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# On the Iberian species of *Geostiba* and *Paraleptusa*. II. Two new species from Spain and notes on *G. vidua* PACE (Coleoptera: Staphylinidae, Aleocharinae)

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A b s t r a c t : *Geostiba segurae* sp. n. and *Paraleptusa spectans* sp. n., both apparently endemic to the Sierra de Segura (Spain: Andalucía), are described, illustrated and distinguished from their Iberian congeners. *Paraleptusa spectans* is the second species of the genus known from Spain. The previously unknown male sexual characters of *G. vidua* PACE are described and illustrated.

K e y w o r d s : Coleoptera, Staphylinidae, Aleocharinae, *Geostiba, Paraleptusa,* Palaearctic region, Spain, taxonomy, new species

## 1. Introduction

The genus *Geostiba* THOMSON is represented in continental Spain by some 50 species and subspecies; 2 species occur in the Canary Islands. Only recently, several new species were described from the Iberian Peninsula by PACE (2002) and ASSING (2003), suggesting that our current knowledge of the *Geostiba* fauna of this region is still rather incomplete. The genus *Paraleptusa* PEYERIMHOFF has an almost circum-Mediterranean distribution and currently includes almost 20 species and subspecies; there is some evidence, however, suggesting that this taxon may be polyphyletic (ASSING 2001). Only one species, *Paraleptusa anophthalma* (EPPELSHEIM 1884), was previously known from Spain.

The present paper is based on material collected during a field trip to eastern Spain in spring 2003, which yielded not only an undescribed species of *Geostiba* and the previously unknown male of *G. vidua* PACE, but also a new species of *Paraleptusa*, the second representative of the genus in Spain.

## 2. Material

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

OÖLML..... Oberösterreichisches Landesmuseum/Biologiezentrum Linz
cAss..... author's private collection
cWun..... private collection P. Wunderle, Mönchengladbach

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## 3. Descriptions

***Geostiba* (*Typhlusida*) *segurae* sp. n. (Figs. 1-14)**

Holotype ♂: E - No. 5, Andalucia, Sierra de Segura, 15 km S Pontones, 1580m, 38°04'23N, 02°41'19W, 7.IV.2003, leg. V. Assing / Holotypus ♂ *Geostiba segurae* sp. n. det. V. Assing 2003 (cAss). Paratypes: 8♂♂, 12♀♀: same data as holotype (cAss, OÖLML); 6♂♂, 6♀♀: same data, but leg. Wunderle (cWun).

Description: 2.3 - 2.8 mm; facies as in Fig. 2. Coloration rather variable, usually rather dark-coloured: head dark brown; pronotum and elytra brown, abdomen brown with the preapical segments blackish, antennae light brown, legs and palpi testaceous; occasionally, the body may be more or less uniformly ferrugineous, with infuscate preapical abdominal segments and testaceous legs.

Head approximately as wide as long (length measured from anterior margin of clypeus); eyes in dorsal view less than half the length of postocular region, not projecting from lateral outline of head (Figs. 3, 4); integument with very shallow microreticulation and rather shining.

Pronotum 1.10 - 1.15 times as wide as head; with sexual dimorphism (Figs. 3, 4), microreticulation as shallow as that of head.

Elytra at suture approximately 0.6 times as long as pronotum; in posterior half with more or less pronounced diagonal triangular impression (Figs. 3, 4); microsculpture similar to that of pronotum; puncturation with sexual dimorphism. Hind wings reduced.

Abdomen 1.10 - 1.15 times as wide as elytra (Fig. 2); microsculpture distinct, predominantly composed of more or less transverse meshes; puncturation very fine and sparse, barely noticeable (Fig. 5).

♂: pronotum broader and more transverse, approximately 1.15 times as wide as long, with extensive, but not very deep median impression (Fig. 3), puncturation slightly more distinct; puncturation of elytra granulose and near suture rather dense; abdominal segment VII at posterior margin with longitudinal elevation or oblong tubercle (Fig. 5); posterior margin of tergite VIII in the middle with shallow concavity (Fig. 6); sternite VIII posteriorly convex (Fig. 7); median lobe of aedeagus and apical lobe of paramere as in Figs. 10 - 12.

