

# On the Scaphisomatini of Madagascar, and commentary on new trends in museums hampering taxonomic research (Coleoptera: Staphylinidae: Scaphidiinae)

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## Abstract

The Malagasy species of the Scaphisomatini genera *Baeocera* ERICHSON, 1845, *Bertiscapha* LESCHEN & LÖBL, 2005, *Scaphobaeocera* CSIKI, 1909, *Scaphoxium* LÖBL, 1979, and *Xotidium* LÖBL, 1992 (Coleoptera: Staphylinidae: Scaphidiinae) are reviewed, and a new genus, *Baeoceroides* gen.n., is described. Keys to the Malagasy species of these genera are provided, and the following 25 new species are described: *Baeocera comes* sp.n., *B. conferta* sp.n., *B. confinis* sp.n., *B. conformis* sp.n., *B. congrua* sp.n., *B. consobrina* sp.n., *B. consona* sp.n., *B. consors* sp.n., *B. consulta* sp.n., *Baeoceroides conspectus* sp.n., *B. incompletus* sp.n., *Bertiscapha basalis* sp.n., *B. completa* sp.n., *B. nana* sp.n., *Scaphobaeocera angulata* sp.n., *S. asity* sp.n., *S. avahi* sp.n., *S. bulirschi* sp.n., *S. coua* sp.n., *S. iviei* sp.n., *S. mirza* sp.n., *S. varecia* sp.n., *Scaphoxium madecassum* sp.n., *Xotidium apicale* sp.n. and *X. medium* sp.n. *Vituratella perrieri* ACHARD, 1920 is redescribed.

Trends in museums of natural history impacting taxonomy are commented.

**Key words:** Coleoptera, Staphylinidae, Scaphidiinae, Scaphisomatini, taxonomy, Madagascar, new trends in museums.

## Introduction

Specimens, knowledge of living things and their nomina cannot be dissociated, as generations of taxonomists have experimented. With the unabated increase of recognized species, taxonomists rise the number of characters used to define taxa and to hypothesize their evolutionary history and phylogeny. The original specimens are to be re-examined whenever previously unobserved characters or character states of described species are needed to assess taxa more reliably or to support hypotheses more robustly. This is one of the basic conditions enabling progress in assessment of biotic diversity. Paradoxically, a new myth associated with the modern illustration facilities spread over natural history museums: it is believed, mainly by non-taxonomists that illustrations may replace specimens, despite only specimen-based studies can reveal unknown, previously unobserved features and new information. In addition, illustrations may be preferred because they cannot be damaged or destroyed, and do not need heavy infrastructures for storage. As a consequence, resources are shifted from research to digitalizing entire collections, though illustrated specimens are effectively useful in specific cases, usually known to experts and curators, and ignored by administrations promoting digitalization (see also LÖBL 2018b). At present, it is often easy to obtain photographs while access to specimens may be cumbersome or restricted, as in one of the most important natural history museums, the Muséum national d'Histoire naturelle in Paris, France (MNHN). I was confronted with this situation while working on Malagasy shining fungus beetles. As a consequence, I prefer to renounce from study of the species-rich genera *Scaphidium* OLIVIER, 1790 and *Scaphisoma* LEACH, 1815 than to misuse time with bureaucracy, and I depose the primary types of the newly recognized species only in institutes supporting taxonomic research without requesting superfluous paperwork. An additional reason is to point to a decision having also unforeseen effects, possibly quite opposite to those expected by the deciders.

Currently, members of the following Scaphidiinae genera are known from Madagascar: *Scaphidium* (33 spp. and ssp., Scaphidiini) and the Scaphisomatini *Baeocera* ERICHSON, 1845 (1 sp.), *Bertiscapha* LESCHEN & LÖBL, 2005 (3 spp.), *Pseudobironiella* LÖBL, 1973 (3 spp.), *Scaphisoma* (13 spp.), *Scaphoxium* LÖBL, 1979 (2 spp.), *Toxidium* LECONTE, 1860 (6 spp.), and *Vituratella* REITTER, 1908 (2 spp.) (see LÖBL 2018a).

New collections of Malagasy Scaphidiinae examined comprise mainly members of *Scaphidium* and *Scaphisoma*, in a higher number of species than described, and several species of *Baeocera*, *Baeoceroides* gen.n., *Bertiscapha*, *Scaphobaeocera* CSIKI, 1909 (new for Madagascar), *Scaphoxium*, and *Xotidium* LÖBL, 1992 (new for Madagascar).

The present paper is limited to the study of the Scaphisomatini, and it includes the redescription of *Vituratella perrieri* ACHARD, 1920. The type material of the inadequately described second species Malagasy species of this genus, *V. nitida* (PIC, 1920), is deposited in the MNHN. As my request of a loan of this species remained unanswered, and an appropriate study requiring dissections, mounting dissected pieces on slides and illustrations cannot be done well enough during a visit to the MNHN, the status of this species remains doubtful. For the same reason I regard the primary type material of the Malagasy species of *Scaphidium* and *Scaphisoma* described by L. Fairmaire, E. Reitter and M. Pic unobtainable for me and therefore renounce from study of these genera, i.e. from the bulk of the collections.

Additional material of *Pseudobironiella* and *Toxidium* has not turned up. *Pseudobironiella* was treated in LÖBL (1973), and the most recent treatments of the Malagasy *Toxidium* are found in LÖBL & LESCHEN (2010) and LÖBL & FAILLE (2017).

### Material and methods

The material studied is deposited in the following collections:

MHNG Muséum d'histoire naturelle, Genève, Switzerland  
MNHN Muséum national d'Histoire naturelle, Paris, France  
NHMW Naturhistorisches Museum Wien, Austria  
NMPC Národní Museum, Praha, Czechia

The locality data of the type specimens are reproduced verbatim, but a triangular symbol for mountain summits on labels of some specimens is replaced by the word "summit". Different labels are separated by a slash.

Specimens collected by H. Franz have handwritten code numbers on the underside of their locality labels. These numbers are explained in the handwritten travel diary of H. Franz, deposited in the NHMW (Coleoptera collection). The numbers and the translated notes from the diary are given in square brackets.

The body length is measured from the anterior pronotal margin to the posterior inner angles of the elytra. Interocular width is the shortest distance between eyes, seen in dorsal view. The length/width ratios of the antennomeres are measured from slide-mounted antennae, all at the same magnification. The abdominal microsculpture refers to the exposed segments, and not to the intersegmental membranes. 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 embedded in Euparal and fixed on a separate card on the same pin as the respective specimen.

**Scaphisomatini CASEY, 1893**

The tribe was redefined by LESCHEN & LÖBL (1995). Its lineages were discussed and a key to the genera was provided by LESCHEN & LÖBL (2005). *Afroscaaphium* LÖBL, 1989 is restricted to the African continent, and three genera are endemic to Madagascar.

***Baeocera* ERICHSON, 1845**

With 289 species currently recognized as valid, this genus is nearly world-wide in distribution. While it is diverse in the New World and in the Oriental Region, only 12 species are known from the African continent, ten of them occurring south of the Sahara. A single species, *B. rufoguttata* (FAIRMAIRE, 1898), was described from Madagascar and two species, *B. monticola* VINSON, 1943 and *B. tibialis* LÖBL, 1977, were described from the Mascarene Islands. The genus remains unknown from the Seychelles (SCOTT 1922, LÖBL 2018a). The Afrotropical species have been described or redescribed by FAIRMAIRE (1898), VINSON (1943) and LÖBL (1977, 1987, 1989).

**Key to the Malagasy species of *Baeocera***

- |   |  |                    |
|---|--|--------------------|
| 1 | Elytra dark, each with a well delimited reddish spot.....  | <i>rufoguttata</i> |
| – | Elytra lacking spots, uniformly reddish brown, brown or blackish.....  | 2                  |
| 2 | Elytra with basal striae complete, joined with lateral striae.....   | 3                  |
| – | Elytra lacking basal striae, or with basal striae shortened, not joined with lateral striae.....   | 7                  |
| 3 | Ventrite I without basolateral striae.....   | 4                  |
| – | Ventrite I with basolateral striae.....  | 5                  |
| 4 | Elytra each with lateral patch of coarse punctures, very finely punctate on remaining surface. Lateral parts of metaventrite with several fine punctures much smaller than puncture intervals. Antennomere VIII slightly longer than wide.....   | <i>confinis</i>    |
| – | Elytra coarsely punctate on large middle area, very finely punctate on basal and apical fourth, lacking patch of lateral coarse punctures. Lateral parts of metaventrite with several conspicuously coarse punctures as large as or larger than puncture intervals. Antennomere VIII about twice length the width..... | <i>congrua</i>     |
| 5 | Pronotum microsculptured.....  | <i>comes</i>       |
| – | Pronotum not microsculptured.....  | 6                  |
| 6 | Antennomere VIII moderately long, about 2.5 times as long as wide. Parameres sinuate in lateral view.....  | <i>conformis</i>   |
| – | Antennomere VIII elongate, about three times as long as wide. Parameres straight in lateral view.....  | <i>conferta</i>    |
| 7 | Elytra lacking basal striae.....   | <i>consobrina</i>  |
| – | Elytra with basal striae extending to basal mid-width or to outer third of basal width.....  | 8                  |
| 8 | Elytra each with dense patch of coarse punctures between basal half and apical fourth, very finely punctate on overwhelming surface. Ventrite I with basolateral striae.....   | <i>consona</i>     |
| – | Elytral punctuation different.....   | 9                  |
| 9 | Pronotum not microsculptured. Elytra very finely punctate on basal half, coarsely punctate on apical half of disc.....   | <i>consors</i>     |
| – | Pronotum microsculptured. Elytra very finely punctate on basal fourth to third, coarsely punctate in posterior basal fourth to third.....  | <i>consulta</i>    |

*Baeocera comes* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar Ankarana N.P. near bats cave 13°57'3"S; 49°07'11"E 150 m, 09.iii.2003 #11c G. Cuccodoro (MHNG). **Paratypes**: 1 ♂, 1 ♀, with the same data as the holotype but #11b; 1 ♀, Madagascar Sambiranga Valley around Antsiratsena 13°54'52"S; 48°32'26"E 100 m, 06.iii.2003 #8a G. Cuccodoro (all MHNG).

DESCRIPTION: Length 1.30–1.40 mm, width 0.82–0.91 mm. Body reddish brown, abdomen not or slightly lighter than thorax. Femora and tibiae reddish brown, tarsi and antennae yellowish. Head with interocular distance about twice eye width. Length/width ratios of antennomeres: III 12/7: IV 16/6: V 21/7: VI 16/7: VII 23/9: VIII 15/7: IX 25/13: X 25/17: XI 32/17. Lateral contours of pronotum and elytra separately arcuate. Pronotum with very fine strigulate microsculpture, punctation very fine, visible at 40 times magnification. Scutellum concealed. Elytra not microsculptured, with lateral margins almost oblique, sutural striae complete, parallel, curved at base and extended along basal margins to form basal striae joined with lateral striae. Basal fourth of elytra with very fine punctation, about as that of pronotum. Prevailing elytral surface rather coarsely punctate, puncture intervals slightly larger to almost three times puncture diameters. Hind wings not reduced. Hypomera appearing impunctate. Mesepimera about four times as long as wide and three times as long as distance to coxae. Centre of metaventrite flat, impunctate. Lateral areas of metaventrite with few fine punctures, submesocoxal lines convex, appearing impunctate. Submesocoxal areas 0.06 mm long, slightly longer than half of shortest distance to metacoxae. Metanepisterna distinct, almost parallel-sided, broadly impressed along impunctate suture. Protibiae and mesotibiae straight, metatibiae somewhat curved. Abdominal punctation very fine. Ventrite I with basolateral striae 0.03–0.09 mm long.

Male characters. Protarsomeres I–III hardly widened. Aedeagus (Figs. 1–4) 0.40–0.41 mm long. Apical process of median lobe about as long as half of basal bulb, weakly inflexed, gradually narrowed in dorsal view, at tip somewhat bent in lateral view; ventral contour of apical process in lateral view slightly sinuate. Articular process not prominent. Parameres narrow, in lateral view sinuate. Internal sac with complex bent sclerite, and proximal bulb bearing very fine scale-like structures.

DISTRIBUTION: North Madagascar.

ETYMOLOGY: The species epithet is a Latin noun meaning companion.

COMMENTS: The aedeagal characters suggest relationships with *B. problematica* LÖBL, 1987 from Kenya. This new species may be readily distinguished by the shape of the internal sac, antennomere XI much longer than antennomere X, pronotal microsculpture present, lateral areas of metaventrite bearing only few distinct punctures, and the very fine punctation on ventrite I.

*Baeocera conferta* sp.n.

TYPE MATERIAL: **Holotype** ♂: N Madagascar Marojejy N.P. 450 m camp Mantella 7–15.XI.2015 S. Kurbatov leg. (MHNG). **Paratype** ♂: N Madagascar Marojejy N.P. 775 m camp Marojejia F.I.T. 18–26.XI.2015 S. Kurbatov leg. (MHNG).

DESCRIPTION: Length 1.55–1.60 mm, width 1.02–1.10 mm. Frons, most of thorax, elytra and middle part of ventrite I blackish, lateral parts of metaventrite and ventrite I somewhat reddish, apical abdominal segments dark reddish brown, tarsi and antennae yellowish. Head with interocular distance not quite twice eye width. Length/width ratios of antennomeres: III 15/7: IV 23/7: V 28/7: VI 25/8: VII 33/11: VIII 23/8: IX 35/15: X 35/18: XI 39/18. Lateral contours of pronotum and elytra separately arcuate. Pronotum not microsculptured, punctation very fine, visible at 40 times magnification. Scutellum concealed. Elytra not microsculptured, with lateral margins almost oblique, sutural striae complete, parallel, curved at base and extended along

basal margins to form basal striae joined with lateral striae. Basal fourth of elytra as pronotum very finely punctate, punctation posterior basal fourth rather coarse, with puncture intervals mostly about two to three times puncture diameters. Hind wings not reduced. Hypomera appearing impunctate. Mesepimera about three times as long as wide and 2.5 times as long as distance to coxae. Centre of metaventricle flat, with apical patch of dense and rather coarse punctures. Lateral areas of metaventricle very finely punctate. Submesocoxal lines convex, with elongate, rather coarse punctures. Submesocoxal areas 0.03 mm long, as fourth of shortest distance to metacoxae. Metanepisterna distinct, parallel-sided, impressed along impunctate suture. Protibiae straight, mesotibiae and metatibiae somewhat curved. Abdominal punctation very fine, several rather coarse punctures on lateral parts of ventrite I excepted. Ventrite I with basolateral striae about 0.05–0.10 mm long.

Male characters. Protarsomeres I–III hardly widened. Aedeagus (Figs. 5–8) 0.42–0.48 mm long. Apical process of median lobe about as long as two thirds of basal bulb, abruptly narrowed at apex in dorsal view, moderately inflexed ventrally, with tip distinctly bent; ventral contour in lateral view straight in middle. Articular process not prominent. Parameres narrow, straight in lateral view. Internal sac with proximal membranous scale-like structures and incurved sclerite.

DISTRIBUTION: Northeast Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning replete, full.

COMMENTS: This species is likely related with *B. problematica* and *B. comes*. It may be easily distinguished from these two species by the antennomere VIII elongate, about three times as long as wide, and the parameres straight in lateral view. The comparatively coarse punctures on the lateral parts of ventrite I are also diagnostic. Unlike in *B. comes*, the pronotum is not microsculptured.

### *Baeocera confinis* sp.n.

TYPE MATERIAL: **Holotype** ♂: E Madagascar 25–28.12.1998 32 km ESE of Betroka, 1650–1700 m, Vohitrosa Forest, 0.5 km S of summit 1798 m, J. Janák lgt. (MHNG). **Paratypes**: 1 ♂, Madagascar centre Ankaratra fourrée à Philippia 2400 m. 19.XI.73 A. Peyrieras lavage de terre (MNHN); 2 ♂♂, 2 ♀♀, Madagascar 28–29.12.1998 38 km ESE of Betroka, 1600–1670 m, Kalambatritra Forest, 3 km E of Andranobe, J. Janák lgt. (MHNG, NMPC).

DESCRIPTION: Length 1.60–1.75 mm, width 0.94–1.02 mm. Body dark reddish brown to blackish, apical abdominal segments light, almost yellowish. Femora somewhat lighter than thorax, tibiae and tarsi light brown to yellowish, antennomeres I–VI yellowish, VII–XI brown. Head with interocular distance somewhat larger than eye width. Length/width ratios of antennomeres: III 21/8: IV 24/7: V 25/7: VI 23/8: VII 40/16: VIII 11/8: IX 40/18: X 40/17: XI 60/18. Lateral contours of pronotum and elytra continuously arcuate. Pronotum not microsculptured, punctation very fine, visible at magnification 40 times. Apical part of scutellum exposed. Elytra not microsculptured, with lateral margins oblique in middle section, rounded near bases and in apical third, sutural striae complete, parallel, curved at base and extended along basal margins to form basal striae joined with lateral striae. Prevailing elytral punctation very fine, about as pronotal punctation; each elytron with mediolateral patch of coarse punctures. Hind wings not reduced. Hypomera very finely punctate. Mesepimera almost three times as long as wide and distinctly longer than distance to coxae. Metaventricle slightly convex in middle and with few distinct apicomedian punctures; most of metaventricle very finely punctate. Submesocoxal lines parallel, with fine, not elongate punctures. Submesocoxal areas 0.02 mm long, as ninth of shortest distance to metacoxae. Metanepisterna distinct, flat, with suture almost straight, impressed and punctate. All tibiae slightly bent. Abdominal punctation very fine. Ventrite I without basal striae, with basal punctures fine, not elongate, not interrupted in middle.

