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## A revision of the species of *Geostiba* THOMSON of the Balkans and Turkey. V. New species, a new synonym, new combinations, and additional records (Coleoptera: Staphylinidae, Aleocharinae)

V. ASSING

**Abstract:** Types and additional, recently collected or previously unavailable material of *Geostiba* THOMSON and allied genera from the Balkans and Turkey are revised. Three species of *Geostiba* are described, illustrated, and distinguished from related congeners: *G.* (s. str.) *othisensis* sp. n. (Greece: Thessalia), *G.* (*Ditroposipalia*) *excaecata* sp. n. (Macedonia), and *G.* (*Sipalotricha*) *thryptisensis* sp. n. (Greece: Crete). *G. samai* PACE 1977 is redescribed and attributed to the subgenus *Ditroposipalia* SCHEERPELTZ. *Atheta* (*Ousipalia*) *winkleri* BERNHAUER 1936, syn. n., a secondary junior homonym of *Geostiba winkleri* (BERNHAEUER 1915), is synonymized with *G. euboica* PACE 1990. *Ousipalia renominata* LIKOVSKY 1984, a replacement name for *Atheta* (*Ousipalia*) *scheerpeltzi* BERNHAUER 1936, is transferred to *Emmelostiba* PACE; its primary and secondary sexual characters are figured, and a lectotype is designated. Additional records from Albania, Macedonia, Greece, and Turkey are presented for 20 species of *Geostiba*. The distributions of *G. itiensis* ASSING, *G. obtusicollis* ASSING, *G. othisensis* sp. n., *G. euboica* PACE, and *G. besuchetiana* PACE are mapped.

**Key words:** Coleoptera, Staphylinidae, Aleocharinae, *Geostiba*, *Ousipalia*, *Emmelostiba*, Palearctic region, Greece, Albania, Macedonia, Turkey, distribution, ecology, taxonomy, revision, new species, new synonyms, new combinations, lectotype designation, endemism.

### 1. Introduction

While the *Geostiba* species of Greece, Cyprus, and Turkey have been fully revised in four previous papers (ASSING 1999, 2000a, 2000b, 2001), only few of the species described from the Balkan countries north of Greece have been reexamined (ASSING 2000a). As can be inferred from earlier studies, the current knowledge of the diversity and distribution of *Geostiba* in the Balkans and in Turkey is far from complete. Moreover, the examples of *G. lucens* (BENICK) and its synonym *G. glaberima* (BENICK), which had originally been described in *Ousipalia* DES GOZIS and *Atheta* THOMSON, respectively, illustrated the necessity of considering also taxa attributed to allied athetine genera (ASSING 2001). Against this background, it is not surprising that a study of previously unavailable and recently collected material of *Geostiba* from Turkey and the Balkans, as well as of the types of two *Ousipalia* species described from Greece yielded three new species, a new synonymy, two new combinations, and various additional records of several poorly known species.

## 2. Material

The material referred to in this study is deposited in the following public institutions and private collections:

DEI..... Deutsches Entomologisches Institut, Eberswalde (L. Zerche)  
 FMNH..... Field Museum of Natural History, Chicago (A. F. Newton, P. P. Parrillo)  
 IPNSB..... Institute for the Protection of the Nature of Serbia, Beograd (G. Nonveiller)  
 MCVR..... Museo Civico di Storia Naturale, Verona (L. Latella)  
 MHNG..... Muséum d'Histoire Naturelle, Genève (G. Cuccodoro)  
 NHMW..... Naturhistorisches Museum Wien (H. Schillhammer)  
 OÖLML..... Oberösterreichisches Landesmuseum Linz  
 cAss..... author's private collection  
 cNon..... private collection G. Nonveiller, Zemun  
 cSch..... private collection M. Schülke, Berlin  
 cWun..... private collection P. Wunderle, Mönchengladbach

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

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

**Material examined:** Greece: 2♂♂, 4♀♀, Kozáni, Piéria, SE Katafigi, Flámpouro, N-slope, 40°14'03N, 22°09'53E, 1980m, *Juniperus* litter and grass near snow, 17.IV.2000, leg. Behne (DEI, cAss); 1♂, Thessalia, Lárisa, Oros Ossa, above Stomio, 39°50'58N, 22°43'19E, 700m, *Quercus* wood with *Abies*, 5.IV.2001, leg. Zerche & Behne (DEI).

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

**Material examined:** Greece: 12♂♂, 11♀♀, Sérès, Menikio Oros, above Hionochori, 41°11'10N, 23°43'23E, 1830-1860m, N-slope, snow patches, 26.III.2001, leg. Zerche & Behne (DEI, cAss); 1♂, 1♀, Sérès, Vrontoús, Profitás Ilias, peak, 41°15N, 23°36E, 1830m, 28.III.2001, leg. Zerche & Behne (DEI); 1♂, Vrontoús, Lailias ski resort, E peak, 41°15'58N, 23°36'20E, 1555m, 11.IV.2000, leg. Behne (DEI).

*G. menikioensis* is endemic to the Menikio and the Vrontoús Oros.

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

**Material examined:** Greece: 2♂♂, 3♀♀, Dráma, Falakró, SE ski resort, 41°17'57N, 24°05'46E, 2035-2050m, snow patches, leg. Zerche & Behne (DEI); 5♂♂, 4♀♀, Falakró, ski resort, N-slope, 41°17'57N, 24°04'16E, 1755m, 7.IV.2000, leg. Zerche & Behne (DEI, cAss).

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

**Material examined:** Greece: 20♂♂, 21♀♀, Séres, Pangéo, peak, 40°54'49N, 24°05'37E, 1935m, snow patches, 25.III.2001, leg. Zerche & Behne (DEI); 1♂, Makhedonia, Agion Oros, Athos, below Panagia, 40°08'38N, 24°10'04E, 1085m, *Abies-Pinus* forest, 23.III.2001, leg. Zerche & Behne (DEI).

A comparison of the single specimen from the Oros Athos - a large ♂ with pronounced secondary sexual characters - with the type material of *G. pangeoensis* did not yield any convincing evidence that it should represent a distinct species. This is somewhat remarkable, not only because of the distance between the Oros Pangéo and the Oros Athos, but also because *G. pangeoensis* seems to absent from the mountain ranges adjacent to the Pangéo and because the latter is very rich in endemic species (see ASSING & WUNDERLE 2001).

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

**Material examined:** Greece: 1♂, 9♀♀, Kavála, Pangéo, 40°55'09N, 24°11'39E, 680m, beech and oak forest, 6.IV.2000, leg. Behne (DEI).

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

**Material examined:** Greece: 2♂♂, 3♀♀, Thessalia, Magnissia, Oros Pilio, S Xourichti, 39°21'39N, 23°11'25E, 325m, macchia, 3.IV.2001, leg. Zerche & Behne (DEI, cAss).

*G. pauli*, an endemic of the Oros Pilio (= Pelion), is here recorded for the second time. The species apparently occurs at lower elevations.

***Geostiba* (s. str.) *itiensis* ASSING 1999 (Map 1)**

**Material examined:** Greece: 5♂♂, 12♀♀, Fokis, ca. 25 km SSW Lamia, Kaloskopi, 38°42'21N, 22°18'45E, 1230m, meadow, 6.IV.2001, leg. Assing, Wunderle (cAss, cWun); 19♂♂, 14♀♀, Fokis, Kaloskopi, 38°42'25N, 22°18'24E, 1200m, *Abies* wood, 6.IV.2001, leg. Assing (cAss); 1♂, Fthiotis, Oros Iti, 38°49'29N, 22°14'12E, 1400m, subalpine pasture, 10.IV.2001, leg. Assing (cAss).

Only the types of this species had been known. The currently known distribution is illustrated in Map 1.

***Geostiba* (s. str.) *obtusicollis* ASSING 2000**

**Material examined:** Greece: 1♂, 10♀♀, Fthiotis, SW Lamia, Oros Oxia, SW Paleochori, 38°49'53N, 21°55'44E, 1450m, *Abies* forest, 11.IV.2001, leg. Assing, Wunderle (cAss, cWun).

