

***Styphlus* (*s. str.*) *eteocretus* sp. n.
from Greece
(Coleoptera: Curculionidae)**

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ABSTRACT

We describe *Styphlus* (*s. str.*) *eteocretus* sp. n. from the western province of Chania on Crete Island (Greece), and compare it to *S. vidanoi* Osella & Zuppa from Sicily (Italy).

Keywords: Curculioninae, Styphlini, new species, taxonomy, Greece

INTRODUCTION

The genus *Styphlus* Schoenherr, 1826, currently contains 16 valid species – the present new one included – distributed from Spain to Central Asia (Caldara, 2013). The genus is subdivided into two subgenera, *Styphlus s. str.* and *Styphlomimus* Osella & Zuppa, 1994, each with eight species. Whereas the former subgenus comprises species where no scutellum is visible, and the basal margin of the elytra is strongly constricted with acute humeral angles, members of *Styphlomimus* show a punctiform, glossy scutellum and an elytral base without pronounced humeral angles.

During entomological excursions to western Crete, the authors found a series of a *Styphlus*-species belonging to the nominal subgenus, but not attributable to any known species. This species is described and illustrated below.

MATERIAL AND METHODS

A beetle sieve with grid width of 7mm was used for sieving leaf litter. The extraction method applied follows Germann (2014). The genitalia were photographed in glycerine, using a 5-megapixel digital camera (Leica DFC 420). Series of images were captured through a binocular (Leica MZ16) and processed by Auto-Montage software (Imagic Image Access, Version 8). All measurements were taken digitally with the measurement-tool of the Auto-Montage software. Body length was measured from the fore margin of the eyes to the apex of the elytra. Any additional remarks to data recorded on the specimens' labels are set in square brackets ([]).

Depository abbreviations: NMBE – Natural History Museum of the Burggemeinde, Bern; cCG – collection Christoph Germann, Thun (Switzerland); cHW – collection Herbert Winkelmann, Berlin (Germany); cFB – collection Friedhelm Bahr, Viersen (Germany).

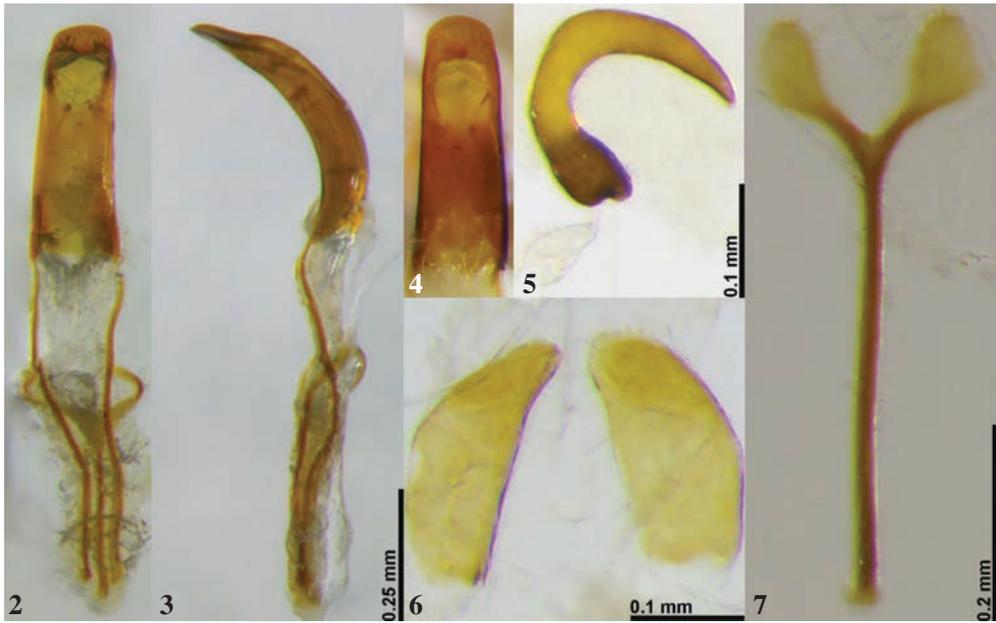
Styphlus (s. str.) *eteocretus* sp. n.
(Figs 1–6)

