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A revision of the species of "*Blepharhymenus*" of the Palaearctic and Oriental regions (Coleoptera: Staphylinidae: Aleocharinae: Oxypodini)

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Abstract

Species of *Blepharhymenus* SOLIER, 1849 had been reported from the Chilean Subregion (including the type species of the genus), the Nearctic, Palaearctic, Ethiopian, and Australian regions, suggesting that the overall distribution of this genus was remarkably discontinuous. In order to clarify the status and generic assignment of the Palaearctic species, types and additional material are revised, including also a selection of species from Chile and North America. A study of this material revealed that what had been regarded as *Blepharhymenus* in fact represents various distinct lineages and that none of the species from the Palaearctic Region belongs to the clade containing the type species of *Blepharhymenus*. The following genus group taxa are newly described, revalidated, or elevated to genus: *Echidnoglossa* WOLLASTON, 1864, revalidated (previously synonym of *Blepharhymenus*); *Maurechidna* subgen.n. (subgenus of *Echidnoglossa*; type species: *Echidnoglossa ventricosa* QUEDENFELDT, 1881); *Orechidna* subgen.n. (subgenus of *Echidnoglossa*; type species: *Echidnoglossa hirthei* sp.n.); *Sinechidna* subgen.n. (subgenus of *Echidnoglossa*; type species: *Blepharhymenus smetanai* PACE, 2012); *Syntomenus* BERNHAUER, 1939, stat.n. (previously subgenus of *Blepharhymenus*); *Kortomenus* gen.n. (type species: *Blepharhymenus koreanus* PAŚNIK, 2001); *Colusa* CASEY, 1885, revalidated (previously synonym of *Blepharhymenus*; type species *Colusa gracilis* CASEY, 1885). *Echidnoglossa* is discontinuously distributed across the Palaearctic and northern Oriental regions and currently includes 19 species in five subgenera. *Syntomenus* and the monotypical genus *Kortomenus* are confined to the southern East Palaearctic and northern Oriental regions. All the species from the Palaearctic and Oriental regions are (re-)described and illustrated, six of them for the first time: *Echidnoglossa* (*Echidnoglossa*) *russa* sp.n. (Egypt: Sinai Peninsula); *Echidnoglossa* (*Orechidna*) *hirthei* sp.n. (Nepal); *E.* (*O.*) *betzi* sp.n. (Thailand); *E.* (*O.*) *artior* sp.n. (Taiwan); *E.* (*O.*) *formosana* sp.n. (Taiwan); *Syntomenus laoticus* sp.n. (Laos). Numerous new combinations are proposed: the Palaearctic species previously attributed to *Blepharhymenus* are all assigned to *Echidnoglossa*, *Syntomenus*, or *Kortomenus*, and the binomen *Ocalea dabensis* (PACE, 2012), comb.n. (ex *Blepharhymenus*) is established. The Nearctic species are transferred to *Colusa*. The following synonymies are proposed: *Echidnoglossa corsica* MULSANT & REY, 1875 = *E. sardoa* (SCHEERPELTZ, 1954), syn.n.; *E. glabrata* (KIESENWETTER, 1870) = *E. moczarskii* (SCHEERPELTZ, 1954), syn.n.; *E. maghrebica* (FAGEL, 1960) = *E. peyerimhoffi* (FAGEL, 1960), syn.n.; *E. meschniggi* (BERNHAUER, 1936) = *E. elegans* (FAGEL, 1959), syn.n. = *E. guadalupensis* (FAGEL, 1959), syn.n.; *Syntomenus chinensis* (BERNHAUER, 1939) = *S. rougemonti* (PACE, 1999), syn.n. Lectotypes are designated for *Blepharhymenus moczarskii* SCHEERPELTZ, 1954, *Echidnoglossa paulinoi* SKALITZKY, 1884, and *E. ventricosa* QUEDENFELDT, 1881. A checklist of the taxa distributed in the Palaearctic and Oriental regions and a key to the species of *Echidnoglossa* are provided. The distributions of *Echidnoglossa* species are mapped.

Key words: Coleoptera, Staphylinidae, Aleocharinae, Oxypodini, *Blepharhymenus*, *Echidnoglossa*, *Colusa*, *Syntomenus*, new genus, new subgenera, new species, new synonymies, revalidations, new combinations, lectotype designations, Palaearctic Region, Oriental Region, Nearctic Region, Chilean Subregion, zoogeography, distribution maps, key to species, checklist.

Introduction

Blepharhymenus was described by SOLIER (1849) to include only *B. sulcicollis* SOLIER, 1849 from Chile, the type species by monotypy. GEMMINGER & HAROLD (1868) proposed to change the name to *Blepharrhymenus*, but this correction represents an unjustified emendation (BLACK-

WELDER 1952). Only one additional species, again from Chile, was originally assigned to *Blepharhymenus* in the 19th century.

Echidnoglossa was made available by WOLLASTON (1864) to accommodate the newly described *E. constricta* from the Canary Islands. Two additional species from Corsica and Portugal were subsequently attributed to this genus until the end of the 19th century.

CASEY (1885) described the genus *Colusa* to include five species from California. Evidently informed by Albert Fauvel, that *Colusa* was a junior synonym of *Echidnoglossa*, CASEY (1893, 1911) assigned the species previously described in *Colusa* and 20 additional species from North America, mostly from California, to *Echidnoglossa*.

In his description of *Blepharhymenus mirandus* from the Western Alps, FAUVEL (1899) treated both *Colusa* and *Echidnoglossa* as junior synonyms of *Blepharhymenus*, stating that the genus was distinguished from other similar genera of Oxypodini by a narrow posterior constriction of the head and by an elongated ligula.

Thus, by 1926, *Blepharhymenus* already included 29 species and six synonyms (BERNHAUER & SCHEERPELTZ 1926), two species (plus one synonym) from Chile, one species from East Africa, 21 (with four synonyms) from North America, and five (plus one synonym) from the West Palaearctic Region. Since then, 33 additional species have been described in *Blepharhymenus* (some of them as *Blepharrhymenus*): twelve from Chile (PACE 1987, 1999b), one from South Africa (CAMERON 1945), 17 from the Palaearctic Region (SCHÜLKE & SMETANA 2015), and three from Australia (PACE 2005). *Blepharhymenus adnexus* FAUVEL, 1907, described from East Africa (Kenya, Ethiopia), was subsequently moved to *Anaulacaspis* GANGLBAUER, 1895.

Unlike the species from other regions, those from the West Palaearctic Region have been subject to several attempts at more comprehensive studies considering also type material of previously described species. SCHEERPELTZ (1954) provided a key to the species known from the Palaearctic Region at that time and described three new species. FAGEL (1958, 1959, 1960) focused on the fauna of the Iberian Peninsula and Northwest Africa, adding descriptions of six new species. And finally, GAMARRA & OUTERELO (1988) treated the Iberian fauna and synonymized one of Fagel's species. However, none of these studies ever included species from other zoogeographic regions or, except for GAMARRA & OUTERELO (1988), examined the genitalia.

Prior to the present study, the West Palaearctic fauna was composed of 20 valid species distributed in the West Mediterranean Region and in the Alps. Eight species have been described from the East Palaearctic Region, one from Nepal, six from China, and one from Korea (BERNHAUER 1939, PACE 1992, 1999a, 2012, PAŚNIK 2001).

Subgeneric names have been proposed only for the Palaearctic fauna: ten of the species have been assigned to the nominal subgenus, two to *Blepharrhymorphus* IHSSEN, 1934, two to *Syntomenus* BERNHAUER, 1939 (one of them from the West Mediterranean and the other from China!), and the remainder is listed as incertae sedis (SCHÜLKE & SMETANA 2015).

OSSWALD et al. (2013) included three *Blepharhymenus* species, *B. corsicus* (MULSANT & REY, 1875) and two unidentified North American species, in their study on the molecular phylogeny of Oxypodini. As a result, they synonymized the subtribe Blepharymenina KLIMASZEWSKI & PECK, 1986 with Dinardina MULSANT & REY, 1873. Moreover, the two trees in their study do not provide evidence of a close relationship between the two North American species and the European *B. corsicus*.

One of the incentives for the present revision was the zoogeographically implausible, remarkably discontinuous overall distribution of *Blepharhymenus*, which included the temperate zones of southern South America (Chile, Argentina), North America north of Mexico, the West Palae-

arctic eastwards to the Alps, Corsica, and Sardinia, parts of the East Palaearctic (China, Nepal, Korea), Australia, and South Africa. It seemed highly unlikely that all these species should belong to the same lineage. Moreover, the intrageneric affiliations, i.e., the subgeneric system, with one species from the Alps in one subgenus, two species from the West Mediterranean and China in another, and the remainder in the nominal subgenus, appeared equally doubtful. A third stimulus came from the difficulties encountered when trying to identify Iberian *Blepharhymenus* based on the keys, descriptions, and illustrations provided by FAGEL (1958, 1959, 1960), GAMARRA & OUTERELO (1988), and SCHEERPELTZ (1954). Although the focus of this study is on the fauna of the Palaearctic and eventually also on the Oriental Region, it was necessary to additionally consider material and species at least from those regions (Chile, North America) from where type species of genus group names (*Blepharhymenus*, *Colusa*) had been described in order to clarify the generic affiliations and assignments. Those of the species recorded from the Ethiopian Region and from Australia, on the other hand, are not addressed here, but will have to be revised separately.

Material and methods

The material treated in this study is deposited in the following public and private collections:

CNC	Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Canada (A. Brunke, A. Smetana)
FMNH	Field Museum of Natural History, Chicago, USA (C. Maier, A.F. Newton)
HNHM	Hungarian Natural History Museum, Budapest, Hungary (Gy. Makranczy)
IRSNB	Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgium (Y. Gérard)
MCSNV	Museo Civico di Storia Naturale di Verona, Italy (L. Latella, A. Zanetti)
MHNG	Muséum d'Histoire Naturelle, Genève, Switzerland (G. Cuccodoro)
MNB	Museum für Naturkunde, Berlin, Germany (J. Frisch, M. Schülke)
MNHNP	Muséum National d'Histoire Naturelle, Paris, France (A. Taghavian)
NHMB	Naturhistorisches Museum Basel, Switzerland (M. Borer)
NHMW	Naturhistorisches Museum Wien, Austria (H. Schillhammer)
SDEI	Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany (L. Behne)
cAss	author's private collection, Hannover, Germany
cMat	private collection Jan Matějíček, Hradec Králové, Czechia
cSha	private collection Alexey Shavrin, Daugavpils, Latvia
cStr	private collection Tim Struyve, Mechelen, Belgium
cWun	private collection Paul Wunderle, Mönchengladbach, Germany

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss), a Discovery V12 microscope (Zeiss), and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using a digital camera (Nikon Coolpix 995), Axiocam ERc 5s, and Picolay software. The maps were created using MapCreator 2.0 (primap) software.

Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the mandibles to the posterior margin of the elytra, head length from the anterior margin of the clypeus (without anteclypeus) to the posterior constriction of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra (at the suture), and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

Zoogeographic terminology is based primarily on LATTIN (1967). The limits of the zoogeographical regions are in accordance with those of SCHÜLKE & SMETANA (2015).

Checklist of the taxa previously assigned to *Blepharhymenus* of the Palaearctic and Oriental regions

The checklist below summarizes the (new) generic assignments and other taxonomic changes (in bold), and the known distributions. *Ocalea dabensis* (PACE, 2012), comb.n., is omitted.

Species	Distribution
Genus *Echidnoglossa* WOLLASTON, 1864; **revalidated**	
Subgenus *Echidnoglossa* WOLLASTON, 1864	
constricta WOLLASTON, 1864	Canary Islands: Tenerife, La Gomera
corsica MULSANT & REY, 1875 = *sardoa* (SCHEERPELTZ, 1954); **syn.n.**	Corsica, Sardinia
glabrata (KIESENWETTER, 1870); **comb.n.** = *moczarskii* (SCHEERPELTZ, 1954); **syn.n.**	South Spain
maghrebica (FAGEL, 1960); **comb.n.** = *peyerimhoffi* (FAGEL, 1960); **syn.n.**	Morocco, Algeria
meschniggi (BERNHAUER, 1936); **comb.n.** = *elegans* (FAGEL, 1959); **syn.n.** = *guadalupensis* (FAGEL, 1959); **syn.n.**	Spain
paulinoi SKALITZKY, 1884	North Portugal; Northwest Spain
russa **sp.n.**	Egypt: Sinai Peninsula
scheerpeltzi (FAGEL, 1958); **comb.n.** = *lusitanica* (FAGEL, 1960)	Spain, Portugal
Subgenus *Blepharrhymorphus* IHSSEN, 1934	
breiti (SCHEERPELTZ, 1954); **comb.n.**	Eastern and Central Alps
miranda (FAUVEL, 1899); **comb.n.**	Western and Central Alps
Subgenus *Maurechidna* **n.**	
ventricosa QUEDENFELDT, 1881	Northwest Africa; southern Iberian Peninsula
Subgenus *Orechidna* **n.**	
artior **sp.n.**	Taiwan
betzi **sp.n.**	North Thailand
divisa (PACE, 1999); **comb.n.**	China: Yunnan
formosana **sp.n.**	Taiwan
hirthei **sp.n.**	Central Nepal
nepalensis (PACE, 1992); **comb.n.**	East Nepal
zhejiangensis (PACE, 1999); **comb.n.**	China: Zhejiang
Subgenus *Sinechidna* **n.**	
smetanai (PACE, 2012); **comb.n.**	China: Sichuan, North Yunnan
Genus *Kortomenus* **n.**	
koreanus (PAŚNIK, 2001); **comb.n.**	North and South Korea

Genus *Syntomenus* BERNHAUER, 1939; **stat.n.**	
chinensis (BERNHAUER, 1939); **comb.n.** = *rougemonti* (PACE, 1999); **syn.n.**	China: Zhejiang
laoticus **sp.n.**	Laos

Results

A revision of all the Palaearctic species previously assigned to *Blepharhymenus*, as well as of representative *Blepharhymenus* species from North America and from Chile revealed that the genus in the traditional sense includes various distinct lineages morphologically distinguished particularly by the mouthparts and the general structure of the aedeagus, and partly also by the spermatheca and external characters. The observed differences are significantly more pronounced than those separating many other genera of Oxypodini such as *Oxypoda* MANNERHEIM, 1830 and allied genera (e.g., *Cousya* MULSANT & REY, 1875, *Maurachelia* BERNHAUER, 1802, *Ocyusa* KRAATZ, 1856, *Poromniusa* GANGLBAUER, 1895, *Tectusa* BERNHAUER, 1899, and *Zoosetha* MULSANT & REY, 1874. In all, five major lineages are identified, one of them ("true" *Blepharhymenus*) distributed in the Chilean Subregion and including 16 species, one in North America (with slightly more than 20 species), and one in the Palaearctic Region with five sub-lineages including 19 species. One additional lineage is distributed in China and Laos, and one is confined to Korea. While only the Chilean clade remains in *Blepharhymenus*, the four other lineages are regarded as distinct genera. Genus group names had already been made available for three of the latter, either as synonyms or as a subgeneric name. A new name is proposed for the fourth lineage. In consequence, numerous new combinations are proposed, partly explicitly (Palaearctic species; see checklist) and partly implicitly (most species from North America). Five distinct sub-lineages are identified in *Echidnoglossa*. They are attributed subgeneric rank. Names for two of them were already available; new names are proposed for the remaining three. One species from China had to be moved to *Ocalea* ERICHSON, 1837; it does not even have the narrow posterior constriction on the head, the most prominent diagnostic character of the previous concept of "*Blepharhymenus*".

Considering the intergeneric variation of the structure of the mouthparts and the genitalia, it seems rather unlikely that the slender body shape and particularly the narrow posterior constriction of the head represent homologous characters. These character conditions are present also in various other tribes and subfamilies of Staphylinidae, e.g., Tachyusini, Falagriini, and Lomechusini of the Aleocharinae and Scopaeina and Lathrobiina of the Paederinae, especially in taxa associated with moist and/or hypogean habitats. Available evidence suggests that most of the taxa previously assigned to *Blepharhymenus* are inhabitants of wet habitats or hypogean environments. Thus, the external morphology may be interpreted as a convergently evolved adaptive response to habitat conditions.

Genus *Blepharhymenus* SOLIER, 1849

Type species: *Blepharhymenus sulcicollis* SOLIER, 1849.

DIAGNOSIS: Species of intermediate size (approximately 3–6 mm) and variable habitus (Figs. 1–7). Body more or less distinctly bicolored, predominantly reddish or yellowish, the preapical abdominal segments often infuscate. Legs, antennae, and maxillary palpi not distinctly modified, not particularly elongate or slender. Posterior constriction of head narrow, but of variable width, ranging from less than one third to nearly half the width of head (Figs. 1–7). Labrum (Figs. 88,

90) strongly transverse and of quadrangular shape, anterior margin nearly truncate; ligula (Fig. 91) slender, the apical third to fifth bilobed, each of the lobes with a coniform sensillum.

Pronotum weakly to strongly convex in cross-section, with bordered lateral and posterior margins (usually distinctly visible in dorsal view). Punctation of elytra usually much finer and sparser in posterior than in anterior portions of elytra. Abdomen with subparallel lateral margins (i.e., basally not distinctly constricted); tergites III–V or III–VI with pronounced anterior impressions.

♂: posterior margin of sternite VIII convexly to acutely produced in the middle; aedeagus (Figs. 89, 92) without distinct modifications, of the usual oxypodine condition; crista apicalis narrow; crista proximalis of moderate size.

♀: posterior margin of sternite VIII less produced than in male; spermatheca of the usual oxypodine condition, with apical cuticular invagination.

COMMENT: An examination of several Chilean species of *Blepharhymenus* revealed that, based on morphological characters, particularly the mouthparts and the sexual characters, they represent a distinct lineage, resulting in an exclusion of the species recorded from the Palaearctic and Nearctic regions. For characters separating the Palaearctic and Nearctic lineages from *Blepharhymenus* see the respective genus sections below. In consequence, 16 species described from Chile (partly subsequently recorded also from Argentina) remain in *Blepharhymenus*. Formally, the same applies to one species from South Africa and three from Australia, whose generic assignments require revision. The illustrations of the aedeagi and spermathecae provided by PACE (2005) suggest that at least the Australian species may indeed belong to *Blepharhymenus*. Thus, this genus may in fact have a Gondwanan distribution.

Based on an examination of type material, one of the Chilean species does not belong to the genus (see section on *B. franzi* PACE, 1987 below). For additional illustrations of *Blepharhymenus* species from Chile see PACE (1987, 1999b).

Species examined

Blepharhymenus granulicauda PACE, 1987 (Fig. 1)

TYPE MATERIAL EXAMINED: **Holotype** ♂: "Chiloe, S-Chile, lg. H. Franz / SA 166 [overleaf] / Holotypus *Blepharhymenus granulicauda* m., det. R. Pace, 1984 / *Blepharhymenus granulicauda* sp. n. det. R. Pace, 1984" (NHMW). **Paratype** ♀: same data as holotype, but "SA 167" (MHNG).

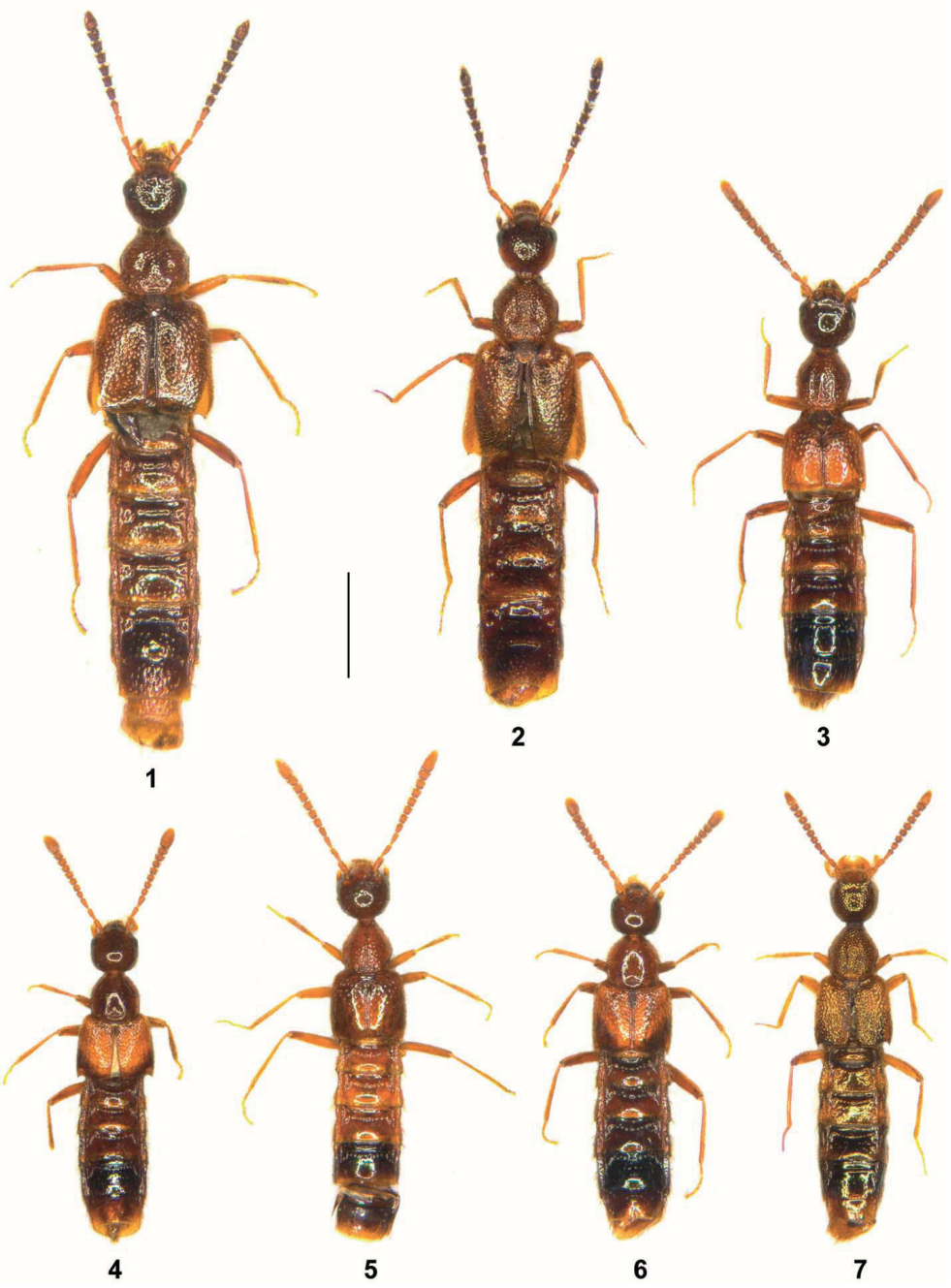
ADDITIONAL MATERIAL EXAMINED: 1 ♂, same data as paratype (MHNG).

The habitus of the holotype is illustrated in Fig. 1.

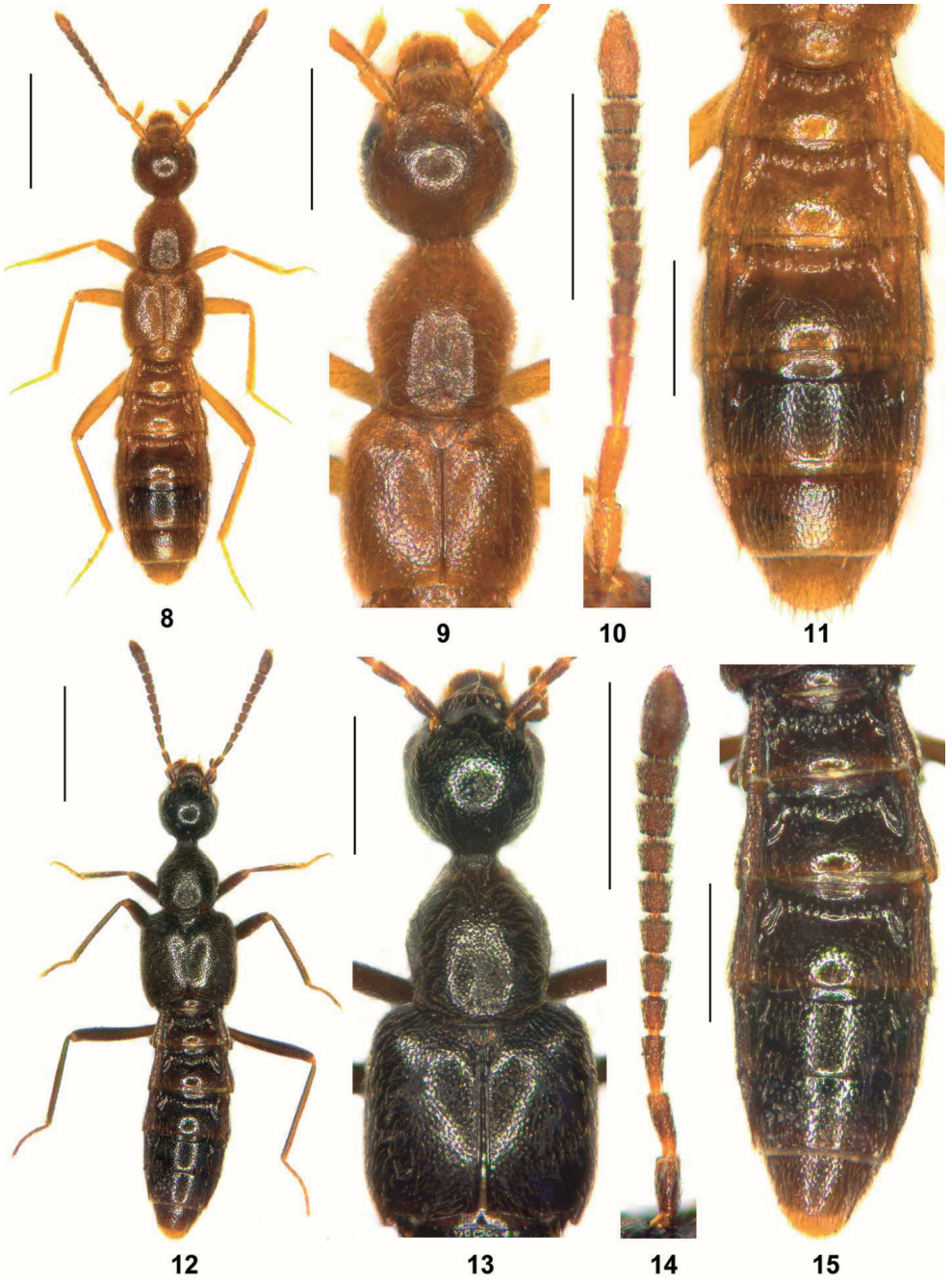
Blepharhymenus puyehuensis PACE, 1987 (Fig. 2)

TYPE MATERIAL EXAMINED: **Holotype** ♂: "Parque Nacional, Puyehue b. Osorno, Chilenische Anden / SA 104 [overleaf] / Holotypus *Blepharhymenus puyehuensis* m., det. R. Pace, 1985 / *Blepharhymenus puyehuensis* sp. n. det. R. Pace, 1985" (NHMW).

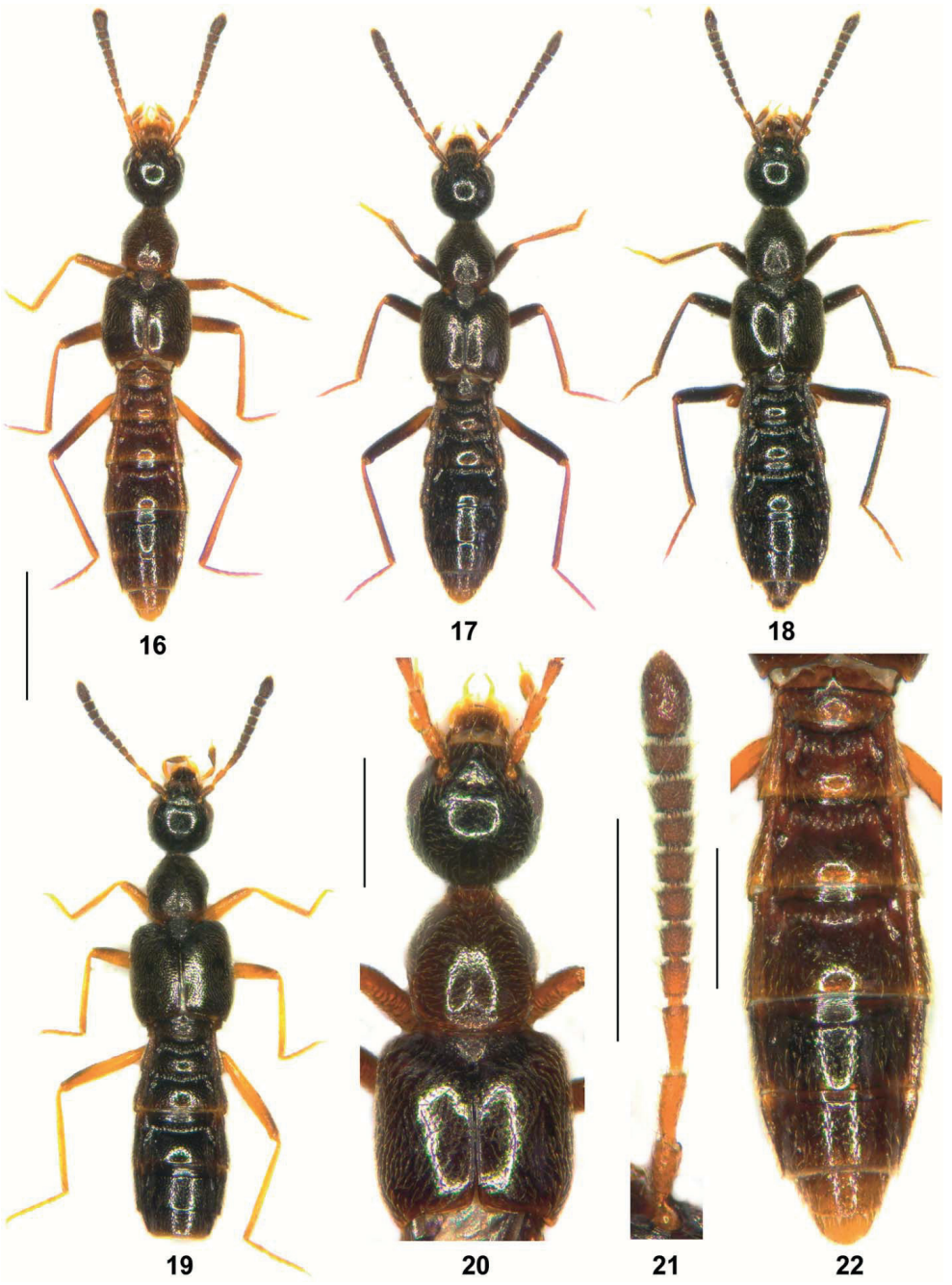
The holotype is illustrated in Fig. 2.



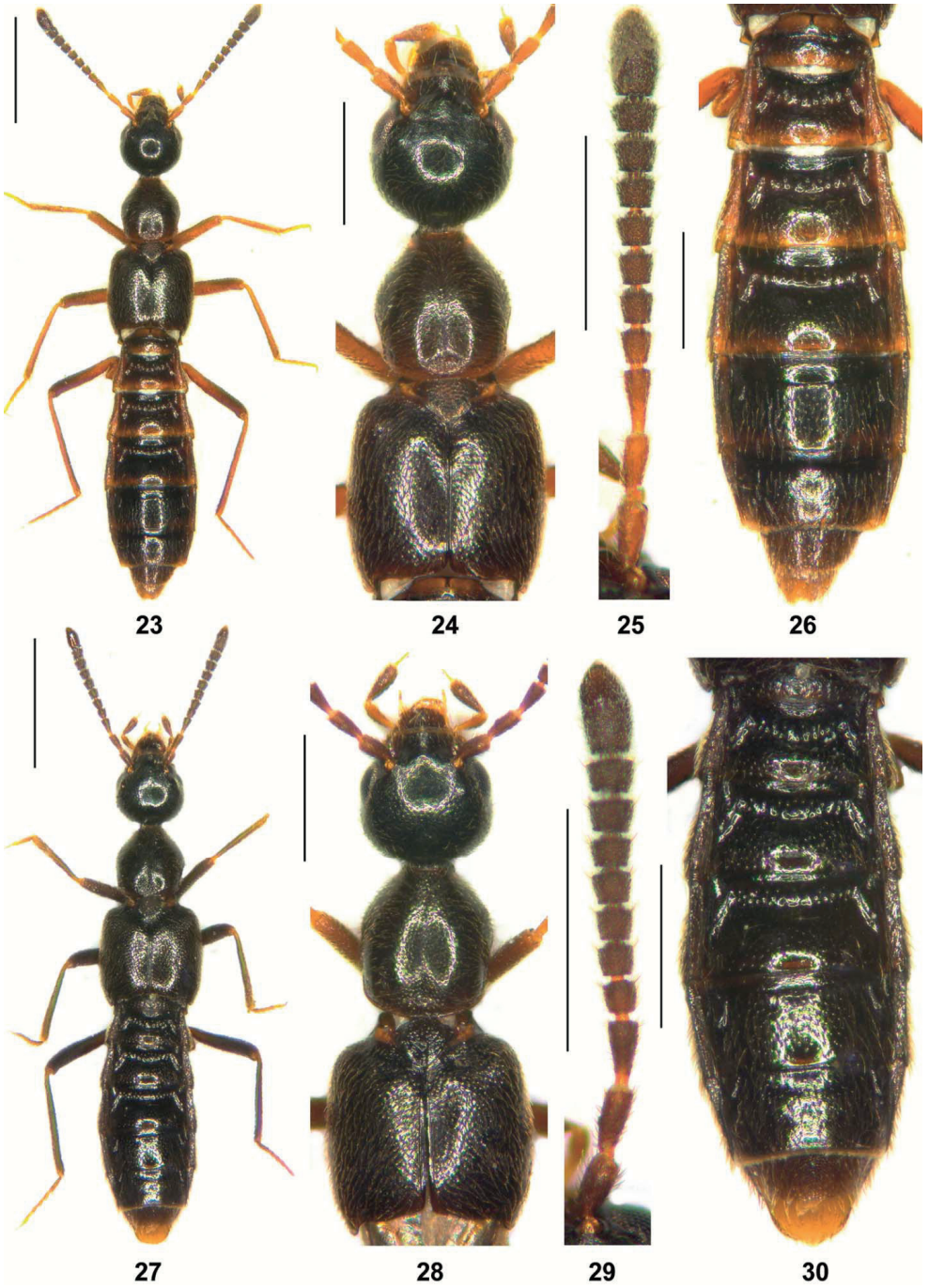
Figs. 1–7: Habitus of *Blepharhymenus* spp.: 1) *B. granulicauda*, holotype; 2) *B. puyehuensis*, holotype; 3) *B. meridionalis*, paratype; 4) *B. angularis*, holotype; 5) *B. magellanicus*; 6) *B. luteicornis*, holotype; 7) *B. osornensis*, paratype. Scale bar: 1.0 mm.



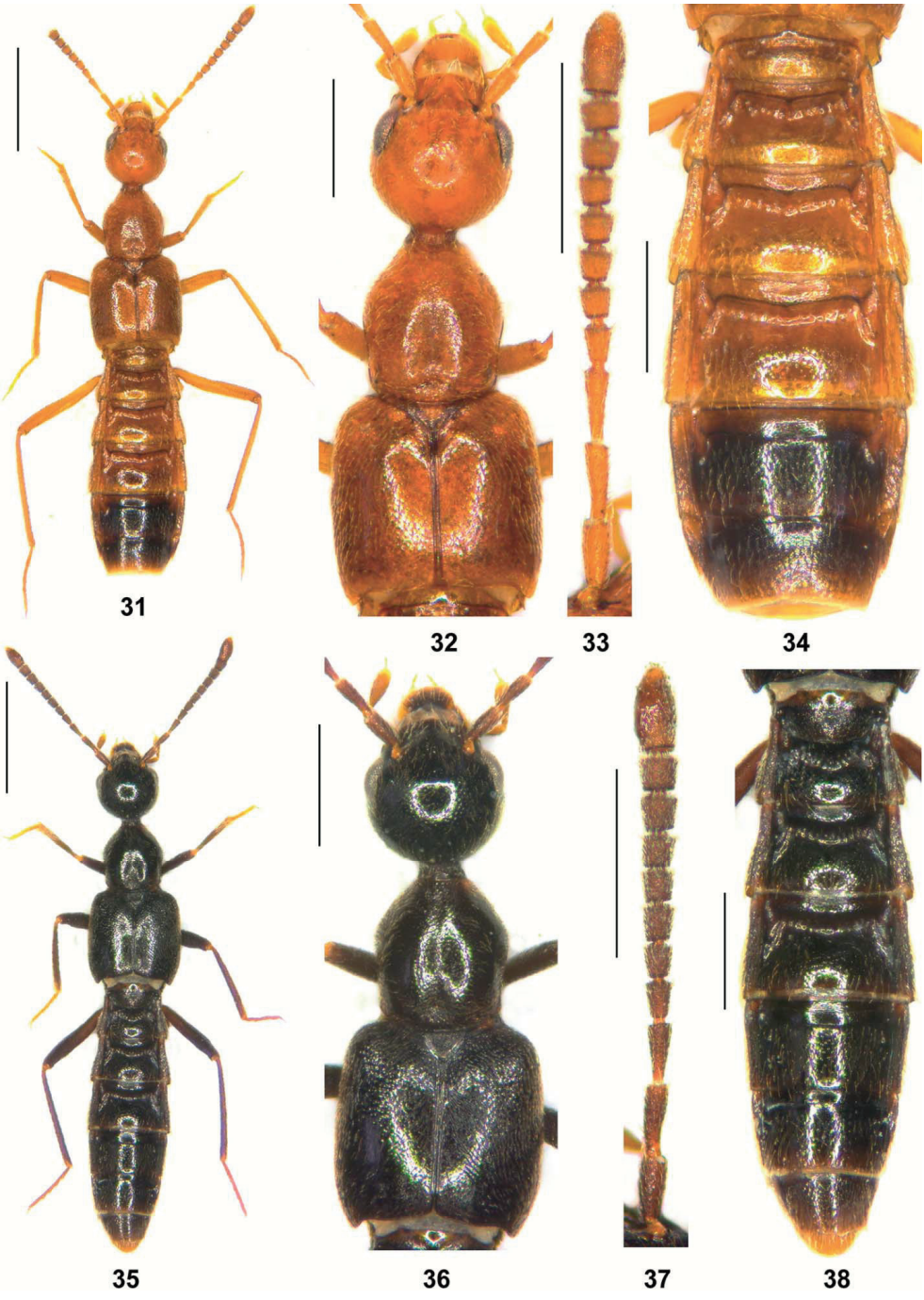
Figs. 8–15: *Echidnoglossa constricta* (8–11) and *E. glabrata* (12–15): 8, 12) habitus; 9, 13) forebody; 10, 14) antenna; 11, 15) abdomen. Scale bars: 8, 12: 1.0 mm; 9–11, 13–15: 0.5 mm.



