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**A revision of the species of *Geostiba* THOMSON 1858 and
Paraleptusa PEYERIMHOFF 1901 of Greece: Supplement I,
including some species from Albania, Macedonia, Bulgaria, and
Turkey (Coleoptera: Staphylinidae, Aleocharinae)**

V. ASSING

A b s t r a c t : A revision of types and additional, mostly recently collected material of *Geostiba* THOMSON and *Paraleptusa* PEYERIMHOFF from Greece, Albania, Macedonia, Bulgaria, and Turkey yielded 6 new species, new synonymies, and various new records. 8 species are (re-)described, illustrated, and distinguished from closely related congeners: *Geostiba* (s. str.) *obtusicollis* sp. n. (Greece: Evritania, Fthiotis), *G.* (s. str.) *torisuturalis* sp. n. (Greece: Florina, Kozani), *G.* (*Ditroposipalia*) *kasyi* (SCHEERPELTZ), *G.* (*D.*) *sculpticollis* (APFELBECK), *G.* (*D.*) *galicicana* sp. n. (Macedonia), *G.* (*Sipalotricha*) *breviuter* sp. n. (Greece: Florina, Pela), *G.* (*S.*) *meybohmi* sp. n. (Greece: Crete), and *Paraleptusa wunderlei* sp. n. (Greece: Evritania). A total of 39 valid species of *Geostiba* and 2 species of *Paraleptusa* are now known from Greece and Cyprus. 3 synonymies are established: *Homalota oertzeni* EPPELSHEIM 1888 = *Geostiba balcanica* ZERCHE 1988, syn. n., *Sipalia sculpticollis* APFELBECK 1907 = *S. temporalis* APFELBECK 1907, syn. n., and *Sipalia cryptophthalma* SCHEERPELTZ 1951 = *Geostiba cryptophthalma* PACE 1983, syn. n. The systematic significance of *Myoposipalia* SCHEERPELTZ and the characters distinguishing this subgenus, *Sipalotricha* SCHEERPELTZ, and *Ditroposipalia* SCHEERPELTZ from other subgenera of *Geostiba* are discussed under phylogenetic aspects. Lectotypes are designated for *Sipalia meschniggiana* BERNHAUER, *S. sculpticollis* APFELBECK, and *S. temporalis* APFELBECK. *G. oertzeni* (EPPELSHEIM) and *G. euhoica* PACE are for the first time recorded from Albania, the former also from Bulgaria. A recent diagnostic key to the Greek species of *Geostiba* is modified in order to accommodate the new taxa.

K e y w o r d s : Coleoptera, Staphylinidae, Aleocharinae, *Geostiba*, *Paraleptusa*, Palaearctic region, Greece, Albania, Macedonia, Bulgaria, Turkey, distribution, ecology, taxonomy, revision, new species, new synonyms, lectotype designations, endemism.

1. Introduction

In comparison to many other parts of Europe, the staphylinid fauna of Greece, especially that of the numerous mountain ranges, where many endemic species are known or can be expected to occur, has been poorly studied. This is also revealed by the fact that a number of such species - e. g. of *Coryphiini* (ASSING & WUNDERLE 1999), of *Leptusa* KRAATZ (ASSING & WUNDERLE 1999, PACE 1994), and of *Tectusa* BERNHAUER (ZERCHE in prep.) - have been discovered only in recent years, which is mainly a result of higher and more specialized collecting activity. The same applies to *Geostiba* THOMSON. In a recent

revision, 35 valid species of this aleocharine genus, most of them more or less endemic, were reported from Greece and Cyprus; almost half of them were described for the first time (ASSING 1999). This shows that the known species inventory of the region is far from complete and that numerous further species remain to be discovered. In addition, most Greek species of *Geostiba* have been collected on only one or very few occasions, so that the current knowledge of their actual distribution and, consequently, the degree of endemism is highly unsatisfactory.

As could be expected, during a field trip to Greece carried out by Paul Wunderle and myself in spring 2000 several new species of Staphylinidae were discovered, among them three undescribed *Geostiba* and one new *Paraleptusa* PEYERIMHOFF; records of some described *Geostiba* partly extended their known area of distribution. Additional material, including yet another new *Geostiba*, was provided by several colleagues, especially H. Meybohm, Stelle, and L. Zerche, Eberswalde, who recently studied other parts of Greece. Moreover, an examination of some *Geostiba* from Albania and Macedonia, including the previously unrevised types of *G. sculpticollis* (APFELBECK), *G. temporalis* (APFELBECK), and *G. kasyi* (SCHEERPELTZ), yielded a new species from Macedonia, two first records from Albania, and one from Bulgaria.

2. Material

Material from the following public institutions and private collections was examined:

DEI Deutsches Entomologisches Institut, Eberswalde (L. Zerche)
 FMNH..... Field Museum of Natural History, Chicago (P. P. Parrillo)
 MHNG..... Muséum d'Histoire Naturelle, Genève (G. Cuccodoro)
 NHMW Naturhistorisches Museum Wien (H. Schillhammer)
 cAss author's private collection
 cSch private collection M. Schülke, Berlin
 cWun..... private collection P. Wunderle, Mönchengladbach

3. New species, new records, and redescriptions of *Geostiba* and *Paraleptusa* from Greece, Albania, Macedonia, and Turkey

In the following, new records are commented on only when the known range of distribution is significantly extended or when additional bionomical data have become available. For more details regarding those species for which records are merely listed, the previous revision (ASSING 1999) is referred to.

Geostiba (s. str.) *armata* (EPPELSHEIM 1878)

Additional material examined:

Greece: 8 ♂♂, 11 ♀♀, Kozáni, Piéria, SE Katafigi, Flámpouro, N-slope, 40°14'00N, 22°09'54E, 2110m, *Juniperus* litter and grass near snow, 17.IV.2000, leg. Zerche (DEI, cAss); 2 ♀♀, same data, but 40°14'03N, 22°09'53E, 1980m, 16.IV.2000 (DEI).

***Geostiba* (s. str.) *meschniggiana* (BERNHAUER 1936)**

Sipalia meschniggiana BERNHAUER 1936: 51.

T y p e s e x a m i n e d : Lectotype ♂, here designated: 3967 / Morea Chelmos Ing Meschnigg / pr. armata Abd. 9. Tergit gekielt / Meschniggiana BNH. Typ / Meschniggiana BERNH. Typus Sipalia / Chicago NHMus M. Bernhauer Collection / Lectotypus ♂ *Sipalia meschniggiana* Bernh. desig. V. Assing 2000 / *Geostiba meschniggiana* (Bernhauer) det. V. Assing 2000 (FMNH). Paralectotype ♀: 3967 / Morea Chelmos Ing Meschnigg / Meschniggiana BERNH. Cotypus Sipalia / Chicago NHMus M. Bernhauer Collection / Paralectotypus ♀ *Sipalia meschniggiana* BERNH. desig. V. Assing 2000 / *Geostiba meschniggiana* (BERNHAUER) det. V. Assing 2000 (FMNH).

A d d i t i o n a l m a t e r i a l e x a m i n e d :

Greece, Pelopónnisos: 4♂♂, 5♀♀, Ahaia, Chelmos, road from Kalavrita to Xerokambos ski resort, 38°01'18N, 22°10'45E, 1450m, *Abies* forest, 3.IV.2000, leg. Zerche (DEI, cAss); 6♂♂, 7♀♀, Panahaiko, above Shuli, N-slope, 38°11'00N, 21°51'36E, 1465m, litter of xerophytes, near snow, 29.III.2000, leg. Zerche & Behne (DEI, cAss); 1♀, Panahaiko, above Ano Kastritsi, 38°14'58N, 21°51'32E, 28.III.1997, leg. Assing (cAss).

C o m m e n t s : The types were not examined by ASSING (1999), who based the redescription of the species on recently collected material which was taken at the type locality and morphologically in perfect agreement with the original description. Meanwhile, two syntypes from the Bernhauer collection have become available and they indeed proved to be conspecific with the material previously studied.

The original description does not specify the number of type specimens. In order to fix a single name-bearing type, the male syntype in the Bernhauer collection is designated as lectotype. Species of *Geostiba* s. str. are difficult to distinguish, and neither the possibility that more syntypes exist nor that more species of the subgenus occur in the Aroania mountain range can be completely ruled out.

D i s t r i b u t i o n a n d b i o n o m i c s : The species, which was previously recorded only from the Aroania range, is now also known from the Panahaiko. It apparently occurs in a wide range of habitats. In the Panahaiko it was collected in xerophyte vegetation, whereas in the Aroania range it has repeatedly been found in *Abies* forests.

***Geostiba* (s. str.) *pangeoensis* ASSING 1999**

A d d i t i o n a l m a t e r i a l e x a m i n e d :

Greece: 32♂♂, 42♀♀, Séres, Pangéo, N-slope of peak, 40°54'55N, 24°05'18E, 1850m, frozen grass near snow, 6.IV.2000, leg. Zerche & Behne (DEI); 4♂♂, 1♀, Kavala, Pangéo, southern peak, N-slope near ski resort, 40°54'41N, 24°06'38E, 1750m, 6.IV.2000, leg. Zerche (DEI).

***Geostiba* (s. str.) *falakroensis* ASSING 1999**

A d d i t i o n a l m a t e r i a l e x a m i n e d :

Greece: 2♂♂, 4♀♀, Drama, Falakro, E-slope, 41°18'39N, 24°03'46E, 1800-1820m, 10.IV.2000, leg. Zerche & Behne (DEI, cAss); 2♀♀, Falakro, ski resort, N-slope, 41°17'57N, 24°04'16E, 1755m, 7.IV.2000, leg. Zerche & Behne (DEI).

***Geostiba* (s. str.) *menikioensis* ASSING 1999**

A d d i t i o n a l m a t e r i a l e x a m i n e d :

Greece: 75♂♂, 96♀♀, Drama, Menikio, W Mikrópoli, 41°11'15N, 23°46'20E, 1700m, grass and plant debris near snow, 8.IV.2000, leg. Zerche & Behne (DEI, cAss); 5♂♂, 12♀♀, Séres, Vrontós, Lailias ski resort, east of peak, 41°15'58N, 23°36'20E, 1555m, *Pinus* forest,

11.IV.2000, leg. Behne (DEI, cAss); 7♂♂, 6♀♀, same data, but 6.VI.2000, leg. Zerche & Behne (DEI, cAss); 1♂, same data, but N-slope of peak, 41°15'27N, 23°36'04E, 1800m, 11.IV.2000, leg. Zerche (DEI).

This species was previously known only from the Meníkio and is here recorded also from the Vrontós range.

***Geostiba* (s. str.) *siculifera* ASSING 1999**

Additional material examined:

Greece: 1♂, 4♀♀, Kavala, Pangéo, 40°55'09N, 24°11'39E, 680m, beech and oak forest, 6.IV.2000, leg. Zerche (DEI).

***Geostiba* (s. str.) *vermionensis* ASSING 1999**

Additional material examined:

Greece: 5♂♂, 3♀♀, Imathía, Vérmio, Séli ski resort, E-slope, 40°32'20N, 22°00'45E, 1520m, *Juniperus* litter, snow patches, 14.IV.2000, leg. Zerche (DEI, cAss); 1♀, same data, but N-slope, 1490m, beech forest (DEI).

***Geostiba* (s. str.) *killiniensis* ASSING 1999**

Additional material examined:

Greece, Pelopónnisos: 1♂, 4♀♀, Kórinthos, Killini, above Ano Trikala, N-slope, 37°58'59N, 22°26'52E, 1440m, *Abies* and *Pinus* litter, 31.III.2000, leg. Zerche & Behne (DEI).