Male characters. Protarsomeres I–III hardly widened. Aedeagus (Figs. 9–11) 0.34–0.47 mm long. Apical process of median lobe about as long as two thirds of basal bulb, weakly inflexed, gradually narrowed apically, with ventral contour weakly sinuate in lateral view. Articular process prominent. Parameres narrow, sinuate in dorsal view, hardly bent and narrowed apically in lateral view. Internal sac with long, proximally hooked sclerite.

DISTRIBUTION: Southeast and Central Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning neighbouring, related.

COMMENTS: This species may be easily distinguished by the puncture pattern of the elytra in combination with the complete basal striae, the ventrite I without basolateral striae, and the long antennomere XI. The median lobe is similar to that in *B. comes*, *B. conferta* and *B. problematica*, the prominent articular process excepted. The shape of the long and hooked sclerite of the internal sac is diagnostic.

### *Baeocera conformis* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar 28–29.12.1998 38 km ESE of Betroka, 1600–1670 m, Kalambatritra Forest, 3 km E of Andranobe, J. Janák lgt. (MHNG). **Paratypes**: 1 ♂, 1 ♀, same data as the holotype (MHNG); 1 ♂, Madagascar 29.12.1998 38 km SSE of Betroka, 1400 m, Kalambatritra Forest, 3 km SSE of Ambaro, J. Janák lgt. (MHNG); 1 ♀, E Madagascar 23.12.1998 30 km ESE of Betroka, 1600 m, Vohitrosa Forest, 2 km NE of summit 1825 m, J. Janák lgt. (MHNG); 1 ♂, E Madagascar 5.–6.1.1999 S of Ambositra, RN km 295.5 by Ambatofitorahana ca 1700 m, J. Janák lgt. (MHNG); Madagascar Est 1100–1200 m Massiv Ambondrombe J. Janák + P. Moravec lgt. / Ikoka env. 9.–10.3.1998 forêt humide, tamisages crête Amboasa, camp 1 (MHNG); 1 ♂, Madagascar Est 1300–1400 m Massiv Ambondrombe J. Janák + P. Moravec lgt. / 1 km ouest de la cote 1579 14.3.1996 forêt humide tamisages, camp 4 (MHNG); 1 ♂, Madagascar Est 1500–1600 m Massiv Ambondrombe J. Janák + P. Moravec lgt. / 1 km ouest de la cote 1579 15.–18.3.1996 forêt humide tamisages, camp 5 (MHNG); 3 ♂♂, 4 ♀♀, Madagascar: Tuléar Pr. 18 km NNW Betroka, 825 m 23°09'48"S 45°58'07"E 04–09. Dec 1994 M.A. Ivie & D.A. Pollock (MHNG); 1 ♀, Madagascar Soalala, Fr. Cotière N du village Baly tamisage litière 1.III.1973, A. Peyrieras (MNHN); 2 ♀♀, Madagascar Plaine de Ranotsara, près Ambinda, forêt type S.O. (très sec) tamisage lit. 11.v.73, A. Peyrieras (MNHN).

DESCRIPTION: Length 1.35–1.70 mm, width 0.95–1.02 mm. Frons, thorax, elytra and femora uniformly dark reddish brown, abdomen and tibiae somewhat lighter, tarsi and antennae yellowish. Head with interocular distance about twice eye width. Length/width ratios of antennomeres: III 16/7: IV 24/7: V 28/7: VI 19/7: VII 30/9: VIII 19/7: IX 27/14: X 30/17: XI 38/20. Lateral contours of pronotum and elytra continuously arcuate. Pronotum not microsculptured, punctuation very fine, visible at 40 times magnification. Scutellum concealed. Elytra not microsculptured, with lateral margins oblique except at bases and near apices, sutural striae complete, parallel, curved at base and extended along basal margins to form basal striae joined with lateral striae. Basal fourth of elytra as pronotum very finely punctate, prevailing elytral punctuation distinctly coarser, with most puncture intervals about three to four times puncture diameters. Hind wings not reduced. Hypomera appearing impunctate. Mesepimera about three times as long as wide and about 1.5 to twice distance to coxae. Metaventrite flattened in middle, with apicomedian patch of dense and fine punctures, remaining punctuation of metaventrite sparse and very fine. Submesocoxal lines convex, with fine, not elongate punctures. Submesocoxal areas 0.03–0.05 mm long, as fourth to almost half of shortest distance to metacoxae. Metanepisterna parallel-sided, slightly convex, broadly impressed along straight, impunctate suture. Protibiae straight, mesotibiae and metatibiae slightly bent. Ventrite I with basolateral striae about 0.02–0.04 mm long, punctuation very fine. Following ventrites finely punctate.

Male characters. Protarsomeres I–III hardly widened. Aedeagus (Figs. 12–14) 0.37–0.45 mm long. Apical process of median lobe about half of length of basal bulb, weakly inflexed,

gradually narrowed, with ventral contour distinctly sinuate in lateral view. Articular process not prominent. Parameres weakly bent in lateral view. Internal sac with bent, overlapping sclerites.

DISTRIBUTION: West, Central and East Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning conform, complying.

COMMENTS: This species is in external features very similar with *B. conferta*. It may be distinguished from the latter by the ventrite I very finely punctate posterior basolateral striae and the length/width ratios of the antennomeres. The median lobe and the parameres of *B. conformis* are as in *B. comes*, the internal sac bearing bifid sclerites is distinct.

### *Baeocera congrua* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar Mantsoa Ambohiboatavo, 17.xii.73 A. Peyrieras, humus + terre lavée (MHNG). **Paratypes**: 3 ♂♂, same data as the holotype (MHNG, MNHN).

DESCRIPTION: Length 1.30–1.33 mm, width 0.85–0.88 mm. Frons and body reddish brown to blackish brown, apex of abdomen lighter, femora and tibiae as body or somewhat lighter, tarsi and antennae yellowish. Head with interocular distance about twice eye width. Length/width ratios of antennomeres: III 20/7: IV 23/6: V 28/7: VI 26/8: VII 36/13: VIII 20/9: IX 32/14: X 36/15: XI 40/16. Lateral contours of pronotum and elytra separately arcuate. Pronotum not microsculptured, punctation very fine, visible at 40 times magnification. Tip of scutellum exposed. Elytra not microsculptured, with lateral margins oblique except at bases and near apices, sutural striae complete, parallel, curved at base and extended along basal margins to form basal striae joined with lateral striae. Punctation of basal fourth and apical fourth of elytra about as on pronotum, centre of elytra coarsely and densely punctate, with puncture intervals partly about as large as puncture diameters. Hind wings not reduced. Hypomera appearing impunctate. Mesepimera about three times as long as wide and about twice distance to coxae. Metaventrite convex in middle, with dense and rather coarse puncture forming U-shaped pattern, punctation on centre of metaventrite sparse and very fine, sides of metaventrite with conspicuously coarse and dense punctures about as large or larger than puncture intervals. Submesocoxal lines parallel, with coarse, not elongate punctures. Submesocoxal areas 0.02 mm long, as seventh of shortest distance to metacoxae. Metanepisterna parallel-sided, slightly convex, broadly impressed along straight, punctate suture. Tibiae straight. Ventrite I without basolateral striae, basal punctures coarse, slightly elongate, not interrupted in middle, punctation very fine posterior basal punctures and on following ventrites.

Male characters. Protarsomeres I–III hardly widened. Aedeagus (Figs. 15–17) 0.38–0.41 mm long. Apical process of median lobe about half of length of basal bulb, rather strongly inflexed, abruptly narrowed, with ventral contour in lateral view slightly arcuate. Articular process not prominent. Parameres arcuate in lateral view. Internal sac with long, sinuate, apically widened sclerite.

DISTRIBUTION: East-central Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning congruent.

COMMENTS: The median lobe of the aedeagus of this species is strongly inflexed and partly parallel-sided, as in the African *B. gerardi* (PIC, 1928) and *B. palmi* LÖBL, 1987 (see LÖBL 1987). These two species differ drastically from *B. congrua* in the shape of the parameres and the narrow rod of the internal sac.

***Baeocera consobrina* sp.n.**

TYPE MATERIAL: **Holotype** ♂: Madagascar plaine de Ranotsara, près de Ambinda, rte Ihosy-Vondrozo, forêt type S. O. (très sec) tamisage lit. 11.v.73, A. Peyrieras (MHNG). **Paratypes**: 1 ♂, 2 ♀♀, same data as the holotype (MHNG, MNHN).

DESCRIPTION: Length 1.20–1.35 mm, width 0.85–0.93 mm. Frons, thorax and elytra blackish or venter of thorax dark reddish brown, lighter than pronotum and elytra, abdomen lighter than elytra, femora and tibiae reddish brown, tarsi and antennae yellowish. Head with interocular distance about 2.5 times eye width. Length/width ratios of antennomeres: III 15/8: IV 16/6: V 22/7: VI 19/8: VII 22/11: VIII 13/8: IX 23/13: X 23/15: XI 40/17. Lateral contours of pronotum and elytra separately arcuate. Pronotum not microsculptured, punctation very fine, visible at 40 times magnification. Scutellum concealed. Elytra not microsculptured, with lateral margins weakly rounded, sutural striae complete, parallel, curved along pronotal lobe, not extended laterally, basal striae absent. Punctation of basal fourth of elytra about as on pronotum, most of elytral disc coarsely and densely punctate, with puncture intervals mostly about two to three times as large as puncture diameters. Hind wings not reduced. Hypomera very finely punctate. Mesepimera about 2.5 times as long as wide and about four times as distance to coxae. Metaventrite flattened in middle, with dense and rather coarse punctures forming U-shaped pattern, centre of metaventrite smooth, sides of metaventrite with sparse, rather coarse punctures. Submesocoxal lines parallel, with coarse, not elongate punctures. Submesocoxal areas 0.02 mm long, as fifth of shortest distance to metacoxae. Metanepisterna parallel-sided, flat, not impressed along straight or slightly curved and finely punctate suture. Protibiae straight, mesotibiae and metatibiae slightly bent. Ventrite I without basolateral striae, basal punctures elongate, rather coarse, not interrupted in middle, punctation distinct posterior basal punctures and on following ventrites.

Male characters. Protarsomeres I–III hardly widened. Aedeagus (Figs. 21–23) 0.32–0.34 mm long. Apical process of median lobe about as half of length of basal bulb, rather strongly inflexed, gradually narrowed, with ventral contour in lateral view almost straight, tip not bent. Articular process not prominent. Parameres straight in lateral view. Internal sac with very narrow, incurved sclerite.

DISTRIBUTION: Southeast Madagascar.

ETYMOLOGY: The species epithet is a Latin noun meaning cousin.

COMMENTS: This species may be readily distinguished from its Malagasy congeners by the elytra lacking basal striae, a character state shared only with a single Afrotropical species, *B. africana* LÖBL, 1987, which is a member of the *B. lenta* group (see LÖBL 1979), while the aedeagal characters of *B. consobrina* suggest relationships with *B. comes* and other Malagasy congeners.

***Baeocera consona* sp.n.**

TYPE MATERIAL: **Holotype** ♂: Madagascar Est 1300–1400 m Massiv Ambondrombe J. Janák + P. Moravec lgt. / 1 km ouest de la cote 1579 14.3.1996 forêt humide tamisages, camp 4 (MHNG). **Paratype** ♀: same data as the holotype (MHNG).

DESCRIPTION: Length 1.38–1.45 mm, width 0.90–0.92 mm. Frons, thorax and elytra blackish, abdomen somewhat lighter and reddish, with yellowish apical segments. Legs reddish brown, antennae light brown. Head with interocular distance as eye width. Length/width ratios of antennomeres: III 12/5: IV 19/6: V 21/6: VI 16/7: VII 37/13: VIII 14/9: IX 38/16: X 38/15: XI 64/16. Lateral contours of pronotum and elytra continuously arcuate. Pronotum not microsculptured, punctation very fine, hardly visible at 50 times magnification. Point of scutellum



exposed. Elytra not microsculptured, with lateral margins oblique except at bases and apices; sutural striae complete, parallel, curved at base and extended laterally to reach basal mid-width; punctuation very fine and sparse, as that on pronotum on entire basal half, apical fourth and along sutural striae and lateral margins; each elytron with patch of coarse punctures situated between mid-length and apical fourth of disc. Hind wings not reduced. Hypomera very finely punctate. Mesepimera about three times as long as wide and about twice distance to coxae. Metaventricle flattened in middle, very finely and sparsely punctate. Submesocoxal lines parallel, with fine, not elongate punctures. Submesocoxal areas 0.02 mm long, as eighth of shortest distance to metacoxae. Metanepisterna narrowed in middle part, flat, not impressed along curved and finely punctate suture. Protibiae straight, mesotibiae slightly bent, metatibiae straight. Ventricle I with basolateral striae up to 0.05 mm long. Abdominal punctuation sparse and very fine.

Male characters. Protarsomeres I–III hardly widened. Aedeagus (Figs. 18–20) 0.36 mm long. Apical process of median lobe about two thirds of length of basal bulb, moderately inflexed, gradually narrowed, with ventral contour in lateral view almost straight, bent at tip. Articular process not prominent. Parameres straight in lateral view. Internal sac with bifid sclerite.

DISTRIBUTION: South-central Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning approving.

COMMENTS: This species possesses a conspicuous pattern of elytral punctuation and may be easily distinguished from its Afrotropical congeners. The aedeagal characters suggest close relationships with *B. comes* and *B. conformis*.

### *Baeocera consors* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar, Plateau du Tampoketsa lg. H. Franz 1969 [Mg 1: 11.IV.1969, Manonkazo, 1500 m, NNW of Tananarive, Plateau du Tampoketsa d'Ankazobe, sifted dead wood and leaf litter] (NHMW). **Paratype** ♀: C. Madagascar Anjozorobe, Soa Camp 1300 m 10–11.iv.2006 G. de Rougemont / Primary montaine rainforest in fungi (MHNG).

DESCRIPTION: Length 1.52–1.65 mm, width 0.95–1.07 mm. Frons and body blackish, femora and tibiae reddish brown, tarsi yellowish, antennae light brown. Head with interocular distance somewhat larger than eye width. Length/width ratios of antennomeres: III 18/7: IV 24/6: V 28/7: VI 20/7: VII 40/13: VIII 15/8: IX 40/14: X 40/18: XI 57/20. Lateral contours of pronotum and elytra separately arcuate. Pronotum not microsculptured, punctuation very fine, hardly visible at 40 times magnification. Point of scutellum exposed. Elytra not microsculptured, with lateral margins weakly rounded in basal half, straight posterior mid-length and rounded in apical fourth; sutural striae complete, parallel, curved at base and extended laterally almost to outer third of basal width. Punctuation of basal half of elytra about as on pronotum, posterior mid-length coarsely and densely punctate, with puncture intervals mostly about as large to three times as large as puncture diameters. Hind wings not reduced. Hypomera very finely punctate. Mesepimera about three times as long as wide and about twice distance to coxae. Metaventricle weakly convex in middle, entirely very finely and sparsely punctate. Submesocoxal lines parallel, with coarse, not elongate punctures. Submesocoxal areas 0.03 mm long, as sixth of shortest distance to metacoxae. Metanepisterna parallel-sided, flat, not impressed along curved, impunctate suture. Protibiae slightly bent, mesotibiae and metatibiae straight. Ventricle I with basolateral striae 0.02–0.05 mm long and with sparse, rather coarse punctuation. Following three ventrites distinctly punctate.

Male characters. Protarsomeres I–III hardly widened. Aedeagus (Figs. 24–26) 0.38 mm long. Apical process of median lobe somewhat longer than half length of basal bulb, moderately inflexed, gradually narrowed, with ventral contour in lateral view almost straight, tip bent.

Articular process not prominent. Parameres posterior bases straight in lateral view. Internal sac with two robust, incurved sclerites.

DISTRIBUTION: Central and north-central Madagascar.

ETYMOLOGY: The species epithet is a Latin noun meaning companion.

COMMENTS: This species is characterized by the shortened basal striae of elytra and coarse punctation covering apical half of elytral disc, in combination with distinct punctation and posterior basolateral striae of the ventrite I. The aedeagus is very similar to that of *B. consona*, the shape of the parameres excepted. These two species may be readily distinguished by the apical antennomeres, which are about three times as long as large in *B. consors* and four times as long as large in *B. consona*.

### *Baeocera consulta* sp.n.

TYPE MATERIAL: **Holotype** ♂: Massif de l'Ankaratra, Madagascar Ig. H. Franz 1969 [Mg 7: 14.IV.1969, 2000 m, rather dry leaf litter] (NHMW). **Paratypes**: 2 ♂♂, Madagascar No. 3006 Ambatofitorahana (MNHN, MHNG); 1 ♂, Madagascar Centre Ankaratra Ft de Betay 2100 m, litière 28.v.74, L. Linarès (MHNG); 1 ♀, Madagascar Centre Ankaratra Forêt 1900 m XII.73, litière, L. Linarès (MHNG); 2 ♀♀, Madagascar Centre Ankaratra Forêt 1800 m vers le Lac Froid. 18.VI.74, litière, L. Linarès (MHNG, MNHN); 1 ♀, Madagascar Centre Tsinjoarivo forêt litière 25.VI.74, L., Linarès (MHNG); 1 ♀, Madagascar Mantasoà Ambohiboatavo, 17.xii.73 A. Peyrieras, humus + terre lavée (MHNG); 1 ♀, Madagascar Angawokely 27.xii.73, tamis. litière, A. Peyrieras (MNHN); 1 ♀, E. Madagascar 6.1.1999 S of Ambositra, RN km 293 by Ambatofitorahana ca 1700 m, P. Bulirsch lgt. (MHNG).

