

**Supplement to the knowledge of Scaphisomatini of Sabah, Malaysia  
(Coleoptera: Staphylinidae: Scaphidiinae)**

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LÖBL I. 2022: Supplement to the knowledge of Scaphisomatini of Sabah, Malaysia (Coleoptera: Staphylinidae: Scaphidiinae). *Acta Musei Moraviae, Scientiae biologicae* **107(1–2): 7–19**. – Study of extensive collections yielded the following new Scaphisomatini species: *Baeocera hutan* sp. nov., *Pseudobironium irregulare* sp. nov., *P. rapax* sp. nov., *Scaphoxium sinuatum* sp. nov. In addition, four species are reported for the first time from Sabah: *Mordelloscaphium testaceimembre* Pic, 1915, *Sapitia lombokiana* Achard, 1920, *Scaphicoma rufa* (Pic, 1923) and *Vituratella kistneri* (Löbl, 1979). *Scaphisoma bugiamapi* Prokofiev, 2003 is placed in synonymy with *Sapitia lombokiana* Achard, 1920.

**Keywords.** Shining fungus beetles, taxonomy, new species, new records, Sundaland

**Introduction**

To date, only a minor portion of the extensive modern collections of Sabah Scaphisomatini has been examined and the results of its studies published. The respective information is given either in reviews of the genera *Bironium* Csiki, 1909, *Pseudobironium* Pic, 1920 and *Xotidium* Löbl, 1992, or in studies focusing on Sabah *Baeocera* Erichson, 1845 and *Scaphoxium* Löbl, 1979 (LÖBL & TANG 2013, OGAWA & LÖBL 2016, LÖBL *et al.* 2020, LÖBL 2021; LÖBL & SMETANA 2021). The present paper fills some of the gaps in recording Sabah members of the termitophilous, or presumably termitophilous, genera *Mordelloscaphium* Pic, 1915, *Sapitia* Achard, 1920 and *Vituratella* Reitter, 1909, and of free living *Baeocera* Erichson, 1845, *Pseudobironium* Pic, 1920, *Scaphicoma* Motschulsky, 1863 and *Scaphoxium* Löbl, 1979. It also provides supplementary data on some of the previously reviewed genera, including description of four new species. The extensive collections, coming from both samples of forest floor litter and the flight intercept traps, exhibit great differences in species structure. Reviews of the remaining Scaphisomatini genera occurring in Sabah, the species-rich *Scaphobaeocera* Csiki, 1909 and the megadiverse *Scaphisoma* Leach, 1815, are in preparation and will be published separately.

**Material and methods**

The material studied is deposited in the collections of the Oxford University Museum of Natural History, Oxford, UK (OUMNH) and the Muséum d'histoire naturelle, Genève, Switzerland (MHNG). The locality data of the type material are reproduced verbatim. All type specimens are provided with appropriate identification labels. The body-length is

measured from the anterior pronotal margin to the posterior inner angles of elytra. The widths are measured at the widest point. The length/width of the mesepimera refer to their exposed part. Statements about abdominal microsculpture do not refer to the intersegmental membranes. The sides of the aedeagi refer to their morphological side with the ostium situated dorsally, while it is rotated 90° in resting position. The dissected body-parts are embedded in Euparal and fixed on a separate card on the same pin as the respective specimen. The abbreviation FIT is used for flight intercept traps.

## Results

### *Baeocera* Erichson, 1845

*Baeocera* is a species-rich genus distributed virtually world-wide. Many members are quite common in moist forest litter and may be easily found if appropriate collecting techniques are used. Currently, 15 species are known to occur in Sabah (Löbl & Smetana 2021).

#### *Baeocera hutan* sp. nov.

(Figs 1–4)

**Type material.** Holotype male, Sabah: Lahad Datu Ulu Segama forest Reserve, Danum Valley For. Centre, N 04°57.9' E 117°48.1', 200 m, 21.xi.2005, D. Mann, E. Slade & J. Villanuava lgt., lowland mix. dipterocarp forest. West trail area 1, FIT, OUMNH 2006-051 (OUMNH).

**Description.** Length 1.28 mm, width 0.76 mm. Head and body nearly evenly reddish-brown, elytra hardly darker than pronotum, apical abdominal segments slightly lighter than pronotum, femora and tibiae as elytra, tarsi and antennae lighter. Head with interocular distance nearly as dorsoventral eye diameter. Head, thorax and elytra lacking microsculpture. Length/width ratios of antennomeres as follows: III 20/5: IV 20/6: V 30/7: VI 27/7: VII 33/8: VIII 27/7: IX 36/11: X: 37/15: XI 48/17. Pronotal and elytral punctation even, very fine. Lateral contours of pronotum and elytra continuously, very weakly arcuate. Pronotum with anterior margin bead broadly interrupted, lateral margins sinuate in lateral view, lateral margin striae impunctate. Margin of exposed part of scutellum rounded. Elytra with lateral margins nearly parallel, lateral margins in lateral view slightly sinuate, lateral margin carinae visible in dorsal view, lateral margin striae impunctate; sutural striae starting at base, parallel, deeply impressed, curved along pronotal lobe to form basal striae extended to humeral areas, broadly separated from lateral striae; discal punctation sparse, near base with puncture intervals about 8 to 10 larger than puncture diameters. Hind wing fully developed. Hypomera and mesanepisterna appearing impunctate. Mesoventrite with mesal ridge, punctate along lateral margins. Mesepimeron about 4 times as long as large and 5 times as long as interval to mesocoxa. Median part of metaventrite nearly flat, impunctate mesally, with dense, fairly coarse punctures on posterior third and laterally smooth mesal area, bearing conspicuous, long pubescence. Lateral parts of metaventrite with few scattered extremely