***Geostiba* (s. str.) *parnoniensis* ASSING 1999**

Additional material examined:

Greece, Pelopónnisos: 5♂♂, 8♀♀, Lakonia, Parnon, SE Agios Petros, W-slope of Meg. Tourla, 37°16'46N, 22°36'37E, 1680m, near snow, 2.IV.2000, leg. Zerche & Behne (DEI, cAss).

***Geostiba* (s. str.) *matsakisi* (COIFFAIT 1968)**

Additional material examined:

Greece, Evvoia: 7♂♂, 10♀♀, 9 exx., Dirfis, SE peak, 38°36'33N, 23°51'33E, 1100m, *Abies* forest, 4.IV.2000, leg. Zerche (DEI, cAss).

Comments: An examination of the material indicated above, which was collected at the type locality, showed that the holotype is not an atypical small ♂ with reduced secondary sexual characters as previously supposed (ASSING 1999). On the contrary, the majority of the ♂♂ differ from the ♀♀ externally only in the somewhat more granulose puncturation of tergum VII; the tubercle on tergum VII is usually completely reduced and the pronotum is of similar shape as in ♀♀.

***Geostiba* (s. str.) *obtusicollis* sp. n. (Figs 1-6)**

Holotype ♂: GR. Evritania, No. 2, 10 km S Karpenisi, 1230m, *Abies* wood, 38°50'00N, 21°47'16E, 14.IV.2000, Wunderle / Holotypus ♂ *Geostiba obtusicollis* sp. n. det. V. Assing 2000 (cAss).

Paratypes: 1♀: same data as holotype (cWun); 2♀♀: same data, but leg. Assing (cAss); 1♂, 1♀: GR. Fthiotis, No. 10, 30 km W Lamía, 800m, W Kalithea, *Quercus*, 38°53'17N, 22°05'46E, 16.IV.2000, V. Assing (cAss); 1♂: same data, but leg. Wunderle (cWun); 3♀♀: GR. Fthiotis, No. 11, 30 km W Lamía, 900m, W Kalithea, *Abies*, 38°52'40N, 22°04'26E, 16.IV.2000, V. Assing (cAss).

Description: Highly similar in size, proportions, and coloration to *G. pauli* ASSING and many other Greek representatives of the subgenus.

2.4 - 3.1 mm. Body colour and morphology of head as in *G. pauli*. Pronotum with distinct sexual dimorphism; in (larger!) ♂ slightly wider than long, posterior margin noticeably projecting caudad, obtusely angled in the middle and covering all or most of scutellum (Fig. 6); in ♀ not projecting, posterior margin weakly convex.

Elytra with distinct sexual dimorphism; in ♂ granulosely punctured, with extensive and rather deep impressions anteriorly extending to shoulders, near apex of scutellum with moderately high, but rather broad sutural carinae extending approximately over anterior half of suture; in ♀ finely punctured, without sutural carinae, and with shallow and less extensive impressions.

♂: terga III and IV unmodified; tergum VII with posterior process similar to that in *G. itiensis* ASSING, but shorter and less slender (cf. Figs 96, 97 in ASSING 1999); posterior margin of tergum VIII weakly pointed in the middle (Fig. 5); sternum VIII distinctly convex posteriorly; aedeagus of similar morphology as in *G. pauli* and *G. itiensis*, but median lobe in ventral view apically less acute and cristal process of slightly different shape (Figs 1-2); apical lobe of paramere similar to that in other species of the subgenus (Fig. 3).

♀: tergum and sternum VIII with weakly convex posterior margin; spermatheca as in Fig. 4.

Derivatio nominis: The name (adj.) refers to the most distinctive morphological character of the species, the obtusely angled posterior margin of the ♂ pronotum.

Intraspecific variation: As in other species of the subgenus, especially size and the ♂ secondary sexual characters are subject to considerable variation. One of the ♂ paratypes is distinctly smaller, its pronotal hind margin is only weakly angled in the middle, its elytra are only weakly impressed, the sutural carinae are barely noticeable, and the process of tergum VII is completely absent.

Comparative notes: From *G. itiensis*, which occurs in the nearby Oros Iti, the new species is readily separated especially by the ♂ secondary sexual characters: the shape of the pronotum, the much deeper and more extensive elytral impressions, the broader, though less projecting sutural carinae on the elytra, and the shorter and less slender process of tergum VII. The only other species of *Geostiba* s. str. from the Greek mainland with unmodified ♂ terga III and IV and with a distinct sexual dimorphism of the pronotum are three species from northeastern Greece (*G. siculifera* ASSING, *G. falakroensis* ASSING, *G. menikioensis* ASSING) and *G. pauli* ASSING from the Pílion Oros. In all of them the ♂ pronotum is posteriorly rounded, not obtusely angled.

Distribution and bionomics: The species is known from three localities in eastern Evritania and western Fthiotis, where it was collected in *Abies* and *Quercus* forests at an altitude of 800 - 1230m.

***Geostiba* (s. str.) *torisuturalis* sp. n. (Figs 7-12)**

Holotype ♂: GR. Florina, No. 20, 15 km S Flórina, Oros Vitsi, 1900m, 40°39'N, 21°23'E, 21.IV.2000, V. Assing / Holotypus ♂ *Geostiba torisuturalis* sp. n. det. V. Assing 2000 (cAss).

Paratypes: 3♂♂, 6♀♀: same data as holotype (cAss); 2♂♂, 2♀♀, same data, but leg. Wunderle (cWun); 6♂♂, 11♀♀: GR. Florina, No. 24, 15 km S Flórina, Oros Vitsi, 1800m, 40°39'N, 21°23'E, 21.IV.2000, V. Assing (cAss); 3♂♂, 9♀♀, same data, but leg. Wunderle

(cWun); 1♂, 1♀: GR. Florina, No. 31, 15 km S Flórina, Oros Vitsi, 1900m, 40°39'N, 21°23'E, 25.IV.2000, V. Assing (cAss); 3♂♂, 8♀♀: GR. Florina, No. 32, 15 km S Flórina, Oros Vitsi, 1900m, 40°39'N, 21°23'E, 25.IV.2000, V. Assing (cAss); 6♂♂, 2♀♀, same data, but leg. Wunderle (cWun); 2♂♂, 1♀: GR: Flórina, Véno, Vitsi S Flórina, N-Hang, *Fagus*-Wald, Schneeflecken / 13.IV.2000, 1660m, 40°37'50"N, 21°24'03"E, leg. Zerche & Behne (DEI); 3♂♂, 4♀♀: GR: Flórina, Véno, Ski-Center Vigla, W Flórina, N-Hang, *Fagus*-Wald, Schneeflecken / 13.IV.2000, 1550m, 40°46'05"N, 21°16'03"E, leg. Zerche & Behne (DEI, cAss); 3♂♂, 5♀♀: GR: Kozáni, Askio SO Vlásti, N-Hang, 1475m, 15.IV.2000, *Juniperus* am / Schneefeld, 40°24'49"N, 21°33'14"E, leg. Zerche (DEI, cAss).

Description: In general appearance (size, coloration, etc.) similar to *G. armata* (EPPELSHEIM) and most other Greek species of the subgenus.

2.2 - 2.9 mm. Pronotum without appreciable sexual dimorphism, slightly (ca. 1.1x) wider than long; hind margin moderately convex.

Elytra in (large!) ♂ with weakly granulose puncturation, without distinct impressions; sutural carinae relatively broad, in cross-section somewhat shaped like an inverted "U", and long, sometimes extending over whole length of suture; when shorter, the carinae are approximately in the middle of suture, not nearer to apex of scutellum than to hind margin of elytra. In ♀ usually with finer, not granulose puncturation and without sutural carinae.

♂: abdominal terga III - IV unmodified; process of tergum VII long, slender, apically acute, and less erect than in other Greek species of the subgenus (Figs 11-12); tergum VIII weakly convex posteriorly; hind margin of sternum VIII distinctly convex, almost pointed; median lobe of aedeagus and apical lobe of paramere as in Figs 7-9.

♀: posterior margin of tergum VIII moderately, that of sternum VIII weakly convex; spermatheca as in Fig. 10.

Derivatio nominis: The name (adj.), which is composed of the Latin noun torus (= bulge) and the adjective suturalis, refers to the distinctive bulging sutural carinae in larger ♂♂.

Intraspecific variation: Size and especially the ♂ secondary sexual characters are highly variable. In several ♂♂ of the type series, the sutural carinae are more or less reduced, and the process of tergum VII is completely absent.

Comparative notes: There are only two other species of the subgenus known from the Greek mainland without appreciable sexual dimorphism of the pronotum, with unmodified ♂ terga III and IV, and with pronounced sutural carinae: *G. xerovuniana* (SCHEERPELTZ) and *G. itiensis* ASSING, both from Fthiótis. In the former, the ♂ elytra are distinctly impressed and the cristal process of the median lobe of the aedeagus is of different shape. Both species are readily distinguished from *G. torisuturalis* by the more erect process of the ♂ tergum VII. In *G. winkleriana* PACE from Albania, the pronotum is wider, the sutural carinae on the ♂ elytra are much shorter and closer to the scutellum, the process of the ♂ tergum VII is shorter, and the cristal process of the median lobe of the aedeagus is of completely different shape. In *G. maderi* PACE from Albania, the pronotum is dimorphic, and the sutural carinae and the cristal process of the aedeagus are of different shape. For figures illustrating these two Albanian species see PACE (1996).

Distribution and bionomics: *G. torisuturalis* is known from the Véno and the Askio mountain range in northern Greece, not far from the Albanian and the Macedonian border. It was collected in grassland, in beech forests, and in *Juniperus* litter at altitudes of 1475 - 1900m.

***Geostiba (Ditroposipalia) oertzeni* (EPPELSHEIM 1888)**

Geostiba balcanica ZERCHE 1988: 158f.; syn. n.

Type examined: Holotype ♂: Bulg., Stara Pl., 8 km N Kalofer, 800m, 6.VI.1987, leg. Zerche & Behne / Buchenwald gesiebt / Holotypus *Geostiba balcanica* ZERCHE / *Geostiba oertzeni* (EPPELSHEIM) det. V. Assing 2000 (DEI).

Additional material examined:

Greece, Pelopónnisos: 1♂, 4♀♀, Panahaiko, above Ano Kastrizi, N-slope, 38°14'46N, 21°51'37E, 1550m, near snow, 30.III.2000, leg. Zerche & Behne (DEI); 2♂♂, E Kalavrita, ski resort, 21.IV.1995, leg. Brachat (cSch); 2♂♂, 4♀♀, Arkadia, Menalo Oros, ski resort, 1600m, 26.IV.1999, leg. Brachat (cSch, cAss); 1♂, Arkadia, Taygetos Oros, Kokkinolakka, 28.IV.1999, leg. Brachat (cSch); 5♂♂, 7♀♀, Lakonia, Paron, SE Agios Petros, W-slope of Meg. Tourla, 37°16'46N, 22°36'37E, 1680m, near snow, 2.IV.2000, leg. Zerche & Behne (DEI, cAss); 2♂♂, 2♀♀, Kalavrita, 800m, 3.IV.1971, leg. Löbl (MHNG).

