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Four new species and additional records of *Geostiba* from Turkey and Crete, and a new synonymy (Coleoptera: Staphylinidae: Aleocharinae)

V. ASSING

A b s t r a c t : Four species of *Geostiba* THOMSON from the Eastern Mediterranean region are described and illustrated: *Geostiba (Tropogastrosipalia) janbellini* nov.sp. (Turkey: Antalya), *G. (Sipalotricha) atriculata* nov.sp. (Turkey: Antalya), *G. (S.) albimontis* nov.sp. (Greece: W-Crete), and *G. spinosula* nov.sp. (Turkey: Osmaniye). Additional records of *Geostiba* are reported from Turkey and Crete. The following synonymy is proposed: *Paraleptusa helitasi* (PEYERIMHOFF 1900) = *Geostiba ventosa* PACE 1996, nov.syn. The distributions of the new species from Turkey are mapped.

K e y w o r d s : Coleoptera, Staphylinidae, Aleocharinae, *Geostiba*, *Paraleptusa*, Palaearctic region, Mediterranean region, Turkey, Crete, taxonomy, new species, new records, new synonym, endemism.

1. Introduction

The *Geostiba* fauna of the Eastern Mediterranean east of Italy has been revised in several steps during the past years (ASSING 2005a, 2005b, 2006, and references therein). The country with the highest diversity in this region is Turkey with 63 described species (58 of them exclusive), followed by Greece with 44 described species (40 of them exclusive). However, new species are constantly being discovered almost every year, and there is no evidence that the species inventory of the Eastern Mediterranean should be approaching completion.

In contrast to Turkey and mainland Greece, the *Geostiba* fauna of Crete is characterised by high diversity of species of the subgenus *Sipalotricha* SCHEERPELTZ and a low diversity of other subgenera. Remarkably, the subgenus *Tropogastrosipalia* SCHEERPELTZ, the most speciose of the subgenera of *Geostiba* in the Eastern Mediterranean, is completely absent. Six *Geostiba* species have been recorded from the island: the widespread *G. oertzeni* (EPPELSHEIM) of the subgenus *Sibiota* CASEY, as well as five endemic species of the subgenus *Sipalotricha* (ASSING 1999, 2001).

The present paper is mainly based on the material collected during three recent field trips, one to Crete carried out by Michael Schülke (Berlin) in October 2006, and two to Turkey, one of them conducted by the author in December 2006 and one by Volker Brachat (Geretsried) and Heinrich Meybohm (Großhansdorf) in spring 2007.

2. Material and methods

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

OÖLL..... Oberösterreichisches Landesmuseum/Biologiezentrum Linz

cAss..... author's private collection

cSch..... private collection M. Schülke, Berlin

cWun..... private collection P. Wunderle, Mönchengladbach

The morphological studies were carried out using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena) with a drawing tube. For the photographs a digital camera (Nikon Coolpix 995) was used. The map was generated using the online generic mapping tool (GMT) of the Geomar website at www.aquarius.ifm-geomar.de.

Head length was measured from the anterior margin of the clypeus to the posterior carina; elytral length was measured along suture from the apex of the scutellum to the posterior margin.

3. New species and additional records of *Geostiba* from Turkey and Crete

Geostiba (Tropogastrosipalia) marasica ASSING 2004

Additional material examined: Turkey: Kahramanmaraş: 11 exs., Başkonuş Yaylası, 37°33'N, 36°35'E, 1550 m, 24.IV.2007, leg. Brachat & Meybohm (cAss); 2 exs., Andırın-Geben, 11 km from Geben, 37°42'N, 36°27'E, 1320 m, 27.IV.2007, leg. Brachat & Meybohm (cAss); 2 exs., Andırın-Geben, 12.5 km from Andırın, 37°39'N, 36°26'E, 1500 m, 27.IV.2007, leg. Brachat & Meybohm (cAss).

The above records do not significantly expand the known range of the species. For a distribution map see ASSING (2005b).

Geostiba (Tropogastrosipalia) adunca ASSING 2004

Additional material examined: Turkey: Kahramanmaraş: 2 exs., 40 km SW Kahramanmaraş, W Doluca, 37°23'N, 36°41'E, 1040 m, 2.V.2007, leg. Brachat & Meybohm (cAss).

The above material was collected near the type locality. For a distribution map see ASSING (2005b).

Geostiba (Tropogastrosipalia) sinuosa ASSING 2004

Additional material examined: Turkey: Osmaniye: 2 exs., Kaypak-Yarpuz, 37°07'N, 36°27'E, 880 m, 3.V.2007, leg. Brachat & Meybohm (cAss).

The species is endemic to the Nur Dağları (ASSING 2004, 2005a).

