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**A revision of *Geostiba* of the West Palaearctic region. XXII.
Two new species from Jordan and the Caucasus,
and additional records
(Coleoptera: Staphylinidae: Aleocharinae)**

Volker ASSING

A b s t r a c t : Two species of *Geostiba* THOMSON, 1858 from the West Caucasus and Jordan are described and illustrated: *Geostiba (Sibiota) artiocarinata* nov.sp. (Russia: Krasnodarskiy Krai) and *G. (Sipalotricha) jordanica* nov.sp., the first representative of the genus to be recorded from Jordan. Additional records of 14 species from the West Palaearctic region are reported.

Key words : Coleoptera, Staphylinidae, Aleocharinae, Geostibini, *Geostiba*, Palaearctic region, Jordan, Caucasus, taxonomy, new species, new records.

Introduction

According to recent revisions, the *Geostiba* fauna of the Eastern Mediterranean east of Italy, including the Caucasus region and Iran, previously comprised 182 species in five subgenera: *Geostiba* THOMSON, 1858 (two species), *Sibiota* CASEY, 1906 (45 species), *Sipalotricha* SCHEERPELTZ, 1931 (37 species), *Chondridiosipalia* SCHEERPELTZ, 1951 (one species), and *Tropogastrosipalia* SCHEERPELTZ, 1951 (97 species) (ASSING 2010, 2011, and references therein). In the meantime, two additional species of *Sipalotricha* and one of *Tropogastrosipalia* have been described from Crete and Samos, respectively (ASSING 2013, 2015a, b), and one name of *Sipalotricha* has been synonymized (ASSING 2015c). A key to the species of the region defined above and a comprehensive catalogue were provided by ASSING (2009).

New material studied since the latest contribution (ASSING 2011) included two undescribed species, one of *Sipalotricha* from Jordan, the first representative of the genus to be recorded from this country, and one of *Sibiota* from the Northwest Caucasus.

Material and methods

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

HNHM Hungarian Natural History Museum, Budapest (Gy. Makranczy)

MNHUB..... Museum für Naturkunde der Humboldt-Universität, Berlin (J. Frisch, J. Willers)

cAss..... author's private collection

cGon..... private collection Andrej Gontarenko, Odessa
 cJal private collection Paweł Jałoszyński, Wrocław
 cKoc private collection Matúš Kocian, Praha
 cPüt private collection Andreas Püt, Eisenhüttenstadt

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software, as well as a digital camera (Nikon Coolpix 995).

Head length was measured from the anterior margin of the clypeus to the posterior margin, elytral length along the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the median lobe of the aedeagus from the apex of the ventral process to the base of the capsule.

Descriptions and additional records

Geostiba (Geostiba) circellaris (GRAVENHORST, 1806)

M a t e r i a l e x a m i n e d : France: 1♂, 1♀, Rhône-Alpes, Chamonix, 2000 m, 19.VIII.1974, leg. Mahunka (HNHM). Romania: 1♂, "Kronstädter Gbg.", leg. Deubel (HNHM). Bosnia-Herzegovina: 2♂♂, 5♀♀, Vrelo Bosne, leg. Fodor (HNHM, cAss). Bulgaria: 2♀♀, Mt. Vitoša near Sofia, deciduous forest zone, 21.VI.2011, leg. Jałoszyński (cJal); 1♂, Mt. Vitoša near Sofia, subalpine zone, 21.VI.2011, leg. Jałoszyński (cAss). Georgia: 1♂, 1♀, 5 km SW Telavi, Shuamta env., 41°54'N, 45°24'E, 900-1000 m, 3.VII.2013, leg. Kocian (cKoc, cAss); 1♀, Central Caucasus, Gveleti, 42°42'N, 44°37'E, 1560 m, 20.VII.2015, leg. Brachat & Meybohm (cAss). Russia: 1♂, Irkutsk, leg. Bokor (HNHM).

Geostiba (Tropogastrosipalia) apfelbecki EPELSHEIM, 1892

M a t e r i a l e x a m i n e d : Bosnia-Herzegovina: Greece: 2♂♂, 2♀♀, Ioánina, O. Kourénto, Vrossina, bivio per Zálongo, 150 m, 20.V.1989, leg. Giachino (cAss, MNHUB).

Geostiba (Tropogastrosipalia) spizzana BERNHAUER, 1932

M a t e r i a l e x a m i n e d : Montenegro: 4 exs., Ulcinj ["Dulcigno"], leg. Winneguth (HNHM, cAss).