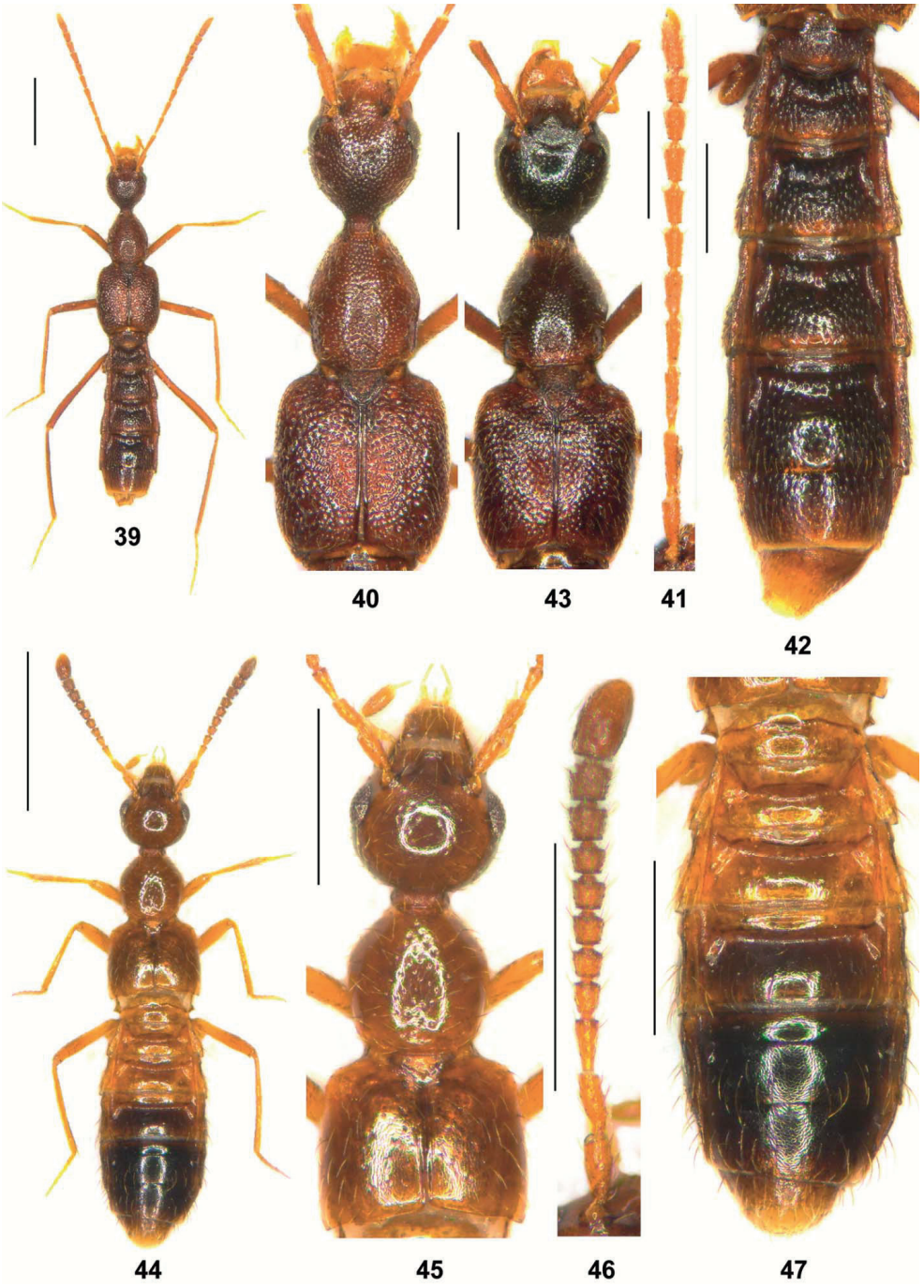
Figs. 16–22: *Echidnoglossa meschniggi* from the Sierra Nevada (16–18, 20–22) and from Cáceres (19): 16–19) habitus; 20) forebody; 21) antenna; 22) abdomen. Scale bars: 16–19: 1.0 mm; 20–22: 0.5 mm.



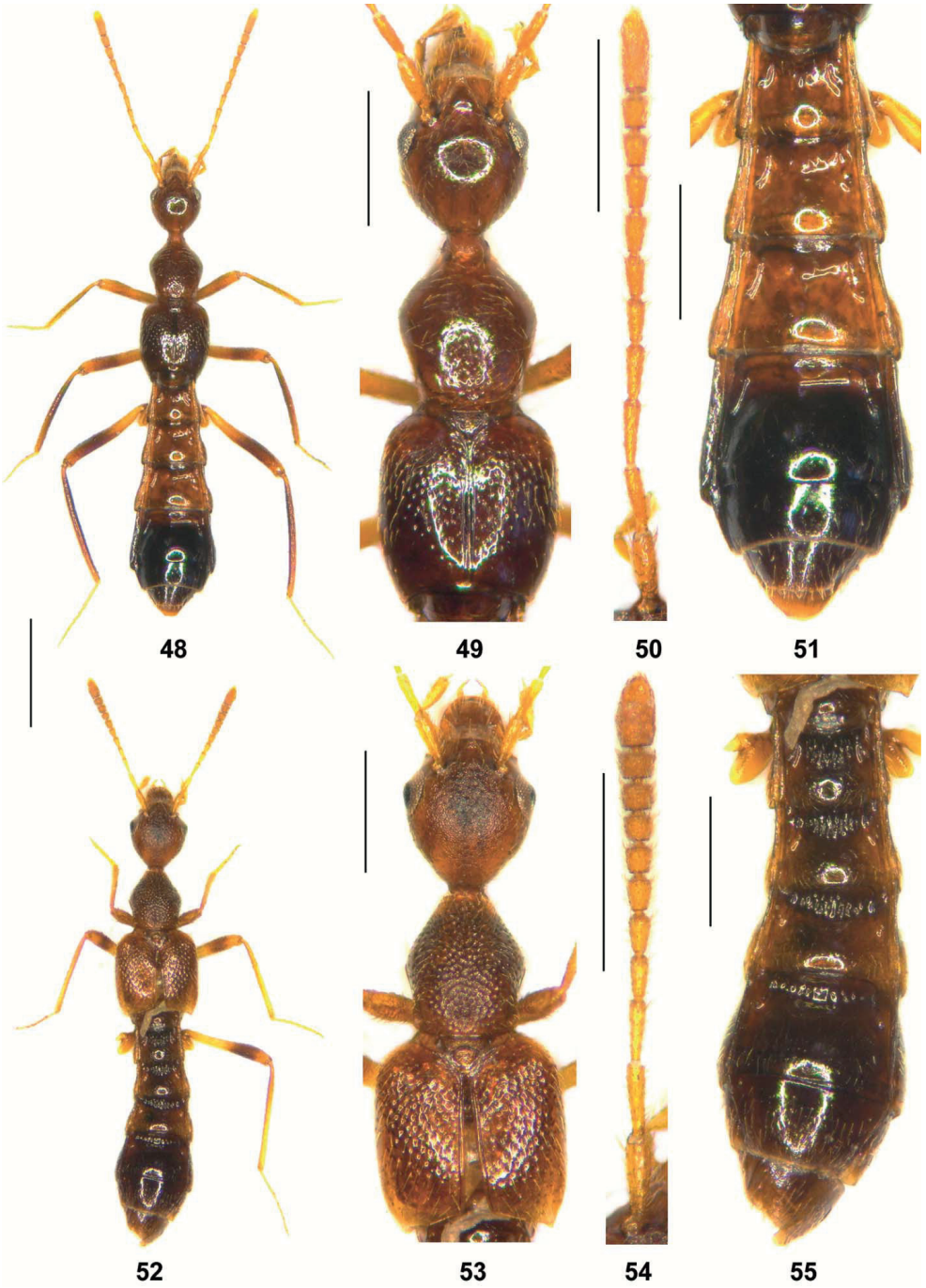
Figs. 23–30: *Echidnoglossa scheerpeltzi* (23–26) and *E. paulinoi* (27–30): 23, 27) habitus; 24, 28) forebody; 25, 29) antenna; 26, 30) abdomen. Scale bars: 23, 27: 1.0 mm; 24–26, 28–30: 0.5 mm.



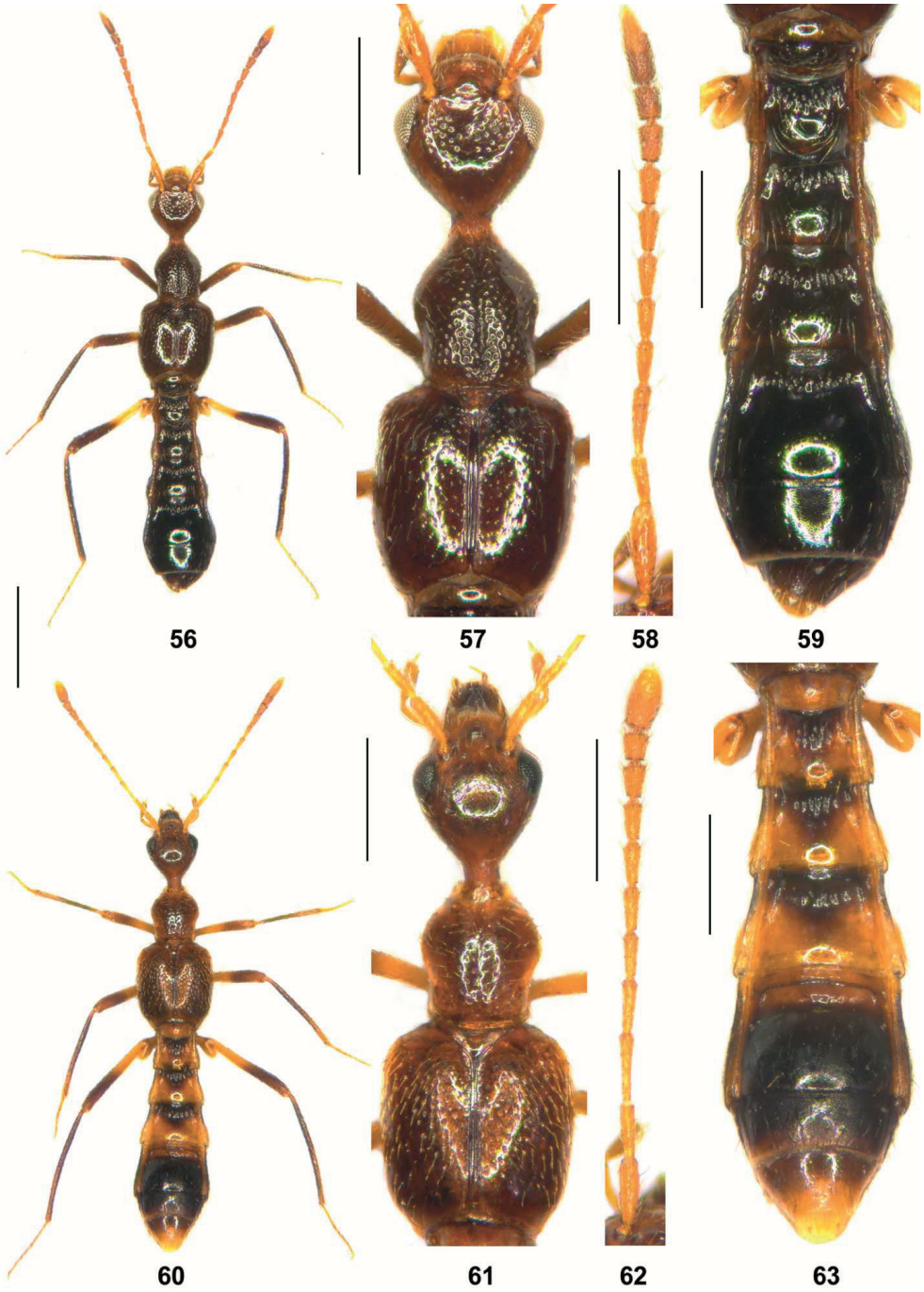
Figs. 31–38: *Echidnoglossa russa* (31–34) and *E. corsica* (35–38): 31, 35) habitus; 32, 36) forebody; 33, 37) antenna; 34, 38) abdomen. Scale bars: 31, 35: 1.0 mm; 32–34, 36–38: 0.5 mm.



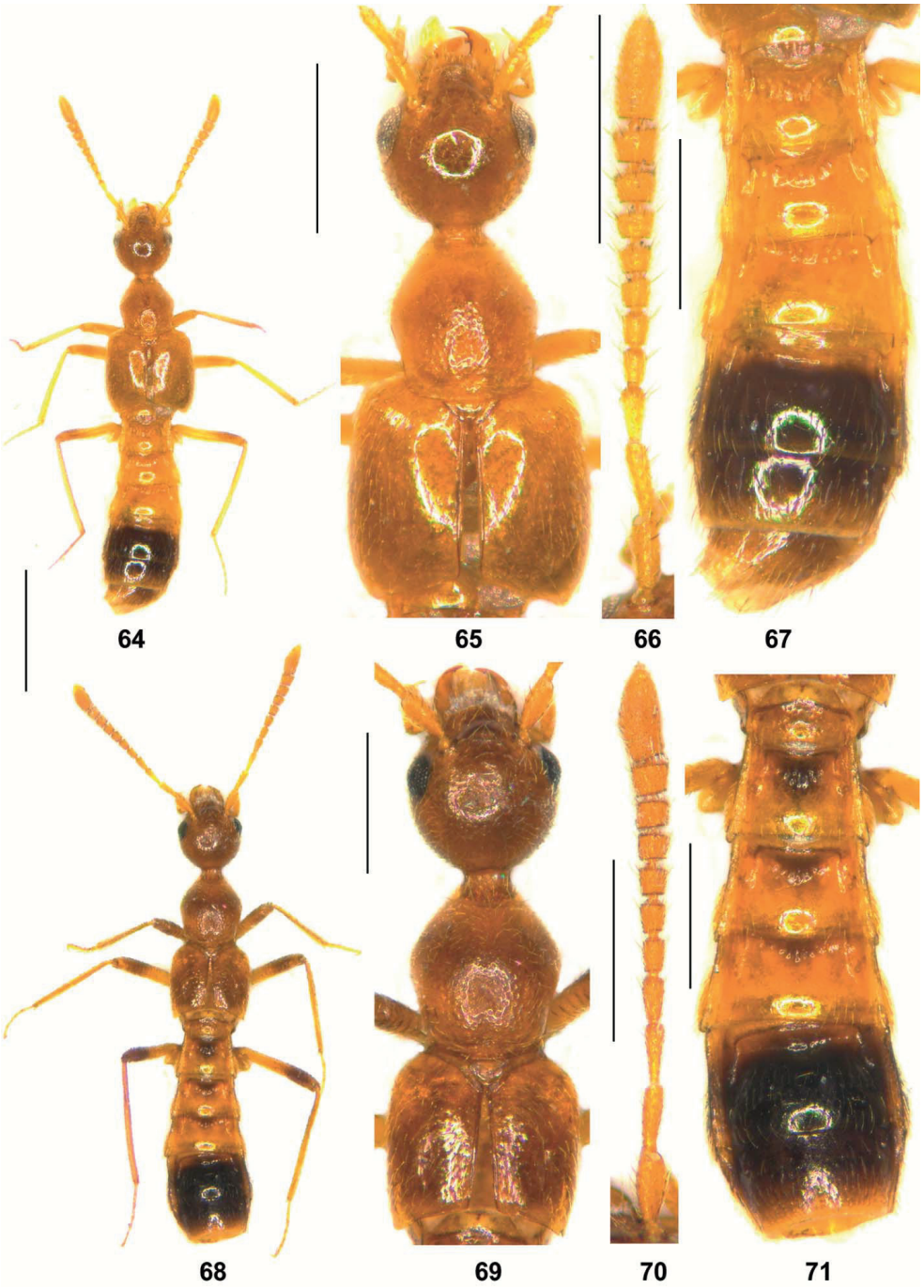
Figs. 39–47: *Echidnoglossa miranda* (39–42), *E. breiti* (43), and *E. ventricosa* (44–47): 39, 44) habitus; 40, 43, 45) forebody; 41, 46) antenna; 42, 47) abdomen. Scale bars: 39, 44: 1.0 mm; 40–43, 45–47: 0.5 mm.



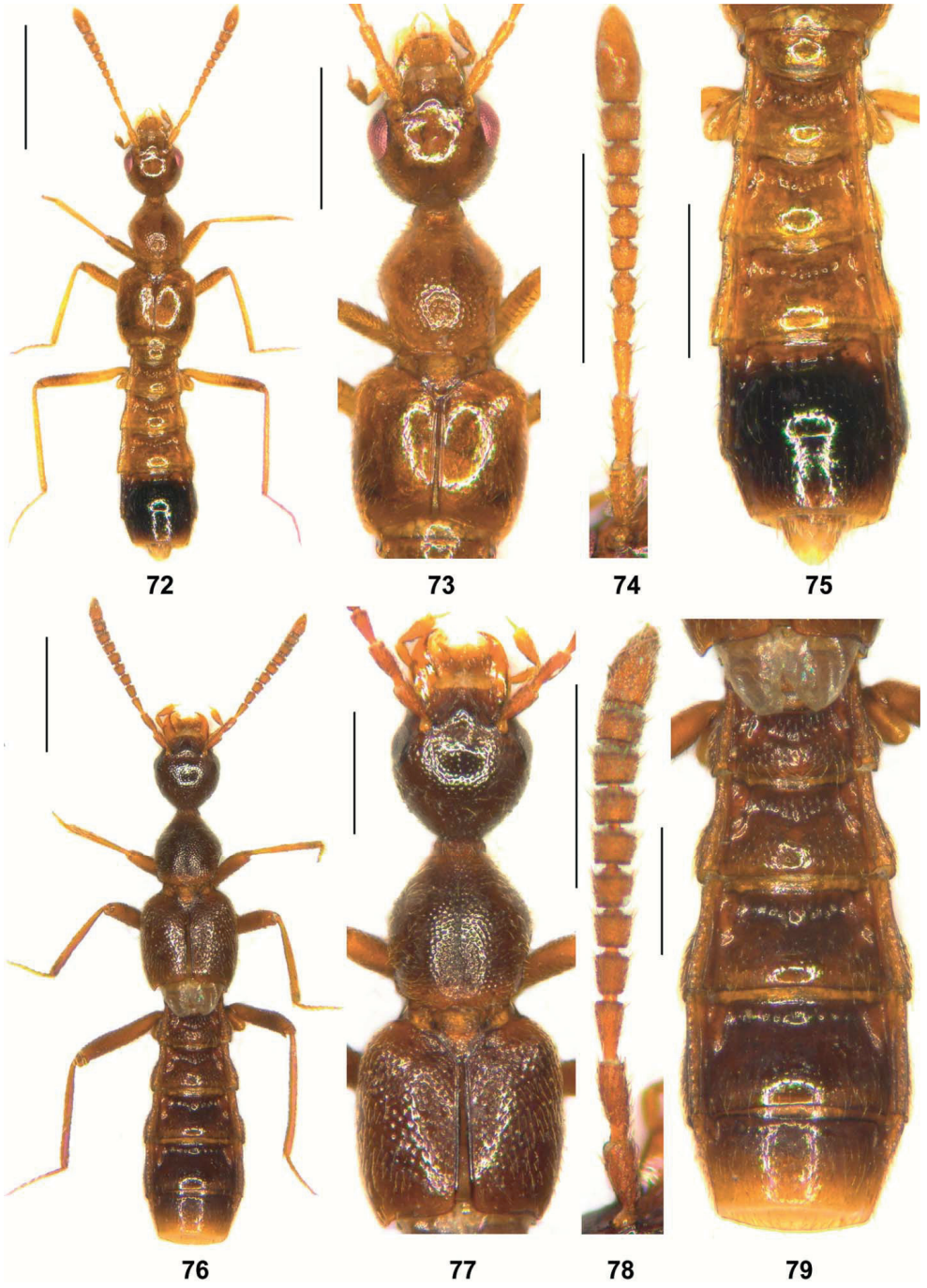
Figs. 48–55: *Echidnoglossa hirthei* (48–51) and *E. nepalensis*, holotype (52–55): 48, 52) habitus; 49, 53) forebody; 50, 54) antenna; 51, 55) abdomen. Scale bars: 48, 52: 1.0 mm; 49–51, 53–55: 0.5 mm.



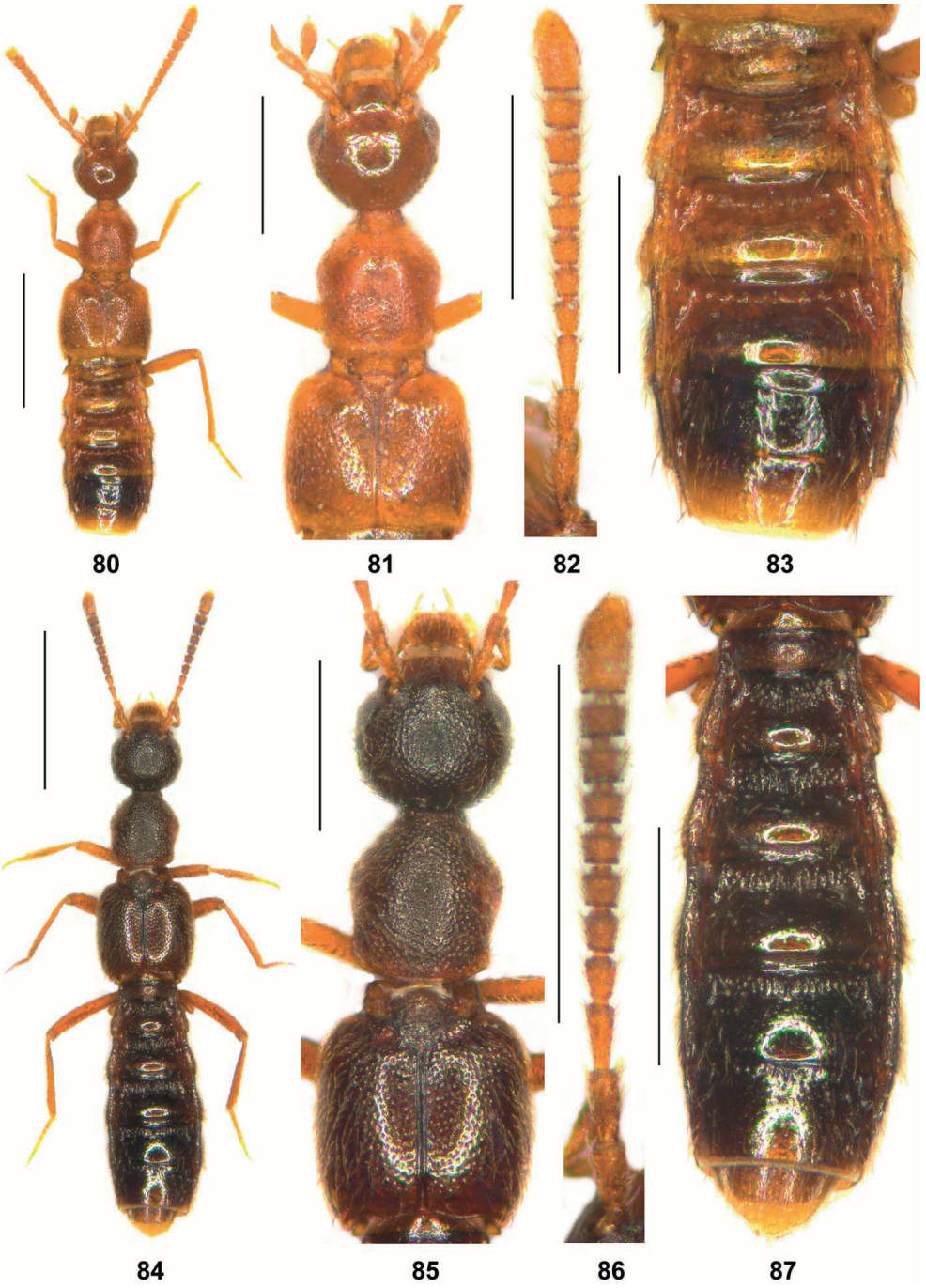
Figs. 56–63: *Echidnoglossa divisa*, holotype (56–59) and *E. betzi* (60–63): 56, 60) habitus; 57, 61) forebody; 58, 62) antenna; 59, 63) abdomen. Scale bars: 56, 60: 1.0 mm; 57–59, 61–63: 0.5 mm.



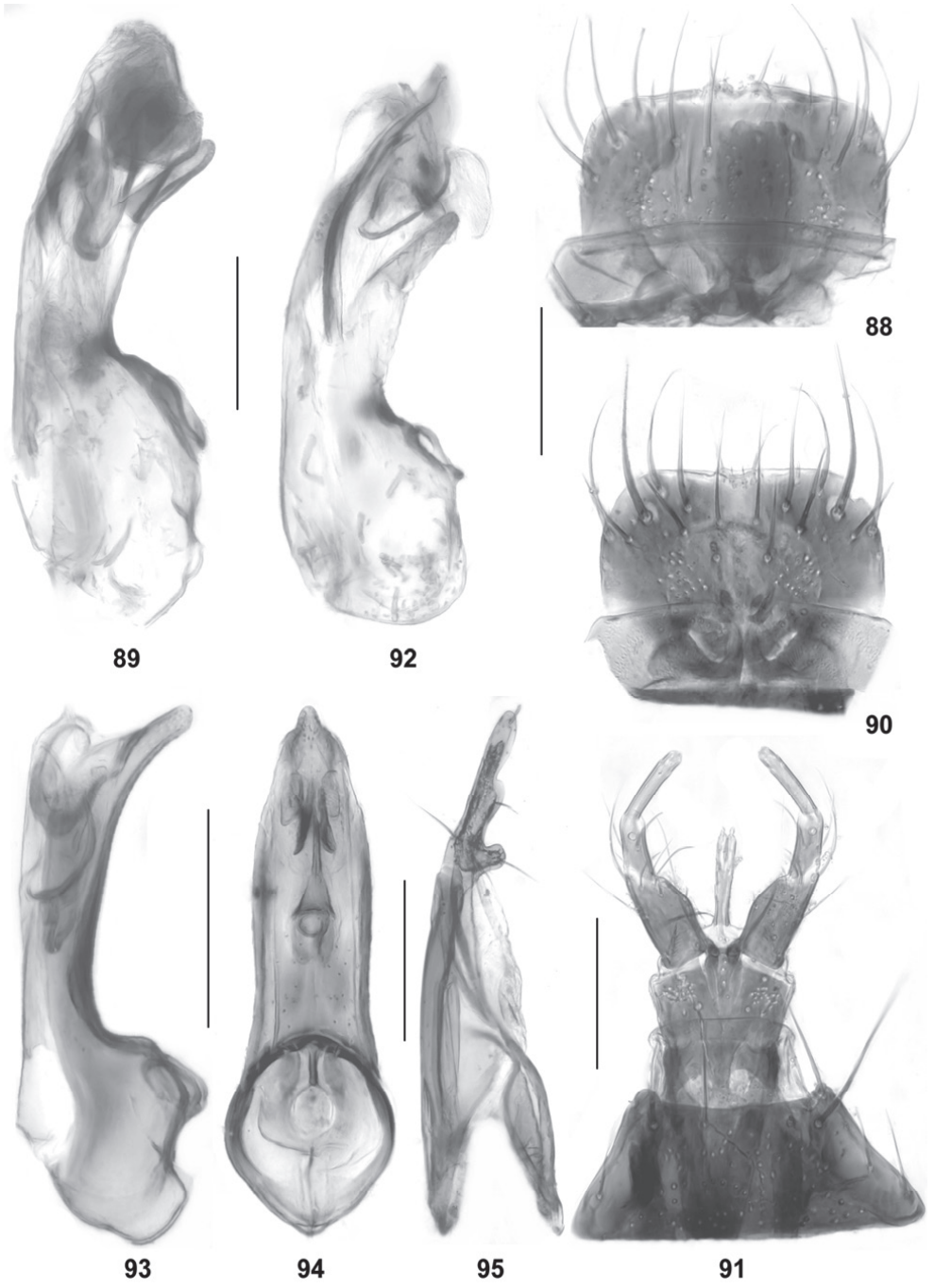
Figs. 64–71: *Echidnoglossa zhejiangensis*, holotype (64–67) and *E. artior* (68–71): 64, 68) habitus; 65, 69) forebody; 66, 70) antenna; 67, 71) abdomen. Scale bars: 64, 68: 1.0 mm; 65–67, 69–71: 0.5 mm.



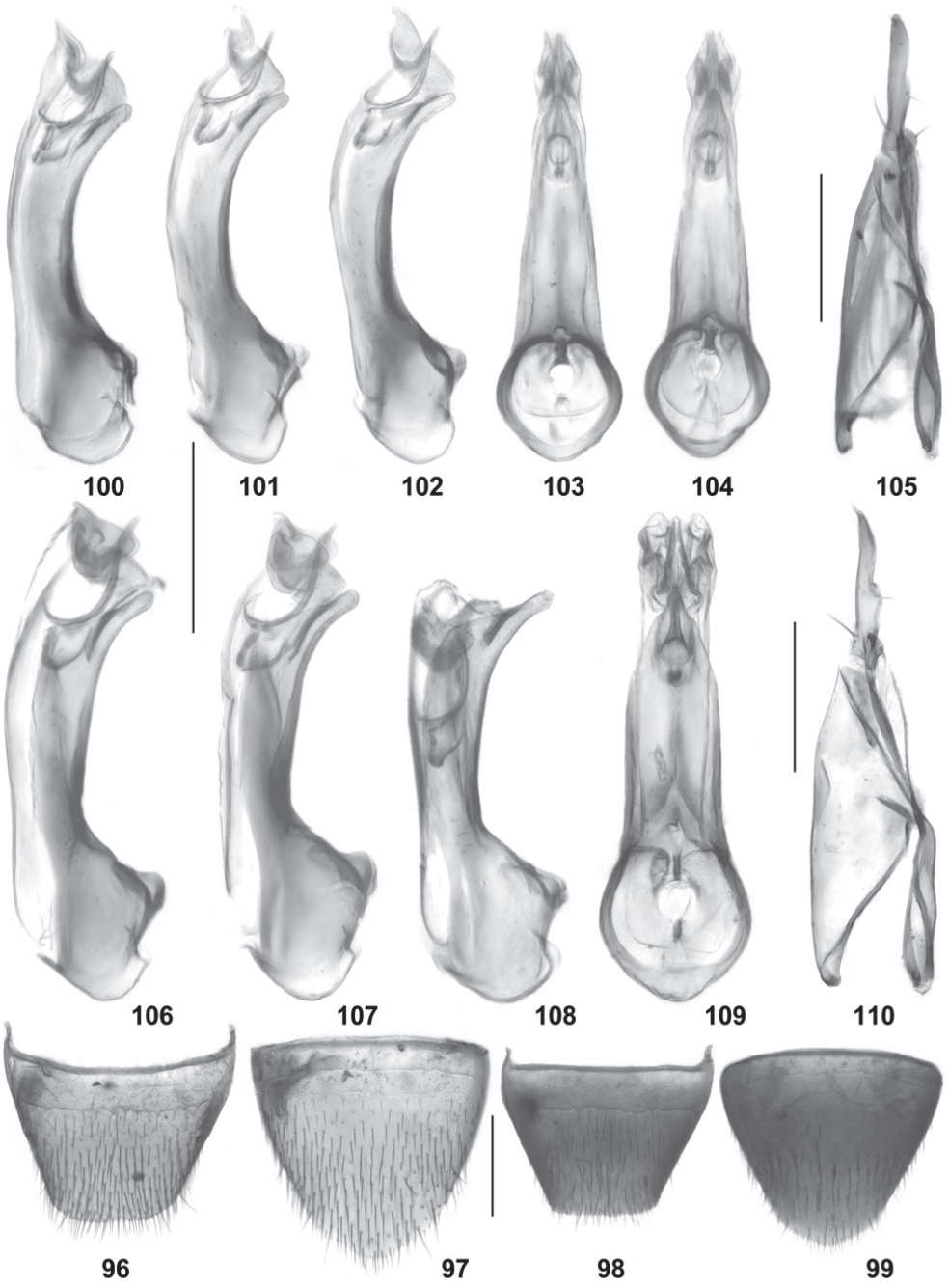
Figs. 72–79: *Echidnoglossa formosana* (72–75) and *E. smetanai* (76–79): 72, 76) habitus; 73, 77) forebody; 74, 78) antenna; 75, 79) abdomen. Scale bars: 72, 76: 1.0 mm; 73–75, 77–79: 0.5 mm.



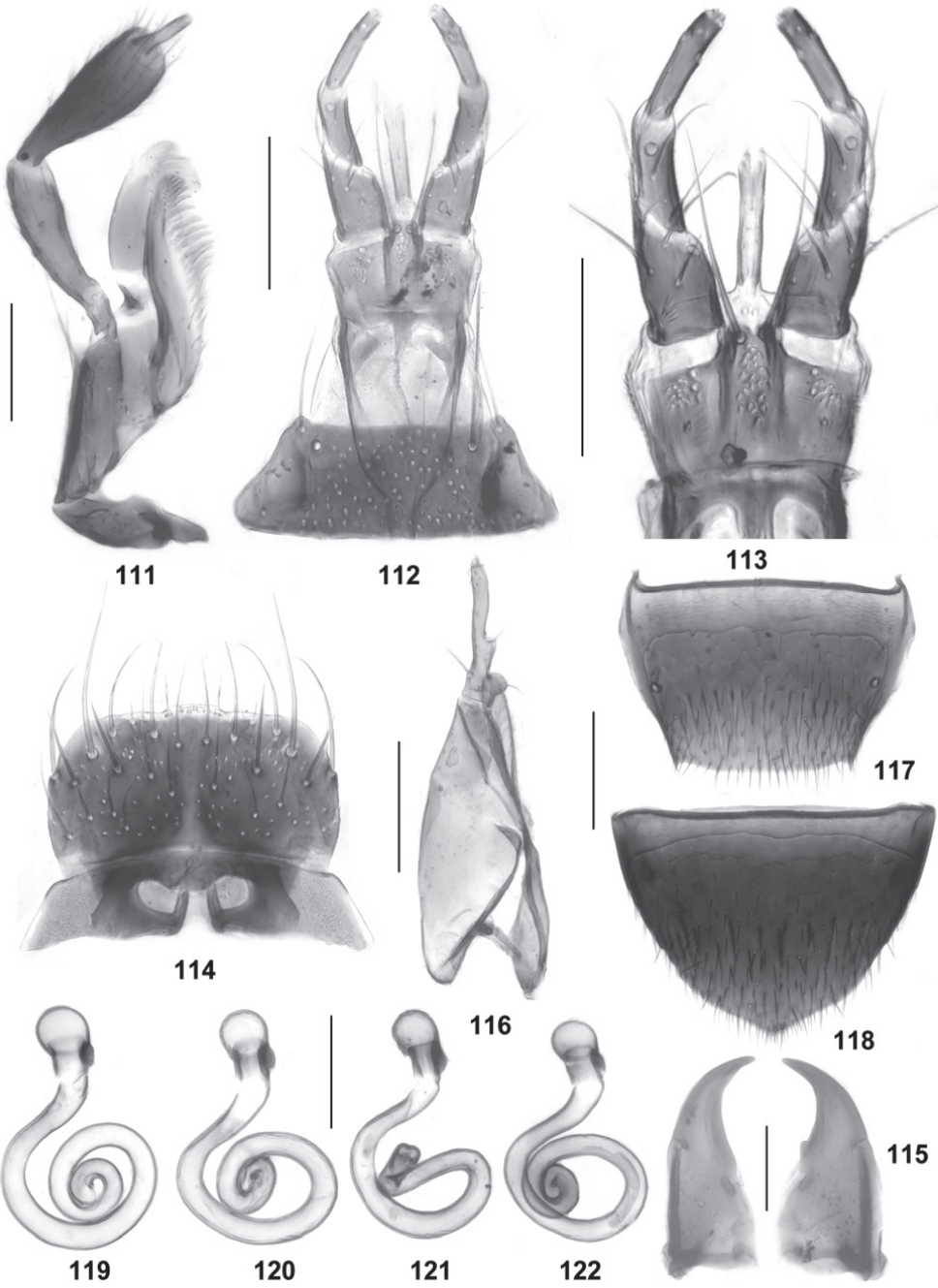
Figs. 80–87: *Syntomenus chinensis*, holotype (80–83) and *Kortomenus koreanus* (84–87): 80, 84) habitus; 81, 85) forebody; 82, 86) antenna; 83, 87) abdomen. Scale bars: 80, 84: 1.0 mm; 81–83, 85–87: 0.5 mm.



