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## **A new species of the *Stenus glacialis* group from the northeastern Iberian Peninsula (Coleoptera: Staphylinidae, Steninae)**

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**A b s t r a c t :** *Stenus* (*Hemistenus*) *par* sp. n. (northeastern Spain) is described, illustrated, and distinguished from other species of the *Stenus glacialis* group with an unmodified fourth tarsomere. The distribution of these species in the Iberian peninsula is mapped.

**K e y w o r d s :** Coleoptera, Staphylinidae, Steninae, *Stenus*, West Palaearctic region, Europe, Spain, taxonomy, new species.

### **Introduction**

Previously, five species of the *Stenus glacialis* group with a simple (i. e. not or not clearly bilobed) fourth tarsomere were known from the Western Mediterranean, one from Morocco (*Stenus cyanomelas* PUTHZ ) and four from the Iberian Peninsula (*S. festivus* BENICK, *S. bussacoensis* PUTHZ, *S. virgo* ASSING, *S. vidua* ASSING) (ASSING 2000). All these species are of utmost rarity, which is also reflected by the fact their original descriptions are, without exception, based on single specimens and that some of them have not been recorded again since their first discovery. They are neither extremely small, nor are they confined to biotopes and elevations that are particularly difficult to access, suggesting that they occur in an unknown cryptic - probably subterranean - habitat, where they are found only by chance.

During a recent field trip to Spain, yet another representative of this species group was discovered in the Sierra de Albarracín. Since a male and a female were collected together, it is possible to describe the sexual characters of both sexes. Another male of this species was found in the collection of Volker Puthz, Schlitz.

### **Material, measurements, and abbreviations**

The material referred to in this study is deposited in the following collections:

ZSM..... Zoologische Staatssammlung München

cAss..... author's private collection

cPut..... private collection Volker Puthz, Schlitz

The comparative study is based on the following material:

*Stenus festivus*: ♂ holotype (ZSM), additional ♀ from Alicante (cPut); *Stenus virgo*: ♀ holotype (cAss); *Stenus vidua*: ♀ holotype (cAss); *Stenus cyanomelas*: 2♂♂ from Morocco (cPut, cAss).

The following abbreviations are used for the measurements, which are given in mm:

HW: head width across (and including) eyes; PW: maximal width of pronotum; PL: length of pronotum along median line; EL: length of elytra from apex of scutellum to posterior margin; TiL: length of metatibia; TaL: length of metatarsus; ML: length of aedeagus from apex of ventral process to base; TL: total length.

### *Stenus par* sp. n. (Figs. 1, 4 - 12; Map 1)

**H o l o t y p e** ♂: E - No. 14; WNW Teruel, Sierra de Albarracín, Sierra Alta, 1850m, 40°29'03N, 01°35'21W, 11.IV.2003, leg. V. Assing / Holotypus ♂ *Stenus par* sp. n. det. V. Assing 2003 (cAss). **P a r a t y p e s**: 1♀: same data as holotype (cAss); 1♂: Lomos de Orios [= Ermita de Lomos de Orios, Sierra Cebollera, Villoslada de Cameros, La Rioja], 5.5.14 / Sammlung J. Daniel / *Stenus festivus* L. Benick det. V. Puthz / Leihgabe ZSM (cPut).

**D e s c r i p t i o n**: Measurements (in mm) and ratios (range; n=3): HW: 1.06 - 1.15; PW: 0.76 - 0.79; PL: 0.80 - 0.85; EL: 0.91 - 1.00; TiL: 1.06 - 1.13; TaL: 0.82 - 0.88; ML: 0.86; TL: 5.3 - 6.5; HW/PW: 1.40 - 1.46; PL/PW: 1.04 - 1.08; EL/PL: 1.13 - 1.18; TiL/TaL: 1.26 - 1.34.

Body black, without distinct metallic hue; legs testaceous with the apical halves of the profemora weakly, those of the mesofemora moderately, and those of the metafemora distinctly infuscate; maxillary palpi testaceous; antennae testaceous with the apical antennomeres infuscate. Whole body without microsculpture and with distinctly shining interstices. Pubescence greyish, suberect, rather inconspicuous. Facies as in Figs. 4 - 6.

Head of similar morphology as in *S. festivus*, but median dorsal area between frontal furrows with denser, more regular, and more well-defined puncturation (Fig. 6). Pronotum as in *S. festivus* weakly oblong (see ratio PL/PW), with more or less uneven dorsal surface, coarse and dense puncturation, and distinctly dilated in anterior half (Fig. 6).

Elytra at suture longer than pronotum (see ratio EL/PL), with distinctly concave lateral margins, widest in posterior half, a short distance anterior to posterior margin; dorsal surface more or less uneven; on the whole similar to elytra of *S. festivus*, but more convex in cross-section (i. e. less depressed), with slightly more pronounced anterior angles ("shoulders"), and with slightly less dense puncturation (Fig. 6). Hind wings of reduced length, approximately 1.5 times as long as elytra.