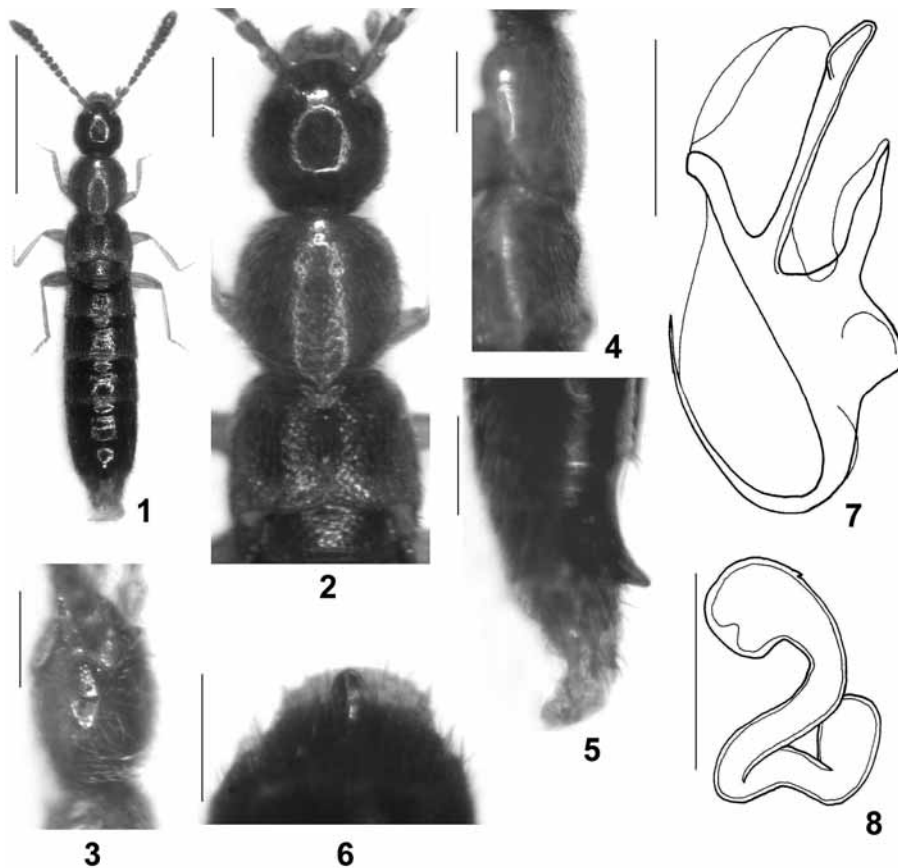
***Geostiba (Tropogastrosipalia) janbellini* sp.nov.** (Figs 1-9, Map 1)

Holotype ♂: TR [8] Antalya, 35 km NNE Alanya, NE Gündoğmus, 1480 m, 36°50'30N, 32°04'07E, 25.XII.2006, V. Assing / Holotypus ♂ *Geostiba janbellini* sp.n. det. V. Assing 2006 (cAss). Paratypes: 5 ♂♂, 9 ♀♀: same data as holotype (cAss, OÖLL).

D e s c r i p t i o n : 2.7-3.1 mm. Habitus as in Fig. 1. Coloration: head brown to dark brown; pronotum and elytra reddish to reddish brown; abdomen blackish brown to blackish; legs yellowish; antennae dark brown, with antennomeres I-II reddish.

Head weakly oblong; puncturation extremely fine, barely noticeable; surface with shallow microreticulation and with some shine (Fig. 2). Eyes (Fig. 3) slightly less than half the length of postocular region in dorsal view.

Pronotum approximately 1.2 times as wide as head; puncturation variable, in large ♂ occasionally distinct (much more so than that of head), in most specimens as fine as that of head; microsculpture similar to that of head (Fig. 2). Sexual dimorphism moderately pronounced.



Figs 1-8: *Geostiba janbellini* nov.sp.: (1) male habitus (holotype); (2) forebody (holotype); (3) head in lateral view; (4) male pronotum and elytra in lateral view (holotype); (5) male abdominal apex in lateral view (holotype); (6) male tergite VII in antero-dorsal view; (7) median lobe of aedeagus in lateral view; (8) spermatheca. Scale bars: 1: 1.0 mm; 2-6: 0.2 mm; 7-8: 0.1 mm.

Elytra approximately 1.15 times as wide and 0.50-0.55 times as long as pronotum (Fig. 2). Sexual dimorphism distinct.

Abdomen as wide as or slightly wider than elytra; puncturation more distinct than that of head and pronotum, denser on anterior than on posterior tergites; microsculpture shallow; anterior tergites without sexual dimorphism; posterior margin of tergite VII with narrow rudiment of a palisade fringe; posterior margin of tergite VIII weakly convex in both sexes.

♂ (with fully developed secondary sexual characters): pronotum about 1.10 times as long as wide, posterior margin distinctly pointed in the middle; elytra with moderately elevated, contiguous sutural carinae extending along anterior $\frac{3}{5}$ - $\frac{2}{3}$ of suture, in postero-lateral area with moderately extensive, not very deep, and somewhat diagonal impression (Figs 2, 4); elytral puncturation moderately granulose; abdominal tergite VII with moderately long, semi-erect (lateral view), and apically rounded (antero-dorsal view) process (Figs 5-6); posterior margin of sternite VIII distinctly convex; median lobe of aedeagus shaped as in Fig. 7.