Greece, mainland and smaller islands: 32♂♂, 51♀♀, Fthiotis, Parnassos, near Kelaria ski resort, 38°34'12N, 22°34'24E, 1700m, *Abies* wood, 15.IV.2000, leg. Assing, Wunderle (cAss, cWun); 5♂♂, 3♀♀, same data, but 38°33'17N, 22°34'25E, 1760m, leg. Wunderle (cWun); 7♂♂, 6♀♀, Fokis, Oros Giona, W Vraila summit, 38°39'36N, 22°19'32E, 1700m, alpine zone, sifted from moss, grass, etc. near snow, 17.IV.2000, leg. Assing, Wunderle (cAss, cWun); 15♂♂, 30♀♀, Oros Giona, 38°39'36N, 22°19'12E, 1650m, *Abies* wood, 17.IV.2000, leg. Assing, Wunderle (cAss, cWun); 1♂, 1♀, Evvoia, Dirfis, SE peak, 38°36'33N, 23°51'33E, 1100m, *Abies* forest, 4.IV.2000, leg. Zerche (DEI).

Greece, Kriti: 4♂♂, 6♀♀, Omalos, 35°18N, 23°55E, 20.IV.2000, leg. Meybohm (cAss).

Albania: 1♀, Tomor range, Kulmak, V.1931, leg. Winkler (NHMW).

Bulgaria: 2♂♂, Stara Planina, 8 km N Kalofer, 800m, 24.VI.1989, leg. Zerche & Behne (DEI).

Turkey: 1♀, Antalya, road from Antalya to Saklikent, 1000m, 11.V.2000, leg. Meybohm & Brachat (cAss).

Comments: The holotype of *G. balcanica* ZERCHE and the additional material from Bulgaria have slightly shorter elytra than average *G. oertzeni*, but no significant differences were found in the primary and secondary sexual characters. Consequently, *G. balcanica* is here placed in the synonymy of *G. oertzeni*.

Distribution and bionomics: The species, one of the most widespread representatives of *Geostiba* in Europe (ASSING 1999), is here for the first time recorded from Albania and Bulgaria.

***Geostiba (Ditroposipalia) kasyi* (SCHEERPELTZ 1959) (Figs 13-20)**

Sipalia (Lioglutosipalia) kasyi SCHEERPELTZ 1959: 64ff.

Sipalia peristerica SCHEERPELTZ i. l.

Type examined: Holotype ♀: ♂ [sic] / Macedon. occ. Perister mons, Ober Buchen-Tannenwald / ca. 1800m, 24.7.1959, leg. Dr Kasy / ex coll. Scheerpeltz / TYPUS *Sipalia Lioglutosipalia Kasyi* (NHMW).

Additional material examined: 2♂♂, 4♀♀, "N.O. Serbien, Peristeri", 1200-1400m, beech litter, 7.-10.VII.1964, leg. Knappe [3 exx. identified by Scheerpeltz as *G. kasyi* and 4 exx. labelled as types of *G. peristerica* SCHEERPELTZ i. l.] (NHMW, cAss); 1♂, Macedonia, Perister, 7.VII.1964 (cAss).

Description: Externally, including the modifications of the ♂ elytra and the ♂ tergum VII, extremely similar to *G. oertzeni*, only distinguished by the shorter elytra: elytra measured from apex of scutellum to posterior margin ca. 0.6 times the length of pronotum (*G. oertzeni*: usually >0.7).

♂: tergum VIII similar to that in *G. oertzeni*, more or less crenulate posteriorly (Figs 17-

18); hind margin of sternum VIII convex (Fig. 19); aedeagus of similar morphology as in *G. oertzeni*, also with long spines in the internal sac (Figs 13-14); shape and chaetotaxy of apical lobe of paramere as in *G. oertzeni* (Fig. 15).

♀: hind margin of tergum VIII weakly convex, almost truncate; sternum VIII posteriorly weakly convex and with row of rather long modified setae (Fig. 20); shape of spermatheca completely different from that in *G. oertzeni* (Fig. 16).

Comparative notes and systematics: As can be inferred from the external similarities and the similar morphology of the primary and secondary sexual characters, *G. kasyi* is very closely related to the widespread *G. oertzeni*, quite possibly its sister species. From other Macedonian and Greek representatives of *Ditroposipalia*, *G. kasyi* is readily distinguished by its larger size and by the different primary and secondary sexual characters, from the Macedonian *G. coiffaiti* PACE and *G. galiciana* sp. n. in addition by the distinctly larger eyes.

Distribution and bionomics: *G. kasyi* is known only from the Pelister range in southwestern Macedonia, very close to the Greek border. Whether or not the labels attached to the specimens listed as additional material are erroneous ("N.O. Serbien") is doubtful. I have been unable to find a locality "Peristeri" in northeastern Serbia. Since these specimens are conspecific with the holotype, they are likely to have been collected in the Pelister range. The type and the additional material were taken in beech forests at altitudes of 1200-1800m.

***Geostiba (Ditroposipalia) weiratheri* PACE 1984**

Additional material examined:

Greece: 4♂♂, 2♀♀, Drama, Falakro, ski resort, N-slope, 41°17'57N, 24°04'16E, 1755m, 7.IV.2000, leg. Zerche & Behne (DEI); 5♂♂, 2♀♀, Falakro, E-slope, 41°18'39N, 24°03'46E, 1800-1820m, 10.IV.2000, leg. Zerche & Behne (DEI).

***Geostiba (Ditroposipalia) sculpticollis* (APFELBECK 1907) (Figs 21-26)**

Sipalia sculpticollis APFELBECK 1907: 510f.

Sipalia temporalis APFELBECK 1907: 511f.; **syn. n.**

Types examined:

Sipalia sculpticollis: Lectotype ♂, here designated: ♂ / Merdita M. Scheit / *Sipalia sculpticollis* APFELB. / *carinicollis* ed. [sic] BERNH. / COTYPUS / *Geostiba sculpticollis* (APF.) det. R. Pace 1983 / Lectotypus ♂ *Sipalia sculpticollis* APFELBECK, desig. V. Assing 2000 / *Geostiba sculpticollis* (APFELBECK) det. V. Assing 2000 (NHMW).

Paralectotypes: 1♂: same labels as lectotype, but *Paralectotypus* ... (NHMW); 1♀: ♀ / Merdita M. SCHEIT / *Sipalia sculpticollis* APF. det. Apflb. / ex coll. Scheerpeltz / COTYPUS *Sipalia sculpticollis* APFELBECK / *Geostiba sculpticollis* (APF.) det. R. Pace 1983 (NHMW); 1♀: ♀ / Merdita M. Scheit / ex coll. Scheerpeltz / COTYPUS *Sipalia sculpticollis* APFELBECK / *Geostiba sculpticollis* (APF.) det. R. Pace 1983 (NHMW).

Sipalia temporalis: Lectotype ♀, here designated: ♂ [sic] / Merdita Bulschari / *Sipalia temporalis* APFB. Co-Typ. / COTYPUS *Sipalia temporalis* APFELBECK / Lectotypus ♀ *Sipalia temporalis* APFELBECK, desig. V. Assing 2000 / *Geostiba sculpticollis* (APFELBECK) det. V. Assing 2000 (NHMW).

Paralectotypes: 1♂ [without head and pronotum]: ♂ / Merdita Bulschari / COTYPUS *Sipalia temporalis* Apfelbeck (NHMW); 1♀: ♀ / Merdita Bulschari / COTYPUS *Sipalia temporalis* APFELBECK (NHMW); 1♀: ♀ / Merdita Bulschari / Hensch / *temporalis* / COTYPUS *Sipalia temporalis* APFELBECK / coll. Schuster (NHMW); 2♀♀: Merdita Munela / WGT. 1906 Merdita / *Sipalia temporalis* APF. / *temporalis* det. BERNHAUER / COTYPUS (NHMW).

A d d i t i o n a l m a t e r i a l e x a m i n e d : 1♂, Albania, "Quafa Starus" [?], 15.V.1934, leg. Strupi (cAss).

D e s c r i p t i o n : External appearance similar to *G. weiratheri* PACE.

Whole body testaceous to ferrugineous, preapical abdominal segments not or only indistinctly infusate. Forebody, especially head and pronotum, with more distinct microreticulation than in *G. weiratheri*.

Head of similar outline as in *G. weiratheri*, though on average slightly more slender; eyes strongly reduced, without distinct ommatidia, minute, smaller than in any of the Greek congeners, maximal diameter in lateral view approximately equal to length of antennomere IV; antennae more distinctly incrassate apically and with more transverse antennomeres IV - X.

Pronotum relatively narrow, as wide as long or weakly transverse, only slightly wider than head; sometimes, especially in ♂♂, with a shallow longitudinal impression on either side of midline, these impressions extending over most of pronotal length and merging near hind margin.

Elytra in ♂ without modifications (paralectotypes of *G. sculpticollis* and *G. temporalis*) or with (lectotype of *G. sculpticollis*) distinctly granulose puncturation and with long sutural carinae extending over whole length of suture; these carinae are wider and more pronounced anteriorly than posteriorly.

♂: tergum VII without modifications or with pair of posteriorly converging carinae near posterior margin; tergum VIII almost truncate posteriorly; posterior margin of sternum VIII obtusely pointed (Fig. 25); aedeagus as in Figs 21-22, apical lobe of paramere very slender (Fig. 23).

♀: posterior margin of tergum VIII weakly convex; sternum VIII posteriorly weakly concave in the middle (Fig. 26); spermatheca of similar morphology as in *G. ahaiaensis* ASSING, but duct proximally more strongly twisted (Fig. 24).

C o m p a r a t i v e n o t e s a n d s y s t e m a t i c s : According to the typological subgeneric concept established by SCHEERPELTZ (1951), for which there is currently no comprehensive alternative based on phylogenetic principles, the species would have to be attributed to the *Myoposipalia* SCHEERPELTZ, a subgenus defined by a single character: strongly reduced eyes without appreciable ommatidia. Three species of *Myoposipalia* have been described, *G. (M.) cryptophthalma* (SCHEERPELTZ 1951), according to Article 13.4 of the ICZN (1999) an available name, *G. (M.) scheerpeltziana* (FAGEL 1966), and *G. (M.) seleucica* PACE 1983a.

Based on an examination of the holotype of *G. cryptophthalma*, PACE (1983b), who evidently believed the name to be unavailable, described the species again under the same name, thus establishing a junior synonymic homonym: *Sipalia cryptophthalma* SCHEERPELTZ 1951 = *G. cryptophthalma* PACE 1983, syn. n. In the same paper, he tentatively synonymized *Myoposipalia* with *Sphenosipalia* SCHEERPELTZ stating that *G. cryptophthalma*, the type species of *Myoposipalia*, had eyes with distinct ommatidia and consequently lacked the single character that distinguishes *Myoposipalia* from other subgenera of *Geostiba*.

Strongly reduced eyes and the absence of ommatidia are evidently an adaptation to a subterranean habitat known to have occurred in numerous taxa independently. If a subgenus were based on such an adaptive reduction, this would involve a considerable risk of

rendering the taxon polyphyletic. The same is also true of *Geostiba*: strongly reduced eyes are present at least in one species from France, some from the Eastern Mediterranean, as well as in a number of species from Madeira (ASSING 1997, ASSING & WUNDERLE 1996, FAGEL 1966, PACE 1983a, 1983b, 1984). It is highly unlikely that the reduced eyes should represent a synapomorphy of all these species and that the latter should constitute a monophyletic group. PACE (1983b), too, had doubts regarding the systematic value of the reduced eyes and, based on the ♂ secondary sexual characters, attributed *G. coiffaiti* to *Ditroposipalia* rather than to *Myoposipalia*.

It is worth noting that in two of the three ♂♂ examined the elytra and tergum VII lacked any modifications whatsoever, which not only explains why APFELBECK (1907) applied two names to the same species, but which also shows that such reductions are phylogenetically and systematically of little significance (see also comments below the following species).