*G. obtusicollis* is now known from four localities in eastern Evritania and western Fthiotis (Map 1)

***Geostiba* (s. str.) *othrisensis* sp. n. (Figs. 1-12, Map 1)**

**Holotype** ♂: GR. Thessalia, 980m, 3, 25 km NE Lamia, Oros Othris, pasture, 39°04'29N, 22°43'39E, 03.IV.2001 V. Assing / Holotypus ♂ *Geostiba othrisensis* sp. n. det. V. Assing 2001 (cAss). **Paratypes**: 24♂♂, 32♀♀, same data as holotype, partly leg. Wunderle (cAss, cWun, MHNG, NHMW, OÖLML); 3♂♂, 1♀, GR. Thessalia, 980m, 3a, 25 km NE Lamia, Oros Othris, *Quercus*, *Abies*, 39°04'29N, 22°43'39E, 03.IV.2001, V. Assing, P. Wunderle (cAss, cWun).

**Description:** Similar to other Greek species of the subgenus, but distinguished as follows:

Pronotum with pronounced sexual dimorphism: in large ♂ 1.05 - 1.10 times as long as wide, distinctly projecting caudad, posterior margin broadly excavate, lateral margins near posterior angles sinuate in dorsal view (Fig. 12); in ♀ approximately as long as wide, posterior margin relatively strongly convex.

Elytra in ♂ with distinctly elevated sutural carinae near apex of scutellum, extending approximately over anterior half of suture, with shallow, ill-defined impressions, and with moderately dense, granulose puncturation (Fig. 12); in ♀ without sutural carinae, without impressions, and with weakly granulose puncturation.

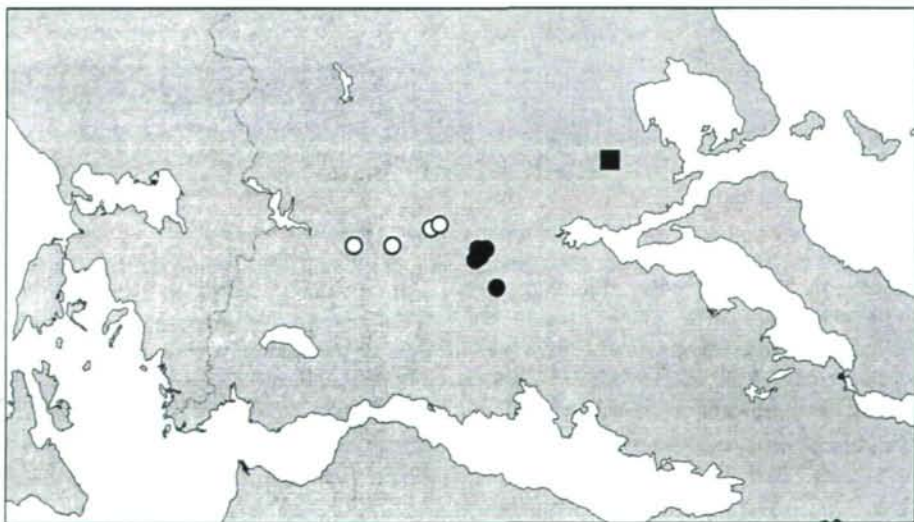
♂: anterior abdominal terga unmodified; tergum VII with moderately erect, stout, apically rounded (antero-dorsal view) spine-like process near posterior margin (Figs. 6-7); tergum VIII posteriorly obtusely pointed (Fig. 8); posterior margin of sternum VIII convex (Fig. 9); median lobe of aedeagus and apical lobe of paramere as in Figs. 1-4.

♀: posterior margin of tergum VIII truncate to weakly convex (Fig. 10); sternum VIII posteriorly convex, but less so than in ♂ (Fig. 11); spermatheca as in Fig. 5.

**Derivatio nominis:** The name is derived from the Oros Othris, the type locality of the species.

**Comparative notes:** The species is readily distinguished from all Greek representatives of *Geostiba* s. str. especially by the shape of the ♂ pronotum.

**Distribution and bionomics:** *G. othrisensis* is apparently endemic to the Oros Othris, NE Lamia (Map 1), where numerous specimens were collected together with *G. oertzeni* (EPPELSHEIM) in and near a pasture by sifting grass roots and litter of *Quercus* and *Abies* at an altitude of approximately 1000 m.



**Map 1:** Distributions of *Geostiba obtusicollis* ASSING (open circles), *G. itiensis* ASSING (filled circles), and *G. othrisensis* sp. n. (square) in central Greece.

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

**Material examined:** Greece: Evvoia: 57♂♂, 72♀♀, Oros Dirfys, N Kato Steni, SE peak, 38°36'36N, 23°51'37E, 1120m, *Abies* forest, 8.IV.2001, leg. Assing, Wunderle (cAss, cWun).

***Geostiba* (s. str.) *winkleriana* PACE 1996**

*Geostiba* (s. str.) *winkleriana* PACE 1996: 12.

**Material examined:** Albania: 3♂♂, 2♀♀, Tomor, Kulmak, V.1931, leg. Winkler (NHMW, cAss).

The specimens listed above were collected together with the types of the species, but not included in the original description.

***Geostiba* (s. str.) *brachati* ASSING 2000**

**Material examined:** Turkey: 1♂, Antalya, 2 km N Söğütcumavi, 36°42'33N, 30°22'01E, 1375m, meadow, under stone, 29.III.2001, leg. Rose (cAss).

Previously, only the two type specimens (type locality: Saklikent) had been known.

***Geostiba* (*Ditroposipalia*) *oertzeni* (EPELSHEIM 1888)**

**Material examined:**

Greece, mainland and smaller islands: 3♂♂, 1♀, Thessalia, Pilion (NHMW); 6♂♂, 6♀♀, Thessalia Lárisa, Oros Ossa, above Stomio, 39°50'11, 22°42'12E, 865m, *Fagus-Abies* wood, 5.IV.2001, leg. Zerche & Behne (DEI); 5♂♂, 4♀♀, Thessalia, Lárisa, Olympos, NE Olympiada, 40°02'17N, 22°19'49E, 1680m, litter of *Abies* and *Buxus*, 6.IV.2001, leg. Zerche & Behne (DEI); 16♂♂, 15♀♀, Thessalia, 25 km NE Lamia, Oros Othris, 39°04'29N, 22°43'39E, 980m, sifted from grass roots, 3.IV.2001, leg. Assing, Wunderle (cAss, cWun); 4♂♂, 2♀♀, same data, but in *Quercus* and *Abies* litter (cAss, cWun); 3♂♂, 1♀, Fthiotis, ca. 20 km SSE Lamia, Oros Kallidromo, 38°45'29N, 22°28'08E, 935m, litter of *Abies* and *Quercus ilex*, 2.IV.2001, leg. Assing, Wunderle (cAss, cWun); 26♂♂, 9♀♀, same data, but 6.IV.2001 (cAss, cWun); 9♂♂, 4♀♀, Oros Kallidromo, 38°44'58N, 22°21'49E, 1200m, *Abies* forest, 7.IV.2001, leg. Assing, Wunderle (cAss, cWun); 1♂, Fthiotis, Oros Iti, 38°49'29N, 22°14'12E, 1400m, subalpine pasture, 10.IV.2001, leg. Assing (cAss); 2♀♀, same data, but 38°49'26N, 22°14'03E, 1450m (cAss); 32♂♂, 29♀♀, same data, but 38°49'18N, 22°13'32E, 1620m, *Abies* forest, leg. Assing, Wunderle (cAss, cWun); 2♂♂, Fokis, 25 km SSW Lamia, Kaloskopi, 38°42'25N, 22°18'24E, 1200m, *Abies* wood, 6.IV.2001, leg. Assing (cAss); 1♂, 1♀, Voiotia, Oros Elikonas, road from Kiriaki to Elikonas, 38°22'40N, 22°49'16E, 900m, *Abies* forest, 4.IV.2001, leg. Assing (cAss). Pelopónnisos: 1♂, Lakonia, Parnon Oros, W Meg. Tourla, 37°16'45N, 22°36'29E, 1700m, *Abies* wood, 19.IV.1999, leg. Zerche & Behne (DEI). Evvoia: 32♂♂, 41♀♀, Oros Dirfys, N Kato Steni, SE peak, 38°36'36N, 23°51'37E, 1120m, *Abies* forest, 8.IV.2001, leg. Assing, Wunderle (cAss, cWun). Ródhos: 6♂♂, Profitis Ilias, 650m, 11.IV.1977, leg. Besuchet (MHNG, cAss); 1♂, Petaloudes, 8.IV.1977, leg. Besuchet (cAss). Kriti: 24♂♂, 36♀♀, Omalos, 35°19'N, 23°54'E, 1150-1480m, 13.III.2001, leg. Meybohm (cAss); 1♀, Elos, 35°21'N, 23°38'E, 625m, 15.III.2001, leg. Meybohm (cAss); 1♂, Kakopetros, 35°25'N, 23°45'E, 500m, 16.III.2001, leg. Meybohm (cAss); 5♀♀, Kakodiki, 35°17'N, 23°42'E, 310m, 16.III.2001, leg. Meybohm (cAss); 2♂♂, 5♀♀, Tomor, Kulmak (MHNG; cAss).