Legs of similar morphology as in *S. festivus*, but with distinct sexual dimorphism; fourth tarsomere simple, not bilobed.

Abdomen as in *S. festivus*; tergites anteriorly with coarse and dense, posteriorly with very fine and sparse puncturation; posterior margin of tergite VII with palisade fringe.

♂: pro-, meso-, and metafemora stout (Fig. 4); tibiae without conspicuous spines; sternite VIII moderately emarginate posteriorly; sternite IX as in Fig. 10; aedeagus as in Figs. 7 - 9.

♀: femora, especially meso- and metafemora more slender than in ♂ (Fig. 5); valvifer as in Fig. 12; spermatheca as in Fig. 11.

**E t y m o l o g y :** The name (Lat., adj.: coupled) refers to the fact that, in contrast to its closest relatives (e. g. *S. virgo*, *S. vidua*), the type series of this species includes both sexes.

**Comparative notes:** From the similar *S. festivus* (Figs. 2 - 3) the new species is best distinguished by the more densely and coarsely punctate median part of the head (Fig. 6), the more convex (cross-section) elytra with more pronounced anterior angles, the more pronounced sexual dimorphism of the legs (in *S. festivus* barely noticeable, ♀ femora almost as stout as that of ♂; see Fig. 3), the apically longer median lobe of the aedeagus (apex more distinctly projecting beyond parameral apices), the more slender sclerotized structures in the internal sac, and the smaller spermatheca with a longer and more slender duct.

In addition to the different morphology of the primary sexual characters, *S. par* is distinguished from the other Western Mediterranean relatives with a simple fourth tarsomere as follows:

*Stenus cyanomelas* and *S. bussacoensis* have a bluish hue; the former also has apically distinctly infusate profemora, more pronounced frontal furrows (i. e. a more elevated median area of the head), and shorter elytra with denser and finer puncturation.

In *S. virgo*, the integument of pronotum and elytra is less uneven and has more regularly spaced puncturation, the elytra are shorter (at suture approximately as long as pronotum), the pubescence of the whole body is longer and more erect, and the spermatheca has a much longer and thinner duct.

In *S. vidua*, the puncturation of the pronotum and elytra is much finer and denser, the elytra are larger, of more subquadrate shape, and more convex in cross-section, the hind wings are apparently fully developed, and the pubescence is shorter and decumbent.

For illustrations of the sexual characters of the related species see ASSING (1996, 2000) and PUTHZ (1967, 1971, 1993).

**D i s t r i b u t i o n a n d b i o n o m i c s :** The species is known only from two localities in Aragón and La Rioja, northeastern Spain (Map 1). The specimens from the Sierra de Albarracín were found near the peak of Sierra Alta in the transitional zone between a scree field and a pine forest (Fig. 1). They were sifted from soil and *Vaccinium* roots between rocks at an altitude of 1850 m, together with several specimens of *Alevonota ocaleoides* (BRISOUT), an aleocharine species which, too, is probably associated with a (similar?) cryptic subterranean habitat.

### Acknowledgements

I am most grateful to the colleagues indicated in the material section for the kind loan of material of *Stenus festivus* and related species. Ignacio Ribera and Carles Hernando (Barcelona/Hannover) helped with the identification of some Spanish localities. Volker Puthz (Schlitz) and Benedikt Feldmann (Münster) kindly reviewed the manuscript.

### Zusammenfassung

*Stenus (Hemistenus) par* sp. n. (Nordost-Spanien) wird beschrieben und von anderen westmediterranen Vertretern der *S. glacialis*-Gruppe mit ungelapptem vierten Tarsenglied unterschieden. Habitus und wesentliche Differentialmerkmale werden abgebildet. Die bekannte Verbreitung der Artengruppe auf der iberischen Halbinsel wird anhand einer Karte dargestellt.