♀: pronotum as long as wide to weakly transverse, posterior margin weakly convex, in the middle almost truncate, with weakly modified marginal setae; elytra unmodified and with finer puncturation; sternite VIII with broadly and rather weakly convex posterior margin; spermatheca as in Fig. 8.

Intraspecific variation: As is usual in species of *Tropogastrosipalia*, the male secondary sexual characters are subject to considerable variation. They are usually pronounced in large males and reduced to various degrees in smaller specimens.



Fig. 9: Type locality of *Geostiba janbellini* nov.sp.

E t y m o l o g y : I dedicate this species to my son Jan Bellin, whose presence and guitar sounds made the collecting of the type material even more enjoyable.

C o m p a r a t i v e n o t e s : In the key in ASSING (2005a), *G. janbellini* would key out at couplet 85 together with *G. marasica* from Kahramanmaraş. From this species, it is distinguished by the posteriorly more distinctly pointed male pronotum, the finer puncturation of the male elytra, the contiguous sutural carinae (in *G. marasica* narrowly separated), the apically much less acute process of the male tergite VII (ventral view), as well as by the shape of the cristal process of the aedeagus. For illustrations of the sexual characters of *G. marasica* see ASSING (2004).

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 type locality is situated in the Taurus range, southern Anatolia, some 35 km to the north of Alanya (Map 1). The material was collected by sifting and floating the soil from the roots of grass and herbs on a pasture at an altitude of almost 1500 m.

***Geostiba (Sibiota) oertzeni* (EPPELSHEIM 1888)**

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 : Turkey: A d a n a : 15 exs., Adana, SW Hasandede Geç., SW Kayadibi, 37°28'N, 35°23'E, 1150 m, 26.IV.1007, leg. Brachat & Meybohm (cAss). K a h r a m a n m a r a ş : 1 ex., Başkonuş Yaylası, 37°33'N, 36°35'E, 1550 m, 24.IV.2007, leg. Brachat & Meybohm (cAss); 6 exs., Başkonuş Yaylası, 37°34'N, 36°34'E, 1250 m, 24.IV.2007, leg. Brachat & Meybohm (cAss); 5 exs., Andırın-Geben, 12.5 km from Andırın, 37°39'N, 36°26'E, 1500 m, 27.IV.2007, leg. Brachat & Meybohm (cAss).

The species is widespread and one of the most common representatives of the genus in the Eastern Mediterranean; for a recent distribution map see ASSING (2005b).

***Geostiba (Sibiota) tuberosa* ASSING 2004**

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 : Turkey: K a h r a m a n m a r a ş : 6 exs., Başkonuş Yaylası, 37°33'N, 36°35'E, 1550 m, 24.IV.2007, leg. Brachat & Meybohm (cAss).

The above material was collected near the type locality. A recent distribution map is provided by ASSING (2005b).

***Geostiba (Sibiota) helvetiorum* PACE 1983**

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 : Turkey: O s m a n i y e : 3 exs., Kaypak-Yarpuz, 37°07'N, 36°27'E, 880 m, 3.V.2007, leg. Brachat & Meybohm (cAss); 3 exs., Kaypak-Yarpuz, 37°06'N, 36°27'E, 990 m, 3.V.2007, leg. Brachat & Meybohm (cAss); 12 exs., Kaypak-Yarpuz, 37°06'N, 36°26'E, 1370 m, 3.V.2007, leg. Brachat & Meybohm (cAss); 4 exs., 7 km E Erzin, 36°58'N, 36°16'E, 600-650 m, 4.V.2007, leg. Brachat & Meybohm (cAss); 2 exs., Erzin-Zorkun, 36°58'N, 36°17'E, 550 m, 4.V.2007, leg. Brachat & Meybohm (cAss); 5 exs., Erzin-Zorkun, 36°59'N, 36°19'E, 1240 m, 5.V.2007, leg. Brachat & Meybohm (cAss); 5 exs., Erzin-Zorkun, 36°59'N, 36°18'E, 960 m, 5.V.2007, leg. Brachat & Meybohm (cAss); 8 exs., Erzin-Zorkun, 36°59'N, 36°18'E, 930 m, 5.V.2007, leg. Brachat & Meybohm (cAss); 3 exs., Erzin-Zorkun, 36°58'N, 36°17'E, 680 m, 5.V.2007, leg. Brachat & Meybohm (cAss);

The species is a common endemic of the Nur Dağları. For a distribution map see ASSING (2004).



Map 1: Distributions of *Geostiba janbellini* nov.sp. (filled circle), *G. atrioculata* nov.sp. (open circle), and *G. spinosula* nov.sp. (square) in southern Anatolia.

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

Additional material examined: Turkey: Antalya: 6 exs., Antalya, 45 km NE Manavgat, NE Akseki, Imrasan Geç., 37°06'N, 31°48'E, 1400 m, meadow, grass roots and fir litter sifted, 26.XII.2006, leg. Assing (cAss). K a h r a m a n m a r a ş : 4 exs., Andırın-Geben, 12.5 km from Andırın, 37°39'N, 36°26'E, 1500 m, 27.IV.2007, leg. Brachat & Meybohm (cAss); 1 ex., Andırın, 3 km N Geben, 37°49'N, 36°24'E, 1570 m, 27.IV.2007, leg. Brachat & Meybohm (cAss).