Description

Size: ♂♂, 2.3–2.5mm; ♀♀, 2.3–2.8mm. *Habitus:* Fig. 1. *Colour:* dark brown, antennae and legs, especially tibiae and tarsi auburn, apex of rostrum darkened. *Head, rostrum and antennae:* head globular, rostrum strongly constricted just before frons. Rostrum 4× longer than wide, surface striolate-punctate, in lateral view strongly curved, somewhat flattened from insertion to tip, in dorsal view weakly converging from insertion of antennae to the tip. Eyes below level of rostral dorsum, oval, weakly bulging. Antennae inserted at last fourth of rostrum, scrobes lateral, well pronounced, directed towards the eyes, upper margin weakly bisinuate. Antennal scape



Fig. 1. — *Styphlus eteocretus* sp. n., holotype, ♂: habitus (dorsal and lateral views).



Figs 2–7. — *Styphlus eteocretus* sp. n., genital organs, ♂: 2, penis (dorsal view); 3, penis (lateral view); 4, median lobe (ventral view); ♀: 5, spermatheca; 6, ovipositor; 7, spiculum ventrale.



Fig. 8. — View from the type locality of *Styphlus eteocretus* sp. n. near Asfendos, Crete.

clubbed, 2× as long as breadth of rostral dorsum at antennal insertion. Antennal funiculus consisting of 7 segments with following measurements (length/width): 1: 2.6; 2: 1.5; 3 and 4: globular, as long as wide; 5 to 6 transverse; 5: 0.6; 6 and 7: 0.5 (7 widest). Club twice as wide as last segment, oval. Vestiture: frons and rostrum with oval, strong, curved, scale-like bristles with a pearl-like lustre. White hairs sparse on antennal scape and funiculus, denser on club.

Pronotum: longer than wide (length/width: 1.04–1.08), widest in the middle, constricted towards fore and hind margins, irregularly and coarsely punctate. Vestiture consisting of oval, strong, curved, scale-like bristles with a pearl-like lustre, denser along the middle and on both sides. Scutellum not visible.

Elytra: oval to elongate egg-shaped (length/width: 1.4–1.6), diverging from base to shortly behind the middle, from there rounded to apex. Base constricted, humeral angles acute, apterous. In lateral view regularly rounded at declivity. Striae coarsely and deeply, regularly punctate, stria 10 more strongly, coarsely punctate towards apex. Intervals narrow, uneven ones (3, 5 and 7) more strongly elevated, interval 3 most strongly elevated just at base. Intervals set with oval, strongly curved, scale-like bristles with a pearl-like lustre. Bristles denser at base of third interval and at acute humeral angle.

Legs: femora edentate, strong; tibiae strong, all with spine at inner angle of apex. Three visible strong tarsal segments; first one third longer than second; third bilobed, about equal to first. Claw segment gracile and elongate, claws simple. Vestiture consisting of oval, strong, curved scale-like bristles with a pearl-like lustre.

♂ *genitalia*: Figs 2–4. Penis almost rectangular in dorsal/ventral view, tip laterally flattened with opening just before apex and three tiny sclerites inside the median lobe, no sclerites in the internal sac.

♀ *genitalia*: Figs 5–7. Spermatheca with long, C-shaped cornu, and very short nodulus and ramus (Fig. 5). Gonocoxite very simple – as in the closely related genera *Styphlidius* Penecke, 1936, and *Orthochaetes* Germar, 1824, (Germann, 2015) – with one sclerotized pair of segments, without styli, apex lateral with a tiny tuft of 2–3 sensillae (Fig. 6). Spiculum ventrale with short apodeme and plate separated into two separate branches each with a fin-shaped plate at apex (Fig. 7).

Sexual dimorphism: The upper side of the tip of the rostrum is dull in males, and glossy in females. The elytra of males are slender, those of females are somewhat swollen towards the apex.

