middle and with distinct strigulate microsculpture on lateral parts (in *S. bugi* lacking mesal stria and not microsculptured laterally), and the submesocoxal and submetacoxal lines distinctly punctate (appearing impunctate in *S. bugi*).

Etymology. This species is dedicated to Ryo Ogawa, Matsuyama, Japan, who significantly contributed to the knowledge of the Sulawesi scaphidiines. The name is a noun in the genitive case.

Distribution. Indonesia, Central Sulawesi.

Scaphisoma flavolineatum sp. nov.

(Figs 25–27)

Type locality. Indonesia, South Sulawesi, Gowa District, 6 km E of Malino, Gunung Bawakaraeng [Mt.] Area, near Lembanna Base camp, ca. 05°15.4′S, 119°54.5′E.

Type material. Holotype: ♂ (NMPC), INDONESIA, S Sulawesi: Gowa Distr. / 6 km E of Malino, Gn. Bawakaraeng Area / border of gardens and mixed forest / (dominant Pinus) nr Lembanna Base camp / 05°15.4′S, 119°54.5′E, 1520 m / J.Hájek & J.Šumpich leg., 11-13.ii.2015.

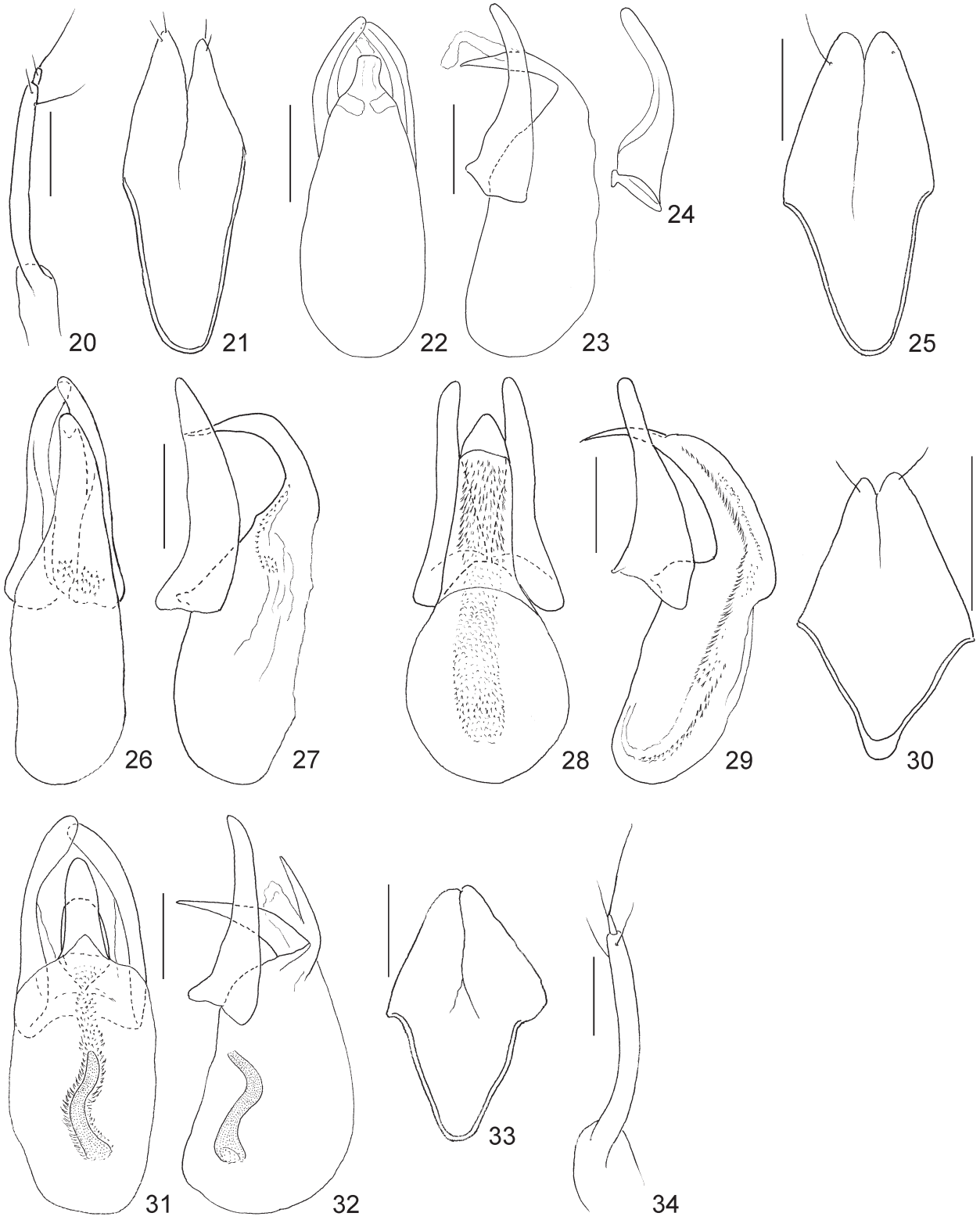
Description. Length 1.72 mm, width 1.13 mm. Head, thorax and most of elytra black; elytra each with well delimited yellowish subapical fascia covering most of apical third but not adsutural area and not apical 0.10 mm; abdomen blackish-brown. Antennomeres IV to XI dark brown, basal antennomeres and legs light, ochreous. Antennae long, length/width ratios of antennomeres as: III 15/11 : IV 38/8 : V 48/8 : VI 47/7 : VII 50/12 : VIII 45/10 : IX 56/14 : X 55/13 : XI 56/14. Pronotum and elytra not microsculptured. Pronotum strongly narrowed anteriad, with regularly rounded lateral margins, lateral margins carinae concealed near angles, hardly visible in middle section; punctation on disc fine, dense, visible at magnification 20×, consisting of sharply delimited punctures, puncture intervals much larger than puncture diameters, punctation along lateral carinae very fine. Tip of scutellum exposed. Elytra distinctly narrowed apically, lateral margins almost regularly curved, lateral margin carinae exposed throughout in dorsal view, apical margin rounded, inner apical angles situated in same level as outer angles, apical serration conspicuous, sutural margin not raised, adsutural areas flat, narrow, each with single puncture row. Sutural striae converging apically, curved near pronotal lobe and ending at basal margins, not extended laterad of pronotal lobe. Punctures along lateral margins very fine. Elytral disc with punctures fine, similar as those on pronotal disc or somewhat larger, sharply delimited, puncture intervals mostly about three to five times as large as puncture diameters. Hind wings fully developed. Exposed tergites with strigulate microsculpture and extremely fine punctation. Hypomera not microsculptured. Mesepimera about 1.5 times as long as intervals between them and mesocoxae and four times as long as wide. Metaventrite with strigulate microsculpture, sparsely and extremely finely punctate, flattened in centre, lacking impressions, without mesal stria, antecoxal puncture rows absent; apical intercoxal margin slightly concave. Submesocoxal lines convex, distinctly punctate; submesocoxal areas 0.04 mm, about as long as fourth of shortest intervals between them and metacoxae. Metanepisterna flat, hardly narrowed anteriad. Tibiae straight. Abdomen with microsculpture and punctation as that on metaventrite; ventrite I with submetacoxal line convex, distinctly punctate; submetacoxal areas 0.04 mm, about as long as fourth of shortest intervals between them and apical margin of ventrite.