fine punctures. Submesocoxal line parallel, margined with row of coarse elongate punctures extended posterior the inner part of mesepimeron. Submesocoxal area about 0.02 mm long. Metanepisterna large, about 0.10 mm wide, twice as long as wide, slightly convex, with inner margin broadly rounded anteriorly, nearly straight posteriorly; inner suture impunctate. Protibiae straight. Mesotibiae and metatibiae slightly bent. Ventrite I lacking striae, with row of elongate basal punctures not interrupted in middle, extended laterally behind tip of metepimeron; punctation posterior basal row very fine and sparse. *Male*. Protarsomeres I to III strongly widened, bearing long tenent setae; protarsomere I wider than apex of protibia. Ventrite VI with apical lobe subtriangular, about 0.04 mm long. Aedeagus (Figs 1–4) 0.60 mm long. Median lobe and parameres strongly sclerotized, symmetrical, dorsal valves excepted. Articular process not prominent, distinct. Apical process of median lobe somewhat shorter than basal bulb, moderately inflexed, with weakly concave ventral margin, gradually narrowed apically, tip acute in lateral view, obtuse in dorsal view. Parameres robust, gradually narrowed apically in dorsal view, widened apical in lateral view, with broadly rounded apex. Internal sac with complex sclerites, lacking spinose and denticulate structures, with apical section of ejaculatory duct wide, weakly membranous, extruded in repos.

**Etymology.** The species epithet is a noun meaning “forest” in Malay.

**Differential diagnosis.** This species is unique in having broadly interrupted pronotal bead. Therefore, it is placed in *Baeocera* tentatively (the mouth-parts and thorax of the unique available specimen were not dissected). In addition, its aedeagal characters are unusual, in particular by the structure of the internal sac and the asymmetrical valves of the median lobe. The internal sac lacking a flagellar guide sclerite and possessing a membranous ejaculatory duct extruded in repos is shared with the Chinese *B. xichangana* Löbl, 1999. It differs notably from *B. xichangana* by the not prominent articular process, the two asymmetrical dorsal valves, and the much shorter, robust parameres. Both species are also very distinct in external characters, in particular by their body-shape and size (*B. xichangana* is 2.0–2.15 mm long).

**Remarks.** As to the Sabah species, only *B. barbara* Löbl, 1990 and *B. doriae* (Pic, 1920) share the wide metanepisterna. These two species have asymmetrical aedeagus and may be easily distinguished by their external characters. The antitheses 7 and 8 have been inverted in key to the Sabah *Baeocera* given by LÖBL & SMETANA (2021): the thesis 6 (Metanepisternum fused, ...) should lead to ... 8.

#### ***Baeocera doriae* (Pic, 1920)**

**Material examined.** 1 male, Sabah, Mt. Kinabalu N. P., 1700 m, 16.vii.02, Kurbatov & Zimina (MHNG); 1 male, Sabah, rd Kota Kinabalu – Tambunan, km 52, 1600–1800 m, 2–5.vii.02, Kurbatov & Zimina (MHNG).

**Remarks.** This species is known from Sarawak and Sabah only. It is poorly represented in collections, a single specimen has been reported from each of these states.

***Baeocera incisa* (Löbl, 1973)**

**Material examined.** 1 male, Sabah, Lahad Datu Ulu Segama Forest Reserve, Danum Valley Forest Centre, N 04°57' E 117°48', 450 m, 1–5.ix.2005, Slade & Villanuava lgt., lowland mixed dipterocarp forest. Nature trail area 1, FIT, OUMNH (OUMNH).

**Remarks.** The species is widely distributed in Sabah and seems to be common in samples of forest floor litter (see LÖBL 2021: 28).

***Baeocera sarawakensis* Löbl, 1987**

**Material examined.** 1 male, Sabah, Lahad Datu Ulu Segama Forest Reserve, Danum Valley Forest Centre, N 04°58' E 117°42', 450 m, viii.1998, D. Bebbler lgt., lowland mixed dipterocarp forest, FIT, OUMNH 2003-050 (OUMNH).

**Remarks.** As *B. incisa*, this species is widely distributed in Sabah and seems to be common in forest floor litter (see LÖBL 2021: 31).

***Bironium* Csiki, 1909**

The Asian members *Bironium* have been revised by LÖBL *et al.* (2020). Currently, three species are known to occur in Sabah: *B. borneense* Löbl, 1987, *B. minutum* (Achard, 1920), and *B. pustulatum* Löbl, 2011.

