

***Colotrema socotrana* sp. nov. from Socotra Island,  
with new records of the genus from Yemen  
(Coleoptera: Malachiidae)**

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**Abstract.** A new species of *Colotrema* Wittmer, 1979 (Malachiidae: Malachiinae: Colotini) from Socotra Island is described and illustrated: *Colotrema socotrana* sp. nov. It is most similar to *C. barbertonica* Wittmer, 1991 from South Africa, but differs from the latter in colouration of the extremities and morphology of maxillary palpi and terminalia. This species represents the first record of *Colotrema* for Socotra. In addition, *C. asirensis* Wittmer, 1979 and *C. testacea wajjensis* Wittmer, 1980 are recorded from continental Yemen for the first time. A key to the species of *Colotrema* occurring in the Arabian Peninsula and in the Socotran Archipelago is given.

**Key words.** Coleoptera, Melyridae s.l., Malachiidae, *Colotrema*, new species, new records, Yemen, Socotra

### Introduction

*Colotrema* Wittmer, 1979 was originally established as a subgenus of *Colotes* Erichson, 1840 in Malachiidae. The species of *Colotrema* are distinguished from all other Colotini by the presence of an ante-apical circular impression on each elytron in male. WITTMER (1954) already suspected the ante-apical circular elytral impressions of being diagnostic at the genus-group level. WITTMER (1979) included three already described species (i.e. *Colotes impressus* Wittmer, 1954 from Yemen, *Pseudocolotes apicalis* Pic, 1908 from Tanzania, and *P. testaceimembris* Pic, 1916 from Zanzibar), and described *Colotes (Colotrema) asirensis* Wittmer, 1979 (typus generis) and *C. (C.) testaceus* Wittmer, 1979, both from Saudi Arabia, as new to science. WITTMER (1989, 1991) treats *Colotrema* as a genus. Heretofore, 29 species and one subspecies were known to science from southern Africa (25 species), southern East Africa (one species), and the Arabian Peninsula (three species, one of them bitypic) (PIC 1903, 1904, 1916, 1932; WITTMER 1953, 1954, 1979, 1980, 1991, 1995, 1997; A. Mayor, pers. comm.

2010). In the present contribution, two species of *Colotrema* are reported from Yemen for the first time and one species is described from Socotra as new to science.

### Material and methods

Measurements were taken with a Nikon SMZ 1500 stereomicroscope equipped with an ocular micrometer at 76.8× magnification. Line drawings were made by hand, using a drawing tube mounted on an Olympus BX 40 microscope. Photographs were taken with the equipment listed in PLONSKI & PUCHNER (2014). The length of the head capsule is not reported below, because the head protrudes from the prothorax to various extents in different specimens. The following acronyms are used in the text for biometric measurements: AL = antennal length; EL = elytral length; EW = elytral width; HW = head width; IOW = interocular width; PL = pronotal length; PW = pronotal width. Each body part (antenna, head capsule, pronotum, elytra) was measured in horizontal position where the respective body part is the longest or widest.

Label data are cited verbatim and format sensitive for the type material; individual labels are indicated by a double slash (/), individual lines of each label by a single slash (/), and additional information is provided in square brackets ([ ]). Specimens of the newly described species are provided with one printed red label: 'HOLOTYPUS ♂ [or ALLOTYPUS ♀ or PARATYPUS 1–3 with gender symbol, respectively] / *Colotrema* / *socotrana* / sp. nov. / det. I.S. Plonski 2016'.

Eight adult specimens have been studied. They are dry-preserved and housed in the following collections:

IPVA Isidor Plonski private collection, Vienna, Austria;  
 NMPC National Museum, Prague, Czech Republic.

