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On Taiwanese species of *Baeocera* Erichson (Coleoptera: Staphylinidae: Scaphidiinae)

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Ivan Löbl (2012) On Taiwanese species of *Baeocera* Erichson (Coleoptera: Staphylinidae: Scaphidiinae). *Zoological Studies* **51**(1): 118-130. The rove beetle subfamily Scaphidiinae of Taiwan is still inadequately studied. The present paper provides a review of Taiwanese members of *Baeocera* Erichson, which is one of the more species-rich genera of this group. While only 5 species were previously reported from Taiwan, 15 species are recognized at present: *B. alesi* sp. nov., *B. aliena* sp. nov., *B. alishana* sp. nov., *B. anchorifera* sp. nov., *B. lindae* sp. nov., and *B. mutata* sp. nov. are described as new and illustrated. *Baeocera caliginosa*, *B. cooteri*, *B. longicornis*, and *B. takizawai* are reported for the 1st time from Taiwan. A key to the Taiwanese species of *Baeocera* is provided. http://zoolstud.sinica.edu.tw/Journals/51.1/118.pdf

Key words: Coleoptera, Staphylinidae, Scaphidiinae, *Baeocera*, Taiwan.

While many data on Taiwanese phytophagous beetles are available (Lee et al. 2011), knowledge of the taxa associated with fungi remains inadequate. The Scaphidiinae is one of the more species-rich subfamilies of rove beetles which feed on fungi and myxomycetes. Miwa and Mitono (1944) gave an overview of the Japanese and Taiwanese species, but as far as the Scaphisomatini is concerned, they seem to have used data previously published by Achard (1923), and just added a description of 1 new species which they erroneously placed in *Toxidium* LeConte, 1860. The latest taxonomic account of the Taiwanese Scaphisomatini was given by Löbl (1980). It was based on a study of the type material of previously described taxa, on additional collections made by H. Sauter at the beginning of the 20th century, and on a few more-recent collections mainly made by T. Kano, J. and S. Klapperich, T. Nakane, and Y. Yano. These collections included 5 species of the genus *Baeocera* Erichson, 1845. As members of *Baeocera* are common in leaf litter and other vegetation debris in Asian subtropical and tropical forests, the number of Taiwanese species of *Baeocera* so far reported appears low, particularly compared to the 10 species currently known from Japan (Löbl 1984) or e.g., to the 10 species reported from Sri Lanka by Löbl (1971; in fact 11, but one of them, *B. mussardi* Löbl, 1971, was subsequently transferred from *Baeocera* to *Kasibaeocera* Leschen and Löbl, 2005).

The genus *Baeocera* can be readily distinguished from other Scaphisomatini known to occur in Taiwan by the following characters in combination: body not compressed laterally; antennomere III elongate, subcylindrical, and similar to the following segment; apical segment of maxillary palpi aciculate; and hind angles of pronotum prominent apically. A key to the genera of Scaphisomatini is given in Leschen and Löbl (2005).

Recently, I examined collections of Taiwanese Scaphisomatini made by A. Smetana (Ottawa,

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Canada) and S. Vít (Geneva, Switzerland) that contain a number of *Baeocera* extracted from sifted samples of forest litter. This material consisted of 12 species, 6 of which are recognized as new, and four of which are reported for the 1st time from Taiwan.

MATERIALS AND METHODS

The examined material is housed in the Muséum d'histoire naturelle, Geneva, Switzerland (MHNG) and the Taiwan Agricultural Research Institute, Taichung, Taiwan (TARI).

The length of specimens was measured from the anterior pronotal margin to the inner apical angle of the elytra. The body width was measured at the widest point of the elytra. The length and width of the mesepimera and metepisterna refer to their exposed portion. The number of abdominal ventrites is that of freely visible ones. The length of the aedeagus was measured without the eventually extruded part of the internal sac. The aedeagi were cleared in isopropanol and mounted in Canada balsam, on acetate slides fixed on the same pins as the specimens. The aedeagi are "lying on the side", i.e. rotated 90°. Their respective sides as given refer to the morphological sides, with the ostium situated dorsally.

RESULTS

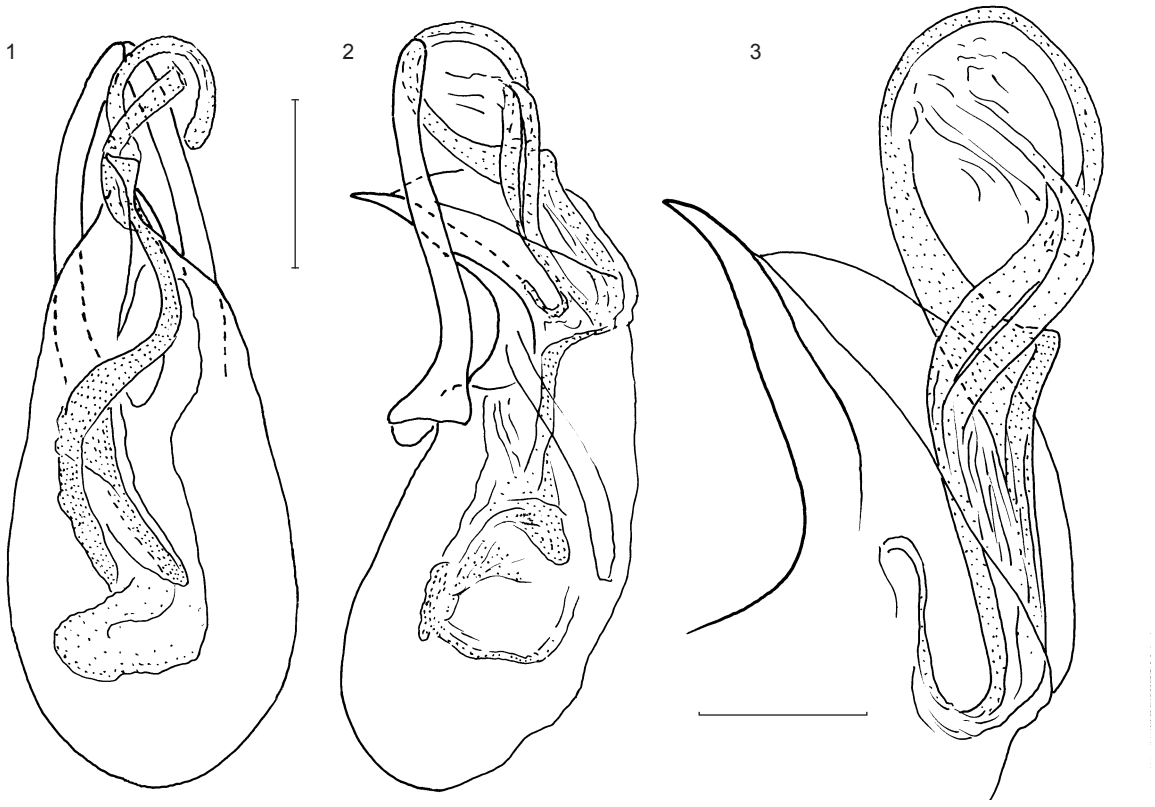
Baeocera alesi Löbl sp. nov.

(Figs. 1-3)

Type material: Holotype ♂: Taiwan: Nantou Co., Meifeng 2310 m, 3 May 1991, A. Smetana [T61] (MHNG). Paratypes: 5 ♂♂, 1 ♀ with same data as for holotype (MHNG, TARI); 2 ♂♂, 1 ♀, with same data but 2130 m [T62] (MHNG); 1 ♀: Hualien Co., Taroko National Park, Nanhushi Hut 2220 m, 12 May 1990, A. Smetana [T54] (MHNG).

Etymology: The species is named in honor of my friend and the collector of this and many other new species, Aleš Smetana, Ottawa, Canada.