♀: pronotum slightly less transverse, about 1.10 times as wide as long, without distinct median impression and usually with slighty finer puncturation (Fig. 4); elytra with very fine sparse puncturation; abdominal segment VII unmodified; posterior margin of tergite VIII without central concavity (Fig. 8); posterior margin of sternite VIII broadly convex, in the middle weakly concave (Fig. 9); spermatheca as in Figs. 13 - 14.

Etymology: The name (noun, genitive) is derived from the Sierra de Segura, where the species is probably endemic.

Comparative notes and systematics: The new species is distinguished from *G. vidua* PACE, the geographically closest congener of the subgenus *Typhlusida*, by the (on average) darker coloration, the impressed elytra in both sexes, the (on average) shallower concavity of the posterior margin of the ♂ tergite VIII, by the more pronounced, longer, and more elevated median tubercle on the ♂ tergite VII; by the shorter and less slender ventral process of the median lobe of the aedeagus, and by the

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different shape of the spermatheca (see Figs. 15 - 24). Nine other species of *Typhlusida* have been recorded from Andalucía, but they are endemic to mountain ranges in the south and west of Andalucía and are distinguished from *G. segurae* especially by the different primary and secondary sexual characters.

Distribution and bionomics: *Geostiba segurae* is very likely to be an endemic of the Sierra de Segura in Andalucía, southeastern Spain. It was found under stones and sifted from grass roots near the edge of a pine forest at an altitude of about 1600 m (Fig. 1), together with numerous specimens of *Geostiba heydeni* (EPPELSHEIM), a new species of *Paraleptusa* (see below), and an undescribed species of *Sunius* CURTIS.

### *Geostiba* (*Typhlusida*) *vidua* PACE (Figs. 15-24)

*Geostiba* (*Tylosipalia*) *vidua* PACE 1983: 14ff.

Material examined: 3♂♂, 7♀♀, Spain, SW Albacete, Sierra de Alcaraz, 15 km NNE Riópar, 38°31′55N, 02°25′01W, 1380 m, 7.IV.2003, leg. Assing (cAss); 2♂♂, 2♀♀, SW Albacete, Sierra de Alcaraz, 15 km NNE Riópar, 38°32′10N, 02°24′36W, 1350 m, 7.IV.2003, leg. Assing (cAss).

Remarks: The original description of this species is based on a single female collected very close to the localities where the material listed above was found. The species is probably endemic to the Sierra de Alacaraz. It is now possible to describe the previously unknown male sexual characters; for illustrations of the habitus and the female sexual characters see Figs.15, 16, 20, 24.

♂: pronotum with extensive, but shallow median impression (similar to that in *G. segurae*) and on average slightly more transverse than in ♀ (Fig. 16). Elytra not (or only indistinctly) impressed, near suture with dense and distinctly granulose puncturation (Fig. 16); median tubercle at the posterior margin of tergite VII short, weakly elevated, and apically more or less truncate (Fig. 17); posterior margin of tergite VIII in the middle with distinct concavity (Fig. 18); sternite VIII with convex posterior margin (Fig. 19); median lobe of aedeagus and apical lobe of paramere as in Figs. 21 - 23.

### *Paraleptusa spectans* sp. n. (Figs. 1, 25 - 32)

Holotype ♂: E - No. 5, Andalucia, Sierra de Segura, 15 km S Pontones, 1580m, 38°04′23N, 02°41′19W, 7.IV.2003, leg. V. Assing / Holotypus ♂ *Paraleptusa spectans* sp. n. det. V. Assing 2003 (cAss). Paratypes: 2♀♀: same data as holotype (cAss); 1♂, 2♀♀: same data, but leg. Wunderle (cWun).

Description: 2.0 - 2.5 mm (abdomen fully extended); facies as in Fig. 25. Whole body testaceous with abdominal segments VI and VII more or less infuscate in the middle.