### Taxonomy

#### *Colotrema socotrana* sp. nov.

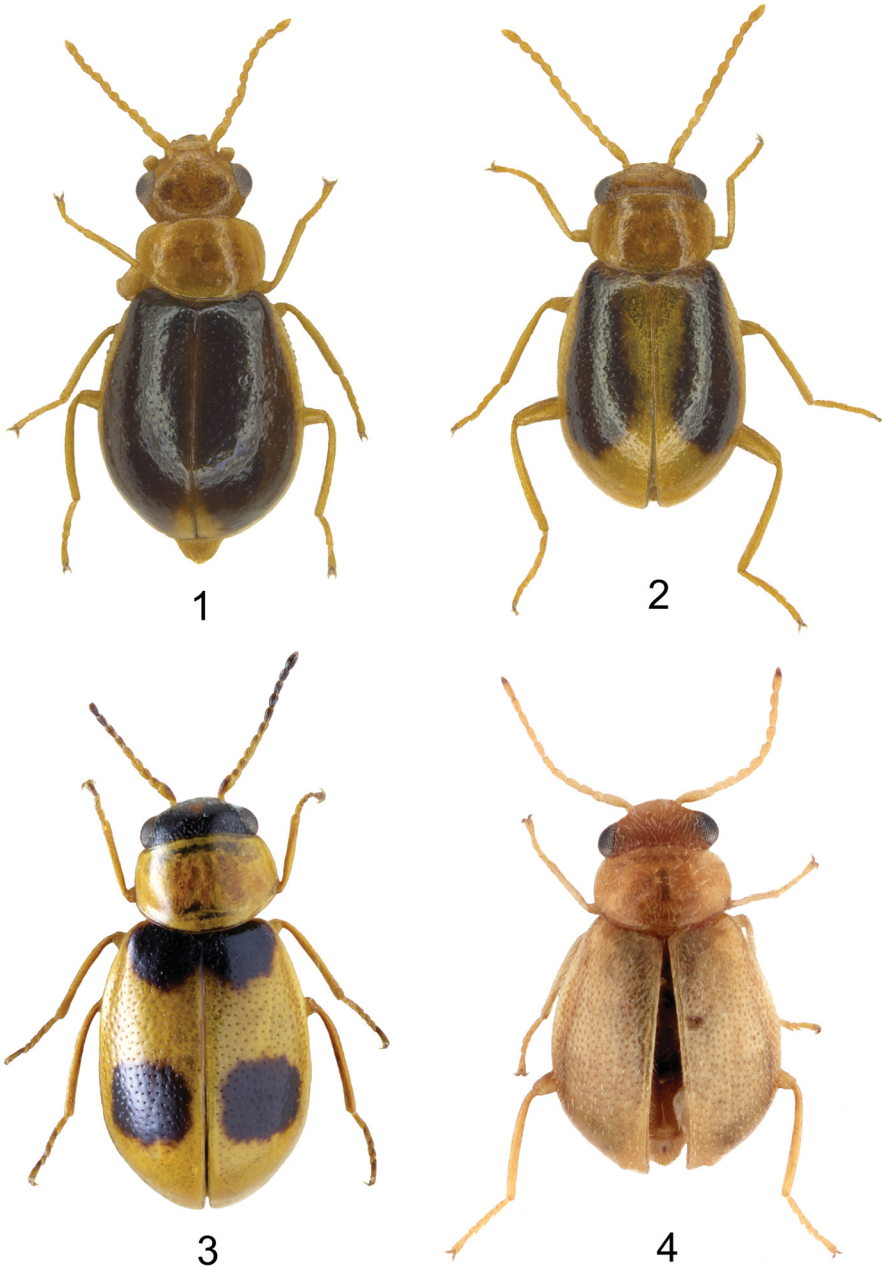
(Figs 1–2, 5–8)

**Type locality.** Environment (georeferenced on the locality label cited below) of Aloove village (12°31'10"N 54°07'24"E; see BEZDĚK et al. 2012: 34), Socotra Island, Yemen.

**Type material.** HOLOTYPE: ♂ (NMPC), labelled: 'YEMEN, SOCOTRA ISLAND / Aloove area, ALOOVE vill. env. / *Jatropha unicostata* shrubland; / with *Boswellia elongata* trees / 19.-20.vi.2012 / 12°31.2'N, 54°07.4'E, 221m // SOCOTRA expedition 2012 / J. Bezděk, J. Hájek, V. Hula, / P. Kment, I. Malenovský, / J. Niedobová & L. Purchart leg.'. ALLOTYPUS: ♀ (NMPC), same data as holotype. PARATYPES: 1 ♂ 2 ♀♀ (1 ♂ (PT#1) and 1 ♀ (PT#2) in NMPC; 1 ♀ (PT#3) in IPVA): 'YEMEN, SOCOTRA ISLAND / Noked plain, ABATARO / border of sand dunes and / shrubland 12.-13.vi.2012 / 12°22.1'N, 54°03.04'E, 20m // SOCOTRA expedition 2012 / J. Bezděk, J. Hájek, V. Hula, / P. Kment, I. Malenovský, / J. Niedobová & L. Purchart leg.'.

**Description of male holotype.** Colouration: Head capsule, mouthparts, antennae, pro- and mesothorax, legs, sides and apices of elytra, sternum VIII and pygidium yellow to orange; eyes, metathorax, scutellum and elytra (except sides, apices and suture) black; elytral suture and remaining abdomen lightened to brownish.