Description: Length 1.85-2.0 mm, width 1.30-1.35 mm. Body very dark, almost black. Apices of



Figs. 1-3. *Baeocera alesi* sp. nov. **1**, **2.** Aedeagus in dorsal and lateral view, scale bar = 0.2 mm. **3.** Apical process of median lobe with extruded part of the internal sac, in lateral view, scale bar = 0.1 mm.

elytra, apex of abdomen, femora, and tibiae rufous, tarsi and antennae lighter, almost yellowish. Body strongly convex dorsally. Eyes comparatively small. Length ratio of antennal segments as III 10: IV 10: V 10: VI 10: VII 12: VIII 8: IX 12: X 11: XI 14. Segments III-VI even, each about 3-times as long as wide. Segment VII almost 3-times as long as wide. Segment VIII slightly narrower than segment VII, twice as long as wide. Segments IX-XI distinctly wider than segment VII, segment IX about twice as long as wide, following segments less than twice as long as wide. Pronotum and elytra with even, very fine, sparse punctation, distinct pubescence, not microsculptured, or elytra with barely visible microsculpturing (even at 100x magnification). Lateral margins of pronotum strongly convex, lateral keels not visible in dorsal view. Lateral margins of pronotum and elytra separately arcuate in dorsal view. Scutellum completely covered by pronotal lobe. Elytra almost reaching tip of abdomen. Elytron without basal stria, with very shallow sutural stria, strongly shortened, starting posterior to basal 1/4 of sutural length. Adsutural area flat. Metathoracic wings completely reduced. Ventral side of body very finely punctate. Hypomera strongly impressed on posterior 3/5. Mesepimera conspicuously large, swollen behind, impressed along anterior margin, about twice as long as wide, narrowly separated from mesocoxa. Posterior margin of mesepisterna strongly arcuate, ridge-like, and not level with mesepimera. Metaventrite very finely and sparsely punctate, except for a few coarse admesal punctures. Submesocoxal line arcuate, margined by fine puncture row not extended laterally, nor along section situated between coxae. Submesocoxal area 0.05 mm long, shortest interval between its margin and metacoxa about 0.15 mm. Metepistenum flat, at widest point 0.07-0.08 mm wide, with distinct, sinuate, impunctate suture. Abdominal ventrite 1 with fine submetacoxal puncture rows, punctures not elongate and not separated by wrinkles. Tibiae straight.

Male: Protarsomeres 1-3 strongly widened, almost as wide as apex of protibia. Mesotarsomeres 1 and 2 strongly widened, almost as wide as apex of mesotibia, mesotarsomere 3 weakly widened. Aedeagus as in figures 1-3, 0.92-0.94 mm long. Basal bulb oval, rather strongly sclerotized. Apical process of median lobe strongly sclerotized, slightly asymmetrical in dorsal view, strongly incurved ventrally and tapering. Ostium covered by single, asymmetrical, dorsal plate. Parameres evenly narrow, lacking lobes, sinuate in lateral view, shorter than basal bulb. Internal sac very complex, with robust flagellum and robust flagellar guide-sclerite bifid basally. Basal part of internal sac strongly widened and curved. Extruded part of flagellum and flagellar guide-sclerite complex reaching level of apex of parameres, consisting of 3 flat rods.

Habitat: Old broadleaf forests, in sifted lush vegetation, humus, and various debris around large trees, in debris accumulated at base of an embankment along old forest road, and in little mushrooms, moss, and humus around them on a large fallen tree.

Comments: This and the following 2 species described below are characterized by the hypomera being strongly impressed near the basal margin, the large mesepimera, and the particular type of aedeagus. While the median lobe is similar to that in species of the *B. curtula* group, the internal sac drastically differs. In members of the *B. curtula* group, only the ejaculatory duct is permanently extruded. This species resembles *B. cooteri* Löbl, 1999 by the large size and dark coloration of the body. It can be easily distinguished by the elytra which almost completely cover the abdomen, the much-finer elytral punctation, and the shortened sutural striae.

***Baeocera aliena* Löbl sp. nov.**

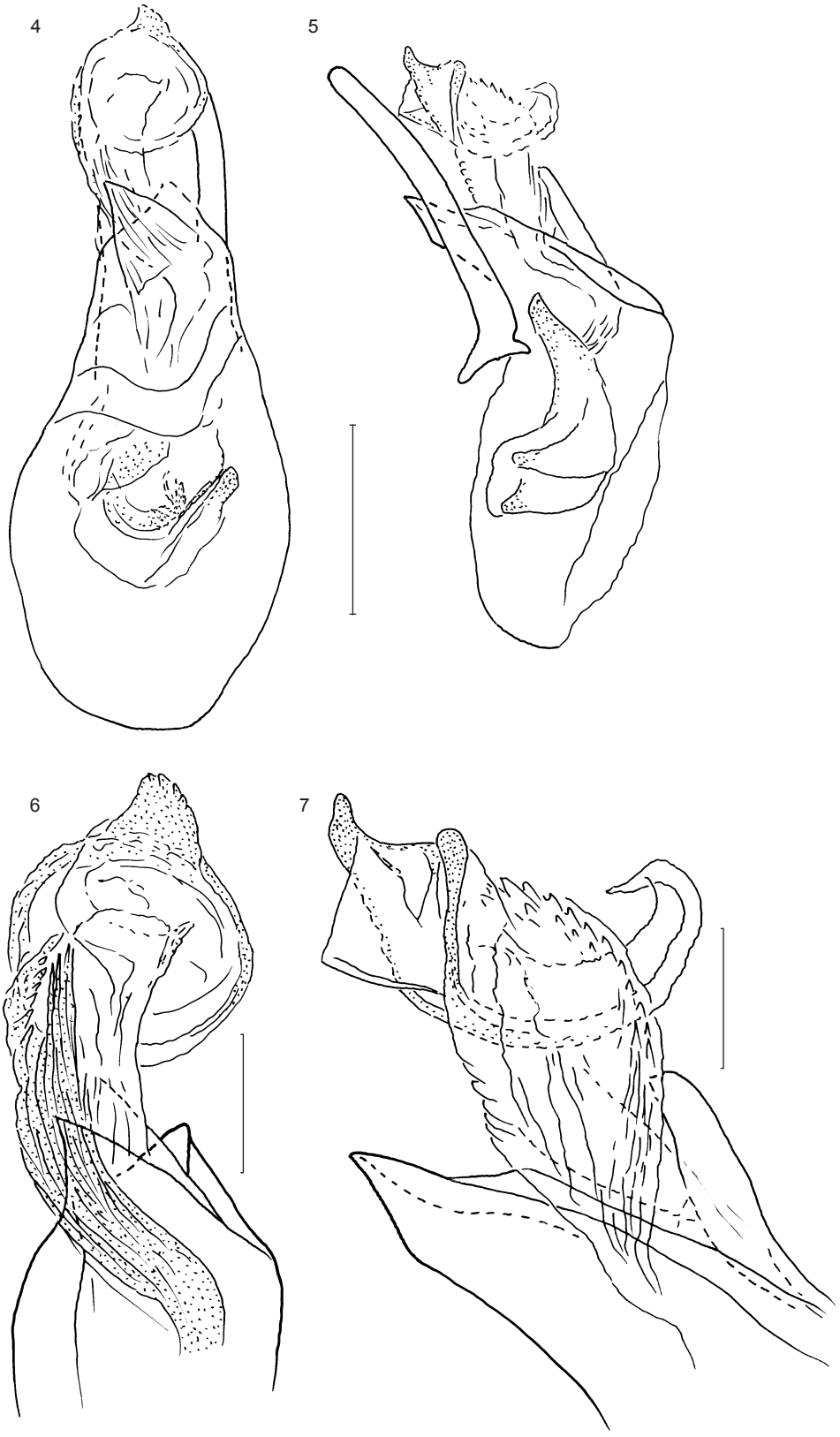
(Figs. 4-7)

Type material: Holotype ♂: Taiwan: Taoyuan Co., Takuanshan Forest, 17 Apr. 1990, 1650 m, A. Smetana [T5] (MHNG). Paratypes: 4 ♀♀ with same data as for holotype (MHNG, TARI).

Etymology: The name is a Latin adjective and refers to the strange morphological characters of the species.