G. sculpticollis is apparently closely related to *G. coiffaiti* PACE 1983 and to the species described below. With both of these taxa it not only shares the strongly reduced eyes, but also a similar external appearance (body shape, microsculpture, colour), a similar morphology of the median lobe of the aedeagus, of the apical lobe of the paramere, as well as of the spermatheca. From the Macedonian *G. coiffaiti*, *G. sculpticollis* is distinguished especially by the shape of the ♂ sutural carinae and by the different morphology of the capsule of the spermatheca (see Figs 31 and 33 in PACE 1983b). For separation from *G. galicicana* sp. n. see the description of that species below. From all Greek representatives of the genus, *G. sculpticollis* is readily distinguished by the reduced eyes and by the primary sexual characters.

The original descriptions of both *Sipalia sculpticollis* and *S. temporalis* are based on an unspecified number of syntypes. The Apfelbeck collection in Sarajevo was destroyed by fire, so that the types kept in that collection can be regarded as lost (SCHÜLKE pers. comm.). Nevertheless, the possibility that additional unexamined syntypes exist and that they belong to different species cannot be ruled out. Therefore, lectotypes are designated for both taxa in order to fix single name-bearing types and to secure the present interpretation and synonymy.

Distribution and bionomics: *G. sculpticollis* is apparently endemic in northern Albania. The types were found in beech and oak forests in the Mirdita mountain range. The record of *G. sculpticollis* from the Šar Planina (Ljuboten) in SCHEERPELTZ (1951) refers to a different, possibly undescribed species.

***Geostiba (Ditroposipalia) galicicana* sp. n. (Figs 27-33)**

Holotype ♂: ♂ / NW. Macedonien, Galičica b. Ohrid, ca 1800m, Dr. Knappe / Fagetum 24.7.1963 / temporalis APF. / ex coll. Scheerpeltz / Holotypus ♂ *Geostiba galicicana* sp. n. det. V. Assing 2000 (NHMW).

Paratypes: 5♂♂, 3♀♀, same data as holotype (NHMW, cAss).

Description: Size, coloration, and other external characters as in *G. sculpticollis*, but distinguished as follows:

Head on average more transverse and in all the types dorsally at least with small longitudinal median impression (in *G. temporalis*, such an impression is less distinct or absent); eyes small, also without distinct ommatidia, but somewhat larger than in *G. temporalis*; eye size subject to some intraspecific variation.

Pronotum with a shallow longitudinal impression on either side of midline, these impressions extending over most of pronotal length and merging near hind margin. (Such impressions are absent or more weakly indicated in *G. sculpticollis*.)

Elytra without sexual dimorphism. Punctuation slightly more distinct and denser than in *G. sculpticollis*.

♂: tergum VII unmodified; tergum VIII very weakly convex, almost truncate posteriorly (Fig. 31); hind margin of sternum VIII obtusely pointed (Fig. 32); aedeagus of similar morphology as in *G. sculpticollis*, but ventral process of median lobe in lateral view broader, somewhat more strongly bent, and with pronounced lateral carinae (Figs 27-28), apical lobe of paramere less slender than in *G. sculpticollis* (Fig. 29).

♀: hind margin of tergum VIII weakly, that of sternum VIII moderately convex and without central concavity (Fig. 33); spermatheca with duct of similar morphology as in *G. sculpticollis*, but capsule of completely different shape (Fig. 30).

Derivatio nominis: The name refers to the type locality, today the Galičica National Park in Macedonia.

Comparative notes and systematics: From all Greek and Macedonian congeners, except for *G. coiffaiti* PACE, the new species is separated by the reduced eyes without distinct ommatidia, a character only shared with *G. sculpticollis* from Albania and *G. coiffaiti* from Macedonia. For distinction from the former see the description above. *G. coiffaiti* differs from the new species in the smaller eyes, the modified ♂ elytra and ♂ tergum VII, the more slender ventral process of the median lobe of the aedeagus, and in the longer duct of the spermatheca (see Figs 31 and 33 in PACE 1983b).

Following the subgeneric concept established by SCHEERPELTZ (1951), *G. galiciana* would have to be attributed to the subgenus *Myoposipalia* because of the reduced eyes. For details regarding this subgenus and the significance of this character see comments below *G. sculpticollis*. Based on the absence of modifications on the ♂ tergum VII, on the other hand, the new species would have to be placed in *Sipalotricha* SCHEERPELTZ. As can be inferred from external characters (reduced eye size, presence of furrows on the pronotum, colour) and the primary sexual characters, however, *G. galiciana* is most closely related to *G. sculpticollis* and *G. coiffaiti* of the subgenus *Ditroposipalia*. Consequently, the absence of the modifications of the ♂ elytra and the ♂ tergum VII evidently represents a secondary reduction, a conclusion also supported by the observation that these modifications may be present or absent even within one and the same species (see notes below *G. sculpticollis*). The case of *G. galiciana* again shows how weakly supported and how artificial the subgeneric concept established by SCHEERPELTZ (1951) is, and it also gives rise to the suspicion that the absence of a sexual dimorphism of tergum VII may be the result of a reduction also in other species currently attributed to *Sipalotricha* (previously *Lioglutosipalia*).

Distribution and bionomics: *G. galiciana* is known only from the area south of Ohrid, Galičica, in the southwest of Macedonia. According to the labels attached to the types, it was found in a beech forest at an altitude of approximately 1800m.

***Geostiba (Chondridiosipalia) ulcerifera* ASSING 1999**

Additional material examined:

Greece, Pelopónnisos: 9 exx., Arkadia, Taygetos Oros, W Paleopanagia, 750m, 30.IV.1999, leg. Brachat (cSch, cAss); 2 exx., Taygetos Oros, between Paleopanagia and Katafigio, 750m, 30.IV.1999, leg. Wolf (cSch).

***Geostiba (Sipalotricha) euboica* PACE 1990**

Sipalia (Lioglutosipalia) tomorensis i. l.: SCHEERPELTZ 1951: 176.

Additional material examined:

Greece, Pelopónnisos: 1♂, Arkadia, Menalo Oros, 1600m, 26.IV.1999, leg. Wolf (cSch).

Karpathos: 1♂, 1♀ (1♂ teneral), S Olympos, 200m, 28.IV.2000, leg. Meybohm (cAss).

Albania: 1♂: ♂ / Tomor: Kulmak Albania mer. / lg. Winkler Mai 1931 / ex coll. Scheerpeltz / TYPUS *Sipalia tomorensis* O. Scheerpeltz (NHMW); 1♂: same labels, but "♀" (NHMW); 2♂♂, 1♀: same labels, but "COTYPUS ..." (NHMW, cAss).

Comments: Both in external and sexual characters, *G. euboica* is extremely similar to *G. bulbifera* ZERCHE 1988 from Bulgaria. An examination of the types and additional material of *G. bulbifera* showed that it is distinguished from *G. euboica* only by the truncate or weakly concave posterior margin of the ♂ tergum VIII, the less strongly convex posterior margin of the ♂ sternum VIII, the somewhat larger aedeagus, and by the broader and apically more strongly tapering apical lobe of the paramere.

Distribution and bionomics: *G. euboica*, a widespread species previously known from various localities in the Greek mainland, the Pelopónnisos, and several Greek islands (ASSING 1999), is here for the first time recorded from Albania.

***Geostiba (Sipalotricha) fthiotisensis* ASSING**

Additional material examined:

Mainland Greece: 27♂♂, 23♀♀, Evritania, N Karpenisi, Timfristos, near ski resort, 38°57'N, 21°48'E, 1900m, N-slope, sifted from grass, moss, etc. near snow, 14.IV.2000, leg. Assing, Wunderle (cAss, cWun); 11♂♂, 22♀♀, Fokis, SW Lamia, Vardousia Oros, 38°42'06"N, 22°08'54"E, 1600m, under stones and sifted from grass roots, 18.IV.2000, leg. Assing, Wunderle (cAss, cWun).

Distribution and bionomics: The species, which was previously known only from the type locality, the Iti Oros (Fthiotis), is apparently more widespread and inhabits various habitats. It also occurs in the Vardousia Oros (Fokis) and the Timfristos (Evritania), where it was collected in grassland near snow at altitudes of 1600 and 1900m.

***Geostiba (Sipalotricha) breviuter* sp. n. (Figs 34-41)**

Holotype ♂: GR: Florina, No. 26, 40km NE Flórina, Oros Voras, 1650m, 40°52'58"N, 21°47'36"E, 22.IV.2000 V. Assing / Holotypus ♂ *Geostiba breviuter* sp. n. det. V. Assing 2000 (cAss).

Paratypes: 2♂♂, 4♀♀: same data as holotype (cAss); 1♂, 1♀: same data, but leg. Wunderle (cWun); 1♂, 1♀: GR: Péla, Kajmakčalan [Vóras] N Armissa, S-Hang, *Fagus*-Wald, 12.IV.2000, 1560m, / 40°51'59"N, 21°46'11"E, leg. Zerche (DEI).

Description: External appearance as in *G. ahaiaensis* ASSING and *G. fthiotisensis*, distinguished only by the primary and secondary sexual characters:

♂: tergum VIII with weak central emargination posteriorly (Fig. 38); hind margin of sternum VIII moderately convex to obtusely pointed (Fig. 39); aedeagus with ventral process of median lobe in ventral view of similar shape as in *G. fthiotisensis*, but in lateral view more strongly curved and with more pronounced "crista apicalis" (Figs 34-35), apical lobe of paramere similar to that in *G. fthiotisensis* (Fig. 36).

♀: hind margin of tergum VIII weakly convex (Fig. 40); sternum VIII posteriorly similar to that in *G. fthiotisensis* (Fig. 41); spermatheca of characteristic morphology, duct very short and not twisted (Fig. 37).

Derivatio nominis: The name is a noun in apposition and composed of the Latin brevis (= short) and uter (= hose, pipe). It refers to the short duct of the spermatheca, which distinguishes this species from all other Greek congeners.

Comparative notes: As can be inferred from the external and sexual characters, *G. breviuter* is closely related to *G. fthiotisensis*, *G. ahaiaensis*, and *G. beieri* (SCHEERPELTZ). For distinction from the similar *G. fthiotisensis* see description. In *G. ahaiaensis* from the Pelopónnisos and in *G. beieri* from Ipiros, the median lobe of the aedeagus is more slender in ventral view and almost straight in lateral view, and the spermatheca is of completely different morphology (see Figs 222-224 and 238-240 in ASSING 1999). *G. beieri* additionally differs in the distinctly emarginate hind margin of the abdominal tergum VIII.

Distribution and bionomics: The species is known only from the Voras Oros, ca. 40 km NE Flórina and near the Macedonian border. The types were sifted from leaf litter in beech forests at altitudes of 1560 and 1650m.

***Geostiba (Sipalotricha) meybohmi* sp. n. (Figs 42-50)**

Holotype ♂: GR. Ostkreta, Nordhang Katharo-Ebene, ca. 1200m, Meybohm, 15.4.2000 / Holotypus ♂ *Geostiba meybohmi* sp.n. det. V. Assing 2000 (cAss).

Paratypes ♂: 3♂♂, 9♀♀, same data as holotype (cAss).

Description: External characters as in *G. idaea* PACE (see ASSING 1999), distinguished from that species only by the primary and secondary sexual characters.

♂: hind margin of tergum VIII distinctly incised in the middle, but depth of incision somewhat variable (Figs 47-48); sternum VIII obtusely pointed posteriorly (Fig. 49); aedeagus of similar morphology as in *G. idaea*, but ventral process of median lobe broader in ventral view and apical lobe of paramere much more slender (Figs 42-44); internal sac as in *G. idaea* with two clusters of spines.

♀: primary and secondary sexual characters similar to those in *G. idaea* (Figs 45-46).

