

**New species of *Euconnus*, subgen. *Euconophron*
(Coleoptera: Staphylinidae: Scydmaeninae)
from Socotra Island**

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Abstract. The first record of the Scydmaeninae from the Socotra Island (Yemen) is given. *Euconnus (Euconophron) socotranus* sp. nov. is described and another, still undescribed species, is also recorded. Geographical distribution of the subgenus *Euconophron* Reitter, 1909 is briefly commented.

Key words. Staphylinidae, Scydmaeninae, *Euconnus*, *Euconophron*, new species, Yemen, Socotra

Introduction

Euconophron Reitter, 1909 is a large subgenus of the very large genus *Euconnus* Thomson, 1859 of the subfamily Scydmaeninae (Staphylinidae). The subgenus contains 270 currently valid species-group taxa (A. NEWTON, pers. comm.); the majority of species were named by the late Herbert Franz (213 available names).

Euconophron is widely distributed in the Old World, Australia and Oceania as follows: Palaearctic Region, from the Canary Islands (La Gomera) (1 species) through Spain (2), France (Corse) and Italy (1), northern Africa (6), the Arabian Peninsula (6) and Caucasus (1) to Japan (4) and China (1); Africa (78), Madagascar (30), Comoros (1); the Oriental Region from Nepal (23), Bhutan (1), India (3) to Thailand (1) and Malaysia (1); Australia (95), Lord Howe Island (2), New Caledonia (9), New Guinea (3) and the Marquesas and Tonga Islands (1). Although not investigated for the purpose of this paper, there is only a little chance that *Euconophron* in its present composition represents a monophyletic taxon (see also VIT 2005: 190). It is highly likely that some species (especially tropical) will not remain in *Euconophron* when a comprehensive phylogenetic analysis of the genus *Euconnus* is carried out. On the other hand, *Euconophron* seems to be well defined within the West Palaearctic Region where

it has been represented so far by 17 described species, although many others await description (H. MEYBOHM, in litt.).

West Palaearctic species of *Euconophron* seem to be dominant amongst Palaearctic *Euconnus* in dry areas. The subgenus is best represented in northern Africa (12 species of *Euconnus*: 6 species of *Euconophron*) and in the Arabian Peninsula (13 : 6); the subgenus is very poorly represented in Europe (130 : 3) and only in its southern part, as well as in the Caucasus region (12 : 1). It is therefore not a surprise that the first two species of *Euconnus* found on such an island as Socotra also belong to the subgenus *Euconophron*.

No ant-like stone beetle has been known from the Socotra Island so far. However, the island is very diverse with many kinds of habitats suitable for terrestrial beetles, so the discovery of the Scydmaeninae was only a matter of time. The aim of this paper is to describe the first representative of the subfamily belonging to the large genus *Euconnus*.

Materials and methods

The material used in this study is deposited in the National Museum of Natural History, Prague (NMPC) and in the private collection of the author (PHCK). Dissections were done using standard techniques; genitalia and other small structures were mounted in euparal on acetate labels pinned together with specimens. Leica S8APO and ZEISS microscopes were used for the study. Body length is a sum of head + pronotum + elytra measured separately in dorsal view. Width of heads is measured across eyes.

Taxonomy

Euconophron Reitter, 1909

Euconophron REITTER, 1909: 226 (original description as the subgenus of *Euconnus*); type species: *Euconnus promptus* Coquerel, 1860, designated by Franz in NEWTON & FRANZ 1998: 145.

Euconophron: FRANZ 1957: 245 (characteristic of the subgenus, key to southwest Mediterranean species); VIT 2005 (discussion of the status of the subgenus, morphology of the aedeagus).

Diagnosis. *Euconophron* can be recognized amongst the subgenera of *Euconnus* by the following combination of external characters: 1) temples long, temples and posterior part of vertex with dense, stiff, bristly setae; 2) humeri well-defined, basal width of elytra wider than basal width of pronotum; 3) pronotum widest in middle, more or less rounded, narrowed to anterior margin; 4) antebasal pronotal foveae present; 5) pronotum lacking basal carina; 6) antennal club four-segmented; 7) antennomeres VIII and IX in male simple, unmodified. The subgenus is well defined by the structure of the aedeagus (VIT 2005): 8) ventral lamina with apex deeply bifidous; 9) endophallus with well-developed pair of sclerotized structure; 10) parameres much shorter than median lobe, hardly reaching half of median lobe, furnished with two unequal apical setae; 11) basal capsule strongly sclerotized with small dorsal orifice.