Male characters. Protarsomeres I–III moderately enlarged, narrower than apices of protibiae. Apical margin of abdominal ventrite VI narrow, subangular. Tergite IX with one macroseta on each plate, stalk evenly narrow, rounded laterally (Fig. 25). Aedeagus (Figs 26, 27), 0.63 mm long, symmetrical. Basal bulb large, narrowed apically, with pair of apicodorsal, inconspicuous plate-like areas. Apicoventral side of basal bulb concave in lateral view, articular process minute. Apical process strongly bent, vertical to aedeagal axis near tip, comparatively long, tapering in lateral view. Parameres with wide bases, from midlength to tip gradually narrowed in lateral view, lightly bent in apical halves in dorsal view, with inner margins

weekly sclerotized. Internal sac tubular, with minute, weakly sclerotized denticular structure.

***Female*.** Unknown.

Differential diagnosis. The aedeagal characters suggest a close relationship of this new species to *S. bugi* and *S. ogawai* sp. nov., though the median lobe is significantly longer than that of *S. ogawai* sp. nov., and the apical side of the basal bulb is oblique, almost as in *S. ogawai* sp. nov. and quite distinctive from that of *S. bugi*. The internal sac with minute, weakly sclerotized spine-like structures



Figs 20–34. 20–24 – *Scaphisoma ogawai* sp. nov.: 20 – gonocoxite; 21 – male tergite 9; 22, 23 – aedeagus in dorsal and lateral views; 24 – paramere in ventral view. 25–27 – *S. flavolineatum* sp. nov.: 25 – male tergite 9; 26, 27 – aedeagus in dorsal and lateral views. 28–30 – *S. pellax* sp. nov.: 28, 29 – aedeagus in dorsal and lateral views; 30 – male tergite 9. 31–34 – *S. sumpichi* sp. nov.: 31, 32 – aedeagus in dorsal and lateral views; 33 – male tergite 9; 34 – gonocoxite. Scale bars: 0.1 mm (Figs 20, 28–29, 34); 0.2 mm (Figs 21–27, 30–32); 0.3 mm (Fig. 33).

differs from that of both related species. This new species may be readily distinguished from its Sulawesi congeners by the light transverse elytral fascia, similar to that of the Philippine *S. lunabianum* Löbl & Ogawa, 2016, *S. binaluanum* Pic, 1947 and *S. bicuspidatum* Löbl & Ogawa, 2016 (see Löbl & Ogawa 2016).

Etymology. The species epithet is a Latin adjective *flavolineatus*, *-a*, *-um*, referring to the elytral colour pattern.

Distribution. Indonesia, South Sulawesi.

Scaphisoma pellax sp. nov.

(Figs 28–30)

Type locality. Indonesia, South Sulawesi, Gowa District, 6 km E of Malino, Gunung Bawakaraeng [Mt.] Area, near Lembanna Base camp, ca. 05°15.4′S, 119°54.5′E.

Type material. Holotype: ♂ (NMPC), INDONESIA, S Sulawesi: Gowa Distr. / 6 km E of Malino, Gn. Bawakaraeng Area / border of gardens and mixed forest / (dominant Pinus) nr Lembanna Base camp / 05°15.4′S, 119°54.5′E, 1520 m / J.Hájek & J.Šumpich leg., 11-13.ii.2015. Paratype: ♀ (MHNG), with the same data as the holotype.

Description. Length 1.44–1.47 mm, width 0.93–0.96 mm. Head, pronotum and most of elytra dark reddish brown, elytra blackish near apical margins and with yellowish apices, or pronotum and elytra uniformly blackish with yellowish apical margins; mesoventrite, median part of metaventrite and most of abdomen dark reddish-brown to blackish; hypomera, mesanepisterna, lateral parts of metaventrite and apicolateral parts of abdominal ventrite I blackish, apical abdominal segments yellowish; legs, mouthparts and antennomeres I to V ochreous, following antennomeres light brown. Antennae long, length/width ratios of antennomeres as: III 9/6 : IV 25/5 : V 28/6 : VI 35/8 : VII 42/11 : VIII 34/9 : IX 41/12 : X 40/12 : XI 48/12. Pronotum and elytra not microsculptured. Pronotum strongly narrowed anteriad, with regularly rounded lateral margins, lateral margins carinae concealed; punctation on disc fine, dense, visible at magnification 20×, consisting of sharply delimited punctures, puncture intervals much larger than puncture diameters, punctation along lateral carinae very fine. Tip of scutellum exposed. Elytra moderately narrowed apically, lateral margins almost regularly curved, lateral margin carinae exposed throughout in dorsal view, apical margin truncate, inner apical angles situated in same level as outer angles, apical serration inconspicuous, sutural margin not raised, adsutural areas flat, narrow, each with single puncture row. Sutural striae parallel in basal halves, converging apically, curved near pronotal lobe, not extended laterad of pronotal lobe. Punctures along lateral margins very fine. Elytral disc with punctures almost evenly large, sharply delimited, larger than those on pronotal disc, puncture intervals mostly about as large to three times as large as puncture diameters. Hind wings fully developed. Exposed tergites with strigulate microsculpture, extremely fine punctate. Hypomera smooth, not microsculptured. Mesepimera shorter than intervals between them and mesocoxae and four times as long as wide. Metaventrite not microsculptured, with mesal part convex, lacking apical impression, with very fine mesal stria, densely and finely punctate, apical intercoxal margin slightly concave. Lateral parts of metaventrite smooth, antecoxal puncture rows absent. Submesocoxal lines convex, distinctly punctate; submesocoxal areas 0.04 mm, about as long as third of shortest intervals between them and metacoxae. Metanepisterna flat, hardly narrowed anteriad. Tibiae straight. Abdomen with strigulate microsculpture and extremely fine punctation; ventrite I with submetacoxal lines convex, coarsely punctate; submetacoxal areas each 0.07 mm, somewhat longer than half of shortest intervals between them and apical margin of ventrite.