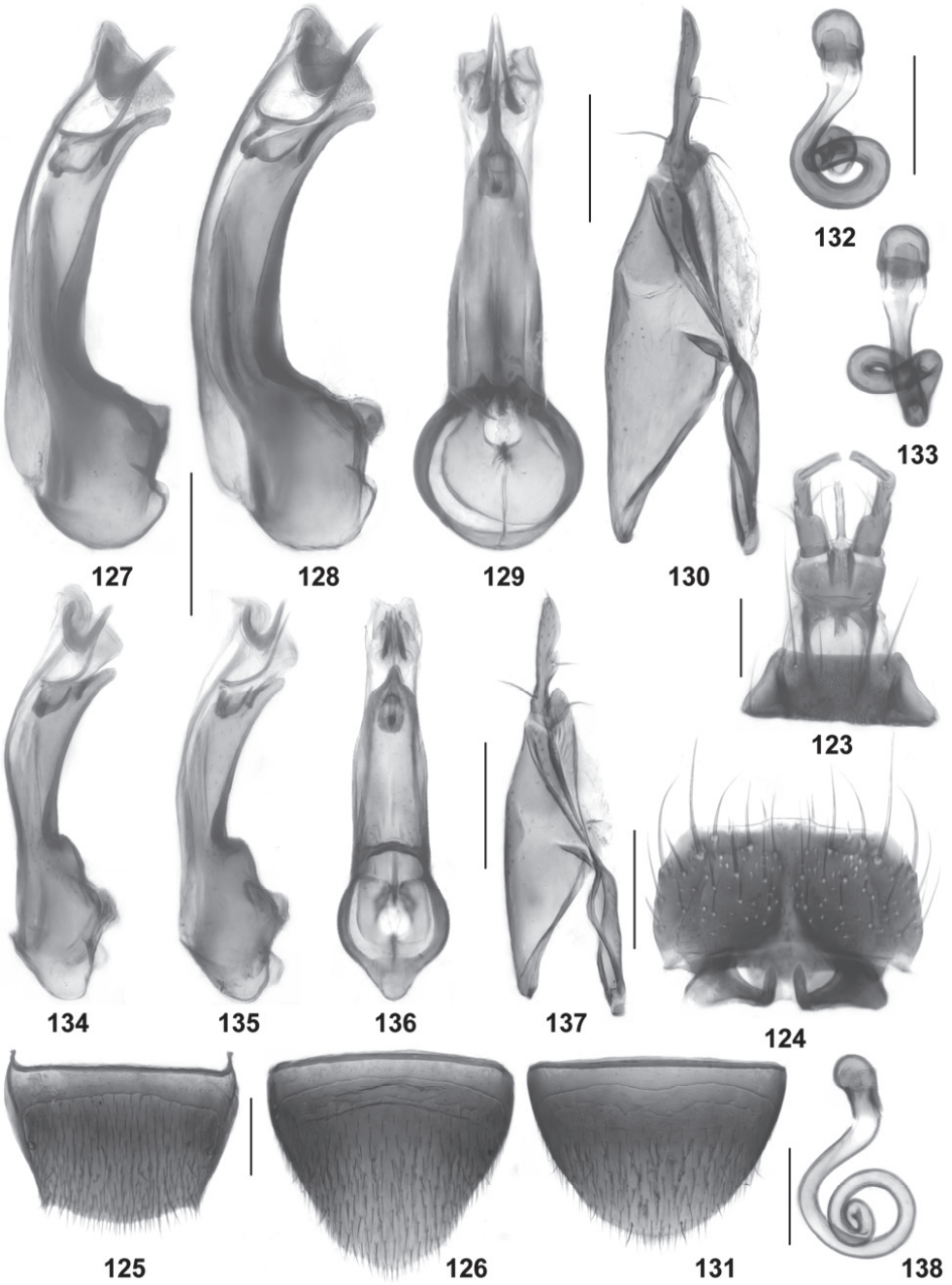
Figs. 88–95: *Blepharhymenus meridionalis* (88–89), *B. magellanicus* (90–92), and *Echidnoglossa constricta* (93–95): 88, 90) labrum; 89, 92–94) median lobe of aedeagus in lateral and in ventral view; 91) labium; 95) paramere. Scale bars: 89, 92–95: 0.2 mm; 88, 90–91: 0.1 mm.



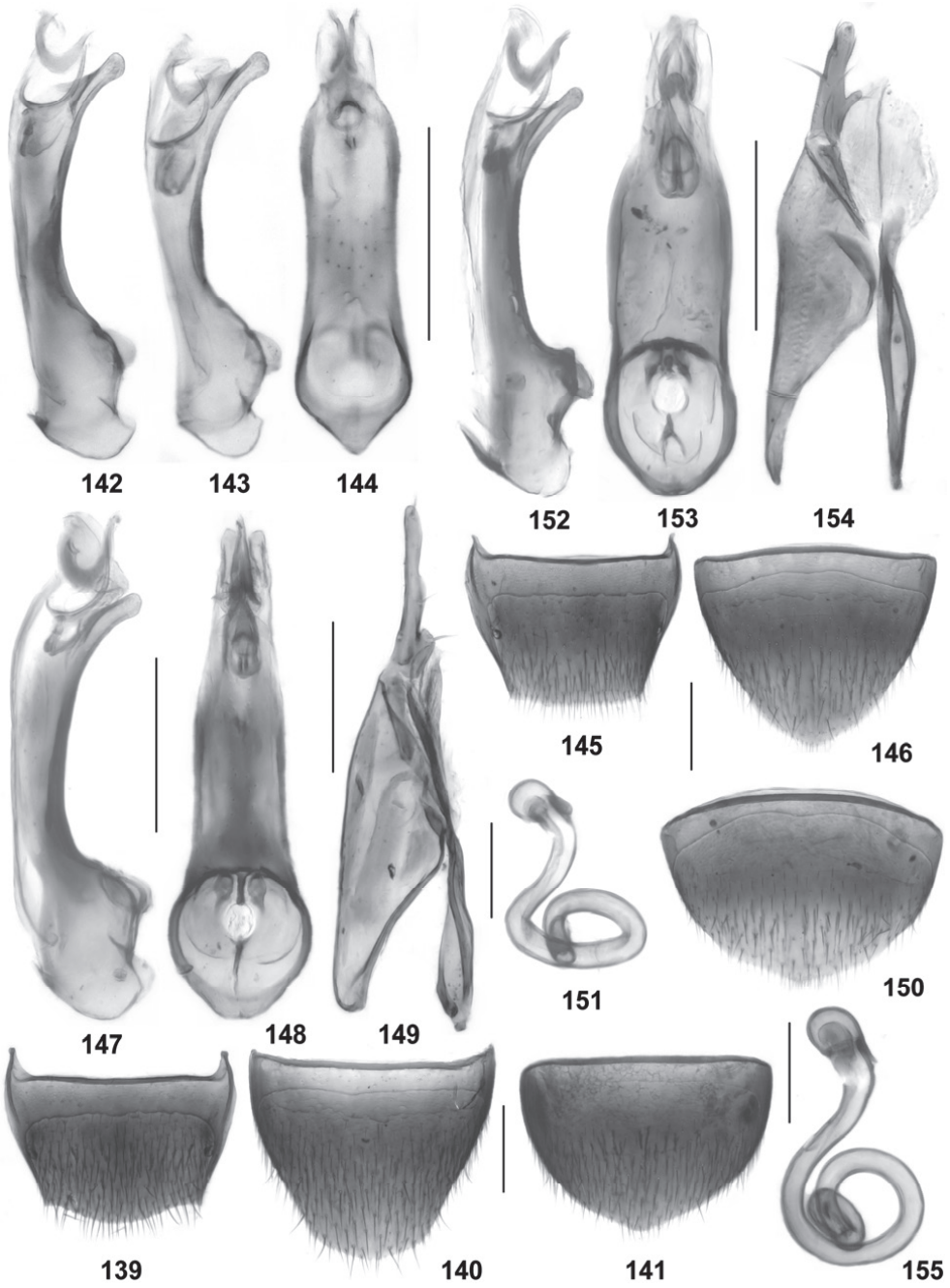
Figs. 96–110: *Echidnoglossa constricta* (96–97), *E. glabrata* (98–105; 100: holotype; 98–99, 102–103, 105: lectotype of *E. moczarskii*; 101, 104: paralectotype), and *E. meschniggi* (106–110): 96, 98) male tergite VIII; 97, 99) male sternite VIII; 100–104, 106–109) median lobe of aedeagus in lateral and in ventral view; 105, 110) paramere. Scale bars: 0.2 mm.



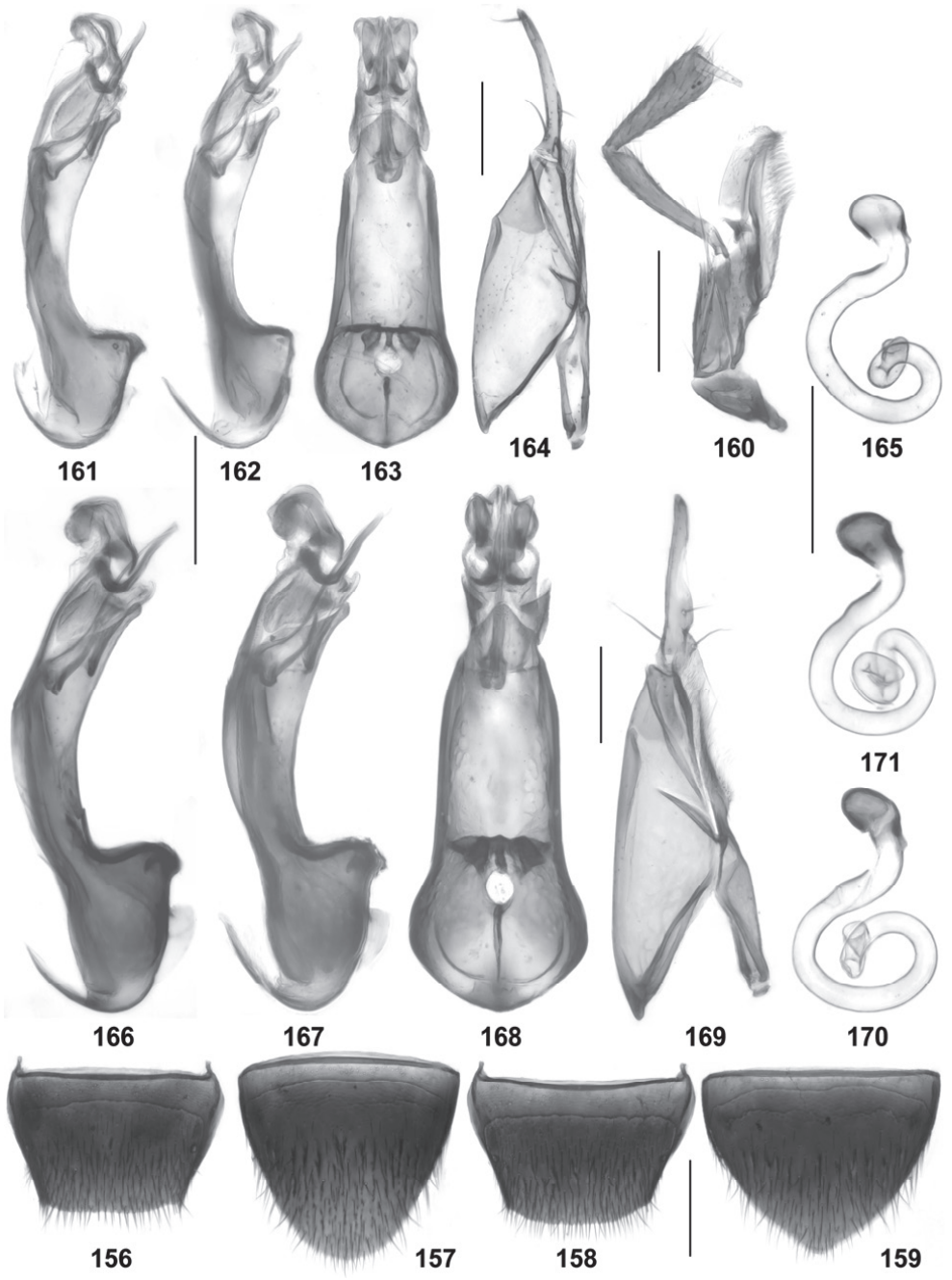
Figs. 111–122: *Echidnoglossa meschniggi*: 111) maxilla; 112–113) labium; 114) labrum; 115) mandibles; 116) paramere; 117) female tergite VIII; 118) female sternite VIII; 119–122) spermatheca. Scale bars: 116–118: 0.2 mm; 111–115, 119–122: 0.1 mm.



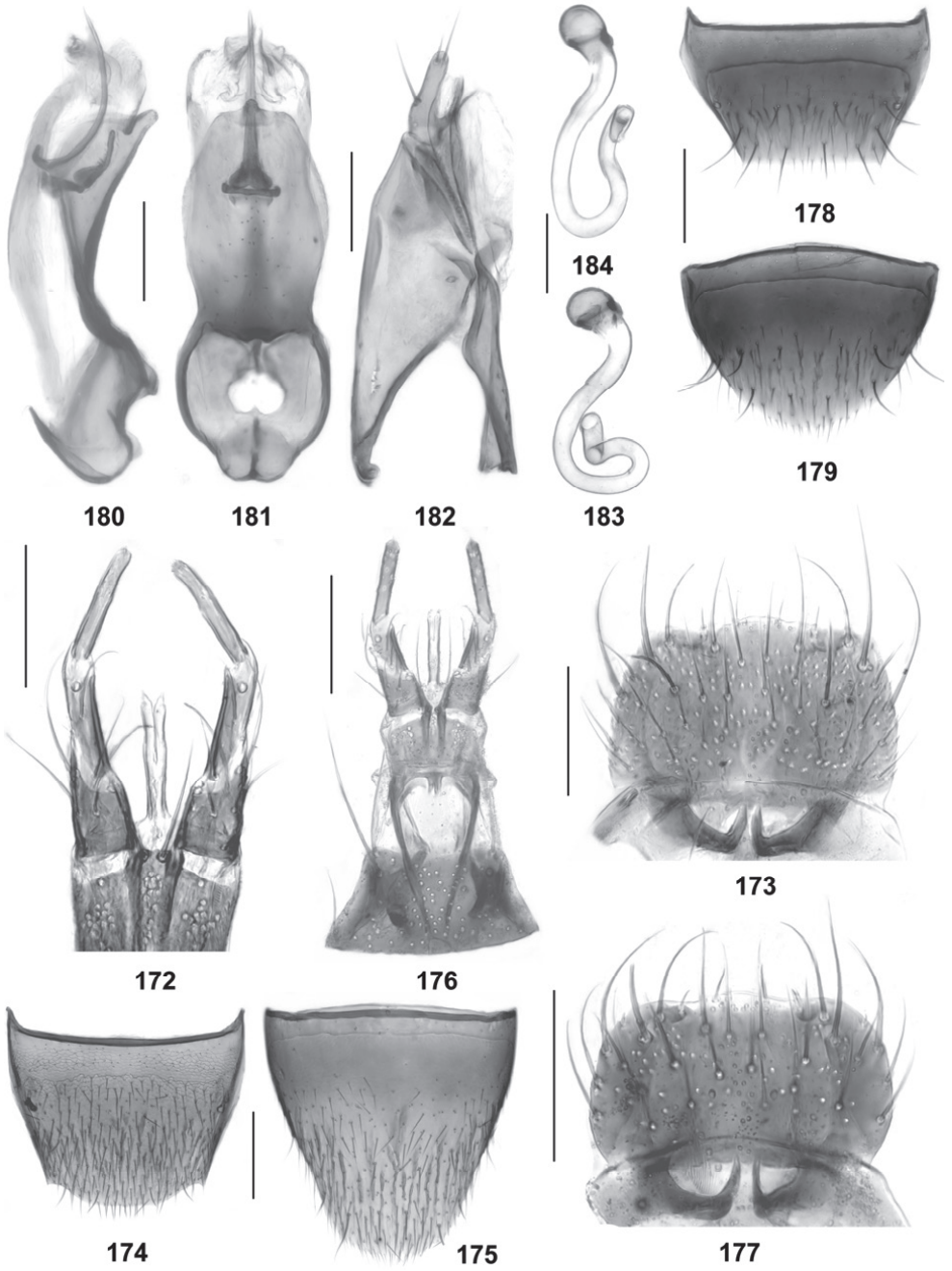
Figs. 123–138: *Echidnoglossa scheerpeltzi* (123–133) and *E. paulinoi* (134–138): 123) labium; 124) labrum; 125) male tergite VIII; 126) male sternite VIII; 127–129, 134–136) median lobe of aedeagus in lateral and in ventral view; 130, 137) paramere; 131) female sternite VIII; 132–133, 138) spermatheca. Scale bars: 125–131, 134–137: 0.2 mm; 123–124, 132–133, 138: 0.1 mm.



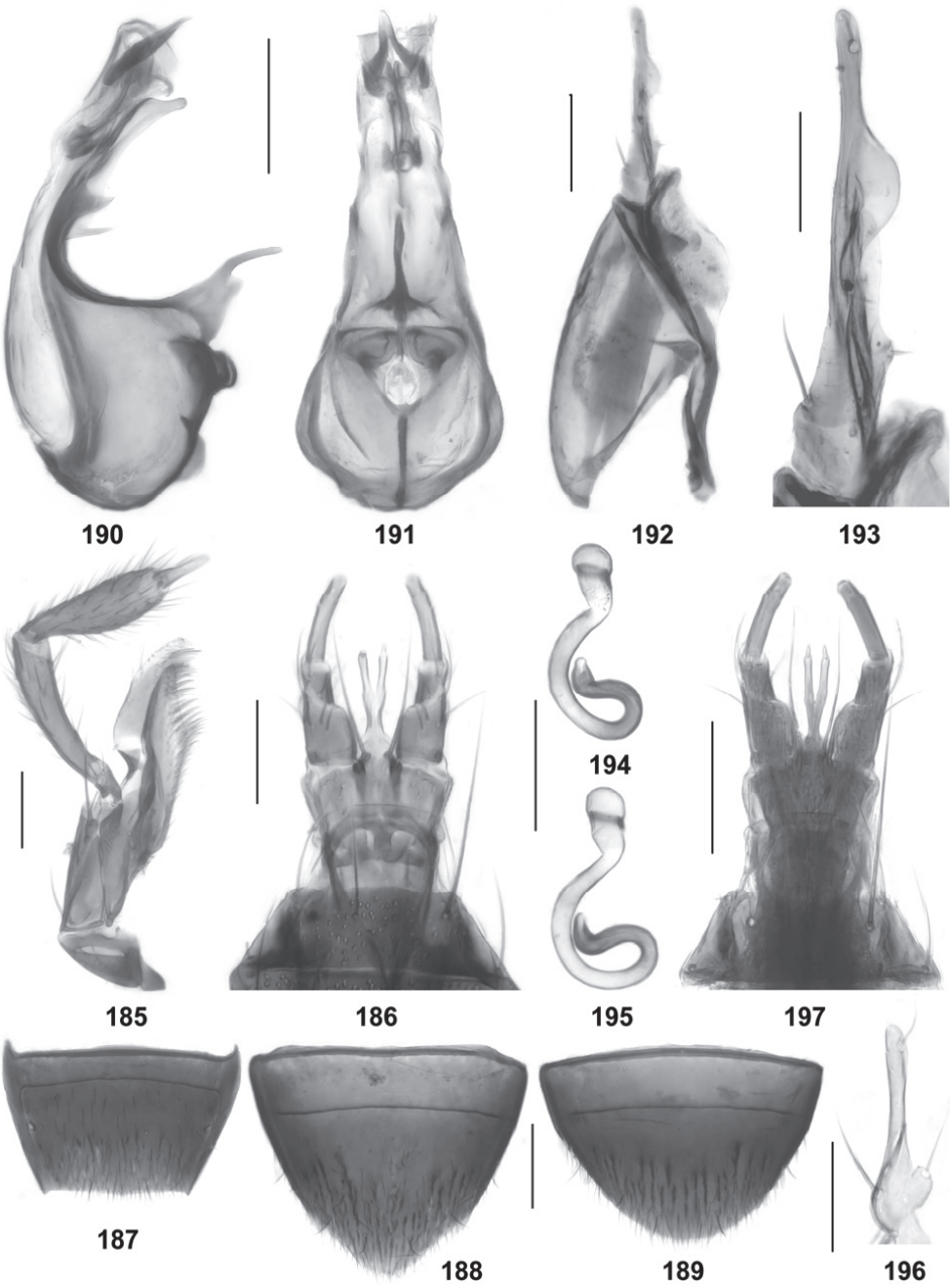
Figs. 139–155: *Echidnoglossa paulinoi* (139–141), *E. maghrebica* (142–144; 142, 144: holotype of *E. maghrebica*; 143: holotype of *E. peyerimhoffi*), *E. russa* (145–151), and *E. corsica* (152–155): 139, 145) male tergite VIII; 140, 146) male sternite VIII; 141, 150) female sternite VIII; 142–144, 147–148, 152–153) median lobe of aedeagus in lateral and in ventral view; 149, 154) paramere; 151, 155) spermatheca. Scale bars: 139–150, 152–154: 0.2 mm; 151, 155: 0.1 mm.



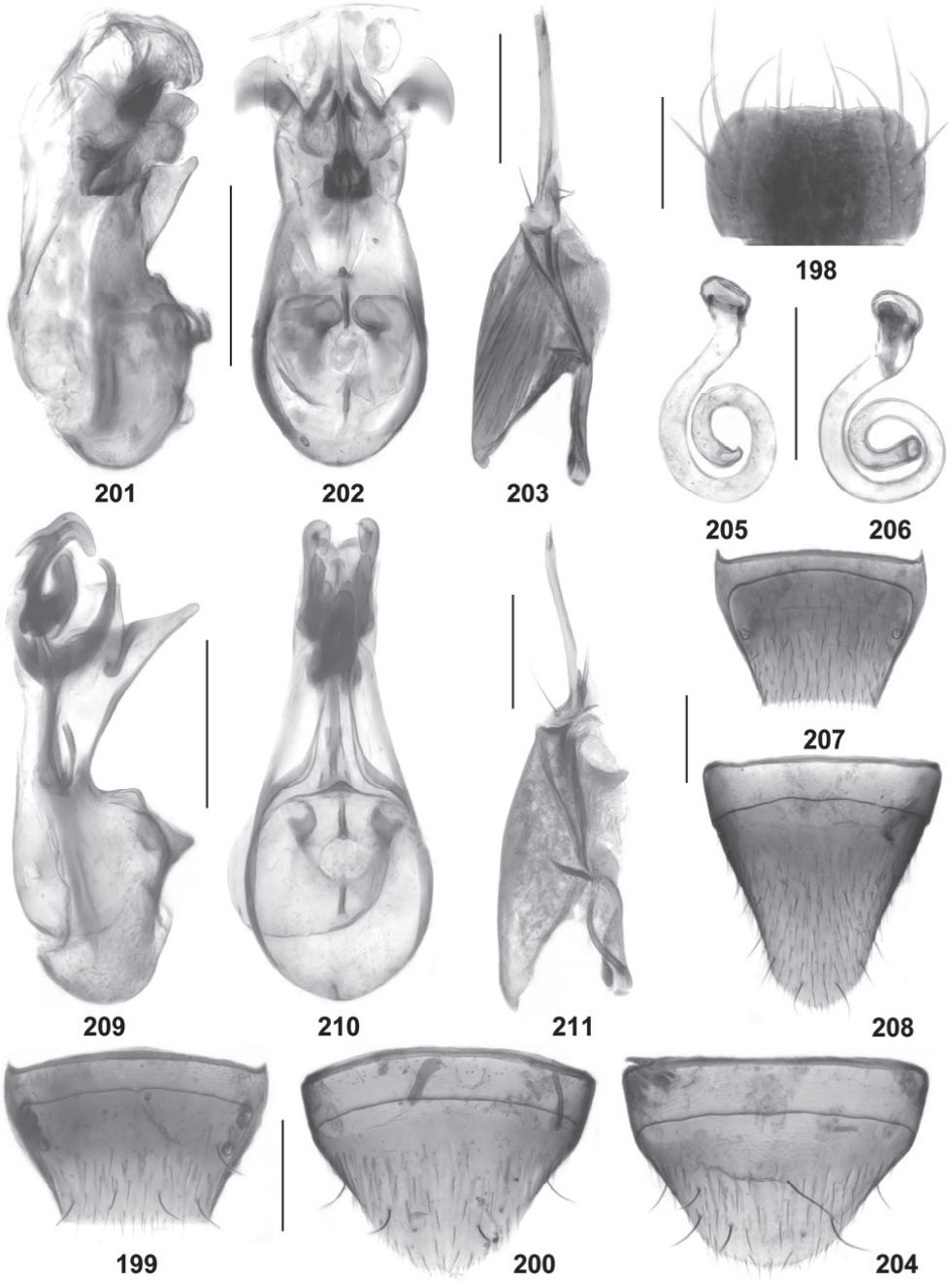
Figs. 156–171: *Echidnoglossa corsica* (156–159), *E. miranda* (160–165), and *E. breiti* (166–171): 156) male tergite VIII; 157) male sternite VIII; 158) female tergite VIII; 159) female sternite VIII; 160) maxilla; 161–163, 166–168) median lobe of aedeagus in lateral and in ventral view; 164, 169) paramere; 165, 170–171) spermatheca. Scale bars: 0.2 mm.



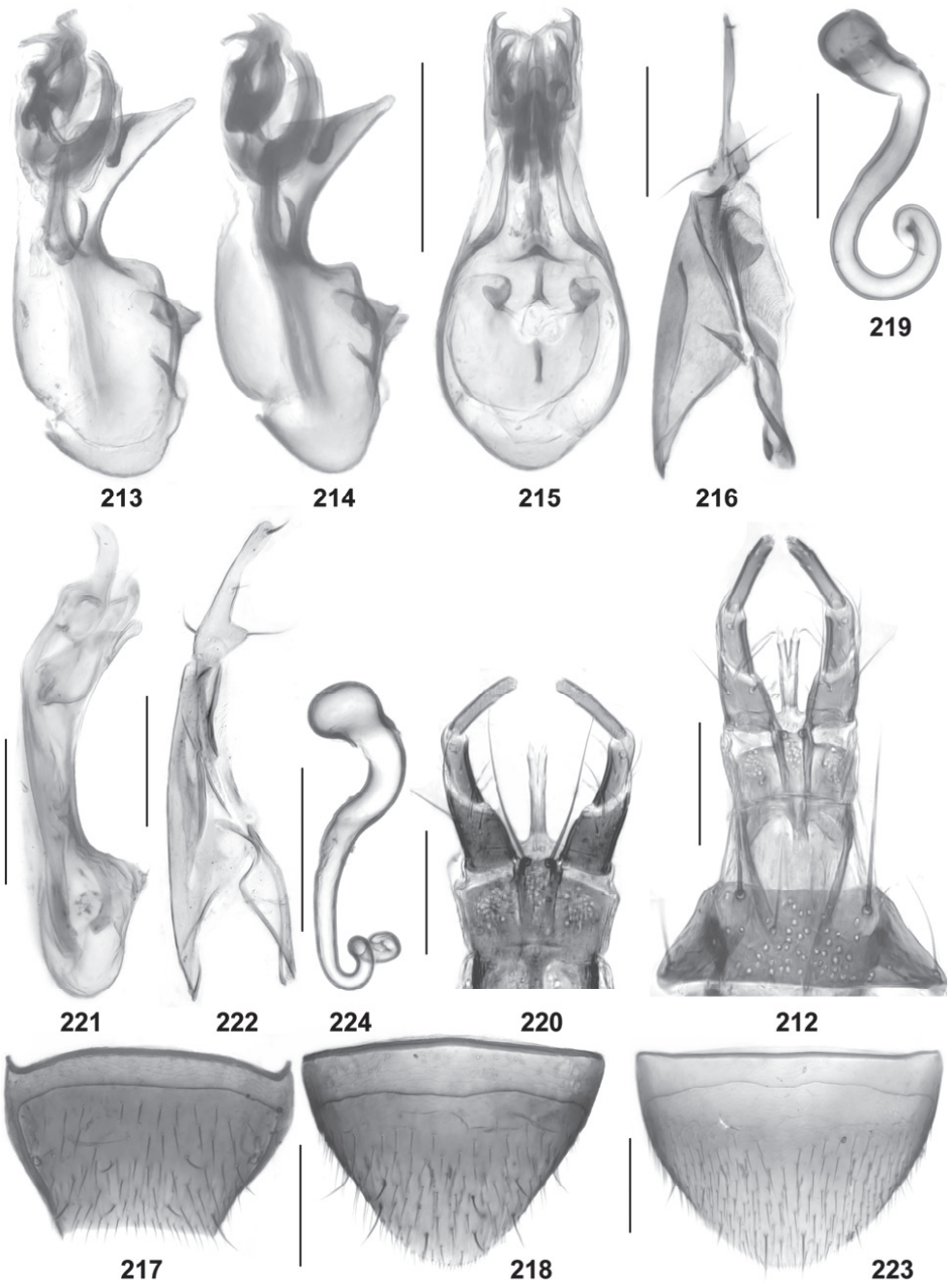
Figs. 172–184: *Echidnoglossa miranda* (172–175) and *E. ventricosa* (176–184): 172, 176) labium; 173, 177) labrum; 174, 178) male tergite VIII; 175, 179) male sternite VIII; 180–181) median lobe of aedeagus in lateral and in ventral view; 182) paramere; 183–184) spermatheca. Scale bars: 174–175, 178–179: 0.2 mm; 172–173, 176–177, 180–184: 0.1 mm.



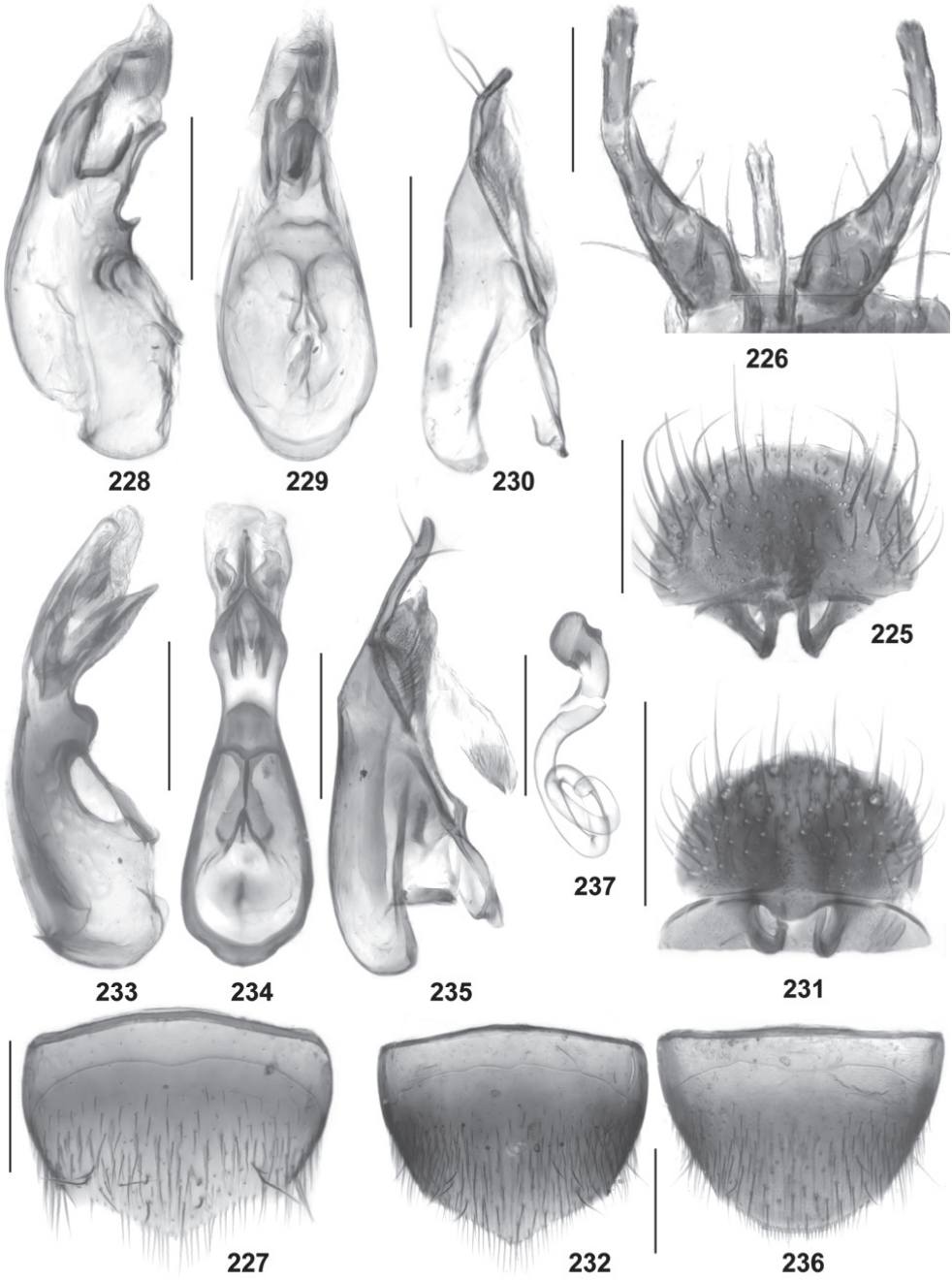
Figs. 185–197: *Echidnoglossa hirthei* (185–195), *E. divisa* (196), and *E. betzi* (197): 185) maxilla; 186, 197) labium; 187) male tergite VIII; 188) male sternite VIII; 189) female sternite VIII; 190–191) median lobe of aedeagus in lateral and in ventral view; 192) paramere; 193, 196) apical lobe of paramere; 194–195) spermatheca. Scale bars: 187–192, 194–195: 0.2 mm; 185–186, 193, 196–197: 0.1 mm.



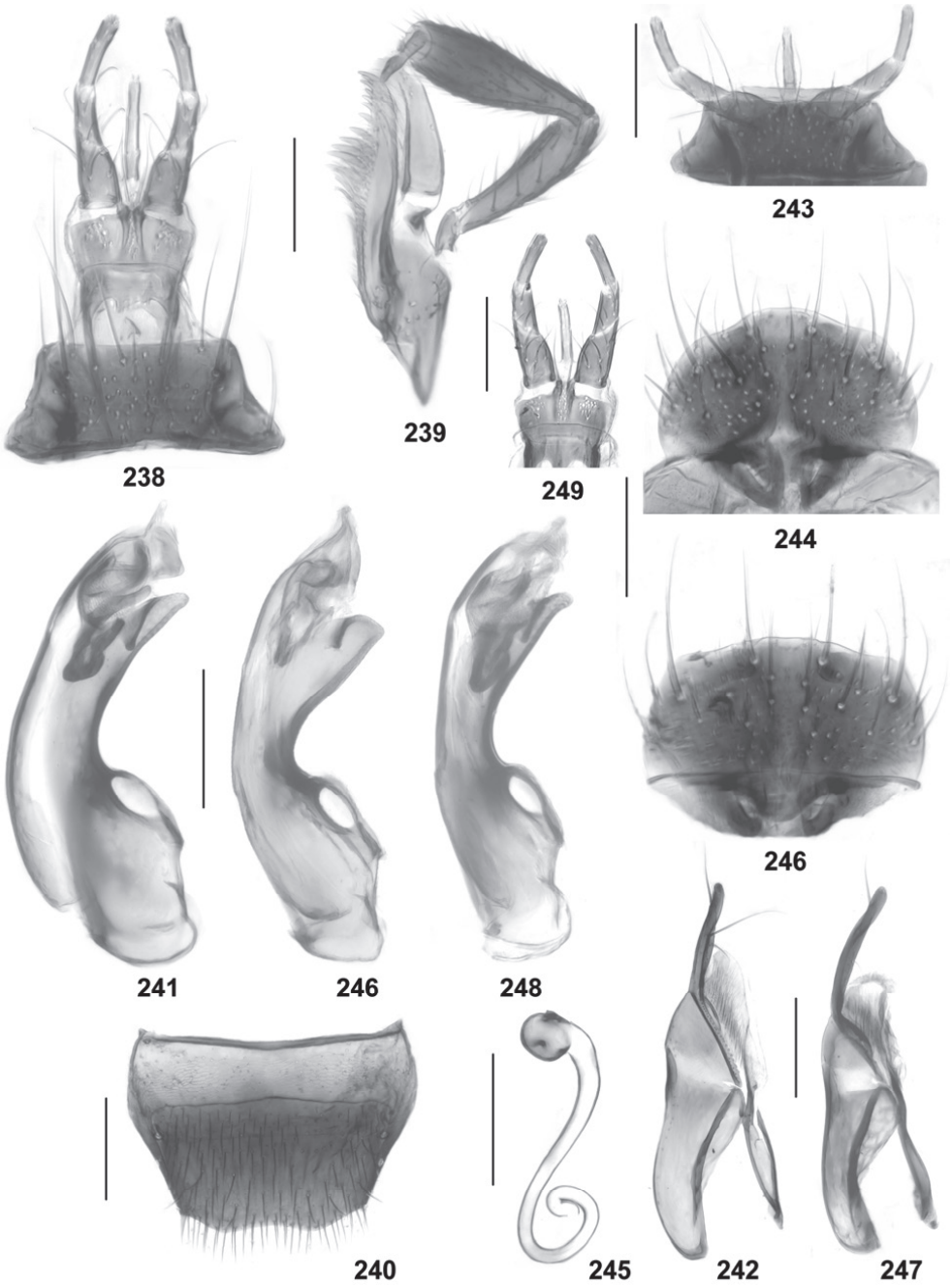
Figs. 198–211: *Echidnoglossa betzi* (198–206) and *E. artior* (207–211): 198) labrum; 199, 207) male tergite VIII; 200, 208) male sternite VIII; 201–202, 209–210) median lobe of aedeagus in lateral and in ventral view; 203, 211) paramere; 204) female sternite VIII; 205–206) spermatheca. Scale bars: 199–211: 0.2 mm; 198: 0.1 mm.