Derivatio nominis: The species is dedicated to Heinrich Meybohm, Stelle, collector of the type series and specialist of Scydmaenidae.

Comparative notes: For distinction from the highly similar *G. idaea*, apparently the sister species, with which *G. meybohmi* shares the synapomorphic presence of spines in the internal sac, see description. In the two other *Sipalotricha* species occurring in Crete, *G. exsecta* ASSING and *G. icaria* PACE, the internal sac of the aedeagus lacks distinct spines, the median lobe of the aedeagus is larger, the hind margin of the ♂ tergum VIII is usually more distinctly emarginate, the posterior margin of the ♀ sternum VIII is concave in the middle, and the spermatheca is of different morphology (see Figs 254-268 in ASSING 1999).

Distribution and bionomics: The new species is apparently the

easternmost representative of the genus in Crete; the three other species of *Sipalotricha* known from the island inhabit the Lefka Ori (*G. icaria*) in western and the Ídhi Oros (*G. idaea*, *G. exsecta*) in central Crete. The type series was collected in the Katharo plain, Dikti Oros, ca. 5 km W Kritsa (35°09N, 25°35E), from litter of *Berberis* (MEYBOHM, pers. comm.).

***Paraleptusa wunderlei* sp. n. (Figs 51-58)**

H o l o t y p e ♂: GR. Evritania, No. 1, N Karpenisi, Timfristós, ski resort, 1900m, 38°57N, 21°48E, 14.IV.2000 V. Assing / Holotypus *Paraleptusa wunderlei* sp. n. det. V. Assing 2000 (cAss). **P a r a t y p e s**: 1 ♀: same data as holotype (cAss); 1 ♂, 1 ♀: GR. Evritania, No. 1, N Karpenisi, Timfristós, ski resort, 1900m, 38°57N, 21°48E, 14.IV.2000 Wunderle (cWun).

D e s c r i p t i o n: In external characters similar to *P. graeca* (BERNHAEUER), but distinguished as follows:

Size similar to *P. graeca*, 1.6 - 1.9 mm. Of paler colour than *P. graeca*, whole body pale testaceous, preapical abdominal segments not infuscate.

Head in dorsal view with more convex lateral outline, dorsally with small subcircular impression, with distinct microreticulation, and with less shine than in *P. graeca*. Antennae as in *P. graeca*, distinctly incrassate apically, antennomeres IV - X increasingly transverse, VI - X more than three times as wide as long.

Pronotum somewhat more transverse and with subdued shine due to distinct microreticulation.

Elytra as in *P. graeca* distinctly shorter than pronotum, but puncturation fine, not very dense and not granulose (in *P. graeca* dense and distinctly granulose); hind wings reduced. Tarsal formula 4, 4, 5.

♂: posterior margin of tergum VIII weakly concave in the middle, that of sternum VIII obtusely pointed (Figs 55-56); aedeagus and apical lobe of paramere as in Figs 51-53.

♀: posterior margin of tergum VIII truncate, sternum VIII convex (Figs 57-58); spermatheca as in Fig. 54.

D e r i v a t i o n o m i n i s: This species is dedicated to my dear friend and colleague Paul Wunderle, Mönchengladbach, who collected part of the type series.

C o m m e n t s: The genus *Paraleptusa* currently includes approximately 15 species, all of them more or less microphthalmous, brachypterous, and with small areas of distribution. All but one species occur in the west of Europe (Switzerland, France, Spain) and in northwestern Africa (from Morocco to Tunisia) (COIFFAIT 1955, 1964; PACE 1987, 1988). The only known representative in the eastern Mediterranean was *P. graeca* (BERNHAEUER), which was described from the Greek island Kefallinia (see comments in ASSING 1999) and later vaguely reported also from the south of the Greek mainland (COIFFAIT 1955, 1964); I have been unable to trace the original source which the latter record is based on. In view of the restricted distributions of *Paraleptusa* species, it would seem surprising if *P. graeca* was present both in Kefallinia and in the Greek mainland. The discovery of a second species of the genus in Greece shows that the genus may actually be more widely distributed in the eastern Mediterranean. For distinguishing characters separating the two Greek representatives see the description above.

D i s t r i b u t i o n a n d b i o n o m i c s: *Paraleptusa wunderlei* sp. n. is known only from the type locality in Evritania, southern Pindhos range. The types were sifted from grass roots, moss, etc. near a snow patch on a slope in northern exposition at an altitude of 1900m.

Supplement to the key to the species of *Geostiba* of Greece and Cyprus

In order to account for the new taxa described in the present paper, the key in ASSING (1999) is modified. Note that the species from Albania, Macedonia, and Bulgaria are not included, since not all the taxa described or reported from these regions have been revised yet. References to figures in ASSING (1999) are preceded by a capital A (e. g. Fig. A1).

17. ♂: hind margin of pronotum emarginate in the middle (large ♂♂); elytra with pronounced sutural carinae and impressions; tergum VII massive; Distribution: Pilion Oros (Thessalia)..... *G. (s. str.) pauli* ASSING
 - ♂: hind margin of pronotum not emarginate. Distribution different. 17a
 - 17a. Species known from eastern Evritania and western Fthiotis. ♂: posterior margin of pronotum obtusely angled in the middle (Fig. 6); process of tergum VII more slender; aedeagus as in Figs 1-2. ♀: spermatheca as in Fig. 4. *G. (s. str.) obtusicollis* sp. n.
 - Species from northeastern Greece. ♂: posterior margin of pronotum not angled, but rounded in the middle; process of tergum VII broader 18
-
19. ♂: elytra with broad and smooth elevation near apex of scutellum; process of tergum VII in large ♂♂ shorter; aedeagus with short and slender cristal process. Distribution: Menikio (NE-Greece) *G. (s. str.) menikioensis* ASSING
 - ♂: elytra with distinct sutural carinae; process of tergum VII longer; aedeagus with longer cristal process of different shape 19a
 - 19a. ♂: process of tergum VII very long, not distinctly erect, almost horizontally projecting caudad (Figs 11-12); elytra without distinct impressions, sutural carinae long and broad, not closer to apex of scutellum than to posterior elytral margin; aedeagus as in Figs 7-8. ♀: spermatheca as in Fig. 10. Northern Greece (Florina, Kozani)..... *G. (s. str.) torisuturalis* sp. n.
 - ♂: process of tergum VII distinctly erect; elytra with or without impressions, sutural carinae shorter and narrower, closer to apex of scutellum than to posterior elytral margin. Species from the south of mainland Greece 20
-
29. ♂: hind margin of tergum VIII strongly emarginate in the middle (Fig. A242); median lobe of aedeagus with slender ventral process (ventral view) (Fig. A239); lateral aspect as in Fig. A238. ♀: spermatheca as in Fig. A240. Distribution: Tsumerka, Ipiros *G. (S.) beieri* (SCHEERPELTZ)
 - ♂: hind margin of tergum VIII weakly emarginate in the middle; median lobe of aedeagus with broader ventral process (ventral view) and in lateral view of different shape. Distribution different 29a
 - 29a. ♂: ventral process of median lobe of aedeagus broader in ventral view and more strongly bent in lateral view (Figs 34-35). ♀: spermatheca with very short duct, highly distinctive (Fig. 37). Distribution: Voras Oros, northern Greece *G. (S.) breviuter* sp. n.
 - ♂: ventral process of median lobe more slender in ventral view and less distinctly curved in lateral view. ♀: spermatheca with longer duct, of completely different morphology. Distribution: southern mainland Greece and Pelopónnisos 30
-
32. ♂ posterior margin of tergum VIII usually less strongly concave in the middle; aedeagus smaller and with distinct long spines in internal sac. Distribution: central or eastern Crete 32a
 - ♂: posterior margin of tergum VIII distinctly emarginate in the middle; aedeagus larger, without or with very indistinct spines in internal sac. Distribution: central or western Crete 33

- 32a. ♂: posterior margin of tergum VIII weakly concave in the middle (Fig. A251); median lobe of aedeagus with more slender ventral process (Fig. A247); apical lobe of paramere short and broad (Fig. A248). ♀: spermatheca as in Figs A249-A250. Distribution: Idhi Oros (= Ida), central Crete..... *G. (S.) idaea* PACE
- ♂: posterior margin of tergum VIII on average more distinctly incised (Figs 47-48); median lobe of aedeagus as in Figs 42-43; apical lobe of paramere more slender (Fig. 44). ♀: spermatheca as in Figs 45-46. Distribution: Dikti Oros, eastern Crete.....
..... *G. (S.) meybohmii* sp. n.

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Zusammenfassung

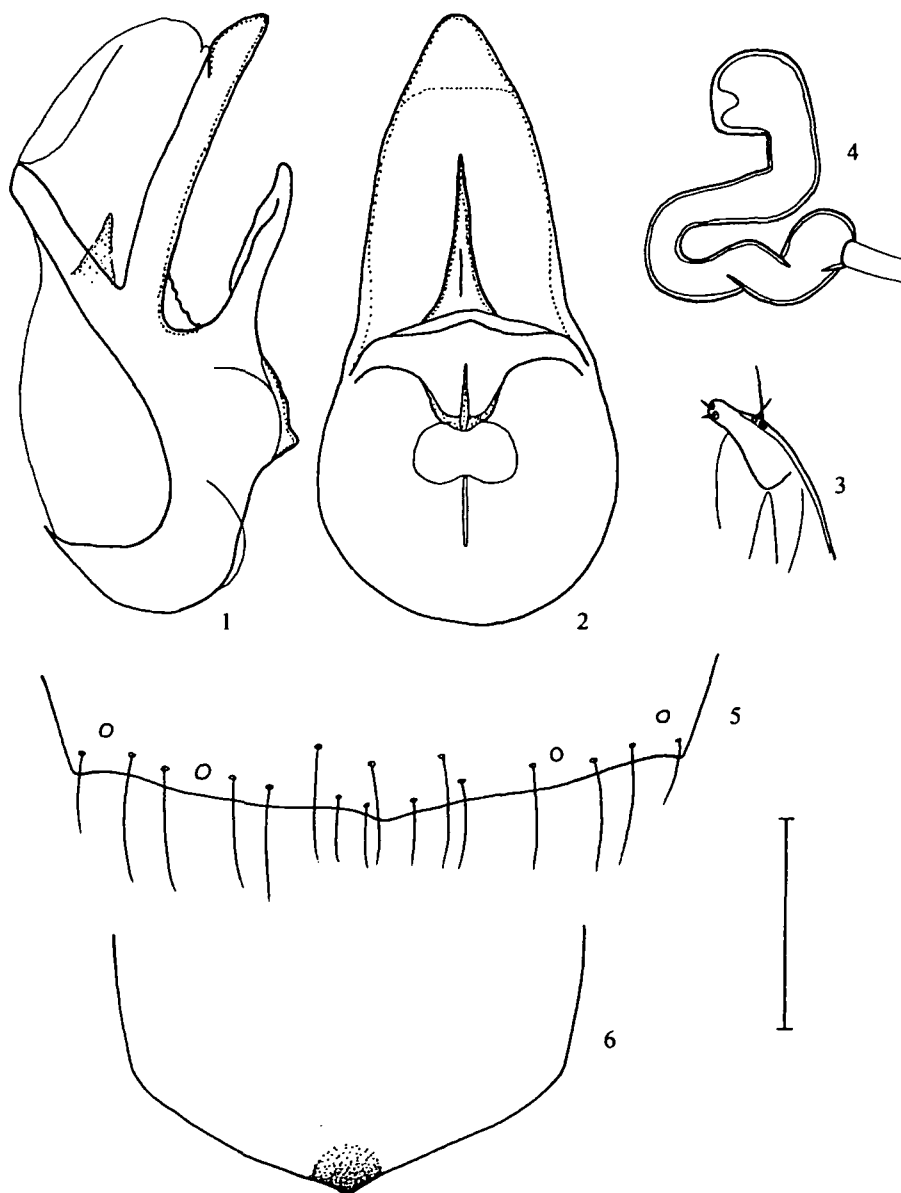
Eine Revision von Typen und weiterem Material der Gattungen *Geostiba* THOMSON und *Paraleptusa* PEYERIMHOFF aus Griechenland, Albanien, Mazedonien und Bulgarien ergab 6 neue Arten, neue Synonymien sowie eine Reihe von Neunachweisen. 8 Arten werden beschrieben und von ähnlichen Arten unterschieden; Differentialmerkmale werden abgebildet: *Geostiba* (s. str.) *obtusicollis* sp. n. (Griechenland: Evritania, Fthiotis), *G.* (s. str.) *torisuturalis* sp. n. (Griechenland: Florina, Kozani), *G. (Ditroposipalia) kasyi* (SCHEERPELTZ), *G. (D.) sculpticollis* (APFELBECK), *G. (D.) galicicana* sp. n. (Mazedonien), *G. (Sipalotricha) breviuter* sp. n. (Griechenland: Florina, Pela), *G. (S.) meybohmii* sp. n. (Griechenland: Kreta) und *Paraleptusa wunderlei* sp. n. (Griechenland: Evritania). Insgesamt sind damit 39 valide *Geostiba*- und 2 *Paraleptusa*-Arten von Griechenland und Zypern bekannt. Folgende Synonymisierungen werden vorgenommen: *Homalota oertzeni* EPPELSHEIM 1888 = *Geostiba balcanica* ZERCHE 1988, syn. n., *Sipalia sculpticollis* APFELBECK 1907 = *S. temporalis* APFELBECK 1907, syn. n., *Sipalia cryptophthalma* SCHEERPELTZ 1951 = *Geostiba cryptophthalma* PACE 1983, syn. n. Die systematische Stellung von *Myoposipalia* SCHEERPELTZ und die Merkmale, die diese Untergattung sowie *Sipalotricha* SCHEERPELTZ und *Ditroposipalia* SCHEERPELTZ von anderen *Geostiba*-Untergattungen unterscheiden, werden unter phylogenetischen Aspekten kritisch diskutiert. Für *Sipalia mesniggiana* BERNHAUER 1936, *S. sculpticollis* APFELBECK und *S. temporalis* APFELBECK werden Lectotypen designiert. *G. oertzeni* (EPPELSHEIM) und *G. euboica* PACE werden erstmals aus Albanien, Erstere darüber hinaus auch aus Bulgarien nachgewiesen. Die neubeschriebenen Taxa werden in eine kürzlich vorgelegte Bestimmungstabelle der griechischen *Geostiba*-Arten eingearbeitet.