Head capsule broader than long, with coriaceous microsculpture and fine whitish setae diverging towards compound eyes. Apical maxillary palpomere polygonal in outline (Fig. 5).

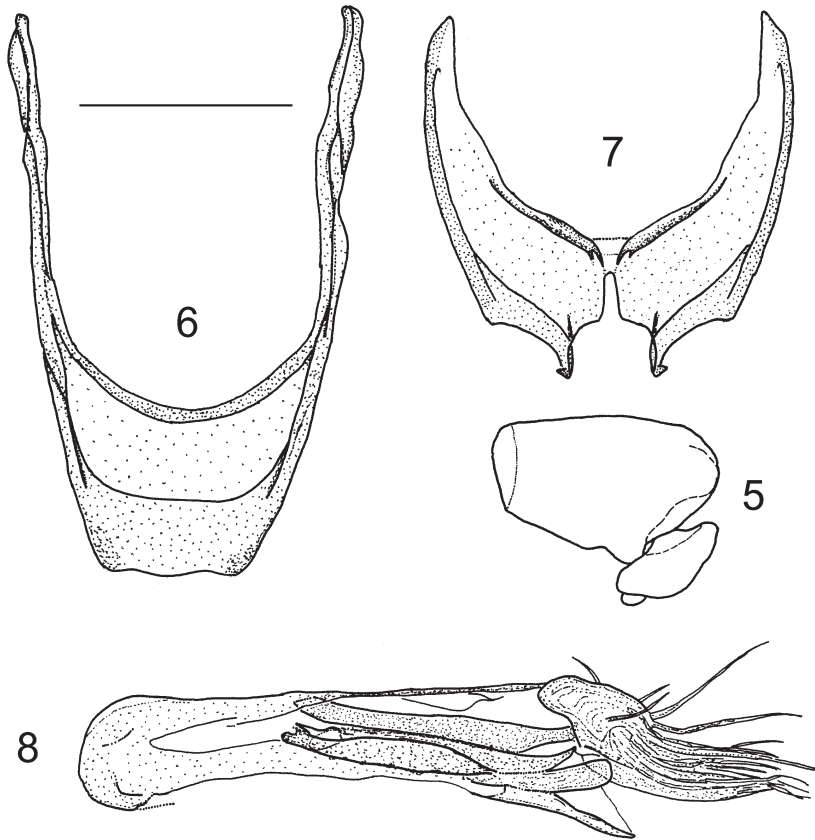


Figs 1–4. Habitus of *Colotrema*. 1–2 *Colotrema socotrana* sp. nov.: 1 – female allotype; 2 – male paratype #1; 3 – *C. assirensis* Wittmer, 1979; 4 – *C. testacea wajjensis* Wittmer, 1980. Not in scale.

Scapus elongate, clavate, as long as pedicel and antennomere I together; adjoining antennomeres longer than broad.

Pronotum transverse, broadest next to apex; apex and base weakly arcuate, sides more strongly arcuate, apical corners rounded, basal corners strongly rounded; side margins distinct; disc moderately convex with coriaceous microsculpture and punctures, whose distance to each other equals 2–3 times their diameter; pubescence similar to that of head capsule. Elytra oblong-ovate; microsculpture, punctures and pubescence similar to those on pronotum; anteapically with circular impression. Front legs with tetramerous tarsi.

Pygidium (Fig. 6) with long basal struts, medially less sclerotized region, and bisinuate apex. Sternite VIII (Fig. 7) with species-specific apex. Median lobe (Fig. 8) subparallel at base and in middle, then conically widened, with 3–4 big endophallic sclerites in middle portion, and big bilateral ankylotic setae at apex.



Figs 5–8. Details of holotype of *Colotrema socotrana* sp. nov. 5 – left maxillary palpus, ventral; 6 – pygidium, ventral view; 7 – sternite VIII, dorsal view; 8 – median lobe, lateral view. Scale bar = 0.2 mm.

**Variability.** The specimens of the type series vary considerably in elytral colouration from almost black elytra with only sides and apices near suture yellow (Fig. 1) to elytra extensively yellow with black colour restricted to longitudinal club-shaped macula on the disc extending from humeral bulges to the apical third of elytra (Fig. 2)

Sexual dimorphism. Males with longer antennae, modified apical maxillary palpomere, anteapical circular elytral impression and tetramerous fore tarsi. Females with shorter antennae, broad and apically truncated apical maxillary palpomere, pentamerous foretarsi, and without elytral impressions.