Etymology: The new specific name ‘*eteocretus*’ derives from Greek and means ‘true cretan’, as it is very likely the only endemic *Styphlus*-species on the island.

Ecology: *Styphlus eteocretus* sp. n. was sieved from leaf litter, plant debris, mosses and cushion plants in different habitats and altitudes in Chania province, Crete (Fig. 8). The occurrence of all three *Styphlus*-species (*eteocretus* sp. n., *oros* (Reitter, 1899), and *jonicus* (Reitter, 1899)) in one single sample of sieved litter is remarkable (see Winkelmann, Bahr & Bayer, 2012). As no details regarding these species’ biology are known, this find may simply be based on similar requirements of humidity at that locality. However, small feeding holes on leaves of *Picris* spp. (Asteraceae) sometimes indicate the presence of *Styphlus jonicus* in Greece, and *Styphlus penicillus* Schoenher, 1826, was collected at night by beating a species of *Reichardia* (also Asteraceae; see Germann *et al.*, 2015) on Samos Island. All *Styphlus*-species can be found in early spring; often as freshly emerged, immature individuals.

Material examined

Holotype, ♂, [collection number:] 166_12.13 GREECE, Crete Island, Chania, W-Asfendos, Nähe Radar Station [close to the radar station], N35°15'13"/ E24°11'20", 1228m, 12.4.2012, leg. C. Germann (deposited in NMBE). Red label: Holotype *Styphlus* (s.str.) *eteocretus* sp. n. des. C. Germann & H. Winkelmann, 2015 (NMBE).

Paratypes, 3♂♂, 2♀♀ same data as holotype (deposited in cCG and NMBE). 2♂♂, 1♀, 7 ex. [partly freshly emerged, immature specimens] GREECE, Crete: Chania: Georgioupoli, 17.–30.4.2011, leg. H. Winkelmann (FO1) (cFB and cHW). 2♂♂ [collection number:] 166_12.1 GREECE, Crete Island, Chania, Askifou-Plateau, Petres, N35°16'58"/E24°10'37", 780m, lockere *Quercus*, *Acer*, *Rhamnus*, *Phlomis* Buschformation [loosely standing trees and bushes], 6.4.2012, leg. C. Germann (cCG). 3♂♂, 1♀ [collection number:] 166_12.6 GREECE, Crete Island, Chania, W-Asfendos, unterh. Radar Station [under the radar station], N35°15'05"/24°11'17", 1100m, GS Moos, Polsterpflanzen [mosses, cushion plants], 9.4.2012, leg. C. Germann (cCG and NMBE). 1♂ [collection number:] 166_12.11 GREECE, Crete Island, Chania, E-Chora Sfakion, Schlucht [gorge], N35°12'22"/E24°07'36", 140m, 10.4.2012, leg. C. Germann (cCG). All with additional red labels: Paratype *Styphlus* (s.str.) *eteocretus* sp. n. des. C. Germann & H. Winkelmann, 2015.

DISCUSSION (INCLUDING DIAGNOSIS)

Before the discovery of *Styphlus eteocretus* sp. n. on Crete, the subgenus *Styphlus* s. str. Schoenherr, 1826, (type species: *Styphlus penicillus* Schoenherr, 1826) included seven species: *jonicus* (Reitter, 1899), (France (Provence, Gard), southwestern Greece and Crete), *lederi* Chevrolat, 1881, (Caucasus Mountains), *penicillus* Schoenherr, 1826, (Spain (Mallorca), France, Greece (Samos), Cyprus), *syriacus* Stierlin, 1881, (Israel, Lebanon), *transjonicus* Osella & Zuppa, 1994, (southeastern Italy, Sicily), *ursus* (Desbrochers des Loges, 1892) (Greece (Attica, Peloponnese), Kazakhstan (Alay Mountains), Turkmenistan (Kopet Dag)), and *vidanoi* Osella & Zuppa, 1994, (Italy (Sicily)).