***Bironium borneense* Löbl, 1987**

**Material examined.** 1, Sabah, Lahat Datu, Ulu Segama Forest Reserve, Danum Valley Forest Centre, N 04°57.9' E 117°48.1', 200 m, 27–28.x.2005, primary forest, D. Mann, E. Slade & J. Villanuava lgt., lowland mixed dipterocarp forest, West trail 10 FIT, OUMNH 2006-051 (OUMNH); 1, with the same data but 21.X.2005, West trail area (MHNG); 1, Sabah, Lahad Datu, Ulu Segama Forest Reserve, Coupe 88 logging area, N 04°59.738' E 117°50.165', 250 m, iii–iv.2005, FIT no 2, primary forest, Slade & J. Villanuava lgt. lowland mixed dipterocarp forest, Yayasan Sabah Logging Concession OUMNH 2005-062 (OUMNH).

**Remarks.** The species is known only from East Malaysia (LÖBL *et al.* 2020). It was based on specimens found in the Gunung Mulu National Park in Sarawak and subsequently recorted from the Mount Kinabalu National Park, the vicinity of Tambunan and the Batu Punggul Resort in Sabah.

***Mordelloscaphium* Pic, 1915**

The genus is monospecific. It was established to accommodate a species possessing characters typical for the termitophilous members of the *Baeoceridium* group (see LESCHEN & LÖBL 2005) and thus is assumed to live on fungus gardens of termites.

***Mordelloscaphium testaceimembre* Pic, 1915**

**Material examined.** 184, Sabah, Batu Punggul Resort env., 24.vi.–1.vii.1996, FIT (MHNG); 1, with the same data but in debris accumulates around large trees near river (MHNG); 1, Sabah, Lahat Datu, Ulu Segama Forest

Reserve, Danum Valley Forest Centre, N 04°57.9' E 117°48.1', 200 m, 22–23.x.2005, primary forest, D. Mann, E. Slade & J. Villanuava lgt., lowland mixed dipterocarp forest, west trail area, FIT, OUMNH 2006-051 (OUMNH); 1, with the same data but 3–13.xi., D.J. Mann & E. Slade lgt., forest natural trail area OUMNH 2065-051 (OUMNH); 1, Sabah, Lahat Datu, Ulu Segama Forest Reserve, Danum Valley Conservation Area, Borneo Rain Forest Lodge, N 05°02.682' E 117°45.553', 250 m, iii–iv.2005, E. Slade & J. Villaneuve lgt., FIT, primary dipterocarp forest, OUMNH 2065-062 (OUMNH).

**Remarks.** The currently known specimens of this species are the syntypes from east Kalimantan, Indonesia.

### *Pseudobironium* Pic, 1920

The genus is Asian in distribution, with most members found in the tropics and subtropics, remaining unknown south of the Wallace line. Currently, six species are known to occur in Sabah (LÖBL & TANG 2013): *P. convexum* Löbl & Tang, 2013, *P. horaki* Löbl & Tang, 2013, *P. pubiventer* Löbl & Tang, 2013, *P. sparsepunctatum* (Pic, 1915), *P. subovatum* Pic, 1920, and *P. vitalisi* (Achard, 1920). A new record is given, and two additional species are described below.

### *Pseudobironium subovatum* Pic, 1920

**Material examined.** 1 male, Sabah, Lahad Datu, Ulu Segama Forest Reserve, Coupe 88 logging area, N 04°59.738' E 117°50.165', 250 m, iii–iv.2005, FIT no 2, primary forest, E. Slade & J. Villanuava lgt. Lowland mixed dipterocarp forest, Yayasan Sabah Logging Concession OUMNH 2005-062 (OUMNH).

