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# A new Afrotropical *Neobarombiella* species from Socotra Island (Coleoptera: Chrysomelidae: Galerucinae)

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**Abstract.** A new species of *Neobarombiella* Bolz & Wagner, 2012, a galerucine genus recently described from continental sub-Saharan Africa, is here described from Socotra Island, Yemen. *Neobarombiella socotrana* sp. nov. is most similar to *N. nigrocaerulea* (Jacoby, 1897), *N. nigrita* (Jacoby, 1894), *N. punctata* (Laboissière, 1920), and *N. punctatolineata* (Jacoby, 1899), but can be distinguished from these species by both external and genital characters. An updated key to the species of the Afrotropical genus *Neobarombiella* is given.

**Key words.** Coleoptera, Chrysomelidae, Galerucinae, *Neobarombiella*, new species, taxonomy, Yemen, Socotra

#### Introduction

Most galerucine species traditionally placed in the genera *Barombia* Jacoby, 1903 and *Barombiella* Laboissière, 1931, are characterized by the following: a trapezoidal pronotum that narrows towards the anterior; posterior angles more or less pointed; third antennomere usually much longer than the second; and a slender, parallel-sided, tube-like median lobe, with a more or less deeply incised apex that lacks distinct endophallic spiculae. Species displaying these characteristics were recently transferred to the newly described genus *Neobarombiella* Bolz & Wagner, 2012. Besides the *Barombia* and *Barombiella* species, some species originally placed in *Monolepta* Chevrolat, 1836 and *Candezea* Chapuis, 1879 were also transferred to the new genus. *Neobarombiella* embraces several newly described species and currently comprises 35 valid species which are distributed across continental sub-Saharan Africa. Recently, expeditions were undertaken to Socotra, an island off the coast of Somalia and part of the Republic of Yemen, by Czech scientists. Material collected revealed a high diversity of endemic Galerucinae (Bezděk 2012), including a new and probably endemic species of *Neobarombiella*, which is described below.

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## Material and methods

Endophallic structures have been omitted from figures in ventral view. Label data for type material are given verbatim. Examined material is housed in the following collections:

NMPC Národní muzeum, Prague, Czech Republic (Jiří Hájek);

ZFMK Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany (Dirk Ahrens).

# Taxonomy

# Neobarombiella socotrana sp. nov.

(Figs 1-5)

Type locality. Yemen, Socotra Island, Dixam plateau, Tudhen, 12°33.7′N, 53°59.9′E.

Type material examined. Holotype:  $\circlearrowleft$ , 'YEMEN, Socotra Island, Dixam plateau, Tudhen, shrubland with *Commiphora planifrons*, 18.+22.vi.2012, 12°32.7'N, 53°59.9'E, 1135m'/ 'SOCOTRA expedition 2012, J. Bezděk, J. Hájek, V. Hula, P. Kment, I. Malenovský, J. Niedobová & L. Purchart leg.' / 'HOLOTYPE, Neobarombiella socotrana, Bolz & Wagner 2013' / 'AfriGa, specimen ID, 1901, specimen data documented, 9.1.2014' (NMPC). Paratypes:  $1 \circlearrowleft 2 \circlearrowleft \varphi$ , same data as holotype ( $2 \hookrightarrow \varphi$  in NMPC,  $1 \circlearrowleft$  in ZFMK).

**Description.** Body length: 3.4-4.0 mm (mean: 3.7 mm, holotype 3.5 mm) (n = 4).

**Colouration.** Labrum, labial and maxillary palpi brown or brownish-yellow; antennomeres I–VI (VII) yellow, becoming darker towards apex, following antennomeres brown and also darker towards apex. Head except for brown frontal tubercles, pronotum and elytron metallic green. Legs brownish-yellow or yellow; meso-, metathorax and abdomen entirely dark brown (Fig. 5).

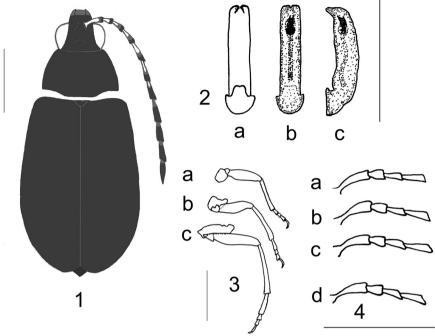
*Sculpture and structures. Head.* Antennomeres short, length ratio of second to third antennomere 0.78–0.86 (mean: 0.84), and length ratio of third to fourth antennomere 0.74–0.82 (mean: 0.78) (Figs 1, 3). Eyes disk-like and widely separated (Fig. 1), ratio of maximum eye width to interocular distance 0.44–0.45 (mean: 0.45).

*Thorax.* Pronotum coarsely and deeply punctated; trapezoidal; pronotal width 1.2–1.4 mm (mean: 1.25 mm), pronotal length 0.7–0.8 mm (mean: 0.73 mm), and pronotal length to width ratio 0.57–0.59 (mean: 0.58). Elytron coarsely and deeply punctated; elytral length 2.6–2.9 mm (mean: 2.73 mm), elytral width 1.7–2.1 mm (mean: 1.84 mm), and ratio of maximal width of both elytra to length of elytron 0.65–0.71 (mean: 0.67) (Fig. 1). Metatibia less than double the length of basi-metatarsus; length ratio of basi-metatarsus to metatibia 0.40–0.42 (mean: 0.42) (Fig. 4).