Reitter (1899) investigated species related to the genus *Orthochaetes*. He provided a key to the related genera and a key to the species, discriminating *Orthochaetes* s. str. and *Styphlus*. Today the combination of the illustrated key by González (1967) and the additional key by Osella & Zuppa (1994) for the Italian species can be used for the determination of species belonging to *Styphlus*.

Styphlus eteocretus sp. n. belongs to the subgenus *Styphlus* s. str., as characterized in the introduction, and is morphologically most similar to *S. vidanoi* from Sicily (Monti Nebrodi, Ficuzza) based on the vestiture of the body: recumbent bristles without long erect bristles (as e.g. present in *jonicus*, *penicillus* and *transjonicus*). *Styphlus eteocretus* sp. n. differs from *S. vidanoi* in the much broader, scale-like bristles (in *S. vidanoi* the vestiture consists of small and inconspicuous narrow bristles), and in the shape of the penis, which is rectangular in *S. eteocretus* sp. n., and rounded in *S. vidanoi*.

The occurrence of closely related species across the Adriatic Sea is no surprise and a commonly observed and discussed theme known as the 'transadriatic problem' (Gridelli, 1950). In Styphlini the species-pairs *Styphlus jonicus* – *S. transjonicus*, and *Styphlidius italicus* Osella, 1981, – *S. corcyreus* (Reitter, 1884) show a comparable distribution (see Osella, 1981; Osella & Zuppa, 1994).

In Greece, *S. eteocretus* sp. n. is the fourth species of the genus *Styphlus*. Recently Germann *et al.* (2015) recorded *S. penicillus* from Samos Island (Greece), where only records from Cyprus were known before. On Crete, *S. oros* and *S. jonicus* were recorded by Winkelmann, Bahr & Bayer (2012).

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REFERENCES

- Caldara, R.**, 2013, Curculionidae, pp. 229–245. In: Löbl, I. & Smetana, A., (Eds.), *Catalogue of Palaearctic Coleoptera*, vol 8, Curculionoidea II, Leiden: Brill.
- Germann, C.**, 2014, Contribution to the praxis in entomology: an easy-to-use and efficient sifting separation method for beetles (Coleoptera), *Entomo Helvetica*, **7**: 141–144.
- 2015, On the genus *Styphlidius* Penecke, 1936 with description of *S. pelops* sp. nov. from Greece (Coleoptera, Curculionidae), *Revue Suisse de Zoologie*, **122**(2): 399–405.
- Germann, C., Müller, G., Müller, U. & Schön, K.**, 2015, An annotated checklist of the weevil fauna of Samos Island with new records for Greece (Coleoptera, Curculionoidea), *Contributions to Natural History*, **27**: 1–26.
- González, M.**, 1967, El género *Orthochaetes* Germar (Col. Curculionidae), *Publicaciones del Instituto de Biología Aplicada*, **42**: 49–85.
- Gridelli, E.**, 1950, Il problema delle specie a diffusione attuale transadriatica con particolare riguardo ai Coleotteri, *Italian Journal of Zoology*, **17**: 421–441.
- Osella, G.**, 1981, Il genere *Styphlidius* Penecke, 1936 (Coleoptera, Curculionidae), *Bollettino del Museo Civico di Storia Naturale di Verona* [1980], **7**: 57–67.
- Osella, G. & Zuppa, A.M.**, 1994, Gli Orthochaetini italiani, *Memorie della Società entomologica italiana* [1993], **72**: 277–309.
- Reitter, E.**, 1899, Die Arten der Coleopteren-Gattung *Orthochaetes* Germ. (*Styphlus* Schönh.) aus Europa und den angrenzenden Ländern, nebst einer Uebersicht der mit ihr zunächst verwandten Gattungen, *Wiener Entomologische Zeitung*, **18**: 1–11.
- Winkelmann, H., Bahr, F. & Bayer, C.**, 2012, Ergebnisse der Osterexkursion 2011 nach West-Kreta zur Erforschung der griechischen Rüsselkäfer, Fünfter Beitrag zur Fauna von Griechenland, *Weevil News*, **80**: 1–6.