Measurements. AL = 0.72–1.06 (holotype 0.91 mm); HW = 0.54–0.65 (holotype 0.59 mm); IOW = 0.39–0.50 (holotype 0.39 mm); PW = 0.65–0.76 (holotype 0.65 mm); PL = 0.37–0.46 (holotype 0.39 mm); EW = 0.91–1.09 (holotype 0.96 mm); EL = 1.17–1.37 (holotype 1.17 mm).

**Differential diagnosis.** Chromatically, *C. socotrana* sp. nov. belongs to a group, whose members possess a completely orange pronotum and predominantly black elytra with yellow sides, apices and suture (the latter to varying extents). The most similar species is *C. barbertonica* Wittmer, 1991 from South Africa, which also possesses a completely orange coloured head capsule, but differs in having bicolorous extremities (cf. WITTMER 1991: 240). In addition, *C. socotrana* sp. nov. is well characterized by the form of the male maxillary palpi (cf. WITTMER 1991: Figs 49–50 for *C. barbertonica*) and the last abdominal segments. Furthermore, *C. socotrana* sp. nov. can be distinguished from the species occurring in the Arabian Peninsula by the characters given in the key below.

**Etymology.** The species epithet is a Latin adjective derived from the place of origin and means ‘Socotran’.

**Distribution.** Endemic to Socotra Island, Yemen.

## New records

### *Colotrema asirensis* Wittmer, 1979

(Fig. 3)

**Material examined. YEMEN:** 1 ♀ (NMPC), Yemen, Sana’a env., Bait Bows dam, 15°16.398’N, 44°11.634’E, 2300 m, 21.vi.2010, V. Hula & J. Niedobová leg.; 1 ♀ (NMPC), Yemen, Sana’a gov., Jabal Haraz Mts., S of Manakhah vill., 15°03.7’N, 43°44.6’E, 2510 m, 3.xi.2010, J. Bezděk leg.

**Note.** Determination of female malachid beetles is generally very difficult to impossible. However, the two females reported above fit the original description very well, and seem to differ only in having the basal antennomeres darkened on the upper side in female from Jabal Haraz. This feature was not mentioned by WITTMER (1979), and is here considered a part of the chromatic variability.

**Distribution.** Heretofore, *C. asirensis* was only known from two localities in the Asir region of Saudi Arabia. The two females reported above represent the first country record for Yemen.

### *Colotrema testacea wajjensis* Wittmer, 1980

(Fig. 4)

**Material examined. YEMEN:** 1 ♂ (NMPC), Yemen, Al Hudaydah gov., Jabal Bura valley forest NP, (stream valley, at light), 14°52.4–5’N, 43°24.6–25.2’E, 240–350m, 4.xi.2010, L. Purchart leg.

**Distribution.** Heretofore, *C. t. wajjensis* was only known from its type locality in the Mecca region of Saudi Arabia. The male reported above represents the first country record for Yemen.

### Key to the species of *Colotrema* occurring in the Arabian Peninsula and the Socotran Archipelago

- 1 Scutellum orange. Elytra unicolorous yellow-brownish to orange. .... 2
- Scutellum black. Elytra bicolorous. .... 3
- 2 Pygidium incised at apex. .... *C. testacea testacea* Wittmer, 1979
- Pygidium not incised. .... *C. testacea wajjensis* Wittmer, 1980
- 3 Head capsule predominantly black. .... *C. asirensis* Wittmer, 1979
- Head capsule unicolorous orange. .... 4
- 4 Elytra predominantly black, with sides, apices and suture (to varying extent) yellow. ...  
..... *C. socotrana* sp. nov.
- Elytra predominantly orange-yellow, with a basal black macula, which does not reach sides. .... *C. impressa* (Wittmer, 1954)

### Acknowledgements

I am indebted to Robert Constantin (Saint-Lô, France), Michael F. Geiser (Natural History Museum, London, UK), Robin Kundrata (Palacký University, Olomouc, Czech Republic), Adrieen J. Mayor (University of Tennessee, Knoxville, USA), and Sergei E. Tshernyshev (Russian Academy of Sciences, Novosibirsk, Russia) for reviewing an earlier manuscript version, for searching and sending old literature, and for bibliographical hints. Furthermore, I thank Jan Bezděk (Czech Agricultural University, Brno, Czech Republic) and Jiří Hájek (NMPC) for the invitation to participate in ‘the Socotra project’ and for the uncomplicated loan of the material under their care. A special thank you goes to Alice Laciny (Naturhistorisches Museum Wien, Vienna, Austria) for the linguistic revision of the manuscript.

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