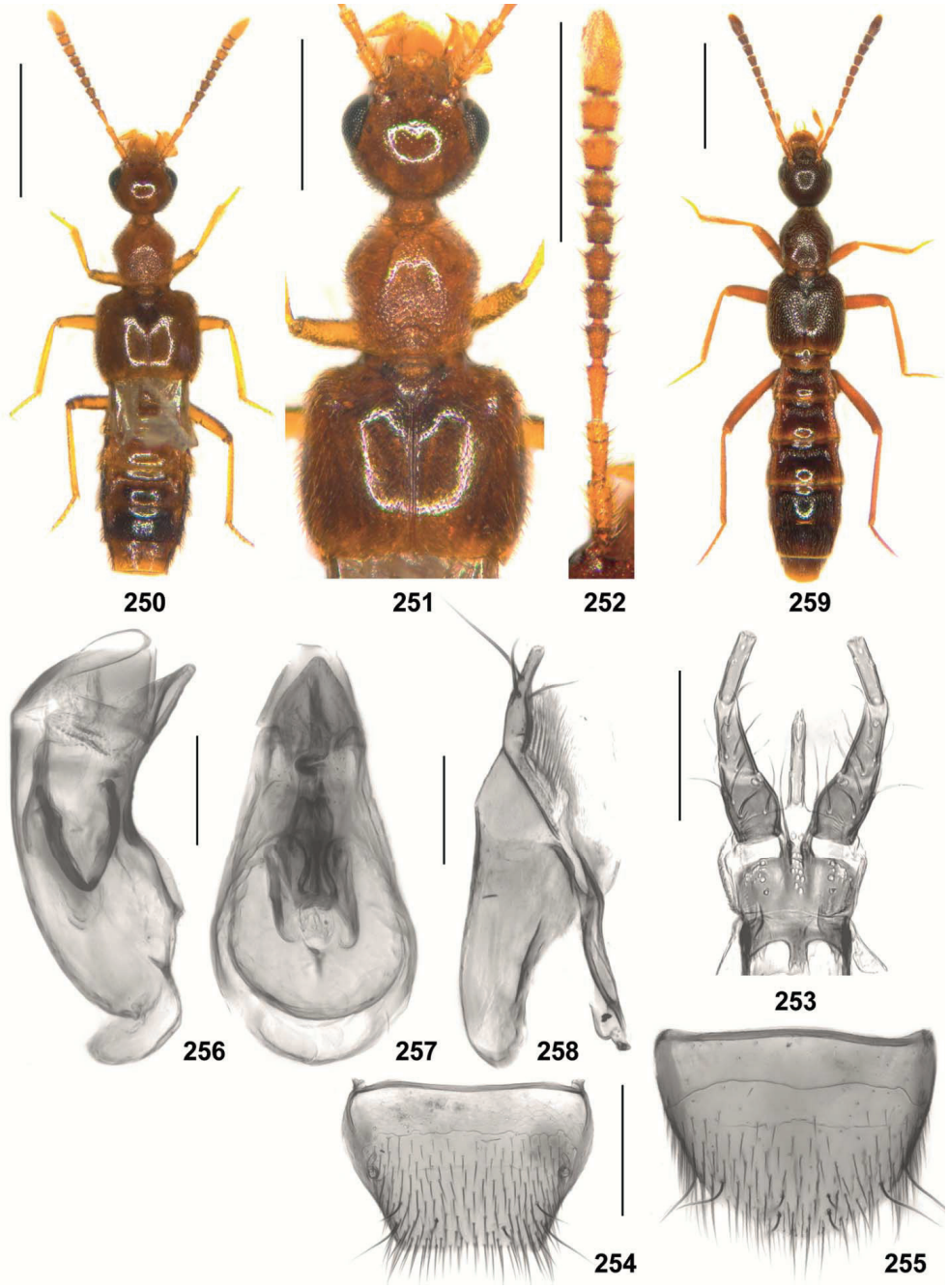
Figs. 212–224: *Echidnoglossa formosana* (212–219) and *E. smetanai* (220–224): 212, 220) labium; 213–215, 221) median lobe of aedeagus in lateral and in ventral view; 216, 222) paramere; 217) female tergite VIII; 218, 223) female sternite VIII; 219, 224) spermatheca. Scale bars: 213–218, 221–224: 0.2 mm; 212, 219–220: 0.1 mm.



Figs. 225–237: *Syntomenus chinensis* (225–230) and *Kortomenus koreanus* (231–237): 225, 231) labrum; 226) labium; 227, 232) male sternite VIII; 228–229, 233–234) median lobe of aedeagus in lateral and in ventral view; 230, 235) paramere; 236) female sternite VIII; 237) spermatheca. Scale bars: 227–230, 232–237: 0.2 mm; 225–226, 231: 0.1 mm.



Figs. 238–249: *Kortomenus koreanus* (238–240), *Colusa brendeli* (241–242, 249), *C.* cf. *illecta* (243–245), *C.* cf. *morigera* (246–247), and *C.* sp. (248): 238, 243, 249) labium; 239) maxilla; 240) female tergite VIII; 241, 246, 248) median lobe of aedeagus in lateral view; 242, 247) paramere; 244, 246) labrum; 245) spermatheca. Scale bars: 240–242, 245–248: 0.2 mm; 238–239, 243–244, 246, 249: 0.1 mm.



Figs. 250–259: *Syntomenus laoticus* (250–258) and *Colusa brendeli* (259): 250, 259) habitus; 251) forebody; 252) antenna; 253) labium; 254) male tergite VIII; 255) male sternite VIII; 256–257) median lobe of aedeagus in lateral view; 258) paramere. Scale bars: 250, 259: 1.0 mm; 251–252: 0.5 mm; 254–255: 0.2 mm; 253, 256–258: 0.1 mm.

Blepharhymenus meridionalis PACE, 1987 (Figs. 3, 88–89)

TYPE MATERIAL EXAMINED: **Paratypes**: 1 ♂, 1 ♀: "Cordillera, Nahuelbuta, lg. H. Franz / SA 180 [overleaf] / Paratypus *Blepharhymenus meridionalis* m., det. R. Pace 1985 / *Blepharhymenus meridionalis* sp. n., det. R. Pace 1985" (MHNG, NHMW).

ADDITIONAL MATERIAL EXAMINED: **Chile**: 2 exs. [identified by R. Pace]: Llanquihue Prov., Saltos de Petrohué, Vicente Pérez Rosales National Park, 150 m, mixed forest litter, 23.XII.1984, leg. S. & J. Peck (MHNG).

The habitus, labrum, and aedeagus of a paratype are illustrated in Figs. 3, 88–89.

Blepharhymenus angularis PACE, 1987 (Fig. 4)

TYPE MATERIAL EXAMINED: **Holotype** ♂: "Parque Nat. Rio Simpson, Chile, lg. H. Franz / SA 160 [overleaf] / Holotypus *Blepharhymenus angularis* m., det. R. Pace 1985 / *Blepharhymenus angularis* sp. n., det. R. Pace 1985" (NHMW).

The holotype is illustrated in Fig. 4.

Blepharhymenus magellanicus PACE, 1987 (Figs. 5, 90–92)

MATERIAL EXAMINED: **Chile**: 1 ♂ [identified by R. Pace]: Aisen Prov., 15 km S Las Juntas, 30 km N Puyuhuap, *Nothofagus* forest, flight interception trap, 20.I.1985, leg. S. & J. Peck (MHNG); 1 ♂ [identified by R. Pace]: S-Chile, Puerto Edén, Wellington Island, 7.–15.XII.1962, leg. Darlington (MHNG); 1 ex.: Chile, Nuble Prov., 72 km SE Chillan, Trancas near Termas, 1700 m, *Nothofagus* forest, flight interception trap, XII.1984–II.1985, leg. Peck (MHNG); 1 ex.: Llanquihue Prov., Saltos de Petrohué, Vicente Pérez Rosales National Park, 150 m, mixed forest litter, 23.XII.1984, leg. S. & J. Peck (MHNG); 2 ♂♂, 1 ♀: "Cordillera, Nahuelbuta, lg. H. Franz / SA 180 [overleaf]" (NHMW).

The habitus, labium, labrum, and aedeagus are illustrated in Figs. 5, 90–92.

Blepharhymenus euchromus FAIRMAIRE & GERMAIN, 1862

MATERIAL EXAMINED: **Chile**: 1 ♂: Osorno Prov., Puyehue National Park, Aguas Calientes, 500 m, forest litter on trail, sifted, 20.XII.1984, leg. S. & J. Peck (MHNG); 1 ♀: 1 ex., same data, but parasitic fungi on vines sifted (MHNG); 1 ex.: same data, but *Nothofagus* forest, Malaise trap, XII.1984–II.1985 (MHNG).

Blepharhymenus luteicornis PACE, 1987 (Fig. 6)

TYPE MATERIAL EXAMINED: **Holotype** ♂: "Umg. Malalcahuello, S-Chile, lg. Franz / SA 210 [overleaf] / Holotypus *Blepharhymenus luteicornis* m., det. R. Pace 1984 / *Blepharhymenus luteicornis* sp. n., det. R. Pace 1984" (NHMW).

This species is externally highly similar to *B. angularis*, but distinguished by a significantly smaller aedeagus. The holotype is illustrated in Fig. 6.

Blepharhymenus osornensis PACE, 1987 (Fig. 7)

TYPE MATERIAL EXAMINED: **Holotype** ♂: "Parque Nacional, Puyehue b. Osorno, Chilenische Anden / SA 104 [overleaf] / Holotypus *Blepharhymenus osornensis* m., det. R. Pace, 1985 / *Blepharhymenus osornensis* sp. n. det. R. Pace, 1985" (NHMW). **Paratypes**: 2 ♀♀, same data as holotype (NHMW).

A paratype is illustrated in Fig. 7.

"*Blepharhymenus*" *franzi* PACE, 1987

TYPE MATERIAL EXAMINED: **Holotype** ♀: "Umg. Malalcahuello, S-Chile, lg. Franz / SA 210 [overleaf] / Holotypus *Blepharhymenus franzi* m., det. R. Pace 1984 / *Blepharhymenus franzi* sp. n., det. R. Pace 1984" (NHMW).

The above holotype is distinguished from other *Blepharhymenus* species from Chile by numerous characters, particularly by a broad posterior constriction of the head, suggesting that *B. franzi* belongs to a different genus of unknown identity.

Genus *Echidnoglossa* WOLLASTON, 1864, revalidated

Echidnoglossa WOLLASTON 1864: 530 f.
Type species: *Echidnoglossa constricta* WOLLASTON, 1864 (by monotypy).

REDESCRIPTION: Species of moderate size, 2.8–6.2 mm, and slender habitus (e.g., Figs. 8, 12, 16–19, 39, 44, 48, 76). Forebody usually with fine and dense, rarely with sparse and coarser or granulose punctation.

Head (e.g., Figs. 9, 13, 40, 43, 49, 77) with posterior constriction of approximately one-third the width of head; lateral margins between posterior margin of eyes to posterior constriction of head nearly straight to distinctly convex; posterior angles obsolete; gular sutures distinctly separated. Antenna (e.g., Figs. 10, 14, 41, 46, 50) usually slender to very slender, rarely more massive (Fig. 78), usually with oblong antennomere IV and weakly transverse antennomere X, antennomere XI elongate, usually slightly longer than the combined length of antennomeres IX and X. Maxilla (Figs. 111, 160, 185) with slender galea and lacinia; maxillary palpi slender, palpomere III three to four times as long as broad. Ligula (Figs. 112–113, 123, 172, 176, 186, 197, 212, 220) long and slender, apically incised nearly to middle, the two lobes contiguous or distinctly separated and apically with or without indistinct (weakly defined) sensilla. Labrum (Figs. 114, 124, 173, 177, 198) moderately transverse, with weakly convex or truncate anterior margin and with weakly convex lateral margins. Mandibles (Fig. 115) slender, subapically curved, without molar teeth.

Pronotum (e.g., Figs. 9, 13, 40, 43, 45, 49, 77) moderately oblong, strongly convex in cross-section; lateral margins more or less distinctly sinuate in posterior half; lateral suture/carina not visible in dorsal view.

Elytra (e.g., Figs. 9, 13, 40, 43, 45, 49, 77) of variable length. Hind wings fully developed or reduced. Legs and antennae slender and moderately long to very slender and conspicuously elongate; metatarsomere I elongate, at least slightly longer than the combined length of metatarsomeres II and III.

Abdomen (e.g., Figs. 11, 15, 42, 45, 47, 51, 79) basally distinctly constricted, broadest at segments V–VI; tergites III–V or tergites III–VI with pronounced anterior impressions, the impressions coarsely punctate and often with median carina; remainder of tergal surfaces with fine and moderately dense punctation.

♂: posterior margin of sternite VIII (Figs. 97, 126, 140, 146, 157, 179, 188, 200, 208) convex in the middle; aedeagus (e.g., Figs. 102–104, 166–168, 180–181, 190–191, 209–210, 221) with short basal portion; crista proximalis minute, often nearly completely reduced; crista apicalis modified and reduced; internal sac with usually basally curved and moderately long flagellum and with additional moderately sclerotized apical structures, mostly without sclerotized spines; apical lobe of paramere (e.g., Figs. 105, 110, 169, 192–193, 203, 222) more or less elongate, usually at least approximately half as long as basal portion and basally with a slender to broad, apically often obtuse lateral process, and often with a median constriction, rarely short (Fig. 192).

♀: posterior margin of sternite VIII (Figs. 99, 118, 131, 141, 150, 159, 189, 204, 218, 223) often more acutely or angularly produced than in male, in the middle with moderately dense, moderately long, and not distinctly modified setae; spermatheca (e.g., Figs. 119–122, 132–133, 170–171, 183–184, 194–195, 205–206, 224) without cuticular invagination distally and with rather long and slender proximal portion.

COMPARATIVE NOTES: *Echidnoglossa* is distinguished from *Blepharhymenus* by numerous significant characters, particularly by the dense punctation of the forebody (exception: *E. ventricosa* and species of the subgenus *Orechidna*; most likely derived conditions), a less transverse labrum with a different chaetotaxy, an apically more deeply incised ligula with indistinct apical appendages at most (without distinct coniform sensilla), a basally distinctly constricted abdomen, the shape and chaetotaxy of the male and female sternite VIII, a completely different morphology of the aedeagus (usually slender median lobe; reduced crista proximalis; conspicuously reduced and modified crista apicalis; shape of internal structures; apical lobe of the paramere modified, with a baso-lateral process and often with a median constriction), and a spermatheca without a distal cuticular invagination.

The genus is distinguished from *Colusa* by a distinctly bilobed ligula with indistinct apical appendages (*Colusa*: ligula unilobed, apically with two distinct coniform sensilla), an aedeagus with a strongly derived crista apicalis and a derived apical lobe of the paramere (*Colusa*: aedeagus of the usual oxypodine condition), a posteriorly weakly produced male sternite VIII, a differently shaped female sternite VIII, and by spermatheca without an apical cuticular invagination.

DIVERSITY, DISTRIBUTION, NATURAL HISTORY: *Echidnoglossa* includes 19 species in five subgenera, three of them distributed in the West Palaearctic and two in the East Palaearctic and Oriental regions. Two of the subgenera are monotypical and confined to the West Mediterranean (Fig. 264) and China (Fig. 265), respectively, one includes two species distributed in the Alps (Figs. 260, 263), and the remaining two contain eight and seven species distributed in the Mediterranean (including the Canary Islands) (Fig. 260) and in the southern East Palaearctic and northern Oriental regions (Fig. 265), respectively. Such a discontinuous distribution pattern corresponding to, and combined with distinct character divergence would suggest a relict distribution of a phylogenetically old group, resulting from regional extinction rather than colonization events.

Aside from morphological characters, the subgenera partly differ also by ecological characteristics. While the representatives of three subgenera evidently live in moist to wet habitats at intermediate to high elevation, one appears to be associated with high-altitude hypogean environments, and one with more or less dry environments at low elevations.

In view of frequent misidentification and misinterpretation, practically all previous records of Iberian *Echidnoglossa* s.str. must be considered doubtful.

Key to species of *Echidnoglossa*

1 Species confined to the West Palaearctic Region (Mediterranean and Canary Islands) 2

– Species distributed in the southern East Palaearctic and northern Oriental regions (Himalaya, China, North Thailand)..... 12

2 Abdominal tergite VI with pronounced anterior impression (Fig. 42). Legs and antennae conspicuously long and slender (Figs. 39, 41). Body length 5.1–6.2 mm. Punctation granulose at least on tergite III, often also on the posterior portion of the head, on the pronotum, the elytra, and on tergites IV–V. Alps. Subgenus *Blepharrhymorphus* 3

– Abdominal tergite VI without anterior impression. Legs and antennae shorter and less slender. Body length < 5.1 mm. Body without granulose punctation. Absent from the Alps..... 4

3 Posterior half of head, pronotum, and elytra (at least anterior portion) with distinctly granulose punctation (Fig. 40). Median lobe of aedeagus smaller, 0.53–0.60 mm long, and shaped as in Figs. 161–163. Western Alps eastwards to Tirol (Fig. 263)..... ***miranda***

– Most of forebody with fine and non-granulose punctation; granulose punctation confined to the extreme posterior portion of head (close to posterior constriction) and posterior impression of pronotum (Fig. 43). Median lobe of aedeagus larger, 0.65–0.70 mm long, and shaped as in Figs. 166–168. Eastern Alps westwards to western Tirol (Fig. 263)..... ***breiti***

4 Abdomen (Figs. 44, 47) stout; segments III–VIII strongly transverse. Coloration predominantly reddish-yellow to reddish (Fig. 44). Punctation of pronotum rather sparse and coarse (Fig. 45). Abdomen with very sparse punctation and long pubescence (Fig. 47). Head distinctly transverse, approximately 1.1 times as broad as long (Fig. 45). Hind wings reduced. Aedeagus (Figs. 180–181) with compact, broad (ventral view), and dorso-ventrally compressed median lobe; apical lobe of paramere short, approximately one-fifth as long as basal portion (Fig. 182). Spermatheca as in Figs. 183–184. Subgenus *Maurechidna*. Northwest Africa; southern Iberian Peninsula (Fig. 264) ..... ***ventricosa***

– Abdomen slender and basally strongly constricted. Coloration in most species dark. Punctation of pronotum fine and dense, that of abdomen moderately dense. Pubescence of abdomen short. Head slender, very weakly transverse at most. Hind wings present. Aedeagus with very slender median lobe; apical lobe of paramere much longer, approximately half as long as basal portion. Subgenus *Echidnoglossa* 5

5 Coloration of body predominantly reddish (Figs. 8, 31) 6

– Coloration of body predominantly dark-brown to black (e.g., Figs. 16–19, 23, 27) 7

6 Micropterous species (Figs. 8–9). Aedeagus as in Figs. 93–94. Canary Islands: Tenerife, La Gomera (Fig. 260) ..... ***constricta***

– Macropterous species (Figs. 31–32). Aedeagus and spermatheca as in Figs. 147–148, 151. Egypt: Sinai Peninsula (Fig. 260)..... ***russa***

7 Species from Northwest Africa (Fig. 260). Aedeagus as in Figs. 142–144..... ***maghrebica***

– Distribution and aedeagus different..... 8

8 Species from Corsica and Sardinia (Fig. 260). Aedeagus and spermatheca as in Figs. 152–153, 155 ..... ***corsica***

– Species from the Iberian Peninsula. Genitalia different 9

9 Forebody with distinct punctation, without microsculpture (Fig. 13). Head distinctly oblong, 1.10–1.15 times as long as broad (Fig. 13). Aedeagus as in Figs. 100–104. South Spain (Fig. 262)..... ***glabrata***

– Head and pronotum with very fine punctation, that of head often barely visible. At least head usually with shallow microreticulation. Head less slender..... 10

10 Species of larger average size; body length 4.0–4.8 mm; length of forebody 2.0–2.3 mm. Legs longer; length of metatibia 1.0–1.1 mm. Aedeagus (Figs. 127–129) larger; median lobe of aedeagus approximately 0.6 mm long. Spermatheca (Figs. 132–133) small in relation to body size. Portugal; West and Central Spain (Fig. 262)..... ***scheerpeltzi***

– On average smaller species with shorter legs; length of metatibia ≤ 1.0 mm. Median lobe of aedeagus shorter, significantly less than 0.6 mm long. 11

11 Head approximately as broad as long (Fig. 28). Legs (Fig. 27) relatively short; length of metatibia 0.8–0.9 mm. Aedeagus and spermatheca as in Figs. 134–136, 138. Northwestern Iberian Peninsula (Fig. 262) ..... ***paulinoi***

– Head at least weakly oblong, but of variable shape, 1.01–1.12 times as long as broad (Fig. 20). Legs longer (Figs. 16–19); metatibia 0.9–1.0 mm long. Aedeagus and spermatheca as in Figs. 106–109, 119–122. Widespread in Spain (Fig. 261)..... ***meschniggi***

12 Antenna (Fig. 78) rather massive and relatively short; antennomere V distinctly transverse and antennomere IX more than 1.5 times as broad as long. Head (Fig. 77) with dense and fine, but distinct punctation. Ligula (Fig. 220) not distinctly Y-shaped, i.e., apical lobes weakly separated. Median lobe of aedeagus (Fig. 221) slender; apical lobe of paramere moderately slender and approximately half as long as basal portion of paramere (Fig. 222). Spermatheca as in Fig. 224. Subgenus *Sinechidna*. China: Sichuan, Yunnan (Fig. 265) ..... ***smetanai***

– Antenna slender and often very long; antennomere V oblong or as long as broad, antennomere IX oblong, as long as broad, or weakly transverse. Head mostly with sparse and/or coarse or indistinct punctation. Ligula (Figs. 186, 197, 212) Y-shaped. Median lobe of aedeagus of more robust shape; apical lobe of paramere very slender and mostly more than half as long as basal portion. Spermatheca of different shape. Subgenus *Orechidna* 13

13 Head completely dull owing to pronounced microreticulation and with fine, barely visible punctation (Fig. 53). Legs and antennae yellow, except for a broad dark band in the apical halves of the meso- and metafemora (Fig. 48). Spermatheca with long and coiled proximal portion (PACE 1992: fig. 16). East Nepal (Fig. 265) ..... ***nepalensis***

– Head with shallow microsculpture at most. Legs of different coloration..... 14

14 Habitus, legs, and antennae very slender (Figs. 48, 56, 60); antennomeres VII–IX distinctly oblong (Figs. 50, 58, 62)..... 15

– Habitus, legs, and antennae less slender (Figs. 64, 68, 72); antennomeres VII–IX transverse (Figs. 66, 70, 74)..... 17

15 Head with coarse, distinct, and moderately dense punctation (Fig. 57). Abdomen uniformly blackish, except for the paler paratergites III–V; pronotum and elytra blackish; legs blackish-brown to black with the tarsi, the bases of the mesofemora narrowly, and the basal portions of the metafemora extensively yellow (Fig. 56). Aedeagus and spermatheca as in PACE (1999a: figs. 23–25). China: Yunnan (Fig. 265)..... ***divisa***

– Head with extremely fine and sparse punctation. Abdomen distinctly bicolored with segments III–V distinctly paler than the apical segments; forebody and legs paler..... 16

16 Abdominal tergites III–V bicolored with the anterior and antero-median portion infuscate and the remainder dark-yellow (Figs. 60, 63).Lateral margins of pronotum strongly sinuate in dorsal view (Fig. 61). Aedeagus (Figs. 201–202) small, compact, and without conspicuous processes. Spermatheca as in Figs. 205–206. North Thailand (Fig. 265)..... ***betzi***

– Abdominal tergites III–V of uniform coloration. Lateral margins of pronotum indistinctly concave in posterior half at most. Aedeagus (Figs. 190–191) much larger and of highly derived shape, with conspicuous processes best visible in lateral view. Spermatheca as in Figs. 194–195. Central Nepal: Annapurna Range (Fig. 265) ..... ***hirthei***

17 Micropterous species with longer and more slender appendages (Figs. 68–69); antenna approximately 1.5 mm long; metatibia > 1.0 mm long. Antero-median portion of tergites III–V infuscate (Fig. 71). Aedeagus as in Figs. 209–210. Central Taiwan (Fig. 265) ..... ***artior***

– Macropterous species with shorter appendages (Figs. 64–65, 72–73); antenna < 1.4 mm; metatibia < 1.0 mm long. Tergites III–V uniformly yellow (Figs. 67, 75)..... 18

18 Aedeagus and spermatheca as in Figs. 213–215. Taiwan (Fig. 265)..... ***formosana***

– Aedeagus as in PACE (1999a: figs. 27–28). China: Zhejiang (Fig. 265) ..... ***zhejiangensis***

Subgenus *Echidnoglossa* WOLLASTON, 1864

DIAGNOSIS: Species of intermediate size, 3.7–5.0 mm. Habitus slender, with moderately long legs and antennae (Figs. 8, 12, 16–19, 23, 27, 31, 35). Forebody with fine and dense non-granulose punctation (Figs. 9, 13, 20, 24, 28, 32, 36). Ligula (Figs. 113, 123) long, slender, and bilobed in apical half, the two lobes contiguous and apically without appendages or sensilla. Tergites III–V with, tergite VI without anterior impressions.

♂: median lobe of aedeagus (e.g., Figs. 93–94, 100–104) very slender, with short basal portion; apical lobe of paramere (Figs. 95, 105, 110, 116, 130) with a median constriction (exception: *E. corsica*; Fig. 154).

♀: posterior margin of sternite VIII obtusely angled in the middle (e.g., Figs. 118, 141, 150).

DIVERSITY, DISTRIBUTION, NATURAL HISTORY: This subgenus includes eight species distributed in the Mediterranean Region and the Canary Islands, the diversity centre being the Iberian Peninsula (four species). In the remainder of the region, the distributions are highly discontinuous and scattered (Canary Island, Northwest Africa, Corsica and Sardinia, Sinai Peninsula). Such a distribution pattern suggests a rather old age of this lineage, a hypothesis also supported by the observation that it is present in the Iberian Peninsula and the Tyrrhenian Islands (Corsica and Sardinia), but absent from mainland France and mainland Italy (see KETMAIER et al. 2006). The species are found in moist to wet habitats at intermediate to high altitudes. Two species (*E. paulinoi* and *E. maghrebica*) may be associated with a hypogean environment.

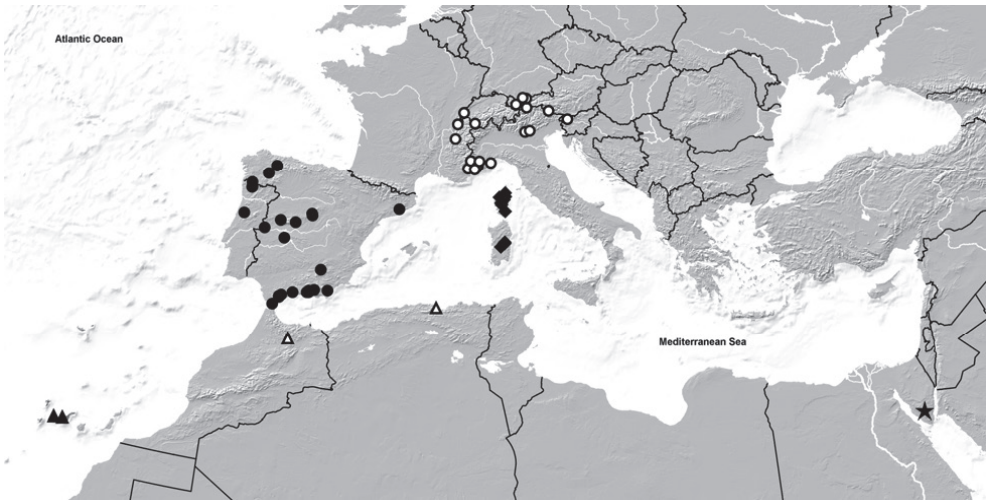


Fig. 260: Distributions of *Echidnoglossa* (subgenera *Echidnoglossa* and *Blepharrhymorphus*) in the West Palaearctic Region: *E. constricta* (black triangles); *E. maghrebica* (white triangles); *E. russa* (black star); *E. corsica* (black diamonds); *E. miranda* and *E. breiti* (white circles; records of both species pooled); Iberian *Echidnoglossa* s.str. (black circles; all records pooled).

***Echidnoglossa* (*Echidnoglossa*) *constricta* WOLLASTON, 1864**
(Figs. 8–11, 93–97, 260)

Echidnoglossa constricta WOLLASTON 1864: 531.

TYPE MATERIAL: The original description is based on a unique specimen collected "near the little town of Guia (opposite to Gomera) on the western side of Teneriffe" (WOLLASTON 1864).

MATERIAL EXAMINED: **Canary Islands**: 1 ♀: La Gomera, Raso de la Bruma, 1000 m, laurel forest, wet leaf litter near spring, 18.VII.1995, leg. Zerche (SDEI); 1 ♂ [in poor condition, infested with fungi]: "Canaries" (MHNG)); 1 ♂ [in poor condition, infested with fungi]: "Canaries" (MHNG); 1 ♂: "Canary Is." (FMNH).

REDESCRIPTION: Body length 4.0–4.5 mm; length of forebody 2.0–2.1 mm. Habitus as in Fig. 8. Coloration: head reddish-brown; pronotum reddish; elytra yellowish-red; abdomen yellowish-red with segment VI, the posterior portion of segment V, and the anterior portion of segment VII

somewhat infuscate; legs yellow; antennae reddish-brown with antennomeres I–II and the base of III reddish-yellow and antennomere XI reddish; maxillary palpi dark-yellow with palpomere IV pale-yellow.

Head (Fig. 9) weakly oblong, of suborbicular shape; lateral margins behind eyes distinctly convex; punctation very fine and dense; interstices with distinct microreticulation. Eyes weakly convex, slightly less than half as long as postocular region in dorsal view. Antenna (Fig. 10) 1.4–1.5 mm long and slender, antennomeres IV–VI oblong, VII–X weakly transverse, and XI slightly longer than the combined length of IX and X. Maxillary palpomere III approximately four times as long as broad.

Pronotum (Fig. 9) approximately 1.15 times as long as broad and approximately 0.85 times as broad as head; punctation fine and dense; interstices with distinct microreticulation.

Elytra (Fig. 9) short, 0.75–0.80 times as long as pronotum, with weakly pronounced humeral angles; punctation dense and fine; interstices with shallow microreticulation. Hind wings not examined, but probably reduced. Legs slender; metatibia approximately 1.0 mm long; metatarsomere I slightly longer than the combined length of metatarsomeres II and III.

Abdomen (Fig. 11) basally constricted, broadest at tergite VI; tergites III–V with pronounced anterior impressions with coarse non-setiferous punctation; anterior impressions of tergites III–IV without median carina; punctation of remainder of tergal surfaces fine and dense; interstices with microreticulation, that of posterior tergites distinct and that of anterior tergites shallow; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII (Fig. 96) truncate to convex, without apparent sexual dimorphism.

♂: posterior margin of sternite VIII strongly convex (Fig. 97); median lobe of aedeagus 0.5 mm long and shaped as in Figs. 93–94; paramere (Fig. 95) 0.65 mm long; apical lobe of paramere more than half as long as basal portion, medially constricted, and basally with a pronounced, stout and obtuse baso-lateral process.

♀: sternite VIII obtusely angled posteriorly; spermatheca with an extension of approximately 0.2 mm, of similar shape as that of *E. scheerpeltzi*.

COMPARATIVE NOTES: *Echidnoglossa constricta* is readily distinguished from all other West Palaearctic congeners by much paler coloration (shared only with *E. russa*), shorter elytra, and more slender antennae. The median lobe of the aedeagus somewhat resembles that of *E. meschniggi*, but differs in the shape of the basal portion in lateral view.

DISTRIBUTION, NATURAL HISTORY: This evidently very rare species has been recorded only from Tenerife and La Gomera (MACHADO & OROMÍ 2000) (Fig. 260). The examined Gomeran specimen was sifted from wet leaf litter near a spring.

Echidnoglossa (*Echidnoglossa*) *glabrata* (KIESENWETTER, 1870), comb.n.

(Figs. 12–15, 98–105, 262)

Calodera glabrata KIESENWETTER 1870: 77.
Blepharrhymenus moczarskii SCHEERPELTZ 1954: 137 ff.; **syn.n.**

TYPE MATERIAL EXAMINED: *C. glabrata*: **Holotype** ♂: "Sierra de Jaen, type / Coll. et det. A. Fauvel, *Blepharrhymenus corsicus* Muls. Rey, R.I.Sc.N.B. 17.479 / Type / G. Fagel det., 1959, *Blepharrhymenus glabratus* Kieswtt. / Holotypus *Calodera glabrata* Kiesenwetter, rev. V. Assing 2019 / *Echidnoglossa glabrata* Kiesenwetter, det. V. Assing 2019" (IRSNB).

B. moczarskii: **Lectotype** ♂, present designation: "Algeciras, Hisp. mer. / leg. Moczarski / ex coll. Scheerpeltz / Typus *Blepharrhymen. Moczarskii* O. Scheerpeltz / Lectotypus ♂ *Blepharhymenus moczarskii* Scheerpeltz, desig. V. Assing 2019 / *Echidnoglossa glabrata* (Kiesenwetter), det. V. Assing 2019" (NHMW). **Paralectotypes**: 1 ♂, 1 ♀

[teneral]: same labels as lectotype, except "Cotypus ..." (NHMW); 1 ♂: "Algeciras, Andalusia / leg. Moczarski / ex coll. Scheerpeltz / Typus *Blepharrhym. Moczarskii* O. Scheerpeltz" (NHMW); 1 ♂: "Algesiras, Andal. Breit / ex coll. Scheerpeltz / Cotypus *Blepharrhymenus Moczarskii* O. Scheerpeltz" (NHMW).

COMMENT: *Calodera glabrata* was described based on a unique specimen from "Sierra de Jaen" (KIESENWETTER 1870), *Blepharhymenus moczarskii* on several syntypes from "Sierra da Luna bei Algeciras" (SCHEERPELTZ 1954).

According to FAUVEL (1899), the holotype of *C. glabrata* was given to him by Kiesenwetter ("donné par l'auteur"). This would seem rather remarkable with a unique type specimen, but is confirmed by the absence of a holotype in the Kiesenwetter collection in the Zoologische Staatssammlung München, Germany (M. Balke, e-mail 21 Feb., 2019). These observations are in agreement with those of FAGEL (1959).

Five syntypes of *B. moczarskii* were located in the Scheerpeltz collection (NHMW). A male in good condition is designated as the lectotype. A comparison of the type specimens of both nominal species revealed that they are conspecific.

Echidnoglossa glabrata has had a history of different interpretations. While FAUVEL (1899) regarded it as conspecific with *E. corsica*, BERNHAUER (1902) treated the name as a synonym of *Calodera aethiops* (GRAVENHORST, 1902). SCHEERPELTZ (1954) revalidated it and considered it a senior synonym of *E. paulinoi*. FAGEL (1959) confirmed the revalidation based on an examination of the holotype, but treated *E. paulinoi* as a distinct species, a concept also adopted by GAMARRA & OUTERELO (1988).

REDESCRIPTION: Body length 3.7–4.3 mm; length of forebody 1.8–2.1 mm. Habitus as in Fig. 12. Coloration: body black; legs blackish-brown to blackish with yellowish tarsi; antennae brown to blackish-brown; maxillary palpi brown to dark-brown with the apical palpomere yellow.