Head weakly oblong (length measured from anterior margin of clypeus); eyes small, in dorsal view approximately one fourth the length of postocular region, not projecting from lateral outline of head, composed of about 10 pigmented ommatidia; integument with distinct microreticulation; puncturation extremely fine, barely noticeable. Antennae distinctly incrassate apically; antennomeres I and II of subequal length; III shorter than II, coniform, about 1.5 times as long as wide; IV moderately transverse; V - X increasingly transverse and of increasing width; X more than twice as wide as long; XI approximately as long as the combined length of the two preceding antennomeres (Fig. 26).

Pronotum weakly transverse, about 1.05 - 1.10 times as wide as long and 1.05 - 1.10

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times as wide as head; maximal width between anterior angles and middle (Fig. 26); microsculpture and puncturation similar to those of head; pubescence directed caudad along midline and more or less transversely laterad in lateral areas.

Elytra at suture approximately 0.70 times as long as pronotum (Fig. 26); with slightly shallower microsculpture and somewhat more shine than pronotum; puncturation very sparse, fine, and weakly granulose. Hind wings completely reduced. Legs relatively short; tarsal formula 4, 4, 5.

Abdomen gradually increasing in width from segment III to segment VII, widest at segment VII, and slightly (1.05 - 1.10 x) wider than elytra (Fig. 25); microsculpture shallow, but distinct, composed of isodiametric meshes; puncturation sparse, very fine, and weakly granulose; posterior margin of tergite VII without palisade fringe; tergite VIII without sexual dimorphism, posteriorly weakly convex (Fig. 27).

♂: posterior margin of sternite VIII obtusely pointed and with long thin marginal setae in the middle; median lobe of aedeagus and apical lobe of paramere as in Figs. 29 - 31.

♀: posterior margin of sternite VIII moderatly convex, with weakly modified marginal setae (Fig. 28); spermatheca as in Fig. 32.

Etymology: The name is the present participle of the Latin verb spectare (to look) and refers to the presence of functioning eyes.

Comparative notes: *Paraleptusa anophthalma* (EPPELSHEIM), the only other species of the genus known from Spain, is readily distinguished from the new species by the completely reduced eyes.

Distribution and bionomics: As can be inferred from the adaptive reductions of the eyes, wings, and pigmentation, as well as from the restricted distributions of the other species of the genus, *P. spectans* is probably endemic to the Sierra de Segura, western Andalucía. It was found under stones and sifted from grass roots near the edge of a pine forest at an altitude of almost 1600 m (Fig. 1), together with *Geostiba segurae* sp. n. and a new species of *Sunius* CURTIS.

## Zusammenfassung

*Geostiba segurae* sp. n. und *Paraleptusa spectans* sp. n., beide vermutlich in der Sierra de Segura (Spanien: Andalucía) endemisch, werden beschrieben und von ähnlichen Arten der iberischen Halbinsel unterschieden; Habitus und wesentliche Differentialmerkmale werden abgebildet. *Paraleptusa spectans* ist die zweite Art der Gattung aus Spanien. Die bisher unbekannten männlichen Sexualmerkmale von *G. vidua* PACE werden beschrieben und abgebildet.

## References

ASSING V. (2001): A revision of the Turkish species of *Geostiba* THOMSON 1858 and *Tropimenelytron* PACE 1983 (Coleoptera: Staphylinidae, Aleocharinae). — Linzer biol. Beitr. 33/1: 137-185.

ASSING V. (2003): New species of *Geostiba* THOMSON from the Iberian Peninsula (Coleoptera: Staphylinidae, Aleocharinae). — Linzer biol. Beitr. 35/1 : 519-532.

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PACE R. (1983): 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). — Revue suisse Zool. **90**: 3-46.

PACE R. (2002): Nuove specie del genere *Geostiba* THOMSON (Coleoptera Staphylinidae) - 152° Contributo alla conoscenza delle Aleocharinae. — Boll. Mus. Civ. St. Nat. Verona **26**: 3-25.

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**Fig. 1:** Type locality of *Geostiba segurae* sp. n. and *Paraleptusa spectans* sp. n.