All the above specimens are macropterous. For a map illustrating the distribution of this widespread wing-dimorphic species see ASSING (2005b).

***Geostiba (Sipalotricha) rhodiensis* PACE 1983**

Additional material examined: Turkey: Antalya: 7 exs., 25 km ESE Alanya, 36°32'N, 32°16'E, 900 m, grass roots and litter of deciduous trees and shrubs sifted, 23.XII.2006, leg. Assing (cAss); 22 exs., 40 km E Alanya, 36°29'N, 32°23'E, 1530-1600 m, pine litter and grass roots sifted, 23.XII.2006, leg. Assing (cAss). A d a n a : 3 exs., SW Hasandede Geç., NE Kayadibi, 37°30'N, 35°23'E, 1230 m, 26.IV.2007, leg. Brachat & Meybohm (cAss); 4 exs., SW Hasandede Geç., SW Kayadibi, 37°28'N, 35°20'E, 1170 m, 26.IV.2007, leg. Brachat & Meybohm (cAss); 2 exs., 26.IV.2007, leg. Brachat & Meybohm (cAss). K a h r a m a n m a r a ş : 10 exs., Andırın-Geben, 12.5 km from Andırın, 37°39'N, 36°26'E, 1500 m, 27.IV.2007, leg. Brachat & Meybohm (cAss). O s m a n i y e : 1 ex., N Bahce, Bekdemir, 37°16'N, 36°36'E, 1200 m, 21.IV.2007, leg. Brachat & Meybohm (cAss).

The species is widespread in southern Anatolia and Rhodos. Its distribution is mapped by ASSING (2006).

***Geostiba (Sipalotricha) atrioculata* sp.nov.** (Figs 10-23, Map 1)

Holotype ♂: TR [8] Antalya, 40 km E Alanya, 1530-1600 m, pine litter and grass sifted, 36°29'N, 32°23'E, 23.XII.2006, V. Assing / Holotypus ♂ *Geostiba atrioculata* sp.n. det. V. Assing 2006 (cAss). Paratypes: 3 ♂♂, 6 ♀♀: same data as holotype (cAss, OÖLL).

Description: 2.0-2.7 mm. Habitus as in Fig. 10. Coloration: body uniformly yellowish, except for the blackish eye rudiments.

Head 1.05-1.10 times as wide as long; puncturation extremely fine, barely noticeable; surface with shallow microreticulation and with some shine (Fig. 11). Eyes strongly reduced (Fig. 12), slightly smaller than antennomere III in cross-section, with pigmentation, but without ommatidia. Antennae distinctly incrassate apically; antennomeres V-X 2.0-2.5 times as wide as long.

Pronotum approximately 1.1 times as wide as head and 1.05-1.10 times as wide as long; puncturation extremely fine, barely noticeable; microreticulation somewhat more distinct than that of head (Fig. 11).

Elytra approximately as wide as pronotum or slightly wider, and about 0.55 times as long as pronotum (Fig. 11); puncturation very fine, but slightly more distinct than that of head and pronotum; microreticulation shallow; sexual dimorphism weakly pronounced.

Abdomen 1.05-1.10 times as wide as elytra (Fig. 10); puncturation very fine and sparse; microreticulation present everywhere, but shallow; posterior margin of tergite VII without palisade fringe.

♂: elytra in postero-lateral region usually with shallow, ill-defined, somewhat diagonal impression; tergite VIII weakly transverse, posterior margin weakly convex, in the middle truncate (Fig. 13); sternite VIII weakly transverse and with broadly convex posterior margin (Fig. 14); median lobe of aedeagus as in Figs 15-17; apical lobe of paramere moderately slender, with a long median seta, two moderately short setae in submedian and apical position, and a minute apical seta (Fig. 18).