Head (Fig. 13) distinctly oblong, 1.10–1.15 times as long as broad; lateral margins behind eyes smoothly convex; punctation rather dense and fine, but distinct; interstices without microreticulation. Eyes moderately convex, slightly more than half as long as postocular region in dorsal view. Antenna (Fig. 14) slender, 1.2–1.4 mm long; antennomeres IV weakly oblong, V weakly oblong or as long as broad, VI as long as broad or weakly transverse, VII–X weakly transverse, X less than 1.5 times as broad as long, and XI longer than the combined length of IX and X. Maxillary palpomere III approximately three times as long as broad.

Pronotum (Fig. 13) approximately 1.1 times as long as broad and approximately as broad as head; punctation very dense and distinct; interstices without microreticulation.

Elytra (Fig. 13) approximately as long as pronotum and with pronounced humeral angles; punctation dense and distinct; interstices without microsculpture. Hind wings fully developed. Legs moderately long and slender; metatibia 0.8–1.0 mm long; metatarsomere I slightly longer than the combined length of metatarsomeres II and III.

Abdomen (Fig. 15) basally distinctly constricted, broadest at tergites V–VI; tergites III–V with pronounced anterior impressions with coarse punctation and without median carina; punctation of remainder of tergal surfaces fine and moderately dense; interstices without microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII truncate (Fig. 98), without apparent sexual dimorphism.

♂: sternite VIII (Fig. 99) with strongly convex posterior margin; median lobe of aedeagus slender, approximately 0.4 mm long, and shaped as in Figs. 100–104; paramere (Fig. 105) approximately 0.6 mm long; apical lobe of paramere approximately half as long as basal portion, medially constricted, and basally with a pronounced, stout and obtuse baso-lateral process.

♀: posterior margin of sternite VIII obtusely angled in the middle.

COMPARATIVE NOTES: *Echidnoglossa glabrata* is readily distinguished from other dark-colored Iberian congeners particularly by a more oblong head, much more distinct punctation of the forebody, the complete absence of microsculpture, and by the shape of the aedeagus. The latter is somewhat similar to that of *B. meschniggi*, but more slender in ventral view and smoothly curved in lateral view (*E. meschniggi*: ventral process nearly straight basally in lateral view).

DISTRIBUTION, NATURAL HISTORY: This species is currently known only from one locality in Jaén (probably Sierra de Cazorla) and from the Sierra de la Luna in South Spain (Fig. 262). The details indicated in the redescription of *E. glabrata* (fine punctation of the forebody) in GAMARRA & OUTERELO (1988) suggest that their records from Sierra de Cazorla refer to *E. meschniggi*, not *E. glabrata*. According to KIESENWETTER (1870), the holotype of *E. glabrata* was collected in an alpine meadow. Additional data are not available.

Echidnoglossa (*Echidnoglossa*) *meschniggi* (BERNHAUER, 1936), comb.n.

(Figs. 16–22, 106–122, 261)

Blepharrhymenus meschniggi BERNHAUER 1936: 55.
Blepharrhymenus elegans FAGEL 1959: 101 ff.; **syn.n.**
Blepharrhymenus guadalupensis FAGEL 1959: 99 ff.; **syn.n.**

TYPE MATERIAL EXAMINED: *B. meschniggi*: **Holotype** ♂: "♂ / 4163 / Andalusien, Sierra Nevada / *Blepharhymenus Meschniggi* Brnh. Typ. un. / *Meschniggi* Bernh. Typus un., *Blepharhymenus* / Dr. M. Bernhauer donavit / ex coll. Scheerpeltz / Typus *Blepharrhymenus Meschniggi* Bernhauer / *Echidnoglossa meschniggi* (Bernhauer), det. V. Assing 2019" (NHMW).

B. elegans: **Holotype** ♀ [dissected prior to present study]: "Espagne: Estremadura, Guadalupe, puente del Cerezo, V-1958, G. Fagel / G. Fagel det., *elegans* n. sp. / Type / R. I. Sc. N. B., I. G. 24885 / *Echidnoglossa meschniggi* (Bernhauer), det. V. Assing 2019" (IRSNB). **Paratypes**: 1 ♂, 3 ♀♀ [dissected prior to present study]: same data as holotype (IRSNB).

B. guadalupensis: **Holotype** ♀: "Espagne: Estremadura, Guadalupe (scierie), rio Guadalupejo, V-1958, G. Fagel / G. Fagel det., *guadalupensis* n. sp. / Type / R. I. Sc. N. B., I. G. 24885 / *Echidnoglossa meschniggi* (Bernhauer), det. V. Assing 2019" (IRSNB).

COMMENT: *Blepharhymenus meschniggi* was described based on a unique holotype from "Sierra Nevada (Andalusien)" (BERNHAUER 1936).

The original description of *B. elegans* is based on a holotype and four paratypes from "Espagne : Estrémadure : Guadalupe", that of *B. guadalupensis* on a unique holotype from "Espagne : Estrémadure : Guadalupe, dans le gravier, au bord du rio Guadalupejo" (FAGEL 1959). An examination of the type material revealed that the holotype of *B. guadalupensis* is evidently a nanistic teneral specimen and otherwise identical to the type material of *B. elegans*. The type specimens of both *B. elegans* and *B. guadalupensis* are characterized by largely yellowish legs with the apices of the femora more or less distinctly infuscate, but otherwise identical to *E. meschniggi* not only in external characters, but also in the shape of the aedeagus and the spermatheca. The specimen from Madrid (see below) has similarly yellow legs. Regarding the coloration of the legs, the non-type specimens from Galicia are intermediate between the typical condition of *E. meschniggi* and that of the types of *B. elegans* and *B. guadalupensis*. These observations suggest that the latter most likely represent extreme examples of the color variation or teneral specimens of *E. meschniggi*.

ADDITIONAL MATERIAL EXAMINED: **SPAIN**: **Galicia**: 3 exs. [teneral]: Folgoso do Courel, 42.6°N, 7.2°W, car-net, 26.VI.2012, leg. Struyve (cStr, cAss). **Cataluña**: 3 exs.: Barcelona, Castellar del Vallès [41°36'N, 2°05'E], 5.VI.1964, leg. Comellini (MHNG). **Extremadura**: 1 ♀: Cáceres, SE Zarza la Mayor, bank of Alagón river, 39°50'N, 6°49'W, 230 m, 27.III.2007, leg. Frenzel (cAss). **Madrid**: 1 ♀: "Prov. de Madrid", leg. Bolivar (NHMW). **Andalucía**: 19 ♂♂, 8 ♀♀, 4 exs.: Granada, Sierra Nevada, above Capileira, 1600 m, open stream valley, floated from grass, litter, and debris, 22.III.1994, leg. Assing & Wunderle (cAss, cWun); 8 ♂♂, 9 ♀♀: Granada, Sierra

Nevada, above Capileira, 1900 m, moist north slope, wet moss floated, 23.III.1994, leg. Assing & Wunderle (cAss, cWun); 1 ♂: Sierra Nevada, Capileira, 1500 m, 28.IX.1993, leg. Wunderle (cWun); 3 ♂♂, 4 ♀♀: Sierra Nevada, Puerto de la Ragua, 2000 m, 37.099°N, 3.020°W, 8.–9.V.2014, leg. Shavrin (cAss); 1 ♂: Sierra Nevada, Río Lanjarón, Tello, 1500 m, 29.–31.III.2010, leg. Shavrin & Anishchenko (cAss); 10 exs. [mostly teneral]: Jaén, Sierras de Cazorla, 37.9°N, 2.9°W, car-net, 13.V.2009, leg. Struyve (cStr, cAss); 2 ♂♂, 1 ♀: Málaga, Sierra Bermeja, Jubrique [36°33'N, 5°12'W], 500 m, stream valley, floated from stream bank, 26.III.1994, leg. Assing (cAss); 7 exs., Málaga, Sierra Bermeja, above Ubrique, 36°33'N, 5°10'W, 830 m, stream bank, 6.II.1999, leg. Zerche (SDEI, cAss); 1 ♂: Sierra Bermeja, Los Reales N Estepona, 36°29'N, 5°12'W, 1400 m, *Abies pinsapo* forest, near snow, 6.II.1999, leg. Zerche (SDEI); 1 ♂: Sierra Bermeja, above road Ronda – San Pedro, 36°37'N, 5°04'W, 1030 m, wet moss and pine litter, 4.II.1999, leg. Zerche (cAss); 6 exs.: Ronda (NHMW); 1 ♂: Málaga, Montes de Málaga, Torrija, ca. 36°50'N, 4°22'W, 600 m, 25.II.2000, leg. Lompe (cAss); 2 ♀♀: Málaga, Montes de Málaga, Puerto del León, ca. 36°50'N, 4°22'W, 800 m, stream valley, 25.II.2000, leg. Meybohm (cAss); 1 ♂, 1 ex.: Los Guájares, Río Guadalfeo, 36°51'N, 3°36'W, 2.IV.2012, leg. Wolsch (MNB). **Locality doubtful**: 1 ex.: ? Sierra de Gredos ("Hisp Gredʒ") [handwritten, not cleary legible], leg. Uhagon (NHMW) (NHMW).

REDESCRIPTION: Body length 3.7–4.4 mm; length of forebody 1.9–2.2 mm. Habitus as in Figs. 16–19. Coloration highly variable: head dark-brown to black; pronotum and elytra reddish-brown to black; abdomen dark-brown with segments III–IV or III–V yellowish to uniformly black; legs yellowish or reddish with distal portions of the femora more or less distinctly and more or less extensively infuscate to practically uniformly black with reddish tarsi; antennae blackish-brown to black with the basal antennomeres more or less distinctly and more or less extensively paler; maxillary palpi yellowish to blackish-brown with the apical palpomere yellow.

Head (Fig. 20) of variable shape, 1.01–1.12 times as long as broad; lateral margins behind eyes weakly to strongly convex; punctation very fine and moderately dense; interstices with shallow microreticulation. Eyes moderately convex, approximately half as long as postocular region in dorsal view. Antenna (Fig. 21) 1.2–1.4 mm long; antennomeres IV and V weakly oblong or as long as broad, VI–X of gradually increasing width and increasingly transverse, X barely 1.5 times as broad as long at most, and XI at least slightly longer than the combined length of IX and X. Maxillary palpomere III approximately three times as long as broad (Fig. 111). Labium, labrum, and mandibles as in Figs. 112–115.

Pronotum (Fig. 20) approximately 1.15 times as long as broad and slightly narrower than head; punctation fine and dense, denser along middle and in posterior portion than in lateral portions; interstices with or without extremely shallow traces of microreticulation.

Elytra (Fig. 20) approximately as long as pronotum and with pronounced humeral angles; punctation dense and fine, but more distinct than that of pronotum; interstices without microsculpture. Hind wings fully developed. Legs moderately long and slender; metatibia usually 0.9–1.0 mm long; metatarsomere I slightly longer than the combined length of metatarsomeres II and III.

Abdomen (Fig. 22) basally constricted, broadest at tergites V–VI; tergites III–V with pronounced anterior impressions with coarse punctation; anterior impressions of tergites III–IV with more or less pronounced median carina; punctation of remainder of tergal surfaces fine, moderately dense on anterior tergites, sparser on posterior than on anterior tergites; tergites III–V usually without, VI sometimes with shallow traces of microsculpture; tergites VII–VIII with shallow microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly convex or truncate (Fig. 117), without apparent sexual dimorphism.

♂: sternite VIII with strongly convex posterior margin; median lobe of aedeagus slender, 0.42–0.47 mm long, and shaped as in Figs. 106–109; paramere (Fig. 110) 0.62–0.68 mm long; apical lobe of paramere of variable length, usually slightly less than half as long as basal portion, medially constricted, and basally with a pronounced, stout and obtuse baso-lateral process.

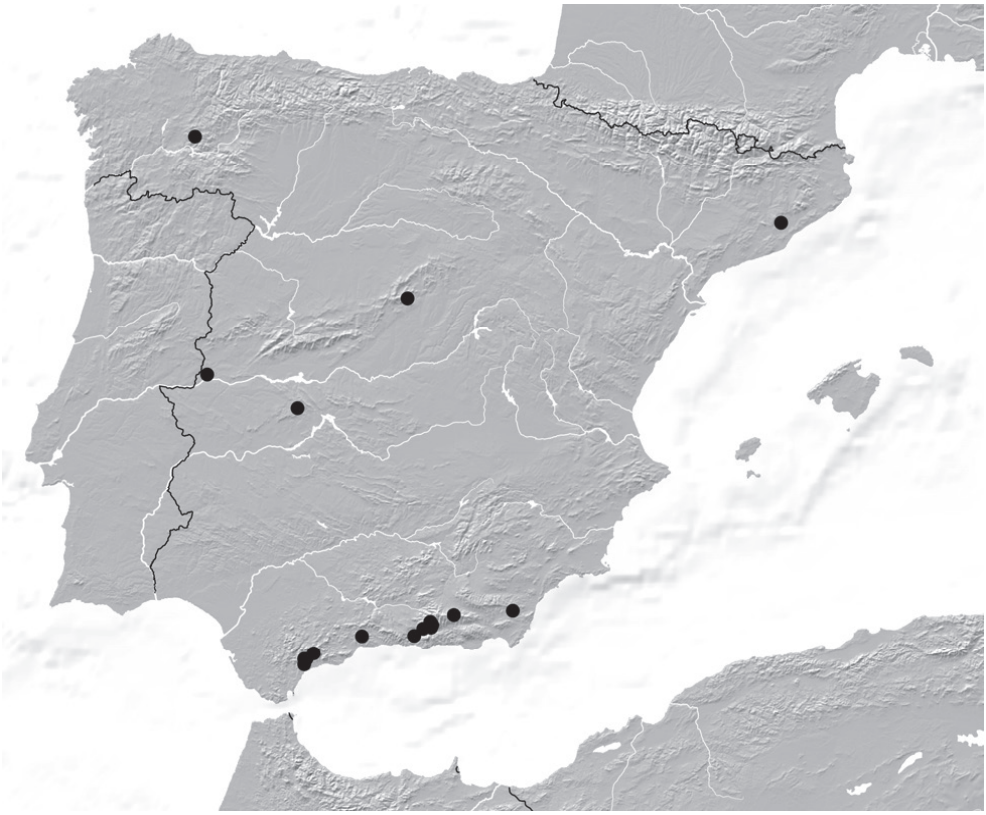


Fig. 261: Distribution of *Echidnoglossa meschniggi* in the Iberian Peninsula, based on examined records.

♀: posterior margin of sternite VIII obtusely angled in the middle (Fig. 118); spermatheca shaped as in Figs. 119–122.

INTRASPECIFIC VARIATION: This species is subject to enormous intraspecific variation of coloration (Figs. 16–19), head shape, punctation of the forebody, the breadth and length of the elytra, and other external characters. In South Spain, dark-colored specimens are predominant at high altitudes (1900–2000 m), pale-colored specimens at lower altitudes. Longer and broader elytra and pale-colored legs are predominant in the north of the distribution, shorter and narrower elytra and dark-colored legs in the south. However, significant differences in the morphology of the male sexual characters, which would suggest that the examined material is composed of more than one species, were not observed.

COMPARATIVE NOTES: *Echidnoglossa meschniggi* is reliably distinguished from other Iberian congeners particularly by the shape of the aedeagus.

DISTRIBUTION, NATURAL HISTORY: *Echidnoglossa meschniggi* is the most widespread and least rare representative of the subgenus. Most of the records are from South Spain, but there are scattered records also from Northwest, Northeast, West, and Central Spain. Presumably, the records provided for *E. elegans* (Segovia, Jaen, Madrid, Cáceres), *E. glabratus* (Cazorla), and *E. meschniggi* (Granada: Lanjarón) by GAMARRA & OUTERELO (1988) refer to this species, too. Most of the examined specimens were collected from moss, grass, and debris on stream banks, some also from wet litter in forests or near snow. The altitudes range from 230 to 2000 m. The

specimens were collected in February, March, May, June, and September. Flying specimens were collected with car-nets in May and June. Teneral adults were found in May and June.

Echidnoglossa (*Echidnoglossa*) *scheerpeltzi* (FAGEL, 1958), comb.n.
(Figs. 23–26, 123–133, 262)

Blepharrhymenus scheerpeltzi FAGEL 1958: 239 ff.
Blepharrhymenus lusitanicus FAGEL 1960: 281 f.; synonymy by GAMARRA & OUTERELO (1988).

TYPE MATERIAL EXAMINED: *B. scheerpeltzi*: **Holotype** ♀ [dissected prior to present study]: "Espagne: Castille, Puerto de Bejar, 800–1400 m, V–VI 1957 G. Fagel / G. Fagel det., *scheerpeltzi* n. sp. / Type / R. I. Sc. N. B., I. G. 24885 / *Echidnoglossa scheerpeltzi* (Fagel), det. V. Assing 2019" (IRSNB). **Paratypes**: 3 ♂♂, 4 ♀♀ [all dissected prior to present study, partly heavily damaged]: same data as holotype (IRSNB).

B. lusitanicus: **Holotype** ♂: "Portugal: Luso, route Penacova, 5-1959, G. Fagel / G. Fagel det., *lusitanicus* n. sp. / Type / R. I. Sc. N. B., I. G. 24885 / *Blepharrhymenus scheerpeltzi* n. sp., R. Outerelo Det. 87 / *Echidnoglossa scheerpeltzi* (Fagel), det. V. Assing 2019" (IRSNB). **Paratypes**: 26 exs: same data as holotype (IRSNB).

COMMENT: The original description of *B. scheerpeltzi* is based on a holotype and six paratypes from "Espagne : Castille : Puerto de Bejar" (FAGEL 1958), that of *B. lusitanicus* on a holotype and 26 paratypes from "Portugal : concelho de Mealhada, Luso" (FAGEL 1960). Remarkably, there are seven specimens labelled as paratypes of *B. scheerpeltzi* in the Fagel collection. *Blepharhymenus lusitanicus* was synonymized with *B. scheerpeltzi* by GAMARRA & OUTERELO (1988). An examination of the type material of both names confirmed that the synonymy is correct.

ADDITIONAL MATERIAL EXAMINED: **SPAIN**: **Castilla y León**: 3 ♂♂, 7 ♀♀: Sierra de Gredos, ca. 60 km SSW Ávila, ca. 10 km SSW Burgohondo, 40°21'N, 04°49'W, 1250 m, stream valley, floated, 25.III.2007, leg. Assing (cAss). **Madrid**: 7 ♂♂, 3 ♀♀: Sierra de Guadarrama, Pinilla del Valle, 40.919°N, 3.821°W, 28.IV.2014, leg. Shavrin & Anishchenko (cAss).

REDESCRIPTION: Body length 4.0–4.8 mm; length of forebody 2.0–2.3 mm. Habitus as in Fig. 23. Coloration somewhat variable. Dark-colored specimens: body black; legs blackish-brown with the tarsi and the basal portion of the femora more or less distinctly and more or less extensively paler brown; antennae blackish with the basal antennomeres more or less distinctly paler; maxillary palpi dark-brown with palpomere IV yellowish. Pale-colored specimens: pronotum and elytra brown; abdominal segments III–IV reddish; legs yellowish to reddish with the distal portions of the femora more or less distinctly infuscate. All transitions between both extremes are present.

Head (Fig. 24) as long as broad or indistinctly oblong; lateral margins behind eyes distinctly convex; punctation very fine and dense; interstices with shallow microreticulation. Eyes moderately convex, at least approximately half as long as postocular region in dorsal view. Antenna (Fig. 25) 1.3–1.4 mm long, antennomeres IV weakly oblong, V weakly oblong or as long as broad, VI as long as broad or weakly transverse, VII–X of gradually increasing width and increasingly transverse, X less than 1.5 times as broad as long, and XI slightly longer than the combined length of IX and X. Maxillary palpus of similar shape as in *E. meschniggi*. Labium and labrum as in Figs. 123–124.

Pronotum (Fig. 24) approximately 1.15 times as long as broad and slightly narrower than head; punctation fine and dense, denser along middle and in posterior portion than in lateral portions; interstices with or without microreticulation.

Elytra (Fig. 24) as long as pronotum or slightly shorter, with pronounced humeral angles; punctation dense and fine, slightly less fine than that of pronotum; interstices with or without shallow traces of microsculpture. Hind wings fully developed. Legs moderately long and

slender; metatibia 1.0–1.1 mm long; metatarsomere I slightly longer than the combined length of metatarsomeres II and III.

Abdomen (Fig. 26) basally constricted, broadest at tergites V–VI; tergites III–V with pronounced anterior impressions with coarse punctation; anterior impressions of tergites III–IV without median carina; punctation of remainder of tergal surfaces fine and moderately dense; tergites III–V without, VI–VII with or without shallow microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly convex (Fig. 125), without apparent sexual dimorphism.

♂: posterior margin of sternite VIII strongly convex or obtusely angled in the middle (Fig. 126); median lobe of aedeagus slender, approximately 0.6 mm long, and shaped as in Figs. 127–129; paramere (Fig. 130) approximately 0.8 mm long; apical lobe of paramere approximately half as long as basal portion, medially constricted, and basally with a pronounced, stout and obtuse baso-lateral process.

♀: posterior margin of sternite VIII convex or obtusely angled in the middle (Fig. 131); spermatheca relatively small, shaped as in Figs. 132–133.

COMPARATIVE NOTES: *Echidnoglossa scheerpeltzi* is distinguished from other Iberian congeners by slightly larger body size, longer appendages, a significantly longer and apically more acute median lobe of the aedeagus, and by the shape of the spermatheca.

DISTRIBUTION, NATURAL HISTORY: The known distribution ranges from Portugal across East and Central Spain eastwards to the Sierra de Guadarrama (Fig. 262). GAMARRA & OUTERELO (1988) report additional records from Ávila and Madrid. The type material of *E. scheerpeltzi* and *E. lusitanica* was found in wet stream moss and wet plants (FAGEL 1958, 1960). The specimens from the Sierra de Gredos were floated from grass, moss, and debris at a stream bank at an altitude of 1250 m.

Echidnoglossa (*Echidnoglossa*) *paulinoi* SKALITZKY, 1884
(Figs. 27–30, 134–141, 262)

Echidnoglossa paulinoi SKALITZKY 1884: 97 f.

TYPE MATERIAL EXAMINED: **Lectotype** ♂, present designation: "♂ / Gerez, Portugal, Paulino / *Paulinoi* Skal. / vid. Bernh. / type / ex coll. Skalitzky / Typus *Blepharym. Paulinoi* Skalitzky / Lectotypus ♂ *Echidnoglossa paulinoi* Skalitzky, desig. V. Assing 2019" (NHMW). **Paralectotypes**: 3 exs.: same labels as lectotype (NHMW); 1 ex.: same data as lectotype, but with additional labels "232 / Cotypus" (NHMW); 1 ex. [most of abdomen missing]: "*Paulinoi* Skal. Lusitania. Skalitzky / *glabrata* Kiesw., Heyden [+ two illegible words] 1870. p. 77. 30." (NHMW); 1 ex. [without head]: "*Echidnoglossa Paulinoi* Skalitzky, Lusitania, Paulino / S. Gerez, 8.83, Skalitzky / B / D.E.I. coll. v. Heyden / *Blepharrhym ventricosus* Quedf. / Col – 10577, DEI Müncheberg" (SDEI)); 1 ex.: "Gerez, Portugal, Paulino / Paulinoi Skal. / type / Paulinoi Skalitzky Type / Chicago NHMus, M.Bernhauer Collection" (FMNH).

COMMENT: The original description is based on several syntypes collected "bei Gerez in Portugal" (SKALITZKY 1884). A male syntype in good condition is designated as the lectotype.

ADDITIONAL MATERIAL EXAMINED: **SPAIN: Asturias**: 1 ♂: Sierra de Rañadoiro, Puerto del Connio, 43°03'N, 6°43'W, 1300 m, N-slope, mixed deciduous forest with *Betula* sp., *Quercus* sp., and *Sorbus aucuparia*, and with *Erica* and *Luzula* undergrowth on scree, litter sifted, 25.VI.2002, leg. Assing (cAss); 2 exs.: Puerto del Connio, 43.03°N, 6.76°W, 1300 m, sifted, 16.IV.2013, leg. Struyve (cStr). **Galicia**: 7 exs.: Peña Trevinca, 42.25°N, 6.78°W, 1900 m, debris under small shrubs above the tree-line sifted, 24.VI.2012, leg. Struyve (cStr, cAss). **PORTUGAL**: 1 ♂: Serra do Gerês, Portela de Leonte, 41°46'N, 8°09'W, 860 m, under bushes near meadow, sifted, 22.III.2002, leg. Meybohm (cAss); 1 ♂: Serra da Peñeda, Santuario da Peñeda, 42°00'N, 8°13'W, 890 m, mixed forest, litter sifted, 24.III.2002, leg. Meybohm (cAss).

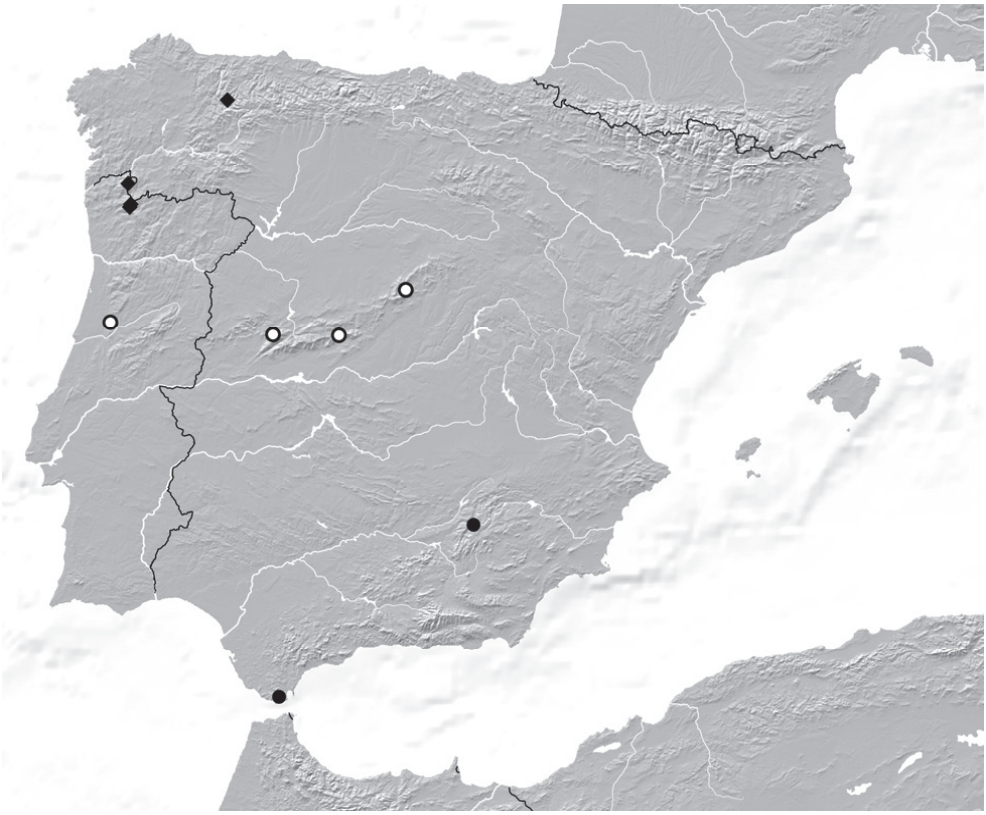


Fig. 262: Distributions of Iberian *Echidnoglossa* s.str., based on examined records: *E. paulinoi* (black diamonds); *E. scheerpeltzi* (white circles); *E. glabrata* (black circles).

REDESCRIPTION: Body length 3.9–4.6 mm; length of forebody 1.9–2.2 mm. Habitus as in Fig. 27. Coloration: body black; legs blackish-brown with femoral bases reddish-brown and the tarsi reddish; antennae black with antennomeres I–II dark-brown to blackish-brown; maxillary palpi blackish-brown with palpomere IV yellow.

Head (Fig. 28) of variable shape, approximately as long as broad, weakly dilated or narrowed behind eyes; lateral margins behind eyes distinctly convex; punctation very fine and dense; interstices with microreticulation. Eyes moderately convex, slightly more than half as long as postocular region in dorsal view. Antenna (Fig. 29) 1.2–1.4 mm long, antennomeres IV weakly oblong or as broad as long, V–X of gradually increasing width and increasingly transverse, X less than 1.5 times as broad as long, and XI slightly longer than the combined length of IX and X. Maxillary palpomere III approximately three times as long as broad.

Pronotum (Fig. 28) approximately 1.1 times as long as broad and as broad as head; punctation fine and dense; interstices with shallow microreticulation.

Elytra (Fig. 28) slightly shorter than pronotum, with pronounced humeral angles; punctation dense and fine, but much more distinct than that of pronotum; interstices without microsculpture. Hind wings fully developed. Legs relatively short; metatibia 0.8–0.9 mm long; metatarsomere I as long as, or slightly longer than the combined length of metatarsomeres II and III.

Abdomen (Fig. 30) basally constricted, broadest at tergites V–VI; tergites III–V with pronounced anterior impressions with coarse punctation; anterior impressions of tergites III–IV without median carina; punctation of remainder of tergal surfaces fine and moderately dense; tergites III–V with or without, VI–VII with shallow microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly to distinctly convex (Fig. 139), without apparent sexual dimorphism.

♂: posterior margin of sternite VIII strongly convex (Fig. 140); median lobe of aedeagus slender, 0.42–0.47 mm long and of distinctive shape in lateral view (Figs. 134–136); paramere (Fig. 137) 0.6–0.7 mm long; apical lobe of paramere approximately half as long as basal portion, or nearly so, medially constricted, and basally with a pronounced, stout and obtuse baso-lateral process.

♀: posterior margin of sternite VIII obtusely angled in the middle (Fig. 141); spermatheca as in Fig. 138.

COMPARATIVE NOTES: *Echidnoglossa paulinoi* is distinguished from other Iberian congeners of dark coloration by a rather broad head, less slender legs, and by an aedeagus of distinctive shape.

DISTRIBUTION, NATURAL HISTORY: The known distribution is confined to the northwestern Iberian Peninsula (North Portugal, Northwest Spain) (Fig. 262). GAMARRA & OUTERELO (1988) report an additional record from "Parque Nacional Gerés". Unlike *E. meschniggi* and *E. scheerpeltzi*, *E. paulinoi* was not collected in extremely wet habitats, but sifted from litter in forests and in subalpine habitats. The locality Puerto del Connio in Asturias is a remarkable place in that the forest floor forms a carpet of roots and litter on scree inhabited also by subterranean species such as *Lathrorugilus starkei* ASSING & FELDMANN, 2001. This and the rarity of records suggest that *E. paulinoi* may reproduce in a hypogean habitat. On the other hand, the absence of morphological adaptations to a hypogean environment would suggest otherwise. The altitudes range from 860 to 1900 m. The examined specimens were collected in March, April, and June.

Echidnoglossa (*Echidnoglossa*) *maghrebica* (FAGEL, 1960), comb.n.
(Figs. 142–144, 260)

Blepharrhymenus maghrebicus FAGEL 1960: 280 f.
Blepharrhymenus peyerimhoffi FAGEL 1960: 279 f., **syn.n.**

TYPE MATERIAL EXAMINED: *B. maghrebicus*: **Holotype** ♂: "Kef-el-Rhar, Alt. 800 m. / Entrée Grotte, 23-VIII-36 / Riff - Otin / Type / G. Fagel det. 1960, *Blepharrhymenus maghrebicus* n. sp. / Muséum Paris, Ex. Coll. Peyerimhoff" (MNHNP).

B. peyerimhoffi: **Holotype** ♂: "Aïn Seur, Dr. Martin / *Il. corsicus*, Dr. Martin, Juin 06 / Type / G. Fagel det. 1960, *Blepharrhymenus Peyerimhoffi* n. sp. / Muséum Paris, Ex. Coll. Peyerimhoff" (MNHNP).

COMMENT: The original description of *B. maghrebicus* is based on a unique holotype from "Maroc : Riff : Kel el Rhar", that of *B. peyerimhoffi* on a unique holotype from "Algérie : Aïn Seur" (FAGEL 1960). The two specimens slightly differ by size, coloration, and punctation, but the aedeagus is practically identical (Figs. 142–143), so that the observed external differences are interpreted as intraspecific variation. Moreover, the somewhat deformed elytra of the holotype of *B. peyerimhoffi* suggest that the specimen is teratological. Both *B. maghrebicus* and *B. peyerimhoffi* were described in the same article. The former is designated as the senior synonym, since the holotype is in better condition.

Both holotypes were examined and returned to MNHNP approximately 20 years ago. Owing to the current restrictive loan policy of the MNHNP, it was not possible to access the specimens again to produce new images.

REDESCRIPTION: Body length 3.9–4.4 mm; length of forebody 1.9–2.2 mm. Coloration: body black, with or without abdominal segments III–V brownish; legs pale-brown with the apical three-fourths of the femora moderately infuscate, or blackish with femoral and tibial bases paler; tarsi yellowish to reddish; antennae reddish-brown.

Head 1.05–1.07 times as long as broad; punctation fine and sparse; interstices with shallow microsculpture. Eyes slightly shorter than distance from posterior margin of eye to posterior constriction of head. Antenna 1.25–1.30 mm long; preapical antennomeres moderately transverse, less than 1.5 times as broad as long.

Pronotum 1.10–1.15 times as long as broad and approximately as broad as head; punctation fine and sparse; interstices only with shallow traces of microsculpture and glossy.

Elytra 1.05 times as long as pronotum; punctation defined and more distinct than that of head and pronotum; interstices without appreciable microsculpture. Metatibia 0.85–0.90 mm long; metatarsomere I nearly as long as combined length of II–IV.

Abdomen narrower than elytra; punctation sparse and very fine, denser and less fine on tergite III than elsewhere; interstices on tergites III–VI without appreciable microsculpture.

♂: median lobe of aedeagus 0.38–0.39 mm long and shaped as in Figs. 142–144; apical lobe of paramere with baso-lateral process.

COMPARATIVE NOTES: *Echidnoglossa maghrebica* is distinguished from dark-colored Iberian congeners particularly by the shape of the ventral process of the aedeagus.

DISTRIBUTION, NATURAL HISTORY: This species is currently known only from its type locality in the Rif Atlas, North Morocco, and from that of *E. peyerimhoffi*, which is probably situated near Toudja [36°44'N, 4°53'E] in North Algeria (Fig. 260). The holotype of *E. maghrebica* was collected in a cave entrance at an altitude of 800 m.

***Echidnoglossa* (*Echidnoglossa*) *russa* sp.n.**
(Figs. 31–34, 145–151, 260)

TYPE MATERIAL: **Holotype** ♂: "ARE: SINAI, St. Katherina, 15.4.1987 / Mt. Moses, 2000 m, kleine Quelle, M. Balke leg. / Holotypus ♂ *Echidnoglossa russa* sp.n., det. V. Assing 2019" (SDEI). **Paratypes**: 2♀♀: same data as holotype (SDEI, cAss).

ETYMOLOGY: The specific epithet (Latin, adjective: red) alludes to the conspicuous coloration of this species.

DESCRIPTION: Body length 4.5–5.0 mm; length of forebody 2.2–2.4 mm. Habitus as in Fig. 31. Coloration: body reddish with the apex of the abdomen (from segment VI) extensively infuscate; elytra with or without indistinct dark medio-lateral spot; legs yellow; antennae pale-brown with the basal 3–5 antennomeres yellowish-red; maxillary palpi yellow.

Head (Fig. 32) approximately 1.1 times as long as broad; lateral margins behind eyes distinctly convex; punctation very fine and dense, barely visible; interstices with microreticulation. Eyes moderately convex, approximately half as long as postocular region in dorsal view, or slightly longer. Antenna (Fig. 33) 1.4–1.5 mm long, antennomeres IV oblong, V–VI approximately as long as broad, VII–X of gradually increasing width and increasingly transverse, X approximately 1.5 times as broad as long, and XI longer than the combined length of IX and X. Maxillary palpomere III approximately three times as long as broad.

Pronotum (Fig. 32) 1.17–1.19 times as long as broad and nearly as broad as head; punctation fine and dense; interstices with very shallow microreticulation sometimes visible only in anterior and posterior portions.

Elytra (Fig. 32) approximately 0.9 times as long as pronotum, with pronounced humeral angles; punctation dense and very fine; interstices without microsculpture. Hind wings fully developed. Legs slender; metatibia 1.1–1.2 mm long; metatarsomere I as long as, or slightly longer than the combined length of metatarsomeres II and III.

Abdomen (Fig. 34) basally constricted, broadest at tergites V–VI; tergites III–V with pronounced anterior impressions with more or less pronounced ante-median carina; impressions of tergites III–IV with coarse, that of tergite V with fine punctation; punctation of remainder of tergal surfaces fine and dense; tergites III–V without, tergites VI–VII with microreticulation; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII truncate to weakly convex (Fig. 145), without apparent sexual dimorphism.

♂: posterior margin of sternite VIII strongly convex (Fig. 146); median lobe of aedeagus slender, 0.50 mm long, and shaped as in Figs. 147–148; paramere (Fig. 149) 0.7 mm long; apical lobe of paramere approximately half as long as basal portion, medially constricted, and basally with a pronounced, stout and obtuse baso-lateral process.

♀: posterior margin of sternite VIII very obtusely angled in the middle (Fig. 150); spermatheca as in Fig. 151.