Description: Length 1.85-1.95 mm, width 1.25-1.30 mm. Dorsal side of body as in *B. alesi* sp. nov., except each elytron possessing complete basal stria joined to lateral stria. Ventral characters almost as in *B. alesi* sp. nov., in particular mesepimera conspicuously large, overlapped by margin of mesepisterna, but barely swollen, metepisterna narrower, about 0.05 mm wide, with almost-straight suture. Shortest interval between submesocoxal line and metacoxa about 0.12 mm.

Male: Protarsi and mesotarsi similar as in *B. alesi* sp. nov. Aedeagus as in figures 4-7, 1.0 mm long. Basal bulb of median lobe weakly sclerotized, oval. Apical process of median lobe strongly sclerotized, wide, distinctly asymmetrical



Figs. 4-7. *Baeocera aliena* sp. nov. **4**, **5.** Aedeagus in dorsal and lateral view, scale bar = 0.2 mm. **6.** Apical process of median lobe with extruded part of the internal sac, in dorsal view, scale bar = 0.1 mm. **7.** Apical process of median lobe with extruded part of the internal sac, in lateral view, scale bar = 0.1 mm.

in dorsal view, moderately incurved ventrally and abruptly narrowed to form a point in lateral view. Ostium covered by single, asymmetrical, dorsal plate. Parameres slightly narrowed apically, lacking lobes, weakly curved in apical 1/3 (lateral view), about as long as basal bulb. Internal sac very complex, sclerotized parts forming robust basal and apical denticles. Extruded part of internal sac partly formed by long, spine-like structures with serrate margin and large, weakly sclerotized hook-like apophysis.

Habitat: Original mixed forest with gigantic *Chamaecyparis* trees, in sifted humus and debris among lush vegetation in a wet area.

Comments: This species may be easily distinguished from *B. alesi* sp. nov. and other congeners by the elytra having complete basal striae and shortened sutural striae.

***Baeocera alishana* Löbl sp. nov.**

(Figs. 8-10)

Type material: Holotype ♂: Taiwan: Chiayi Co., Alishan Natl. Scenic Area, env. 2350 m, road no. 18, km 102, old Lulin Tree Track, S. Vít, 12 Apr. 2009 # II 2 (MHNG). Paratype ♀: Chiayi Co., Alishan Natl. Scenic Area, env. 2200 m, road no. 18, km 88.5, S. Vít, 7 Jan. 2009 (MHNG).

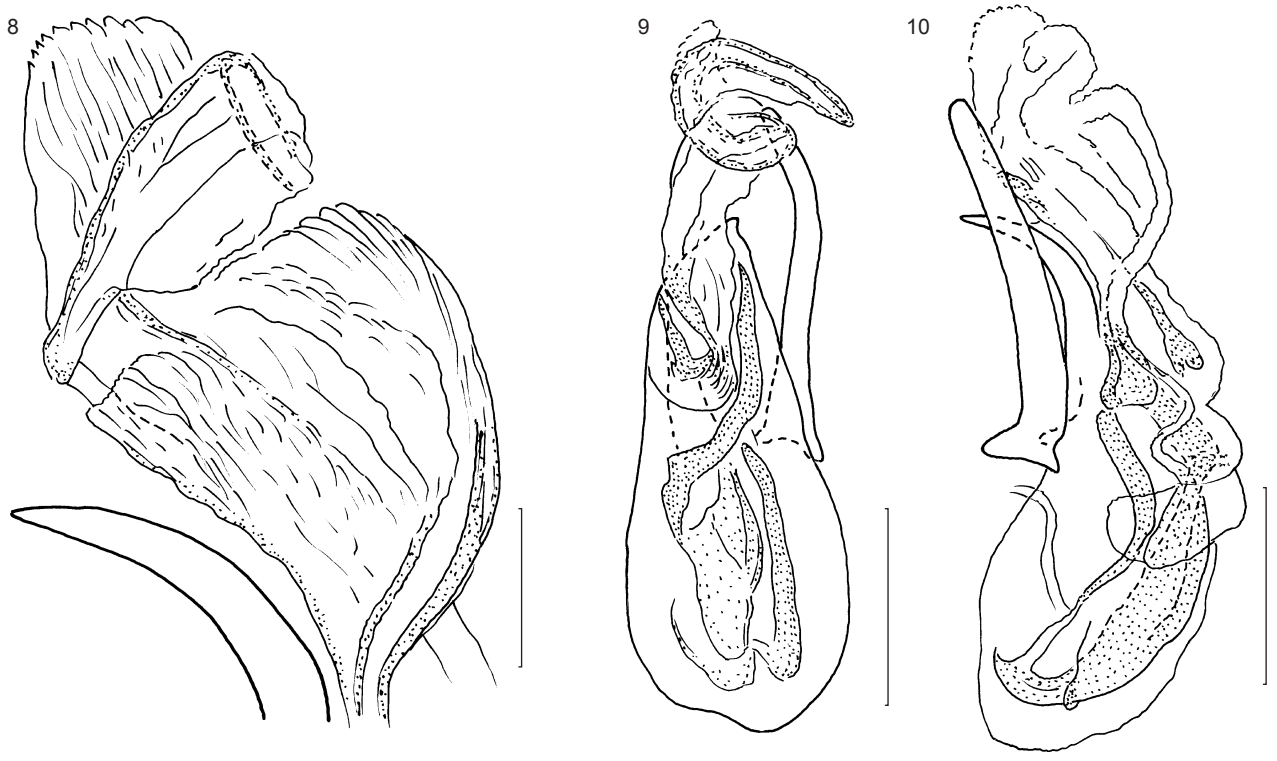
Etymology: The name is derived from Alishan where the species was found.

Description: Length 1.85 mm, width 1.30 mm. With most external diagnostic characters as in *B. alesi* sp. nov. and *B. aliena* sp. nov., but notably differing by the elytra with complete, joined sutural and basal striae, punctuation on pronotum, elytra, and metaventrite less fine, metepisterna 0.07 mm wide, almost flat, parallel-sided, with weakly curved to straight suture. Submesocoxal area 0.06 mm long, shortest interval to metacoxa 0.12 mm long.

Male: Protarsi and mesotarsi similar as in *B. alesi* sp. nov. Aedeagus as in figures 8-10, 1.0 mm long. Median lobe similar to that in *B. alesi* sp. nov. but apical process evenly curved in lateral view. Parameres almost straight and slightly narrowed apically. Internal sac with 2 robust flagellar guide-sclerites thickened basally. Extruded part of internal sac with serrate rod moderately incurved and 2 joined rods strongly curved.

Habitat: Mountain forest floor litter.

Comments: The species may be readily distinguished from its allies by the sutural striae and structure of the internal sac.



Figs. 8-10. 8. *Baeocera alishana* sp. nov. Apical process of median lobe with extruded part of the internal sac, in lateral view, scale bar = 0.1 mm. **9**, **10.** aedeagus in dorsal and lateral view, scale bar = 0.3 mm.