DESCRIPTION: Length 1.58–1.95 mm, width 1.05–1.25 mm. Frons and body dark reddish brown to blackish, apical abdominal segments and femora almost as dark as body or somewhat lighter, tibiae lighter reddish brown, tarsi and antennomeres I–III yellowish, following antennomeres light brown. Head with interocular distance about 1.5–2.0 times as large as eye width. Length/width ratios of antennomeres: III 21/8: IV 21/7: V 33/7: VI 26/8: VII 30/14: VIII 20/10: IX 33/15: X 35/19: XI 48/23. Lateral contours of pronotum and elytra continuously arcuate. Pronotum microsculptured, punctation very fine, hardly visible at 40 times magnification. Point of scutellum exposed. Elytra not microsculptured, with lateral margins weakly rounded in basal and apical thirds, straight in middle; sutural striae complete, parallel in middle section, converging in apical third, curved at base and extended laterally almost up to outer third of basal width. Basal third of elytra about as pronotum punctate, elytral disc posterior basal third distinctly punctate, with puncture intervals mostly about two to four times as large as puncture diameters on center, punctation near apices finer than on middle area. Hind wings not reduced. Hypomera very finely punctate. Mesepimera about twice as long as wide and about as or slightly larger than distance to coxae. Metaventricle flattened in middle, very finely and sparsely punctate, apicomedian transverse or U-shaped row of coarse punctures excepted. Submesocoxal lines parallel or hardly convex, with coarse, not elongate punctures. Submesocoxal areas 0.03 mm long, about as sixth of shortest distance to metacoxae. Metanepisterna parallel-sided, flat, not impressed along straight, punctate suture. Protibiae slightly bent, mesotibiae and metatibiae straight. Ventrite I without basolateral striae, row of basal punctures not interrupted in middle, lateral basal punctures distinctly elongate; punctation sparse and rather coarse posterior basal punctures. Following ventrites very finely punctate.

Male characters. Protarsomeres I–III hardly widened. Aedeagus (Figs. 27–29) 0.44–0.53 mm long. Apical process of median lobe almost as long as two thirds of basal bulb, weakly inflexed, gradually narrowed, with ventral contour in lateral view almost straight, slightly bent near tip. Articular process prominent. Parameres slightly bent in lateral view. Internal sac with single trifid sclerite.

DISTRIBUTION: East and Central Madagascar.

ETYMOLOGY: The species epithet is a Latin noun meaning knowing, skilled.

COMMENTS: This species is characterized by the microsculptured pronotum in combination with the shortened basal striae of elytra and the ventrite I lacking basolateral striae. It may be distinguished from its Malagasy congeners by the comparatively large aedeagus and by the shape of the internal sac.

***Baeocera rufoguttata* (FAIRMAIRE, 1898)**

MATERIAL EXAMINED: 1 ♂: South Madagascar, Sakahara [= Sakaraha] Forest, 1969, leg. H. Franz [Mg 23: 24.IV.1969, sifted moist leaf litter and rotten wood] (NHMW).

COMMENTS: The sole previously known specimen of the species, a female, was designated as lectotype and redescribed in LÖBL (1987). This species differs drastically from its Afrotropical congeners in its spotted elytra.

***Baeoceroides* gen.n.**

**Type species:** *Baeoceroides conspectus*, gender masculine.

DESCRIPTION: Small-sized Scaphisomatini with body convex dorsally and oval contours. Dorsal pubescence reduced, very short. Head with labral setae present. Frontoclypeal suture present. Eye large, not notched. Frons wide. Antennal insertion close to frontoclypeal suture, below level of eye midline. Antenna filiform, antennomeres III–VI subcylindrical, antennomeres VII–XI asymmetrical. Mandibles (Fig. 30) bifid apically, with subapical denticles. Maxilla (Fig. 31) with galea wide, brush apical; lacinia narrow, without lateral setae. Maxillary palpomere IV aciculate, palpomere III with few setae. Hypopharynx setose. Labial palpi 3-segmented (Fig. 31), palpomere III with a single subapical seta, apical palpomere longest, bearing single basal seta. Edge of mentum straight. Gular suture not reaching submentum. Prothorax without corbiculum, prothoracic carinae hidden in dorsal view. Pronotum with anterior margin bead interrupted in middle, pronotal lobe well developed. Hypomera entirely visible in lateral view, without foveiform impressions. Basal prothoracic angles rounded, not prominent, not reaching level of mesepimera. Prosternal process raised anteriorly, spinose. Procoxal cavities asetose. Mesoventrite not carinate posterior paxillum, without median and secondary lines. Mesoventral lines reaching mesocoxal cavities. Mesepimera present, small. Mesocoxal process as wide as mesocoxae. Contours of mesocoxae oval. Metaventrite not fused with mesoventrite. Submesocoxal lines punctate, not connected in middle. Pair of discal macrosetae present, setose patch absent. Discrimen and premetacoxal lines absent. Intercoxal plate present. Metanepisterna visible, with punctate suture. Elytra with basal and lateral striae, weak apical serration; epipleura very narrow, posterior level of metepimera about half as wide as in anterior section, epipleural carinae hidden in dorsal view. Supra-epipleura about twice as wide as anterior section of epipleura, posterior mid-length gradually narrowed. Legs not particularly long. Profemora without ctenidium. Tibiae without basal spines. Mesotibiae longer than mesotarsi, two inner apical mesotibial spines present. Empodium present. Protarsomeres I slightly longer than protarsomeres II, length of mesotarsomeres I about 1.5 times as mesotarsomeres II. Ventrite I without submetacoxal lines, lacking macrosetae, punctate along basal margin. Abdominal segments IV and V with paratergites.

ETYMOLOGY: Derived from the generic nomen *Baeocera*, with the suffix *oides*, meaning *Baeocera*-like.

COMMENTS: This genus is a member of the *Baeocera* group, as defined in LESCHEN & LÖBL (2005). They have considered the absence of prothoracic corbiculum and the asetose procoxal

cavities reversals, as in *Xotidium*, some *Baeocera* and *Nesoscapa* VINSON, 1943. *Baeoceroides* resembles *Baeocera*, with which it shares the body shape and the aciculate palpomere IV. It differs, however, drastically in the basal prothoracic angles not extended apically, the pronotum with anterior bead interrupted, and the profemoral ctenidia and of prothoracic corbiculum absent. *Baeoceroides* falls to the couplet 27 in the key to genera of LESCHEN & LÖBL (2005). While it shares with *Alexidia* REITTER, 1880 the aciculate maxillary palpomere IV, it differs from the latter in the mesotibiae having two apical spines. The members of the remaining nine genera have mesotibiae with two apical spines but tapering maxillary palpomere IV. Among these, *Pseudobironium* PIC, 1920 and *Amalocera* ERICHSON, 1845 differ drastically in the concealed or fused mesepimera, *Afroscaaphium* LÖBL, 1989 in the reduced/absent sutural and basal striae of the elytra, *Spinoscapha* LESCHEN & LÖBL, 2005 in the mesotibiae with two basal spines, *Pseudobironiella*, *Sphaeroscapa* LESCHEN & LÖBL, 2005 and *Brachynopus* BROUN, 1881 in the entire pronotal bead, and *Vickibella* LESCHEN & LÖBL, 2005 in the arcuate mesocoxal lines and narrow galea. Members of *Baeoceroides* OGAWA & LÖBL, 2013 share with *Baeoceroides* the aciculate maxillary palpomere IV, the wide galea, the bidentate apices of mandibles, the rounded hind angles of prothorax, and the absence of prothoracic corbiculum. This genus differs notably from *Baeoceroides* in the profemoral ctenidia present, the contiguous metacoxae and the trilobed mentum (see OGAWA & LÖBL 2013).

### Key to the species of *Baeoceroides*

- 1 Pronotum and elytra rather light reddish brown. Submesocoxal areas about as seventh of shortest distance to metacoxae. Internal sac of aedeagus bearing sclerites, lacking spine-like structures..... *conspicuosus*
- Pronotum and elytra blackish brown. Submesocoxal areas about as fifteenth of shortest distance to metacoxae. Internal sac of aedeagus lacking sclerites, with spine-like structures..... *incompletus*

### *Baeoceroides conspicuosus* sp.n.

TYPE MATERIAL: **Holotype** ♂: N-Madagascar Montagne d'Ambre lg. H. Franz 1969 [Mg 62: 20.5.1969, below forest station, sifted under fallen trees and leaf litter] (NHMW). **Paratypes**: 2 ♂♂, S-Madagascar Forêt de Sakahara [= Sakaraha] lg. H. Franz [Mg 18: 23.IV.1969, 14 km from Sakaraha, on the road to Tana] (NHMW, MHNG); 1 ♀, Madagascar Soalala, tam. liitière Ft. à l'E. du terrain aviation II.1973, A. Peyrieras (MHNG).

DESCRIPTION: Length 1.12–1.20 mm, width 0.82–0.90 mm. Frons, body and femora rather light, uniformly reddish brown, tibiae, tarsi and antennae lighter, ochraceous to yellowish. Head with interocular distance about twice eye width. Length/width ratios of antennomeres: III 17/6: IV 26/7: V 33/8: VI 30/8: VII 38/13: VIII 25/11: IX 40/15: X 37/16: XI 46/21. Lateral contours of pronotum and elytra separately arcuate. Pronotum not microsculptured, very finely punctate, lateral striae distinctly punctate near bases. Tip of scutellum exposed. Elytral punctation very fine and sparse on narrow basolateral areas, posterior basal fifth coarse and dense, with puncture intervals mostly about as large as or to two times larger than puncture diameters, denser near apices, with puncture intervals partly larger than puncture diameters. Hind wings not reduced. Hypomera very finely punctate. Mesepimera about three times as long as wide and longer than distance to coxae. Centre of metaventrite weakly convex, delimited laterally by several coarse punctures, with transverse rows of coarse punctures near margin of metacoxal process, along margin of mesocoxal process, and along margins of metacoxae. Sides of metaventrite with several coarse punctures. Submesocoxal lines parallel, coarsely punctate. Submesocoxal areas 0.02–0.03 mm long, about as seventh of shortest distance to metacoxae. Metanepisterna distinct, narrow, with broad, impressed and punctate sutures. All tibiae slightly bent. Ventrite I with coarse, not or hardly elongate basal punctures not interrupted in middle, coarsely punctate

posterior basal puncture row, puncture diameters partly larger than puncture intervals, ventrites II–IV distinctly punctate, following ventrites very finely punctate.

Male characters. Protarsomeres hardly widened. Aedeagus (Figs. 33–35) 0.34–0.36 mm long. Median lobe with apical process somewhat shorter than basal bulb, strongly bent and narrowed in apical section, with tip acute, almost perpendicular to axis of median lobe. Parameres gradually, weakly narrowed and weakly bent in dorsal view, evenly curved and broad posterior basal section in lateral view. Internal sac bilobed apically, with small, elongate proximal sclerite followed by strongly incurved sclerite; membranes lacking obvious spine or scale-like structures. Female characters. Gonostyle apical, with long seta (Fig. 32).

DISTRIBUTION: North to South Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning obvious.

***Baeoceroides incompletus* sp.n.**

TYPE MATERIAL: **Holotype** ♂: E. Madagascar, 10–11.4.2001, N. Andringitra: Vohindray rdg., 3–4 km SSE Amboarafibe, 1600–1700 m, P. Bulirsch (MHNG).

DESCRIPTION: Length 1.35 mm, width 0.90 mm. Frons, pronotum and elytra blackish brown, ventrites I–IV lighter, reddish, apical abdominal segments yellowish. Femora and tibiae ochraceous, tarsi yellowish, antennae light brown. Head with interocular distance not quite twice eye width. Length/width ratios of antennomeres: III 18/8: IV 27/8: V 36/8: VI 30/9: VII 40/14: VIII 32/8: IX 39/14: X 35/17 (XI missing). Lateral contours of pronotum and elytra separately arcuate. Pronotum not microsculptured, with punctation very fine, lateral striae impunctate. Tip of scutellum exposed. Elytra not microsculptured, with lateral margins almost oblique, sutural striae complete, converging anteriorly and posteriorly from middle part of sutural length, curved at base and extended along basal margins to form basal striae joined with lateral striae. Elytral punctation very fine and sparse on basal sixth to fifth, especially near lateral margins, rather coarse and sparse on overwhelming surface, with puncture intervals about two to four times as large as puncture diameters, punctures denser near apices, with intervals about as large as large to two times as large as puncture diameters. Hind wings not reduced. Hypomera very finely punctate. Mesepimera about four times as long as wide and long as distance to coxae. Centre of metaventrite convex, delimited by U-shaped row of distinct puncture. Lateral parts of metaventrite with few distinct punctures near margins. Submesocoxal lines parallel, with coarse punctures. Submesocoxal areas 0.01 mm long, as fifteenth of shortest distance to metacoxae. Metanepisterna distinct, very narrow, with broad, impressed and punctate sutures. Protibiae straight, mesotibiae and metatibiae slightly bent. Ventrite I with basal punctures coarse, not or hardly elongate and not interrupted in middle; coarsely punctate posterior basal puncture row, with puncture diameters partly larger than puncture intervals, ventrites II–IV distinctly punctate, following ventrites very finely punctate.

Male characters. Aedeagus (Figs. 36–38) 0.37 mm long. Median lobe with apical process somewhat shorter than basal bulb, strongly hook-like in apical section, with tip robust, almost perpendicular to axis of median lobe. Parameres slightly narrowed toward apical third, in apical third widened and bent in dorsal view, straight and widened posterior of mid-length in lateral view. Internal sac bilobed apically, bearing spine-like structures, lacking sclerites.

DISTRIBUTION: Southeast Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning incomplete.

COMMENTS: This species differs from *B. conspectus* in the darker body colour, the finer elytral punctation, and particularly in the much larger, very finely punctate basal elytral areas, the

shorter submesocoxal areas, the narrower metanepisterna, the parameres almost straight and widened in apical halves (lateral view) and the internal sac bearing distinct spine-like structures and lacking sclerites. The right antenna and the left apical antennomere and the protarsi are broken off and missing in the single available specimen.

### ***Bertiscapha* LESCHEN & LÖBL, 2005**

The genus was established to accommodate three new species and appears to be a Malagasy endemic. The members of *Bertiscapha* possess elytra conspicuously narrowed apically and a very short metaventricle. Thus, they may be easily distinguished from other Scaphisomatini by their habitus. Unlike most other Scaphisomatini, all specimens are wingless or have strongly reduced metathoracic wings. The new collections yielded additional specimens of described species, and three new species.

The figure captions of the aedeagi given in LESCHEN & LÖBL (2005: 11) must be corrected: 8 and 11 for *B. burlischi* LESCHEN & LÖBL, 2005, 9 and 12 for *B. compacta* LESCHEN & LÖBL, 2005 and 10 and 13 for *B. striata* LESCHEN & LÖBL, 2005.

### **Key to the species of *Bertiscapha***

- |   |  |                  |
|---|--|------------------|
| 1 | Elytra completely lacking sutural and basal striae.....  | 2                |
| – | Elytra with sutural striae, with or without basal striae .....   | 3                |
| 2 | Metaventricle and ventrite I smooth laterally.....   | <b>compacta</b>  |
| – | Metaventricle and ventrite I striate laterally.....  | <b>striata</b>   |
| 3 | Elytra with basal striae .....   | 5                |
| – | Elytra lacking basal striae.....   | 4                |
| 4 | Body length 1.7 mm. Elytra with sutural striae reaching apical third of sutural length.<br>Metaventricle with one or two lateral striae..... | <b>burlischi</b> |
| – | Body length about 1.3 mm. Elytra with sutural striae reaching middle of sutural length. Sides<br>of metaventricle with several striae.....   | <b>nana</b>      |
| 5 | Elytra with sutural striae extended to about apical third of sutural length .....  | <b>completa</b>  |
| – | Elytra with sutural striae very short, present in basal third of sutural length only .....   | <b>basalis</b>   |

### ***Bertiscapha basalis* sp.n.**

TYPE MATERIAL: **Holotype** ♂: SE Madagascar. Chaînes Anosyennes, 7 km S of Imaha 1400–1600 m, 8.–12.2.2004 24°16'S, 46°57'E, P. Vonička lgt. (MHNG). **Paratypes**: 1 ♂, 4 ♀♀, same data as the holotype (MHNG, NMPC).

DESCRIPTION: Length 1.85–1.94 mm, width 1.23–1.32 mm. Frons and body reddish brown to blackish, femora and tibiae as body or slightly lighter, tarsi and antennae yellowish. Pronotum and elytra not microsculptured, very finely punctate. Lateral contours of pronotum and elytra nearly continuously arcuate. Elytra with sutural striae extended apically to reach about middle third of sutural length, bent laterally along basal margins to form basal striae extended to outer third of basal width, not joined with lateral striae. Epipleura and supra-epipleura in same plain as metanepisterna, epipleura gradually narrowed apically, supra-epipleura about 1.6 times wider than epipleura in level of metacoxae, gradually narrowed apically. Hind wings reduced. Hypomera irregularly punctate, with impressed posterior half. Mesoventrite with uneven surface and short, very low median carina. Mesanepisterna microsculptured. Mesepimera longer than distance to mesocoxae. Metaventricle not microsculptured, short, flattened and very finely

punctate in middle, pair of admesal setiferous punctures and few large, elongate punctures at margin of submesocoxal lines excepted. Each side of metaventrite with several long sulciform striae starting at lateral margins of submesocoxal lines. Submesocoxal lines conspicuous, oblique mesally. Submesocoxal areas about 0.04–0.05 mm long, as long or slightly shorter than shortest distance to metacoxae. Metanepisternal suture sulcate, straight. Metanepisterna flat, narrowed apically. Tibiae robust, protibiae straight, meso- and metatibiae weakly curved. Ventrites with very fine punctation visible at 30 times magnification, not microsculptured. Ventrite I with basal striae; outer striae slightly longer than inner striae, length of longest striae about as fifth to fourth of lateral length of ventrite. Following ventrites impressed at bases.