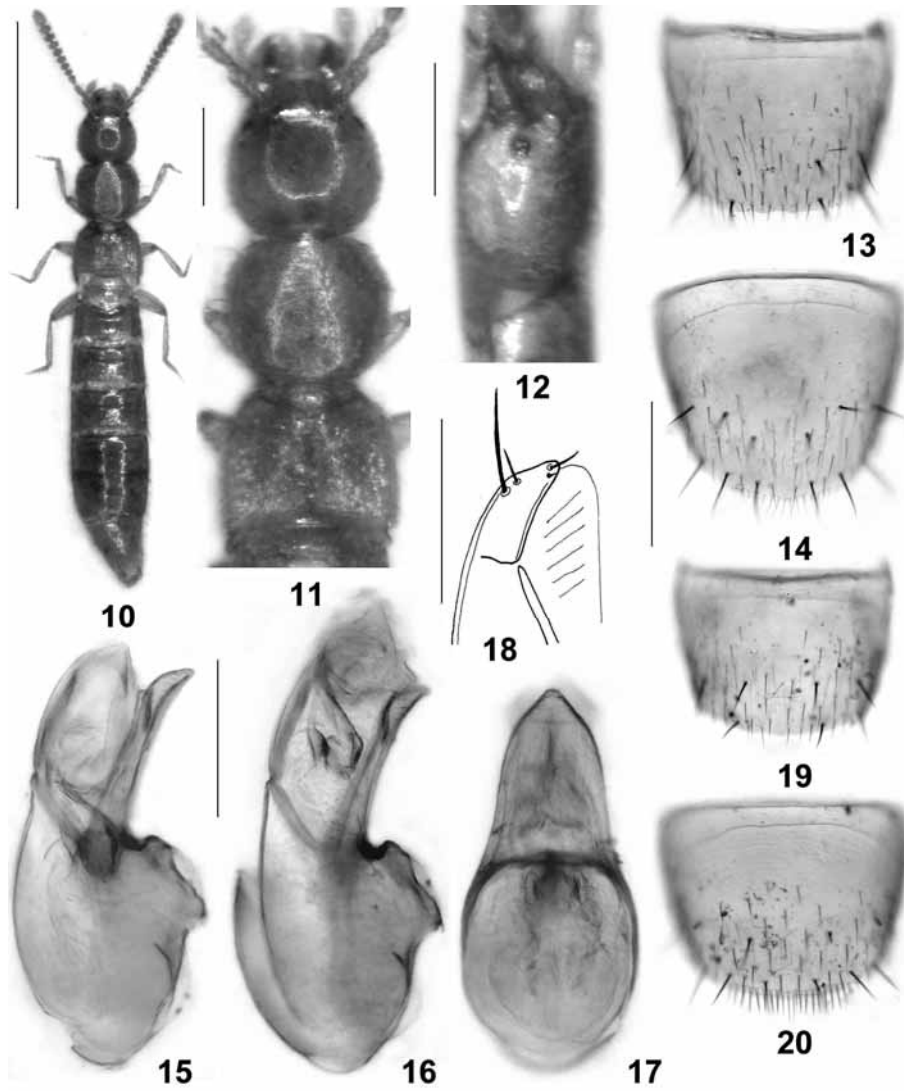
♀: elytra unmodified; tergite VIII as in ♂, but more transverse (Fig. 19); sternite VIII distinctly transverse, posterior margin broadly convex and without central concavity (Fig. 20); spermatheca as in Figs 22-23.

Etymology: The name refers to the eyes, which, in contrast to those of most other *Geostiba* species with minute eye rudiments without ommatidia, are of conspicuously blackish coloration.

Comparative notes: From other Eastern Mediterranean congeners with similarly reduced eyes (minute size, ommatidia absent), *G. atrioculata* is distinguished by the blackish coloration of the eyes. In order to account for the new species, the key in ASSING (2005a) is modified as follows:

- | | | |
|----|---|-------------------------------|
| 3 | Eyes reduced to minute rudiments without ommatidia | 3a |
| - | Eyes sometimes small, but always with ommatidia | 19 |
| 3a | Eyes with pigmentation, blackish. Aedeagus and spermatheca as in Figs 15-17, 22-23. | |
| | Southern Anatolia: Antalya (Map 1) | <i>G. atrioculata</i> nov.sp. |
| - | Eyes without pigmentation..... | 4 |

Distribution and bionomics: The type locality is situated in the Taurus range, some 40 km to the east of Alanya, eastern Antalya province, southern Anatolia (Map 1). The type specimens were collected at a pass below old pine trees by sifting litter and grass roots at an altitude of approximately 1600 m.



Figs 10-20: *Geostiba atriculata* nov.sp.: (10) habitus; (11) forebody; (12) head in lateral view; (13) male tergite VIII; (14) male sternite VIII; (15-17) median lobe of aedeagus in lateral and in ventral view; (18) apical lobe of paramere; (19) female tergite VIII; (20) female sternite VIII. Scale bars: 10: 1.0 mm; 11-14, 19-20: 0.2 mm; 15-18: 0.1 mm.



Fig. 21: Type locality of *Geostiba atrioculata* nov.sp.

***Geostiba (Sipalotricha) exsecta* ASSING**

M a t e r i a l e x a m i n e d : Greece, Crete: 48 exs., Rethimni, Ida range, Nida plateau, ca. 0.5 km N Analipsis, 35°13N, 24°50E, 1420 m, 21.X.2006, leg. Schülke (cAss, cSch); 13 exs., Ida range, ca. 7.5 km S Anogia, 35°15N, 24°53E, 1200 m, 21.X.2006, leg. Schülke (cSch).

The species is endemic to the Ida range, Crete (ASSING 1999, 2005a), where it is apparently rather common.

***Geostiba (Sipalotricha) idaea* PACE**

M a t e r i a l e x a m i n e d : Greece, Crete: 23 exs., Irakleio, Ida range, ca. 6 km S Analipsis, 35°11N, 24°50E, 1260 m, 21.X.2006, leg. Schülke (cAss, cSch).