Male characters. Protarsomeres I–III slightly widened, mesotarsomeres not widened. Abdominal ventrite VI with angular apical margin. Tergite IX with one macroseta on each plate, stalk thickened proximally, oblique laterally (Fig. 30). Aedeagus (Figs 28, 29) 0. 33 mm long, symmetrical. Median lobe with apical process about as long as basal bulb, strongly inflexed, tapering and with concave ventral side in lateral view, parallel-sided and with obtuse tip in dorsal view; dorsal valve weakly sclerotized. Articular process small, not prominent. Parameres wide at bases, narrowed toward apical thirds, in apical third evenly broad. Internal sac tubular, straight in resting position, bearing short spine-like structures to part appearing scale-like.

Female characters. Protarsomeres not enlarged.

Differential diagnosis. The aedeagal characters of this new species suggest relationships with *S. bugi*, *S. ogawai* sp. nov. and *S. flavolineatum* sp. nov. (see differential diagnoses under *S. ogawai* sp. nov. and *S. flavolineatum* sp. nov.). While *S. bugi* and *S. flavolineatum* sp. nov. may be readily distinguished by their colour pattern, *S pellax* sp. nov. resembles *S. ogawai* sp. nov. by its colour and also shares with it the mesally striate metaventrite. It may be readily distinguished from *S. ogawai* sp. nov. by the notably coarser elytral punctation, the larger submetacoxal areas, the median lobe of the aedeagus with a much longer, less inflexed and curved apical process, and the internal sac bearing distinct spine-like structures.

Etymology. The species epithet is a Latin adjective *pellax*, meaning ‘guileful’.

Distribution. Indonesia, South Sulawesi.

Scaphisoma sumpichi sp. nov.

(Figs 31–34, 52)

Type locality. Indonesia, South Sulawesi, Gowa District, 6 km E of Malino, Gunung Bawakaraeng [Mt.] Area, near Lembanna Base camp, ca. 05°15.4′S, 119°54.5′E.

Type material. Holotype: ♂ (NMPC), INDONESIA, S Sulawesi: Gowa Distr. / 6 km E of Malino, Gn. Bawakaraeng Area / border of gardens and mixed forest / (dominant Pinus) nr Lembanna Base camp / 05°15.4′S, 119°54.5′E, 1520 m / J.Hájek & J.Šumpich leg., 11-13.ii.2015. Paratypes: 3 ♂♂ 3 ♀♀ (NMPC, MHNG), with the same data as the holotype.

Description. Length 1.76–1.95 mm, width 1.14–1.25 mm. Head, mouthparts, basal antennomeres, hypomera, legs and apical abdominal segments ochreous; antennomeres V to XI brown; pronotum reddish-brown to black, in middle sometimes darker than on sides; elytra dark brown to black along basal margin, on adsutural areas, along apical margins, and each with large dark brown to black discal spot situated between basal fourth and apical third of disc, joint to dark basal area along sutural stria; area surrounding discal spot ochreous (Fig. 52); ventral side of mesothorax

and metathorax dark brown to blackish, abdominal ventrites 1 to 5 reddish-brown. Antennae long, length/width ratios of antennomeres as: III 15/9 : IV 35/8 : V 44/8 : VI 43/10 : VII 50/15 : VIII 42/10 : IX 47/14 : X 45/14 : XI 60/15. Pronotum and elytra not microsculptured. Pronotum strongly narrowed anteriad, with regularly arcuate lateral margins, lateral margins carinae concealed in dorsal view; punctation on disc very fine, dense, hardly visible at magnification 30×, consisting of not well delimited punctures, puncture intervals much larger than puncture diameters, punctation along lateral carinae indistinct. Tip of scutellum exposed. Elytra moderately narrowed apically, lateral margins almost regularly curved, lateral margin carinae hardly visible in dorsal view, apical margin weakly rounded, inner apical angles situated in same level as outer angles, apical serration inconspicuous, sutural margin not raised, adsutural areas flat, narrow, each with single puncture row. Sutural striae parallel, curved near pronotal lobe, not extended laterad of pronotal lobe. Punctures along lateral margins very fine. Elytral disc with punctures fine, almost evenly large, not well delimited, larger than those on pronotum, puncture intervals mostly about two to four times as large as puncture diameters. Hind wings fully developed. Hypomera smooth, not microsculptured. Mesepimera as long as intervals between them and mesocoxae and four times as long as wide. Metaventrite with strigulate microsculpture; centre of metaventrite convex, with two shallow apical impressions, lacking mesal stria, punctation all over sparse and very fine; apical intercoxal margin slightly concave. Lateral parts of metaventrite sparsely and very finely punctate, antecoxal puncture rows absent. Submesocoxal lines convex, distinctly punctate; submesocoxal areas 0.03 mm, about as long as seventh of shortest intervals between them and metacoxae. Metanepisterna flat, hardly narrowed anteriad, with slightly rounded angles. Tibiae straight. Abdomen with strigulate microsculpture and extremely fine punctation; ventrite I with submetacoxal lines convex, distinctly punctate; submetacoxal areas each 0.05 mm, as long as fourth of shortest intervals between them and apical margin of ventrite.