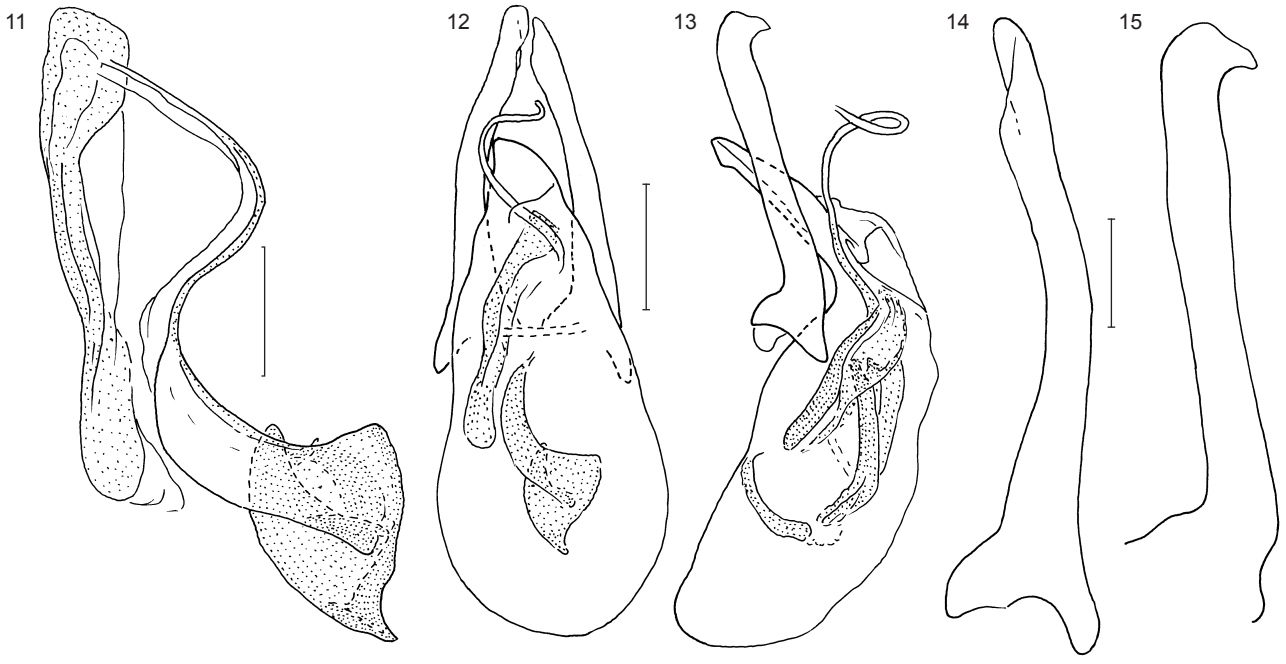
Baeocera anchorifera Löbl sp. nov.
(Figs. 11-15)

Type material: Holotype ♂: Taiwan: Kaohsiung Co., road from Tengchih to Chuyunshan 1400 m, 25 Apr. 1990, A. Smetana [T23] (MHNG). Paratypes: 1 ♂, 4 ♀♀ with same data as for holotype (MHNG, TARI); 1 ♀: Kaohsiung Co., Tengchih 1610 m, 24 Apr. 1990, A. Smetana [T20] (MHNG); 1 ♂: Kaohsiung Co., Tengchih 1565 m, 23 Apr. 1990, A. Smetana [T18] (MHNG).

Etymology: The name is Latin and refers to the anchor-like shape of the sclerotized base of the internal sac of the aedeagus.

Description: Length 1.95-2.35 mm, width 1.33-1.40 mm. Body black, hypomera, apical abdominal segments, femora, and tibiae dark reddish-brown to almost black, antennae and tarsi lighter, light brown to yellowish. Body strongly convex dorsally. Eyes large. Length ratio of antennal segments as III 12: IV 13: V 15: VI 14: VII 16: VIII 12: IX 15: X 15: XI 19. Segments III-VI almost evenly narrow, segment V about 5-times as long as wide. Segments VII and VIII only slightly wider than segment VI, segment VII almost 5-times as long as wide. Segment VIII about 3-times as long as wide. Segments IX-XI distinctly wider than segment VII, segment IX about 3-times as long as wide, segment XI about 2.5-times as long as wide. Pronotum and elytra not microsculptured, with dense punctation and indistinct pubescence (even at 100x magnification). Punctures very shallow and not clearly delimited. Lateral margins of pronotum and elytra separately arcuate in dorsal view. Lateral margins of pronotum weakly convex, lateral keels not or barely visible in dorsal view. Tip of scutellum exposed. Elytra not covering abdominal apex. Elytron with deep sutural stria, curved at base to form basal stria joined to lateral stria. Adsutural area flat. Metathoracic wings not reduced. Ventral side of body almost entirely very finely punctate. Hypomera weakly impressed posteriorly. Mesepimera not enlarged, not or barely swollen, about 3-times as long as wide, twice as long as interval to mesocoxa. Posterior margin of mesepisterna almost level with mesepimera, not ridge-like. Submesocoxal line arcuate, margined by fairly coarse punctures not extended along section situated between coxae. Submesocoxal area 0.05 mm long, shortest interval between its margin and metacoxa about 0.20-0.22 mm. Metepistenum flat, at widest point 0.09-0.10 mm wide, narrowing anteriad, with deep, almost-straight, impunctate suture. Abdominal ventrite 1 with fairly coarse submetacoxal puncture rows, punctures not elongate and not separated by wrinkles. Tibiae somewhat curved.

Male: Tarsomeres 1 of protarsi and mesotarsi



Figs. 11-15. 11. *Baeocera anchorana* sp. nov., internal sac, without the extruded apical part of the ejaculatory duct, scale bar = 0.1 mm. **12**, **13.** Aedeagus in dorsal and lateral view, scale bar = 0.2 mm. **14**, **15.** Paramere in ventral and lateral view, scale bar = 0.1 mm.

strongly widened, narrower than apex of tibiae. Tarsomeres 2 and 3 of protarsi and mesotarsi weakly widened. Aedeagus as in figures 11-15, 0.84-0.95 mm long, strongly sclerotized. Median lobe symmetrical, with slightly asymmetrical and blunt apex in dorsal view. Apical process in lateral view oblique and tapering to posterior level of ostium. Parameres sinuate and with small apical membranous lamina in dorsal view. Dorsal margin of parameres widely notched at base, almost straight posterior to notch, with distinct apical denticle in lateral view. Flagellum of internal sac sinuate, enlarged in basal 1/2 and forming a ridge, at base curved and anchor-like. Flagellar guide-sclerite robust, sinuate, widened at apex.

Habitat: Old *Taiwania cryptomeroides* forest, in sifted various debris around bases of trees and along fallen trees; old clearing in an old forest with lush vegetation, shrubs, and rotting stumps of trees. In sifted old mushrooms, old bark, and humus around tree stumps; old broadleaf forest, in sifted fermenting fruit accumulated on ground around a large tree.

Comments: The species is a member of the *B. curtula* group. Its male genital characters suggest a close relationship with *B. cooteri*. This new species can be distinguished from *B. cooteri* by the finer elytral punctation, scarce punctation on the middle part of the metaventrite, not elongate submetacoxal punctures, distinctive shape of the parameres of the aedeagus, and the presence of a tooth-like sclerotized piece at the base of the internal sac.

***Baeocera caliginosa* Löbl**

(Figs. 16-19)

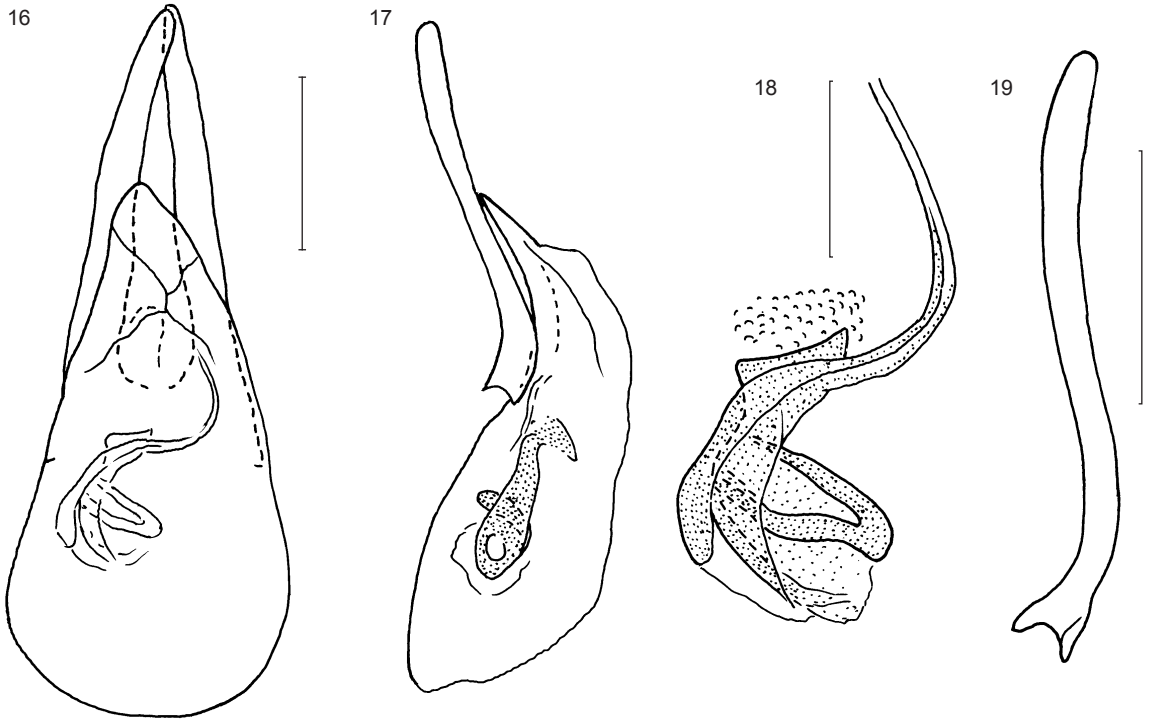
Baeocera caliginosa Löbl 1980: 186.