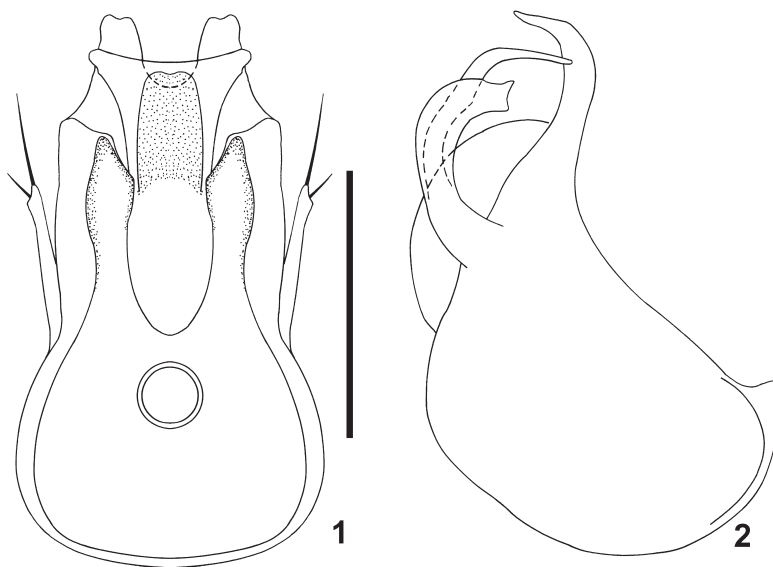
Euconnus (Euconophron) socotranus sp. nov.

(Figs. 1–2)

Material examined. HOLOTYPE: ♂ (NMPC), ‘YEMEN, Soqatra Is., 2003, 5-6/xii., Noget plain, QAAREH (water-fall), 57m, N12°20'10" E53°37'56" [GPS], David Král lgt. [printed]’, ‘YEMEN – SOQOTRA 2003 Expedition; Jan Farkač, Petr Kabátek & David Král [printed]’, ‘HOLOTYPE *Euconnus (Euconophron) socotranus* n. sp., P. Hlaváč det., 2011 [red label, printed]’.

Description. Body length about 1.6 mm, maximum width of elytra 0.7 mm, shiny, light yellowish-brown, head and pronotum slightly darker, maxillary palpi, antennae and legs as light yellowish-brown as elytra.

Head with temples strongly convergent posteriorly, about 1.15 times as wide as long, temples with dense, stiff, bristly setae; vertex with large, shallow depression and sparse setation; eyes strongly protuberant; frons triangular, pointed; labrum short, not visible in dorsal view, with long, erect setae, separated from clypeus; antennal tubercles well-defined; maxillary palpi with palpomere I very small comparing to II which is thin, only very slightly widened to apex, III pedunculate at base, swollen at apex, IV robust, pointed. Antennae short, about 0.75 mm long, all antennomeres with long setae, antennal club tetramerous, scape cylindrical, about 1.4 times as long as wide, pedicel slightly widened towards apex, slightly longer than scape, antennomere III quadrate, smallest, about 0.8 times shorter than IV, V and VI which are equal in length and width and slightly elongate, antennomere VII about 1.5 times as long as VI and about 0.66 times shorter than VIII, antennomeres VIII–X quadrate, subequal, terminal antennomere relatively short, only about 1.2 times as long as X.



Figs. 1–2. *Euconnus (Euconophron) socotranus* sp. nov.: 1 – aedeagus in dorsal aspect; 2 – aedeagus in lateral aspect, parameres omitted. Scale bar = 0.1 mm.

Pronotum 1.05 times wider than long and 1.26 times as long as head, sides of pronotum with dense bristly setae, widest in middle, from middle parallel-sided to base and convergent anteriorly, with three antebasal foveae, central fovea much larger, and with two well-defined lateral foveae.