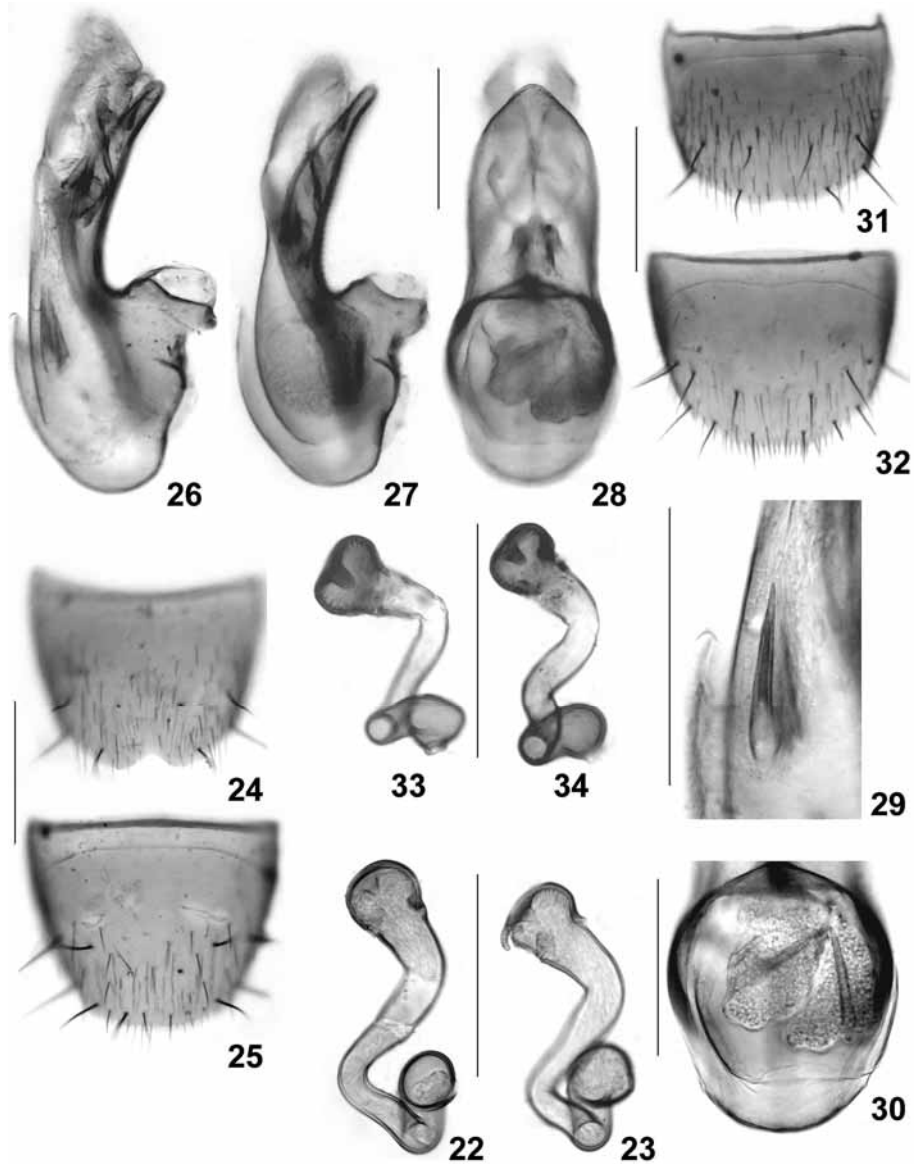
Like the preceding species, *G. idaea* is endemic to the Ida range, Crete (ASSING 1999, 2005a).

***Geostiba (Sipalotricha) albimontis* sp.n. (Figs 24-35)**

H o l o t y p e ♂: GR: Crete [11], Chania: Levka Ori, S Mega Oros, 4.5 km S Askifon, 830 m, 35°15'49N, 24°10'34E, 22.X.2006, M. Schülke / **H o l o t y p u s** ♂ *Geostiba albimontis* sp.n. det. V. Assing 2006 (cAss). **P a r a t y p e s**: 4♂♂, 4♀♀: same data as holotype (cAss, cSch),

D e s c r i p t i o n : External morphology as in *G. icaria* PACE. Distinguished only by the primary sexual characters:

♂: tergite VIII and sternite VIII as in Figs 24-25; median lobe of aedeagus of similar morphology as in *G. icaria*, but with two long spines in internal sac (Figs 26-30).



Figs 22-34: *Geostiba atriculata* nov.sp. (22-23) and *G. albimontis* nov.sp. (24-34): (22-23, 33-34) spermatheca; (23) male tergite VIII; (25) male sternite VIII; (26-28) median lobe of aedeagus in lateral and in ventral view; (29-30) internal spines of median lobe in lateral and in ventral view; (31) female tergite VIII; (32) female sternite VIII. Scale bars: 24-25, 31-32: 0.2 mm; 22-23, 26-30, 33-34: 0.1 mm.

♀: tergite VIII and sternite VIII as in Figs 31-32; spermatheca with smaller and more slender capsule, and with distinctly longer duct than in *G. icaria*.