Material examined: Taiwan: Taoyuan Co., Fusing Township, road no. 118, km 5, 23 Feb. 2010, S. Vít, # 7, 8 ex. (MHNG, TARI).

Habitat: Dead trunks and litter under arborescent ferns.

Distribution: Japan (Okinawa and Kyushu), Taiwan.

Comments: The description of this species was based on a single specimen from Yonahe-dake, Okinawa. Since that time, I have examined specimens from Mt. Mishime, Okinawa (MHNG). The species appears to be variable in size. The length of the Taiwanese specimens ranges 1.27-



Figs. 16-19. 16, 17. *Baeocera caliginosa* Löbl, aedeagus in dorsal and lateral view, scale bar = 0.1 mm. **18.** Internal sac in detail, dorsal view, scale bar = 0.05 mm. **19.** Paramere in lateral view, scale bar = 0.1 mm.

1.50 mm, the width is 0.88-1.02 mm, and the aedeagi are 0.37-0.41 mm long. The aedeagus of the holotype was only illustrated in dorsal view. New illustrations are given (Figs. 16-19) to show the variability and characters as seen in lateral view.

Baeocera cooteri Löbl

Baeocera cooteri Löbl 1999: 729.

Material examined: Taiwan: 1 ♀: Nantou Co., Hwy. 14 below Wushe, 1700 m, 21 Apr. 1990, A. Smetana [T15] (MHNG); 1 ♂: Hsinchu Co., Jienshih Township, near Hsinkuang Village (Vill.), km 44 road no. 60, env. 1600 m, 25 Mar. 2008, S. Vít, *Canacea* litter, # III 6 (MHNG); 1 ♂, 1 ♀: Taitung Co. before Litao, road no. 20, km 180, env. 1000 m, 8 Apr. 2007, S. Vít, vegetative compost, debris # 4; 1 ♂, 1 ♀ with same data but "at foot of rock" (MHNG, TARI); 1 ♂: Taitung Co. after Litao, road no. 20, km 174, env. 1300 m, 8 Apr. 2007, S. Vít, mountain forest litter (MHNG); 1 ♀: Taitung Co., road no. 20, km 184 before Wulu, env. 600 m, 10 Apr. 2007, S. Vít, mountain forest litter (MHNG); 1 ♀: Chiayi Co., Alishan road no. 18, km 4.5 S. Lungmei, env. 800 m, 12 Apr. 2009, S. Vít, mixed forest, litter # ii 6 (MHNG); 1 ♀: Taoyuan Co., Fusing Township, road no. 118, km 45, 23 Feb. 2010, S. Vít, dead trunks and arborescent fern, # 7 (MHNG); 1 ♀: Taoyuan Co., Fusing Township, N Baling Hwy. 7, km 47, 22 Feb. 2010, bush litter, S. Vít # 1 (MHNG); 1 ♂: Hualien Co. road no. 23, km 7.5 lateral valley, 10 Apr. 2007, env. 400 m, S. Vít (MHNG); 1 ♂: Taipei Co., Beitou (NW Taipei City) "Yangmingshan cemetery", 300 m, 22 Oct. 2007, S. Vít, rotten *Pinus* trunk, # 2 (MHNG).

Habitat: In rotten *Pinus* trunks, *Canacea* litter, forest floor debris and compost, a plum orchard, in a sifted accumulated pile of rather-fresh plum leaves, in forests ranging 300-1600 m in elevation.

Distribution: China (Hong Kong, Zhejiang Prov.), Taiwan. New to Taiwan.

Baeocera formosana Löbl

Baeocera formosana Löbl 1980: 97.

Distribution: Taiwan: "Pilam" (= Beinan, Taitung Co.) and Puli (Nantou Co.).

Habitat: Unknown.

Comments: This species was not found within the recent collections examined. It remains known only from the 2 localities cited above.

Baeocera lindae Löbl sp. nov.

(Figs. 20-22)

Type material: Holotype ♂: Taiwan: Kaohsiung Co., Tengchih 1610 m, 24 Apr. 1990 A. Smetana [T20] (MHNG). Paratypes: 2 ♂♂, 1 ♀ and 11 specimens sex not examined: with same data as for holotype (MHNG, TARI); 3 specimens sex not examined, with same data but 1565 m, 23 Apr. 1990 [T18] (MHNG); 1 ♂: Chiayi Co., Alishan Natl. Scenic Area, env. 2350 m, road no. 18, km 102 old Lulin Tree Track, S. Vít, 11 Apr. 2009, # ii 3 (MHNG).

Etymology: The species is named in honor of Mrs. Linda Schreyer-Crowe, Sherman Oaks, CA, USA.

Description: Length 1.25-1.30 mm, width 0.85 mm. Body rufous to almost black. Femora similar to body, antennae, tibiae, and tarsi lighter to yellowish. Body strongly convex dorsally. Eyes comparatively large. Length ratio of antennal segments as III 8: IV 10: V 12: VI 11: VII 12: VIII 10: IX 13: X 12: XI 14. Segments III-VI even in width, V and VI each about 5-times as long as wide. Segments VII and VIII each about 3-times as long as wide. Segment VIII slightly narrower than segment VII. Segments IX-XI distinctly wider than segment VII, segment XI about twice as long as wide. Pronotum and elytra with even, very fine, sparse punctation, barely visible at 100x magnification, indistinct pubescence, not microsculptured. Lateral margins of pronotum strongly convex, lateral keels not visible in dorsal view. Lateral margins of pronotum and elytra continuously arcuate in dorsal view. Scutellum completely covered by pronotal lobe. Elytra in dorsal view completely or almost completely covering abdomen. Sutural stria of elytron curved along base to form basal stria joined to lateral stria. Outer section of basal stria approximate to basal margin. Adsutural area flat. Metathoracic wings completely reduced. Hypomera impunctate, impressed in large middle part, with carinate anterior margin. Mesepisterna impunctate. Mesepimera flat, slightly below plan of mesepisterna, about 3-times as long as wide and twice as long as interval to mesocoxa. Large central part of metaventrite flat and smooth, smooth area delimited by fairly coarse punctures bearing long setae. Lateral parts of metaventrite conspicuously coarsely punctate, punctures well delimited, not or only slightly elongate, with intervals somewhat smaller than puncture diameters. Submesocoxal line parallel to coxa,