Elytra relatively short, widest in middle, with two basal foveae, about 1.25 times as long as wide and about 2.5 times as long as pronotum, humeri well-defined, basal width of elytra slightly wider than basal width of pronotum, apex of elytra roundly terminated, sides of elytra with longer setae, disc of elytra lacking setae.

Legs long, femora thin at base, clavate, tibiae enlarged distally, pro- and mesotibiae with dense brush-like setae at apex, apex of metatibiae lacking this setation.

Aedeagus (Figs. 1, 2) decently sclerotized, symmetrical in dorsal view, elongated, about 0.2 mm long, dorsal opening small, circular, apex deeply bilobed, parameres short, reaching three fourth of aedeagus length, furnished with two strongly unequal apical setae.

Sexual dimorphism: female unknown.

Differential diagnosis. *Euconnus socotranus* sp. nov. can be undoubtedly recognised by the shape and structure of aedeagus. Due to the similar structure of aedeagus, the new species strongly resembles to *E. specusus* Vít, 2004 from La Gomera (Canary Islands) (VÍT & OROMÍ 2004). However, aedeagi of both species are different especially in shape of apical lobe which is laterally broadly curved in *E. specusus* and pointed in *E. socotranus* (cf. VÍT 2005: 189, Figs. 1–2); both species can also be readily separated by the presence of well-developed eyes in *E. socotranus* sp. nov., whereas *E. specusus* is anophthalmous.

Etymology. Locotypic, derived from the name of the island of Socotra.

Distribution. So far known only from the type locality on the Socotra Island.

Euconnus (*Euconophron*) sp.

Material examined: 2 ♀♀: **YEMEN: SOCOTRA ISLAND:** Al Haghier Mts. [sifting], Scant Mt. env., 1450 m, 12°34.6'N, 54°01.5'E, 12.–13.xi.2010, P. Hlaváč leg. (PHCK).

Notes. This species differs from *E. socotranus* sp. nov. by entirely reddish colour and temples only slightly convergent posteriorly, slightly round, three antebasal foveae present but central one equal to or even smaller than lateral ones. However, as diagnostic characters in *Euconnus* are mainly based on male genitalia, I refrain from describing this new species until the discovery of a male.

Checklist of *Euconophron* of the Western Palaearctic Region:

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| 1. <i>E. argodi</i> Croissandeau, 1893: lxxvii | Lebanon, 'Syria' |
| 2. <i>E. fauveli</i> Croissandeau, 1893: lxxvi | Lebanon, 'Syria' |
| 3. <i>E. ganglbaueri</i> Reitter, 1882: 336 | Israel, Lebanon, 'Syria' |
| 4. <i>E. guillebeaudi</i> Croissandeau, 1893: lxxvii | Syria |
| 5. <i>E. hispanicus</i> Franz, 1957: 254 | Spain |
| 6. <i>E. hospes</i> (Saulcy, 1870): 92 | Spain |
| 7. <i>E. koziorowiczi</i> Croissandeau, 1893: 113 | France (Corse), Italy |

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| 8. <i>E. leveillei</i> Croissandeau, 1893: lxxv | Syria |
| 9. <i>E. lederi</i> Franz, 1957: 257 | Georgia |
| 10. <i>E. mauretanicus</i> Franz, 1962: 1045 | Mauretania |
| 11. <i>E. nebulosus</i> Reitter, 1885: 91 | Morocco |
| 12. <i>E. otini</i> Peyerimhoff, 1949: 259
= <i>E. pseudopromptus</i> Franz, 1957: 252 | Morocco |
| 13. <i>E. promptus</i> (Coquerel, 1860): 148 | Algeria, Morocco, Tunisia |
| 14. <i>E. prolixus</i> Reitter, 1885: 90 | Israel, 'Syria' |
| 15. <i>E. specus</i> Vít in Vít & Oromí, 2004: 322 | Canary Is. (La Gomera) |
| 16. <i>E. socotranus</i> sp. nov. | Yemen (Socotra) |
| 17. <i>E. spissicornis</i> (Coquerel, 1860): 147 | Morocco |
| 18. <i>E. viator</i> Peyerimhoff, 1917: 128 | Algeria |

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