E t y m o l o g y : The name (Latin: noun, genitive) refers to the Levka Ori (Greek for "white mountains"), where the type locality is situated.

C o m p a r a t i v e n o t e s : In the key in ASSING (2005a), the species would key out at couplet 129 together with *G. icaria*, another endemic of the Levka Ori, from which it is distinguished only by the presence of two long spines in the internal sac of the aedeagus and by the completely different shape of the spermatheca. For illustrations of the sexual characters of *G. icaria* see ASSING (1999).

D i s t r i b u t i o n a n d b i o n o m i c s : As is suggested by the absence of previous records and by the restricted distributions of other *Sipalotricha* species occurring in Crete, *G. albomontis* is probably endemic to the Levka Ori, western Crete. The type specimens were sifted from litter of *Quercus ilex*, *Juniperus*, and shrubs on a dry calcareous slope (Fig. 35) at an altitude of 830 m (SCHÜLKE pers. comm.).



Fig. 35: Type locality of *Geostiba albimontis* nov.sp. (photo: M. Schülke).

***Geostiba spinosula* sp.nov.** (Figs 36-42, Map 1)

H o l o t y p e ♂: N37°15'53", E36°36' (2), TR Osmanije n. Bahce, Bekdemir, 1200 m, 21.IV.2007, leg. Meybohm & Brachat / Holotypus ♂ *Geostiba spinosula* sp.n. det. V. Assing 2007 (cAss).

P a r a t y p e s: 2♀: same data as holotype (cAss).

D e s c r i p t i o n : 2.0-2.7 mm. Coloration: body uniformly yellowish.

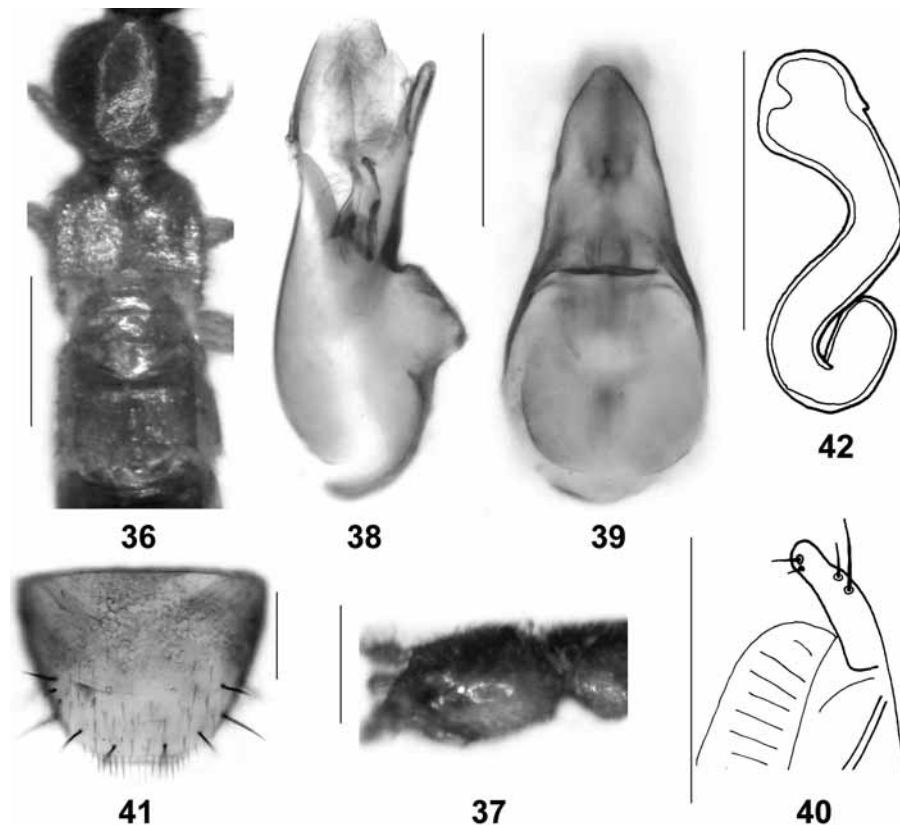
Head approximately as wide as long; puncturation extremely fine, barely noticeable; surface with shallow or very shallow microreticulation and with some shine. Eyes strongly reduced (Fig. 37), smaller than antennomere III in cross-section, without pigmentation and without ommatidia. Antennae distinctly incrassate apically; antennomeres V-X 2.0-2.5 times as wide as long.

Pronotum small, 1.05-1.10 times as wide as head and 1.05-1.10 times as wide as long (Fig. 36); puncturation extremely fine, barely noticeable; microreticulation slightly more distinct than that of head.

Elytra approximately as wide as pronotum or slightly wider, and about 0.55 times as long as pronotum (Fig. 36); puncturation very fine, but slightly more distinct than that of head and pronotum; microreticulation shallow; sexual dimorphism moderately pronounced.

Abdomen 1.05-1.10 times as wide as elytra; puncturation very fine and sparse; microreticulation very shallow; posterior margin of tergite VII without palisade fringe; posterior margin of tergite VIII distinctly convex.