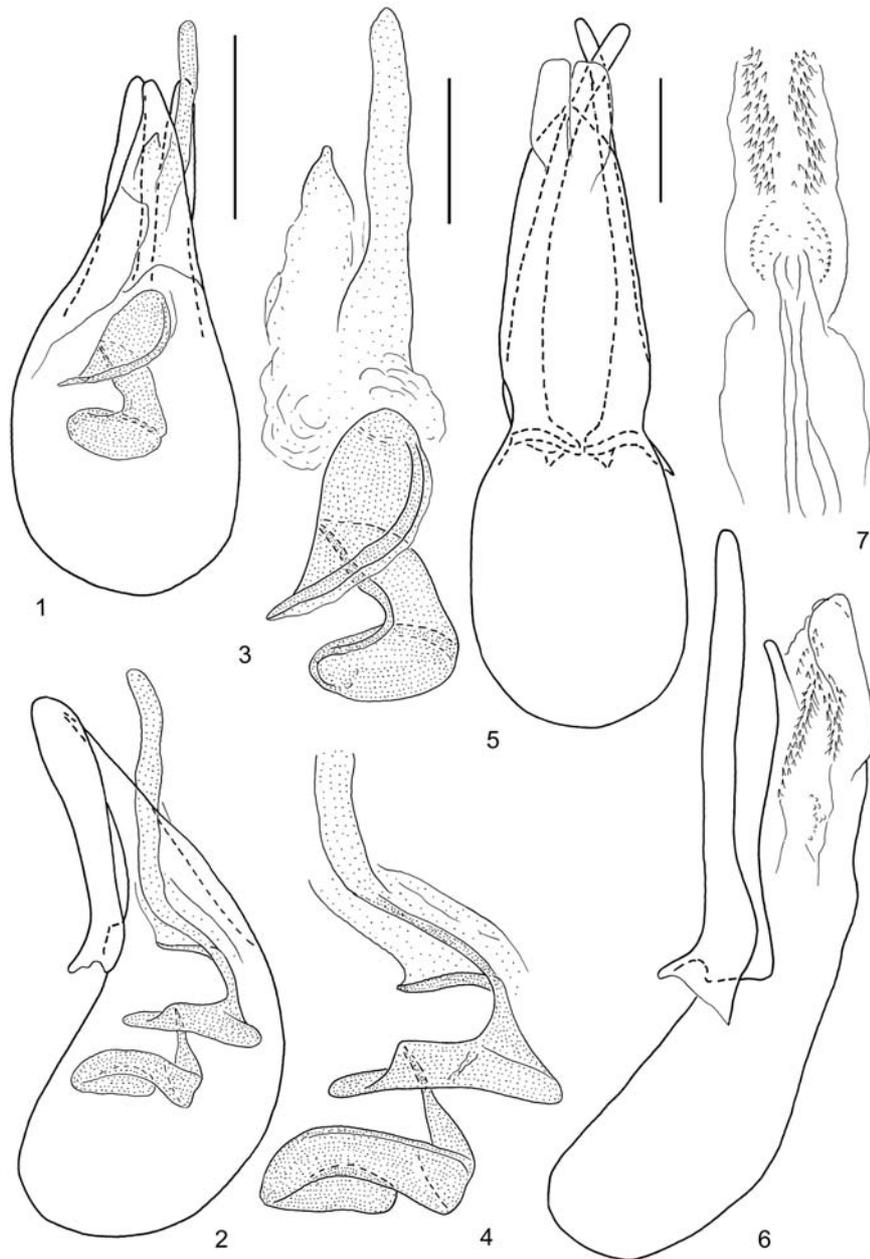
**Remarks.** The species seems to be rather widely distributed. It is currently known from Indonesia (Sumatra and Kalimantan), Malaysia (West Malaysia, Sabah and Sarawak), and Thailand, though only a single Sabah record is published from the Gunung Emas in the Crocker Range (LÖBL & TANG 2013). The species may be easily distinguished by the long protibial setae in males.

### *Pseudobironium irregulare* sp. nov.

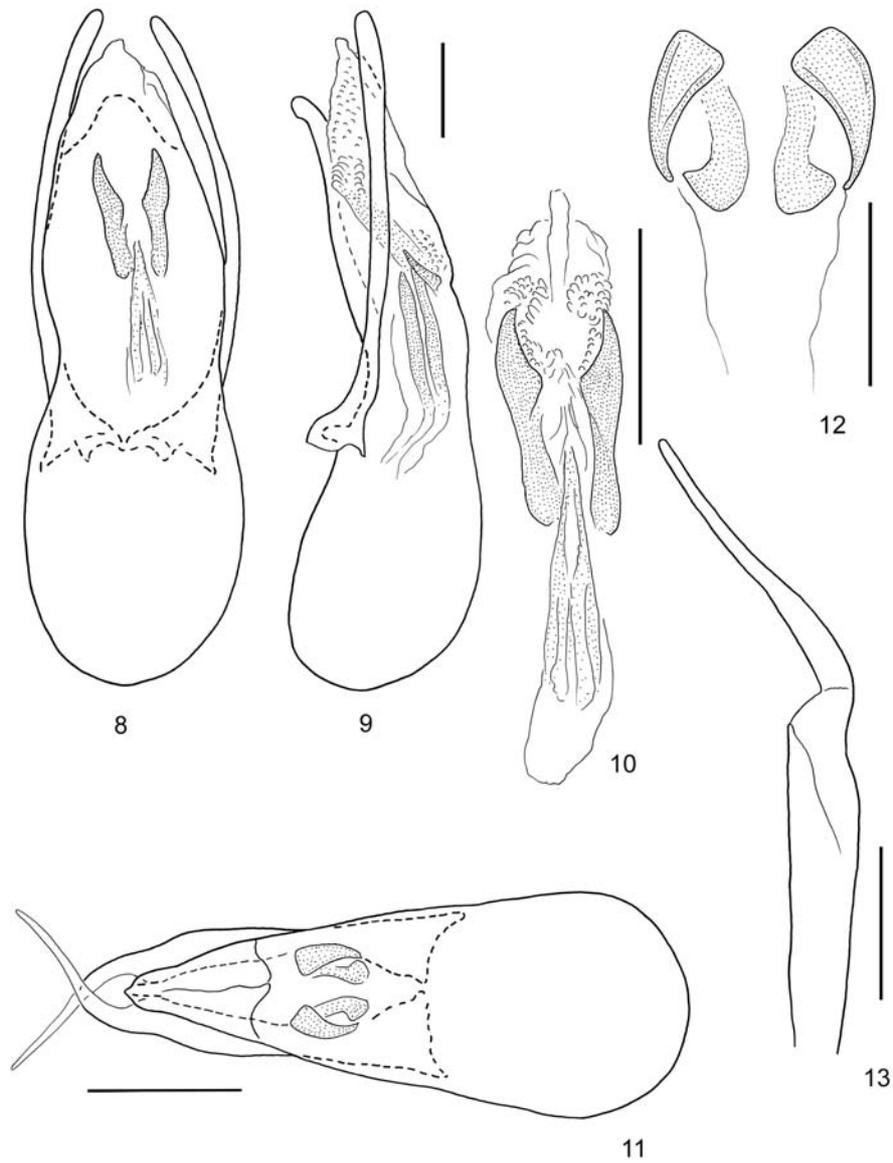
(Figs 5–7)