Albania: 1♂, 1♀, Shendeli, V.1931, leg. Winkler, Lona, Bischoff (NHMW); 1♀, Tomor, Kulmak, V.1931, leg. Winkler (cAss).

**Turkey:** 1♂: Umg. Marmaris, W-Anatolien, leg. H. Franz / HOLOYPUS *Geostiba cnidia* m. det. R. Pace 1995/ *Geostiba cnidia* sp. n. det. R. Pace 1995 (MCVR); 1♂, 3♀, Muğla, Çakmak, 37°10'N, 28°36'E, 980m, 2.V.2001, leg. Meybohm (cAss); 5♂♂, 6♀♀, Muğla, Çakmak, 37°11'N, 28°37'E, 800m, 2.V.2001, leg. Brachat & Meybohm (cAss); 1♂, Muğla, Bayir, 37°16'N, 28°10'E, 400m, 1.V.2001, leg. Meybohm (cAss); 2♂♂, Antalya, Termessos, 36°59'N, 30°28'E, 700m, 21.IV.2001, leg. Meybohm (cAss).

*G. oertzeni* is one of the most widespread species of the genus. For an illustration of its area of distribution see the map in ASSING (2001).

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

**Material examined:** Greece: 1♀, Dráma, Falakró, ski resort, N-slope, 41°17'57"N, 24°04'16"E, 1755m, 7.IV.2000, leg. Zerche & Behne (DEI); 1♂, 3♀♀, Dráma, Falakró, SE ski resort, 41°17'57"N, 24°05'46"E, 2035-2050m, snow patches, leg. Zerche & Behne (DEI); 5♂♂, 1♀, Falakró, SE ski resort, 41°18'21"N, 24°04'52"E, 1870m, snow patches, 27.III.2001, leg. Zerche & Behne (DEI).

### *Geostiba (Ditroposipalia) samai* PACE 1977 (Figs. 13-19)

*Geostiba (Trachyglutosipalia) samai* PACE 1977: 304f.

*Geostiba (Ditroposipalia) coiffaiti* PACE 1983: 136; syn. ?

*Geostiba ljubotenensis* PACE i. l.

**Types examined:** *Geostiba samai*: Holotype ♂: YU. Maced. 3.VI.76, Tetovo, 2200, leg. G. Sama / HOLOTYPUS *Geostiba (Trachyglutosipalia) samai* mihi, det. R. Pace 1976 (MCVR). Paratype: 1♀: YU. Macedonia, Tetovo, 2200, 9.VI.76, Sama / ALLOTYPUS *Geostiba (Trachyglutosipalia) samai* mihi, det. R. Pace 1976 (MCVR).

**Additional material examined:** *Geostiba ljubotenensis* i. l.: 1♂: ♂ / Schar Dagħ Ljuboten / sculpticollis Apfelb. / ex coll. Scheerpeltz / PARATYPUS *Geostiba ljubotenensis* det. R. Pace 1983 / *Geostiba ljubotenensis* n. sp. det. R. Pace 1983 (NHMW); 1♀: ♀ / Schar Dagħ Ljuboten / Hensch / sculpticoll. / coll. Schuster / PARATYPUS *Geostiba ljubotenensis* det. R. Pace 1983 (NHMW); 1♂: ♂ / Orhanië b. Uesküb [=Skopje] / sculpticollis Apfelb. / ex coll. Skalitzky / PARATYPUS *Geostiba ljubotenensis* det. R. Pace 1983 (NHMW). 2♂♂, 1♀, Yugoslavia, Kosovo, Šar planina, Cop, 1500m, 28.VII.1995, leg. Popović (cNon); 2♂♂, Yugoslavia, Kosovo, Šar planina, Brezovica, 1000m, 28.VII.1995, leg. Popović (cNon, cAss).

**Redescription:** Externally highly similar to *G. sculpticollis* (APFELBECK), which was redescribed by ASSING (2000a).

Size, coloration, microsculpture, shape of head and antennae, eye size, and pronotum as in *G. sculpticollis*. Elytra in ♂ with granulate puncturation and with more or less pronounced long sutural carinae, which are of similar shape as in *G. sculpticollis*. Abdominal segments III-VI as in *G. sculpticollis*.

♂: tergum VII with pair of posteriorly converging carinae near posterior margin, which may be apically confluent (as in Fig. 33 in PACE 1983) and which may be partly or completely reduced; tergum VIII truncate or weakly concave posteriorly; hind margin of sternum VIII moderately pointed, in the middle with rather long setae (Fig. 18); median lobe of aedeagus distinctly smaller than in *G. sculpticollis* and with pronounced lateral folds (Figs. 13-14); apical lobe of paramere as in Fig. 15.

♀: posterior margin of tergum VIII weakly convex; that of sternum VIII moderately convex and without central concavity (Fig. 19); spermatheca as in Figs. 16-17.

**Comparative notes and systematics:** *G. samai* is a close relative of *G. sculpticollis* from Albania and of *G. galicicana* ASSING from southern Macedonia,

the three species sharing the following synapomorphies: a uniformly testaceous to rufous coloration, the strongly reduced eyes (without distinct ommatidia), the more or less pronounced furrows on either side of the pronotal midline, the ♂ secondary sexual characters (which may be partly (*G. sculpticollis*, *G. samai*) or completely (*G. galicicana*) reduced), and the morphology of the aedeagus (lateral folds and internal structures of the internal sac, shape and chaetotaxy of the apical lobe of the paramere). *G. samai* is distinguished from *G. sculpticollis* especially by the morphology of the median lobe of the aedeagus, which is distinctly smaller and has more pronounced lateral folds, and by the shape of the spermatheca (for comparison see figures 21-24 in ASSING 2000a). In *G. galicicana*, the head and pronotum are somewhat wider, the eyes are larger, the ♂ secondary sexual characters on the elytra and the abdominal tergum VII are apparently always absent, the aedeagus is larger, and the spermatheca is larger and has a relatively shorter duct.

A comparison of the types of *G. samai* and additional material (*G. ljubotenensis* PACE i. l.) from the Šar Planina yielded no convincing distinguishing characters. The holotype of *G. samai* is a small ♂ without carinae on tergum VII, but otherwise similar to the ♂♂ of *G. ljubotenensis* PACE i. l. and the specimens listed as additional material, which comprises ♂♂ with and without carinae on tergum VII. As is the case with *G. sculpticollis* (see ASSING 2000a), the ♂ secondary sexual characters on the elytra and tergum VII are highly variable and may be more or less reduced. Therefore, their absence or presence does not provide sufficient evidence that the types of *G. samai* should represent a different species. For this reason and based on the phylogenetic affiliations indicated above, *G. samai* is here moved to the subgenus *Ditroposipalia* SCHEERPELTZ. As can be inferred from the labels attached to the material of *G. ljubotenensis*, the record of *G. sculpticollis* from the Ljuboten in SCHEERPELTZ (1951) refers, in fact, to *G. samai*. The types of *G. coiffaiti* PACE were not examined, but they may be conspecific with *G. samai*, too. The description and the detailed figures in PACE (1983) are in perfect agreement with the present interpretation of *G. samai*. *G. coiffaiti* was described from Kičevo, probably from the Bistra range, which is adjacent to the Šar planina.