♂: elytra with lateral margins sharply edged; abdominal tergite III with pronounced smooth median tubercle (Fig. 36); tergite VII with small spine-like median process at posterior margin, this process flattened dorso-ventrally and of somewhat triangular shape in antero-dorsal view; posterior margin of sternite VIII strongly convex; median lobe of aedeagus shaped as in Figs 38-39; apical lobe of paramere slender (Fig. 40).



Figs 36-42: *Geostiba spinosula* nov.sp.: (36) male pronotum, elytra, and abdominal segment III (holotype); (37) head in lateral view; (38-39) median lobe of aedeagus in lateral and in ventral view; (40) apical lobe of paramere; (41) female sternite VIII; (42) spermatheca. Scale bars: 36: 0.5 mm; 37: 0.2 mm; 38-42: 0.1 mm.

♀: elytra unmodified; posterior margin of sternite VIII broadly convex, in the middle truncate (Fig. 41); spermatheca as in Fig. 42.

E t y m o l o g y : The name, diminutive of spinose (Lat., adj.: thorny), refers to the

minute body size and the presence of a small spine-like process at the posterior margin of tergite VII.

Comparative notes: Based on external (pale coloration, strongly reduced eyes), as well as on various derived male primary and secondary sexual characters (elytra with sharply edged lateral margins, presence of a tubercle on tergite III, presence of a spine-like process at the posterior margin of tergite VII, morphology of the median lobe of the aedeagus, shape and chaetotaxy of the apical lobe of the paramere), *G. spinosula* belongs to the *G. confusa* group (see ASSING 2005b), which previously included three species from central southern Anatolia: *G. confusa* ASSING, *G. bigibbera* ASSING, and *G. gibbera* ASSING. Among these species, *G. spinosula* is most similar and related to the geographically close *G. gibbera*, which is known only from one locality approximately 30 km SSW of Kahramanmaraş. It is distinguished from this species by smaller body size, distinctly paler coloration (in *G. gibbera* reddish yellow), less pronounced microsculpture especially of the pronotum, shorter antennae, a more pronounced tubercle on the male tergite III, a differently shaped process of the male tergite VII, the different morphology of the aedeagus (ventral process shorter, not bent in lateral view, and apically less acute in ventral view), and a spermatheca with a more slender capsule and a shorter duct. For illustrations of the habitus and the sexual characters of *G. gibbera* see the figures in ASSING (2005b).

Distribution and bionomics: The type locality is situated some 45 southwest of Kahramanmaraş, central southern Anatolia (Map 1). The specimens were collected under stones on a grassy slope at an altitude of 1200 m (BRACHAT pers. comm.).

4. On the identity of *Geostiba ventosa* PACE

***Paraleptusa helitasi* (PEYERIMHOFF 1900)**

Leptusa helitasi PEYERIMHOFF 1900: 8 f.

Geostiba (Trachyglutosipalia) ventosa PACE 1996: 28 ff.; **nov.syn.**

Type material examined: Paratype ♀: "F Provence, Mont Ventoux, 1850/1650/1450 m, 16.06.91, Wunderle / Paratypus *Geostiba ventosa* m., det. R. Pace 1992 / *Geostiba ventosa* sp. n. det. R. Pace 1992 / *Paraleptusa helitasi* (Peyerimhoff) det. V. Assing 2007 (cWun).

Comments: The original description of *Paraleptusa helitasi* is based on several syntypes from the "Montagnes de Siron... et de Blayeul" and from the "sommet du Ventoux" (PEYERIMHOFF 1900). The examined paratype of *Geostiba ventosa* has four-jointed mesotarsi, refers to *Paraleptusa* PEYERIMHOFF, was collected in the same locality as some of the syntypes of *P. helitasi*, and is in good agreement with the original description of that species. Hence the synonymy proposed above.

A conspicuous character distinguishing this species from all other *Paraleptusa* species known to me, but mentioned neither in the original description of *P. helitasi* nor that of *G. ventosa*, is the pronounced and almost V-shaped posterior excision of the female sternite VIII. For illustrations of the primary sexual characters see PACE (1996).

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Zusammenfassung

Vier Arten der Gattung *Geostiba* THOMSON werden aus dem östlichen Mittelmeerraum beschrieben und abgebildet: *Geostiba (Tropogastrosipalia) janbellini* nov.sp. (Türkei: Antalya), *G. (Sipalotricha) atrioculata* nov.sp. (Türkei: Antalya), *G. (S.) albimontis* nov.sp. (Griechenland: W-Kreta) und *G. spinosula* nov.sp. (Türkei: Osmaniye). Weitere Nachweise von *Geostiba*-Arten werden aus der Türkei und von Kreta gemeldet. *Geostiba ventosa* PACE 1996, nov.syn., wird mit *Paraleptusa helitasi* (PEYERIMHOFF 1900) synonymisiert. Für die aus der Türkei neu beschriebenen Arten wird eine Verbreitungskarte erstellt.

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