COMPARATIVE NOTES: Among its consubgeners, *E. russa* is similar in coloration only to *E. constricta*, from which it differs particularly by much longer and broader elytra, significantly larger and more convex eyes, less pronounced or absent microsculpture of the pronotum and elytra, and in the shape of the median lobe of the aedeagus and of the spermatheca.

DISTRIBUTION, NATURAL HISTORY: The type locality is situated on Mount Sinai (= Mountain of Moses; 28°32'N, 33°58'E) in the Sinai Peninsula, Egypt (Fig. 260). The type specimens were collected near a spring at an altitude of 2000 m.

Echidnoglossa (*Echidnoglossa*) *corsica* MULSANT & REY, 1875
(Figs. 35–38, 152–159, 260)

Echidnoglossa corsica MULSANT & REY 1875: 431.
Blepharrhymenus sardous SCHEERPELTZ 1954: 139 f.; **syn.n.**

TYPE MATERIAL EXAMINED: **Holotype** ♀ [teneral]: "Laconi (Sardinia), A. Dodero / *corsicus* Rey / ex coll. Luze / Typus *Blepharrhymenus sardous* O. Scheerpeltz / *Echidnoglossa corsica* Mulsant & Rey, det. V. Assing 2019" (NHMW).

COMMENT: *Echidnoglossa corsica* was described based on an unspecified number of syntypes from "les environs de Corte, de Calvi et d'Ospedale en Corse" (MULSANT & REY, 1875). A loan of type material was not deemed necessary, since there is no reasonable doubt that the present interpretation of the species is correct.

According to the original description of *B. sardous*, which is based on a unique holotype from "Laconi (Sardinia)", this species is distinguished from *E. corsica* particularly by "ganz andere Kopfform und die auffällig großen Augen" (SCHEERPELTZ 1954). An examination of the holotype revealed that, regarding both its head shape and the size of the eyes, it is within the range of intraspecific variation of *E. corsica*.

ADDITIONAL MATERIAL EXAMINED: **FRANCE**: **Corsica**: 13 exs.: 20 km SE Corte, Erbajolo env., stream bank, 12.IV.1990, leg. Assing (cAss); 4 exs.: same data, but leg Wunderle (cWun); 1 ex.: Corte env., Vallée de la Restonica, 700 m, 6.IV.1990, leg. Assing (cAss); 1 ex.: Morosaglia env., Castineta, 800 m, stream bank, 7.IV.1990, leg. Assing (cAss); 2 exs.: Castagniccia, Fontane de Alzetana, 2 km W Croce, 42°24'N, 9°21'E, 725 m, wet moss in spraying zone, 25.VII.1998, leg. Zerche (SDEI); 5 exs.: Val d'Ese, E Bas'telica, 42°00'N, 9°07'E, 1550 m, stream bank, litter sifted, 21.VII.1998, leg. Zerche (SDEI); 6 exs.: Defile de Lancone, W Casatorra, 250 m, waterfall, wet moss, 28.VII.1994, leg. Zerche (SDEI, cAss); 1 ex.: Bocognano, Cimiterra, II.1930 (MHNG, MNB); 9 exs.:

Bocognano (MHNG, SDEI); 1 ex.: Vizzavona (NHMW); 5 exs.: Vizzavona, 25.–28.IX.1955, leg. Benick (MHNG); 7 exs.: Vizzavona, 29.VI.1955, leg. Benick (MHNG); 1 ex.: Vizzavona, 28.IX.1955, leg. Ihssen (MNB); 1 ex.: Vizzavona, 1100 m, VII.1989, leg. Balke & Hendrich (MNB); 4 exs.: Porta, V.1966, leg. Benick (NHMW); 1 ex.: Monte Cinto, 2700 m, 24.IX.1973, leg. Curti (MHNG); 1 ex.: Bonifacio, Ospedale, X.1960 (MHNG); 1 ex.: Restonica, V.1960 (MHNG); 13 exs., Francardo, VII.1954 (MHNG); 1 ex. [teneral]: Raconica, V.1960 (MHNG); 1 ex.: Golo river (MHNG); 2 exs.: Zicavó env., 1.–3.V.1927 (MNB); 30 exs.: locality not specified, leg. Croissandeau, Heyden, Revelière, Staudinger, etc. (MHNG, MNB, NHMW, SDEI). **ITALY**: **Sardinia**: 34 exs.: Gennargentu, road Desulo – Fonni, stream moss, 4.X.1989, leg. Wunderle (cWun, cAss); 1 ex.: Gennargentu, 1500 m, III.1977, leg. Curti (MHNG); 4 exs.: Bruncu Spina, 1700 m, 24.IX.1982, leg. Wunderle (cWun); 1 ex.: Monte Gennargentu, leg. Krüger (SDEI); 1 ex.: Laconi, 5.VI.2001, leg. Dodero (MNB); 2 exs.: Laconi, leg. Dodero (MNB); 1 ex.: locality not specified, leg. Lostia (MNB).

REDESCRIPTION: Body length 3.4–5.0 mm; length of forebody 1.9–2.3 mm. Habitus as in Fig. 35. Coloration: body black; legs blackish with reddish-yellow tarsi; antennae blackish-brown; maxillary palpi dark-brown to blackish-brown with the apical palpomere yellow.

Head (Fig. 36) weakly oblong or as broad as long; lateral margins behind eyes convex; punctation very fine and moderately dense; frons with, remainder of dorsal surface without microreticulation. Eyes of variable size, moderately convex, 0.5–0.8 times as long as postocular region in dorsal view. Antenna (Fig. 37) 1.3–1.5 mm long; antennomeres IV weakly oblong, V weakly oblong or as long as broad, VI–X of gradually increasing width and weakly transverse, X less than 1.5 times as broad, and XI slightly longer than the combined length of IX and X. Maxillary palpomere III approximately three times as long as broad.

Pronotum (Fig. 36) 1.10–1.15 times as long as broad and slightly narrower than head; punctation fine and dense; interstices without microreticulation.

Elytra (Fig. 36) approximately as long as pronotum and with pronounced humeral angles; punctation dense and fine, more distinct than that of pronotum, denser and more distinct in anterior than in posterior portion; interstices without microsculpture. Hind wings fully developed. Legs moderately long and slender; metatibia usually 0.9–1.0 mm long; metatarsomere I approximately as long as the combined length of metatarsomeres II and III.

Abdomen (Fig. 38) basally constricted, broadest at tergite VI; tergites III–V with pronounced anterior impressions; anterior impression of tergite III with coarse and dense non-setiferous punctation, that of tergite IV with similarly coarse, but less dense punctation, and that of tergite V with fine and sparse non-setiferous punctation; punctation of remainder of tergal surfaces fine and moderately dense; microsculpture absent; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly convex or truncate (Figs. 156, 158), without apparent sexual dimorphism.

♂: sternite VIII (Fig. 157) with strongly convex posterior margin; median lobe of aedeagus (Figs. 152–153) very slender in lateral view and broad in ventral view, approximately 0.4 mm long; paramere (Fig. 154) approximately 0.5 mm long; apical lobe of paramere relatively short and stout, approximately one-third as long as basal portion, medially without excavation and basally with slender baso-lateral process.

♀: posterior margin of sternite VIII obtusely angled in the middle (Fig. 159); spermatheca shaped as in Figs. 155.

COMPARATIVE NOTES: *Echidnoglossa corsica* is distinguished from other species of the subgenus by fine and sparse punctation of the anterior impression of tergite V, by the absence of microsculpture on the abdomen, slightly shorter metatarsomeres I, by the shape of the median lobe of the aedeagus, a shorter, medially not constricted apical lobe of the paramere with a slender baso-lateral process, as well as by the shape of the spermatheca.

The number and nature of these differences suggest that *E. corsica* may represent the adelphotaxon of a lineage including all other species of the subgenus. Vicariance of the *E. corsica* lineage with the lineage including at least the other West Mediterranean species of *Echidnoglossa* s.str. most likely occurred at least 20 million years ago, when the Corsica-Sardinia microplate broke away from the Iberian plate (KETMAIER et al. 2006).

DISTRIBUTION, NATURAL HISTORY: *Echidnoglossa corsica* is a Tyrrhenian element with a distribution confined to Corsica and Sardinia (Fig. 260). The species is also listed for Algeria by SCHÜLKE & SMETANA (2015), but this record is undoubtedly based on misidentification and most likely refers to *E. maghrebica*.

The examined material was collected mostly from wet moss and litter near streams and waterfalls from February through July and from September through October. A teneral specimen was found in May. The altitudes range from 250 to 2700 m.

Subgenus *Blepharrhymorphus* IHSSEN, 1934

Type species: *Blepharhymenus mirandus* FAUVEL, 1899 (by monotypy).

DIAGNOSIS: Species of relatively large size, 5.1–6.2 mm. Habitus conspicuously slender, with extremely long and slender legs and antennae (Fig. 39). Forebody and abdomen partly with granulose punctation (Figs. 40, 42–43). Ligula (Fig. 172) long, slender, and bilobed in apical half, the two lobes contiguous and apically each with an indistinct appendage. Maxillary palpomere III very slender, approximately four times as long as broad (Fig. 160). Labrum relatively weakly transverse (Fig. 173). Tergites III–VI (Fig. 42) with pronounced anterior impressions.

♂: median lobe of aedeagus (Figs. 161–163, 166–158) very slender in lateral view, rather broad in ventral view, with short basal portion, minute crista proximalis, and modified crista apicalis; apical lobe of paramere elongate with a median constriction and with a short, broad, and obtuse baso-lateral process (Figs. 164, 169).

♀: posterior margin of sternite VIII strongly convex in the middle.

DIVERSITY, DISTRIBUTION, NATURAL HISTORY: This subgenus includes two species distributed in the Alps. Based on available evidence, they may be associated with high-altitude hypogean environments, although they were occasionally found also in other, mostly wet habitats.

Echidnoglossa (*Blepharrhymorphus*) *miranda* (FAUVEL, 1899), comb.n.
(Figs. 39–42, 160–165, 172–175, 263)

Blepharhymenus mirandus FAUVEL 1899: 47 f.

TYPE MATERIAL: The original description of *E. miranda* is based on a unique specimen from "Alpes-Maritimes, canal de la Vésubie près Nice" (FAUVEL 1899).

MATERIAL EXAMINED: **FRANCE**: 3 exs.: Ain, Fort l'Ecluse env., Grotte de la Bouna, 25.I.1975, leg. Bourne (MHNG); 1 ex. [teneral]: same data, but 8.X.1976 (MHNG); 3 exs.: same data, but VII.–VIII.1975 (MHNG); 1 ex.: same data, but 4.I.1975 (MHNG); 4 exs.: same data, but 8.II.1976 (MHNG, cAss); 2 exs., Grotte de la Bouna, IV.1976, leg. Vít (MHNG, cAss); 3 exs.: same data, but 23.IX.1975 (MHNG); 2 exs.: same data, but I.1976 (MHNG); 1 ex.: same data, but 6.VI.1976 (MHNG); 1 ex. [teneral]: same data, but 6.VI.1975 (MHNG); 3 exs.: same data, but 9.VII.1975 (MHNG, cAss); 1 ex.: same data, but 3.VII.1975 (MHNG); 4 exs.: same data, but 20.V.1975 (MHNG); 1 ex.: Alpes-Maritimes, Auron, 1.VIII.1952, leg. Ochs (MHNG); 1 ex.: Auron, 2.X.1959, leg. Ochs (MHNG); 2 exs.: Auron, 1.VIII.1952, leg. Ochs (MHNG); 1 ex.: Alpes-Maritimes, Telion, 25.VI.1965, leg. Ochs (MHNG); 1 ex. [teneral]: Saint-Étienne-de-Tinée, VII.1956, leg. Ochs (MHNG); 2 exs.: Alpes-Maritimes, Massif de l'Authion [44°00'N, 7°26'E], 2000 m (IRSNB, NHMW); 1 ex.: Alpes-Maritimes, Authion, VI.1952, leg. Ochs (MHNG); 4 exs.: Authion, 2000 m, 23.VI.1952, leg. Ochs (MHNG, cAss); 6 exs.: Authion, VI.1952, leg. Ochs

(MHNG, cAss); 4 exs.: Authion, 21.VII.1952, leg. Ochs (MHNG); 2 exs.: Authion, 1952, leg. Ochs (MHNG); 1 ex.: Authion, 2000 m, 1952, leg. Ochs (MHNG); 1 ex. [det. Struyve]: Col de Turini, 43.95°N, 7.38°E, car-net, 12.VI.2017, leg. Struyve (cStr). **SWITZERLAND**: 1 ex.: Vaud, Vallorbe, Grottes aux Fées [46°42'N, 6°21'E], cave, 10.VII.1958 (cAss). **ITALY**: 1 ex.: Piemonte, Alpi Marittime, Cuneo, Vernante, "Sotterranei di Forte Vernante", 44°15'N, 7°32'E, 1030 m, mine gallery, 20.VII.2010, leg. Schnitter (cAss); 1 ex.: Cuneo, Forte di Vernante, 20.VIII.1987, leg. Magrini (cAss); 2 exs. [1 ex. teneral]: Forte di Vernante, 6.X.1973, leg. Morisi (MHNG, cWun); 1 ex.: Liguria, Savona, Finale Ligure [44°10'N, 8°20'E], Grotte San Antonio, IV.1964, leg. Curti (MHNG); 1 ex.: "Italien" (MHNG). **AUSTRIA**: 1 ♀, Tirol, Sölden, Ötztal, 3.VIII.1965, leg. Lohse (MHNG).

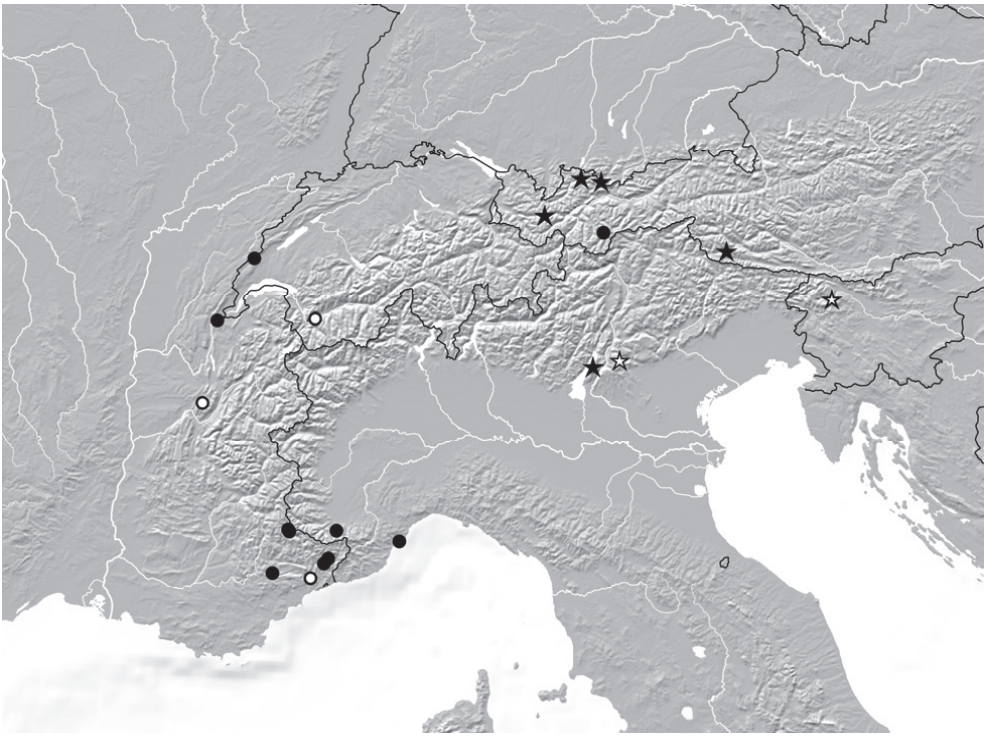


Fig. 263: Distributions of *Echidnoglossa* species of the subgenus *Blepharrhymorphus* in the Alps: *Echidnoglossa miranda* (black circles: revised records; white circles: literature records); *E. breiti* (black stars: revised records; white stars: literature records).

REDESCRIPTION: Body length 5.1–6.2 mm; length of forebody 2.4–2.9 mm. Species of very slender habitus (Fig. 39). Coloration: head brown to black; pronotum and elytra reddish to blackish; abdomen reddish to blackish, with the margins of the segments more or less distinctly paler; legs reddish to reddish-brown; antennae and maxillary palpi reddish.

Head (Fig. 40) distinctly oblong, of oval shape; lateral margins behind eyes converging towards posterior constriction in nearly straight line, posterior angles completely absent; punctation dense, fine and non-granulose in antero-median portion, distinctly granulose in posterior portion (from approximately mid-eye level to posterior constriction); interstices with or without more or less distinct microreticulation; frons with distinct microreticulation. Eyes weakly convex, on average approximately one-third as long as postocular region in dorsal view. Antenna (Fig. 41) conspicuously long and slender, but length (2.1–2.6 mm) and shape of antennomeres subject to

considerable variation; antennomeres IV 3–4 times as long as broad, V–X of gradually decreasing length and decreasingly oblong, X weakly oblong or as long as broad, and XI as long as combined length of IX and X, or slightly longer. Maxillary palpomere III very slender, approximately four times as long as broad (Fig. 160). Apical half of ligula bifid, the two lobes contiguous and apically each with an indistinct appendage (Fig. 172). Labrum as in Fig. 173.

Pronotum (Fig. 40) approximately 1.2 times as long as broad and slightly narrower than head; punctation dense and distinctly granulose, denser along middle and in posterior portion than in lateral portions; interstices with nearly obsolete to distinct microreticulation.

Elytra (Fig. 40) approximately as long as pronotum and with pronounced humeral angles; punctation dense, rather coarse, somewhat granulose and asperate, coarser and denser near scutellum than elsewhere; interstices without distinct microsculpture. Hind wings fully developed. Legs conspicuously long and slender; metatibia usually 1.4–1.6 mm long; metatarsomere I approximately as long as the combined length of metatarsomeres II and III, or slightly longer.

Abdomen (Fig. 42) basally distinctly constricted, broadest at tergites V–VI; tergites III–VI with pronounced anterior impressions with coarse punctation; punctation of anterior impression of tergite VI mostly less dense, less coarse, and less defined than that of anterior impressions of tergites III–V; anterior impressions of tergites III–V with more or less pronounced median carina; punctation very dense and coarsely granulose on disc of tergite III, gradually less dense from tergites IV to V, non-granulose and gradually sparser and finer from tergite VI to VIII; tergites III–VI usually without, tergites VII and VIII usually with microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly convex (Fig. 174), without apparent sexual dimorphism.

♂: sternite VIII (Fig. 175) with strongly convex posterior margin; median lobe of aedeagus slender, of variable size (length 0.53–0.60 mm), shaped as in Figs. 161–163; paramere (Fig. 164) 0.9–1.0 mm long; apical lobe of somewhat variable length, but at least approximately half as long as basal portion, medially constricted, and basally with an obtuse baso-lateral process.

♀: sternite VIII strongly convex posteriorly; spermatheca shaped as in Fig. 165.

COMPARATIVE NOTES: This species is readily distinguished from all the species of the nominal subgenus by numerous characters, most easily by much larger size, a much more slender body with significantly longer and more slender appendages, granulose punctation on the head and the pronotum, a pronounced anterior impression on tergite VI, and the sexual characters. For characters separating *E. miranda* from the similar *E. breiti* see the redescription and comparative notes in the following section.

DISTRIBUTION, NATURAL HISTORY: The distribution of this rarely found species is confined to the Western and Central Alps and adjacent mountain ranges eastwards to Tirol (Fig. 263). For additional records see SAINTE-CLAIRE DEVILLE (1913) and VÍT & HOZMAN (1980). The unrevised records of *E. miranda* and *E. breiti* in HORION (1967) require revision. They may refer to either *E. miranda* or *E. breiti.*

Most of the known records are from caves and other subterranean habitats (material examined, VÍT & HOZMAN 1980). These observations, as well as the morphological adaptations (slender body, conspicuously long and slender appendages, small eyes) suggest that this species reproduces in a hypogean environment and is found in epigeic habitats only during the dispersal period. The altitudes range from approximately 1000 to 2000 m.

Echidnoglossa miranda has been collected in winter (January–February), in spring and summer (April through August), and in October, with the majority of records from late spring and

summer (June through August). A flying specimen was collected in July, suggesting that dispersal occurs in late spring and summer. Teneral adults were found in June, July, and October.

Echidnoglossa (*Blepharrhymorphus*) *breiti* (SCHEERPELTZ, 1954), comb.n.
(Figs. 43, 166–171, 263)

Blepharrhymenus breiti SCHEERPELTZ 1954: 140 ff.

TYPE MATERIAL EXAMINED: **Holotype** ♀: "Allgäuer Alpen, Breit / Arlberg-Pass / *Blepharymenus mirandus* Fauvel / ex coll. Breit / Type *Blepharym. Breiti* O. Scheerpeltz / Holotypus *Blepharhymenus breiti* Scheerpeltz, rev. V. Assing 2019 / *Echidnoglossa breiti* (Scheerpeltz), det. V. Assing 2019" (NHMW). **Paratypes**: 1 ♂, 3 exs.: "Thal. Drau, O. T. 22.5.38 / *Blepharhymenus mirandus* dt + lg. Koneczni / Ing. Koneczni don. 4.II.1943 / Typus *Blepharhymenus Breiti* O. Scheerpeltz" (NHMW).

COMMENT: According to the original description, which is based on the holotype collected on the wing ("im Fluge erbeutet") in "Gebiet des Arlberg-Passes", a paratype from "Reutte in Nordtirol", one from "Zugspitzgebiet der südbayrischen Alpen", and several paratypes from "Thal im Drautal (Osttirol, Lienzer Dolomiten)" (SCHEERPELTZ 1954), *E. breiti* is distinguished from *E. miranda* by a more robust habitus, a differently shaped head with more convex temples, a more glossy head, a broader, less slender, and more glossy pronotum, glossy elytra, and finer and sparser punctation of the abdomen. A comparison of the types and non-type material of *E. breiti* with material of *E. miranda* revealed, however, that, except for the punctation of the abdomen, none of these characters is suitable for a reliable separation of these species.

ADDITIONAL MATERIAL EXAMINED: **GERMANY**: 1 ♀, Bayern, Wettersteingebirge, 26.VIII.1935, leg. Ihssen (MNB); 1 ♀, same data, but 19.VII.1933 (MNB). **ITALY**: 5 exs.: Veneto, Monte Baldo, Malcesine, La Fontana, 1350 m, 26.VII.1977, leg. Sette (MCSNV, cAss).

REDESCRIPTION: Size, habitus, coloration, and other external characters similar to those of *E. miranda*, except as follows:

Head (Fig. 43) with fine punctation in most of dorsal surface, somewhat granulose only very close to posterior constriction. Pronotum (Fig. 43) with fine and not distinctly granulose punctation, except in and near the posterior impression. Punctation of elytra less coarse, less asperate, and not distinctly granulose, except sometimes near scutellum (Fig. 43). Antennae on average slightly shorter and less slender.

♂: median lobe of aedeagus (Figs. 166–168) larger (length 0.65–0.70 mm) and of slightly different shape, especially in lateral view; paramere (Fig. 169) 1.0–1.1 mm long.

♀: spermatheca shaped as in Figs. 170–171.

COMPARATIVE NOTES: This species is reliably distinguished from the similar *E. miranda* only by less extensively granulose punctation of the forebody and the shape and larger size of the aedeagus. For characters separating it from other species of the genus see the comparative notes in the section on *E. miranda*.

DISTRIBUTION, NATURAL HISTORY: In view of the few revised records, the distribution of this very rarely found species is currently somewhat unclear. It appears to be confined to the Eastern and Central Alps westwards to the western border of Tirol (close to the border with Vorarlberg) and South Germany (Fig. 263). Other confirmed records are known from Osttirol and Monte Baldo (North Italy); for previously published records from North Italy see ZANETTI et al. (2016). The literature record from Slovenia (HORION 1967) most likely refers to *E. breiti*, too.

Echidnoglossa breiti has been collected from moss under rhododendron (IHSSEN 1934, material examined), meat bait in roots of *Pinus mugo* (IHSSEN 1939, material examined), from a waterfall (ZANETTI et al. 2016, material examined), flood debris (HORION 1967, IHSSEN 1934), and from

gravel of a river bank (HORION 1967). The circumstances of collection and the rarity suggest that these records are accidental and that, as in *E. miranda*, the true habitat is subterranean. The examined specimens were found in May, July, and August. The holotype was collected on the wing in May.

Subgenus *Maurechidna* n.

Type species: *Echidnoglossa ventricosa* QUEDENFELDT, 1881. Gender: feminine.

ETYMOLOGY: The new name is composed of the Maur- (from Mauretania; alluding to the distribution) and -echidna (alluding to the generic name *Echidnoglossa*).

DESCRIPTION: Species of small size, 2.8–3.8 mm. Habitus (Fig. 44) stout, with transverse head, short and weakly oblong pronotum (Fig. 45), and conspicuously large and broad abdomen with strongly transverse segments III–VIII (Fig. 47). Ligula bilobed in apical half, the two lobes contiguous and apically without appendages (Fig. 176). Forebody with sparse and rather coarse non-granulose punctation (Fig. 45). Abdomen (Fig. 47) with sparse and fine punctation; tergites III–V with practically impunctate anterior impressions.

♂: median lobe of aedeagus (Figs. 180–181) short and broad (ventral view), dorso-ventrally compressed; apical lobe of paramere (Fig. 182) short, only approximately one-fifth as long as basal portion, without median constriction, and with slender baso-lateral process.

♀: posterior margin of sternite VIII broadly and weakly convex.

COMMENT: *Echidnoglossa ventricosa* was assigned to *Syntomenus* by BERNHAUER (1939). A study of the mouthparts and other characters of *E. ventricosa* and the type species of *Syntomenus*, however, revealed that they are not congeneric. For further details see the section on *Syntomenus* below.

Both the external (habitus, punctation, etc.) and the male sexual characters (morphology of the median lobe and of the apical lobe of the paramere) suggest that *Maurechidna* is the adelphotaxon of the subgenera *Echidnoglossa* + *Blepharrhymorphus*.

DIVERSITY, DISTRIBUTION, NATURAL HISTORY: This monotypical subgenus includes only the type species, whose distribution is confined to Northwest Africa and the southern Iberian Peninsula. Unlike the representatives of other subgenera, it is found in the litter layer of – not necessarily moist – forest and shrub habitats at low to intermediate elevations.

Echidnoglossa (*Maurechidna*) *ventricosa* QUEDENFELDT, 1881
(Figs. 44–47, 176–184, 264)

Echidnoglossa ventricosa QUEDENFELDT 1881: 293.

TYPE MATERIAL EXAMINED: **Lectotype** (unsexed), present designation: "Tetuan / Quedenfeld [sic] / *ventricosa* Qdf. / vid. Bernh. / type / ex coll. Skalitzky / Typus *Blephar. ventricosus* Quedenfeld / Lectotypus *Echidnoglossa ventricosa* Quedenfeldt, desig. V. Assing 2019" (NHMW). **Paralectotypes**: 1 ex.: "Tetuan / *ventricosa* Quedenf. Tetuan. Quedenfeldt / *ventricosa* Quefdt, Berl. Zeit. XXV.1881. p. 293." (NHMW); 1 ex.: "Algeciras / 67180 / Type / Hist.-Coll. (Coleoptera), Nr. 67180, *Echidnoglossa ventricosus* [sic] M. Quedenfeldt, Algeciras, Zool. Mus. Berlin / *Echidnoglossa ventricosa* Quedf. / Syntype *Echidnoglossa ventricosus* [sic] Quedenfeldt, 1881, labelled by MFNB 2019" (MNB); 1 ex.: "Tetuan / 67180 / Type / Hist.-Coll. (Coleoptera), Nr. 67180, *Echidnoglossa ventricosus* [sic] M. Quedenfeldt, Tetuan, Zool. Mus. Berlin / Syntype *Echidnoglossa ventricosus* [sic] Quedenfeldt, 1881, labelled by MFNB 2019" (MNB).

COMMENT: The original description is based on six syntypes sifted from leaf litter "bei Algeciras und Tetuan" by Quedenfeldt and one specimen from "Cordova" in the Fauvel col-

lection (QUEDENFELDT 1881). Four syntypes, three from Tetuan and one from Algeciras, were located in the collections of the MNB and NHMW.

ADDITIONAL MATERIAL EXAMINED: **TUNISIA**: 1 ex.: Jebel Serj, 25 km E Maktar, 35°55'N, 9°29'E, 670 m, spring, 26.X.2003, leg. Behne (SDEI); 1 ex.: 40 km W Jendouba, Forêt de Feidja, 36°32'N, 8°19'E, 900 m, under *Genista*, 21.X.2003, leg. Behne (cAss). **MOROCCO**: 1 ex.: Tanger, 31.III.1959, leg. Besuchet (MHNG); 2 exs.: Tanger, 1897 (MHNG); 2 exs.: Rif Mts., 20 km W Bab-Berred, Cherafat, 35°04'N, 5°07'W, 860 m, *Quercus ilex* and *Pistacia*, 26.XII.2001, leg. Bayer (MNB, cAss); 1 ex.: W-Rif Mts., Chefchaouen massif, Mount Lexchab, 1.IV.1959, leg. Besuchet (MHNG); 1 ex.: Taza, 22 km NW Taza, 1 km S Had Msila, 34°31'N, 4°10'W, 550 m, field margins, fallow, and pastures, 21.II.2004, leg Wrase (MNB); 1 ex.: Tanger, XII.1945 (MHNG); 1 ex.: Arbaoua [34°53'N, 5°54'W], 22.XI.1967, leg. Lapin (MHNG); 1 ex.: locality not specified (MNB). **PORTUGAL**: 1 ♂, 2 ♀♀, Algarve, Serra de Monte Figo, 37°06'N, 7°49'W, 410 m, 1.IV.2001, leg. Meybohm (cAss); 1 ♀, Algarve, Serra de Monchique, NW Picola, 22.II.1999, leg. Meybohm (cAss); 1 ♀, Algarve, N Loulé, Querenca, Fonte Benemola, 37°12'W, 8°00'W, 150 m, 9.IV.2002, leg. Meybohm (cAss); 1 ♀, Algarve, Monchique, above road to Alferce, 37°19'N, 8°32'E, 590 m, 10.IV.2002, leg. Meybohm (cAss); 1 ♂, Algarve, Rocha da Peña, 37°15'N, 8°05'W, 470 m, 7.IV.2001, leg. Meybohm (cAss); 2 ♂♂, 5 ♀♀, Serra de São Marmede, Marvão, 39°24'N, 7°23'W, 730 m, chestnut and oak litter, 16.III.2002, leg. Meybohm (cAss); 1 ♂, Serra de São Marmede, Marvão, 39°24'N, 7°26'W, 570 m, chestnut litter sifted, 17.III.2002, leg. Meybohm (cAss); 1 ex.: Bussaco [40°23'N, 8°22'W], leg. Paulino (NHMW). **GIBRALTAR**: 2 exs.: The Upper Rock Nature Reserve, between cable car station and south summit, 36°09'N, 5°21'W, 350 m, bush forest, 5.II.1999, leg. Zerche (SDEI, cAss). **SPAIN**: **Extremadura**: 4 exs.: Badajoz, Puerto de las Marismas [38°01'N, 6°12'W], 8.IV.1959, leg. Besuchet (MHNG). **Andalucía**: 1 ♂, Málaga, Sierra Bermeja, 5 km S Jubrique, 36°33'N, 5°12'W, 800 m, 8.IV.2001, leg. Sprick (cAss); 1 ♀, Sierra Bermeja, E Los Reales, 36°30'N, 5°12'W, 1150 m, 8.IV.2001, leg. Sprick (cAss); 1 ♂, 1 ♀, Málaga, Sierra de Ronda, 4 km N Alpandeira, 36°39'N, 5°12'W, 1000 m, 8.IV.2001, leg. Sprick (cAss); 1 ex.: Ronda, 6.III.1990, leg. Matern (cAss); 1 ♀, Málaga, SE Ronda, Sierra de Palmitera, 900 m, stream valley, 24.III.1994, leg. Assing (cAss); 1 ex.: 12 km SE Ronda, Sierra de las Nieves, 36°41'N, 5°03'W, 1310 m, 4.X.2005, leg. Behne (SDEI); 2 ♂♂, 1 ♀, 9 exs.: 4 km N Torremolinos, 6.IV.2010, leg. Shavrin & Anishchenko (cSha, cAss); 1 ex.: Málaga, 4 km NE Junquera, 36°40'N, 4°57'W, 730 m, 1.II.1999, leg. Zerche (SDEI); 1 ♂, 1 ♀, Sierra de Aracena, 37°53'N, 6°46'W, 910 m, 5.IV.2001, leg. Meybohm (cAss); 1 ex.: Jaén, Hornos, Sima de la Tuberia, 28.IV.2012, leg. G.E.V. (cAss); 1 ex.: Jaén, Alcaudete, Sierra del Ahillo, 29.XII.2006, leg. Baena (cAss), 11 exs.: Cádiz, Ubrique, 600 m, 2.X.1993, leg. Wunderle (cWun, cAss); 3 exs.: Jaén, Sierra de Cazorla, 12.IV.1959, leg. Besuchet (MHNG); 8 exs.: Cazorla, 11.IV.1959, leg. Besuchet (MHNG); 1 ♀, Cádiz, 25 km NNW Ubrique, Puerto de Galis, 36°34'N, 5°36'W, 400 m, W-exposed oak forest with rhododendron, sifted, 28.XII.2009, leg. Assing (cAss); 1 ♀, Cádiz, 3 km E Ubrique, Sierra de Grazalema, 36°42'N, 5°26'W, 650 m, calcareous N-slope, sifted, 28.XII.2009, leg. Assing (cAss); 1 ex.: Cádiz, Sierra de Grazalema, N Puerto de las Palomas, 36°47'N, 5°23'W, 990 m, grass and moss sifted, 11.II.1999, leg. Zerche (SDEI); 1 ex.: Cádiz, Sierra de Grazalema, N Puerto de las Palomas, 36°47'N, 5°23'W, 1070 m, grass and moss between shrubs sifted, 4.II.1999, leg. Zerche (SDEI); 1 ex.: Grazalema, 1100 m, 1.X.1993, leg. Wunderle (cWun); 1 ex.: Grazalema env., 900 m, *Quercus ilex* forest, 25.III.1994, leg. Wunderle (cWun); 1 ex.: Algeciras (NHMW); 1 ex.: 15 km E Sevilla, 22.III.1987, leg. Siede (cWun); 1 ex.: Tarifa, Facinas, 23.III.1987, leg. Siede (cWun); 1 ex.: road San Pedro Alcántara – Ronda, 14.–21.III.1990, leg. Matern (cWun); 2 exs.: Jaén, Quesada env., 1100 m, 7.X.1993, leg. Wunderle (cWun). **Murcia**: 1 ex.: Sierra de la Almenara, Camp. de los López, 37°34'N, 1°34'W, 760 m, 30.IV.2011, leg. Pelikán (cMat). **Locality not identified**: 1 ex.: "Cordone" (MHNG).

REDESCRIPTION: Body length 2.8–3.8 mm; length of forebody 1.4–1.7 mm. Habitus as in Fig. 44. Coloration: forebody pale-reddish to reddish-brown; elytra sometimes with a weakly delimited, diffuse, and more or less extensive medio-lateral dark spot; abdomen bicolored with segments III–IV pale-reddish and segments V–VIII blackish-brown to black; antennae reddish to reddish-brown with the basal antennomeres more or less extensively reddish-yellow; maxillary palpi reddish-yellow to pale-brown with palpomere IV pale-yellow.

Head (Fig. 45) transverse, approximately 1.1 times as broad as long; punctation sparse and distinct, moderately fine; interstices with distinct microreticulation. Eyes distinctly convex, approximately half as long as postocular region in dorsal view, or slightly longer. Antenna (Fig. 46) 1.0–1.1 mm long, antennomeres IV weakly oblong or as long as broad, VI–X weakly transverse and gradually increasing width, X approximately 1.5 times as broad as long, and XI slightly longer than the combined length of IX and X. Maxillary palpomere III approximately three times as long as broad.

Pronotum (Fig. 45) small and short, approximately 1.05 times as long as broad and approximately 0.9 times as broad as head; punctation distinct and sparse; interstices with shallow microreticulation.

Elytra (Fig. 45) short, usually 0.65–0.75 times as long as pronotum, with marked humeral angles; punctation very sparse and distinct; interstices with shallow to distinct microreticulation. Hind wings reduced to short stubs of approximately the length of elytra. Legs moderately slender; metatibia approximately 0.6–0.7 mm long; metatarsomere I approximately as long as the combined length of metatarsomeres II and III.

Abdomen (Fig. 47) conspicuously large and broad, basally constricted, broadest at tergite VI; segments III–VIII conspicuously transverse; tergites III–V with pronounced, practically impunctate anterior impressions; punctation of remainder of tergal surfaces fine and conspicuously sparse; anterior tergites with shallow, posterior tergites with distinct microreticulation; posterior margin of tergite VII with narrow rudiment of a palisade fringe; posterior margin of tergite VIII truncate to weakly concave (Fig. 178), without apparent sexual dimorphism.