References

- APFELBECK V. (1907): Neue Koleopteren, gesammelt während einer im Jahre 1905 mit Subvention der kaiserlichen Akademie der Wissenschaften in Wien durchgeführten zoologischen Forschungsreise nach Albanien und Montenegro (II. Serie). — Sitzungsber. kaiserl. Akad. Wiss. Wien, Math.-naturw. Klasse **104**, Abt. I, Heft 1-9: 507-526.
- ASSING V. (1997): A revision of the Madeiran species of *Geostiba* (Coleoptera: Staphylinidae). Supplement I. — Rev. Suisse Zool. **104**: 345-355.

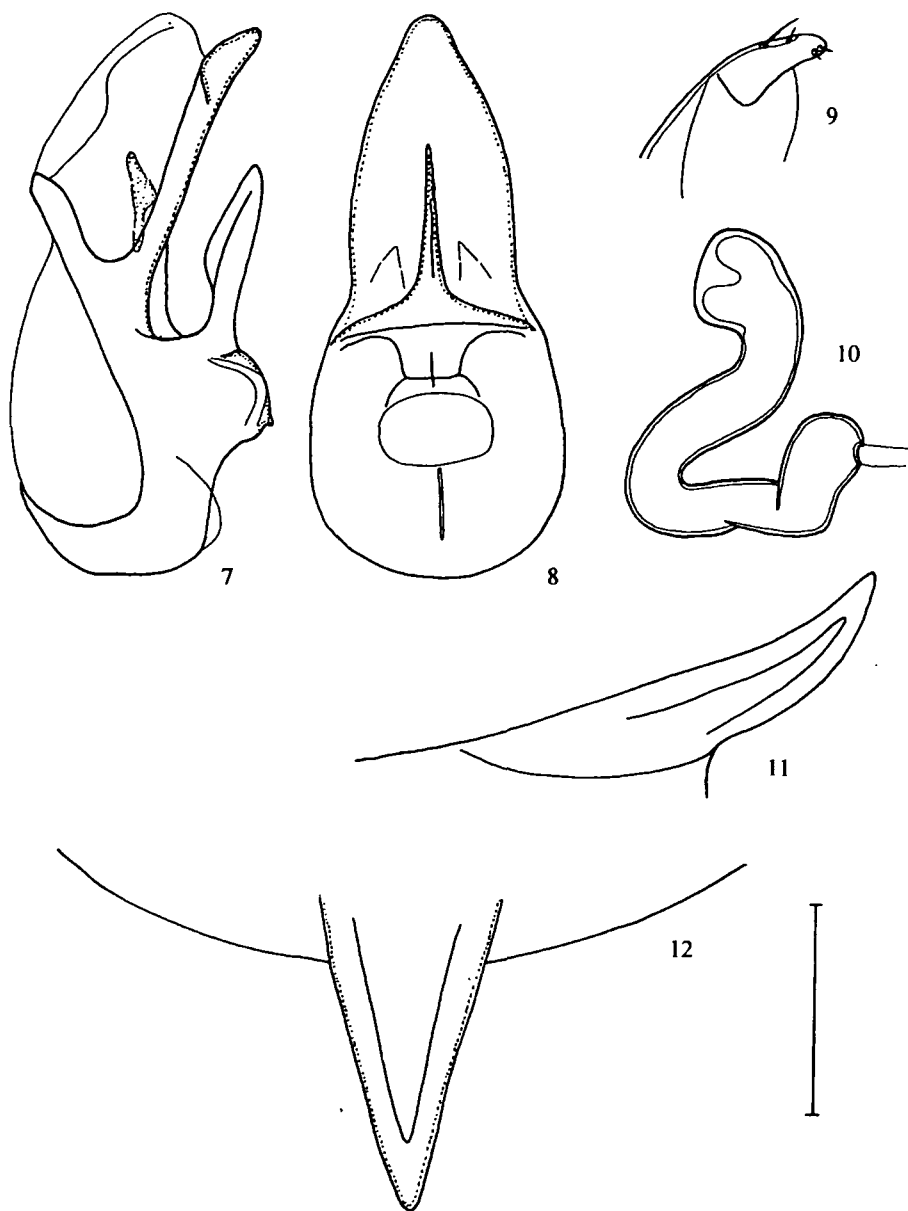
- ASSING V. (1999): A revision of the species of *Geostiba* THOMSON 1958 from Greece and Cyprus (Coleoptera, Staphylinidae, Aleocharinae). — Linzer biol. Beitr. 31/2: 849-928.
- ASSING V. & P. WUNDERLE (1996): A revision of the Madeiran species of the genus *Geostiba* THOMSON, 1858 (Col.: Staphylinidae). — Rev. Suisse Zool. 103: 119-150.
- ASSING V. & P. WUNDERLE (1999): On the staphylinid fauna of northeastern Greece (Coleoptera). — Entomol. Z. 109: 474-483.
- BERNHAEUER M. (1936): Neuheiten der paläarktischen Staphylinidenfauna. III. — Koleopt. Rdsch. 22: 50-58.
- COIFFAIT H. (1955): Une remarquable relique des Pyrénées centrales (Col. Staphylinidae). — Bull. Soc. ent. France 60: 82-84.
- COIFFAIT H. (1964): Une espèce relicte suisse: *Paraleptusa genavensis* n. sp. (Coléoptère Staphylinide). — Mitt. Schweiz. Ent. Ges. 36: 333-335.
- FAGEL G. (1966): Contribution a la connaissance des Staphylinidae (Coleoptera). XCII. - Espèces nouvelles ou méconnues de la méditerranée orientale. — Bull. Ann. Soc. Roy. Ent. Belg. 102: 21-55.
- ICZN (1999): International Code of Zoological Nomenclature. Fourth Edition. London: XXIX + 306 pp.
- PACE R. (1983a): Specie del genere *Geostiba* THOMSON raccolte dal Dr. C. Besuchet e collaboratori in Marocco, nella Penisola Iberica e Balcanica, e nel Medio Oriente (Coleoptera, Staphylinidae). — Rev. suisse Zool. 90: 3-46.
- PACE R. (1983b): Nuove specie europee ed asiatiche del genere *Geostiba* THOMSON (Coleoptera Staphylinidae). — G. it. Ent. 1: 129-139.
- PACE R. (1984): Nuove Aleocharinae microftalme mediterranee e dell'Iran, del Muséum d'Histoire naturelle di Ginevra (Coleoptera Staphylinidae). — Arch. Sc. Genève 37: 211-219.
- PACE R. (1987): *Paraleptusa akfadouensis* nuova specie dell'Algeria (Coleoptera, Staphylinidae). — Boll. Mus. reg. Sci. nat. Torino 5: 609-612.
- PACE R. (1988): Aleocharinae dell'Algeria (Coleoptera, Staphylinidae). — Boll. Mus. reg. Sci. nat. Torino 6: 59-71.
- PACE R. (1994): *Leptusa olympica*, nuova specie del Monte Olimpo (Tessaglia, Macedonia). Monografia del genere *Leptusa* KRAATZ: Supplemento III (Coleoptera Staphylinidae). — Boll. Soc. ent. ital., Genova 126: 37-140.
- PACE R. (1996): Descrizione di nuove specie e sottospecie del genere *Geostiba* (Coleoptera, Staphylinidae). — Boll. Assoc. Rom. Ent. 50 (1995): 7-43.
- SCHEERPELTZ O. (1951): Die neue Systematik der Gattung *Sipalia* MULS. REY (Col. Staphylinidae). — Verh. Zool.-Bot. Ges. Wien 92: 166-180.
- SCHEERPELTZ O. (1959): Eine neue Art der Gattung *Sipalia* MULS. REY vom Massiv des Perister in West-Mazedonien (Col. Staphylinidae). — Entomol. Nachrichtenbl. Österr. u. Schweiz. Entomologen 11: 64-67.
- ZERCHE L. (1988): Zur Taxonomie der Gattung *Geostiba* THOMSON, 1858 (Coleoptera, Staphylinidae, Aleocharinae). — Beitr. Ent., Berlin 38: 155-168.