Male characters. Protarsomeres I–III strongly widened, narrower than apices of protibiae; mesotarsomeres I and II distinctly widened. Abdominal ventrite VI with angular apical margin. Tergite IX lacking macrosetae, stalk evenly narrow, oblique laterally (Fig. 33). Aedeagus (Figs 31, 32) 0.81–0.95 mm long, symmetrical. Median lobe with apical process much shorter than basal bulb, strongly inflexed, tapering and with ventral side slightly curved in lateral view, hardly narrowed and with obtuse tip in dorsal view; dorsal valve sclerotized. Articular process indistinct. Parameres wide at bases, narrowed toward apical thirds, apical section widened in dorsal view, slightly inflexed and narrowed in lateral view, inner margin membranous. Internal sac tubular, sinuate, bearing robust rod and spine-like structures.

***Female characters*.** Protarsomeres narrow. Gonocoxite bent, evenly narrow (Fig. 34).

Differential diagnosis. This species also possesses aedeagal characters suggesting relationships with *S. bugi* and its allied species (see differential diagnoses under *S. ogawai* sp. nov., *S. flavolineatum* sp. nov. and *S. pellax* sp. nov.). It may be readily distinguished from these species by the colour pattern of the elytra, and from *S. ogawai* sp. nov. and *S. pellax* sp. nov. by the metaventrite lacking a median stria. This new species is unique in having the internal sac with a single, robust, sinuate rod surrounded by dense spine-like structures.

Etymology. The species is named after one of its collectors, Jan Šumpich, lepidopterist at the National Museum, Prague. The name is a noun in the genitive case.

Distribution. Indonesia, South Sulawesi.

Scaphisoma versicoloreum sp. nov.

(Figs 35–39, 53)

Type locality. Indonesia, South Sulawesi, Gowa District, 6 km E of Malino, Gunung Bawakaraeng [Mt.] Area, near Lembanna Base camp, ca. 05°15.4′S, 119°54.5′E.

Type material. Holotype: ♂ (NMPC), INDONESIA, S Sulawesi: Gowa Distr. / 6 km E of Malino, Gn. Bawakaraeng Area / border of gardens and mixed forest / (dominant Pinus) nr Lembanna Base camp / 05°15.4′S, 119°54.5′E, 1520 m / J.Hájek & J.Šumpich leg., 11-13.ii.2015. Paratypes: 3 ♂♂ 2 ♀♀ (NMPC, MHNG), with the same data as the holotype.

Description. Length 2.20–2.86 mm, width 1.35–1.50 mm. Head ochreous; pronotum dark brown to black, with narrow mesal ochreous band, anterior margin narrowly ochreous and with conspicuous circular ochreous band at each side; prevailing elytral surface ochreous, basal area black and with sharply delimited and irregular margin, triangularly expanded in middle, adsutural area dark brown, centre of disc with rather small black spot narrowly separated from subtriangular black area touching sutural stria, subapical area with small spot (Fig. 53); hypomera ochreous, with dark margins, venter of mesothorax and metathorax blackish, ventrites reddish-brown, becoming gradually lighter apically; femora and tibiae ochreous, mouth-parts, antennomeres I and II, and tarsi yellowish, antennomeres III to XI brown. Antennae long, length/width ratios of antennomeres as: III 15/8 : IV 49/7 : V 65/7 : VI 58/8 : VII 65/15 : VIII 50/10 : IX 62/14 : X 52/14 : XI 65/14. Pronotum and elytra not microsculptured. Pronotum strongly narrowed anteriad, with regularly rounded lateral margins, lateral margins carinae entirely or almost entirely visible; punctation on disc fine, dense, visible at magnification 20×, consisting of sharply delimited punctures, puncture intervals much larger than puncture diameters, punctation along lateral carinae distinct, conspicuously dense. Tip of scutellum exposed. Elytra strongly narrowed apically, lateral margins almost regularly curved, lateral margin carinae exposed throughout in dorsal view, apices sexually dimorphic, apical margins rounded, inner apical angles situated posterior level of outer angles, apical serration conspicuous, sutural margin not raised, adsutural areas flat, narrow, each with single puncture row. Sutural striae parallel in basal halves, converging apically, starting at level of scutellum, not curved along pronotal lobe. Punctures along lateral margins coarse and dense. Elytral disc with punctures larger than those on pronotum, sharply delimited, puncture intervals mostly about as large to twice as large as puncture diameters. Hind wings fully developed. Hypomera smooth, not microsculptured. Mesepimera slightly shorter than

intervals between them and mesocoxae and four times as long as wide. Metaventrite with strigulate microsculpture; centre of metaventrite convex, with two shallow apical impressions, lacking mesal stria, punctation dense and fine, denser in impressions than on remaining surface; apical intercoxal margin truncate. Lateral parts of metaventrite sparsely and very finely punctate, antecoxal puncture rows absent. Submesocoxal lines convex, distinctly punctate; submesocoxal areas 0.04 mm, about as long as fifth to fourth of shortest intervals between them and metacoxae. Metanepisterna flat, hardly narrowed anteriad, with broadly rounded angles. Protibiae straight. Mesotibiae and metatibiae slightly bent. Abdomen with strigulate microsculpture and extremely fine punctation; ventrite I with submetacoxal lines parallel, coarsely punctate; submetacoxal areas each 0.05 mm, as long as fourth of shortest intervals between them and apical margin of ventrite.

Male characters. Protarsomeres I–III strongly widened, I about as wide as apices of protibiae. Mesotibiae thicker and more bent than metatibiae. Mesotarsomeres I and II distinctly widened. Elytra not extended apically, with inner apical angles lying somewhat posterior level of outer angles. Apical margin of abdominal ventrite VI with narrow, 0.05 mm long lobe. Tergite IX with stalk rounded laterally, bearing basal, not clearly delimited darkened areas (Fig. 38). Aedeagus (Figs 35–37) 0.88–0.90 mm long, symmetrical. Apical process long, tapering, inflexed, with slightly sinuate ventral margin in lateral view. Dorsal valve partly sclerotized to form rhomboid plate joined by membranes to proximal part of apical process. Parameres bent at bases and apices, notched ventrally near apices, with sinuate dorsal margin in lateral view, each bearing ventral, membranous apophyse extended apically. Internal sac with pair of distal denticles and complex basal sclerite, joined by membranes bearing very finely striate and minute denticle-like structures.