**Distribution and bionomics:** *G. samai* inhabits the Šar planina and apparently also the adjacent mountain ranges in northern Macedonia, where it was collected at altitudes between 1000 and 2200m.

### *Geostiba (Ditroposipalia) excaecata* sp. n. (Figs. 20-26)

**H o l o t y p e** ♂ [dissected prior to present study; parameres missing, aedeagus slightly damaged]: MAKEDONIJA, BUŠEVA [=Bušova] PL., KRUŠEVO, 1400m, 10.09.1986, leg. J. MARA / KRUŠEVO II / Holotypus ♂ *Geostiba excaecata* sp. n. det. V. Assing 2001 (IPNSB).  
**P a r a t y p e** ♀ : same data as holotype (cAss).

**D e s c r i p t i o n** : Very small species, 1.6 - 1.8 mm; similar in facies to species of *Paraleptusa* PEYERIMHOFF. Whole body uniformly testaceous.

Head short, of ovoid to subcircular outline, approximately as wide as long (length measured from anterior margin of labrum to posterior margin of head); eyes reduced to small oblong rudiments without trace of ommatidia or pigmentation, length of rudiments subequal to diameter of antennomere II; microsculpture very weak, almost obsolete; punctuation very fine and sparse, barely noticeable.

Pronotum approximately as long as wide and 1.1 times as wide as head; microsculpture

composed of isodiametric meshes and more distinct than that of head; disc in ♂ on either side of midline with shallow, ill-defined, anteriorly obsolete impressions; in ♀ without such impressions.

Elytra in ♂ with suture forming a narrow, moderately elevated carina, with indistinct, ill-defined impressions, and with moderately sparse and moderately granulose puncturation; in ♀ without carina and impressions, and with sparser, more weakly granulose puncturation.

Abdomen with shallow microreticulation and with relatively sparse, fine puncturation.

♂: tergum VII without pair of carinae near hind margin; posterior margin of tergum VIII truncate (Fig. 23); sternum VIII posteriorly obtusely pointed (Fig. 24); median lobe of aedeagus as in Fig. 20-21.

♀: posterior margin of tergum VIII in the middle shallowly incised (Fig. 25); sternum VIII posteriorly weakly convex (Fig. 26); spermatheca as in Fig. 22.

**Derivation nominis:** The name is the past participle of the Latin verb *excaecare* (to blind) and refers to the strongly reduced eyes.

**Systematic and comparative notes:** The species is closely related to *G. sculpticollis* (APFELBECK), *G. samai* PACE, and *G. galicicana* ASSING, as can be inferred from the reduced eyes and other external characters, from the ♂ secondary sexual characters (impressions on pronotum, modifications of elytra), as well as from the similar morphology of the aedeagus and of the spermatheca. The monophyly of this species group is also supported by biogeographic evidence: all four species occur in the same region (Albania, Macedonia). Therefore, *G. excaecata* is attributed to the subgenus *Ditroposipalia* SCHEERPELTZ, although the carinae on the ♂ tergum VII are absent. For a more detailed discussion of this character see the remarks below *G. samai* and in ASSING (2000a). From the Albanian and Macedonian species related to *G. sculpticollis* (see above), *G. excaecata* is distinguished by smaller body size, paler coloration, smaller eye rudiments, and by the primary and secondary sexual characters (see description).

**Distribution and bionomics:** As can be inferred from the adaptive reductions of body size, eye size, and coloration, *G. excaecata* is probably an endogean species and endemic to the Bušova Planina in southwestern Macedonia, where it was collected at an altitude of 1400 m.

### *Geostiba (Ditroposipalia) rizensis* PACE 1983

**Material examined:** Turkey: 1♂: Anatolien, Trabzon, 20km s. İkizdere, 22.05.89, Riedel leg. / HOLOTYPE *Geostiba trapezusensis*, det. R. Pace 96 / *Geostiba trapezusensis* sp. n., det. R. Pace 1996 (MCVR).

The above specimen is conspecific with the types of *G. rizensis*.

### *Geostiba (Sipalotricha) euboica* (PACE 1990) (Map 2)

*Geostiba (Lioglutosipalia) euboica* PACE 1990: 151ff.

*Atheta (Ousipalia) winkleri* BERNHAUER 1936: 312f., syn. n.

**Types examined:** *A. winkleri*: **Syntypes:** 1♂: Kephallenia 1905, Eleutherios Pass, O. Leonhard / caesula det. Bernh. / Winkleri Bernh. Typus Ousipalia / Chicago NHMus M. Bernhauer Collection / *Geostiba euboica* Pace det. V. Assing 2001 (FMNH); 1♀, same data, but "Cotypus" (FMNH); 3 exs.: ♂ / Kephallenia 1905, Eleutherios-Pass, O. Leonhard / Bernhauer det. / caesula / [1 ex. with label "winkleri", 2 exs. with label "scheerpeltzi"] / coll. Schuster (NHMW); 2 exs.: Kephallenia Moczarski (FMNH); 3 exs.: Kephallenia A. Winkler (FMNH); 1 ex.: Corfu Moczarski



(FMNH).

**Additional material examined:**

**Albania:** 11 exs., Tomor, Kulmak, V.1931, leg. Winkler (NHMW, cAss).

**Greece: Kefallinia:** 8 exs., "Kephallinia A. Winkler" (NHMW, cAss); 1 ex., Megalo Vuno (NHMW).

**Zákinthos:** 1♂, 1♀: Katastarion, 23.III.1971, leg. Löbl (MHNG, cAss); 4 exs., Keri, leg. Hicker

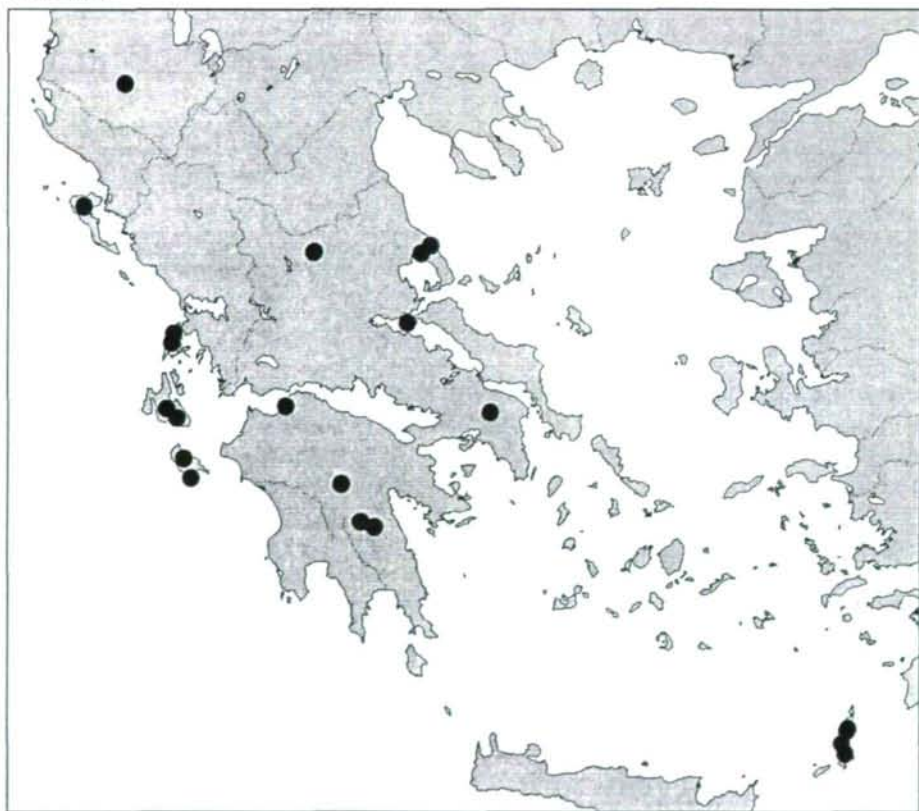
(NHMW, cAss). **Levkás:** 3 exs., Megan Oros, 1000m, 16.IV.29, leg. Beier (NHMW). **Attica:**

2♀, N Athina, Páris Oros, leg. Weirather (FMNH).