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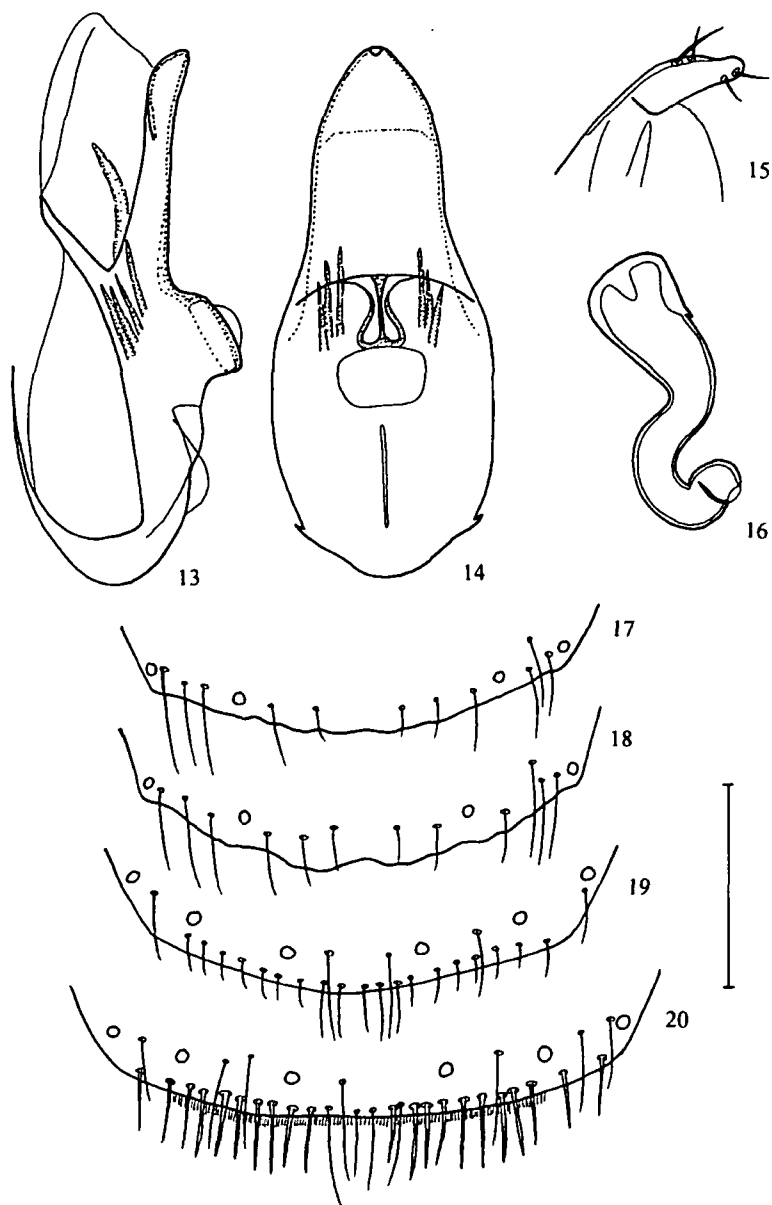


Figs 1-6: *Geostiba obtusicollis* sp. n.: 1, 2 – median lobe of aedeagus in lateral and in ventral view; 3 – apical lobe of paramere; 4 – spermatheca; 5 – posterior margin of ♂ tergum VIII (long setae omitted); 6 – outline of posterior half of ♀ pronotum. Scale: 0.1 mm; 6 without scale.

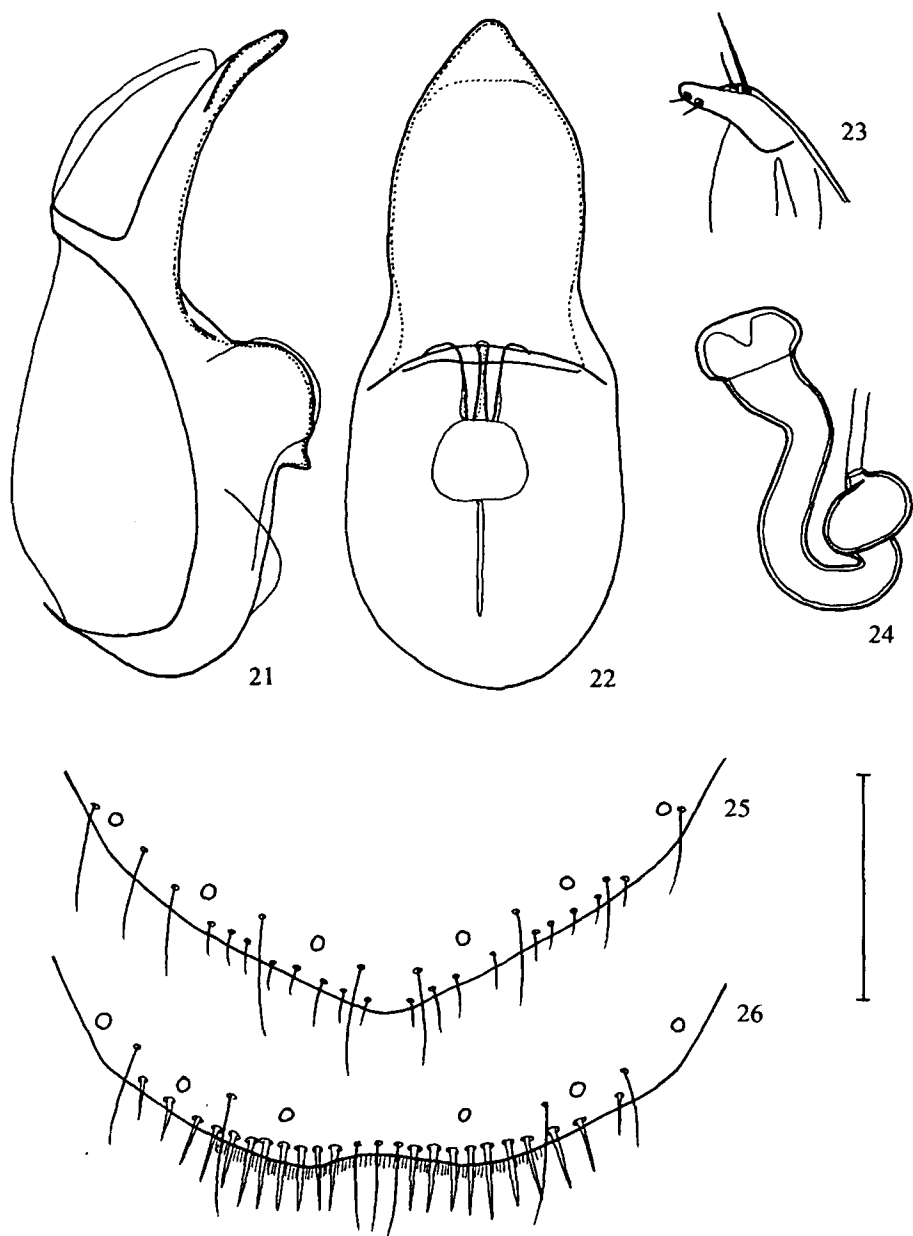
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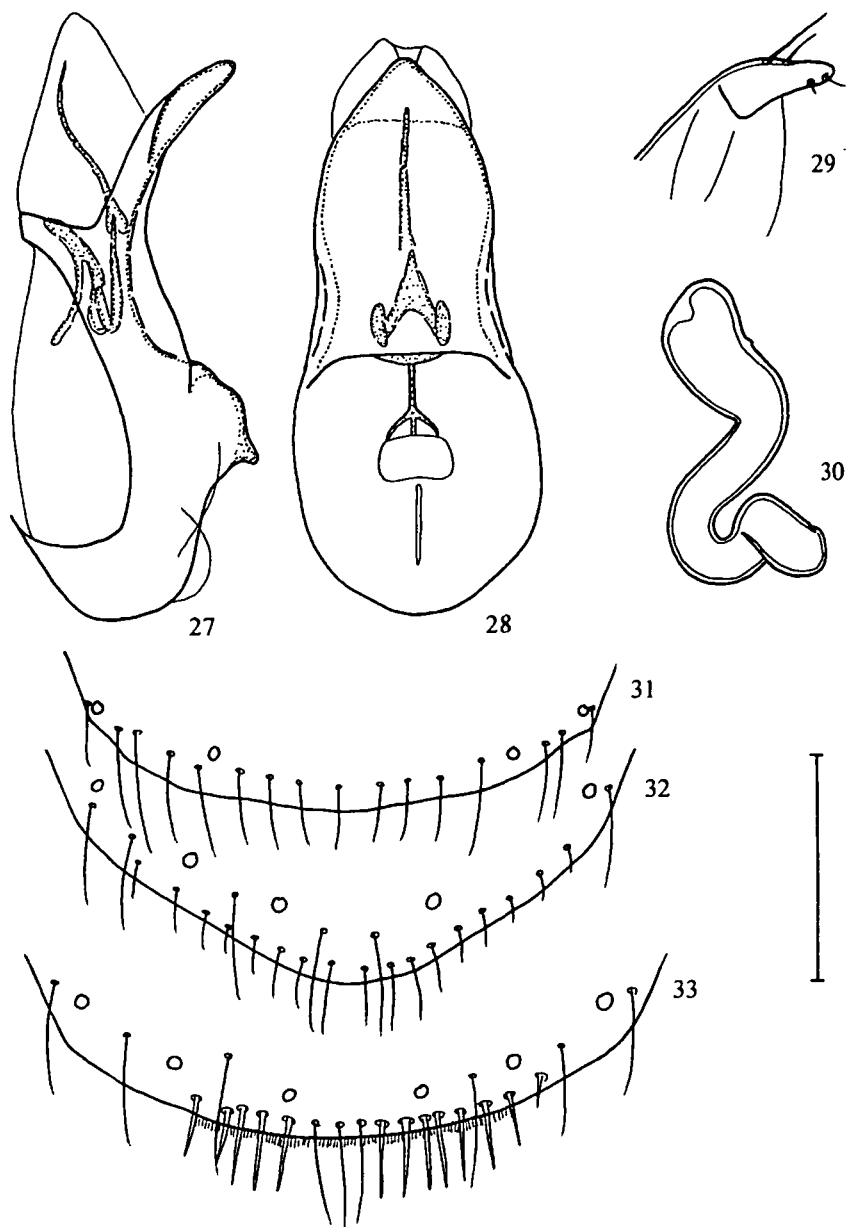
Figs 7-12: *Geostiba torisuturalis* sp. n.: 7, 8 – median lobe of aedeagus in lateral and in ventral view; 9 – apical lobe of paramere; 10 – spermatheca; 11 – process of ♂ tergum VII in lateral view; 12 – process of ♂ tergum VII in antero-dorsal view. Scale: 0.1 mm.