Male characters. Protarsomeres I–III slightly widened. Aedeagus (Figs. 39–42) 0.48 mm long. Median lobe nearly parallel-sided to level of dorsal valves, abruptly narrowed near apex and bent dorsally, with denticulate surface. Parameres in lateral view straight posterior curved basal section, not widened apically. Internal sac with weakly bent rod, membranes in apical section finely striate and with minute scale-like and denticulate structures forming at apex sclerotized tuft.

DISTRIBUTION: Southeast Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning basal.

DISCUSSION: This species is in external and aedeagal characters very similar with *B. burlischi*. However, it may be easily distinguished by the distinct basal striae of the elytra. In addition, the shape of the apex of the median lobe and the apical section of the internal sac are diagnostic.

### *Bertiscapha completa* sp.n.

TYPE MATERIAL: **Holotype** ♂: E. Madagascar 29.12.1998 36 km ESE of Betroka, 1400m Kalambatritra Forest, 3 km SSE of Ambaro, J. Janák lgt. (MHNG). **Paratypes**: 1 ♀, same data as the holotype (MHNG); 1 ♂, same data but 28.–29.12.1998, 1600–1670 m, 3 km E of Andranobe; 1 ♀, same data as the holotype but 24.12.1998, 30 km ESE of Betroka, 1600–1650 m, Vohitrosa Forest; 3 ♂♂, 6 ♀♀, same data but 17.–18.12.1998, 2 km E of summit 1825 m (MHNG, NMPC); 4 ♂♂, 8 ♀♀, with same data but 19.–23.12.1998, 1650 m, 2 km NNE of summit 1825 m (MHNG, NMPC); 1 ♂, 1 ♀, Madagascar Piste Ihosy-Vondrozo – Col. Ivoribory 1.V.73 litière A. Peyrieras (MHNG); 2 ♀♀, Madagascar Base de la Ft Cirque du Manjanivolo 1200 m S.P. Ivohibe, tamisage lit., 1.V.73, A. Peyrieras (MHNG, MNHN).

DESCRIPTION: Length 1.73–1.95 mm, width 1.10–1.28 mm. Frons and most of body reddish brown to blackish, elytra somewhat lighter near apices, apical abdominal segments yellowish, femora and tibiae reddish brown, tarsi and antennae yellowish. Pronotum and elytra not microsculptured, very finely punctate. Lateral contours of pronotum and elytra nearly continuously arcuate. Elytra with sutural striae extended posteriad to reach apical third of sutural length, bent laterally along basal margins to form complete basal striae joined with lateral striae. Epipleura and supra-epipleura in same plain as metanepisterna, epipleura gradually narrowed apically, supra-epipleura about 1.3 times wider than epipleura in level of metacoxae, gradually narrowed apically. Hind wings reduced. Hypomera impressed posteriad, with sparse punctulate microsculpture. Mesoventrite with uneven surface and mesal carina. Mesepimera longer than distance to mesocoxae. Metaventrite not microsculptured, short, weakly convex in middle and very finely punctate, pair of admesal setiferous punctures and few elongate punctures at margin of submesocoxal lines excepted. Each side of metaventrite with two long sulciform striae starting at lateral margins of submesocoxal lines. Submesocoxal lines conspicuous, oblique mesally. Submesocoxal areas about 0.05 mm long, somewhat longer than shortest distance to metacoxae. Metanepisternal sutures sulcate, straight. Metanepisterna flat, narrowed apically. Tibiae robust, protibiae straight, meso- and metatibiae weakly bent. Ventrites with very fine, hardly visible punctation (100 ×), not microsculptured. Ventrite I with basal striae; outer striae longer than

inner striae, longest striae about as sixth to fourth of lateral length of ventrite. Following ventrite not impressed.

Male characters. Protarsomeres I–III slightly widened. Aedeagus (Figs. 43–46) 0.40–0.42 mm long. Median lobe narrowed apically, curved ventrally, with blunt tip. Parameres sinuate in lateral view, widened apically. Internal sac with overlapping rods and finely striate and denticulate apical membranous parts.

DISTRIBUTION: Southeast and south-central Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning complete.

DISCUSSION: This species may be readily distinguished from its congeners, *B. basalis* excepted, by the elytra possessing both, basal and sutural striae. It is also characterized by the blunt apex of the median lobe and the apically widened parameres. It differs notably from *B. basalis* in the much longer sutural striae, the basal striae joined with the lateral striae, and the aedeagal characters.

### *Bertiscapha nana* sp.n.

TYPE MATERIAL: **Holotype** ♂: S-Madagascar, Col de Manangotry b. Ft. Dauphin [= Tolagnaro], lg. Franz [Mg 45: 4.V.1969, 630 m, sifted leaf litter and dead wood in forest] (NHMW).

DESCRIPTION: Length 1.28 mm, width 0.87 mm. Frons and body reddish brown, elytral apices not becoming lighter, apical abdominal segments, femora and tibiae as body, tarsi and antennae yellowish. Pronotum and elytra not microsculptured, very finely punctate. Lateral contours of pronotum and elytra continuously arcuate. Elytra with sutural striae extended apically to reach about mid-length of sutural length, bent laterally at bases, not extended along basal margins and not forming basal striae. Epipleura and supra-epipleura in same plain as metanepisterna, epipleura gradually narrowed apically, supra-epipleura about 1.5 times as wide as epipleura in level of metacoxae, gradually narrowed apically. Hind wings reduced. Hypomera lacking obvious microsculpture, very finely punctate. Posterior part of hypomera more impressed than anterior part. Mesoventrite impressed laterally, with narrow mesal carina. Mesepimera shorter than distance to mesocoxae. Metaventrite not microsculptured, short, in middle weakly convex and very finely punctate, pair of admesal setiferous punctures excepted, with conspicuous sulci at each side of almost glabrous center. Side of metaventrite with long sulciform striae starting at lateral margins of submesocoxal lines and almost reaching posterior margin of metaventrite. Submesocoxal lines conspicuous, oblique mesally. Submesocoxal areas about 0.01 mm long, narrower than shortest distance to metacoxae. Metanepisternal sutures sulcate, straight. Metanepisterna flat, narrowed apically. Tibiae robust, protibiae and mesotibiae straight, metatibiae weakly curved. Ventrites lacking obvious microsculpture, ventrite I densely and finely punctate on basomedian area, sparsely and about as following ventrites very finely punctate on remaining surface. Ventrite I with basal striae; outer striae longer than inner striae, longest striae almost as half of lateral length of ventrite. Ventrites II–V not impressed basally.

Male characters. Protarsomeres I–III slightly widened. Aedeagus (Figs. 47–50) 0.30 mm long. Median lobe abruptly narrowed at apex, moderately inflexed, with blunt tip in dorsal view. Parameres in lateral view bent near bases, straight in apical halves, hardly widened apically. Internal sac with strongly bent sclerite and very finely denticulate membranous parts.

DISTRIBUTION: Southeast Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning pygmy.

DISCUSSION: This species may be readily distinguished from its congeners by its small body size.



*Scaphobaeocera* CSIKI, 1909

The genus comprises 109 East Palaearctic, Oriental, Australian, Pacific and Afrotropical species, with *S. typica* (SCOTT, 1922) from the Seychelles, *S. cacumina* (VINSON, 1943) from Mauritius, and *S. brevipennis* (PIC, 1947), *S. instriata* (PIC, 1955), *S. integra* (REITTER, 1908), and *S. oberthueri* (REITTER, 1881) known from the African continent.

The newly examined Malagasy collections yielded eight species, all new and described below. *Scaphobaeocera typica*, described from the Seychelles, differs from the new species in the elytra having a reddish transverse band, while *S. cacumina* from Mauritius is characterized by a sinuate ventral margin of the apical process of the median lobe, in combination with the parameres almost evenly broad in lateral view. The male characters are unknown from species described from the African continent. However, *S. brevipennis*, *S. integra* and *S. oberthueri* are 1.00–1.15 mm long and thus significantly smaller than their Malagasy congeners (LÖBL & LESCHEN 2010), while *S. instriata* is, according to its description, 2 mm long.

**Key to the Malagasy species of *Scaphobaeocera***

- |   |   |                   |
|---|---|-------------------|
| 1 | Elytra entirely microsculptured .....   | 2                 |
| – | Elytra not microsculptured, or with distinct microsculpture limited to apical areas .....                           | 4                 |
| 2 | Antennomere VII less than twice as long as antennomere VIII .....   | 3                 |
| – | Antennomere VII more than twice as long as antennomere VIII .....   | <i>mirza</i>      |
| 3 | Pronotum not microsculptured. Flagellum sinuate, forming single loop, not convoluted.....                           | <i>asity</i>      |
| – | Pronotum microsculptured. Flagellum convoluted.....   | <i>avahi</i>      |
| 4 | Flagellum spiral or convoluted .....  | 5                 |
| – | Flagellum not spiral or convoluted .....  | 7                 |
| 5 | Parameres in lateral view narrowed apically, with narrow and blunt apices .....                                     | <i>bulirschii</i> |
| – | Parameres widened or parallel-sided apically, with broadly rounded apical margins.....                              | 6                 |
| 6 | Parameres distinctly longer than basal bulb of median lobe, near apices almost parallel-sided in lateral view ..... | <i>iviei</i>      |
| – | Parameres shorter than basal bulb of median lobe, near apices rounded in lateral view .....                         | <i>coua</i>       |
| 7 | Antennomere VII about 2.5 times as long as antennomere VI. Basal section of flagellum hook-like.....                | <i>varecia</i>    |
| – | Antennomere VII less than twice as long as antennomere VI. Basal section of flagellum incurved, not hook-like.....  | <i>angulata</i>   |

*Scaphobaeocera angulata* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar res. Perinet near Andasibe, 960 m, prim. for. 21.xi.89, B. Hauser, soil litter (MHNG).

DESCRIPTION: Length 1.48 mm, width 0.79 mm, dorsoventral diameter 0.85 mm. Frons and most of body dark blackish brown, apical abdominal segment lighter reddish brown. Femora and tibiae reddish brown, tarsi and antennomeres I–IV yellowish, following antennomeres light brown. Length/width ratios of antennomeres: III 20/7: IV 22/7: V 30/67: VI 23/8: VII 44/12: VIII 22/10: IX 43/13: X 42/13: XI 50/15. Body not iridescent. Pronotum not microsculptured, with fine punctation hardly visible at 30 times magnification. Tip of scutellum exposed. Elytra not microsculptured, with sutural striae starting at basal margin at each side of pronotal lobe, parasutural striae absent, discal punctation about as fine as pronotal punctation. Ventral side of thorax not microsculptured. Hypomera lacking stria separating upper oblique section. Median

part of metaventrite convex, lacking stria, distinctly punctate at each side and posterior smooth centre, with punctures smaller than puncture intervals. Submesocoxal lines convex, with fine, not elongate punctures; submesocoxal areas about 0.04 mm long, as fourth of shortest distance to metacoxae. Lateral parts of metaventrite and mesanepisterna sparsely, very finely punctate. Metanepisterna flat, about 0.05 mm wide, slightly narrowed anteriorly, with straight sutures. Tibiae straight. Abdomen with strigulate microsculpture.

Male characters. Protarsomeres I–III distinctly enlarged, I slightly narrower than apices of protibiae. Aedeagus (Figs. 51–52) 0.67 mm long, weakly sclerotized. Median lobe with apical process about as long as basal bulb, obliquely inflexed, ventral side almost straight, slightly bent at tip (lateral view). Articular process not prominent. Parameres as long as apical process, gradually widened apically, near tip abruptly narrowed, forming angulate apical margin, hardly extended beyond level of tip of median lobe. Flagellum weakly sinuate, forming single basal loop.

DISTRIBUTION: East-central Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning angulate.

COMMENTS: This species possesses a unique shape of the parameres. The internal sac forms a single loop resembling that of the North Indian *S. fratercula* LÖBL, 1984. The new species may be readily distinguished from the latter by its smaller body size, the elytra being not microsculptured and the antennomere VIII being half as long as antennomere VII.

### *Scaphobaeocera asity* sp.n.

TYPE MATERIAL: **Holotype** ♂: E Madagascar 24.12.1998 30 km ESE Betroka, 1600–1650 m, Vohitrosa Forest, 3 km NE of summit 1825 m, J. Janák lgt. (MHNG). **Paratypes**: 1 ♀, same data as the holotype (MHNG); 3 ♀♀, same data but 19.–23.12.1998, 1600 m and 2 km ENE of summit (MHNG).

DESCRIPTION: Length 1.23–1.32 mm, width 0.68–0.75 mm, dorsoventral diameter 0.75–0.78 mm. Frons and most of body dark reddish brown to blackish brown, apical abdominal segment lighter reddish brown. Femora and tibiae reddish brown, tarsi and antennomeres I and II yellowish, following antennomeres light brown. Length/width ratios of antennomeres: III 15/6: IV 19/6: V 25/6: VI 23/6: VII 27/10: VIII 18/7: IX 30/14: X 33/17: XI 45/17. Pronotum not microsculptured and not iridescent, with fine punctation visible at 30 times magnification. Tip of scutellum exposed. Elytra with distinct strigulate microsculpture, weakly iridescent, sutural striae starting at basal margin at each side of pronotal lobe, parasutural striae present, very fine, discal punctation about as fine as pronotal punctation. Ventral side of thorax not microsculptured. Hypomera lacking striae separating upper oblique sections. Median part of metaventrite flattened, lacking stria, densely punctate at each side and posterior smooth centre, with punctures smaller than puncture intervals. Submesocoxal lines hardly convex, with few fine, not elongate punctures; submesocoxal areas about 0.03 mm long, as fourth of shortest distance to metacoxae. Lateral parts of metaventrite and mesanepisterna sparsely, distinctly punctate. Metanepisterna flat, about 0.05 mm wide, not narrowed anteriorly, with straight sutures. Tibiae straight. Abdomen with strigulate microsculpture.

Male characters. Protarsomeres I–III distinctly enlarged, narrower than apices of protibiae. Aedeagus (Figs. 53–54) 0.35 mm long, weakly sclerotized. Median lobe with apical process shorter than basal bulb, weakly inflexed, ventral side almost straight, narrowed at blunt tip (lateral view). Articular process not prominent. Parameres longer than apical process, evenly narrow in basal halves, strongly expanded in apical halves, with rounded apical margins (lateral view), extended beyond level of tip of median lobe. Flagellum sinuate, forming single incomplete loop.

DISTRIBUTION: Southeast Madagascar.

ETYMOLOGY: The species epithet refers to the bird family Philepittidae (commonly named asities, singular: asity), endemic to Madagascar.

COMMENTS: The shape of the parameres and the simple flagellum forming a single incomplete loop are diagnostic.

This species may be distinguished from its Malagasy congeners by the presence of microsculptured elytra and also by the antennomere VII being less than two times as long as antennomere VIII, in combination with the pronotum lacking microsculpture.

*Scaphobaeocera avahi* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar No.3006 Ambatofitoharana (MHNG). **Paratypes**: 1 ♂, 4 ♀♀, same data as the holotype (MHNG, MNHN).

DESCRIPTION: Length 1.35–1.55 mm, width 0.71–0.80 mm, dorsoventral diameter 0.76–0.84 mm. Frons and most of body dark brown to blackish brown, ventral side of thorax somewhat lighter than pronotum and elytra, metaventrite and metanepisterna somewhat darker than hypomera, abdomen distinctly lighter, with apical segments reddish brown. Femora and tibiae rather light reddish brown, tarsi and antennae almost yellowish. Length/width ratios of antennomeres: III 15/6: IV 20/6: V 26/7: VI 23/8: VII 31/11: VIII 17/9: IX 31/16: X 37/17: XI 46/18. Pronotum with hardly visible strigulate microsculpture, not iridescent, punctation fine, visible at 30 times magnification. Tip of scutellum exposed. Elytra with distinct strigulate microsculpture, not iridescent, sutural striae starting at basal margin laterad pronotal lobe, parasutural striae present, very fine, discal punctation about as fine as pronotal punctation. Ventral side of thorax not microsculptured. Hypomera each with very fine stria separating upper oblique section, hardly visible in lateral view. Median part of metaventrite flattened, lacking stria, densely punctate, with punctures smaller than puncture intervals. Submesocoxal lines weakly convex, with sparse, fine, not elongate punctures; submesocoxal areas about 0.03 mm long, as fifth of shortest distance to metacoxae. Lateral parts of metaventrite and mesanepisterna sparsely, distinctly punctate. Metanepisterna flat, about 0.05 mm wide, hardly narrowed anteriorly, with sutures slightly curved. Tibiae straight. Abdomen with strigulate microsculpture.

Male characters. Protarsomeres I–III weakly enlarged, much narrower than apices of protibiae. Aedeagus (Figs. 55–56) 0.45 mm long, weakly sclerotized. Median lobe with apical process shorter than basal bulb, weakly inflexed, ventral side almost straight, abruptly narrowed at tip (lateral view). Articular process not prominent. Parameres longer than apical process, evenly narrow in basal thirds, moderately expanded in apical halves, with rounded apical margins (lateral view), extended beyond level of tip of median lobe. Flagellum very narrow, spiral, forming two loops, hardly enlarged basally.