Geostiba (Tropogastrosipalia) armata EPELSHEIM, 1878

M a t e r i a l e x a m i n e d : Greece: 2♂♂, 2♀♀, Ioánina, O. Kourénto, Vrossina, bivio per Zálongo, 150 m, 20.V.1989, leg. Giachino (cAss, MNHUB).

Geostiba (Tropogastrosipalia) tiflisensis PACE, 1996

M a t e r i a l e x a m i n e d : Georgia: 1♂, 5 km SW Telavi, Shuamta env., 41°54'N, 45°24'E, 900-1000 m, 3.VII.2013, leg. Kocian (cAss); 1♂, 4♀♀, Central Caucasus, Gudani-Zhinvali, 42°27'N, 44°56'E, 1200 m, 19.VII.2015, leg. Brachat & Meybohm (cAss).

***Geostiba (Sibiota) flava* (KRAATZ, 1856)**

Material examined: Austria: 15 exs., Steiermark, St. Radegund, leg. Beszedes (HNHM).

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

Material examined: Ukraine: 1 ♀, Odessa obl., 10 km SE Rozdil'na, leaf litter, 22.III.2015, leg. Gontarenko (cGon).

***Geostiba (Sibiota) samai* PACE, 1977**

Material examined: Macedonia: 1 ♂, 1 ♀, Bistra Mts., Mavrovo env., picnic site, beech forest, under large stones near stream, 17.VI.2011, leg. Jałoszyński (cAss). Macedonian or Serbian territory: 9 exs., "Schar Dagh Ljuboten" (HNHM, cAss).

***Geostiba (Sibiota) batumiensis* PACE, 1996**

Material examined: Georgia: 1 ♂, 2 ♀ ♀, Mtirala National Park, Chakvistavi env., 41°40'N, 41°53'E, 950-1050 m, 25.VI.2013, leg. Kocian (cKoc, cAss).

***Geostiba (Sibiota) kobrisensis* PACE, 1996**

Material examined: Georgia: 13 exs., Kvemo Svanetia, north slopes of Svaneti Mts., NW Tsanashi, 42°48'N, 42°40'E, 1360 m, 4.VII.2015, leg. Pütz (cPüt, cAss); 1 ex., Kvemo Svanetia, Lechkhumi Mts., Sasashi, Muashi, 42°47'N, 42°59'E, 1390 m, 1.VII.2015, leg. Pütz (cPüt); 6 exs., Ratcha, south slopes of Letchkhumskiy Mts., Likheti env., 42°36'N, 43°14'E, 760 m, 4.VII.2015, leg. Pütz (cPüt, cAss); 8 exs., Ratcha, Ratschinskij Mts., 5 km NW Nakerala pass, Tkibuli env., 42°23'N, 42°59'E, 1440 m, 6.VII.2015, leg. Pütz (cPüt, cAss); 1 ex., Kachetia, Tsiv-Gombori Mts., 5 km W Telavi, 41°54'N, 45°24'E, 1090 m, *Fagus orientalis* forest, 8.VII.2015, leg. Pütz (cAss).

Comment: This microphthalmous species was previously known only from two localities to the north of Tiflis in the Central Caucasus (ASSING 2005). The above records reveal that it is rather widespread across the southern slopes of the Central Caucasus.

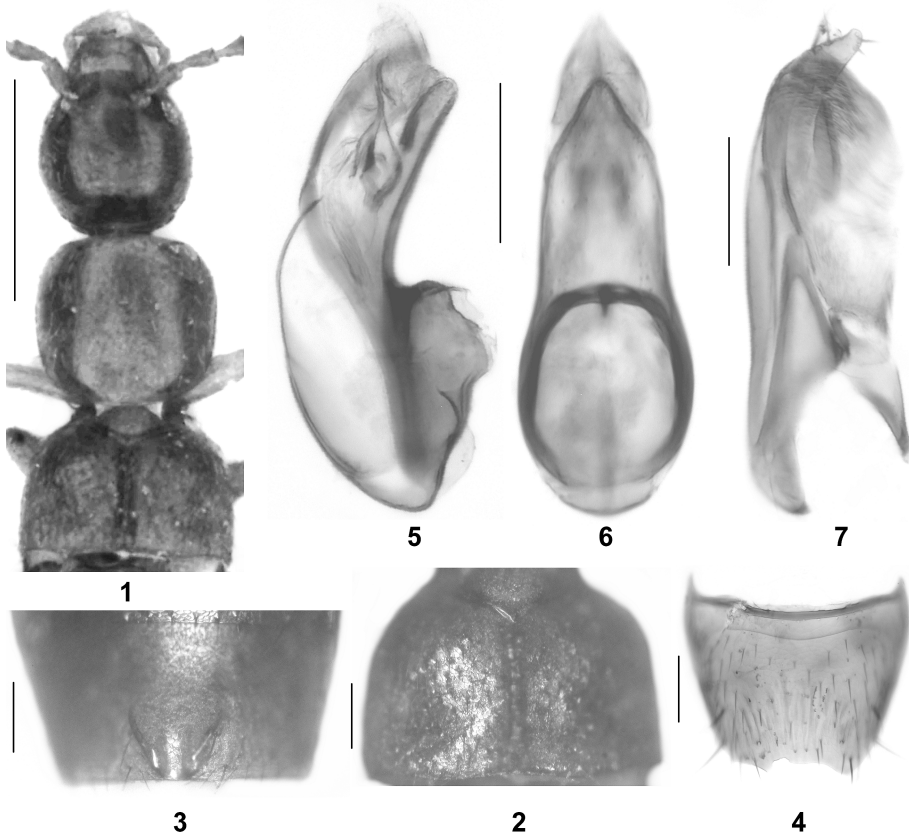
***Geostiba (Sibiota) krzysztofi* (ROUBAL, 1913)**