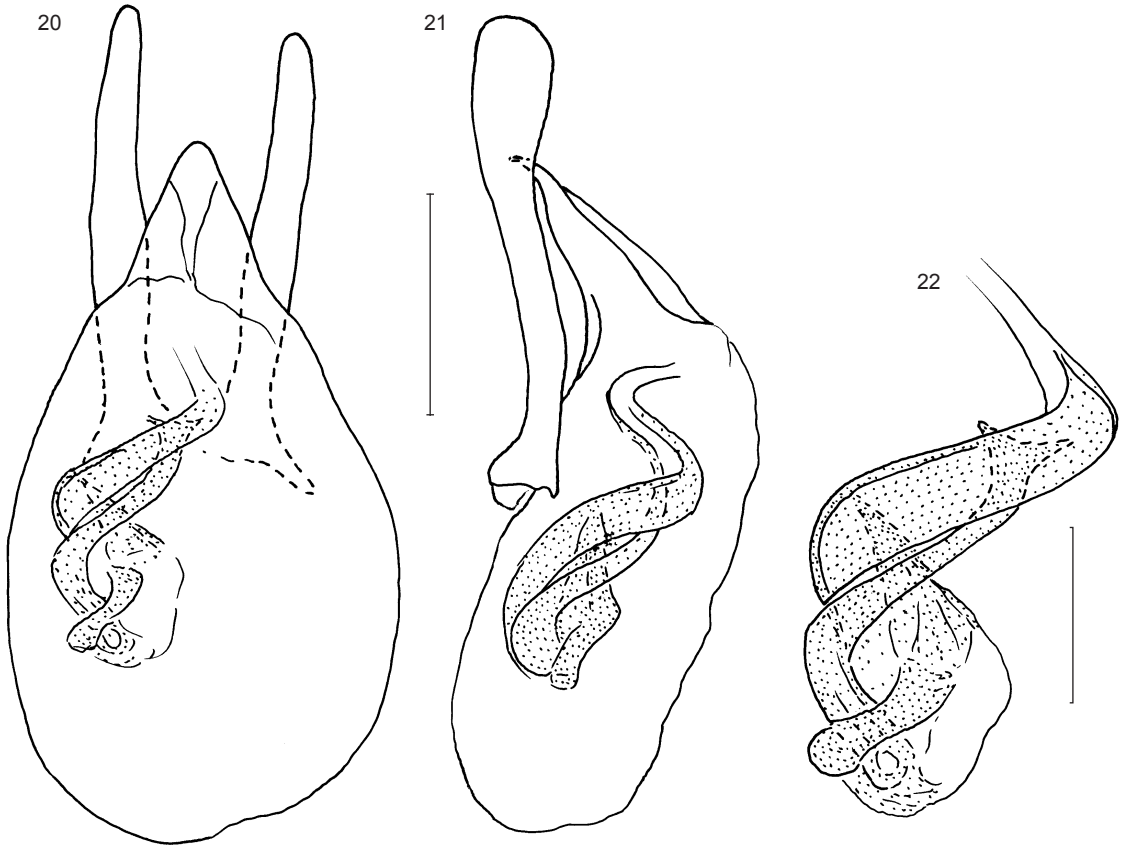
margined by fairly coarse puncture row extending along lateral part of coxa. Submesocoxal area about 0.03 mm long, shortest interval between its margin and metacoxa conspicuously short, about 0.07-0.08 mm long. Metepisterna not clearly separated, inner suture indicated by impressed row of particularly coarse punctures. Abdominal ventrite 1 with coarse submetacoxal puncture rows, consisting of slightly elongate punctures not separated by wrinkles. Remaining abdominal punctation extremely fine. Tibiae straight.

Male: Protarsomeres 1-3 barely widened. Aedeagus as in figures 20-22, 0.30-0.36 mm long, moderately sclerotized. Basal bulb comparatively large, with short, weakly inflexed apical process, its ventral margin sinuate, tip strongly narrowed and bent. Parameres barely sinuate and almost evenly wide in dorsal view, straight in middle, and distinctly widened at tip in lateral view. Internal sac with narrow flagellar guide-sclerite, widened and subtriangular at apex, with concave apical margin.

Habitat: Old *Taiwania cryptomeroides* forest, in sifted various debris around bases of trees and along fallen trees; old clearing in an old forest with lush vegetation, shrubs, and rotting stumps of trees. In sifted old mushrooms, old bark, and humus around tree stumps.

Comments: This species is a member of the *B. lenta* group. While the structure of the internal sac of the aedeagus is rather similar to that in *B. caliginosa*, the parameres are distinctive, and their widened apex as seen in lateral view is diagnostic. The habitus of this new species reminds one of species of the *B. alesi* sp. nov. group because of the long elytra completely or almost completely covering the abdomen and the very fine pronotal and elytral punctation. These species share reduced metathoracic wings and a short metaventrite.

Additional specimens from the following localities are possibly conspecific: 1 ♂, 2 ♀♀: Hsinchu Co., Jienshih Township, road no. 60 near Yulao Scenery platform env. 1400 m, S. Vít, 25 Mar. 2008, # iii 7, road side slope litter (MHNG); 2 ♀♀: Hsinchu Co., Wufeng Township km 19 via Shei-Pai NP (road 122) env. 1200 m, 26 Mar.



Figs. 20-22. *Baeocera lindae* sp. nov. **20**, **21.** Aedeagus in dorsal and lateral view, scale bar = 0.1 mm. **22.** Internal sac in detail, in dorsal view, scale bar = 0.05 mm.

2008, S. Vít # iii 12, mountain forest litter (MHNG); 2 ♂♂: Pingtung Co., Pietawushan Trail at 2000 m, 23 May 1991, A. Smetana [T91] (MHNG). They may be distinguished by the elytra with several coarse punctures situated near the base. Their aedeagal and other diagnostic characters are as in specimens from Tengchih and Alishan.

***Baeocera longicornis* (Löbl)**

Eubaeocera longicornis Löbl 1971: 955.

Material examined: Taiwan: Taipei Co., Beitou (NW Taipei City) "Yangmingshan cemetery" 300 m, 22 May 2007, S. Vít, # 2, 16 ex. (MHNG); Taipei Co., Beitou Township (Jiantan Metro Station) 2 Jan. 2009, S. Vít, Jiantan Shan Hiking Trail, #3, 1 ex. (MHNG); Taoyuan Co., Fusing Township, road no. 118, km 5, 23 Feb. 2010, S. Vít # 7, 1 ex. (MHNG); Taoyuan Co., Upper Baling 1200 m, 18 Apr. 90, A. Smetana [T6], 2 ex. (MHNG); Kaohsiung Co., road no. 20, km 117, Yushan NP, env. 1800 m, 13 Apr. 2009, S. Vít, #9, 4 ex. (MHNG); Chiayi Co., Alishan Natl. Scenic Area, env. 2350 m, road no. 18, km 102 old Lulin Tree Track, S. Vít, 11 Apr. 2009, # ii 3, 1 ex. (MHNG); Chiayi Co., Alishan road no. 18, km 4.5 S. Lungmei, env. 800 m, 12 Apr. 2009, S. Vít # ii 6, 10 ex. (MHNG, TARI); Hsinchu Co., Jienshih Township, road no. 60 nr. Yulao Scenery platform, env. 1400 m, 25 Mar. 2008, S. Vít, # iii 7, roadside slope litter, 3 ex. (MHNG); Hsinchu Co., Jienshih Township, near Hsinkuang Vill., km 44 road no. 60, env. 1600 m, 25 Mar. 2008, S. Vít, # III 6, 1 ex. (MHNG); Hsinchu Co., Hengshan Township, env. 600 m, S. Hengshan road no. 35, 27 Mar. 2008, S. Vít, 1 ex. (MHNG).

Habitat: In rotten trunks, forest leaf litter, and under arborescent fern, in forest sites ranging 300-2350 m in elevation.

Distribution: From Sri Lanka, India, and Nepal to Thailand and continental southern China to Taiwan. New to Taiwan.

***Baeocera mutata* Löbl sp. nov.**

(Figs. 23-26)

Type material: Holotype ♂: Taiwan: Pingtung Co., Peitawushan trail at 1500 m, 1 May 1992, A. Smetana [T110] (MHNG). Paratype ♂: with same data as for holotype (MHNG).

Etymology: The name is a Latin adjective, derived from "mutatio" and refers to the variation in characters.