***Female characters*.** Pro- and mesotarsomeres narrow. Elytra with prominent apical angles, apical margins strongly oblique, inner apical angles situated far posterior outer apical angles. Gonocoxite slightly bent, evenly narrow (Fig. 39).

Differential diagnosis. The colour pattern of the body and the aedeagal characters of this species are unique. The median lobe is similar to that of *S. bugi* and its allies, and of the Malaysian *S. angulatum* Löbl, 1975, but the parameres bearing ventral hyaline apophyses are distinctive. An unusual feature are the sexually dimorphic elytra (see under *S. ancora* sp. nov.).

Etymology. The species epithet is a Latin adjective *versicoloreus*, *-a*, *-um*, meaning varicoloured.

Distribution. Indonesia, South Sulawesi.

Scaphisoma carinatum sp. nov.

(Figs 40–46)

Type locality. Indonesia, South Sulawesi, Maros District, Taman Nasional Bantimurung Bulusaraung [National Park], ca. 05°01.0′S, 119°41.1′E.

Type material. Holotype: ♂ (NMPC), INDONESIA, S Sulawesi: Maros Distr. / Bantimurung Bulusaraung NP / karst; lowland tropical forest / 05°01.0′S, 119°41.1′E, 140 m / J. Hájek & J. Šumpich leg., 15.ii.2015.

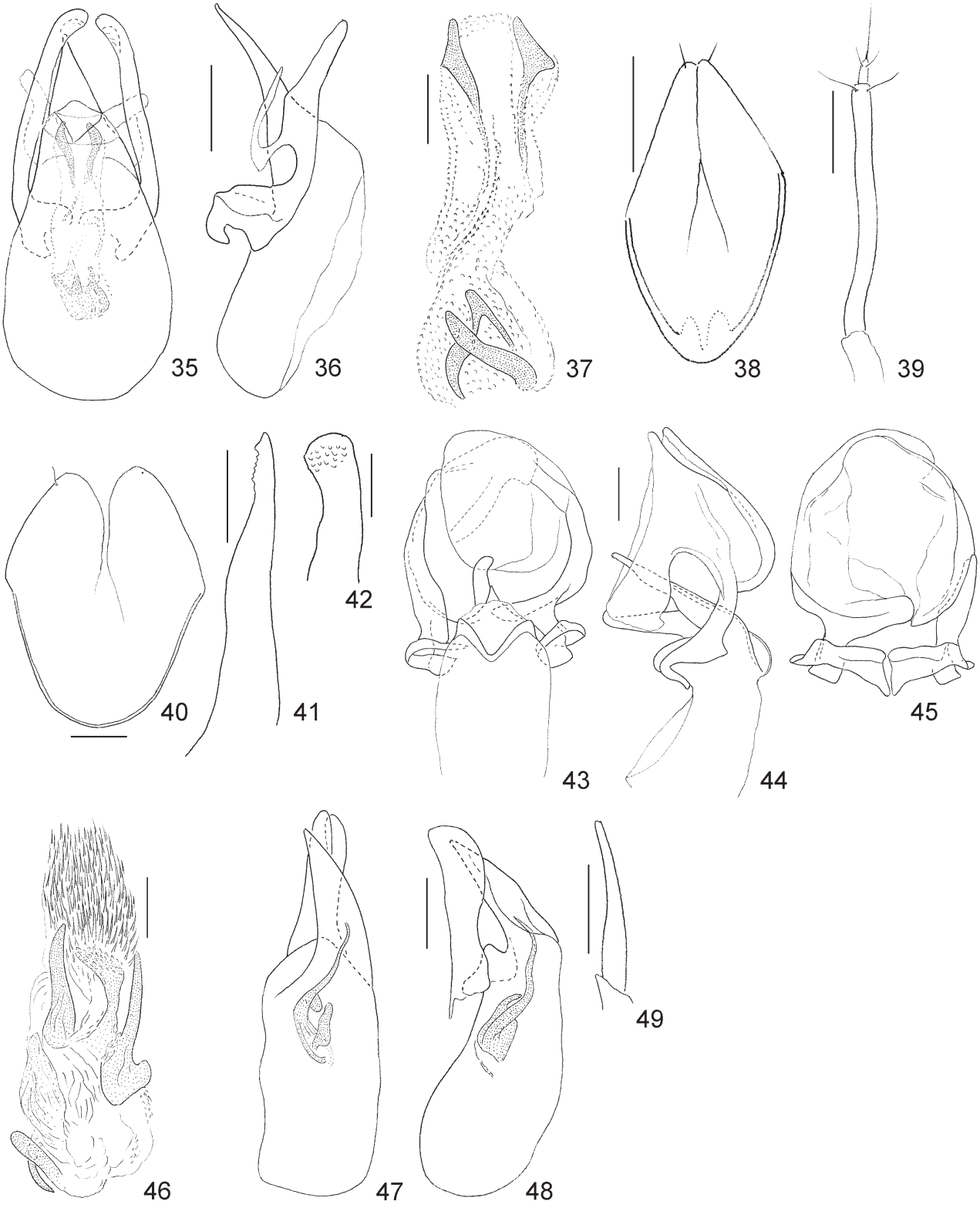
Description. Length 2.24 mm, width 1.58 mm. Head, pronotum an hypomera ochreous, elytra on overwhelming surface reddish-brown, yellowish on area entirely covering apical fourth and extending somewhat onto posterior part of middle third; ventral side of mesothorax and metathorax reddish-brown, darker than hypomera, abdominal ventrites I–IV lighter than metaventrite, following ventrites yellowish, appendages ochreous to yellowish. Antennae long, length/width ratios of antennomeres as: III 15/10 : IV 55/8 : V 75/9 : VI 64/9 : VII 64/15 : VIII 57/9 : IX 73/13 : X 67/12 : XI 75/13. Pronotum and elytra not microsculptured. Pronotum strongly narrowed anteriad, with regularly rounded lateral margins, lateral margins carinae entirely visible; punctation on and around pronotal lobe fine, dense, visible at magnification 20×, consisting of well delimited punctures smaller than puncture intervals, punctures on remaining discal surface very fine, hardly visible at 20× magnification, dense and very shallow, punctation along lateral carinae distinct, dense. Tip of scutellum exposed. Elytra weakly narrowed apically, lateral margins almost regularly rounded, lateral margin carinae exposed throughout in dorsal view, apical margin weakly rounded, inner apical angles situated posterior level of outer angles, apical serration distinct, sutural margin not raised, adsutural areas flat, narrow, each with single puncture row. Sutural striae shortened, starting posterior level of scutellar tip, parallel in anterior two thirds, converging apically. Punctures along lateral margins coarse and dense. Elytral disc with punctures much larger than those on pronotal disc, sharply delimited, puncture intervals mostly about as large to two times as large as puncture diameters. Hind wings fully developed. Hypomera smooth, not microsculptured. Mesepimera as long as intervals between them and mesocoxae and five times as long as wide. Metaventrite with strigulate microsculpture; centre of metaventrite convex, with two shallow impressions near apical process and with mesal carina; punctation dense and coarse in impressed area, very fine and sparse on remaining surface; apical intercoxal margin concave. Lateral parts of metaventrite sparsely and very finely punctate; antecoxal punctures rows present in impressed striae. Submesocoxal lines convex, distinctly punctate; submesocoxal areas 0.05 mm, about as long as fourth of shortest intervals between them and metacoxae. Metanepisterna somewhat convex, slightly narrowed anteriad, with rounded angles. Protibiae straight. Mesotibiae and metatibiae bent. Abdomen with strigulate microsculpture and extremely fine punctation; ventrite I with submetacoxal lines convex, finely punctate; submetacoxal areas 0.07 mm, as long as third of shortest intervals between them and apical margin of ventrite.