**Type material.** Holotype male, SABAH: Poring Hot Springs 600 m 9.V.1987 Burckhardt – Löbl (MHNG); Paratypes: 1 female, SABAH: Crocker Ra. 1350 m, km 60 Kota Kinabalu-Tambunan 17.V.1987 Burckhardt – Löbl; female, BORNEO SABAH Tamis, Hwy AI 10 km NW Kinabalu Park Entr. 1100 m 24.V.87 A. Smetana; 1 female, SABAH: E Mt. Kinabalu 1150 m, rte Ranau-Kota Kinabalu 24.V.1987 Burckhardt – Löbl (all in MHNG).

**Description.** Length 1.78–1.87 mm, width 1.20–1.35 mm. Head and most of body dark reddish-brown, metaventricle somewhat darkened, apex of abdomen lighter, yellowish, femora and tibiae roughly as body, tarsi and antennae lighter, yellowish. Maxillary palpi with palpomere IV narrow, tapering, about 4 times as long as wide. Length ratio of antennomeres as follows: III 14: IV 25: V 25: VI 22: VII 26: VIII 26: IX 26: X: 26: XI 31; antennomere XI about 4 times as long as wide. Pronotal punctation about as fine as that on frons, with punctures very shallow and not well delimited; middle of pronotal disc with puncture intervals about 5 to 10 times larger than puncture diameters. Elytra lacking



**Figs 1–7.** 1–4 – *Baeocera hutai* sp. nov.; 1, 2 – Aedeagus in dorsal and lateral views, scale = 0.2 mm; 3, 4 – Internal sac in dorsal and lateral views, scale = 0.1 mm. 5–7 – *Pseudobironium irregulare* sp. nov.; 5, 6 – Aedeagus in dorsal and lateral views, scale = 0.1 mm; 7 – Internal sac in dorsal view, scale = 0.1 mm.



**Figs 8–13.** 8–10 – *Pseudobironium rapax* sp. nov.; 8, 9 – Aedeagus in dorsal and lateral views, scale = 0.1 mm; 10 – Internal sac in dorsal view, scale = 0.1 mm. 11–13 – *Scaphoxium sinuatum* sp. nov.; 11 – Aedeagus in dorsal view, scale = 0.1 mm; 12 – Apical part of paramere, dorsal view, scale = 0.05 mm; 13 – Internal sac in dorsal view, scale = 0.05 mm.

lateral impressions, not flattened or impressed apically, lacking humps; discal punctation on prevailing surface similar to pronotal punctation, conspicuous patch of rather coarse punctures present on anterolateral area. Puncture patch separated from lateral and basal margins by rather broad, very finely punctate areas. Lateral striae coarsely punctate. Hypomera impunctate, flattened along basal margin. Mesoventrite lacking mesal ridge, with distinct setiferous punctures at lateral margins of coxal process, setae long. Mesanepisternum very finely punctate, lacking microsculpture. Metaventrte with inconspicuous striate to punctulate microsculpture; median area nearly flat, lacking impressions and lacking tubercle, its punctation fine, arranged to form two sparse admesal rows joined posteriorly. Lateral parts of metaventrte very finely and sparsely punctate. Metacoxal process impunctate, inflexed. Submesocoxal area slightly shorter than half of shortest interval to metacoxa. Submesocoxal line coarsely punctate. Mesotibiae and metatibiae slightly bent, ventral spur of mesotibiae straight. Exposed ventrites and tergites with distinct punctulate microsculpture, setiferous punctures very fine and scattered.

*Male.* Protarsus shorter than protibia, protarsomeres I to III hardly widened, narrower than apex of tibiae, bearing short setae. Aedeagus (Figs 5–7) 0.68 mm long, weakly sclerotized. Median lobe with basal bulb shorter than apical process, the latter hardly inflexed, with sinuate ventral margin (lateral view) and blunt tip; apical part of median lobe overlapped by two valves. Parameres widened basally, weakly bent. Internal sac lacking sclerotized pieces, without distinct flagellum, bearing apical spinose structures.

**Etymology.** The species epithet is a Latin adjective meaning “irregular”, referring to the elytral punctation.

**Differential diagnosis.** This species may be readily distinguished from its congeners, *P. impressipenne* Löbl, 1973 and *P. subglabrum* Löbl, 1990 excepted, by elytra bearing each an anterolateral patch of coarse punctures. In addition, its small body-size and the structure of the internal sac are diagnostic. It may be readily distinguished from *P. impressipenne* and *P. subglabrum* by the parameres widened basally. It falls to the couplet 25 in the key to the species in LÖBL & TANG (2013), to *P. feai* Pic, though the latter species is 2.90–3.20 mm long and has a black body. The aedeagal characters suggest relationships with members of the *P. plagiferum* group. It may be distinguished from the three species placed in that group (*P. javanum* Löbl & Tang, 2013, *P. plagiferum* Löbl, 1980, and *P. spinipes* Löbl & Tang, 2013) by the shape of the parameres and apex of the median lobe.