DISTRIBUTION: South-central Madagascar. The type locality is according to CALLMANDER & PHILLIPSON (2018) in Fianarantsoa Province, 20°49'S 47°11'E.

ETYMOLOGY: The species epithet is the name of the woolly lemur, one of the endemic Madagascan lemuroid genera.

COMMENTS: The aedeagal characters suggest relationships with the Asian *S. mussardi* LÖBL, 1971 and *S. variabilis* LÖBL, 1981. The new species differs in the flagellum lacking basal apophyses and the parameres extended beyond the level of the tip of the median process.

*Scaphobaeocera bulirschii* sp.n.

TYPE MATERIAL: **Holotype** ♂: E. Madagascar Ambondrombe 1500–1600 m, env. summit / 1579. camp 6. 25.3.–3.4.2001, P. Bulirsch (MHNG).

DESCRIPTION: Length 1.21 mm, width 0.68 mm, dorsoventral diameter 0.70 mm. Frons, thorax and most of elytra blackish, elytra becoming somewhat lighter apically, abdomen dark brown, with yellowish apical segments, femora dark brown, tibiae light, reddish brown, tarsi yellowish, antennae brown. Length/width ratios of antennomeres: III 16/7: IV 18/6: V 24/7: VI 20/7: VII 34/11: VIII 16/8: IX 34/12: X 38/12: XI 47/14. Pronotum and elytra not microsculptured, both with punctation very fine, hardly visible at 50 times magnification. Point of scutellum exposed. Elytra not iridescent, with sutural striae starting at basal margin at each side of pronotal lobe, parasutural striae absent. Hypomera each with very fine stria separating upper oblique section, hardly visible in lateral view. Metaventrite not microsculptured. Median part of metaventrite slightly convex between mesocoxae, flattened posteriad, lacking stria, with smooth centre, densely and finely punctate laterally and posteriorly smooth area, with punctures as large or smaller than puncture intervals. Submesocoxal lines parallel, with sparse, fine, not elongate punctures; submesocoxal areas about 0.03 mm long, as third of shortest distance to metacoxae. Lateral parts of metaventrite and mesanepisterna sparsely, indistinctly punctate. Metanepisterna flat, about 0.05 mm wide, not narrowed anteriorly, with straight sutures. Tibiae straight. Abdomen with strigulate microsculpture.

Male characters. Protarsomeres I–III weakly enlarged, much narrower than apices of protibiae. Aedeagus (Figs. 57–58) 0.50 mm long, weakly sclerotized. Median lobe with apical process shorter than basal bulb, strongly inflexed, ventral side almost straight, gradually narrowed apically, blunt at tip (lateral view). Articular process not prominent. Parameres longer than apical process, narrow near bases, widened posterior basal thirds, from widest point gradually narrowed toward apices (lateral view), extended beyond level of tip of median lobe. Flagellum simple, very narrow, spiral, forming two loops, slightly enlarged basally.

DISTRIBUTION: South-central Madagascar.

ETYMOLOGY: The species is named after its collector Petr Bulirsch (Praha), a well-known expert of the ground beetle subfamily Scaritinae.

COMMENTS: This new species is probably closely related to *S. avahi*, the shape of the parameres is, however, diagnostic. It may be also readily distinguished from *S. avahi* by the pronotum and the elytra lacking microsculpture.

*Scaphobaeocera coua* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar, Plateau du Tampoketsa lg. H. Franz 1969 [Mg 1: 11.IV.1969, Manonkazo, 1500 m, NNW of Tananarive, Plateau du Tampoketsa d'Ankazobe, sifted dead wood and leaf litter] (NHMW). **Paratypes**: 1 ♀, same data as the holotype (NHMW); 1 ♀, same data but: [Mg 2: Ambohitriangy [not clearly legible], 1646 m] (NHMW); 1 ♂, same data but: [Mg 3: 11.IV.1969, forest station near Manonkazo, sifted bark and leaf litter] (MHNG).

DESCRIPTION: Length 1.23–1.35 mm, width 0.67–0.74 mm, dorsoventral diameter 0.70–0.78 mm. Frons and most of body dark reddish brown, abdomen lighter reddish brown, femora and tibiae reddish brown, tarsi and antennomeres I–V yellowish, antennomeres VI–XI light brown.

Length/width ratios of antennomeres: III 15/7: IV 18/6: V 25/7: VI 20/8: VII 30/12: VIII 18/9: IX 30/14: X 33/14: XI 42/12. Pronotum not microsculptured, with punctation very fine, hardly visible at 30 times magnification. Point of scutellum exposed. Elytra not microsculptured and not iridescent, sutural striae starting at basal margin at each side of pronotal lobe, parasutural striae present, discal punctation somewhat less fine than pronotal punctation. Hypomera without striae

separating upper oblique sections. Metaventrite, mesanepisterna and mesepimera with distinct strigulate microsculpture. Median part of metaventrite convex, flattened posteriad, lacking stria, entirely finely punctate, with punctures mostly smaller than, or about as large as, puncture intervals. Submesocoxal lines convex, with sparse, rather coarse, not elongate punctures; submesocoxal areas about 0.04 mm long, as third of shortest distance to metacoxae. Lateral parts of metaventrite and mesanepisterna very finely, sparsely punctate. Metanepisterna flat, about 0.06 mm wide, not narrowed anteriorly, with straight sutures. Tibiae straight. Abdomen with strigulate microsculpture.

Male characters. Protarsomeres I–III moderately enlarged, narrower than apices of protibiae. Aedeagus (Figs. 59–60) 0.49 mm long, weakly sclerotized. Median lobe with apical process much shorter than basal bulb, rather strongly inflexed, ventral side weakly convex, gradually narrowed toward blunt tip (lateral view). Articular process not prominent. Parameres much longer than apical process, narrow near bases, strongly expanded in apical two thirds, with rounded apical margins (lateral view), reaching well behind level of tip of median lobe. Flagellum very narrow, spiral, forming two loops, enlarged basally (dorsal view).

DISTRIBUTION: North-central Madagascar.

ETYMOLOGY: The species epithet is the name of one of the endemic bird genera of the family Cuculidae.

COMMENTS: The aedeagal characters suggest close relationships with *S. avahi* and *S. bulirschi*. The species may be easily distinguished from *S. avahi* by the elytra lacking microsculpture and from *S. bulirschi* by the shape of the parameres.

### *Scaphobaeocera iviei* sp.n.

TYPE MATERIAL. **Holotype** ♂: Madagascar: 22 km E. Manjakantriana [= Manjakandriana] 18°55.22'S, 47°45.13'E 12NOV1994, riparian M.A. Ivie & D.A. Pollock (MHNG). **Paratypes**: 2 ♀♀, same data as the holotype (MHNG).

DESCRIPTION: Length 1.21–1.24 mm, width 0.67–0.69 mm, dorsoventral diameter 0.68–0.71 mm. Frons and body dark reddish brown, apical abdominal segment lighter, femora light reddish brown, tarsi yellowish, antennae light brown. Length/width ratios of antennomeres: III 16/5: IV 20/5: V 27/5: VI 18/6: VII 36/10: VIII 17/8: IX 37/11: X 37/12: XI 50/13. Pronotum not microsculptured, with punctation very fine, hardly visible at 30 times magnification. Point of scutellum exposed. Elytra not microsculptured and not iridescent, sutural striae starting at basal margin at each side of pronotal lobe, parasutural striae absent, discal punctation about as fine as pronotal punctation. Hypomera without striae separating upper oblique sections. Metaventrite not microsculptured. Lateral parts of metaventrite and mesanepisterna very finely and sparsely punctate. Median part of metaventrite slightly convex, lacking stria, with smooth centre, rather coarsely and densely punctate laterally and posterior smooth area, with punctures partly as large or somewhat smaller than puncture intervals. Submesocoxal lines convex, with sparse, fine, not elongate punctures; submesocoxal areas about 0.03 mm long, as third of shortest distance to metacoxae. Metanepisterna flat, about 0.07 mm wide, not or slightly narrowed anteriorly, with straight sutures. Tibiae straight. Abdomen lacking obvious microsculpture.

Male characters. Protarsomeres I–III weakly enlarged, much narrower than apices of protibiae. Aedeagus (Figs. 61–62) 0.35 mm long, weakly sclerotized. Median lobe with apical process about as long as basal bulb, weakly inflexed, ventral side weakly convex, from mid-length narrowed toward blunt tip (lateral view). Articular process not prominent. Parameres much longer than apical process, distinctly shorter than median lobe, rather wide near bases, moderately expanded toward apical thirds, from widest point somewhat narrowed apically, with broadly round-

ed apical margins (lateral view), extended well behind level of tip of median lobe. Flagellum very narrow, spiral, forming two or three loops, enlarged at proximal end (dorsal view).

DISTRIBUTION: East-central Madagascar.

ETYMOLOGY: The species is named in honour of one of its collectors, Michael A. Ivie (Bozeman, Montana, USA).

COMMENTS: The single available male has the internal sac extruded. Thus, the shape of the flagellum in resting position is unknown. However, the species may be readily distinguished from its Malagasy congeners by the shape of the parameres.

### *Scaphobaeocera mirza* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar Est 1100–1200 m Massif Ambondrombe J. Janák + P. Moravec / Ikoka env. 9.–10.3.1996 forêt humide, tamisages crête Amboasa, camp 1 (MHNG). **Paratypes**: 2 ♀♀, same data as the holotype (MHNG).

DESCRIPTION: Length 1.35–1.45 mm, width 0.74–0.78 mm, dorsoventral diameter 0.78–0.80 mm. Frons, pronotum and elytra very dark brown to blackish. Most of ventral side of thorax dark reddish brown or blackish, mesoventrite lighter reddish brown, abdomen reddish brown lighter than metaventrite, with yellowish apical segments, femora reddish brown, tibiae, tarsi and antennae yellowish. Length/width ratios of antennomeres: III 10/6: IV 15/7: V 23/7: VI 16/9: VII 40/16: VIII 15/12: IX 43/15: X 45/16: XI 46/19. Pronotum not microsculptured, with punctation very fine, hardly visible at 30 times magnification. Point of scutellum exposed. Elytra with hardly distinct strigulate microsculpture, not iridescent, sutural striae starting at basal margin at each side of pronotal lobe, parasutural striae present, very fine, discal punctation about as fine as pronotal punctation. Hypomera each with distinct, well visible stria separating upper oblique section. Mesanepisterna sparsely, indistinctly punctate. Lateral parts of metaventrite with hardly visible strigulate microsculpture, very finely and sparsely punctate. Median part of metaventrite slightly convex, lacking stria, with smooth centre, rather coarsely and densely punctate laterally and posteriorly smooth area, with punctures partly as large or somewhat smaller than puncture intervals. Submesocoxal lines parallel, with sparse, fine, not elongate punctures; submesocoxal areas about 0.03 mm long, as fourth of shortest distance to metacoxae. Metanepisterna flat, about 0.04 mm wide, not narrowed anteriorly, with straight sutures. Tibiae straight. Abdomen with strigulate microsculpture, hardly visible on ventrite I.

Male characters. Protarsomeres I–III weakly enlarged, narrower than apices of protibiae. Aedeagus (Figs. 63–64) 0.41 mm long, weakly sclerotized. Median lobe with apical process much shorter than basal bulb, weakly inflexed, ventral side weakly convex, gradually narrowed toward blunt tip (lateral view). Articular process not prominent. Parameres much longer than apical process, shorter than median lobe, narrow near bases, weakly expanded in apical third, with broadly rounded apical margins (lateral view), reaching behind level of tip of median lobe. Flagellum very narrow, spiral, forming two loops, bulbous at proximal end.

DISTRIBUTION: Southeast Madagascar.

ETYMOLOGY: The species epithet is the generic name of the giant mouse lemurs, one of the endemic Madagascan lemuroid genera.

COMMENTS: The aedeagal characters suggest relationships with *S. avahi*, *S. bulirschii* and *S. coua*. This new species is distinguished from them by the narrow parameres and the bulbous structure at the proximal end of the flagellum.

*Scaphobaeocera varecia* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar C. 1200–1300m 22.3.1996, 4 km au nord d'Ambohimahasina / Rég. Fianarantsoa forêt humide, tamisages J. Janák + P. Moravec (MHNG). **Paratypes**: 1 ♂, 1 ♀, same data as the holotype (MHNG).

DESCRIPTION: Length 1.35–150 mm, width 0.83–0.87 mm, dorsoventral diameter 0.88–0.90 mm. Frons and most of body dark reddish brown, femora and tibiae light reddish brown, apical abdominal segments, tarsi and antennae light brown to yellowish, ventral side of thorax slightly lighter than pronotum and elytra, abdomen reddish brown, lighter than metaventricle, with yellowish apical segments, femora and tibiae reddish brown, tarsi and antennae yellowish. Length/width ratios of antennomeres: III 15/7: IV 22/8: V 28/8: VI 19/10: VII 46/12: VIII 22/11: IX 47/13: X 47/15: XI 55/17. Pronotum not microsculptured, with punctation very fine, hardly visible at 30 times magnification. Point of scutellum exposed. Elytra not microsculptured or with strigulate microsculpture limited on to apical areas, not iridescent, sutural striae starting at basal margin at each side of pronotal lobe, parasutural striae absent, discal punctation about as fine as pronotal punctation. Hypomera without striae separating upper oblique sections. Mesanepisterna sparsely, indistinctly punctate. Median part of metaventricle slightly convex, lacking stria, smooth on prevailing surface, coarsely punctate laterally and posteriorly smooth area, with punctures partly larger than puncture intervals. Lateral parts of metaventricle not microsculptured, very finely and sparsely punctate. Submesocoxal lines parallel, with sparse, fine, not elongate punctures; submesocoxal areas about 0.02 mm long, as sixth of shortest distance to metacoxae. Metanepisterna flat, about 0.06 mm wide, slightly narrowed anteriorly, with straight sutures. Tibiae straight. Ventricle I not microsculptured, following ventrites and exposed tergites with punctulate microsculpture.

Male characters. Protarsomeres I–III distinctly enlarged, I somewhat narrower than apices of protibiae. Aedeagus (Figs. 65–66) 0.74–0.75 mm long, rather strongly sclerotized. Median lobe with apical process shorter than basal bulb, moderately inflexed, ventral side weakly convex, gradually narrowed toward almost acute tip (lateral view). Articular process not prominent. Parameres much longer than apical process, shorter than basal bulb, almost evenly wide in basal halves, expanded in apical halves, with irregularly rounded apical margins (lateral view), extended behind level of tip of median lobe. Flagellum very narrow, bent, not forming loops, with anchor-like proximal end.

DISTRIBUTION: South-central Madagascar.

ETYMOLOGY: The species epithet is the generic name of the ruffed lemurs, one of the endemic Madagascan lemuroids.

COMMENTS: This species is unique in having an anchor-like basal part of the flagellum. Several Asian congeners, such as *S. timida* LÖBL, 1984 and *S. dispar* LÖBL, 1980, possess a flagellum expanded proximally and are bearing additional sclerotized structures, all of them quite different from *S. varecia*.

The species may be distinguished from other Malagasy species also by the comparatively longer antennomere VII.

*Scaphoxium* LÖBL, 1979

This genus is with 43 currently recognized species distributed in the Afrotropical, Oriental (including the transitional northeastern areas) and Australian regions. Two species, *Scaphoxium heissi* LÖBL, 2010 and *S. prospector* LÖBL, 2010 are known from Madagascar. The studied collections yielded one additional species.

### Key to the Malagasy species of *Scaphoxium*

- 1 Middle of metaventricle not impressed. Parameres each with rounded subapical lobe ... *madecassum*
- Middle of metaventricle impressed. Parameres with subapical lobes not rounded ..... 2
- 2 Parameres with subapical lobes each delimited by shallow notch. Membranous apical section of internal sac with denticulate or spinous structures ..... *prospector*
- Parameres not notched near subapical lobes. Membranous apical section of internal sac without denticulate or spinous structures ..... *heissi*

#### *Scaphoxium madecassum* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar C. 1200–1300 m 22.3.1996, 4 km au nord d’Ambohimahasina / Rég. Fianarantsoa forêt humide, tamisages J. Janák + P. Moravec lgt. (MHNG).

DESCRIPTION: Length 1.62 mm, width 0.81 mm, dorsoventral diameter 0.94 mm. Body very dark brown with reddish shine, femora and tibiae lighter reddish brown, apical abdominal segments, tarsi and antennae yellowish. Length/width ratios of antennomeres: III 20/5: IV 20/5: V 27/6: VI 22/7: VII 37/11: VIII 23/10: IX 38/11: X 33/12: XI 48/11. Pronotal punctation sparse and very fine, hardly visible at 40 × magnification. Scutellum concealed. Elytra with sutural striae shallow, starting about 0.25 mm posterior margin of pronotal lobe, posterior basal fifth of sutural length; adsutural areas flat. Elytral punctation about as fine as pronotal punctation. Mesoventrite smooth, with broad, parallel-sided and shallow mesal impression, lacking wrinkles. Lateral areas of mesoventrite punctate. Metaventricle weakly convex in middle, lacking impression or stria, very finely punctate; punctation dense on apicomedian area, scattered on lateral areas. Lateral areas each with impression delimited by carina. Submesocoxal lines convex, very finely punctate; submesocoxal areas about 0.05 mm long, as long as half of shortest distance to metacoxae. Tibiae straight. Abdomen very finely punctate and with punctulate microsculpture.

Male characters. Protarsomeres 1–3 slightly widened. Aedeagus (Figs. 67–69) 0.65 mm long, median lobe with strongly narrowed apical section, tip acute. Parameres widened and lobed subapically, lobes situated at level of tip of median lobe, rounded. Apical sections of parameres abruptly narrowed, oblique, hardly sinuate. Internal sac consisting of a flat rod strongly sclerotized laterally and finely denticulate at distal end, followed by short, weakly sclerotized section forming two apical denticles.