♂: sternite VIII (Fig. 179) strongly transverse, with sparse pubescence, and with convex posterior margin; median lobe of aedeagus (Figs. 180–181) approximately 0.4 mm long and of distinctive shape, ventral process very broad in ventral view; paramere (Fig. 182) short, approximately 0.45 mm long; apical lobe of paramere short, only approximately one-fifth as long as basal portion, medially without excavation and basally with a slender baso-lateral process.

♀: sternite VIII strongly transverse, with sparse pubescence, and with broadly and weakly convex posterior margin; spermatheca shaped as in Figs. 183–184.

COMPARATIVE NOTES: This species is readily distinguished from all other *Echidnoglossa* species by numerous characters such as the coloration, the large abdomen (in relation to the forebody) with strongly transverse segments III–VIII, conspicuously sparse punctation and pubescence, more transverse preapical antennomeres, a more transverse head with more convex eyes, short elytra, hind wings reduced to short stubs, impunctate anterior impressions of tergites III–V, the shape and chaetotaxy of tergite and sternite VIII, the distinctive shape of the median lobe of the aedeagus, and a completely different morphology of the paramere.

DISTRIBUTION, NATURAL HISTORY: *Echidnoglossa ventricosa* appears to be a Mauretanian element, its distribution including Northwest Africa from Tunisia (first records) to Morocco and the southern Iberian Peninsula (Fig. 264); for three old records from Algeria see FAUVEL (1902). Unlike the species of the other subgenera, *E. ventricosa* inhabits the – not necessarily wet or moist – litter layer of various forest, bush, and shrub habitats at low to intermediate elevations (from near sea level to 1310 m). One specimen was found in a cave, most likely an accidental record. The examined specimens were collected in February through April and from October through December.

Subgenus *Orechidna* n.

Type species: *Orechidna hirthei* sp.n., present designation. Gender: feminine.

ETYMOLOGY: The name is composed of Or- (from orientalis = the eastern) and -echidna (alluding to the similarity to *Echidnoglossa*).

DESCRIPTION: Species of moderate size, 3.5–4.8 mm, slender to very slender habitus, and often colorful appearance (Figs. 48, 52, 56, 60, 64, 68, 72). Forebody mostly with fine and relatively sparse punctation.

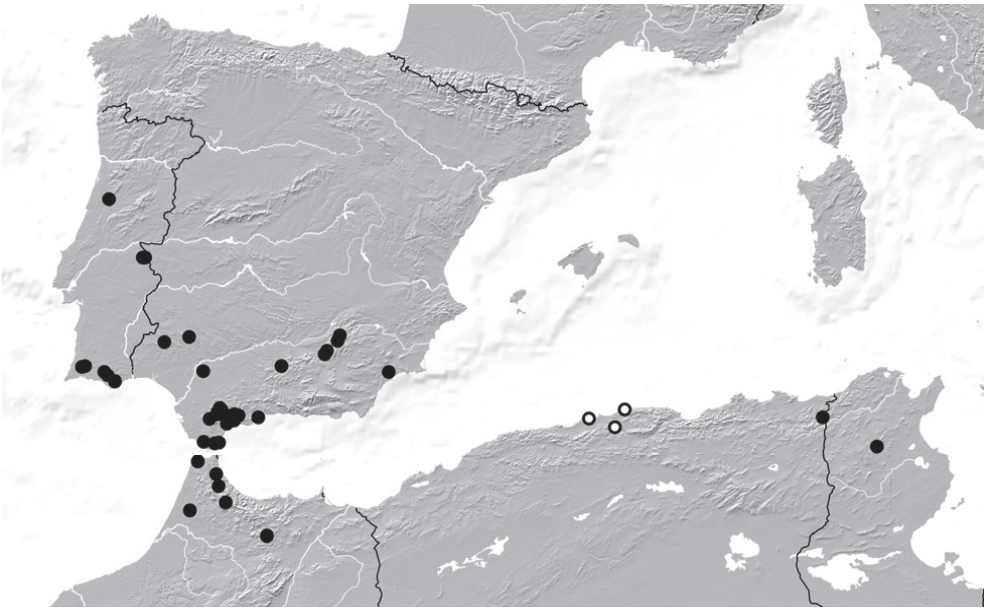


Fig. 264: Distribution of *Echidnoglossa ventricosa* in the West Mediterranean, based on examined (black circles) and literature records reported from Algeria by FAUVEL (1902) (white circles).

Head with posterior constriction of approximately one-third the width of head; lateral margins between posterior margin of eyes to posterior constriction of head nearly straight to weakly convex; posterior angles obsolete; gular sutures distinctly separated. Antenna (Figs. 50, 54, 58, 62, 66, 70, 74) slender to very slender. Maxilla (Fig. 185) with slender galea and lacinia; maxillary palpi slender, palpomere III three to four times as long as broad. Ligula (Figs. 186, 197, 212) long, slender, and Y-shaped, apically incised at least to middle, the two lobes clearly separated and apically each with a distinct sensillum. Labrum (Fig. 198) with sparse setae, moderately transverse, with weakly truncate anterior margin and with weakly convex lateral margins. Mandibles slender, subapically curved, and without molar teeth.

Pronotum (Figs. 49, 53, 57, 61, 65, 69, 73) moderately oblong, strongly convex in cross-section; lateral margins more or less distinctly sinuate in posterior half; lateral suture/carina not visible in dorsal view.

Elytra of variable length. Hind wings fully developed or reduced. Legs slender and moderately long to very slender and conspicuously elongate; metatarsomere I elongate, at least slightly longer than the combined length of metatarsomeres II and III.

Abdomen (Figs. 51, 55, 59, 63, 67, 71, 75) basally distinctly constricted, broadest at posterior margin of segment VI; tergites III–VI with pronounced anterior impressions, impressions of tergites III–V with coarse and usually not particularly dense non-setiferous punctation, that of tergite VI impunctate or nearly so; remainder of tergal surfaces with fine and sparse to very sparse punctation.

♂: posterior margin of sternite VIII strongly produced in the middle (Figs. 188, 200, 208, 218); median lobe of aedeagus with basal portion of compact shape; crista apicalis modified, reduced, instead with more or less distinct, often filiform process; internal sac with flagellum and with additional sclerotized apical structures, including sclerotized spines; apical lobe of paramere

(Figs. 193, 196, 203, 211, 216) elongate, at least approximately half as long as basal portion and basally or medially dilated.

♀: posterior margin of sternite VIII convex (Figs. 189, 204), less so than in male; spermatheca (Figs. 194–195, 205–206, 219) without cuticular invagination distally and with rather long and slender proximal portion.

COMMENT: *Orechidna* is distinguished from the nominal subgenus particularly by the shape of the ligula (Y-shaped; with distinct apical sensilla), a labrum with sparse setae, and by the morphology of the aedeagus (shape of median lobe; modifications of crista apicalis; internal structures; modifications of the apical lobe of the paramere.

INTRASUBGENERIC AFFILIATIONS: Based on morphological characters, two lineages can be distinguished within *Orechidna*. One of them includes four species (*E. hirthei*, *E. nepalensis*, *E. divisa*, *E. betzi*) and is characterized by conspicuously long and slender legs and antennae, a basally strongly constricted abdomen, and an aedeagus with a similarly modified crista apicalis. The second lineage is represented by three species (*E. zhejiangensis*, *E. formosana*, *E. artior*) distinguished from other *Orechidna* species by small body size, pale coloration, and a strongly curved median lobe of the aedeagus (lateral view) with a similarly modified crista apicalis.

DIVERSITY, DISTRIBUTION, NATURAL HISTORY: The subgenus currently includes seven species, whose distributions are scattered across the southern East Palaearctic and northern Oriental regions, from Nepal to East China, Taiwan, and Thailand. The species for which ecological data are available were collected in litter of forests or from *Carex* tufts at a pond margin.

Fig. 265: Distribution of *Echidnoglossa* species in the East Palaearctic and Oriental regions: *E. hirthei* (black circles); *E. nepalensis* (white triangle); *E. divisa* (black star); *E. betzi* (white circles); *E. smetanai* (black triangles); *E. zhejiangensis* (white star); *E. formosana* (black diamond); *E. artior* (white diamond).

Echidnoglossa (*Orechidna*) *hirthei* sp.n.
(Figs. 48–51, 185–195, 265)

TYPE MATERIAL: **Holotype** ♂: "NEPAL, Annapurna Reg., Mardi Himal (westl. Mardi Khola), Khare–Pothana, 1950–2000 m, Rhododendronwald, 10.5.2001, leg. G. Hirthe / Holotypus ♂ *Echidnoglossa hirthei* sp. n., det. V. Assing 2019" (cAss). **Paratypes**: 1 ♂, 2 ♀♀: same data as holotype (cAss); 1 ♀: "NEPAL, Annapurna South Himal, nördl. Khopra, südl. Bele Khola, N28°29'06", E83°42'35", 28[00]–2950 m, 24.–25.5.2001, leg. G. Hirthe" (cAss).

ETYMOLOGY: This species is dedicated to Gunnar Hirthe (Mühl Rosin, Germany), who collected the type material.

DESCRIPTION: Body length 4.2–4.6 mm; length of forebody 2.0–2.1 mm. Habitus as in Fig. 48. Coloration: head and pronotum dark-reddish to reddish-brown; elytra dark-brown with the anterior margins diffusely paler; abdomen distinctly bicolored with segments III–V reddish and the remainder blackish; legs: protibiae and profemora dark-yellowish, sometimes partly slightly darker; mesofemora dark-yellowish with the middle somewhat infuscate; meso- and metatibiae dark-brown to blackish brown with the bases and apices narrowly paler; metafemora dark-brown to blackish-brown with the bases extensively and the apices narrowly dark-yellowish; tarsi pale-yellowish; antennae and maxillary palpi yellow.

Head (Fig. 49) distinctly oblong, approximately 1.2 times as long as broad; lateral margins behind eyes very weakly convex; punctation extremely fine and rather sparse, barely visible; interstices without microreticulation. Eyes moderately convex, slightly less than half as long as postocular region in dorsal view. Antenna (Fig. 50) conspicuously long and slender, 1.8–1.9 mm long; antennomeres IV approximately four times as long as broad, V–X of gradually decreasing length and decreasingly oblong, X approximately 1.5 times as long as broad, and XI elongate, nearly as long as the combined length of VIII–X. Maxillary palpomere III nearly four times as long as broad (Fig. 185). Ligula (Fig. 186) very long, deeply bifid, and Y-shaped (i.e., lobes apically widely separated), each lobe with a small apical sensillum, this sensillum not of distinctly conical shape.

Pronotum (Fig. 49) approximately 1.15 times as long as broad and as broad as head; punctation moderately sparse and distinct, much more so than that of head; interstices without microreticulation.

Elytra (Fig. 49) approximately 0.9 times as long as pronotum, with moderately pronounced humeral angles; punctation sparse and distinct, similar to that of pronotum, very sparse or absent near posterior margin; interstices without microsculpture. Hind wings probably reduced. Legs conspicuously long and slender; metatibia approximately 1.2 mm long; metatarsomere I extremely elongate, significantly longer than the combined length of metatarsomeres II–IV.

Abdomen (Fig. 51) basally strongly constricted, broadest at posterior margin of tergite VI; tergites III–VI with pronounced anterior impressions, those of tergites III–V with sparse and very coarse non-setiferous punctation and that of tergite VI practically impunctate; anterior halves of tergites without, posterior halves with extremely fine and very sparse setiferous punctation; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII truncate to weakly convex in the middle (Fig. 187), without apparent sexual dimorphism.

♂: posterior margin of sternite VIII strongly produced in the middle, with relatively short marginal setae (Fig. 188); median lobe of aedeagus 0.6 mm long and of highly distinctive shape; ventral process near base with a pair of lateral tooth-shaped process and a median filiform process; crista apicalis absent, instead with a pronounced process; internal sac with a pair of distinctly sclerotized structures; paramere very large and long, approximately 1.1 mm long; apical lobe of paramere very long, slender, and of derived morphology, significantly more than half as long as basal portion and medially with a dilatation.

♀: posterior margin of sternite VIII strongly convex and with very short marginal setae (Fig. 189); spermatheca as in Figs. 194–195.

COMPARATIVE NOTES: *Echidnoglossa hirthei* is distinguished from other congeners of similarly slender habitus particularly by the coloration and by the male primary sexual characters.

DISTRIBUTION, NATURAL HISTORY: The type specimens were collected in two localities in the Annapurna Range, Central Nepal (Fig. 265), at altitudes of approximately 2000 and 2900 m. The specimens from the type locality were sifted in a rhododendron forest.

Echidnoglossa (*Orechidna*) *nepalensis* (PACE, 1992), comb.n.
(Figs. 52–55, 265)

Blepharhymenus nepalensis PACE 1992: 271 f.

TYPE MATERIAL EXAMINED: **Holotypus** ♀: "NEPAL, Khandbari District / For. above Ahale, 2400 m, 25.III.82, A. & Z. Smetana / Holotypus *Blepharhymenus nepalensis* m., det. R. Pace 1986 / *Blepharhymenus nepalensis* sp. n. det. R. Pace, 1986 / MHNG, ENTO, 00013872 / *Echidnoglossa nepalensis* (Pace), det. V. Assing 2019" (MHNG).

COMMENT: The original description is based on a single female from East Nepal ("Khandbari distr., for.[est] above Ahale, 2400 m") (PACE 1992).

REDESCRIPTION: Body length 4.4 mm; length of forebody 2.2 mm. Habitus as in Fig. 52. Coloration: head and pronotum reddish-brown; elytra pale-reddish; abdomen: tergites III–V yellowish-brown with the anterior and median portions infuscate; apex from tergite VI blackish-brown; legs yellow with a broad band in the apical halves of the meso- and metafemora dark-brown; antennae yellow with the apical four antennomeres slightly darker; maxillary palpi yellow.

Head (Fig. 53) oblong, 1.1 times as long as broad; lateral margins behind eyes converging towards posterior constriction of head in nearly straight line; dorsal surface conspicuously dull owing to pronounced microreticulation; punctation shallow and moderately dense, barely visible in the microsculpture. Eyes moderately convex, approximately half as long as postocular region in dorsal view. Antenna (Fig. 54) long and slender, 1.45 mm long; antennomeres IV approximately three times as long as broad, V twice as long as broad, VI 1.5 times as long as broad, VII approximately as long as broad, VIII–X weakly transverse, X barely 1.5 times as broad as long, and XI moderately elongate, slightly longer than the combined length of IX and X. Maxillary palpomere III three times as long as broad.

Pronotum (Fig. 53) nearly 1.3 times as long as broad and 0.92 times as broad as head, along midline without distinct sulcus; punctation coarse and dense; interstices without microreticulation.

Elytra (Fig. 53) approximately 0.9 times as long as pronotum, with pronounced humeral angles; punctation coarse and dense anteriorly, gradually becoming less coarse and less dense posteriad. Hind wings of reduced length, stubs slightly longer than elytra. Legs long and slender; metatibia approximately 1.1 mm long; metatarsomere I extremely elongate, significantly longer than the combined length of metatarsomeres II–IV.

Abdomen (Fig. 55) basally strongly constricted, broadest at posterior margin of tergite VI; tergites III–VI with pronounced anterior impressions, those of tergites III–V broad and with conspicuously coarse non-setiferous punctation, that of tergite VI narrow and with transverse row of non-setiferous punctures; remainder of tergal disc with very fine and moderately sparse

punctation; tergites III–VI without, tergite VII with very shallow microreticulation; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly concave.

♂: unknown.

♀: spermatheca with long and strongly coiled proximal portion (PACE 1992: fig. 16).

COMPARATIVE NOTES: This species is readily distinguished from other species of the *E. hirthei* lineage above all by the coloration and the conspicuous microsculpture of the head.

DISTRIBUTION, NATURAL HISTORY: The type locality is situated in Khandbari District, East Nepal (Fig. 265), at an altitude of 2400 m. The holotype was collected (probably sifted) in a forest.

Echidnoglossa (*Orechidna*) *divisa* (PACE, 1999), comb.n.
(Figs. 56–59, 196, 265)

Blepharhymenus divisus PACE 1999a: 113.

TYPE MATERIAL EXAMINED: **Holotypus** ♂: "CHINA Yunnan, Ruili, 4.II.1993, G. de Rougemont / Holotypus *Blepharhymenus divisus* mihi, det. R. Pace 1995 / *Blepharhymenus divisus* sp. n., det. R. Pace 1995 / *Echidnoglossa divisa* (Pace), det. V. Assing 2019" (MHNG).

COMMENT: The original description is based on a male holotype and five unsexed paratypes from "China, Yunnan, Ruili" (PACE 1999a).

REDESCRIPTION: Body length 4.5 mm; length of forebody 2.2 mm. Habitus as in Fig. 56. Coloration: forebody dark-brown; abdomen black with segments III–V blackish-brown; legs dark-brown to blackish-brown with the basal two-fifths of the metafemora and the base of the mesofemora pale-yellow, and with the tarsi dark-yellowish; antennae and maxillary palpi reddish.

Head (Fig. 57) weakly oblong, approximately 1.05 times as long as broad; lateral margins behind eyes converging towards posterior constriction of head in nearly straight line; dorsal surface with coarse punctation in median portion, impunctate or with sparse and fine punctation in anterior and posterior portions; interstices without microreticulation. Eyes strongly convex, approximately 0.6–0.7 times as long as postocular region in dorsal view. Antenna (Fig. 58) conspicuously long and slender, approximately 2.0 mm long; antennomeres IV approximately three times as long as broad, V–IX of subequal length and distinctly oblong, X shorter than IX and approximately 1.5 times as long as broad, and XI elongate, longer than the combined length of IX and X. Maxillary palpomere III three times as long as broad.

Pronotum (Fig. 57) nearly 1.3 times as long as broad and approximately 0.85 times as broad as head, along midline with distinct narrow sulcus; punctation coarse and dense; interstices without microreticulation.

Elytra (Fig. 57) approximately as long as pronotum, with pronounced humeral angles; punctation sparse and very fine; interstices without microsculpture. Hind wings not examined, probably present. Legs conspicuously long and slender; metatibia approximately 1.2 mm long; metatarsomere I extremely elongate, significantly longer than the combined length of metatarsomeres II–IV.

Abdomen (Fig. 59) basally strongly constricted, broadest at posterior margin of tergite VI; tergites III and IV strongly convex in cross-section; tergites III–VI with pronounced anterior impressions, these impressions with very coarse and dense non-setiferous punctation; remainder of tergal surfaces with sparse and fine setiferous punctation on tergites III–V and only with scattered very fine setiferous punctures on tergites VI and VII; tergites III–VI without, tergites

VII–VIII with very shallow microreticulation; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII truncate.

♂: median lobe of aedeagus (PACE 1999a: figs. 23–24) small, 0.32 mm long, dorso-ventrally depressed, broad in ventral view; ventral process short; paramere 0.53 mm long; apical lobe of paramere (Fig. 196) moderately long, approximately half as long as basal portion, with basal dilatation.

♀: spermatheca as illustrated by PACE (1999a: fig. 25).

COMPARATIVE NOTES: This species is readily distinguished from other species of *Echidnoglossa* by the coloration, the punctation pattern, and the primary sexual characters.

DISTRIBUTION, NATURAL HISTORY: The type locality is situated in the Chinese province Yunnan (Fig. 265) at an altitude of approximately 700 m.

Echidnoglossa (*Orechidna*) *betzi* sp.n.
(Figs. 60–63, 197–206, 265)

TYPE MATERIAL: **Holotype** ♂: "THAILAND [26] – Doi Inthanon, Mae Aum, 18°31'N, 98°30'E, 1640 m, moist evergr. forest, 11.I.2014, leg. Ob / Holotypus ♂ *Echidnoglossa betzi* sp. n., det. V. Assing 2019" (cAss). **Paratypes**: 2 ♂♂, 3 ♀♀, 2 exs.: same data as holotype (cAss); 1 ♂: "THAILAND [55] – Doi Pha Hom Pok, Kiew Lom, 20°03'N, 99°09'E, 1935 m, leaf litter sifted, 22.I.2014, leg. Ob" (cAss).

ETYMOLOGY: This species is dedicated to Oliver Betz (Tübingen, Germany), to whom I owe the generous gift of the above specimens.

DESCRIPTION: Body length 4.3–4.8 mm; length of forebody 2.0–2.2 mm. Habitus as in Fig. 60. Coloration: forebody reddish-brown to dark-brown, with the postero-lateral portions of the pronotum paler (visible in lateral view); abdomen yellowish with the anterior impressions and the antero-median portions of tergites III–V, most of tergite VI (except for anterior margin), all of tergite VII, and tergite VIII except for posterior margin blackish brown to black; legs dark-brown to black with the basal halves of the femora and the tarsi yellow; antennae and maxillary palpi yellow.

Head (Fig. 61) distinctly oblong, approximately 1.15 times as long as broad; lateral margins behind eyes converging towards posterior constriction of head in practically straight line; anterior portion of frons with smooth elevation; punctation fine and moderately sparse; interstices without microreticulation. Eyes strongly convex, slightly more than half as long as postocular region in dorsal view. Antenna (Fig. 62) conspicuously long and slender, 1.9–2.0 mm long; antennomeres IV approximately four times as long as broad, V–X of gradually decreasing length and decreasingly oblong, X approximately 1.5 times as long as broad, and XI elongate, slightly longer than the combined length of VIII–X. Maxillary palpomere III approximately 1.5 times as long as broad. Ligula (Fig. 197) Y-shaped, apical two-thirds forming two diverging lobes, each of the lobes with a small sensillum. Labrum as in Fig. 198.

Pronotum (Fig. 61) approximately 1.2 times as long as broad and slightly narrower than head; lateral margins of pronotum in posterior half strongly sinuate in dorsal view; punctation moderately dense and rather coarse, much more so than that of head; interstices without microreticulation.

Elytra (Fig. 61) slightly longer than pronotum, with pronounced humeral angles; punctation similar to that of pronotum; interstices without microsculpture. Hind wings fully developed. Legs conspicuously long and slender; metatibia approximately 1.2 mm long; metatarsomere I extremely elongate, significantly longer than the combined length of metatarsomeres II–IV.

Abdomen (Fig. 63) basally strongly constricted, broadest at posterior margin of tergite VI; tergites III–VI with pronounced anterior impressions, those of tergites III–V with dense and very coarse non-setiferous punctation and that of tergite VI with sparse and shallow non-setiferous punctation; punctation of remainder of tergal surfaces sparse and extremely fine; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII truncate (Fig. 199), without apparent sexual dimorphism.

♂: posterior margin of sternite VIII convexly produced in the middle, with relatively short and sparse marginal setae (Fig. 200); median lobe of aedeagus relatively small, 0.38 mm long and of distinctive shape (Figs. 201–202); ventral process laterally depressed and short, near base of ventral process with filiform process; internal sac with distinctly sclerotized structures; paramere (Fig. 203) nearly twice as long as median lobe, approximately 0.75 mm long; apical lobe of paramere very long and slender, nearly as long as basal portion and basally with weakly pronounced dilatation.

♀: posterior margin of sternite VIII strongly convex and with very short marginal setae (Fig. 204); spermatheca as in Figs. 205–206.

COMPARATIVE NOTES: *Echidnoglossa betzi* is distinguished from other similarly slender species (*E. hirthei*, *E. nepalensis*, *E. divisa*) by the coloration pattern, the shape of the head (shared with *E. divisa*), the punctation pattern of the forebody and the abdomen, and by the shape and internal structures of the aedeagus.

DISTRIBUTION, NATURAL HISTORY: The species is currently known from two localities in North Thailand (Fig. 265). The specimens were sifted from leaf litter in primary evergreen forests at altitudes of 1640 and 1935 m.

Echidnoglossa (*Orechidna*) *zhejiangensis* (PACE, 1999), comb.n.
(Figs. 64–67, 265)

Blepharhymenus zhejiangensis PACE 1999a: 113.

TYPE MATERIAL EXAMINED: **Holotype** ♂: "CHINA Zhejiang, Tienmushan, 29.IV.1993, G. de Rougemont / Holotypus *Blepharhymenus zhejiangensis* m, det. R. Pace 1995 / *Blepharhymenus zhejiangensis* sp. n., det. R. Pace 1995 / *Echidnoglossa zhejiangensis* (Pace), det. V. Assing 2019" (MHNG).

COMMENT: The original description is based on a unique male holotype from "China, Zhejiang, Tianmushan" (PACE 1999a).

REDESCRIPTION: Body length 3.5 mm; length of forebody 1.7 mm. Habitus as in Fig. 64. Coloration: head pale-brown; pronotum and elytra dark-yellow; abdomen pale-yellow with segments VI–VII blackish and segment VIII partly brown; legs, antennae, and maxillary palpi yellow.

Head (Fig. 65) approximately as long as broad; lateral margins behind eyes weakly convex; dorsal surface with extremely fine and sparse punctation; interstices without distinct microreticulation. Eyes convex, approximately 0.6–0.7 times as long as postocular region in dorsal view. Antenna (Fig. 66) 1.3 mm long; antennomeres IV oblong, V approximately as long as broad, VI–X of increasing width and increasingly transverse, and XI elongate, approximately as long as the combined length of VIII–X. Maxillary palpomere III three times as long as broad.

Pronotum (Fig. 65) short, 1.13 times as long as broad and 0.95 times as broad as head; punctation distinct, moderately coarse, and rather dense; interstices without microreticulation.

Elytra (Fig. 65) 0.95 times as long as pronotum, with pronounced humeral angles; punctation moderately sparse and very fine; interstices without microsculpture. Hind wings present. Legs long and slender; metatibia 0.85 mm long; metatarsomere I elongate, longer than the combined

length of metatarsomeres II and III, but shorter than the combined length of metatarsomeres II–IV.

Abdomen (Fig. 67) basally distinctly constricted, broadest at posterior margin of tergite VI; tergites III–VI with pronounced anterior impressions, those of tergites III–V with coarse and dense non-setiferous punctation, that of tergite VI practically impunctate; remainder of tergal surfaces with moderately sparse and very fine setiferous punctation; microreticulation absent; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly concave.

♂: median lobe of aedeagus (PACE 1999a: figs. 27–28) small, approximately 0.4 mm long; paramere 0.7 mm long; apical lobe of paramere very long and very slender, significantly more than half as long as basal portion, with basal dilatation.

♀: unknown.

COMPARATIVE NOTES: From the preceding species, *E. zhejiangensis* is distinguished particularly by the coloration, small size, the morphology of the antennae, the punctation pattern of the forebody and the abdomen, and by the shape of the aedeagus. It additionally differs from *E. hirthei* and *E. divisa* by a much less elongate habitus and significantly shorter appendages.

DISTRIBUTION, NATURAL HISTORY: The type locality is situated in Tianmu Mountain in the Chinese province Zhejiang (Fig. 265). Additional data are not available.

***Echidnoglossa* (*Orechidna*) *artior* sp.n.**
(Figs. 68–71, 207–211, 265)

TYPE MATERIAL: **Holotype** ♂: "TAIWAN – Chiayi Co., Alishan, Road 18, km 85, 2000 m, forest litter, 11.IV.2009, leg. Vít [1] / Holotypus ♂ *Echidnoglossa artior* sp. n., det. V. Assing 2019" (MHNG).

ETYMOLOGY: The specific epithet is the comparative of the Latin adjective artus (slender) and alludes to the shape of the base of the abdomen, one of the characters distinguishing this species from the similar and geographically close *E. formosana*.

DESCRIPTION: Body length 4.0 mm; length of forebody 1.9 mm. Habitus as in Fig. 68. Coloration: head reddish-brown; pronotum reddish; elytra pale-reddish; abdomen reddish-yellow with an antero-median dark spot on tergites III–V, and with segments VI–VII blackish and segment VIII partly brown; legs yellow with the apical halves of the femora infuscate; antennae and maxillary palpi dark-yellow.

Head (Fig. 69) weakly oblong, approximately 1.05 times as long as broad; lateral margins behind eyes weakly convex; dorsal surface with extremely fine and moderately dense punctation; interstices with shallow traces of microreticulation. Eyes convex, approximately half as long as postocular region in dorsal view. Antenna (Fig. 70) 1.6 mm long; antennomeres IV distinctly oblong, V–VI weakly oblong, VII approximately as long as broad, VIII–X weakly transverse, and XI elongate, approximately as long as the combined length of VIII–X. Maxillary palpomere III three times as long as broad.

Pronotum (Fig. 69) short, 1.15 times as long as broad and approximately as broad as head; punctation distinct, moderately coarse, and very dense; interstices without microreticulation.

Elytra (Fig. 69) short, 0.7 times as long as pronotum, with weakly pronounced humeral angles; punctation sparse and very fine; interstices without microsculpture. Hind wings completely reduced. Legs long and slender; metatibia 1.05 mm long; metatarsomere I elongate, longer than the combined length of metatarsomeres II and III, but shorter than the combined length of metatarsomeres II–IV.

Abdomen (Fig. 71) basally distinctly constricted, broadest at posterior margin of tergite VI; tergites III–VI with pronounced anterior impressions, those of tergites III–V with coarse non-setiferous punctation, that of tergite VI impunctate; remainder of tergal surfaces with moderately sparse and very fine setiferous punctation; microreticulation absent; posterior margin of tergite VII with narrow rudiment of a palisade fringe; posterior margin of tergite VIII weakly concave (Fig. 207).

♂: posterior margin of sternite VIII produced in the middle, with relatively short and thin marginal setae (Fig. 208); median lobe of aedeagus 0.5 mm long and shaped as in Figs. 209–210; paramere (Fig. 211) nearly 0.9 mm long; apical lobe of paramere very long and extremely slender, 0.65 times as long as basal portion, with basal dilatation.

♀: unknown.

COMPARATIVE NOTES: Based on the similar habitus and the similar general structure of the aedeagus (shape of median lobe and of paramere), *E. artior* is evidently closely allied to *E. zhejiangensis*, from which it differs by slightly larger size, coloration (particularly of the anterior abdominal tergites and of the femora), a relatively larger pronotum, denser punctation on the head and pronotum, smaller eyes, significantly shorter elytra, completely reduced hind wings, and a larger aedeagus of different shape. For characters distinguishing *E. artior* from the similar and geographically close *E. formosana* see the comparative notes in the following section.

DISTRIBUTION, NATURAL HISTORY: The type locality is situated in Chiayi Hsien, Taiwan (Fig. 265). The holotype was sifted from forest litter at an altitude of 2000 m.

***Echidnoglossa* (*Orechidna*) *formosana* sp.n.**
(Figs. 72–75, 212–219, 265)

TYPE MATERIAL: **Holotype** ♂: "TAIWAN Ilan Hsien, Chyr Duan, 1100 m 18.IV.90, A. Smetana [T8] / Holotypus ♂ *Echidnoglossa formosana* sp. n., det. V. Assing 2019" (cAss). **Paratypes**: 1 ♂, 2 ♀♀, 2 exs.: same data as holotype (MHNG, cAss).

ETYMOLOGY: The specific epithet is derived from Formosa, the ancient and now obsolete name of Taiwan.

DESCRIPTION: Body length 3.5–3.8 mm; length of forebody 1.7–1.8 mm. Habitus as in Fig. 72. Coloration: head yellowish-brown; pronotum and elytra brownish-yellow; abdomen yellow with segments VI–VII blackish and segment VIII partly brown; legs yellow with the apical halves of the metafemora and sometimes also those of the pro- and mesofemora weakly infuscate; antennae and maxillary palpi dark-yellow.

Head (Fig. 73) approximately as long as broad; lateral margins behind eyes weakly convex; dorsal surface with extremely fine and moderately dense punctation; interstices with or without shallow traces of microreticulation. Eyes strongly convex, approximately 0.7 times as long as postocular region in dorsal view. Antenna (Fig. 74) 1.2–1.3 mm long; antennomeres IV weakly oblong, V approximately as broad as long, VI–X weakly transverse, and XI elongate, approximately as long as the combined length of VIII–X. Maxillary palpomere III approximately three times as long as broad. Labium as in Fig. 212.

Pronotum (Fig. 73) short, 1.05–1.10 times as long as broad and slightly narrower than head; punctation distinct, moderately coarse, and very dense; interstices without microreticulation.

Elytra (Fig. 73) 0.85–0.90 times as long as pronotum, with pronounced humeral angles; punctation sparse and very fine; interstices without microsculpture. Hind wings present. Legs long and slender; metatibia approximately 0.9 mm long; metatarsomere I elongate, approximately as long as the combined length of metatarsomeres II–IV, or nearly so.

Abdomen (Fig. 75) basally distinctly constricted, broadest at posterior margin of tergite VI; tergites III–VI with pronounced anterior impressions, those of tergites III–V with coarse non-setiferous punctation, that of tergite VI impunctate; remainder of tergal surfaces with moderately sparse and very fine setiferous punctation; microreticulation absent; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly concave (Fig. 217).

♂: posterior margin of sternite VIII convexly produced in the middle, with relatively short and thin marginal setae; median lobe of aedeagus 0.42–0.43 mm long and shaped as in Figs. 213–215; paramere (Fig. 216) approximately 0.75 mm long; apical lobe of paramere very long and extremely slender, 0.65 times as long as basal portion, with basal dilatation.

♀: sternite VIII (Fig. 218) with strongly convex posterior margin; spermatheca (Fig. 219) without apical cuticular invagination and with moderately long proximal portion.

COMPARATIVE NOTES: *Echidnoglossa formosana* is distinguished from the similar and geographically close *E. artior* by slightly smaller size, larger eyes, longer elytra, the presence of hind wings, shorter legs, a basally less constricted abdomen (i.e., a more transverse segment III), uniformly yellow abdominal tergites III–V, and a smaller aedeagus with the base of the ventral process and the basal portion of the median lobe forming a more obtuse angle (lateral view) and with apical internal structures of different shapes. In external characters, *E. formosana* is practically identical to *E. zhejiangensis*, from which it is reliably distinguished only based on the shape of the aedeagus. For illustrations of the aedeagus of *E. zhejiangensis* see PACE (1999a: figs. 27–28).

DISTRIBUTION, NATURAL HISTORY: The type locality is situated in Yilan Hsien, Northeast Taiwan (Fig. 265), at an altitude of 1100 m. The specimens were collected by submersing *Carex* tufts under water at the margin of a pond (A. Smetana, pers. comm.).

Subgenus *Sinechidna* n.

Type species: *Blepharhymenus smetanai* PACE, 2012, present designation. Gender: feminine.

ETYMOLOGY: The name is composed of Sin- (from Sina, an old synonym of China) and -echidna (alluding to the similarity to *Echidnoglossa*).

DESCRIPTION: Species of moderate size, 4.7–5.0 mm and moderately slender habitus (Fig. 76). Forebody mostly with dense and fine, but distinct punctation.

Head with posterior constriction of approximately one-third the width of head; lateral margins between posterior margin of eyes to posterior constriction of head nearly straight to weakly convex; posterior angles obsolete; gular sutures distinctly separated. Antenna (Figs. 78) rather massive; antennomeres V–X distinctly transverse. Ligula (Fig. 220) bifid in apical half, with the two lobes weakly separated, almost contiguous (i.e., ligula not Y-shaped).

Pronotum weakly oblong (Fig. 77). Legs moderately long; metatarsus significantly shorter than metatibia; metatarsomere I approximately as long as the combined length of metatarsomeres II–IV at most. Abdomen rather weakly constricted basally (Figs. 76, 79), broadest at tergite VI; tergites III–VI with anterior impressions, those of tergites III–V with coarse and dense non-setiferous punctation.

♂: median lobe of aedeagus (Fig. 221) slender, of similar shape and with similarly modified crista apicalis as in species of the nominal subgenus, without sclerotized internal structures; apical lobe of paramere (Fig. 222) approximately half as long as basal portion, with obtuse baso-lateral process.

COMMENT: *Sinechidna* is distinguished from *Orechidna* and other subgenera of *Echidnoglossa* particularly by rather massive antennae with distinctly transverse antennomeres V–X, a ligula with weakly separated apical lobes, a basally weakly constricted abdomen, relatively short tarsi, and a slender median lobe of the aedeagus without sclerotized internal structures.

DIVERSITY AND DISTRIBUTION: The distribution of this monotypical subgenus is confined to the Chinese provinces Sichuan and Yunnan (Fig. 265).

Echidnoglossa (*Sinechidna*) *smetanai* (PACE, 2012), comb.n.
(Figs. 76–79, 220–224, 265)

Blepharhymenus smetanai PACE 2012: 134.

TYPE MATERIAL EXAMINED: **Holotypus** ♂: "CHINA: W Sichuan, 20 km N Sabdê, 3300 m, 29°35[']N, 102[?101]°23[']E, 14.VII.1998, A. Smetana [C82] / 1998 China Expedition, J. Farkac, D. Král, J. Schneider & A. Smetana / Holotypus *Blepharhymenus smetanai* m., det. R. Pace 1999 / *Blepharhymenus smetanai* sp. n., det. R. Pace 1999 / MHNG, ENTO, 00013873 / *Echidnoglossa smetanai* (Pace), det. V. Assing 2019" (MHNG).

ADDITIONAL MATERIAL EXAMINED: **CHINA**: 1 ♀: Sichuan, Ya'an Pref., Tianquan Co., E Erlang Shan Pass, 9 km SE Luding, 29°52'N, 102°18'E, 2900 m, sifted, 22.VI.1999, leg. Schülke (MNB); 1 ♀: N-Yunnan, Zhongdian Co., 46 km SSE Zhongdian (Shangri-La), 27°27'N, 99°55'E, 3050–3100 m, stream valley, secondary mixed forest with bamboo, 17.VIII.2003, leg. Wrase (cAss).