***Pseudobironium rapax* sp. nov.**

(Figs 8–10)

**Type material.** Holotype male, Malaysia, Sabah, Crocker Range, Mawar Waterfall env. 17.VI.1996, 9c, vegetation debris and forest floor litter accumulated along large fallen trees near river (MHNG).

**Description.** Length 1.95 mm, width 1.30 mm. Head and most of body dark reddish-brown, apex of abdomen lighter, yellowish; femora and tibiae roughly as body, tarsi and

antennae light brown. Maxillary palpi with palpomere IV narrow, tapering, about 4 times as long as wide. Length ratio of antennomeres as follows: III 15: IV 22: V 26: VI 21: VII 26: VIII 26: IX 27: X: 26: XI 35; antennomere XI about 3.5 times as long as wide. Pronotal punctation very fine, similar to that on frons, with punctures very shallow and not well delimited; middle of pronotal disc with puncture intervals about 4 to 10 times larger than puncture diameters. Elytra lacking lateral impressions, not flattened or impressed apically, lacking humps; discal punctation similar to pronotal. Hypomera impunctate, impressed posteriad. Mesoventrite lacking mesal ridge and lacking distinct setiferous punctures. Mesanepisternum very finely punctate, lacking microsculpture. Metaventrite lacking microsculpture; median area nearly flat, lacking impressions and tubercle, with two irregular rows of distinct admesal punctures. Lateral parts of metaventrite very finely and sparsely punctate. Metacoxal process impunctate, horizontal. Submesocoxal area short, about as fourth shortest interval to metacoxa. Submesocoxal line finely punctate. Mesotibiae and metatibiae slightly bent, ventral spur of mesotibiae straight. Ventrite I lacking microsculpture, with very fine and scattered punctures; following ventrites and exposed tergites with punctulate microsculpture. *Male*. Aedeagus (Figs 8–10) 0.74 mm long. Median lobe with basal bulb shorter than apical process, the latter slightly inflexed, with sinuate ventral margin (lateral view), and blunt tip; apical part of median lobe lacking distinct valves. Parameres nearly evenly wide, bent in dorsal view, straight in lateral view. Internal sac with pair of strongly sclerotized denticles and mesal sclerite, lacking flagellum and lacking apical spinose structures.

**Etymology.** The species epithet is a Latin noun, referring to the canine-like denticles of the internal sac.

**Differential diagnosis.** The species is as *P. irregulare* less than 2 mm long and thus conspicuous by its small body-size. It may be easily distinguished from *P. irregulare* by the evenly very fine elytral punctation, the narrow submesocoxal areas and ventrite I lacking microsculpture. The aedeagal characters suggest relationship with members of the *P. subovatum* group (see LÖBL & TANG 2013), though the shape of the admesal sclerites of the internal sac is unique. The species falls in the key species to couplet 27, to *P. schuhi* Löbl & Tang, 2013 from which it differs notably by the parameres evenly narrow, except at their basis.

**Remarks.** The single available specimen has its forelegs broken, probably lost when collected.

### *Sapitia* Achard, 1920

This genus encompasses three Southeast Asian species presumably associated with termites. Currently, only one of them has been reported from Sabah. Unlike most other Scaphisomatini, these species are efficiently collected only by using flight intercept traps.