DISTRIBUTION: South-central Madagascar.

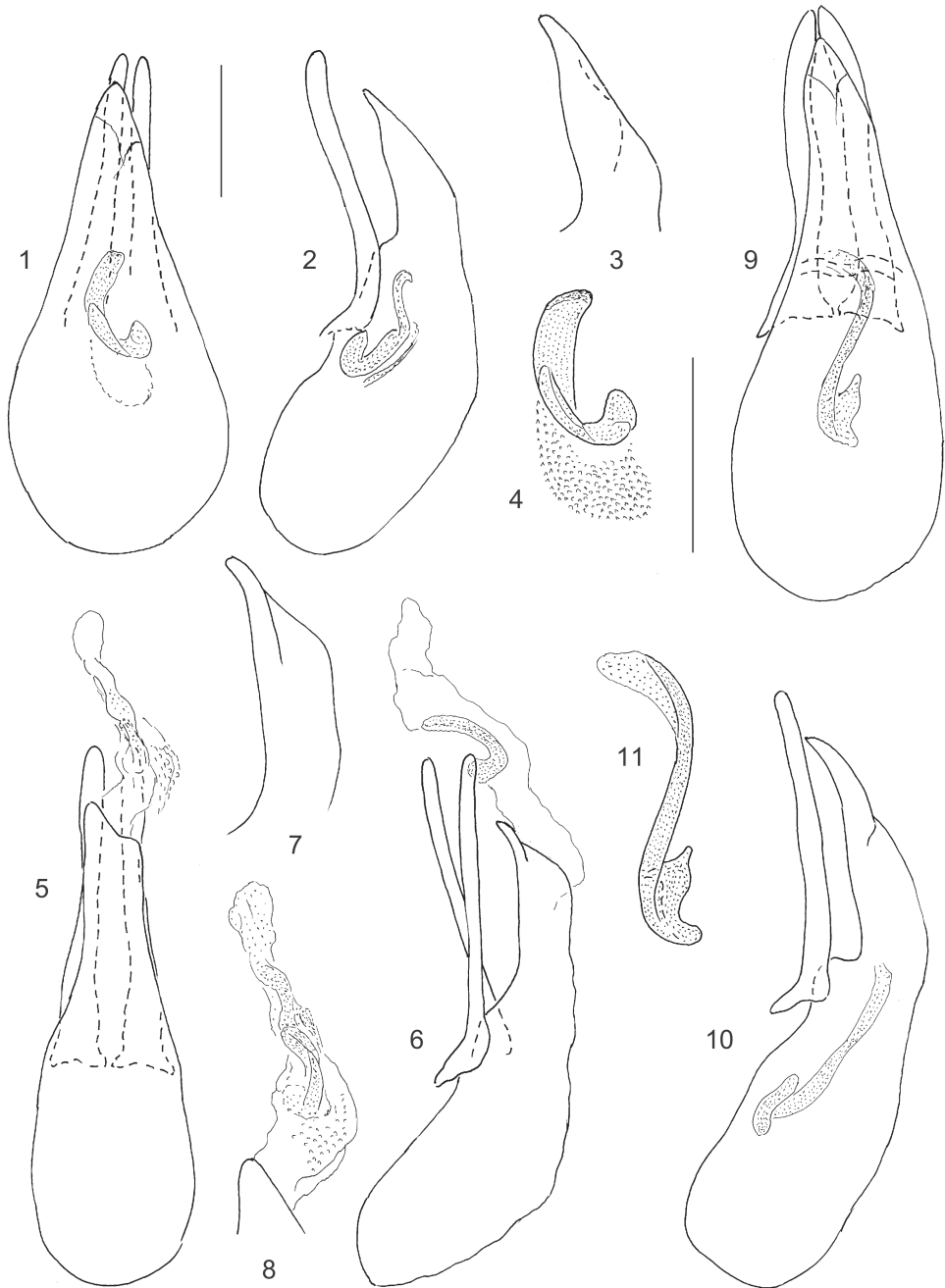
ETYMOLOGY: The species epithet is an adjective derived from the national language of Madagascar.

COMMENTS: This species has the sutural striae of the elytra moderately shortened, starting in the basal third of the sutural length, and the metaventricle is not impressed in the middle.

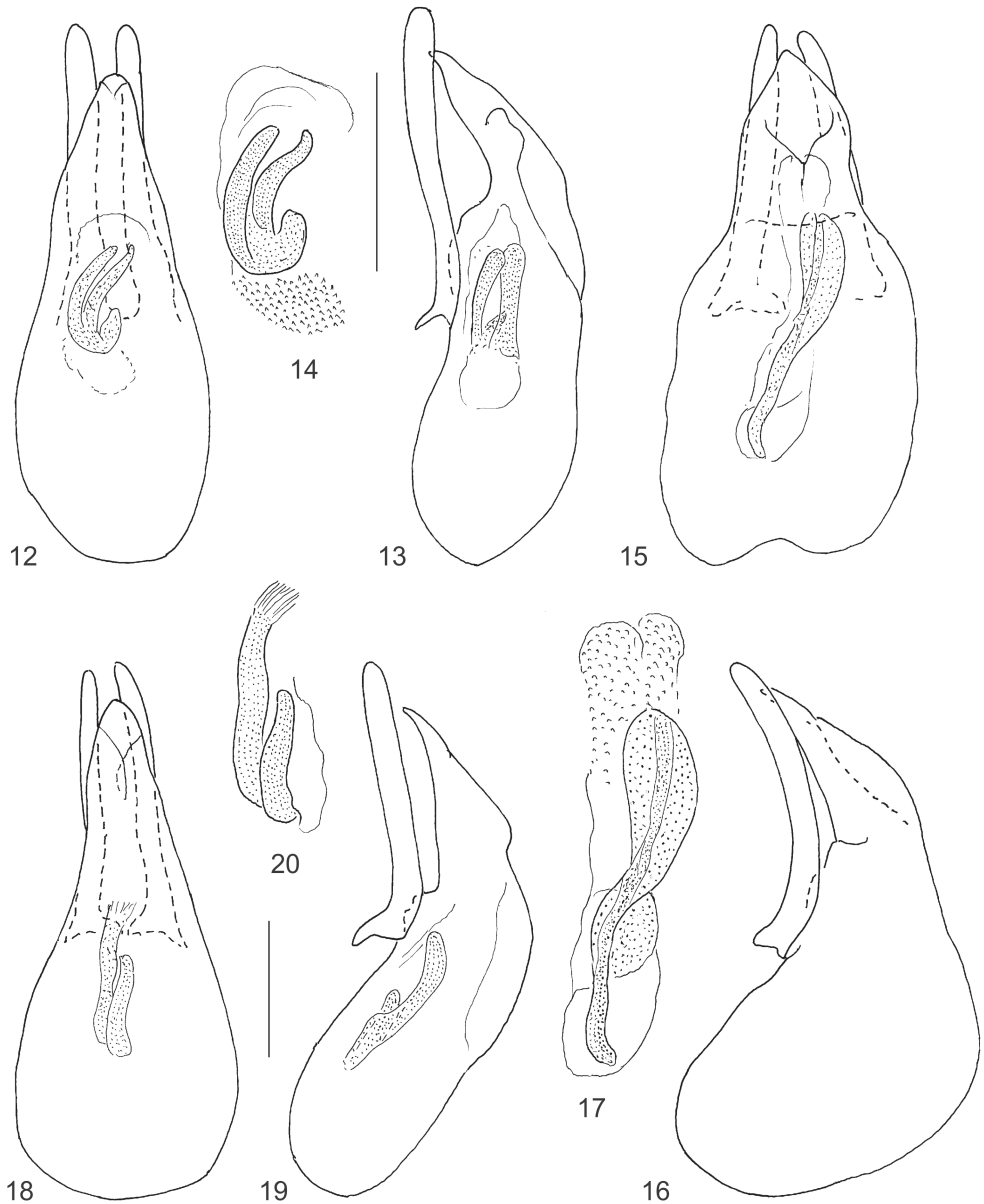
Thus, with these two characters it would fall in the key to the African and Malagasy species (LÖBL 2010) under the couplet 3, to *S. leleupi* (PIC, 1954). However, it may be readily distinguished from *S. leleupi* by the parameres having a subapical rounded lobe and by the internal sac bearing a long rod and lacking short apical sclerites.

The shape of the rod is unique within the genus.

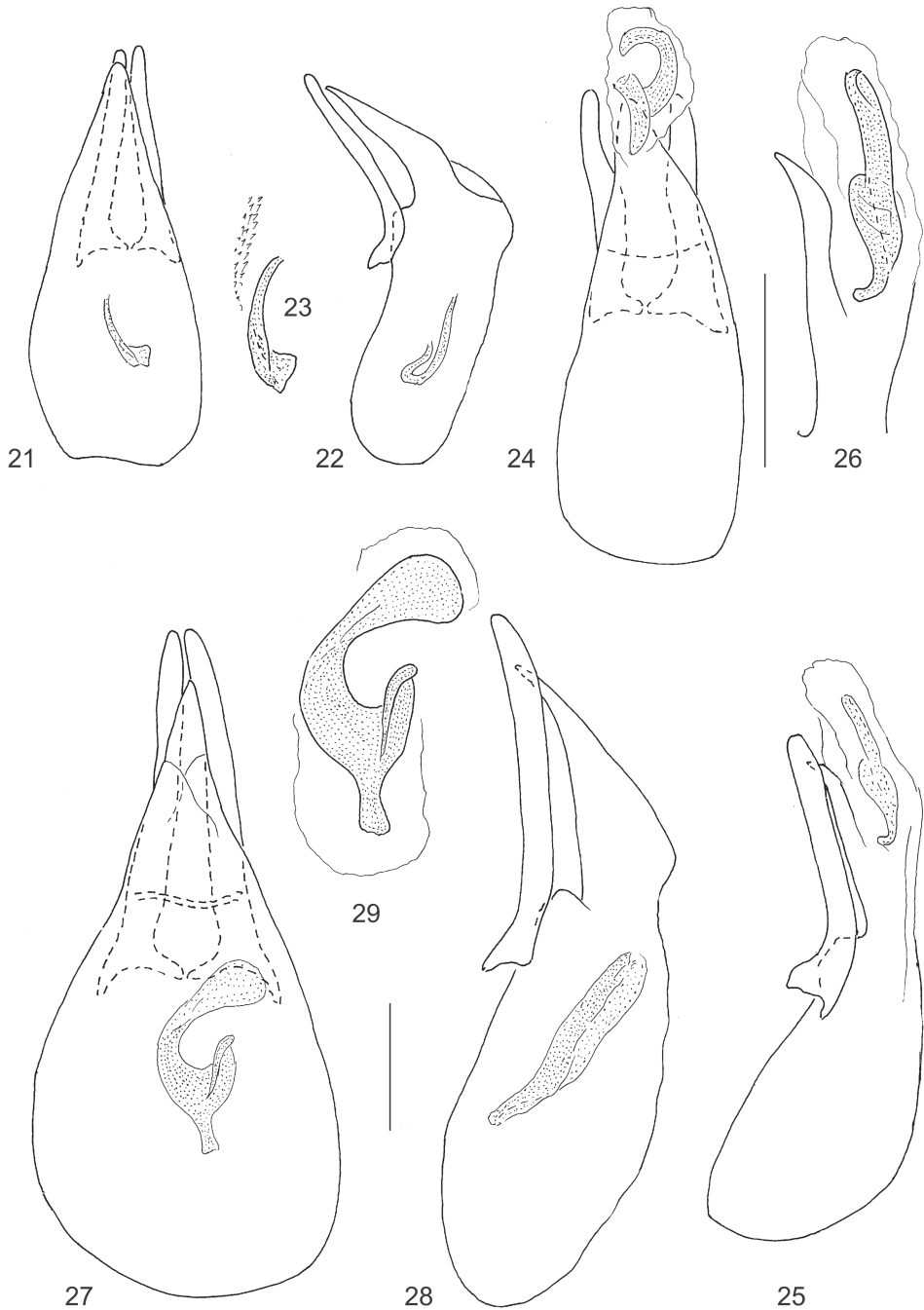




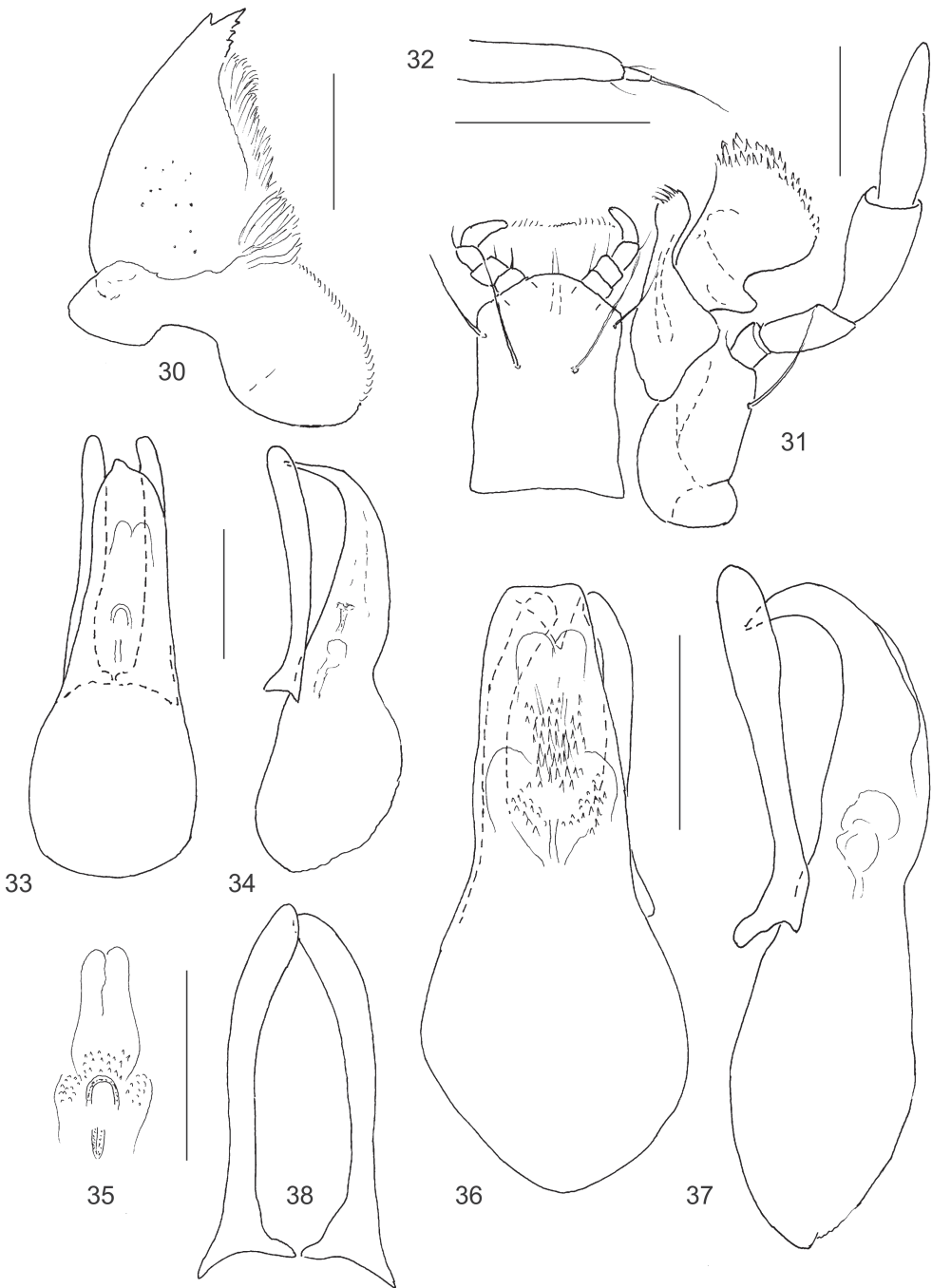
Figs. 1–11: *Baeocera*, aedeagi; 1–2) *B. comes*, dorsal and lateral views; 3) ditto, apical process of median lobe, lateral view; 4) ditto, internal sac, dorsal view; 5–6) *B. conferta*, dorsal and lateral views; 7) ditto, apical process of median lobe, lateral view; 8) ditto, internal sac, dorsal view; 9–10) *B. confinis*, dorsal and lateral views; 11) ditto, internal sac, dorsal view. Scale bars = 0.1 mm (a: Figs. 1–2, 5–6, 9–10; b: Figs. 3–4, 7–8, 11).