**Comments:** An examination of the type material indicated above revealed that *A. winkleri* BERNHAUER is conspecific with *G. euboica* PACE. *Geostiba winkleri* (BERNHAUER 1936), however, is a junior secondary homonym of *G. winkleri* (BERNHAUER 1915), so that *G. euboica* takes precedence.

The material collected by Winkler and Moczarski in Kefallinia was collected together with the types of *Atheta winkleri* BERNHAUER; it seems likely that at least part of the specimens were seen and subsequently returned to the collectors by Bernhauer, in which case they would have to be considered syntypes.

*G. euboica* is widespread in the southern Balkans (Map 2); for more records see ASSING (1999, 2000a). It is here recorded from the Greek islands Zákinthos and Corfu for the first time.



**Map 2:** Distribution of *Geostiba euboica* PACE in the southern Balkans.

***Geostiba (Sipalotricha) lucens* (BENICK 1970)**

**Material examined:** Turkey: 1♀, Muğla, Bayir, 37°16'N, 28°10'E, 400m, 1.V.2001, leg. Meybohm (cAss).

The widespread *G. lucens* is known from Austria, Greece, and Turkey (ASSING 2001). It is here recorded from Turkey for the second time.

***Geostiba (Sipalotricha) breviuter* ASSING 2000**

**Material examined:** Greece: 1♂, 7 exs., Péla, Oros Vóras, N Amissa, 40°51'59"N, 21°46'11"E, 1560m, beechwood, 12.IV.2000, leg. Behne (DEI, cAss).

The specimens listed above were collected together with part of the type series, but only recently made available for examination.

***Geostiba (Sipalotricha) icaria* PACE 1996**

**Material examined:** Greece, Kriti: 1♀, Prases, 35°22'N, 23°50'E, 550m, 14.III.2001, leg. Meybohm (cAss).

Only the types of this species were previously known. *G. icaria* is apparently endemic in western Crete, where it has been collected at altitudes of 550 and 1200m.

***Geostiba (Sipalotricha) meybohmi* ASSING 2000**

**Material examined:** Greece, Kriti: 2♂♂, 1♀, Lassithi, Selia Athin, 35°11'N, 25°31'E, 1000m, 10.III.2001, leg. Meybohm (cAss); 1♂, 3♀♀, Dikti Oros, Selakano, 35°05'N, 25°32'E, 850m, 9.III.2001, leg. Meybohm (cAss).

*G. meybohmi* is endemic to the Dikti Oros and adjacent mountains, eastern Crete. It has been found at altitudes of 850-1200m.

***Geostiba (Sipalotricha) thryptisensis* sp. n. (Figs. 27-35)**

**Holotype** ♂: N35°05' E025°52' GR Ostkreta Thripti 1000m Meybohm 11.3.2001 / Holotypus ♂ *Geostiba thryptisensis* sp. n. det. V. Assing 2001 (cAss). **Paratypes**: 14♂♂, 19♀♀: same data as holotype (cAss, MHNG, NHMW, OÖLML); 2♂♂, 1♀: same data as holotype, but 8.3.2001 (cAss); 1♀: same data as holotype, but 900m, 8.3.2001 (cAss).

**Description:** Extremely similar to *G. meybohmi* ASSING (see description in ASSING 2000a); distinguished only by the primary and secondary sexual characters:

♂: tergum VIII posteriorly with pronounced emargination, which is deeper and broader than in *G. meybohmi* (Figs. 33-34); median lobe of aedeagus with more prominent crista apicalis and two long spines in internal sac (Figs. 27-28). (In *G. meybohmi*, these spines are usually more numerous, shorter, and less distinctly sclerotized). Apical lobe of paramere as in Fig. 29.

♀: posterior margin of tergum VIII in the middle distinctly concave (Fig. 35); sternum VIII posteriorly without central concavity; spermatheca of similar morphology as in *G. meybohmi* (Figs. 30-32).

**Derivatio nominis:** The name is derived from the Tryptis Oros, the type locality of the species.

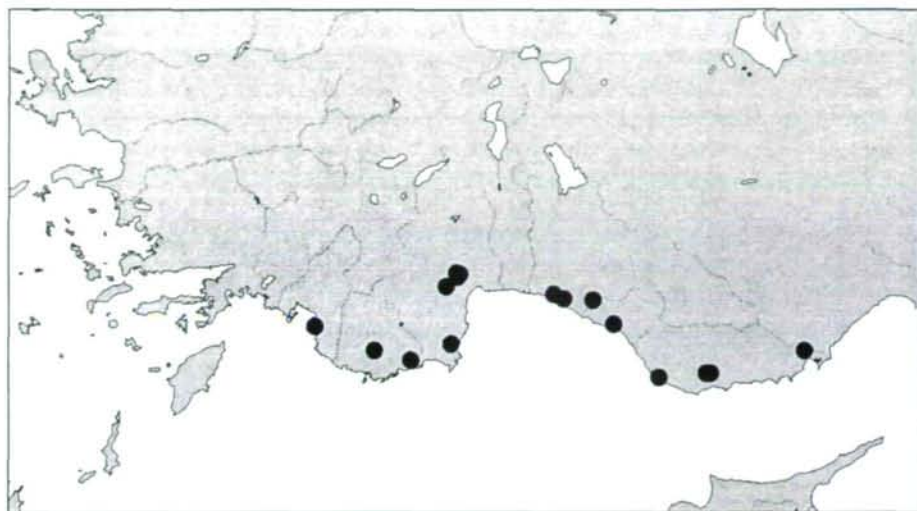
**Comparative notes:** For distinction from *G. meybohmii* from the Dikti Oros see description above. From the three other species of *Sipalotricha* occurring in Crete (*G. idaea* PACE, *G. icaria* PACE, and *G. exsecta* ASSING), *G. thryptisensis* is separated as follows: In *G. idaea* from central Crete, the posterior margin of the ♂ tergum VIII is only weakly emarginate, the ventral process of the median lobe of the aedeagus is more slender, the aedeagus has several sclerotized spines in the internal sac, the apical lobe of the paramere is shorter and broader, the posterior margin of the ♀ tergum VIII is, at most, only indistinctly concave in the middle, the posterior margin of the ♀ sternum is weakly concave, and the duct of the spermatheca is more slender. In *G. exsecta* from central Crete, the ventral process of the aedeagus is much longer and more slender, the internal sac of the aedeagus lacks distinct spines, the ♀ sternum VIII is concave posteriorly, and the spermathecal duct is slightly more slender. In *G. icaria* from western Crete, the internal sac of the aedeagus lacks distinct spines, the posterior margin of the ♀ tergum VIII is less distinctly concave in the middle, the ♀ sternum VIII is posteriorly shallowly concave, and the capsule of the spermatheca is wider, shorter, and more distinctly separated from the duct.

**Distribution and bionomics:** *G. thryptisensis*, the easternmost representative of the genus in Crete, is probably endemic in the Thryptis range. It was sifted from leaf litter and grass under shrubs and between rocks at altitudes of 900 and 1000m.