Male characters. Prolegs and mid-legs with tarsomeres I strongly enlarged, almost as wide as apices of tibiae, tarsomeres II narrower but distinctly widened, tarsomeres III slightly widened. Abdominal ventrite VI extended by broad apical lobe. Tergite IX with one macroseta on each plate, stalk evenly narrow, broadly rounded (Fig. 40). Aedeagus (Figs 41–46) 1.50 mm long, asymmetrical. Basal bulb weakly sclerotized, not overlapping apical process, with large mesal carina. Apical process of median lobe strongly sclerotized, with dorsal branch triangular in dorsal view,

almost obsolete in lateral view. Ventral branch large, with curved and blunt tip in dorsal view, straight and tapering in lateral view, bearing ventral tubercles near tip. Parameres enlarged and overlapping. Internal sac complex, with curved basal tooth-like sclerite, two long denticles, and dense spine-like structures filling tubular apical section.

Female. Unknown.

Differential diagnosis. This species is a member of the *S. tricolor* species group as defined in Löbl & Ogawa (2016). It is similar to the Philippine *S. tricolor* Heller, 1917 by its



Figs 35–49. 35–39 – *Scaphisoma versicoloreum* sp. nov.: 35, 36 – aedeagus in dorsal and lateral views; 37 – internal sac of aedeagus; 38 – male tergite 9; 39 – gonocoxite. 40–46 – *S. carinatum* sp. nov.: 40 – male tergite 9; 41 – apical process of aedeagal median lobe in lateral view; 42 – tip of apical process in ventral view; 43, 44 – aedeagus in dorsal and lateral views; 45 – parameres in ventral view; 46 –internal sac of aedeagus. 47–49 – *Scaphobaeocera jirkai* sp. nov.: 47, 48 – aedeagus in dorsal and lateral views; 49 – gonocoxite. Scale bars: 0.1 mm (Figs 37, 39, 41–42, 46–49); 0.2 mm (Figs 35–36, 43–45); 0.3 mm (Figs 38, 40).

external characters, in particular the colour pattern, but may be distinguished by the metaventrite with a mesal carina and by the ventral branch of the apical process bearing subapical tubercles.

Etymology. The species epithet is a Latin adjective *carinatus*, *-a*, *-um*, referring to the carinate metaventrite.

Distribution. Indonesia, South Sulawesi.

Scaphisoma obliquemaculatum Motschulsky, 1863

Material examined. INDONESIA: South Sulawesi: Makale, 16.vii.1982, G. de Rougemont leg., 10 specimens; Rante Pao, 8.iv.1981, G. de Rougemont leg., 2 specimens; same data, but 9.–10.vi.1984, 3 specimens (all MHNG).

Notes. The species is widely distributed in Southeast Asia and it was reported as occurring in Sulawesi (Löbl 1997), based on specimens listed above. The respective locality data are here given for the first time.

Scaphisoma palu Löbl, 1983

Material examined. INDONESIA: North Sulawesi: 1 km S Sawangan, Flußtal bei [river valley near] River Park resort, 01°22′51″N, 124°56′56″E, 250 m, 1.–3.ii.2004, A. Weigel leg., 2 ♂♂ (MHNG, NKME).

Notes. Unlike the types from South Sulawesi, these two specimens have elytra with a distinct colour pattern, having narrow dark transverse fascia and anteriorly the yellowish apical fourth, and being reddish in a large area between the darkened base and the transverse fascia.

Scaphisoma sp.

Material examined. **INDONESIA: North Sulawesi:** 1 km S Sawangan, Flußtal bei [river valley near] River Park resort, 01°22′51″N, 124°56′56″E, 250 m, 1.–3.ii.2004, A. Weigel leg., 1 ♀ (NKME).

Notes. This species is similar to *S. carinatum* sp. nov., but may be readily distinguished by the metaventrite lacking mesal carina and by the coarse punctation on the mesal area of the abdominal ventrite I. The specimen possibly represents a new species. It is left unnamed in absence of knowledge of male characters.