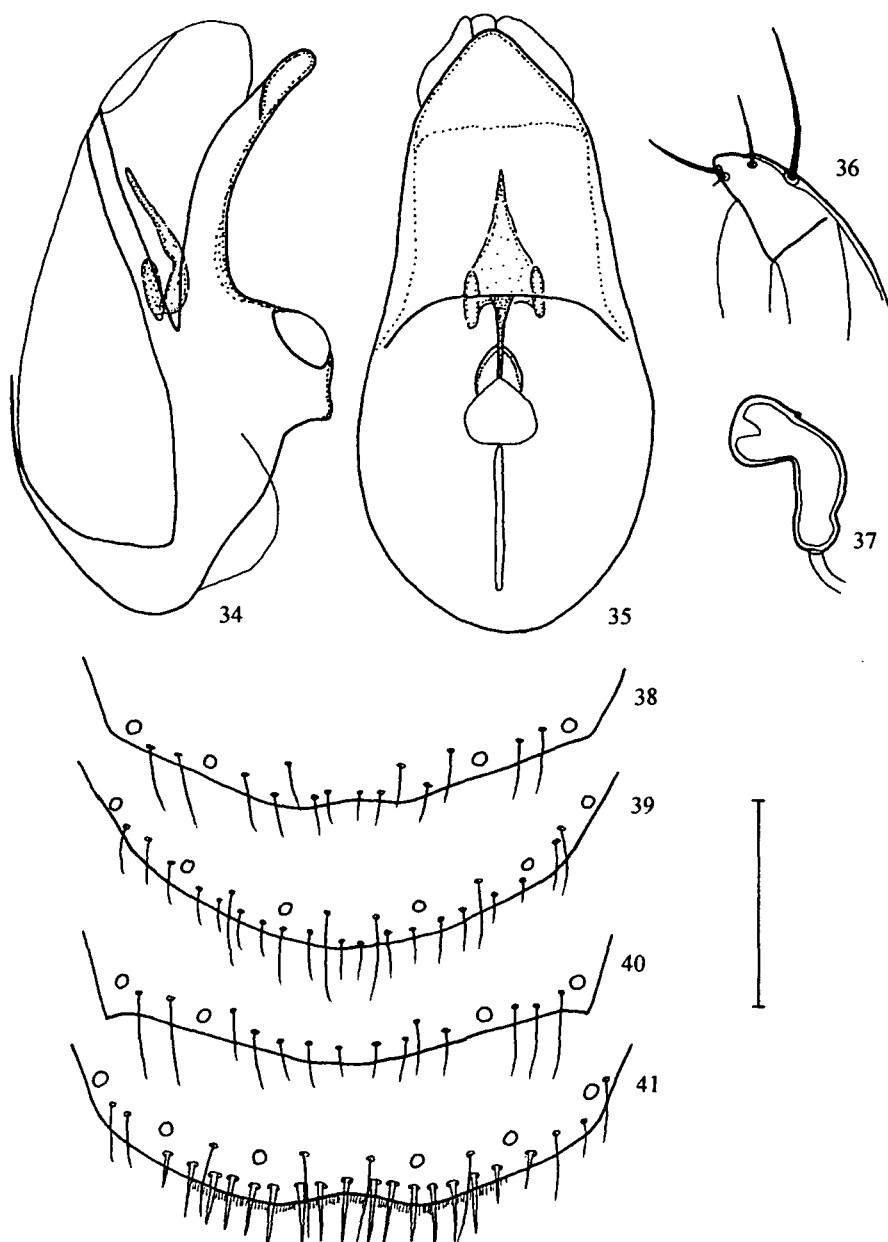
Figs 13-20: *Geostiba kasyi* (SCHEERPELTZ): 13, 14 – median lobe of aedeagus in lateral and in ventral view; 15 – apical lobe of paramere; 16 – spermatheca; 17, 18 – posterior margins of tergum VIII of two ♂♂ (long setae omitted); 19 – posterior margin of ♂ sternum VIII (long setae omitted); 20 – posterior margin of ♀ sternum VIII (long setae omitted). Scale: 0.1 mm.



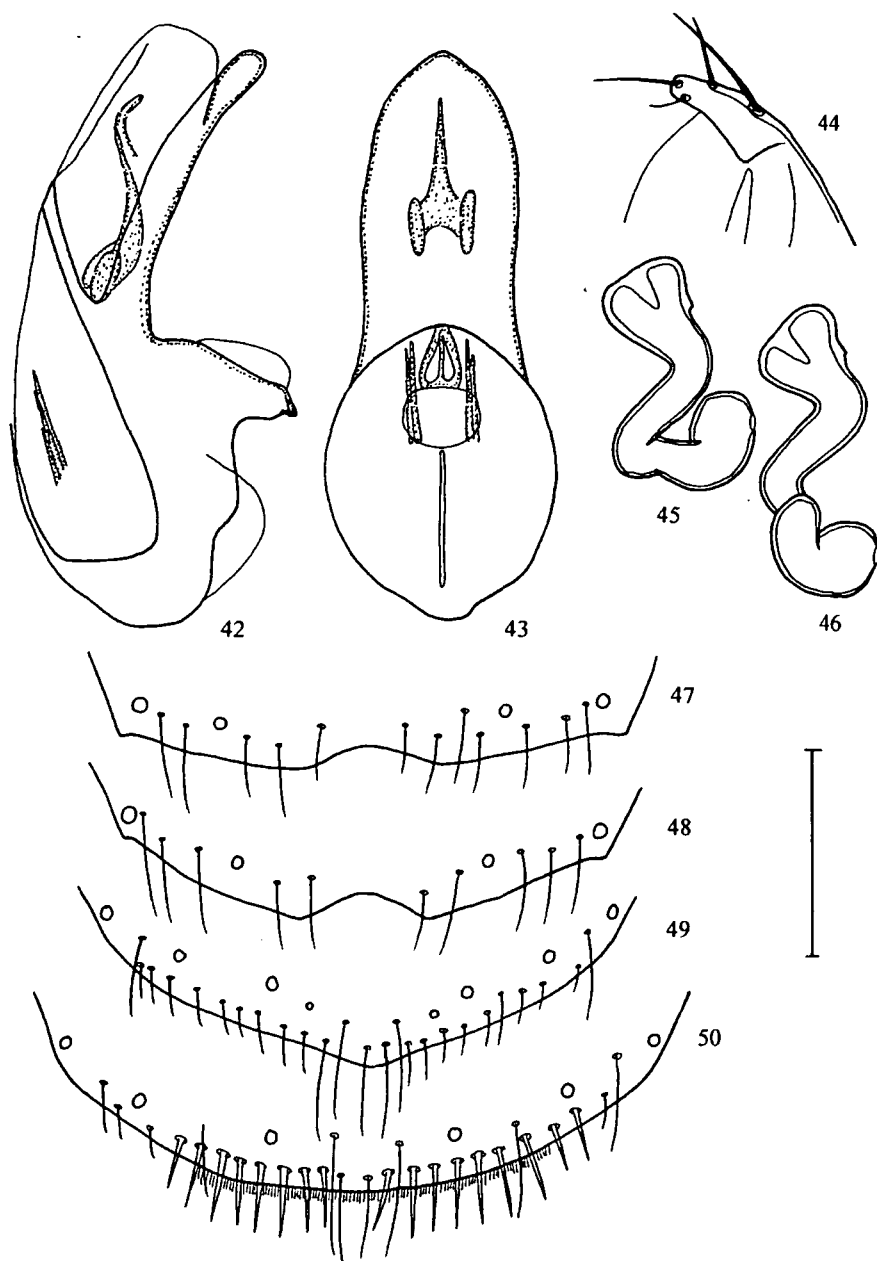
Figs 21-26: *Geostiba sculpticollis* (APFELBECK): 21, 22 – median lobe of aedeagus in lateral and in ventral view; 23 – apical lobe of paramere; 24 – spermatheca; 25 – posterior margin of ♂ sternum VIII (long setae omitted); 26 – posterior margin of ♀ sternum VIII (long setae omitted). Scale: 0.1 mm.



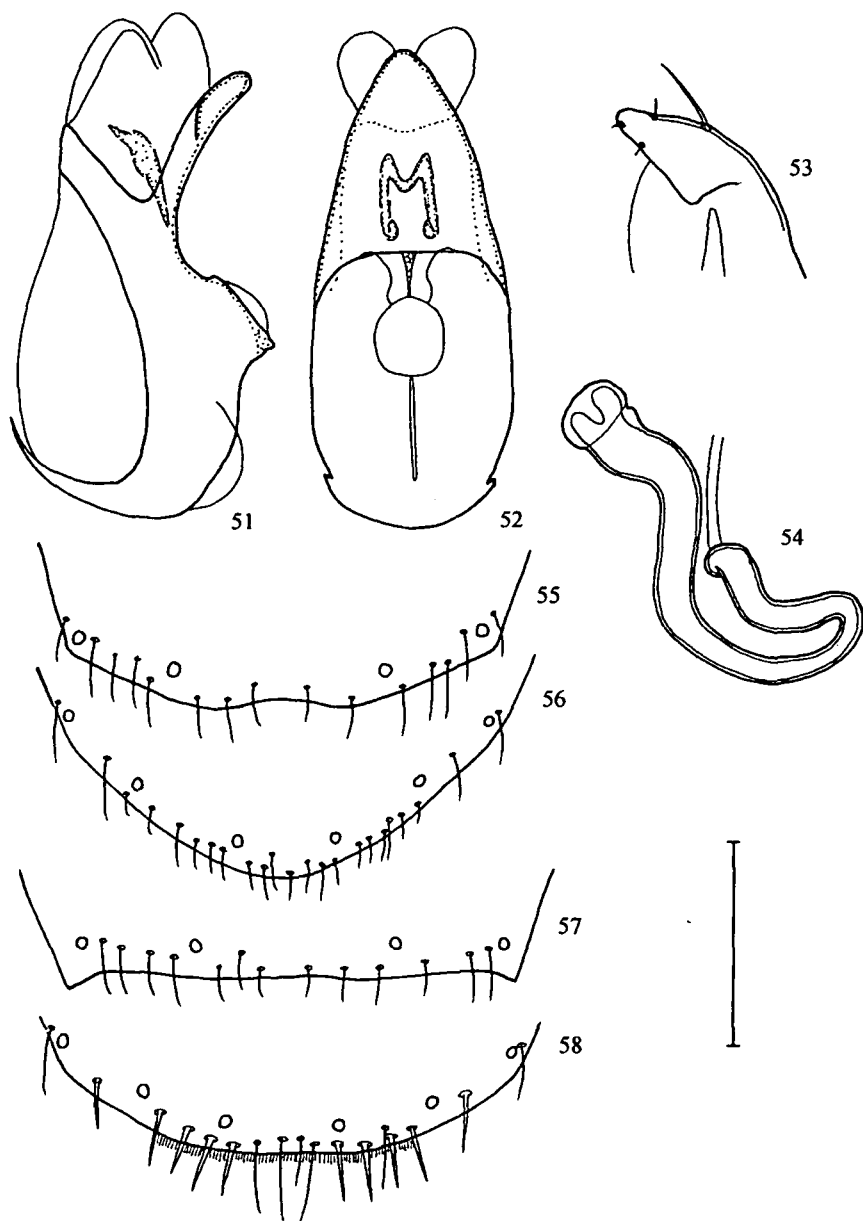
Figs 27-33: *Geostiba galiciana* sp. n.: 27, 28 – median lobe of aedeagus in lateral and in ventral view; 29 – apical lobe of paramere; 30 – spermatheca; 31 – posterior margin of ♂ tergum VIII (long setae omitted); 32 – posterior margin of ♂ sternum VIII (long setae omitted); 33 – posterior margin of ♀ sternum VIII (long setae omitted). Scale: 0.1 mm.



Figs 34-41: *Geostiba breviuter* sp. n.: 34, 35 – median lobe of aedeagus in lateral and in ventral view; 36 – apical lobe of paramere; 37 – spermatheca; 38 – posterior margin of ♂ tergum VIII (long setae omitted); 39 – posterior margin of ♂ sternum VIII (long setae omitted); 40 – posterior margin of ♀ tergum VIII (long setae omitted); 41 – posterior margin of ♀ sternum VIII (long setae omitted). Scale: 0.1 mm.



Figs 42-50: *Geostiba meyhohmi* sp. n.: 42, 43 – median lobe of aedeagus in lateral and in ventral view; 44 – apical lobe of paramere; 45, 46 – spermathecae; 47, 48 – posterior margins of tergum VIII of two ♂♂ (long setae omitted); 49 – posterior margin of ♂ sternum VIII (long setae omitted); 50 – posterior margin of ♀ sternum VIII (long setae omitted). Scale: 0.1 mm.



Figs 51-58: *Paraleptusa wunderlei* sp. n.: 51, 52 – median lobe of aedeagus in lateral and in ventral view; 53 – apical lobe of paramere; 54 – spermatheca; 55 – posterior margin of ♂ tergum VIII (long setae omitted); 56 – posterior margin of ♂ sternum VIII (long setae omitted); 57 – posterior margin of ♀ tergum VIII (long setae omitted); 58 – posterior margin of ♀ sternum VIII (long setae omitted). Scale: 0.1 mm.

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