***Sapitia lombokiana* Achard, 1920***Scaphisoma bugiamapi* Prokofiev, 2003, **syn. nov.**

**Material examined.** 1, Sabah, Mt. Kinabalu Nat. Park, above Pring Hot Springs, 520 m, 15.viii.1988, A. Smetana (MHNG); 70, Sabah, Batu Punggul Resort env., 24.vi.–1.vii.1996, 11c, FIT; 2, Sabah, Mt. Kinabalu Nat. Park, above Poring Hot Springs, 520 m, 15.viii.1988, A. Smetana (MHNG); 4, Sabah, Danum Valley, 14.–16.ii.1968, FIT, G. de Rougemont (MHNG); 1, Sabah, Lahad Datu, Ulu Segama, Danum Valley Forest Centre, N 04°57.9' E 117°48.1', 200 m, 1–23.iii.2005, primary forest, D.J. Mann & E. Slade lgt., lowland mixed dipterocarp forest, west trail area, first inferior FIT, OUMNH-2006-051 (OUMNH); 8, Sabah, Lahad Datu, Ulu Segama, Danum Valley Forest Centre, N 04°57' E 117°48', 450 m, 1–5.xi.2005, FIT, primary forest, E. Slade & J. Villanuava lgt., lowland mixed dipterocarp forest, Nature trail area 1 (OUMNH); 2, Sabah, Lahad Datu, Ulu Segama, Danum Valley Forest Centre, N 04°57' E 117°48', 450 m, 22–23.xi.2005, primary forest, D. Mann, E. Slade & J. Villanuava lgt., lowland mixed dipterocarp forest, west trail area first inferior FIT, OUMNH 2006-051 (OUMNH); 3, Sabah, Lahad Datu, Ulu Segama, Danum Valley Forest Centre, N 04°57.9' E 117°48.1', 200 m, 27–28.x.2005, primary forest, D.J. Mann, E. Slade & J. Villanuava lgt., lowland mixed dipterocarp forest, West trail area, first inferior FIT, OUMNH 2006-051 (OUMNH); 6, Sabah, Lahad Datu, Ulu Segama, Danum Valley Forest Centre, N 04°57.9' E 117°48.1', 200 m, 22–23.ix.2005, primary forest, D.J. Mann, E. Slade & J. Villanuava lgt., lowland mixed dipterocarp forest, nature reserve area, first inferior FIT, OUMNH-2006-051 (OUMNH); 1, Sabah, Lahad Datu, Ulu Segama, Danum Valley Forest Centre, N 04°57.9' E 117°48', 200 m, 3–13.ix.2005, primary forest, D.J. Mann, E. Slade & J. Villanuava lgt., lowland mixed dipterocarp forest, West trail area, FIT, OUMNH 2006-05 (OUMNH); 5, Sabah, Lahad Datu, Ulu Segama, Danum Valley Conservation Area, Borneo Rain Forest Lodge, N 05°57.682' E 117°45.553', 250 m, iii–iv.2005, FIT, primary dipterocarp forest, E. Slade & J. Villanuava lgt., OUMNH 2005-062 (OUMNH); 36, Sabah, Lahad Datu, Ulu Segama Forest Reserve, Coupe 88 logging area, N 04°59.738' E 117°50.165', 250 m, iii–iv.2005, FIT no 2, selective lowland mixed logged dipterocarp forest, Yayasan Sabah Logging Concession, E. Slade & J. Villanuava lgt., OUMNH-2005-062 (OUMNH); 4, Sabah, Lahad Datu, Ulu Segama Forest Reserve, Coupe 81 logging area, N 04°58.660' E 117°53.410', 250 m, iii.2005, secondary forest, FIT, selectively logged dipterocarp forest, Yayasan Sabah Logging Concession, E. Slade & J. Villanuava lgt., OUMNH-2005-062 (OUMNH); 3, Sabah, Lahad Datu, Ulu Segama, Danum Valley Forest Centre, N 04°58' E 117°42', 450 m, viii.1998, FIT, lowland mixed dipterocarp forest, D. Bebbler lgt., OUMNH 2003-050 (OUMNH).

**Remarks.** This species appears to be widely distributed and has been reported from China: Yunnan; Indonesia: Lombok, Sumatra; Philippines: Palawan; Thailand; Vietnam (see LÖBL 2018). The description of *Scaphisoma bugiamapi* suggest its synonymy with *Sapitia lombokiana*, notably the illustration of the aedeagus, and the statement about striate elytra (based on a misinterpretation of the elytral pubescence). Additional information provided by M. Prokofiev (personal communication) convinced the author to publish it.

***Sapitia versicolor* (Pic, 1920)**

**Material examined.** 474, Sabah, Batu Punggul Resort env., 24.vi.–1.vii.1996, 11c, FIT (MHNG); 3, Sabah, Danum Valley, 14–16.ii.1968, G. de Rougemont (MHNG); 1, Sabah, Poring Hot Springs, 500 m, 11.v.1987, Burckhard & Löbl (MHNG); 1, Sabah, Lahad Datu, Ulu Segama Forest Reserve, Danum Valley Conservation Area, Borneo Rain Forest Lodge, N 05°02.682' E 117°45.553', 250 m, iii–iv.2005, FIT, primary dipterocarp forest, E. Slade & J. Villanuava lgt. OUMNH 2055-062 (OUMNH).

**Remarks.** This species appears to be widely distributed and has been reported from Indonesia: Sumatra; East Malaysia: Sabah and Thailand (see LÖBL 2018). It is very similar to *S. sumatrana* Löbl, 1978 while it differs notably from *S. lombokina* by the nearly fused mesepimera and the stout legs.

### *Scaphicoma* Motschulsky, 1863

The genus comprises 19 Afrotropical, Oriental, Melanesian and Australian species. Several, described by J. Achard and M. Pick, still lack revisions. A single species is present in samples from Sabah.

#### *Scaphicoma rufa* (Pic, 1923)

**Material examined.** 1, Sabah, Lahad Datu, Ulu Segama Forest Reserve, Danum Valley Forest Centre, N 04°57.9' E 117°48.1', 450 m, 22–23.xi.2005, primary dipterocarp forest, west trail area, first inferior FIT, D. Mann, E. Slade & J. Villanuava lgt., OUMNH 2006-051 (OUMNH); 1, Sabah, Lahad Datu, Ulu Segama Forest Reserve, Coupe 88 logging area, N 04°59.738' E 117°50.165', 250 m, iii–iv.2005, FIT no 2, E. Slade & J. Villanuava lgt., selectively logged dipterocarp forest, Yayasan Sabah Logging Concesion, OUMNH 2005-052 (MHNG).