Key to Sulawesi species of *Scaphisoma*

1 Pronotum and elytra both with distinct bicoloured colour pattern. Elytra with sutural striae not curved along pronotal lobe. ..... ***S. versicoloreum* sp. nov.**
– Pronotum unicoloured, elytra about as unicoloured as pronotum, or with distinctive colour pattern. 2
2 Elytra bicoloured, mostly dark, each with yellowish, well delimited, subapical transverse fascia. ..... ***S. flavolineatum* sp. nov.**
– Elytra either unicoloured or if bicoloured, elytral pattern consist of reddish spots; never with light subapical fasciae. 3
3 Elytra with sutural striae extending along bases to form basal striae. Male protarsomere I strongly enlarged, as wide as or wider than tibial apices. 4
– Elytra with sutural striae ending near pronotal lobe, not extended laterad to form basal striae. Male protarsomere I usually narrower than tibial apices. 5
4 Length 2.15 to 2.45 mm. Body dark brown to black, mesepimera about as long as third of intervals between them and mesocoxae. Abdominal ventrite I microsculptured. ..... ***S. latitarse*** Löbl, 2012
– Length 1.90 to 2.24 mm long. Body light, reddish-brown, mesepimera shorter than intervals between them and mesocoxae. Abdominal ventrite I not microsculptured. ..... ***S. hulai* sp. nov.**
5 Elytra with sutural striae shortened, starting behind level of scutellum. 6
– Elytra with sutural striae not shortened, starting at elytral bases. 8
6 Length 1.15 to 1.20 mm, pronotum and elytra uniformly reddish-brown. Pronotum with punctation coarser near lateral margins than on centre of disc. ..... ***S. napu*** Löbl, 1983
– Length 2.20 mm, elytra on apical fourth notably lighter than on remaining surface and pronotum. Pronotal punctation even throughout. 7
7 Metaventrite with mesal carina. Abdominal ventrite I entirely very finely punctate. .... ***S. carinatum* sp. nov.**
– Metaventrite lacking mesal carina. Punctation on middle of abdominal ventrite I much coarser than on lateral parts. ..... ***Scaphisoma* sp.**
8 Elytra with distinct bicolorous pattern. 9
– Elytra entirely light reddish-brown to black, or with narrowly lighter apical margins, or somewhat darkened near apical margins. 12
9 Pronotum and elytra dark, blackish-brown to black, elytra each with one or two reddish spots, body length 1.20 to 1.40 mm. 10
– Elytral colour pattern different, body length 1.7 to 2.0 mm. 11
10 Elytra each with single reddish spot and with reddish apical area. Aedeagus with trifid apical process, internal sac with sclerotized, teeth-like structures. ..... ***S. obliquemaculatum*** Motschulsky, 1863
– Elytra each with two reddish spots, lacking light apical area. Aedeagus with apical process simple, internal sac membranous, lacking sclerotized structures. ..... ***S. bugi*** Löbl, 1983
11 Elytral punctation very dense and coarse, much coarser than pronotal punctation, puncture diameters in part larger than puncture intervals. Metaventrite with antecoxal puncture row. Aedeagus symmetrical, with apically widened, lobed parameres. ..... ***S. palu*** Löbl, 1983
– Elytral punctation fine and sparse, slightly coarser than that on pronotum; puncture diameters much smaller than puncture intervals. Metaventrite without antecoxal puncture rows. Aedeagus asymmetrical, with parameres not lobed, narrowed apically. ..... ***S. sumpichi* sp. nov.**
12 Body length 0.90 mm long. Elytral punctation becoming coarser apically. Abdomen lacking obvious microsculpture. ..... ***S. sadang*** Löbl, 1983
– Body length 1.55 to 1.80 mm. Elytral punctation even. Abdomen microsculptured. 13

13 Head and pronotum blackish, elytra with well visible, sharply delimited discal punctures, elytral apices not sexually dimorphic, with apical margins slightly rounded or truncate. Metaventrite with mesal stria, abdominal microsculpture strigulate. 14

– Pronotum and elytra reddish-brown, elytral punctures hardly visible, not clearly delimited. Elytral apices sexually dimorphic, in male truncate, in female expanded and strongly oblique. Metaventrite lacking mesal stria, abdominal ventrite I not microsculptured, following ventrite with punctulate microsculpture. .... ***S. ancora* sp. nov.**

14 Metaventrite bearing strigulate microsculpture. Aedeagus with internal sac lacking distinct spine-like structures. ..... ***S. ogawai* sp. nov.**

Figs 50–53. Habitus of *Scaphisoma*. 50, 51 – *S. ancora* sp. nov. (50 – male, 51 – female); 52 – *S. sumpichi* sp. nov., male; 53 – *S. versicoloreum* sp. nov., male.

– Metaventrite lacking microsculpture. Aedeagus with internal sac bearing distinct spine-like structures. .... ***S. pellax* sp. nov.**

Scaphobaeocera Csiki, 1909

This myxomycetophagous genus comprises 102 species, with only one, *S. kraepelini* (Pic, 1933), known from the Greater Sunda Islands, while four species are known from the Lesser Sunda Islands (Löbl 2015). No *Scaphobaeocera* species was previously published from Sulawesi.

Scaphobaeocera jirkai sp. nov.

(Figs 47–49)

Type locality. Indonesia, South Sulawesi, Gowa District, 6 km E of Malino, Gunung Bawakaraeng [Mt.] Area, near Lembanna Base camp, ca. 05°15.4′S, 119°54.5′E.

Type material. Holotype: ♂ (NMPC), INDONESIA, S Sulawesi: Gowa Distr. / 6 km E of Malino, Gn. Bawakaraeng Area / border of gardens and mixed forest / (dominant Pinus) nr Lembanna Base camp / 05°15.4′S, 119°54.5′E, 1520 m / J.Hájek & J.Šumpich leg., 11-13.ii.2015. Paratypes: 2 ♀♀ (NMPC, MHNG), with the same data as the holotype.