COMMENT: The original description is based on a male holotype and 29 paratypes from "W-Sichuan, 20 km N Sabde" (coordinates of the small village of Sabdê: ca. 29°25'26"N 101°17'52"E, see SUN 1989), on two paratypes from "Sichuan, Gongga Shan", and on three paratypes from "Sichuan, Emei Shan" (PACE 2012).

REDESCRIPTION: Body length 4.7–5.0 mm; length of forebody 2.2–2.4 mm. Habitus as in Fig. 76. Coloration: head brown to blackish; pronotum and elytra reddish-brown to blackish-brown; abdomen reddish-brown with segments VI and following more or less distinctly infuscate, to uniformly blackish; legs reddish-brown to dark-brown with the tarsi and the bases of the metafemora paler; antennae reddish to dark-reddish; maxillary palpi pale-reddish.

Head (Fig. 77) weakly oblong, 1.06–1.09 times as long as broad; lateral margins behind eyes smoothly convex; dorsal surface with dense and fine, but distinct punctation; interstices with or without shallow microreticulation, on frons with distinct microreticulation. Eyes very weakly convex, nearly flat, at least slightly less than half as long as postocular region in dorsal view. Antenna (Fig. 78) rather massive, approximately 1.5 mm long; antennomeres IV weakly oblong, V–X transverse, approximately 1.5 times as broad as long, and XI only slightly longer than the combined length of IX and X. Maxillary palpomere III approximately three times as long as broad.

Pronotum (Fig. 77) weakly oblong, 1.05–1.10 times as long as broad and 0.95–1.00 times as broad as head, along midline with or without shallow sulcus in anterior half, with more or less pronounced impression in posterior half; punctation rather coarse and very dense, in anterior portion partly confluent; interstices without microreticulation.

Elytra (Fig. 77) indistinctly shorter than pronotum, with moderately pronounced humeral angles; punctation dense and rather coarse, coarser, more defined, and less dense than that of pronotum; interstices without microsculpture. Hind wings of reduced length, stubs slightly protruding from under the elytra when unfolded. Legs moderately long and slender; metatibia approximately 1.1–1.2 mm long; metatarsus significantly shorter than metatibia; metatarsomere I approximately as long as the combined length of metatarsomeres II–IV or slightly shorter.

Abdomen (Fig. 79) basally relatively weakly constricted, broadest at tergite VI; tergite III at posterior margin approximately twice as broad as long (paratergites excluded); tergites III–VI

with pronounced anterior impressions; impressions of tergites III–IV with very dense and coarse, that of tergite V with rather sparse and less coarse non-setiferous punctation; anterior impression of tergite VI with few and scattered fine non-setiferous punctures at most; disc of tergite III with very dense, distinct, and somewhat granulose punctation, those of tergites IV–VII with gradually less distinct and less dense punctation; interstices without microsculpture; posterior margin of tergite VII with more or less pronounced palisade fringe; posterior margin of tergite VIII truncate.

♂: median lobe of aedeagus (Fig. 221 and PACE 2012: figs. 60–61) 0.53 mm long, slender in lateral view and rather broad in ventral view, without processes near the modified crista apicalis; paramere (Fig. 222) 0.75 mm long; apical lobe of paramere moderately long, approximately half as long as basal portion, with pronounced basal process.

♀: sternite VIII (Fig. 223) strongly transverse and with strongly convex posterior margin; spermatheca (Fig. 224) of distinctive shape.

COMPARATIVE NOTES: This species is readily distinguished from its congeners by numerous characters, particularly the massive antennae, dense and distinct punctation (especially on the head and the abdominal tergite III), a weakly oblong pronotum, the shape of the ligula, a basally less strongly constricted abdomen, the morphology of the aedeagus (lateral view of median lobe), and by the shape of the spermatheca.

DISTRIBUTION, NATURAL HISTORY: This species is currently known from four localities in West Sichuan and one in North Yunnan, China (Fig. 265). According to the label data, the altitudes range from 2500 (see PACE 2012) to 3300 m. Most likely, all the known specimens were collected by sifting, one of the non-type specimens in a mixed deciduous forest with bamboo undergrowth.

Species excluded from *Echidnoglossa* and *Blepharhymenus*

Genus *Syntomenus* BERNHAUER, 1939, stat.n.

Type species: *Blepharrhymenus chinensis* BERNHAUER, 1939; fixed by original designation.

DIAGNOSIS: Species of relatively small size (approximately 3.3–3.5 mm) and rather broad habitus (Figs. 80, 250). Coloration reddish to reddish-brown. Legs, antennae, and maxillary palpi not distinctly modified, not particularly elongate or slender. Posterior constriction of head approximately one-third the width of head. Labrum (Fig. 225) relatively weakly transverse, with numerous long setae, and with convex lateral and anterior margins. Ligula (Figs. 226, 253) long and slender, bilobed only in apical third, each lobe with a minute, but distinct coniform sensillum.

Pronotum (Figs. 81, 251) short and strongly convex in cross-section, lateral carina not visible in dorsal view; punctation conspicuous: dense and distinct in posterior portion and fine and sparse in anterior and antero-lateral portions. Elytra (Figs. 81, 251) large and finely punctate. Tarsi short; metatarsomere I distinctly shorter than the combined length of metatarsomeres II and III.

Abdomen (Fig. 83) broad at base (not distinctly constricted); tergite III (including paratergites) approximately three times as broad as long; tergites III–V with, tergite VI without anterior impressions; anterior impression of tergite III with moderately coarse and moderately dense non-setiferous punctation.

♂: posterior margin of the strongly transverse sternite VIII rather weakly produced in the middle, with long, thin, and dense marginal setae (Figs. 227, 255); aedeagus (Figs. 228–229, 256–257) of compact shape, with short ventral process and a long and narrow crista apicalis without distinct

modifications; apical lobe of paramere flattened and short, approximately one-fourth to one-third as long as basal portion, medially with two very long setae (Figs. 230, 258).

♀: spermatheca without apical cuticular invagination.

COMMENT: *Syntomenus* was originally described as a subgenus of *Blepharhymenus*. In stating that "ich auf sie [*B. chinensis*] die neue Untergattung *Syntomenus* aufstelle", BERNHAUER (1939) clearly designated *B. chinensis* as the type species. In the same paragraph he also included "*Bl. ventricosus* Quedenf.". Probably believing that no type species had been designated, BLACKWELDER (1952) fixed *Blepharhymenus ventricosus* as the type species. This subsequent designation is invalid.

Syntomenus chinensis is clearly not congeneric with the species attributed to *Echidnoglossa* and *Blepharhymenus* in the present study. It is distinguished by an apically weakly divided ligula with two distinct coniform sensilla, the shape and chaetotaxy of the labrum, a conspicuous punctation pattern of the pronotum, an anteriorly not distinctly constricted abdomen, significantly shorter tarsi, a short metatarsomere I, the shape and chaetotaxy of the male and female sternite VIII, the shape of the proximal portion of the spermatheca, and above all by the completely different general structure of the median lobe of the aedeagus (of robust shape, with long crista apicalis, shape of internal structures) and of the paramere (apical lobe short and of different shape, with conspicuously long setae, without median constriction and without basolateral process or basal dilatation). Therefore, *Syntomenus* is here treated as a distinct genus, which currently includes two species from East China and Laos.

Syntomenus chinensis (BERNHAUER, 1939), comb.n.
(Figs. 80–83, 225–230)

Blepharrhymenus (*Syntomenus*) *chinensis* BERNHAUER 1939: 601 f.
Blepharhymenus rougemonti PACE 1999a: 113 ff.; **syn.n.**

TYPE MATERIAL EXAMINED: *B. chinensis*: **Holotype** ♂: "53 / Tienmushan, N.W. China Rtt. / unbekannt, desiderata / *Falagria? Kochi* Brnh. Typus / *chinensis* Brnh. Typus unic., *Blepharrhymenus* / Dr. M. Bernhauer donavit, 10.XI.1942 / ex coll. Scheerpeltz / Typus *Blepharrhymenus chinensis* Bernhauer / *Syntomenus chinensis* (Bernhauer), det. V. Assing 2019" (NHMW).

B. rougemonti: **Holotype** ♂: "CHINA Zhejiang, Tienmushan, 29.IV.1993, G. de Rougemont / Holotypus *Blepharhymenus rougemonti* m., det. R. Pace 1995 / *Syntomenus chinensis* (Bernhauer), det. V. Assing 2019" (MHNG).

COMMENT: The original description of *Blepharhymenus chinensis* is based on "Ein einziges Stück" from "N. W. [sic] China: Tienmuschan" (BERNHAUER 1939), that of *B. rougemonti* on a male holotype and five female paratypes from "China Zhejiang, Tianmushan" (PACE 1999a). Although both species were described from the same mountain, there is no reference to *B. chinensis* in the description of *B. rougemonti*. A comparison of the holotypes of both nominal species revealed that they are conspecific.

REDESCRIPTION: Body length 3.3–3.5 mm; length of forebody 1.7–1.8 mm. Habitus as in Fig. 80. Coloration: body reddish to reddish-brown with abdominal segment VI and the anterior portion of segment VII infuscate; legs yellowish-red to reddish; antennae reddish with antennomere XI slightly paler; maxillary palpi pale-reddish with palpomere IV yellow.

Head (Fig. 81) approximately as broad as long; punctation dense and very fine; interstices without microreticulation. Eyes moderately convex, approximately 0.7 times as long as postocular region in dorsal view. Antenna (Fig. 82) 1.2–1.3 mm long, antennomeres IV–V indistinctly oblong, VI approximately as broad as long, VII–X weakly transverse, X approximately 1.5 times as broad as long, and XI slightly longer than the combined length of IX

and X. Maxillary palpomere III approximately three times as long as broad. Ligula (Fig. 226) long and slender, apically weakly bifid and with two small sensilla. Labrum as in Fig. 225.

Pronotum (Fig. 81) approximately 1.1 times as long as broad and slightly narrower than head; punctation conspicuous, very dense and coarse in posterior half or two-thirds, but extremely fine in antero-lateral portions; anterior portion of midline with or without coarse punctation; interstices without microreticulation.

Elytra (Fig. 81) slightly shorter than pronotum, with marked humeral angles; punctation dense and relatively coarse in posterior portion and very fine and sparse in posterior portion; interstices without microreticulation. Hind wings not examined. Legs moderately slender; metatibia approximately 0.7–0.8 mm long; metatarsomere I short, only slightly longer than metatarsomere II and significantly shorter than the combined length of metatarsomeres II and III.

Abdomen (Fig. 83) only very weakly constricted anteriorly; tergites III–V with pronounced anterior impressions, each with a transverse row of coarse punctures; punctation of remainder of tergal surfaces fine, very sparse on tergites III–V and moderately dense on tergites VI–VII; interstices without microreticulation; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII concave in the middle.

♂: posterior margin of sternite VIII pointed in the middle, with long thin marginal setae (Fig. 227); median lobe of aedeagus (Figs. 228–229) approximately 0.4 mm long and of distinctive shape, with long crista apicalis; paramere (Fig. 230) 0.55 mm long; apical lobe of paramere flattened and of moderate length, approximately one-third as long as basal portion, with two very long setae, medially without median constriction, and without baso-lateral process.

♀: not examined; spermatheca as illustrated by PACE (1999a).

COMPARATIVE NOTES: This species is distinguished from representatives of *Echidnoglossa* particularly by a broad and apically not distinctly constricted abdomen, the shape of the ligula, and a completely different morphology of the aedeagus (median lobe, paramere).

DISTRIBUTION, NATURAL HISTORY: The known distribution of *S. chinensis* is confined to the Tianmu Shan, Zhejiang, China. Additional data are not available.

***Syntomenus laoticus* sp.n.**
(Figs. 250–258)

TYPE MATERIAL: **Holotype** ♂: "LAOS - Houa Phan prov., Phou Pane Mt., 20°13'N, 104°00'E, 1480-1510 m, 22.IV.-14.V.2008, leg. V. Kubáň / Holotypus ♂ *Syntomenus laoticus* sp.n., det. V. Assing 2019" (NHMB).

ETYMOLOGY: The specific epithet is an adjective derived from Laos.

DESCRIPTION: Body length 3.5 mm; length of forebody 1.8 mm. Habitus as in Fig. 250. Coloration: forebody reddish with the pronotum somewhat paler; abdomen pale-reddish with segment VI infuscate; legs yellow; antennae brown with antennomeres I–III pale-reddish and X–XI dark-yellow; maxillary palpi yellow.

Head (Fig. 251) approximately 1.05 times as broad as long, broadest across eyes; punctation moderately dense and very fine; interstices without microreticulation, except on frons. Eyes strongly convex and large, only slightly shorter than postocular region in dorsal view. Antenna (Fig. 252) 1.3 mm long, antennomeres IV–V oblong, VI weakly oblong, VII approximately as broad as long, VIII–X weakly transverse, X less than 1.5 times as broad as long, and XI longer than the combined length of IX and X. Maxillary palpomere III approximately three times as long as broad. Labium as in Fig. 253.

Pronotum (Fig. 251) 1.1 times as long as broad and 0.9 times as broad as head; punctation very dense and coarse in posterior half and fine and sparse in anterior half; anterior portion of midline with coarser punctation; interstices without microreticulation.

Elytra (Fig. 251) as long as pronotum and broad, with marked humeral angles; punctation dense and extremely fine; interstices without microreticulation. Hind wings fully developed. Legs moderately slender; metatibia approximately 0.7 mm long; metatarsomere I short, slightly longer than metatarsomere II and significantly shorter than the combined length of metatarsomeres II and III.

Abdomen only very weakly constricted anteriorly; tergites III–V with pronounced anterior impressions, that of tergite III with moderately coarse non-setiferous punctation, those of tergites IV and V practically impunctate; punctation of discs of tergites III–V fine and sparse, that of discs of tergites VI and VII slightly denser and more distinct; interstices without microreticulation; posterior margin of tergite VII with palisade fringe; tergite VIII (Fig. 254) with dense and long setae posteriorly and with truncate posterior margin.

♂: posterior margin of sternite VIII obtusely produced in the middle, with long thin marginal setae (Fig. 255); median lobe of aedeagus (Figs. 256–257) approximately 0.4 mm long, with long and narrow crista apicalis; paramere (Fig. 258) 0.42 mm long; apical lobe of paramere somewhat flattened and of moderate length, approximately one-third as long as basal portion, with two very long setae, medially without median constriction, and without baso-lateral process.

♀: unknown.

COMPARATIVE NOTES: *Syntomenus laoticus* is distinguished from *S. chinensis* by more slender antennae with distinctly oblong antennomeres V and VI, a more transverse head with significantly larger and more convex eyes, longer and broader elytra, the absence of distinct non-setiferous punctation in the anterior impressions of tergites IV and V, and by the shape of the aedeagus.

DISTRIBUTION, NATURAL HISTORY: The type locality is situated in Houa Phan Province, Northeast Laos, at an altitude of approximately 1500 m. The holotype was probably collected on the wing (Malaise trap).

Genus *Kortomenus* n.

Type species: *Blepharhymenus koreanus* PAŚNIK, 2001; present designation. Gender: masculine.

ETYMOLOGY: The name alludes to the distribution (Korea) and the hypothesized close relationship to *Syntomenus*.

DESCRIPTION: Species of relatively small size (approximately 3.4–3.8 mm) and slender habitus (Fig. 84). Coloration of body dark-brown to blackish. Whole forebody with distinct, moderately coarse, and dense punctation (Fig. 85). Legs, antennae, and maxillary palpi not distinctly modified, not particularly elongate or slender. Posterior constriction of head approximately two-fifths as broad as head (Fig. 85). Ligula (Fig. 238) conspicuously long and slender, not bilobed, apically with two minute, but distinct sensilla. Labrum (Fig. 231) rather weakly transverse, with convex apical and apically converging lateral margins. Maxillary palpomere III slender, nearly four times as long as broad (Fig. 239).

Pronotum, legs, and antennae of similar general morphology as in *Syntomenus*. Abdomen basally distinctly constricted (Figs. 84, 87); tergite III (including paratergites) little more than twice as broad as long; tergites III–VI with pronounced anterior impressions, these impressions with

coarse and dense punctation and with median carina; even tergite VII anteriorly with a median carina.

♂: sternite VIII (Fig. 232) of similar shape and chaetotaxy as that of *Syntomenus*, but posterior margin distinctly angled (angularly pointed) in the middle; aedeagus (Figs. 233–234) of compact shape, with a moderately long ventral process and a large and long crista apicalis; apical lobe of paramere long, nearly half as long as basal portion (Fig. 235).

♀: posterior margin of sternite VIII with modified short and stout marginal setae (Fig. 236); spermatheca (Fig. 237) without apical cuticular invagination.

COMMENT: *Kortomenus* is probably closely allied to *Syntomenus*, as is suggested by the similar mouthparts (except the ligula), the morphology of the legs and antennae, the shape and chaetotaxy of sternite VIII, and the general morphology of the spermatheca. It is distinguished from this genus by a longer and apically undivided ligula, dense and distinct punctation of the whole forebody, an anteriorly distinctly constricted abdomen, the presence of pronounced anterior impressions on tergites III–VI with coarse and dense punctation and a median carina, the presence of a median carina at the base of tergite VII, a median lobe of the aedeagus with a pronounced crista apicalis, and an apical lobe of the paramere of completely different shape.

Kortomenus is evidently also closely allied to *Colusa*, with which it shares an undivided ligula, a similarly shaped labrum, the presence of an anterior median carina on tergites III–VI, a pronounced crista apicalis of the aedeagus, and a similarly shaped apical lobe of the paramere. It is, however, distinguished from this genus by significantly shorter antennae, a broader head with a broader posterior constriction, much denser and coarser punctation on the less convex (cross-section) head and pronotum, a longer ligula, the presence of a pronounced anterior impression on tergite VI (shallow or absent in *Colusa*), the presence of an antero-median carina on tergite VII, and a spermatheca without a small apical cuticular invagination.

The genus differs from *Echidnoglossa* by a much broader and less convex (cross-section) head with a broader posterior constriction, short antennae, extremely dense punctation on the head and pronotum rendering these body parts matt, a longer and non-bilobed ligula, the morphology of the aedeagus and paramere, and in the chaetotaxy of the female sternite VIII (posterior margin with modified short and stout marginal setae).

***Kortomenus koreanus* (PAŚNIK, 2001), comb.n.**
(Figs. 84–87, 231–240)

Blepharhymenus koreanus PAŚNIK 2001: 227 f.

COMMENT: The original description is based on a unique male holotype from "North Korea, prov. Kangwon, Kumgangsan Mts." (PAŚNIK 1992).

MATERIAL EXAMINED: **SOUTH KOREA**: 2 exs.: Jeollanam-do, Jiri-san, 1.2 km WNW Nogodan peak, waterfall near Kogae pass, 35°18'N, 127°31'E, 1270 m, flotation from wet moss and litter at spraying water, 15.IX.2010, leg Makranczy (27) (cAss); 1 ex.: Jeollabuk-do, Deogyu-san, Gucheondong stream to Osujagul cave, 6 km SSW Sugyeongdae, temple, 35°52'N, 127°46'E, 910 m, flotation from wet moss and sprayed moss at water, 14.IX.2010, leg. Makranczy et al. (22D) (cAss); 8 exs.: Kanwon Province, Kumgang-san, Guriong chon, 1.VI.1970, leg. Mahunka & Steinmann (HNHM, cAss).

REDESCRIPTION: Body length 3.4–3.8 mm; length of forebody 1.6–1.8 mm. Habitus as in Fig. 84. Coloration: forebody dark-brown to blackish-brown with the pronotum sometimes indistinctly paler; abdomen blackish with segments III–IV or III–V dark-reddish to brown; legs, antennae, and maxillary palpi reddish.

Head (Fig. 85) approximately as broad as long or weakly transverse; punctation coarse and extremely dense, interstices reduced to narrow ridges; shallow microsculpture present only on frons; posterior constriction approximately two-fifths as broad as head. Eyes moderately convex, approximately 0.7–0.8 times as long as postocular region in dorsal view. Antenna (Fig. 86) approximately 1.0 mm long, antennomeres IV weakly oblong, V weakly oblong or as broad as long, VI–X transverse, X approximately 1.5 times as broad as long, and XI approximately as long as the combined length of IX and X. Maxillary palpomere III long and slender (Fig. 239). Ligula (Fig. 238) very long and apically not bifid and with two minute coniform sensilla. Labrum (Fig. 231) with apically converging lateral margins and convex apical margin.

Pronotum (Fig. 85) approximately 1.05 times as long as broad and slightly narrower than head; punctation coarse and very dense, similar to that of head; interstices without microreticulation.

Elytra (Fig. 85) slightly shorter than pronotum, with moderately marked humeral angles; punctation moderately dense and moderately fine, well-defined; interstices without microreticulation. Hind wings not examined. Legs moderately slender; metatibia approximately 0.6–0.7 mm long; metatarsomere I short, slightly shorter than the combined length of metatarsomeres II and III.

Abdomen (Fig. 87) constricted anteriorly; tergites III–VI with pronounced anterior impressions, these impressions with a more or less pronounced median carina and with coarse non-setiferous punctation; punctation of remainder of tergal surfaces fine and moderately dense; tergites III–VI without, tergites VII–VIII with or without shallow microreticulation; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII concave in the middle, with long thin setae (Fig. 240).

♂: sternite VIII (Fig. 232) posteriorly pointed in the middle, with long marginal setae; median lobe of aedeagus (Figs. 233–234) approximately 0.53 mm long, of distinctive shape, with long and large crista apicalis; internal sac with large spines; paramere (Fig. 235) approximately 0.6 mm long; apical lobe of paramere long and slender, approximately half as long as basal portion, medially without median constriction and basally without baso-lateral process.

♀: posterior margin of sternite VIII convex, with modified short and stout marginal setae (Fig. 236); spermatheca as in Fig. 237.

COMPARATIVE NOTES: This species is distinguished from *Echidnoglossa* species by a much longer and apically undivided ligula, the shape of the labrum, the shape of the paramere, and a completely different morphology of the median lobe of the aedeagus. It differs from *Syntomenus chinensis* and *S. laoticus* above all by a basally distinctly constricted abdomen with coarsely sculptured anterior impressions on tergites III–VI, a much longer and apically undivided ligula, and in the structure of the genitalia.

DISTRIBUTION, NATURAL HISTORY: Originally described from North Korea, this species was recently reported also from South Korea (Song & Ahn 2013). The examined material from South Korea (see above) was collected from wet moss and litter near spraying water.

Genus *Colusa* Casey, 1885, revalidated

Type species: *Colusa gracilis* Casey, 1885; fixed by subsequent designation (Fenyes 1918).

DIAGNOSIS: Habitus (Fig. 259), coloration, and size similar to that of Iberian *Echidnoglossa* s.str. Forebody with fine and dense punctation. Head with posterior constriction of approximately one-third the width of head. Labrum (Figs. 244, 246) with convex anterior margin and moderately transverse. Ligula (Fig. 243, 260) long and slender, apically unilobed and with two minute coniform sensilla. Pronotum of similar shape as in *Echidnoglossa*, i.e., strongly convex in cross-section, lateral and posterior margins not bordered in dorsal view. Legs moderately long

and moderately slender; metatarsomere I approximately as long as the combined length of metatarsomeres II and III, or slightly longer.

Abdomen basally distinctly constricted, broadest at segments V–VI; tergites III–V with pronounced anterior impressions, these impressions coarsely punctate and often with median carina; tergite VI with or without shallow anterior impression; remainder of tergal surfaces with fine and moderately dense punctation.

♂: posterior margin of sternite VIII acutely produced in the middle (see KLIMASZEWSKI et al. 2018: fig. 10.76d); aedeagus not particularly slender, of the usual oxypodine condition (Figs. 241, 246, 248); crista apicalis pronounced; crista proximalis of moderate size; apical lobe of paramere (Figs. 242, 247) more or less elongate, at least approximately half as long as basal portion of paramere, otherwise unmodified.

♀: posterior margin of sternite VIII less produced than in male, with dense and short marginal setae, weakly concave to obtusely pointed in the middle (see KLIMASZEWSKI et al. 2018: fig. 10.76f); spermatheca (Fig. 245) with small cuticular invagination and with rather long and slender proximal portion.

COMMENT: An examination of five North American species previously attributed to *Blepharhymenus*, all of them highly similar externally and reliably distinguished only based on their sexual characters, revealed that they belong to neither *Blepharhymenus* nor *Echidnoglossa*. The only genus group name available for the North American species is *Colusa*, previously a junior synonym of *Blepharhymenus*. The type species of *Colusa*, *C. gracilis* CASEY, 1885, was not examined, so the status of *Colusa* and the generic assignments proposed here must be considered tentative and require confirmation.

Colusa is distinguished from *Blepharhymenus* by completely different habitus, a finely and densely punctate forebody, the shape (convex anterior margin, less transverse) and chaetotaxy of the labrum, an apically undivided ligula, the shape of the pronotum (lateral borders not visible in dorsal view), a basally distinctly constricted abdomen, and by a median lobe of the aedeagus with a pronounced crista apicalis and with internal structures of different shape.

The genus differs from *Echidnoglossa* by an apically undivided ligula with two minute coniform sensilla (*Echidnoglossa*: ligula bilobed and apically with two indistinct appendages at most), the shape and chaetotaxy of the labrum, the morphology of the aedeagus (shape of internal structures; median lobe with pronounced crista apicalis and crista proximalis; apical lobe of paramere without distinct modifications), and a spermatheca with a cuticular invagination (absent in *Echidnoglossa*).

Based on the unilobed ligula and the similar general morphology of the labrum, the median lobe of the aedeagus, and the apical lobe of the paramere, *Colusa* is closely allied to *Kortomenus*, from which it is distinguished by a shorter ligula, a more slender head with a narrower posterior constriction, a weakly pronounced or absent anterior impression on tergite VI, the absence of an antero-median carina on tergite VII, significantly longer antennae, finer and sparser punctation on the more convex head and pronotum, and a spermatheca with a small apical cuticular invagination.

DIVERSITY, DISTRIBUTION, NATURAL HISTORY: In all, 21 species with four synonyms have been recorded from North America (BERNHAUER & SCHEERPELTZ 1926), all of them described by CASEY (1885, 1893, 1911), four of them originally in *Colusa* (CASEY 1885) and the remainder in *Echidnoglossa* (CASEY 1893, 1911). The original descriptions of 15 valid names and of three synonyms are based on type material from California.

A significant number of examined specimens was collected in caves. For additional details see the species sections below.

Colusa eximia Casey, 1885

MATERIAL EXAMINED: **U.S.A.**: **California**: 2 exs., Mill Valley, leg. Fenyes (MNB); 2 exs., Pt. Reyes, leg. Fenyes (MNB).

Colusa brendeli (Casey, 1893), comb.n.
(Figs. 241–242, 249, 259)

MATERIAL EXAMINED: **CANADA**: **Québec**: 3 exs.: 15.V.1979, leg. Smetana & Becker (CNC, cAss); 3 ♂♂: Gatineau Park, beaver pond intercept, 25.X.–3.XI.1983, leg. Denis (CNC, cAss); 16 exs., Gatineau Park, Fortune Lake, 28.VIII.1982, leg. Lohse & Campbell (CNC, cAss).

The identification of the above specimens is based on the illustrations of *Blepharhymenus brendeli* provided by Klimaszewski et al. (2018), according to whom this species is associated with riparian habitats in forests and swamps, specifically wet moss, incl. *Sphagnum*, and wet leaf litter near streams. The habitus, median lobe of the aedeagus, paramere, and the labium are illustrated in Figs. 241–242, 249, 259. For additional illustrations see Klimaszewski et al. (2018).

Colusa cf. *illecta* (Casey, 1911), comb.n.
(Figs. 243–245)

MATERIAL EXAMINED: **U.S.A.**: **Alabama**: 5 exs., Limestone Co., Gaston Cave, 19.VIII.1965, leg. Peck (CNC, MHNG); 1 ex., same locality, VI.1958, leg. Jones et al. (MHNG); 4 exs., Limestone Co., 5 mi W Elkmont, Spencer Cave, 19.VIII.1965, leg. Peck (MHNG, cAss); 4 exs., Jackson Co., Paint Rock, Paint Rock Cave, debris, 20.XII.1965, leg. Peck (CNC, MHNG); 1 ex., Marshall Co., Gamble Cave, 11.VII.1973, leg. Peck (CNC).

The above material was identified as *Blepharhymenus illectus* by J. Klimaszewski and S. Peck in 1985. However, the same applies to some of the specimens from Indiana listed as *Colusa* sp. below. The specimens from Alabama and those from Indiana are clearly not conspecific. A revision of type material would be necessary to find out which of the two species actually represents *C. illecta*, if any. The labium, labrum, and spermatheca of the examined material are illustrated in Figs. 243–245.

According to Klimaszewski & Peck (1986), who report *C. illecta* from various caves in Alabama, Missouri, and Tennessee, the species is troglophilous.

Colusa cf. *morigera* (Casey, 1911), comb.n.
(Figs. 246–247)

MATERIAL EXAMINED: **U.S.A.**: **Utah**: 3 exs.: Guinavah CG, Logan Canyon, 3.VII.1986, leg. Carr (CNC, cAss). **CANADA**: **British Columbia**: 13 exs.: Mt. Garibaldi, 9 mi N Squamish, 1500', 30.V.1968, leg. Campbell & Smetana (CNC, cAss); 7 exs.: 20 mi E Hope, Manning Park, 21.VI.1968, leg. Campbell & Smetana (CNC, cAss); 2 exs.: 20 mi E Hope, 3.VI.1968, leg. Campbell & Smetana (CNC); 3 exs.: Mission City, 27.VII.1953, leg. Hicks (CNC); 2 exs.: 8 mi W Creston, 10.VI.1968, leg. Smetana (CNC); 1 ex.: 4 mi W Midway, 6.VI.1968, leg. Campbell & Smetana (CNC); 17 exs.: 5 mi N Victoria, Goldstream Park, 27.V.1968, leg. Campbell & Smetana (CNC); 1 ex.: 16 mi W Osoyoos, 5.VI.1968, leg. Campbell & Smetana (CNC); 14 exs.: 10 mi N Revelstoke, Jordan River, 2500', 26.VIII.1971, leg. Campbell (CNC, cAss). **Ontario**: 1 ♂, 3 exs.: Nipissing Distr., Whitney Highway, 1,279.5 mi S Highway 60, 8.VIII.1975, leg. Smith (CNC); 2 exs.: Peterborough Co., Warsaw Caves Cons. area, 9.V.1975, leg. Smith (CNC); 1 ex.: Leeds & Greenville Co., 2 km SE Spencerville, 30.IV.1979, leg. Smetana (CNC); 2 exs.: Carlsbad Spgs., Mer Bleue, 23.V.1980, leg. Smetana (CNC).

The tentative identification of the above material is mainly based on the observation that *C. morigera* was the sole representative of the genus known from Utah. The median lobe of the aedeagus and paramere are illustrated in Figs. 246–247.

Colusa sp.
(Figs. 248)

MATERIAL EXAMINED: **U.S.A.**: **Indiana**: 1 ♂, 2 exs.: Orange Co., 2 mi SW Paoli, Paoli Experimental Forest, 1.XII.2001, leg. Lewis et al. (CNC); 1 ♂, Orange Co., 7 mi SW Paoli, Tucker Lake, Springs Cave, 16.IX.2000, leg. Lewis (CNC); 2 ♀♀, Orange Co., 5 mi SE Paoli, Dillon Cave, 19.VIII.2000, leg. Lewis & Rafai (CNC); 1 ♀, Van Burren Co., 11 mi SW Spencer, Laurel Creek Cave, 1.IX.2002, leg. Lewis (CNC); 1 ex.: Lawrence Co., 6 mi W Michell, Tincher, Swallowhole Cave, 5.X.2002, leg. Lewis (CNC).

The median lobe of the aedeagus of this species is illustrated in Fig. 248.

Ocalea dabensis (PACE, 2012), comb.n.

Blepharhymenus dabensis PACE 2012: 134 f.

TYPE MATERIAL EXAMINED: **Holotype** ♀: "CHINA: W-Hubei Daba Shan crk. valley 8 km NW Muyuping 31°29'N / 110°22'E 1550–1600 m, 18.VII.2001, A. Smetana [C115b] / Holotypus *Blepharhymenus dabensis* n. sp., det. R. Pace 2005 / *Blepharhymenus dabensis* n. sp., det. R. Pace 2005 / Col – 10578, DEI Müncheberg / *Ocalea dabensis* (Pace), det. V. Assing 2019" (SDEI).

The original description is based on a single female from "China: W-Hubei, Daba Shan creek valley, 8 km NW Muyuping" (PACE 1992). An examination of the holotype revealed that it belongs to the genus *Ocalea*.

Zusammenfassung

Die Gattung *Blepharhymenus* SOLIER, 1849 war bisher aus der chilenischen Subregion (einschließlich der Typusart), der Nearktis, der Paläarktis, aus Ost- und Südafrika und aus Australien bekannt. Eine derart globale und gleichzeitig bemerkenswert disjunkte Verbreitung erschien nicht plausibel. Um die Gattungszugehörigkeit der paläarktischen Vertreter der Gattung zu prüfen, wurden Typen und weiteres Material dieser Arten sowie auch einer Auswahl von Arten aus Nordamerika und Chile revidiert. Die morphologische Untersuchung ergab, dass die bisher *Blepharhymenus* zugeordneten Arten zu mehreren phylogenetischen Linien gehören und dass die in der Paläarktis verbreiteten Arten nicht näher mit der Typusart der Gattung verwandt sind. Die folgenden Namen der Gattungsgruppe werden neu beschrieben, revalidiert oder in den Gattungsrang erhoben: *Echidnoglossa* WOLLASTON, 1864, revalidiert (zuvor Synonym von *Blepharhymenus*); *Maurechidna* subg.n. (Untergattung von *Echidnoglossa*; Typusart: *Echidnoglossa ventricosa* QUEDENFELDT, 1881); *Orechidna* subgen.n. (Untergattung von *Echidnoglossa*; Typusart: *Echidnoglossa hirthei* sp.n.); *Sinechidna* subgen.n. (Untergattung von *Echidnoglossa*; Typusart: *Blepharhymenus smetanai* PACE, 2012); *Syntomenus* BERNHAUER, 1939, stat.n. (zuvor Untergattung von *Blepharhymenus*); *Kortomenus* gen.n. (Typusart: *Blepharhymenus koreanus* PAŚNIK, 2001); *Colusa* CASEY, 1885, revalidiert (bisher Synonym von *Blepharhymenus*; Typusart: *Colusa gracilis* CASEY, 1885). *Echidnoglossa* ist disjunkt in der Paläarktis und der nördlichen Orientalis verbreitet und enthält derzeit 19 Arten in fünf Untergattungen. Die Gattungen *Syntomenus* (zwei Arten) und *Kortomenus* (monotypisch) sind auf die südliche Ostpaläarktis und die nördliche Orientalis beschränkt. Alle in der Paläarktis und Orientalis vertretenen Arten werden beschrieben und abgebildet. Sechs davon sind neu: *Echidnoglossa* (*Echidnoglossa*) *russa* sp.n. (Ägypten: Sinai-Halbinsel); *Echidnoglossa* (*Orechidna*) *hirthei* sp.n. (Nepal); *E.* (*O.*) *betzi* (Thailand); *E.* (*O.*) *artior* sp.n. (Taiwan); *E.* (*O.*) *formosana* sp.n. (Taiwan); *Syntomenus laoticus*

sp.n. (Laos). Zahlreiche Namen werden neu kombiniert. Die bisher *Blepharhymenus* zugeordneten Arten der Paläarktis werden in die Gattungen *Echidnoglossa*, *Syntomenus* bzw. *Kortomenus* gestellt. Für eine ursprünglich als *Blepharhymenus* beschriebene Art ergibt sich das Binomen *Ocalea dabensis* (PACE, 2012), comb.n. Die nearktischen Arten werden in die Gattung *Colusa* transferiert. Sechs Arten werden synonymisiert: *Echidnoglossa corsica* MULSANT & REY, 1875 = *E. sardoa* (SCHEERPELTZ, 1954), syn.n.; *E. glabrata* (KIESENWETTER, 1870) = *E. moczarskii* (SCHEERPELTZ, 1954), syn.n.; *E. maghrebica* (FAGEL, 1960) = *E. peyerimhoffi* (FAGEL, 1960), syn.n.; *E. meschniggi* (BERNHAUER, 1936) = *E. elegans* (FAGEL, 1959), syn.n. = *E. guadalupensis* (FAGEL, 1959), syn.n.; *Syntomenus chinensis* (BERNHAUER, 1939) = *S. rougemonti* (PACE, 1999), syn.n. Für *Blepharhymenus moczarskii* SCHEERPELTZ, 1954, *Echidnoglossa paulinoi* SKALITZKY, 1884 und *E. ventricosa* QUEDENFELDT, 1881 werden Lektotypen designiert. Eine Liste der in der Paläarktis und Orientalis vertretenen, bislang *Blepharhymenus* zugeordneten Taxa sowie eine Bestimmungstabelle der *Echidnoglossa*-Arten werden erstellt. Die Verbreitung der *Echidnoglossa*-Arten wird anhand von Karten illustriert.

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