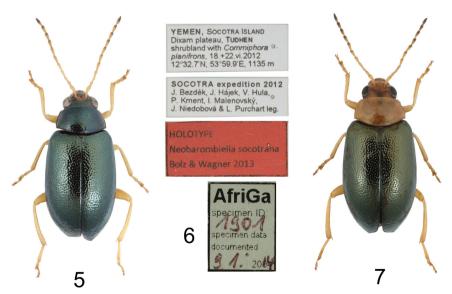
Abdomen. Male genitalia with short, slender, and parallel-sided median lobe; broad apically in dorsal view, and slightly down-curved in lateral view, with small sclerotised ventral projections alongside apical incision in ventral view (Fig. 2a); endophallic brush not protruding, basal orifice rectangular in ventral view; and dull.

**Variability.** The two females differ from males in colouration: they have head and pronotum completely pale brown (Fig. 7). As many *Neobarombiella* species are extremely variable in colour (cf. Bolz & Wagner 2012), and because only four specimens of the new species are known, we cannot affirm the colour differences to the sexual dimorphism.

**Differential diagnosis.** *Neobarombiella socotrana* sp. nov. is characterized by deep, irregular punctation of the elytra; elongate trapezoidal pronotum; the length ratio of the second and third antennomeres, each about two-thirds of the following antennomere (Fig. 4), and the distinct shape of the median lobe (Fig. 2).



Figs 1–4. *Neobarombiella socotrana* sp. nov. 1 – habitus, schematic view; 2 – aedeagus (a – ventral view, b – dorsal view, c – lateral view); 3 – legs (a – prothoracic, b – mesothoracic, c – metathoracic); 4 – antennomeres I–IV of three different males (a, b, c) and one female (d). Scale bar = 1 mm.



Figs 5–7. *Neobarombiella socotrana* sp. nov. 5 – habitus of male holotype (3.5 mm); 6 – holotype labels; 7 – habitus of female paratype (3.8 mm).

	N. socotrana sp. nov.	N.nigrita (Jacoby, 1894)	N. nigro- caerulea (Jacoby, 1897)	N. punctata (Laboissière, 1920)	N. punctato- lineata (Jacoby, 1899)
Total length (mm)	3.4-4.0	3.4-4.6	3.1-4.9	2.4-3.3	3.4-4.8
Ratio of maximal width of both elytra to length of elytron	0.65-0.71	0.72-0.82	0.62-0.72	0.68-0.78	0.59-0.71
Length ratio of pronotal length to width	0.57-0.59	0.53-0.59	0.45-0.53	0.48-0.55	0.45-0.54
Length ratio of second to third antennomere	0.78-0.86	0.63-0.71	0.50-0.65	0.70-0.83	0.56-0.71
Ratio of maximum eye width to intero- cular distance	0.44-0.45	0.43-0.57	0.30-0.42	0.47-0.62	0.56-0.71

Tab. 1. Distinctive body measurement ratios of representative *Neobarombiella* species.

Nevertheless, there are some rather similar species of *Neobarombiella* from continental sub-Saharan Africa, namely *N. nigrocaerulea* (Jacoby, 1897), *N. nigrita* (Jacoby, 1894), *N. punctata* (Laboissière, 1920), and *N. punctatolineata* (Jacoby, 1899). Most are discernible by rather short second, and more elongate third, antennomeres (for comparison of the relevant ratios see Tab. 1); in *N. socotrana* sp. nov., the second antennomere is more than two-thirds of the length of the third antennomere. In *N. socotrana* sp. nov., the pronotum is also comparatively long, whilst being shorter in other similar *Neobarombiella* species. *Neobarombiella nigrita* has broader and more convex elytra; *N. punctata* is smaller in size; the eyes of *N. nigrocaerulea* are smaller with wider interocular distance; whereas *N. punctata* has larger eyes and smaller interocular distance. The median lobe of *N. nigrocaerulea* is more conical apically and has a broader incision when compared to the nearly parallel-sided median lobe of *N. socotrana* sp. nov., which has a broad apex and small medial incision.

Etymology. Named after Socotra Island; adjective.

**Distribution.** So far this species is only known from the type locality: Tudhen, Socotra, Yemen.

# Modified key to the species of Neobarombiella

The following key is based on data given in the recent revision of *Neobarombiella* (Bolz & Wagner 2012), but has been adapted to accommodate the new species:

- 4 Pronotum brownish, dark brown, reddish-black, or black, with a slight metallic green lustre; legs brownish-yellow or yellowish-brown; elytron dark brown, brownish-black, or black, with a slight metallic green lustre; coarsely punctated and/or distinctly broad and convex; ratio of maximal width of both elytra to length of elytron 0.68–0.82. .... 4a
- Different set of characters, paler coloration or more slender body shape; ratio of maximal width of both elytra to length of elytron 0.55–0.68.

- 4a Basi-metatarsomere nearly half as long as metatibia (ratio of length of basi-metatarsomere to metatibia 0.44–0.55), apex of median lobe elongate and down-curved in lateral view, and sclerotized; at least one distinguishable pair of pointed tips in ventral view. Continental Africa.
- Basi-metatarsomere shorter, less than half as long as metatibia (ratio of length of basi-metatarsomere to metatibia 0.40–0.42), median lobe broad apically, slightly down-curved in lateral view, with small sclerotized ventral projections alongside the apical incision in ventral view, but lacking distinguishable pointed apical tips; and dull. Endemic to Socotra Island.
  N. socotrana sp. nov.

# Acknowledgements

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