Description. Length 1.34–1.42 mm, width 0.71–0.77 mm, dorsoventral diameter 0.76–0.78 mm. Head and most of body black; mouth-parts, antennomeres I to V or to VI, legs and abdominal ventrites III to VI reddish-brown; antennomeres VI or VII to XI brown, darker than preceding antennomeres; pronotum becoming somewhat lighter toward anterior margin; elytra with light reddish-brown to yellowish apical margins; hypomera dark, blackish-brown; basomedian parts of metaventrite and abdominal ventrite I reddish-brown. Length/width ratios of antennomeres as: III 18/5 : IV 24/5 : V 30/5 : VI 24/5 : VII 32/10 : VIII 20/8 : IX 33/12 : X 32/16 : XI 47/17. Pronotal and elytral punctation similar, very fine and sparse, distinct at 50× magnification. Pronotum not iridescent. Tip of scutellum exposed. Elytra strongly iridescent, with sutural striae starting at basal margin, laterally pronotal lobe, parasutural striae present, shallow. Hypomera smooth, lacking striae. Mesanepisterna, mesepimera and lateral parts of metaventrite with strigulate microsculpture, appearing impunctate. Middle of metaventrite flattened, without mesal stria, not impressed. Submesocoxal lines parallel, with sparse, coarse, not elongate punctures, submesocoxal areas about 0.02 mm, as long as fifth of shortest intervals between them and metacoxae. Metanepisterna flat, parallel-sided, 0.04 mm wide, with straight, deep suture. Tibiae straight. Abdomen with strigulate microsculpture, appearing impunctate (100× magnification), coarse basal punctures of ventrite I excepted.

Male characters. Protarsomeres I to III strongly enlarged; I about as wide as apices of tibiae, II and III narrower. Mesal part of metaventrite very densely punctate and bearing short pubescence. Aedeagus (Figs 47, 48) 0.44 mm long, with apical process asymmetrically bent, oblique and tapering. Apical side of basal bulb strongly sclerotized and prominent. Parameres wide, enlarged apically in lateral view, overlapping and straight in dorsal view. Internal sac complex, with proximal hook and short flagellum.

Female characters. Protarsomeres not enlarged. Metaventrite densely punctate and pubescent on small apicomedian surface. Gonocoxite slightly bent, gradually narrowed, asetose (Fig. 49).

Differential diagnosis. This new species shares with *S. spinigera* Löbl, 1979, *S. uncata* Löbl, 1990, *S. orousseti* Löbl, 2011 and *S. pubiventris* Löbl, 2011 the strongly sclerotized and prominent apical side of the basal bulb, the widened parameres and the internal sac with a short, not spiral, flagellum bearing a proximal hook, in combination. However, none of them has the parameres as large and overlapping, and with the proximal hook of the internal sac as conspicuous, as in *S. jirkai* sp. nov. In addition, *S. spinigera* and *S. orousseti* may be easily distinguished by the microsculptured hypomera and significantly shorter antennomere XI, while *S. pubiventris* and *S. uncata* differ notably by the presence of hypomeral striae and antennomeres VI and VIII being similar in length. *Scaphobaeocera uncata* may be readily distinguished by its small-sized, only 1.1 mm long body.

Etymology. The species is dedicated to one of its collectors, Jiří Hájek (Praha); the species epithet is a Czech diminutive of his first name. The name is a noun in the genitive case.

Distribution. Indonesia, South Sulawesi.

Checklist of Sulawesi Scaphidiinae

Species endemic to Sulawesi marked with asterisk

CYPARIINI

***Cyparium* Erichson, 1845**

**Cyparium celebense* Ogawa & Löbl, 2016 in Ogawa et al. (2016)	N Sulawesi

SCAPHIDIINI

***Scaphidium* Olivier, 1790**

**Scaphidium celebense* Pic, 1915	S Sulawesi

SCAPHISOMATINI

***Baeocera* Erichson, 1845**

**Baeocera derougemonti* Löbl, 1983	S Sulawesi
**Baeocera inoptata* sp. nov.	S Sulawesi

***Baeoceridium* Reitter, 1889**

**Baeoceridium celebense* Löbl, 1982	N+S Sulawesi

***Birocera* Löbl, 1970**

**Birocera derougemonti* Löbl, 1983	S Sulawesi
Birocera punctatissima (Reitter, 1880)	N Sulawesi

***Scaphicoma* Motschulsky, 1863**

**Scaphicoma bidentia* Ogawa & Löbl, 2014 in Ogawa et al. (2014)	N Sulawesi
**Scaphicoma quadrifasciata* Ogawa & Löbl, 2016 in Ogawa et al. (2014)	N Sulawesi
**Scaphicoma subflava* Ogawa & Löbl, 2014 in Ogawa et al. (2014)	N Sulawesi

***Scaphisoma* Leach, 1815**

**Scaphisoma ancora* sp. nov.	C Sulawesi
**Scaphisoma bugi* Löbl, 1983	S Sulawesi
**Scaphisoma caricatum* sp. nov.	S Sulawesi
**Scaphisoma flavolineatum* sp. nov.	S Sulawesi

**Scaphisoma hulai* sp. nov.	C Sulawesi
**Scaphisoma latitarse* Löbl, 2012	SE Sulawesi
**Scaphisoma napu* Löbl, 1983	S Sulawesi
Scaphisoma obliquemaculatum Motschulsky, 1863	S Sulawesi
**Scaphisoma ogawai* sp. nov.	C Sulawesi
**Scaphisoma palu* Löbl, 1983	N+S Sulawesi
**Scaphisoma pellax* sp. nov.	S Sulawesi
**Scaphisoma sadang* Löbl, 1983	S Sulawesi
**Scaphisoma sumpichi* sp. nov.	S Sulawesi
**Scaphisoma versicoloreum* sp. nov.	S Sulawesi

***Scaphobaeocera* Csiki, 1909**

**Scaphobaeocera jirkai* sp. nov.	S Sulawesi

***Termitoscaphium* Löbl, 1982**

**Termitoscaphium kistneri* Löbl, 1982	C Sulawesi

***Vituratella* Reitter, 1908**

Vituratella termitophila (Champion, 1927)	N+S+SE Sulawesi

***Xotidium* Löbl, 1992**

**Xotidium meridionale* Ogawa & Löbl, 2016	S Sulawesi
**Xotidium tarantulatum* Ogawa & Löbl, 2016	N Sulawesi

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