**Remarks.** These specimens exhibit characters congruent with the redescription given by LÖBL & LESCHEN (2010). Notable are the widely interrupted basal striae of the elytra, the mesoventrite with distinct mesal ridge, the lateral parts of the metaventrite lacking coarser punctures, and the lateral parts of ventrite I, each bearing a subbasal patch of distinct punctures, in combination with the uniformly rufous, about 1.9 mm long body. The species is very similar to *S. arcuatum* Champion, 1927 and *S. pulex* Heller, 1917.

### *Scaphoxium* Löbl, 1979

Four species of *Scaphoxium* are currently known to occur in Sabah, *S. opacum* Löbl, 2021, *S. opertum* Löbl, 2021, *S. taylori* Löbl, 1981, and one which remains undescribed because its male characters are unknown. The newly studied collections yield a fifth species described below.

#### *Scaphoxium sinuatum* sp. nov.

Figs 11–13

**Type material.** Holotype male, Malaysia, Sabah, Batu Punggul Resort env., 24.VI.–1.VII.1996, 11c. vegetation debris and forest floor litter accumulated around large trees near river (MHNG).

**Description.** Length 1.18 mm, width 0.55 mm, dorsoventral diameter 0.62 mm. Thorax, elytra and most of abdomen uniformly reddish-brown, head somewhat lighter, apical abdominal segments light, nearly yellowish, femora and tibiae roughly as thorax, tarsi lighter, antennae light brown. Length/width ratios of antennomeres as follows: III 22/5: IV 17/4: V 22/4: VI 23/4: VII 28/7: VIII 20/7: IX 28/11: X: 28/11: XI 38/12. Pronotal and elytral punctation similar, very fine, hardly visible at 40 times magnification. Scutellum concealed. Elytra with sutural striae parallel, shortened, starting about 0.15 mm posterior of margin of pronotal lobe, adsutural areas hardly raised. Hypomeron with scattered, very fine punctured and short oblique stria. Mesoventrite with mesal impression shallow, narrowed posteriad, lacking mesal ridge and lacking microsculpture. Margin of mesocoxal process rounded. Metaventrite lacking microsculpture, very finely punctate, convex in middle. Lateral stria oblique, nearly reaching convex, finely punctate

submesocoxal line. Submesocoxal area about 0.03 mm, as long as half of the shortest interval to margin of metacoxa. Metanepisternum flat, with suture fairly narrow, punctate, somewhat rounded. Abdomen very finely punctate, median areas of ventrites with punctulate microsculpture.

*Male.* Segments I to III of protarsi hardly widened. Aedeagus (Figs 11–13) 0.44 mm long. Parameres narrowed posterior of basal section, gradually weakly widened toward narrow apical section, not forming subapical lobe or process; outer margins of parameres concave and inner margins strongly sclerotized posterior of narrowed apical section. Internal sac bearing two pairs of sclerotized pieces, outer larger and more sclerotized than inner pair, expanded apically, inner pair widened proximally, with margins becoming indistinct apically; scale-like, spine-like or filamentous structures absent.

**Etymology.** The species epithet is a Latin adjective meaning “sinuate”, referring to the outer margins of the parameres.

**Differential diagnosis.** The body-size of this new species is significantly smaller than that of other Bornean species and the shape of its parameres is diagnostic for it. The new species is similar to *S. bilobum* Löbl, 2015 from Lombok. It shares with the latter the simple internal sac of the aedeagus lacking spine-like, denticulate or striate membranous structures in combination with the presence of two pairs of admesal sclerites. However, the outer pair of sclerites is much more expanded and the inner sclerites are much shorter and broader in *S. sinuatum*, which may be distinguished from *B. bilobum* also by its wide impression of the mesoventrite, finer punctuation of the lateral parts of the metaventrite and shorter submesocoxal areas.

### ***Vituratella* Reitter, 1908**

The genus encompasses 31 species, all Afrotropical but the Asian *V. termitophila* (Champion, 1927) and *V. kistneri* (Löbl, 1979).

#### ***Vituratella kistneri* (Löbl, 1979)**

**Material examined.** 50, Sabah, Batu Punggul Resort, 24.vi–1.vii.1996, FIT (MHNG); 1, Sabah, Mt. Kinabalu Nat. Park, Poring Hot Springs, 495 m, 30.viii.1988, A. Smetana [B161] (MHNG); 1, Sabah, Lahad Datu, Ulu Segama Forest Reserve, Coupe 88 logging area, N 04°59.738' E 117°50.165', 250 m, iii–iv.2005, FIT no 2, selectively logged lowland mixed dipterocarp forest, Yayasan Sabah Logging Concession, E. Slade & J. Villanuava lgt., OUMNH-2005-062 (OUMNH); 1, Sabah, Lahad Datu, Ulu Segama, Danum Valley Forest Centre, N 04°57.9' E 117°48.1', 200 m, 27–28.x.2005, primary forest, D.J. Mann, E. Slade & J. Villanuava lgt., lowland mixed dipterocarp forest, west trail 10, forest interior FIT, OUMNH-2006-051 (OUMNH).

**Remarks.** The species was based on several specimens found in North Sumatra, in fungus gardens of *Odontotermes takensis* Ahmad, 1965. It was not reported after its description while *V. termitophila* Champion, 1927 is widely distributed and has been referred to many times (see OGAWA & MAETO 2015). The colour pattern of the abdomen used as one of the diagnostic characters proves to be unreliable in the examined material.

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