Material examined: Russia: 4 exs., Caucasus, Elbruz, 3000 m, snowfield, 17.VI.2008, leg. Struyve (cAss).

***Geostiba (Sibiota) articularinata* nov.sp. (Figs 1-7)**

Type material: Holotype ♂: "RUSSIA, NW Caucasus, (Krasnodarskij Kraj), Lagonakskij Mts. rng., Matazyk Mt., 9 km S Guamka, sift., 1082 m, 44°09'05.0"N, 39°54'33.3"E, 21.V.2014, leg. A. Pütz / Holotypus ♂ *Geostiba articularinata* sp. n. det. V. Assing 2016" (cAss).

Etymology: The specific epithet is an adjective composed of the Latin adjectives *artus* (narrow) and *carinatus* (carinate). It alludes to the narrow sutural carinae of the elytra.



Figs 1-7: *Geostiba articularinata* nov.sp.: (1) male forebody; (2) male elytra; (3) male abdominal tergite VII; (4) male abdominal tergite VIII; (5-6) median lobe of aedeagus in lateral and in ventral view; (7) paramere. Scale bars: 1: 0.5 mm; 2-7: 0.1 mm.

Description: Body length 2.7 mm; length of forebody 1.2 mm. Coloration: body reddish-brown; legs yellowish; antennae pale-reddish with the basal three antennomeres yellowish.

Head (Fig. 1) approximately as long as broad; punctation extremely fine, barely noticeable; interstices with microreticulation. Eyes small, with weak pigmentation, and composed of approximately 10 ommatidia, not protruding from lateral contours of head. Antenna distinctly and gradually incrassate apically, antennomere X approximately twice as wide as long.

Pronotum (Fig. 1) 1.07 times as broad as long and nearly 1.2 times as broad as head, without sexual dimorphism; interstices with distinct microreticulation.

Elytra (Figs 1-2) with moderately pronounced sexual dimorphism, 0.65 times as long as pronotum. Hind wings absent.

Abdomen broader than elytra; punctation very fine and sparse, barely noticeable; interstices with distinct microreticulation and only subdued shine; tergite VII with sexual dimorphism; posterior margin of tergite VII without palisade fringe.

♂: elytra (Fig. 2) with narrow carina extending along whole suture, disc with shallow impressions near postero-lateral angles, punctuation very fine, very weakly granulose; abdominal tergite VII (Fig. 3) with posteriorly convergent carinae forming a broad "V" in posterior half; posterior margin of tergite VIII (Fig. 4) distinctly concave in the middle; posterior margin of sternite VIII broadly convex; median lobe of aedeagus (Figs 5-6) 0.25 mm long, with small crista apicalis and crista proximalis, and without semi-transparent spines in internal sac; paramere (Fig. 7) with relatively stout apical lobe.

♀: unknown.

Comparative notes: Regarding its external and male sexual characters, *G. articularinata* is most similar to *G. convergens* ASSING, 2011 (West Caucasus: region to the south of Mount Fisht), from which it differs by darker coloration, a less transverse pronotum without modifications in the male (*G. convergens*: male pronotum with an oblong impression on either side of the middle and with coarser punctuation), much narrower, less strongly elevated, and contiguous sutural carinae on the male elytra, and a smaller aedeagus (*G. convergens*: 0.3 mm) with smaller crista apicalis and crista proximalis. For illustrations of *G. convergens* see ASSING (2011).