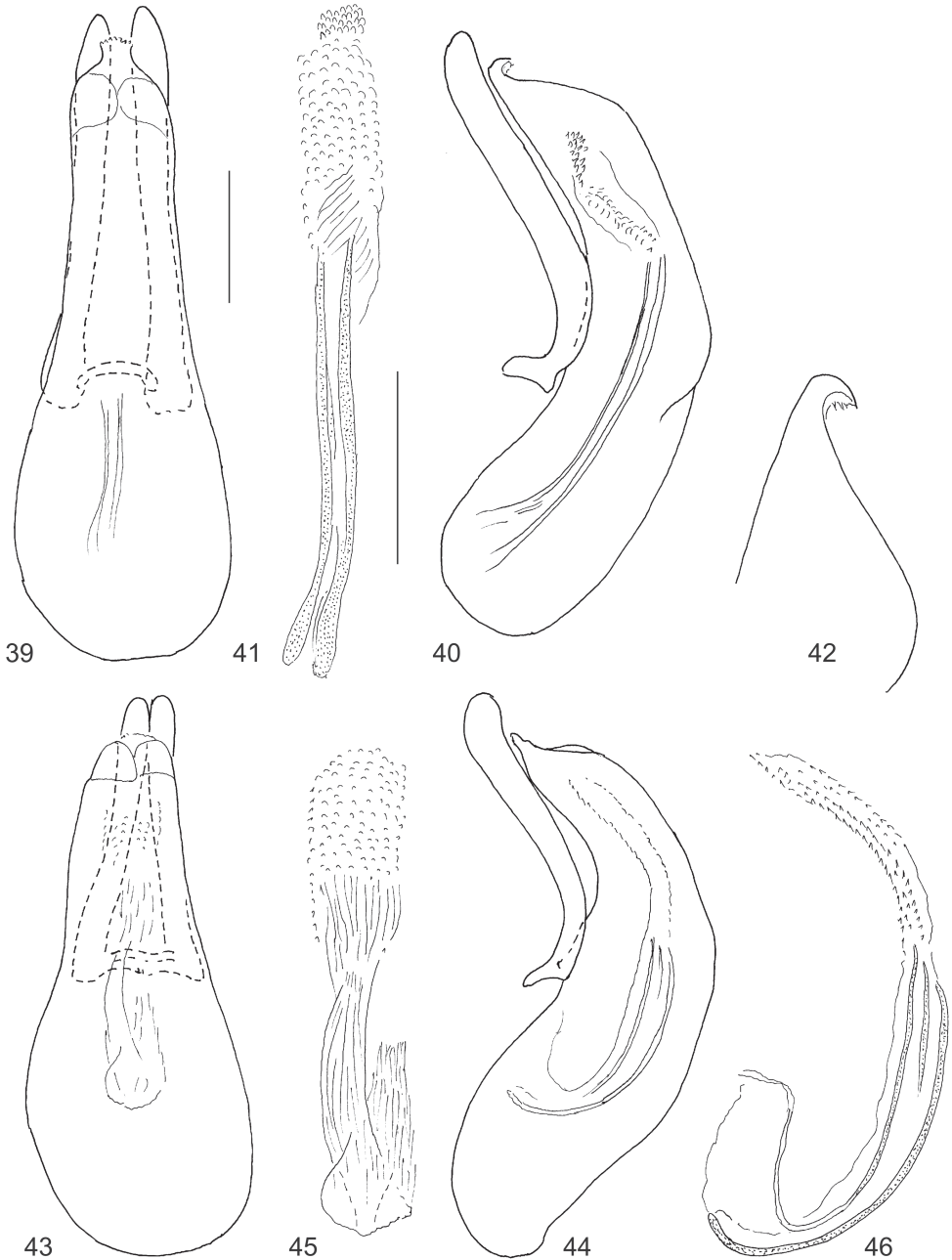
Figs. 12–20: *Baeocera*, aedeagi; 12–13) *B. conformis*, dorsal and lateral views; 14) ditto, internal sac, dorsal view; 15–16) *B. congrua*, dorsal and lateral views; 17) ditto, internal sac, dorsal view; 18–19) *B. consona*, dorsal and lateral views; 20) ditto, internal sac, dorsal view. Scale bars = 0.1 mm (a: Figs 12–13, 15–16, 18–19; b: Figs. 14, 17, 20).



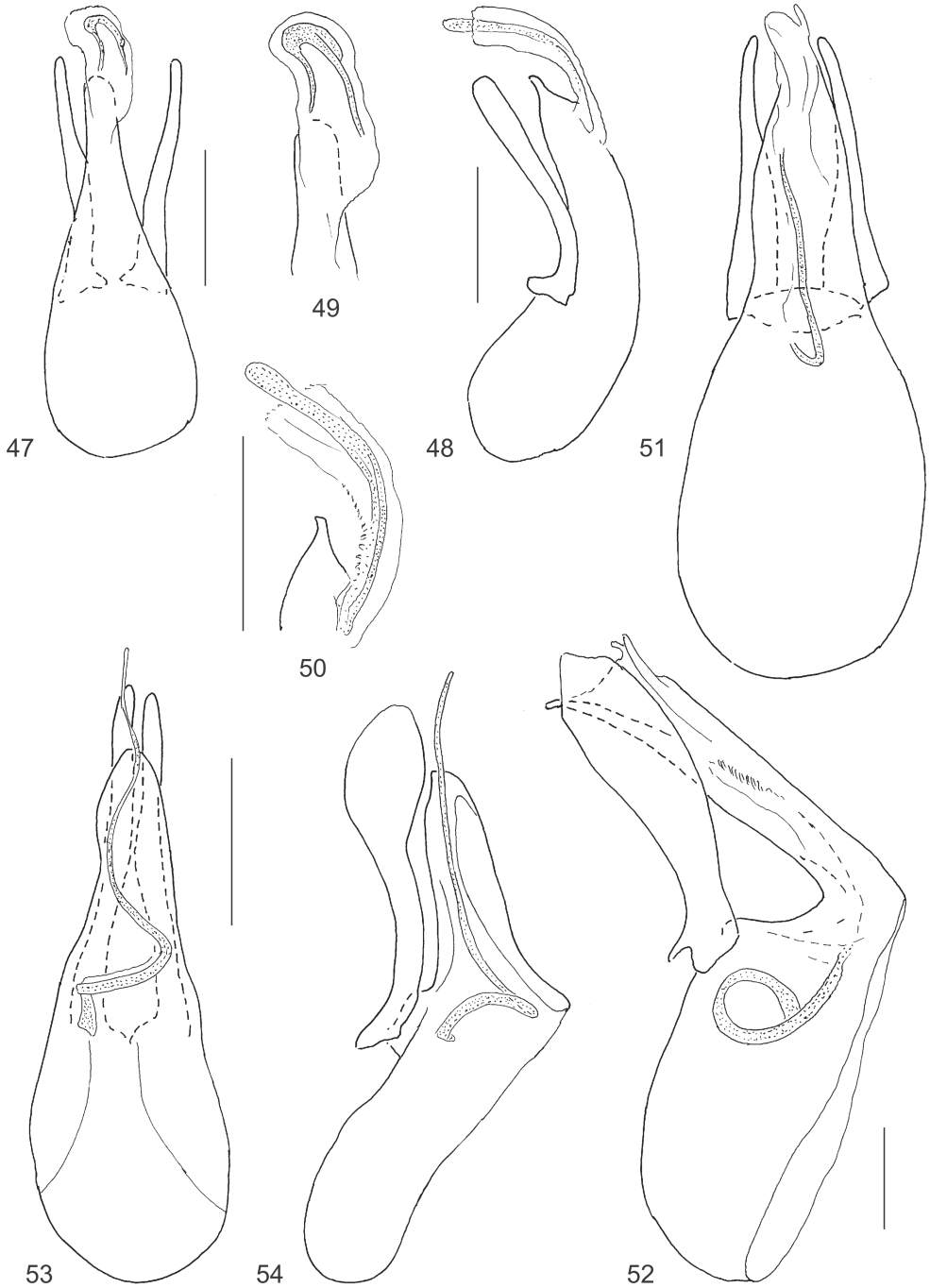
Figs. 21–29: *Baeocera*, aedeagi; 21–22) *B. consobrina*, dorsal and lateral views; 23) ditto, internal sac, dorsal view; 24–25) *B. consors*, dorsal and lateral views; 26) ditto, apical process of median lobe, lateral view; 27–28) *B. consulta*, dorsal and lateral views; 29) ditto, internal sac, dorsal view. Scale bars = 0.1 mm (a: Figs. 21–22, 24–25, 27, 28; b: Figs. 23, 26, 29).



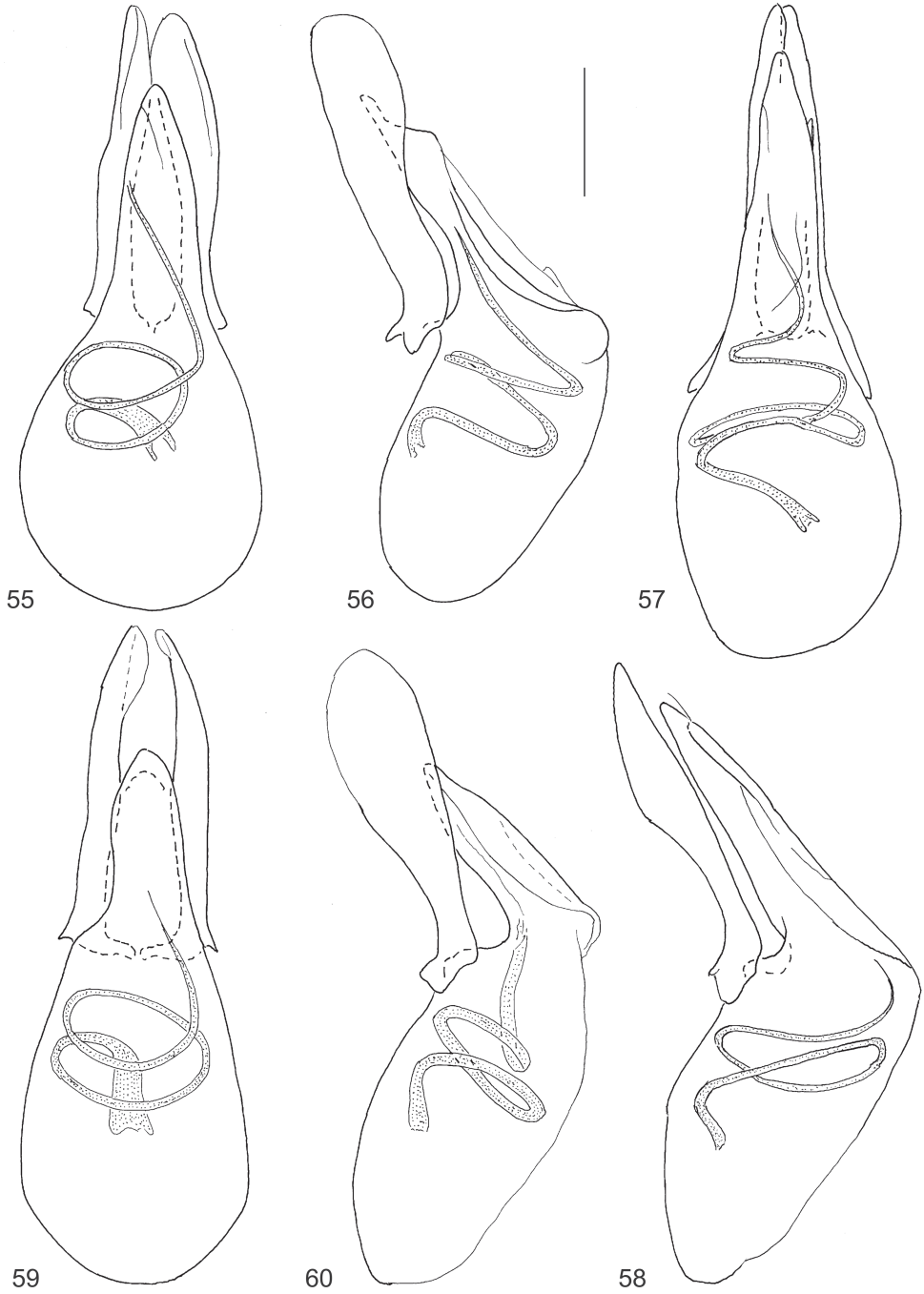
Figs. 30–38: *Baeoceroides*; 30) *B. conspectus*, mandible; 31) ditto, maxilla and labium; 32) ditto, gonocoxite; 33–34) ditto, aedeagus in dorsal and lateral views; 35) ditto, internal sac, dorsal view; 36–37) *B. incompletus*, aedeagus in dorsal and lateral views; 38) ditto, parameres, ventral view. Scale bars: 0.05 mm (Figs. 30–31), 0.1 mm (Figs. 32–38).



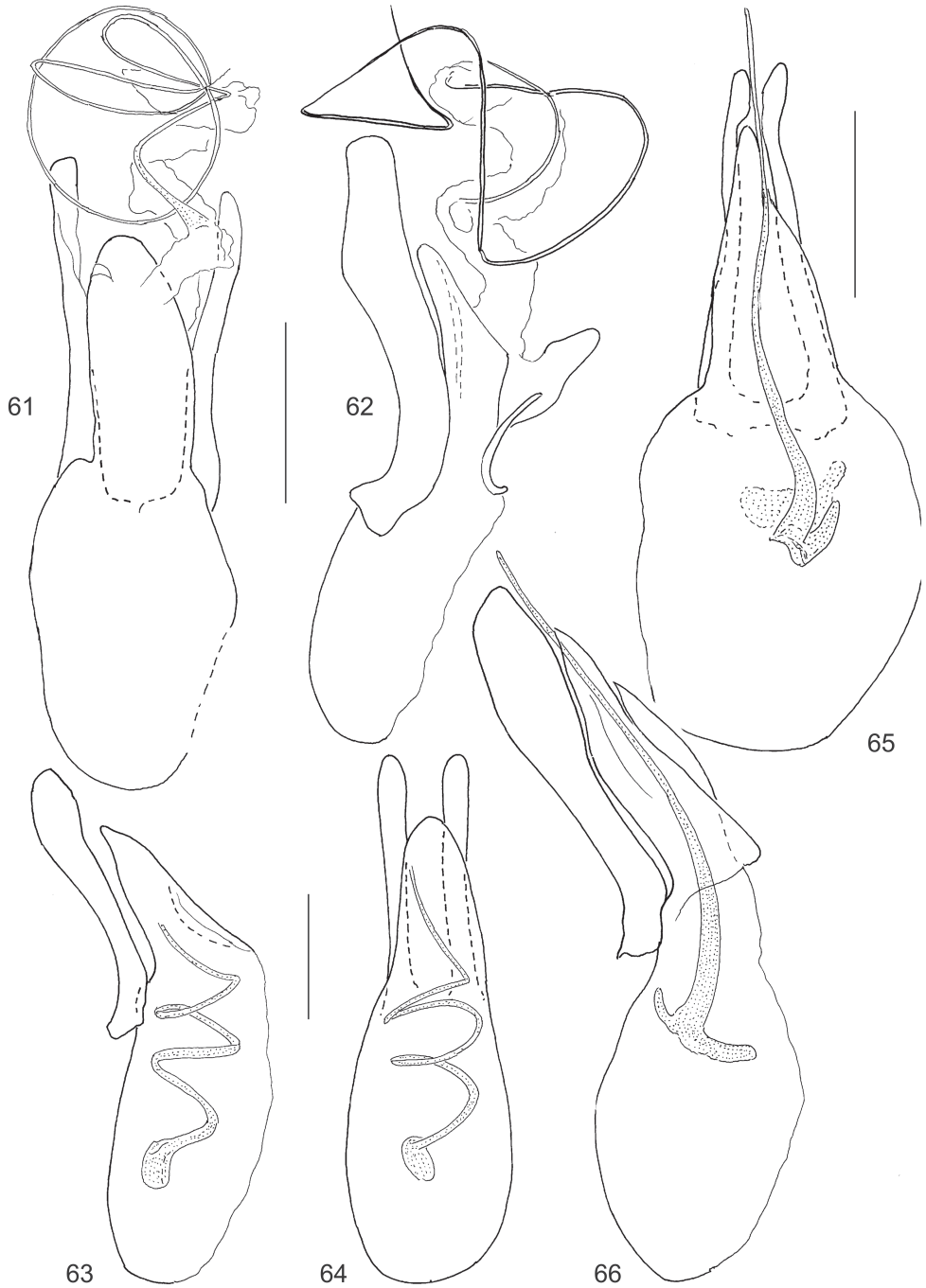
Figs. 39–46: *Bertiscapha*, aedeagi; 39–40) *B. basalis*, dorsal and lateral views; 41) ditto, internal sac, dorsal view; 42) ditto, apical part on median lobe, lateral view; 43–44) *B. completa*, dorsal and lateral views; 45–46) ditto, internal sac, dorsal and lateral views. Scale bars = 0.1 mm (a: Figs. 39–40, 43–44; b: Figs. 41–42, 45–46).



Figs. 47–54: *Bertiscapha* and *Scaphobaecocera*, aedeagi; 47–48) *B. nana*, dorsal and lateral views; 49–50) ditto, apical part on median lobe, dorsal and lateral views; 51, 52) *S. angulata*, dorsal and lateral views; 53–54) *S. asity*, dorsal and lateral views. Scale bars = 0.1 mm.