Description: Length 1.75 mm, width 1.08 mm. Most of body, femora, and tibiae dark brown, somewhat reddish. Apices of elytra, apex of abdomen, tarsi, and antennomeres I-V lighter, following antennomeres similar to most of body. Eyes large. Length ratio of antennomeres as III 11: IV 11: V 12: VI 10: VII 13: VIII 8: IX 14: X 13: XI 21. Segments III and IV similar, slender, segments V and VI slightly wider. Segments VII and VIII distinctly wider than segment VI, segment VII about 3-times as long as wide, segment VIII almost 3-times as long as wide. Segment XI 3-times as long as wide. Pronotum and elytra without microsculpturing, pubescence barely visible at 100x magnification, and lateral contours continuously arcuate in dorsal view. Pronotum with evenly rounded lateral margins, lateral keels not visible in dorsal view, punctation very fine, punctures shallow, not clearly delimited. Minute tip of scutellum exposed. Elytra covering almost entire abdomen, sutural striae deep, entire, curved along base and forming basal striae joined to lateral striae; adsutural areas flat. Elytral punctation fine and fairly dense, most punctures similar to that on pronotum, slightly larger punctures irregularly scattered. Hypomera not impressed, almost level with mesepisterna, impunctate. Mesepisternum level with mesepimeron. Mesepimeron about 4-times as long as wide and about 3-times as long as interval to mesocoxa. Middle of metaventrite convex, very finely punctate. Lateral parts of metaventrite sparsely and fairly finely punctate, intervals between punctures much larger than puncture diameters, punctures not elongate. Submesocoxal line arcuate, fairly finely punctate, submesocoxal area 0.05 mm long, about 1/3 of shortest interval to metacoxa. Metepisterna somewhat convex, 0.04-0.05 mm wide, parallel-sided, with straight, deeply impressed, and punctate suture. First abdominal ventrite with fine submetacoxal puncture row, lacking basal wrinkles; remaining abdominal punctation very fine and sparse. Tibiae straight.

Male: Protarsomeres 1 moderately widened, 2 and 3 weakly widened. Aedeagus as in figures 23-26, 0.57-0.60 mm. Median lobe symmetrical, moderately sclerotized, with long, tapering distal process, abruptly bent at apex. Parameres converging, slightly curved, and except base, almost evenly wide in dorsal view, slightly arcuate in lateral view. Internal sac with sinuate flagellum gradually widened basally, in basal part joined to short weakly apically sclerotized rod; center with scale-like membranes.

Habitat: Old broadleaf evergreen forest. In

sifted rotting moldy wood and debris under and around old soft *Polyporus*-type mushrooms on an old fallen tree.

Comments: This species is a member of the *B. brevicornis* group and similar to *B. sordida* Löbl, 1980 from Japan. It can easily be distinguished from *B. sordida* by the sparse and fine punctation on the lateral parts of the metaventrite. In addition, the metepisterna are flat in *B. sordida*. The aedeagi of these 2 species are similar, except for the distinctive shape of the basal portion of the internal sac. The only Taiwanese member of the *brevicornis* group so far known is *B. sauteri* Löbl. It can easily be distinguished from both *B. sordita* and *B. mutata* by the light-rufous body, the notably coarser punctation on the elytra and metaventrite, the narrow metepisterna, and the parameres of the aedeagus, which are almost straight in lateral view.

Baeocera myrmidon (Achard)

Scaphosoma myrmidon Achard 1923: 116.

Habitat: Unknown.

Distribution: Japan (Nagasaki, Kiushu), and Taiwan: “Pilam” (= Beinan, Taitung Co.).

Comments: The description of the species was based on material from Nagasaki. Löbl (1966) designated a lectotype, redescribed and transferred the species to *Baeocera*, and provided illustrations of its aedeagus and antenna. Löbl (1980) reported this species from Taiwan, and gave a new redescription with a more-detailed illustration of its aedeagus.

Baeocera nanula Löbl

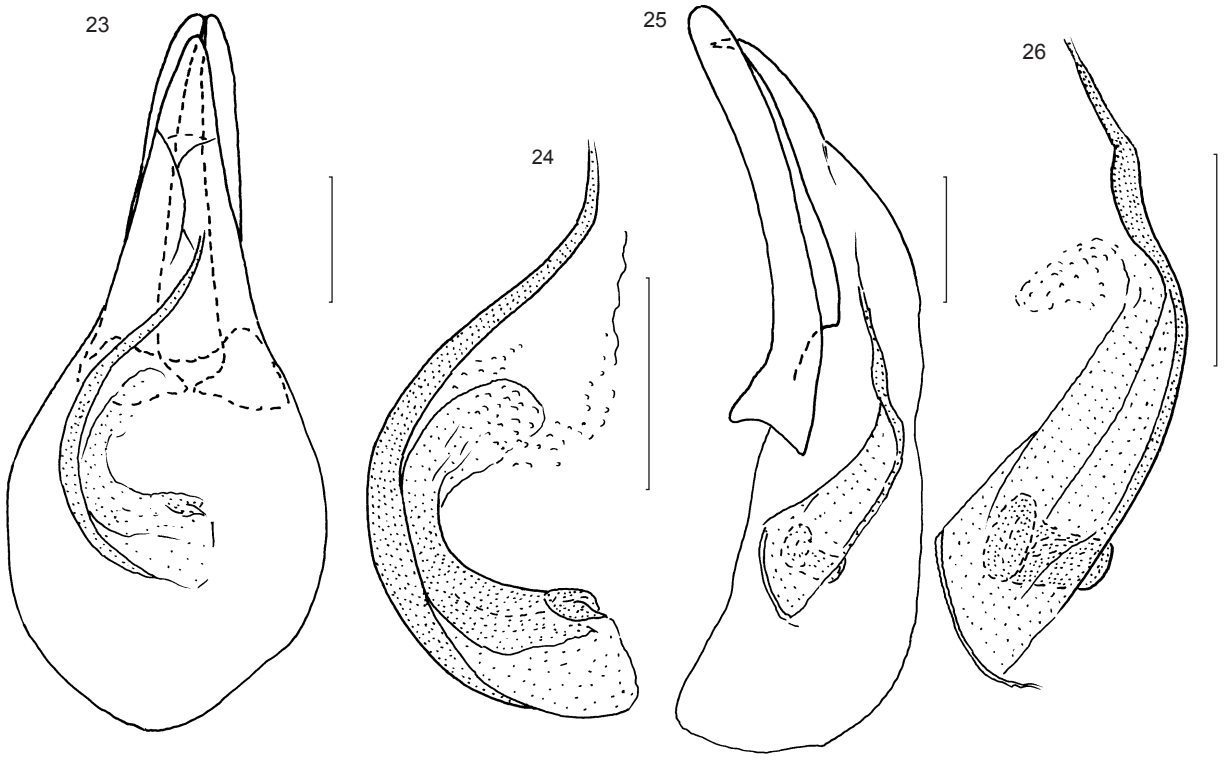
Baeocera nanula Löbl 1980: 96.

Material examined: Taiwan: Taichung Co., Wufeng 100-120 m, 14 Apr. 1990, A. Smetana [T1], 1 ex. (MHNG); Taichung Co., Wufeng 1000 m 16 Apr. 1990, A. Smetana [T2], 1 ex. (MHNG); Taitung Co., road no. 20, km 202 after Chulai, 300 m, 8 Apr. 2007, S. Vít, 3 ex. (MHNG, TARI).

Habitat: Plain forest floor litter. In sifted fallen leaves and flower petals under a broadleaf tree in a predominantly bamboo forest, and in debris around a rotting *Phallus*-type mushroom.

Distribution: Taiwan.

Comments: The species was reported from a single locality, “Akau” (= Pingtung Co.).



Figs. 23-26. *Baeocera mutata* sp. nov. **23**, **25.** Aedeagus in dorsal and lateral view, scale bar = 0.1 mm. **24**, **26.** Internal sac in detail, scale bar = 0.1 mm.

Baeocera semiglobosa (Achard)

Scaphosoma semiglobosa Achard 1921: 87.