### ***Geostiba (Sipalotricha) besuchetiana* PACE 1983 (Map 3)**

**Material examined:** Turkey: 10♂♂, 17♀♀ [partly teneral], Muğla, Fethiye, Kayaköy, 36°34N, 29°06E, 280m, 27.IV.2001, leg. Brachat & Meybohm (cAss); 3♂♂, 2♀♀, Antalya, 22 km W Alanya, Avsallar near Incekum, 9.-23.V.1995, leg. Pütz (cAss); 9♂♂, 6♀♀, Antalya, 15 km S Kemer, 36°30N, 30°29E, 60m, 24.IV.2001, leg. Brachat & Meybohm (cAss); 1♂, Antalya, W Finike, Kemerköy, 36°23N, 29°41E, 950m, 26.IV.2001, leg. Meybohm (cAss); 5♂♂, 5♀♀, Antalya, N Hisar, 36°47N, 30°29E, 820m, 23.IV.2001, leg. Brachat & Meybohm (cAss); 1♀ [teneral], Antalya, S Hisar, 36°43N, 30°26E, 1120m, 23.IV.2001, leg. Brachat (cAss); 2♀♀, Antalya, 20 km N Kumluca, 36°26N, 30°25E, 330m, 24.IV.2001, leg. Brachat & Meybohm (cAss); 5♂♂, 4♀♀, Antalya, Termessos, 36°59N, 30°28E, 700m, 21.IV.2001, leg. Brachat & Meybohm (cAss); 4♂♂, 1♀, Antalya, Termessos, 36°59N, 30°28E, 850m, 21.IV.2001, leg. Meybohm (cAss); 5♂♂, 6♀♀, same data, but 3.V.2001, leg. Brachat & Meybohm (cAss); 11♂♂, 19♀♀ [partly teneral], Antalya, valley SE Termessos, 36°57N, 30°29E, 300m, 22.IV.2001, leg. Brachat & Meybohm (cAss).

*G. besuchetiana* is relatively widespread in the southwestern Anatolia (Map 3), where it has been collected at low to intermediate altitudes (20 - 1120 m).



Map 3: Distribution of *Geostiba besuchetiana* PACE in southwestern Anatolia.

***Emmelostiba renominata* (LIKOVSKY 1984), comb. n. (Figs. 36-42)**

*Atheta* (*Ousipalia*) *scheerpeltzi* BERNHAUER 1936: 313f.

*Ousipalia renominata* LIKOVSKY 1984: 3; nom. n. for *A. scheerpeltzi* BERNHAUER 1936.

Types examined: Lectotype ♂, here designated: Kephallenia Paganetti / Scheerpeltzi Brnh. Typus Ousipalia / Scheerpeltziana Brnh. Typ. emend. / Chicago NHMus M. Bernhauer Collection / Lectotypus *Atheta scheerpeltzi* Bernhauer desig. V. Assing 2001 / *Emmelostiba renominata* (Likovsky) det. V. Assing 2001 (FMNH). Paralectotype ♀: Kephallenia Paganetti / Scheerpeltzi Bernh. Cotypus / Chicago NHMus M. Bernhauer Collection / Paralectotypus *Atheta scheerpeltzi* Bernhauer desig. V. Assing 2001 / *Emmelostiba renominata* (Likovsky) det. V. Assing 2001 (FMNH).

**Comments:** The original description is based on an unspecified number of syntypes from Kefallinia. In order to secure the present interpretation of the species the male syntype from the Bernhauer collection is here designated as lectotype; the possibility that additional syntypes exist cannot be ruled out.

When describing the species, BERNHAUER (1936) was apparently unaware of the senior primary homonym *Atheta scheerpeltzi* ROUBAL 1929. As can be inferred from one of the labels attached to the lectotype, he later discovered the homonymy and intended to rename the species as *A. scheerpeltziana*. It seems, however, that his replacement name has never been published. Several decades later, LIKOVSKY (1984) proposed the replacement name *Ousipalia renominata*.

An examination of the types revealed that they belong neither to *Atheta* THOMSON, nor to *Ousipalia* DES GOZIS or *Geostiba* THOMSON. Based on external characters (e. g. facies similar to certain *Leptusa*; relatively large head, subparallel body and especially abdomen; pronotal pubescence directed cephalad in midline and transversely laterad in lateral areas; tarsal formula 4-5-5; shining integument with weakly pronounced microsculpture), the mouthparts (long, slender, and deeply bifid ligula (Fig. 36); short maxillary palpi, with a short and globulous third joint), and sexual characters (median lobe of aedeagus with deeply bifid ventral process; shape of internal structures of aedeagus and of sper-

matheca; shape and chaetotaxy of apical lobe of paramere), the species is here transferred to *Emmelostiba* PACE 1982. In fact, as can be inferred from the similar morphology of the median lobe of the aedeagus, *E. renominata* appears to be very closely related to the type genus of the genus, *E. besucheti* PACE from Lebanon. For comparison see the description and drawings of the genus and *E. besucheti* in PACE (1982). The labium and the sexual characters of *E. renominata* are illustrated in Figs. 36-42.

### Acknowledgements

I am most grateful to all the colleagues indicated in the material section for the kind loan of types and additional material. In particular, I would like to thank Volker Brachat, Geretsried, and Heinrich Meybohm, Stelle, for the kind gift of their staphylinid by-catches from Crete and Anatolia.

### Zusammenfassung

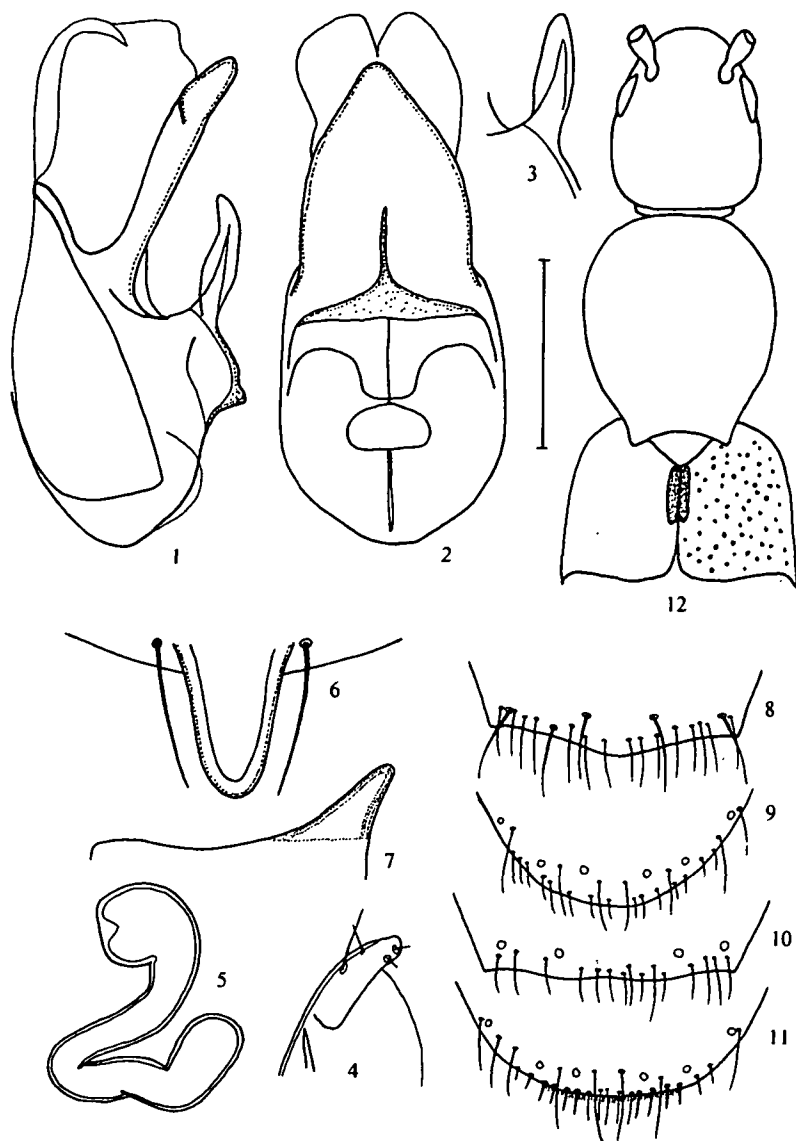
Typen und weiteres Material der Gattung *Geostiba* THOMSON und verwandter Gattungen aus den südlichen Balkanländern und der Türkei werden revidiert. Drei *Geostiba*-Arten werden beschrieben und verwandten Arten unterschieden; ihre Sexualmerkmale werden abgebildet: *G.* (s. str.) *othrisensis* sp. n. (Griechenland: Thessalia), *G. (Ditroposipalia) excaecata* sp. n. (Mazedonien) und *G. (Sipalotricha) thryptisensis* sp. n. (Griechenland: Kreta). *G. samai* PACE 1977 wird redescribriert und der Untergattung *Ditroposipalia* SCHEERPELTZ zugeordnet. *Atheta (Ousipalia) winkleri* BERNHAUER 1936, syn. n., ein sekundäres jüngeres Homonym von *Geostiba winkleri* (BERNHAUER 1915), wird mit *G. euboica* PACE 1990 synonymisiert. *Ousipalia renominata* LIKOVSKY 1984, ein Ersatzname für *Atheta (Ousipalia) scheerpeltzi* BERNHAUER 1936, wird in die Gattung *Emmelostiba* PACE 1982 transferiert; die primären und sekundären Geschlechtsmerkmale werden abgebildet und ein Lectotypus wird designiert. Für 20 *Geostiba*-Arten werden weitere Nachweise aus Albanien, Mazedonien, Griechenland und der Türkei gemeldet; für *G. itiensis* ASSING, *G. obtusicollis* ASSING, *G. othrisensis* sp. n., *G. euboica* PACE und *G. besuchetiana* PACE werden Verbreitungskarten erstellt.