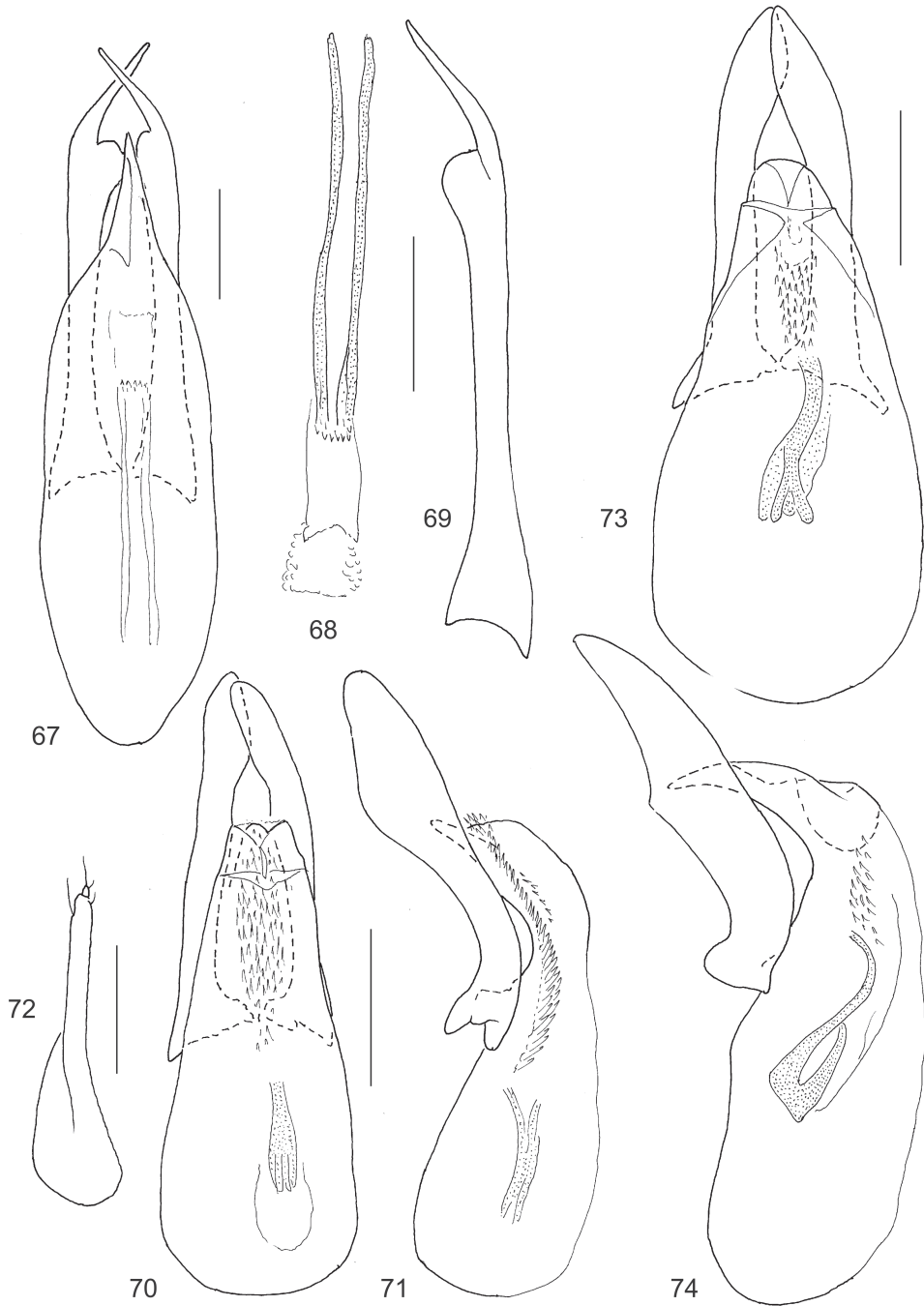


Figs. 55–60: *Scaphobaeocera*, aedeagi; 55–56) *S. avahi*, dorsal and lateral views; 57–58) *S. bulirschi*, dorsal and lateral views; 59–60) *S. coua*, dorsal and lateral views. Scale bar = 0.1 mm.

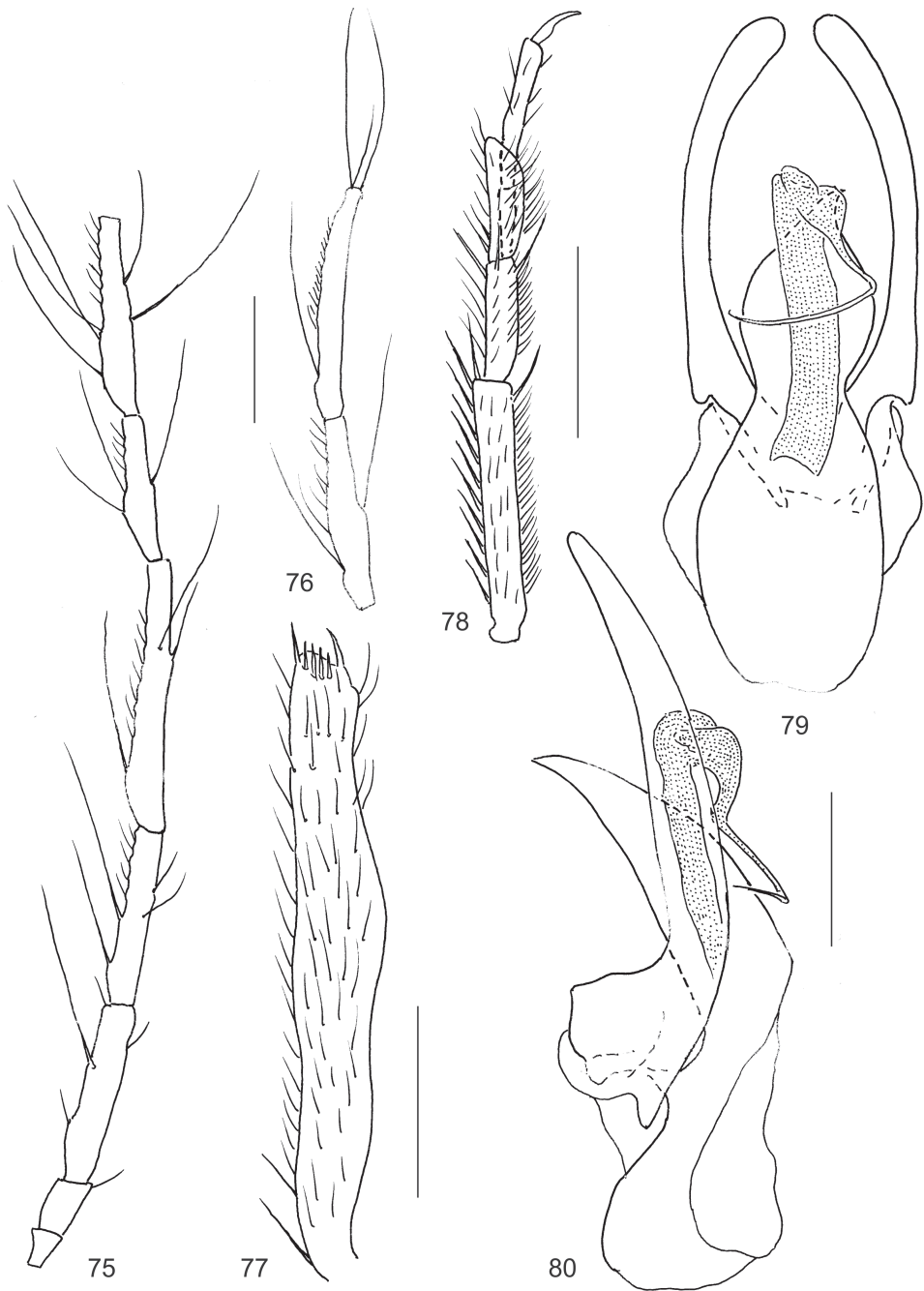


Figs. 61–66: *Scaphobaocera*, aedeagi; 61–62) *S. iviei*, dorsal and lateral views; 63–64) *S. mirza*, dorsal and lateral views; 65–66) *S. varecia*, dorsal and lateral views. Scale bars: 0.1 mm (Figs. 61–64), 0.2 mm (Figs. 65–66).





Figs. 67–74: Aedeagi and gonocoxite; 67–69) *Scaphoxium madecassum*, 67) aedeagus in dorsal view, 68) ditto, internal sac; 69) ditto, paramere; 70–71) *Xotidium apicale*, aedeagus in dorsal and lateral views; 72) ditto, gonocoxite; 73–74) *X. medium*, aedeagus in dorsal and lateral views. Scale bars = 0.1 mm.



Figs. 75–80: *Vituratella perrieri*; 75–76) antennomeres 75) III–IX, and 76) X–XI; 77) mesotibia; 78) mesotarsus, lateral view; 79–80) aedeagus in dorsal and lateral views, internal sac extruded. Scale bars: 0.1 mm (Figs. 75–76), 0.2 mm (Figs. 77–80).

*Xotidium* LÖBL, 1992

The genus was reviewed by OGAWA & LÖBL (2016). It comprises ten Oriental, one Australian, and one Mascarene species. The collections studied yielded two new Malagasy species.

**Key to the Malagasy species of *Xotidium***

- 1 Mesoventrite impressed mesally. Aedeagus with parameres angulate ventrally, internal sac with strongly sinuate sclerite ..... **medium**
- Mesoventrite not impressed mesally, with flat apicomedian area. Aedeagus with parameres not angulate ventrally, internal sac with almost straight sclerite ..... **apicale**

*Xotidium apicale* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar Marojejy N. P. 450 m Camp Mantella 7–15.XI.2015 S. Kurbatov leg. (MHNG). **Paratypes**: 2 ♀ ♀, same data as the holotype (MHNG).

DESCRIPTION: Length 1.40 mm, width 0.74 mm, dorsoventral diameter 0.76 mm. Frons, pronotum, most of elytra and ventral surface of thorax dark reddish brown to blackish brown, apical fourth of elytra light brown, abdomen dark brown with yellowish apical segments, femora and tibiae dark reddish brown, antennae and tarsi yellowish. Length/width ratios of antennomeres: III 25/7: IV 28/7: V 35/7: VI 38/7: VII 45/10: VIII 42/8: IX 45/11: X 40/11: XI 50/14. Pronotal punctation sparse and very fine, hardly visible at 100 × magnification. Apex of scutellum exposed. Elytra with basal striae entire, joined with lateral striae; sutural striae hardly converging apically, punctation irregular, sparse and very fine, mostly more distinct than that of pronotum. Hind wings fully developed. Hypomera, mesoventrite, mesanepisterna and lateral parts of metaventrite smooth. Apicomedian part of metaventrite flat. Submesocoxal lines convex, coarsely punctate, submesocoxal areas about 0.06 mm long, as shortest distance to metacoxae. Metanepisternal sutures deep, slightly curved. Ventrite I with coarse basal punctures, remaining punctation reduced, microsculpture absent; following ventrites with punctulate microsculpture.

Male characters. Protarsomeres 1–3 slightly widened. Aedeagus (Figs. 70–71) 0.53 mm long. Median lobe gradually narrowed in dorsal view, with apical process moderately bent, tip almost blunt in lateral view. Parameres in lateral view widest slightly posterior level of tip of median lobe, broadly rounded at apices. Internal sac with short, almost straight bifurcate sclerite followed by long spinose section.

Female characters. Gonocoxite slightly bent, gonostyle with two short setae (Fig. 72).

DISTRIBUTION: Northeast Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning apical.

COMMENTS: This new species would fall under the couplet 8 (*X. tubuliferum* LÖBL, 2011) in the key to *Xotidium* species (OGAWA & LÖBL 2016). It differs drastically from the latter in the internal sac lacking a flagellum. The structure of the internal sac is similar with that in *X. mauritianum* (VINSON, 1943), while the shape of the median lobe and parameres is quite distinctive, and the basal striae of elytra are absent from *X. mauritianum*, entire in *X. apicale*.

*Xotidium medium* sp.n.

TYPE MATERIAL: **Holotype** ♂: Madagascar C. 1200–1300 m 22.3.1996, 4 km au nord d'Ambohimahasina / Rég. Fianarantsoa forêt humide, tamisages J. Janák + P. Moravec lgt. (MHNG). **Paratypes**: 1 ♂, same data as the holotype (MHNG); 1 ♀, same data but 1300–1400 m, RN 7, pk 344, 21–23.3.1996 (MHNG); 1 ♂, Madagascar 29,12.1998 38 km ESE of Betroka, 1400 m Kalambatritra Forest, 3 km SSE of Ambaro, J. Janák lgt. (MHNG).

DESCRIPTION: Length 1.54–1.57 mm, width 0.82–0.4 mm, dorsoventral diameter 0.82–0.88 mm. Frons and most of body dark reddish brown, elytra at apical margins narrowly lighter, apical abdominal segments yellowish, femora and tibiae reddish brown, antennae and tarsi yellowish. Length/width ratios of antennomeres: III 22/7: IV 33/67: V 38/7: VI 38/7: VII 43/10: VIII 37/7: IX 38/10: X 37/12: XI 58/12. Pronotal punctation sparse and very fine, hardly visible at 100 × magnification. Apex of scutellum exposed. Elytra with basal striae entire, joined with lateral striae; sutural striae hardly converging apically, discal punctation irregular, sparse and very fine, to mostly as that of pronotum. Hind wings fully developed. Hypomera, mesanepisterna and lateral parts of metaventricle smooth. Mesoventrite impressed mesally. Apicomedian part of metaventricle flat. Submesocoxal lines convex, coarsely punctate, submesocoxal areas about 0.07 mm long, as or slightly longer than shortest distance to metacoxae. Metanepisternal sutures deep, straight. Ventricle I with coarse, elongate basal punctures, remaining punctation reduced, microsculpture absent; following ventrites with punctulate microsculpture.

Male characters. Protarsomeres 1–3 slightly widened. Aedeagus (Figs. 73–74) 0.46–0.50 mm. Median lobe gradually narrowed in dorsal view, with apical process strongly bent, tip acute in lateral view. Parameres in lateral view widest about at level of tip of median lobe and with angulate ventral margins, narrowed toward apices. Internal sac with rather long, bifurcate and sinuate sclerite (lateral view), almost straight in dorsal view, followed by rather short spinose section.

DISTRIBUTION: Central and southern Madagascar.

ETYMOLOGY: The species epithet is a Latin adjective meaning median.

COMMENTS: This species is very similar to *X. apicale*. It may be distinguished by the impressed mesoventrite and by the aedeagal characters, especially by the conspicuous shape of the parameres and the bifurcate internal sac. These two characters are unique for *X. medium*.

### ***Vituratella* REITTER, 1908**

Members of *Vituratella* are presumably termitophilous, feeding on fungus gardens (LESCHEN & LÖBL 2005). Currently 26 species are known from the Sub-Saharan Africa, two from Madagascar and two from Asia. The descriptions of all Afrotropical species lack relevant information. Therefore, a single specimen, labelled as “type” of *V. perrieri* ACHARD, 1920, is here redescribed. Type specimens from the type locality of *V. perrieri* (baie d’Antongil) and the type specimens of the second Malagasy species, *V. nitida*, are unavailable for me.

### ***Vituratella perrieri* ACHARD, 1920**

MATERIAL EXAMINED: 1 ♂ (NMPC): Novembre / Madagascar Mt. d’Ambre / TYPE [red] / *Vituratella Perrieri* Type [handwritten] J. Achard det. [printed] / Mus. Nat. Prague Inv. 18743.

REDESCRIPTION: Length 2.25 mm, width 1.45 mm. Head and most of body blackish, shining. Apex of abdomen, femora, tibiae and basal tarsomeres dark brown, apical tarsomeres lighter, antennae and mouthparts light, almost yellowish. Vertex finely punctate. Length/width ratios of antennomeres: III 14/10: IV 20/11: V 60/12: VI 55/11: VII 85/12: VIII 47/10: IX 65/12: X 60/12: XI 70/9 (Figs. 75–76). Pronotum with evenly rounded lateral margins, lateral margin carinae visible in dorsal view, punctation very dense, well visible at 15 times magnification, punctures sharply delimited, usually smaller than puncture intervals, partly arranged to form undulate lines. Pronotal pubescence inconspicuous. Tip of scutellum exposed. Elytra weakly narrowed apically, with almost evenly rounded lateral margins, widest anterior mid-length, lateral margin carinae conspicuous, entirely visible in dorsal view; apical margins rounded, inner

apical angles situated about in level with outer angles, apical crenulation fine, distinct; sutural striae starting at each side of scutellum at margin of pronotal lobe, parallel in anterior two thirds, converging in apical third. Discal punctation almost rasp-like, very dense, coarser than on pronotum, puncture intervals mostly about as large to twice as large as puncture diameters; punctation on adsutural areas finer than on disc, irregular and dense. Elytral pubescence about 0.04–0.05 mm long (to large part swept off). Hypomera finely punctate. Mesoventrite, mesanepisterna, metaventrite, metanepisterna and ventrites densely and rather coarsely punctate. Mesepimera about four times as long as wide and slightly longer than half of distance to mesocoxae. Metaventrite with sulcate median impression; mesocoxal lines convex, mesocoxal areas 0.03 mm, about as seventh of distance to metacoxae. Metanepisterna narrowed anteriorly. Profemora and metafemora straight, mesofemora bent. Tibiae straight, inner side of mesotibiae swollen (Fig. 77). Protarsomeres and mesotarsomeres III lobed, overlapping tarsomeres IV (Fig. 78). Exposed tergites with short strigulate microsculpture, punctation similar to that on elytral disc but not rasp-like, pubescence recumbent. Ventrite I with distinct strigulate microsculpture, metacoxal lines convex, metacoxal areas 0.07 mm, somewhat shorter than half of distance to apical margin.

Male characters. Tarsomeres I–III of forelegs and middle legs strongly widened, about as wide as apices of tibiae. Aedeagus (Figs. 79–80) 0.86 mm long. Median lobe with apical process obliquely inflexed in lateral view, with convex margins and broadest in middle part in dorsal view, and acute tip. Parameres weakly widened and bent in apical section. Internal sac strongly sclerotized, with robust rod abruptly bent at apex and extended by narrow flagellum.

DISTRIBUTION: North Madagascar.

COMMENTS: According to their descriptions, *Vituratella perrieri* and *V. nitida* (described as *Antongilium nitidum*) were collected at the baie d'Antongil, and they are hardly distinguishable. ACHARD (1920) was issued on November 22, 1920 while PIC (1920) was published a few days later, on December 2. However, the locality of the specimen examined (Mt. d'Ambre) lies about 300 km NNE of the type locality. The specimen may have been labelled after the original publication, or ACHARD (1920) has forgotten to add this locality to the description (“baie d'Antongil” is the only locality mentioned in the original description). Therefore, the type status of this specimen cannot be clarified at the moment.

### Acknowledgements

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