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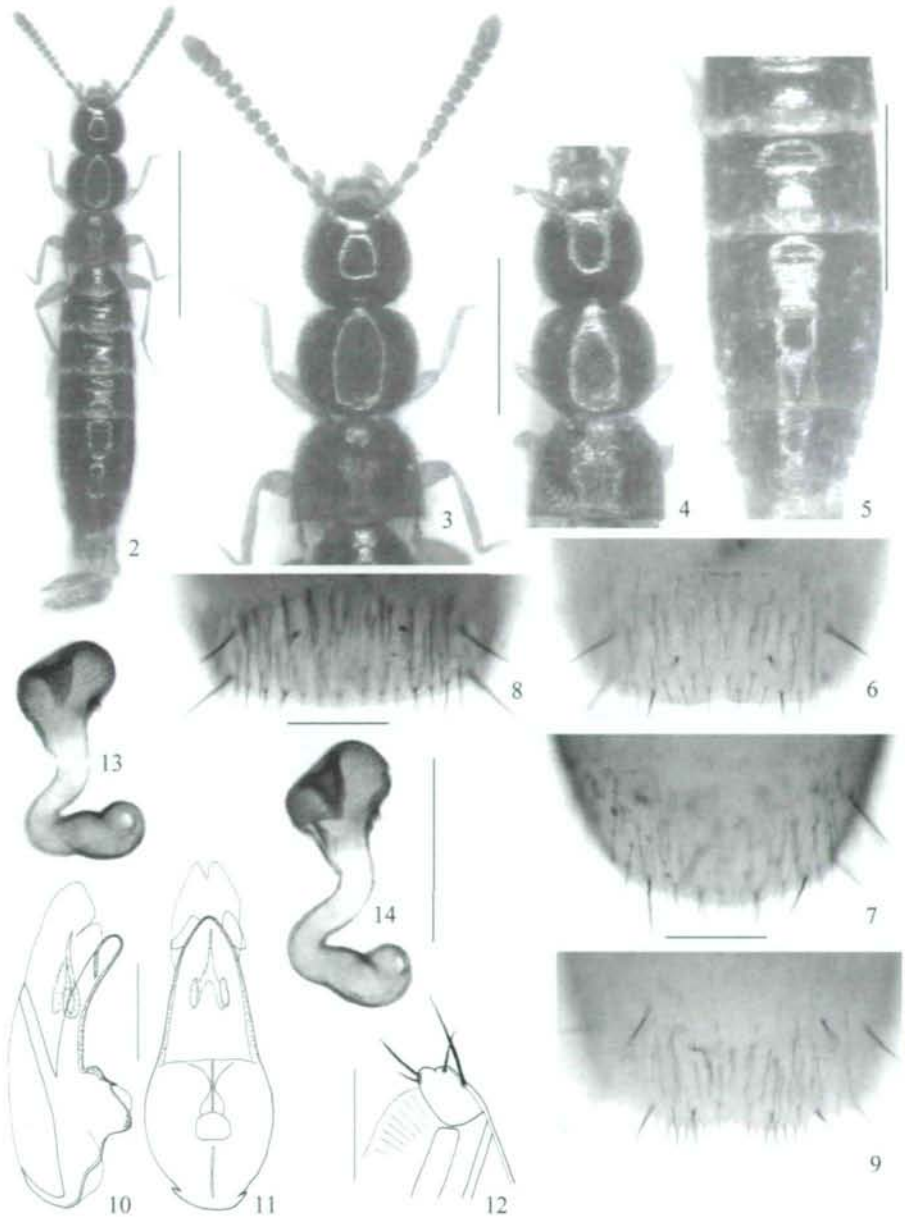


**Figs. 2-14:** *Geostiba segurae* sp. n.: **2** – facies (♂); **3** – ♂ forebody in dorsal view; **4** – ♀ forebody in dorsal view; **5** – posterior part of ♂ abdomen in dorsal view; **6** – posterior part of ♂ tergite VIII; **7** – posterior part of ♂ sternite VIII; **8** – posterior part of ♀ tergite VIII; **9** – posterior part of ♀ sternite VIII; **10, 11** – median lobe of aedeagus in lateral and in ventral view; **12** – apical lobe of paramere; **13, 14** – spermathecae of two ♀♀. Scales: 2: 1.0 mm; 3 - 5: 0.5 mm; 6 - 14: 0.1 mm.