Material examined: Taiwan: Taichung Co., Wufeng 100-120 m, 14 Apr. 1990, A. Smetana [T1], 25 ex. (MHNG, TARI); Taichung Co., Wufeng 1000 m 16 Apr. 1990, A. Smetana [T2], 5 ex. (MHNG); Hsinchu Co., Henshan Township, env. 600 m, S. Hengshan road no. 35, 27 Mar. 2007, S. Vít, 1 ex. (MHNG); Taitung Co., road no. 20, km 184 before Wului, 600 m, 10 Apr. 2007, S. Vít, 3 ex. (MHNG); Taitung Co., road no. 11, W. Tulan, near First Moonlight Inn, env. 200 m, 12 Apr. 2007, S. Vít, 2 ex. (MHNG); Hualien Co. road no. 23, km 7.5 lateral valley, env. 400 m, 10 Apr. 2007, S. Vít, 2 ex.; Taitung Co. before Litao, road no. 20, km 180, env. 1000 m, 8 Apr. 2007, S. Vít, 7 ex. (MHNG); Taitung Co., road no. 20, km 202 after Chulai, 300 m, 8 Apr. 2007, S. Vít, 7 ex. (MHNG); Chiayi Co., Alishan Natl. Scenic Area, env. 2200 m, road no. 18, km 84, 7 Jan. 2009, S. Vít, # 12, 2 ex. (MHNG); Taipei Co., Beitou (NW Taipei City) "Yangmingshan cemetery", 300 m, 22 Oct. 2007, S. Vít, # 2, 4 ex. (MHNG); Taoyuan Co., Fusing Township, km 45 road no. 118, 23 Feb. 2010, S. Vít, # 7, 4 ex. (MHNG); Taoyuan Co., Fusing Township, N. Baling, km 47, road no. 7, 22 Feb. 2010, S. Vít, #1 (MHNG); Kaohsiung Co., "Kosempo" (= Chiasien), 1 ex. (TARI).

Habitat: Plains and mountain forest litter, litter along rocks, under bushes, in rotten trunks and under arborescent fern, in fallen leaves and flower petals under a broadleaf tree in a predominantly bamboo forest, and in sifted debris around a rotting *Phallus*-type mushroom.

Distribution: Taiwan, apparently common, ranging from lowlands to montane forests, found up to 2200 m in elevation. It was previously reported in Löbl (1980) from the following localities: "Koroton" (= Fengyuan, Taitung Co.) (the type locality), "Pilam" (= Beinan, Taitung Co.), and "Kosempo" (= Chiasien, Kaohsiung Co.).

Comments: The relationships of the species is discussed, and its aedeagus illustrated in Löbl 1980.

Baeocera sauteri Löbl

Baeocera sauteri Löbl 1980: 93.

Habitat: Unknown.

Distribution: Taiwan: "Pilam" (= Beinan, Taitung Co.).

Comments: This species was not found in the recent collections. It is only known by the type specimens found in Feb. 1908.

Baeocera takizawai Löbl

Baeocera takizawai Löbl 1984: 190.

Material examined: Taiwan: Taitung Co., road no. 20, km 184 before Wului, 600 m, 10 Apr. 2007, S. Vít, 1 ♂ (MHNG).

Habitat: In a decaying trunk with termites.

Distribution: Japan (Ryukyus), China (Jiangxi Prov.); Taiwan. New to Taiwan.

Comments: The Taiwanese specimen is larger and as in specimens from Jiangxi, darker than the types from the Ryukyus. The body length is 2.0 mm, the body width is 1.35 mm, and the aedeagus is 0.68 mm long. This species is a member of the *B. monstrosa* group, and its allies have a very complex internal sac of the aedeagus. The latter exhibits minor variations in the position and shape of the sclerotized pieces that I consider to be infraspecific variations.

Key to the Taiwanese species of *Baeocera*

1 Elytral punctation even, entirely very fine, similar to pronotal punctation 2
- Elytral punctation uneven, partly or entirely coarser than pronotal punctation 5
2 Elytron with sutural stria shortened, starting well posterior to pronotal lobe 3
- Elytron with sutural stria not shortened, starting at elytral base 4
3 Elytron lacking basal stria ..... *B. alesi* sp. nov.
- Elytron with basal stria ..... *B. aliena* sp. nov.
4 Larger species, body 1.85 mm long. Lateral parts of metaventrite impunctate. Metepisternal suture distinct .... *B. alishana* sp. nov.
- Smaller species, body 1.25-1.30 mm long. Lateral parts of metaventrite conspicuously coarsely punctate. Metepisternal suture indistinct ..... *B. lindae* sp. nov.
5 Lateral parts of metaventrite and of 1st abdominal ventrite with even, very fine punctation, submesocoxal and submetacoxal puncture rows excepted. Metepisterna large, with distinct suture 6
- Lateral parts of metaventrite and of 1st abdominal ventrite with uneven punctation; both or only those of metaventrite coarsely punctate. Metepisterna usually narrow and with indistinct suture 10
6 Basal striae of elytra not joined to lateral striae. Body 1.0-1.6 mm long 7
- Basal striae of elytra joined to lateral striae. Body 1.75-2.40 mm long 8
7 Elytra with coarse punctures covering most of surface, basal striae reaching outer 1/4 of basal width. Body length 1.55-1.60 mm. Body light reddish-brown. Exposed abdominal terga coarsely punctate, diameters of some

punctures as large as puncture intervals .... *B. formosana* Löbl
- Elytral with coarse punctures limited to small, well-delimited lateral area, basal striae reaching about basal mid-width. Body length 1.0-1.30 mm. Body very dark brown. Exposed abdominal terga with very fine punctation, puncture diameters much smaller than puncture intervals .... *B. myrmidon* (Achard)

8 Antennomere XI about 1.7-times as long as antennomere X; antennomere V < 3-times as long as wide .... *B. takizawai* Löbl
- Antennomere XI about 1.3-times as long as antennomere X; antennomere V about 5-times as long as wide 9

9 Submetacoxale punctures not elongate. Metaventrite with few coarse admesal punctures. Aedeagus with denticulate apex of parameres in lateral view .... *B. anchorifera* sp. nov.
- Submetaxocal punctures elongate. Metaventrite with numerous coarse admesal punctures. Aedeagus with lobed apex of parameres in lateral view .... *B. cooteri* Löbl

10 Body length not exceeding 1 mm. Elytron with coarse punctation limited to small, well-delimited anterolateral area. Metepisternal suture distinct ..... *B. nanula* Löbl
- Body length exceeding 1 mm. Elytron with coarse punctation extending over inner surface, often over most of discal surface. Metepisternal suture often indistinct 11

11 Basal stria of elytron shortened, reaching about to elytral mid-width. Base of abdominal ventrite 1 wrinkled 12
- Basal stria of elytron not shortened, but extending to and joined with lateral stria. Base of abdominal ventrite 1 usually not wrinkled 13

12 Body length about 1.10-1.25 mm. Aedeagus with notched parameres in middle, internal sac with basal tuft of spine-like structures ..... *B. semiglobosa* (Achard)
- Body length about 1.25-1.45 mm. Aedeagus with narrow parameres, not notched. Internal sac without tuft of spine-like structures ..... *B. caliginosa* Löbl

13 Lateral parts of abdominal ventrite 1 with very finely punctate posterior submetacoxal puncture row, lateral parts of metaventrite coarsely punctate 14
- Lateral parts of metaventrite and of abdominal ventrite 1 coarsely punctate ..... *B. sauteri* Löbl

14 Antennomere VIII long and narrow, slightly shorter than antennomere VII. Lateral contours of pronotum and elytra separately arcuate. Smaller species, 1.35-1.60 mm long ... . *B. longicornis* (Löbl)
- Antennomere VIII short, about as long as 2/3 of antennomere VII. Lateral contours of pronotum and elytra continuously arcuate. Larger species, 1.75 mm long .... *B. mutata* sp. nov.

DISCUSSION

At present, 15 species of *Baeocera* are known from Taiwan. This number appears high, compared to the 22 species reported from China. The fact that three of the previously described species, *B. formosana* Löbl, *B. myrmidon* (Achard), and *B. sauteri* Löbl, were not found in recent collections, suggests gaps persisting in sampling and still-higher diversity. A particular feature of the Taiwanese *Baeocera* is the presence of an endemic species group, consisting of *B. alesi* sp. nov., *B. aliena* sp. nov., and *B. alishana* sp. nov., characterized by the elytra almost covering the tip of the abdomen, impressed hypomera, enlarged mesepimera, and aedeagi with a complex, permanently extruded apical portion of the internal sac. The enlarged mesepimera and the shape of the internal sac are unique within the genus. Another notable feature of the Taiwanese *Baeocera* is the comparatively high number of species (four of 15 species) that have reduced metathoracic wings.

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