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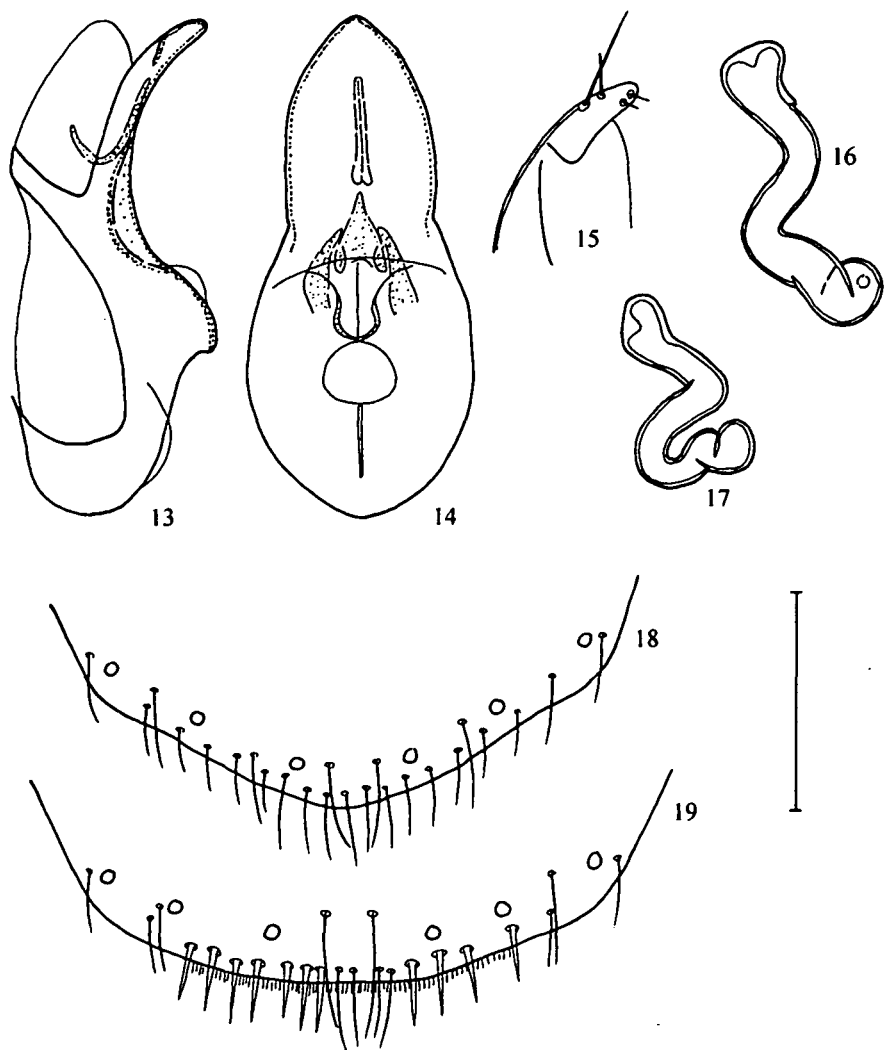
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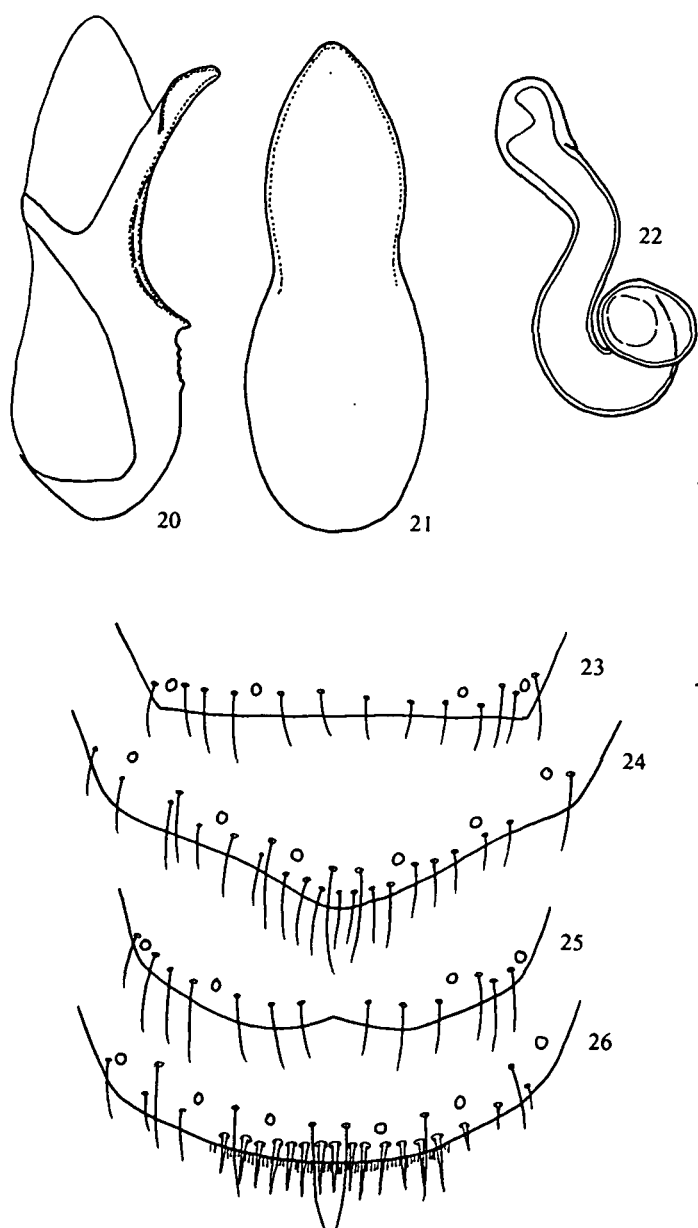


**Figs. 1-12:** *Geostiba othrisensis* sp. n.: 1, 2 – median lobe of aedeagus in lateral and in ventral view; 3 – cristal process of other  $\delta$ ; 4 – apical lobe of paramere; 5 – spermatheca; 6 – process of  $\delta$  tergum VII in antero-dorsal view; 7 – process of  $\delta$  tergum VII in lateral view; 8 – posterior margin of  $\delta$  tergum VIII; 9 – posterior margin of  $\delta$  sternum VIII; 10 – posterior margin of  $\delta$  tergum VIII; 11 – posterior margin of  $\delta$  sternum VIII; 12 – outline  $\delta$  forebody; long setae omitted in 9-11. Scale: 1-6: 0.1 mm; 7-11: 0.2 mm; 12 without scale.