Distribution and natural history: The type locality, Matazyk Mountain, is situated in the northwestern Caucasus to the south of Guamka. The specimen was sifted at an altitude of approximately 1080 m.

***Geostiba (Chondridiosipalia) cingulata* (EPELSHEIM, 1878)**

Material examined: Georgia: 3 exs., Kvemo Svanetia, Lechkhumi Mts., Sasashi env., Muashi, 42°47'N, 42°59'E, 1390 m, 1.VII.2015, leg. Pütz (cPüt, cAss); 1 ♂, Algeti National Park, W Manglisi, 41°42'N, 44°21'E, 1120 m, 11.VII.2015, leg. Brachat & Meybohm (cAss); 1 ex., Algeti National Park, W Manglisi, 41°42'N, 44°19'E, 1110 m, 11.VII.2015, leg. Brachat & Meybohm (cAss); 1 ex., Algeti National Park, Manglisi, 41°42'N, 44°23'E, 1190 m, 12.VII.2015, leg. Brachat & Meybohm (cAss); 3 exs., same data, but 13.VII.2015 (cAss); 1 ex., Algeti National Park, Manglisi-Tiflis, 41°40'N, 44°25'E, 970 m, 12.VII.2015, leg. Brachat & Meybohm (cAss); 3 ♀ ♀, Central Caucasus, Gudani-Zhinvali, 42°19'N, 44°53'E, 980 m, 19.VII.2015, leg. Brachat & Meybohm (cAss); 3 ♂ ♂, 2 ♀ ♀, Central Caucasus, Kvesheti, 42°27'N, 44°32'E, 1500 m, 22.VII.2015, leg. Brachat & Meybohm (cAss).

***Geostiba (Sipalotricha) arida* (EPELSHEIM, 1881)**

Material examined: Montenegro: 6 exs., Kotor, leg. Apfelbeck (HNHM, cAss); 2 exs., Njeguš [42°33'N, 18°47'E], 1903, leg. Apfelbeck (HNHM, cAss).

***Geostiba (Sipalotricha) gontarenkoi* ASSING, 2005**

Material examined: Ukraine: 1 ex., Odessa env., right bank of Kuyalnik liman, under stone, 9.III.2015, leg. Gontarenko (cGon).

***Geostiba (Sipalotricha) jordanica* nov.sp. (Figs 8-13)**

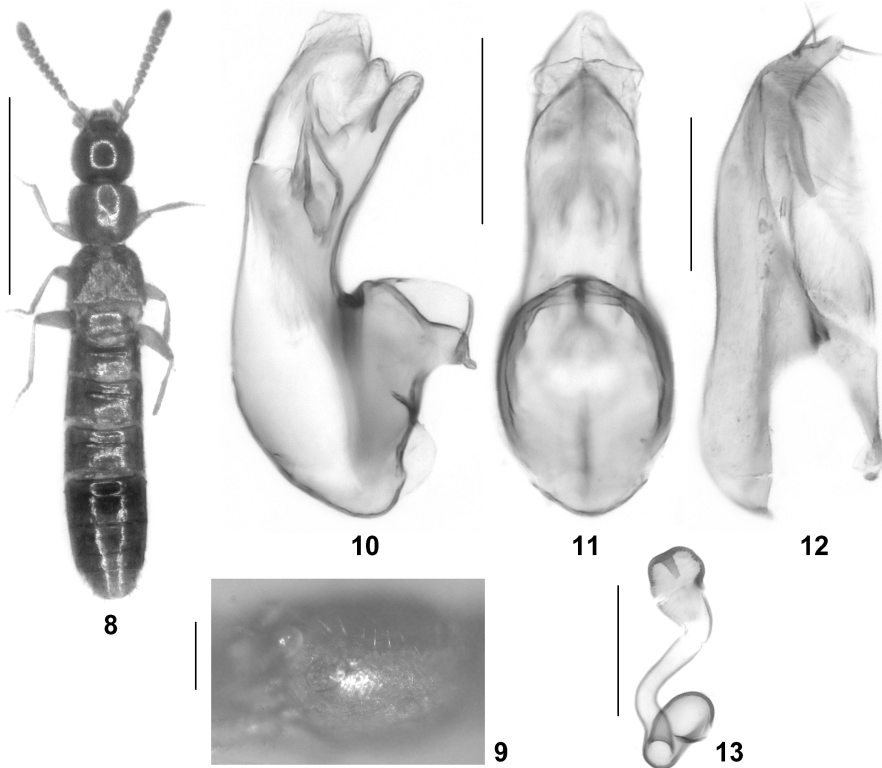
Type material: Holotype ♂: "N32°26'18 E35°45'37, Jordan Irbid, Zubia 840-600 m (4), lg. Meybohm 22.2.2014 / Holotypus ♂ *Geostiba jordanica* sp. n. det. V. Assing 2016" (cAss). Paratypes: 3 ♂ ♂: "N32°22'46 E35°45'50, Jordan Irbid 1050 m (6), Ajlun Forest Reserve, Meybohm 23.2.2014" (cAss); 2 ♂ ♂, 1 ♀: "N32°26'12 N35°44'33 [sic; recte: E35°44'33], Jordan Irbid 840 m, Zubia Umg. Cave (12), lg. Meybohm, 2.3.2015" (cAss).