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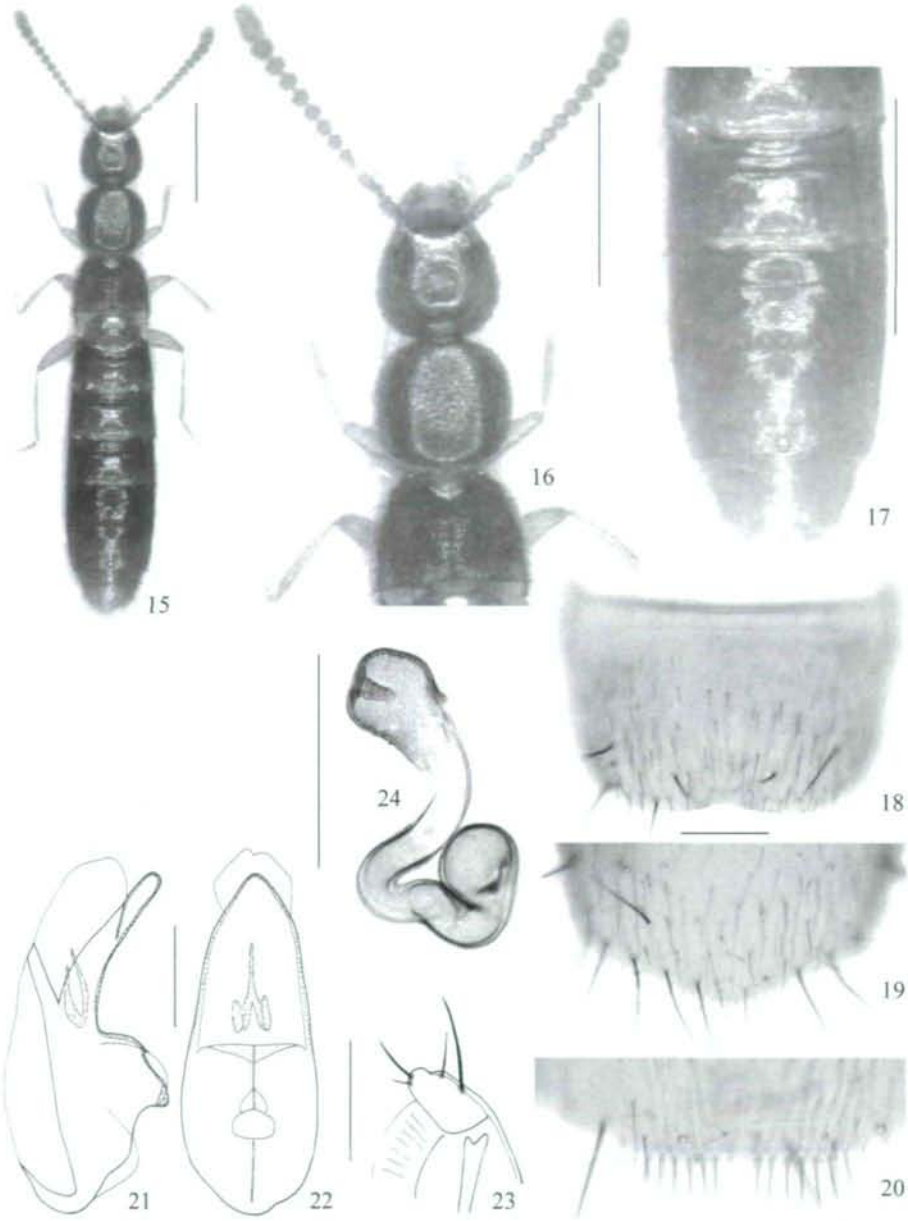


**Figs. 15-24**: *Geostiba vidua* PACE: **15** – facies (♂); **16** – ♂ forebody in dorsal view; **17** – posterior part of ♂ abdomen in dorsal view; **18** – ♂ tergite VIII; **19** – posterior part of ♂ sternite VIII; **20** – posterior part of ♀ sternite VIII; **21, 22** – median lobe of aedeagus in lateral and in ventral view; **23** – apical lobe of paramere; **24** – spermatheca. Scales: 15 - 17: 0.5 mm; 18 - 24: 0.1 mm.