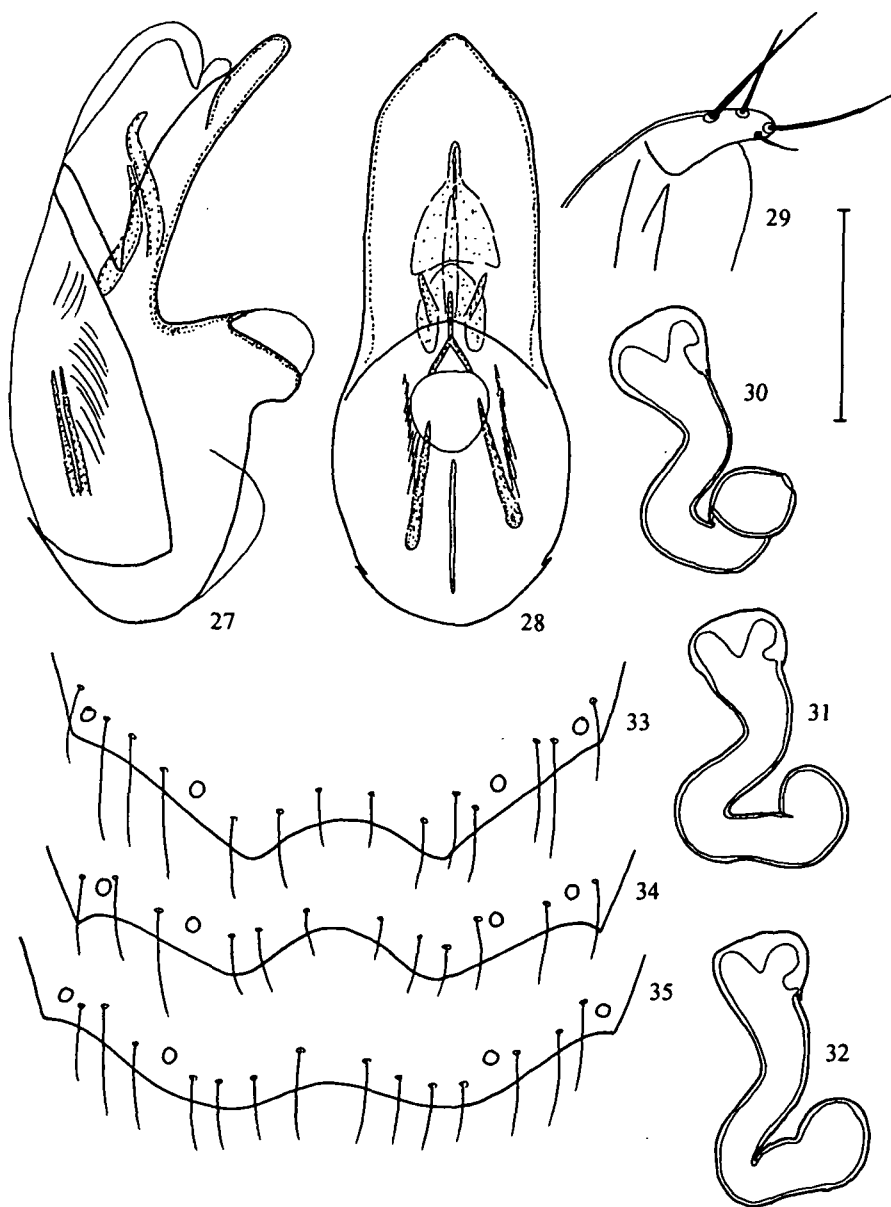


**Figs. 13-19: *Geostiba samai* PACE:** 13, 14 – median lobe of aedeagus in lateral and in ventral view; 15 – apical lobe of paramere; 16, 17 – spermathecae of two ♀♀; 18 – posterior margin of ♂ sternum VIII; 19 – posterior margin of ♀ sternum VIII; long setae omitted in 18-19. Scale: 0.1 mm.

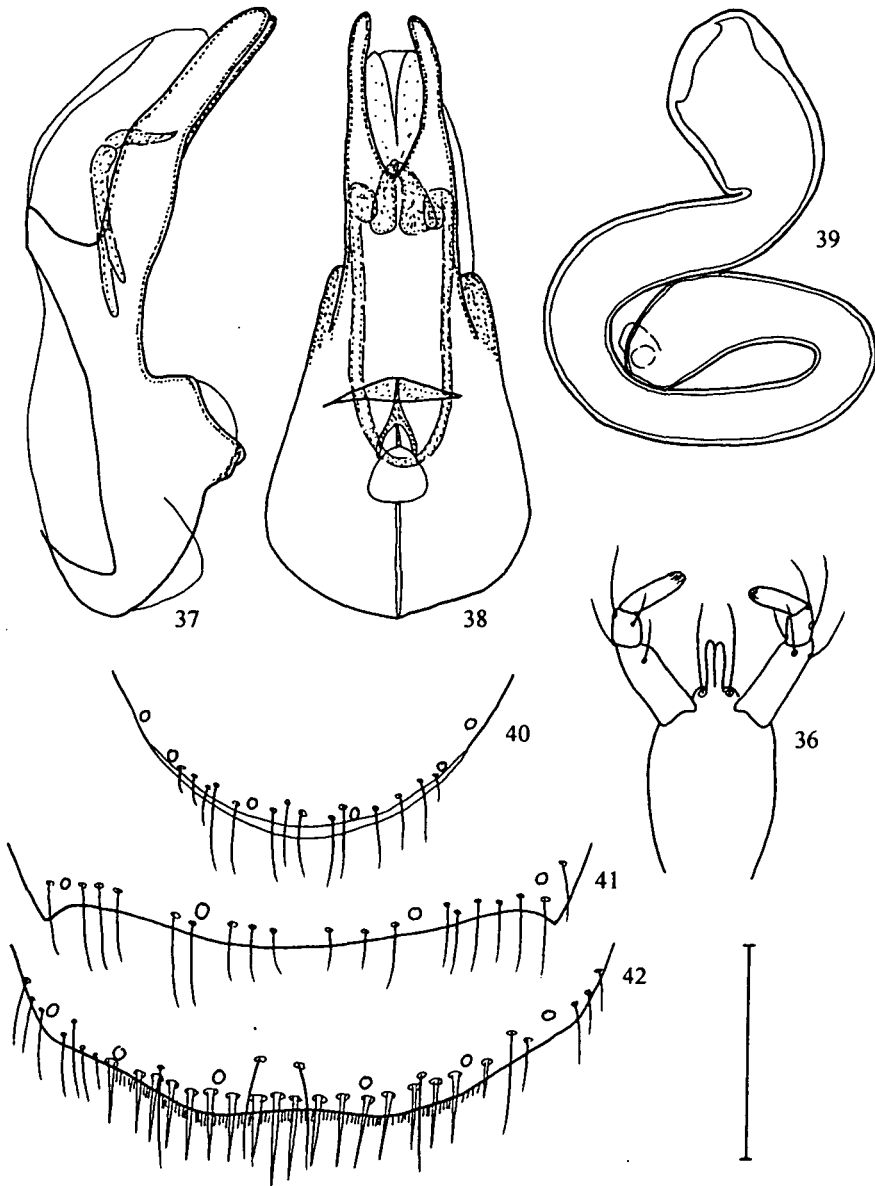




**Figs. 20-26:** *Geostiba excaecata* sp. n.: 20, 21 – median lobe of aedeagus (basal part slightly damaged) in lateral and in ventral view; 22 – spermatheca; 23 – posterior margin of  $\delta$  tergum VIII; 24 – posterior margin of  $\delta$  sternum VIII; 25 – posterior margin of  $\sigma$  tergum VIII; 26 – posterior margin of  $\sigma$  sternum VIII; long setae omitted in 23-26. Scale: 20-21, 23-26: 0.1 mm; 22: 0.08 mm.



**Figs. 27-35:** *Geostiba thryptisensis* sp. n.: 27, 28 – median lobe of aedeagus in lateral and in ventral view; 29 – apical lobe of paramere; 30-32 – spermatheca of three ♀♀; 33-34 – posterior margin of ♂ tergum VIII (two ♂♂); 35 – posterior margin of ♀ tergum VIII; long setae omitted in 33-35. Scale: 0.1 mm.



**Figs. 36-42: *Emmelostiba renominata* (LIKOVSKY):** 36 – labium; 37, 38 – median lobe of aedeagus in lateral and in ventral view; 39 – spermatheca; 40 – posterior margin of ♂ sternum VIII; 41 – posterior margin of ♀ tergum VIII; 42 – posterior margin of ♀ sternum VIII; long setae omitted in 40-42. Scale: 36: 0.08 mm; 37-42: 0.1 mm.

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