E t y m o l o g y : The specific epithet is derived from Jordan, where this species was discovered and where it is currently the sole representative of the genus.

D e s c r i p t i o n : Body length 2.2-2.6 mm; length of forebody 0.9-1.1 mm. Coloration: head and pronotum yellowish-red to pale-brown; elytra yellowish-red; abdomen yellowish-red to pale-brown, with the anterior portion of segment VI weakly infuscate; legs yellowish; antennae reddish-yellow.

Head (Fig. 8) approximately as long as broad; punctation extremely fine, barely noticeable; interstices with very shallow, barely noticeable microsculpture. Eyes (Fig. 9) small, not protruding from lateral contours of head, composed of few ommatidia with pigmentation, approximately one-fifth as long as postocular region in dorsal view. Antenna approximately 0.7 mm long; antennomere IV strongly transverse, approximately twice as broad as long; antennomeres V-X of gradually increasing width and increasingly transverse; X approximately three times as broad as long.

Pronotum (Fig. 9) weakly transverse, approximately 1.1 times as broad as long and 1.1 times as broad as head; punctation and microsculpture similar to those of head.



Figs 8-13: *Geostiba jordanica* nov. sp.: (8) habitus; (9) head in lateral view; (10-11) median lobe of aedeagus in lateral and in ventral view; (12) paramere; (13) spermatheca. Scale bars: 8: 1.0 mm; 9-13: 0.1 mm.

Elytra (Fig. 9) approximately 0.6 times as long as pronotum; punctation moderately sparse and fine, though more distinct than that of pronotum. Hind wings absent.

Abdomen as broad as elytra; punctation fine and sparse; interstices with shallow, but distinct microsculpture; posterior margin of tergite VII without palisade fringe; posterior margin of tergite VIII convex, in the middle truncate or indistinctly concave.

♂: posterior margin of sternite VIII broadly and weakly convex; median lobe of aedeagus (Figs 10-11) 0.24 mm long, with pronounced crista apicalis and crista proximalis; paramere (Fig. 12) 0.32 mm long and with slender apical lobe.

♀: posterior margin of sternite VIII broadly and weakly convex; spermatheca shaped as in Fig. 13.

Comparative notes: The geographically closest representative of the subgenus *Sipalotricha* is *Geostiba libanensis* PACE, 1983 from Lebanon. *Geostiba jordanica* is distinguished from this species above all by the primary sexual characters. In *G. libanensis*, the ventral process of the aedeagus is stouter and not distinctly curved in lateral view, the crista apicalis is shorter, the crista proximalis is of different shape, and both the distal and the proximal portions of the spermathecal capsule are longer and more slender. For illustrations of *G. libanensis* see PACE (1983: figures 164-169).

Distribution and natural history: *Geostiba jordanica* is currently known only from three geographically close localities in Irbid, Jordan. It is first representative of the genus to be recorded from Jordan (ASSING 2009). The specimens were collected by sifting litter in *Quercus calliprinos* forests and in shrubland with *Quercus calliprinos* (MEYBOHM pers. comm.) at altitudes between 600 and 1050 m.

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I am indebted to the colleagues indicated in the material section for the loan of material from the collections under their care. In particular, I am grateful to Andreas Pütz for the generous gift of the holotype of *G. articularinata* and to Heinrich Meybohm (Großhansdorf) for the gift of Staphylinidae from Jordan.

Zusammenfassung

Zwei Arten der Gattung *Geostiba* THOMSON, 1858 aus dem Westkaukasus und Jordanien werden beschrieben und abgebildet: *Geostiba (Sibiota) articularinata* nov.sp. (Russland: Krasnodar) und *G. (Sipalotricha) jordanica* nov.sp., der erste Nachweis der Gattung aus Jordanien. Weitere Nachweise von 14 Arten werden aus der Westpaläarktis gemeldet.

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Author's address:

Dr. Volker ASSING
Gabelsbergerstr. 2
D-30163 Hannover, Germany
E-mail: vassing.hann@t-online.de

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