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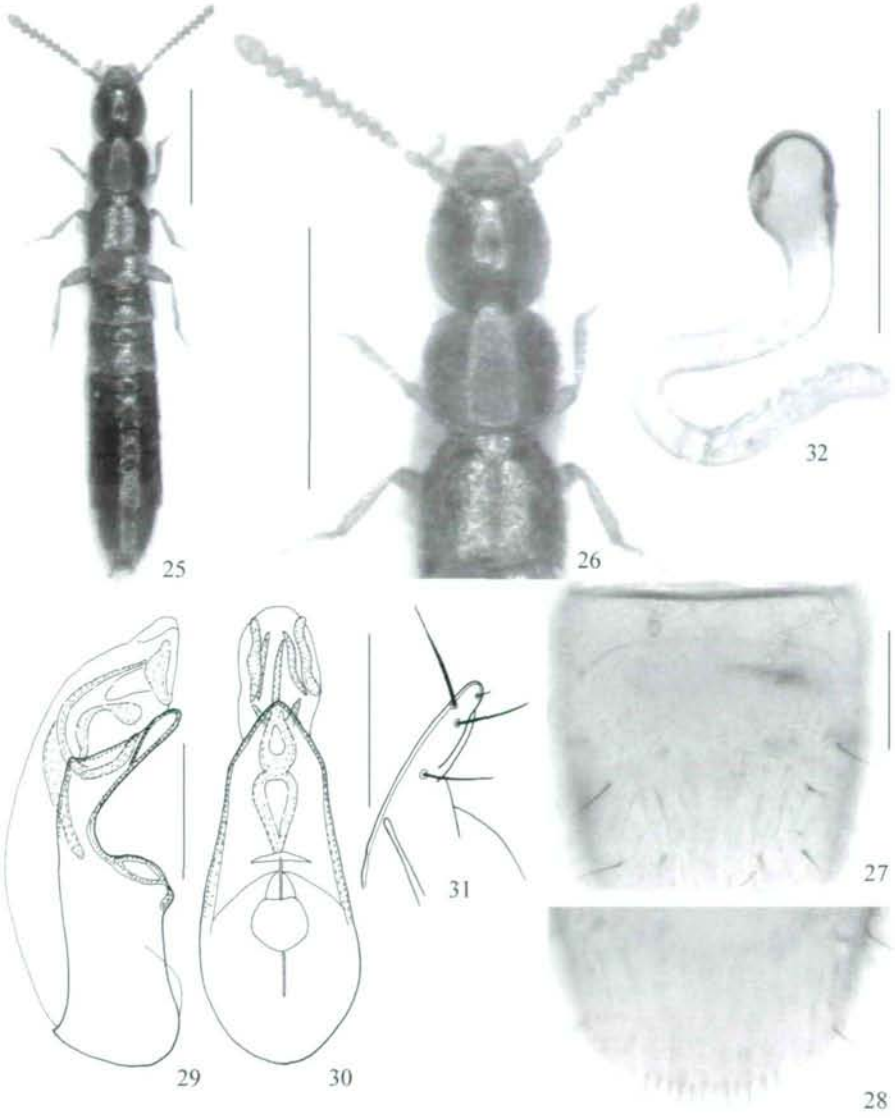


**Figs. 25-32**: *Paraleptusa spectans* sp. n.: **25** – facies; **26** – forebody in dorsal view; **27** – ♀ tergite VIII; **28** – posterior part of ♀ sternite VIII; **29, 30** – median lobe of aedeagus in lateral and in ventral view; **31** – apical lobe of paramere; **32** – spermatheca. Scales: 25-26: 0.5 mm; 27 - 32: 0.1 mm.

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