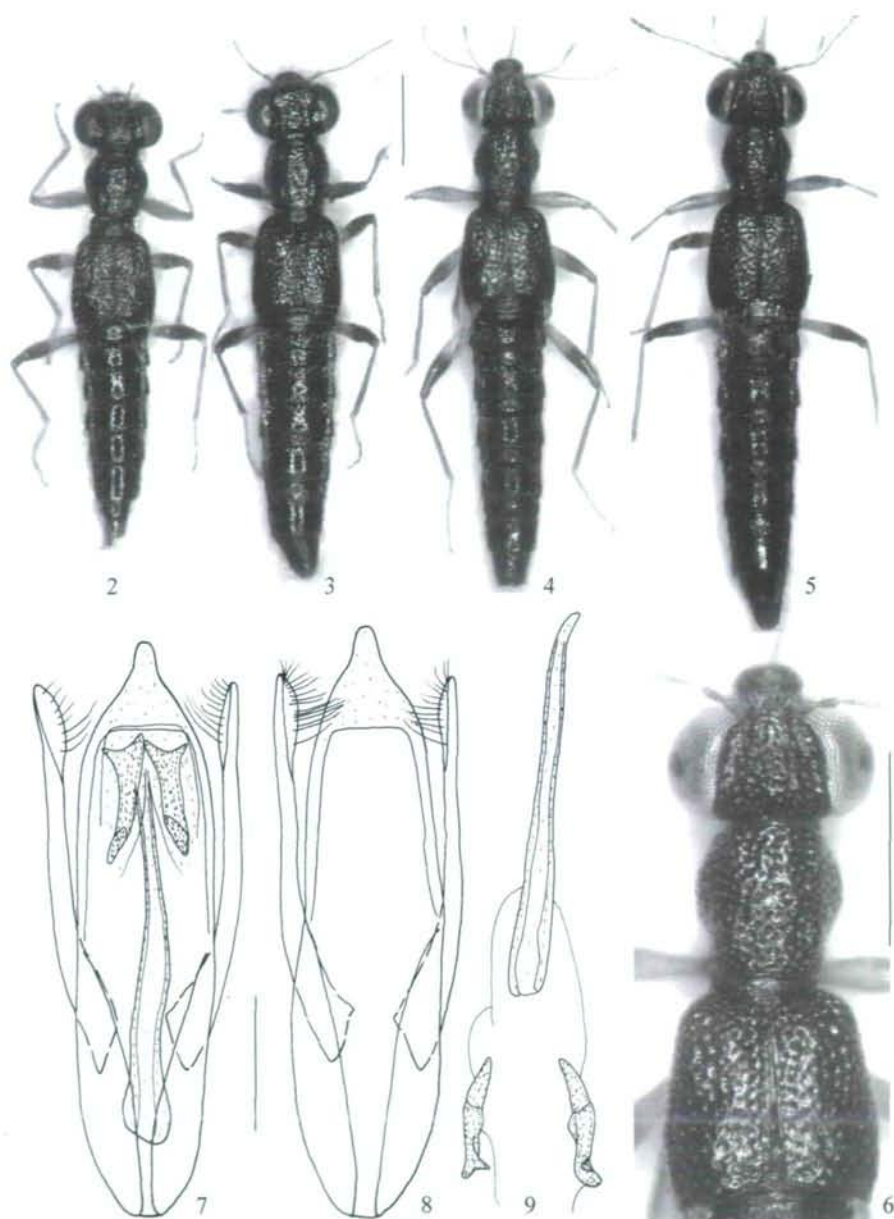
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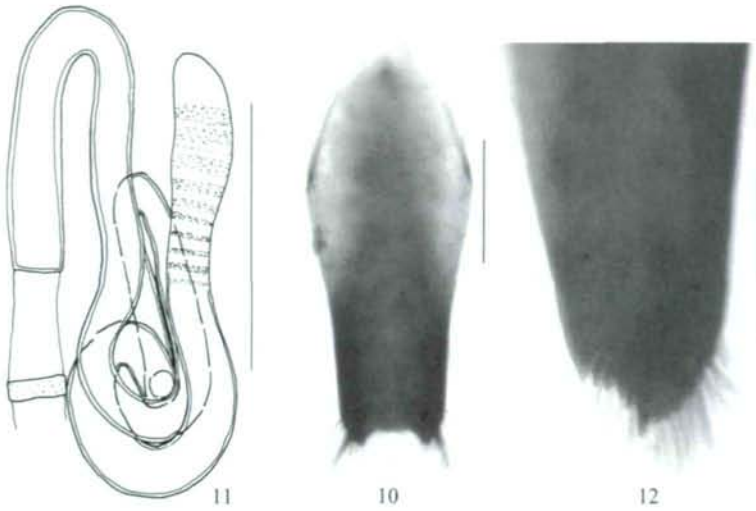
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Fig. 1: Type locality of *Stenus par* sp. n.: peak of Sierra Alta (Sierra de Albarracín, Teruel).



**Figs. 2 - 9:** *Stenus festinus* BENICK (2 - 3) and *S. par* sp. n. (4 - 9): 2, 4 - ♂ holotype; 3, 5 - habitus of ♀; 6 - forebody of ♂ holotype; 7 - aedeagus of ♂ paratype; 8 - aedeagus of holotype, internal structures extruded; 9 - internal structures (extruded) of aedeagus of holotype. Scale bars: 2 - 6: 1.0 mm; 7 - 9: 0.2 mm.



Figs. 10 - 12: *Stenus par* sp. n.: 10 - ♂ sternite IX (holotype); 11 - spermatheca; 12 - apical part of ♀ valvifer. Scale bars: 0.2 mm.



**Map 1:** Distribution of the species related to *Stenus festus* in the Iberian Peninsula: *S. festus* (open circles), *S. par* sp. n. (filled circles), *S. bussacoensis* (small black square), *S. vidua* (large black square), *S. virgo* (open square). ?: ♀ of uncertain identity. Additional localities of *S. festus* were communicated by PUTHZ (pers. comm.).

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