

Short scientific note**A new species of *Smicromyrme* from Israel
(Hymenoptera: Mutillidae)**Pietro LO CASCIO^{1,*}, Flavia GRITA¹¹ Nesos - Island Biodiversity Research - Via Vittorio Emanuele, 24 - I-98055 Lipari (ME) - plocascio@nesos.org; associazionenesos@gmail.com

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Abstract

Smicromyrme bartolozzii sp. n. is described from a female specimen collected in a coastal desert of Israel. The new species is similar to *S. ellipsifera* (Gribodo, 1884), known for some localities of Eritrea, Ethiopia, Egypt and Djibouti. Sculpture of the pygidial plate, punctuation of the head and some morphological features of mesosoma are the main differential characters between both species.

Key words: *Smicromyrme bartolozzii*, new species, Mutillidae, Hymenoptera, Israel.

Despite the notable zoogeographical relevance of Israel as “transitional zone” (see e.g. Por 1975; Furth 1975; Bologna 1988; Vilenkin & Chikatunov 2000), the information concerning the hymenopteran family of Mutillidae has not been substantially updated after the contributions published by Invrea (1965, 1967), some additional records given by Petersen (1988), Lelej (2002) and El-Torkey et al. (2011), and the description of *Krombeinella aramaea* Suárez, 1963, *K. hebraea* Suárez, 1963, *Tricholabioides israeliticus* Suárez, 1967 and *T. semistriatus palaestinus* Suárez, 1967 (Suárez 1963, 1967). Recently we had the opportunity to study a number of specimens collected in Israel by the colleagues Luca Bartolozzi and Alessandra Sforzi in the late Nineties, including one female of the genus *Smicromyrme* Thomson, 1870 belonging to a new species, whose description is given in this paper.

Examination and measurement of the studied material were done using Optika SZM-2 stereo-binocular microscope equipped with a micrometer eyepiece and Dino-Lite AM2011 digital microscope supported by DinoCapture 2.0 software. Pictures were made using Canon Eos 400D digital camera mounted on the same stereo-binocular microscope; images were then processed with CombineZP Image Stacking software. Terms used in morphological and surface sculpture description follow, respectively, Huber & Sharkey (1993) and Harris (1979); in addition, malar space indicates the shortest distance from lower ocular margin to mandibular base; OD, T and S are used as abbreviations, respectively, of orbital diameter, tergum and sternum. In the label transcription, a slash (/) separates different lines of data.

Smicromyrme bartolozzii* sp. n.*Diagnosis**

A medium-sized *Smicromyrme* with overall robust appearance, densely pubescent, characterized by one large and sub-squared spot of pubescence on T2; it is similar to *S. ellipsifera* (Gribodo, 1884), from which differs mainly in the sculpture of the pygidial plate.

Examined material

Holotypus ♀, Israel: labelled “Israele: Eilat / leg. L. Bartolozzi e / A. Sforzi 19.V.98”, deposited in the Natural History Museum of the University of Florence, Zoological Section “La Specola” (MZUF n. coll. 1261).

Description

Length 5.5 mm; habitus as in Fig. 1. Head entirely red (except the distal half of mandibles), roundish, transverse, 1.3 broader than long, as wide as the pronotum; surface with very tight and regular punctuation; points deep, roundish, umbilicated, slightly smaller on frons and genae; interpunctual spaces as wide as half the diameter of a point. Eyes large, sub-ovoid shaped, slightly protruding from the head profile; in lateral view, the ratio between occipital margin of head, eye and malar space is 1:2.6 :1.3; maximum OD 0.58 of the interocular distance and 1.6 of the minimum OD. Clypeal margin straight and almost flat, just depressed in the middle, with evanescent transverse carina. Mandibles red except the darkish distal half, elongated, unidentate, 1.45 of the maximum OD in lateral view; two weak inner pre-apical teeth, one at the middle of the mandible and the other in intermediate position between

the first and the apex; palps red. Antennae red, with scapes curved in the apical third; ratio between scape, pedicel and first flagellomere is 5:1:2.

Mesosoma red, just slightly darkened on the marginal suturae, 1.05 longer than broad, with almost parallel sides and fore margin moderately curved; fore and hind angles, respectively, right and slightly roundish; surface glossy but not shiny, densely punctuated, with foveolate punctation, points larger than in the head. Thorax transverse carina almost imperceptible, just evident at lateral margin of mesosoma with two feebly concave, corrugate and shiny notches. Scutellar scale just prominent, flattened and slightly darker on the apex. Pleurae weakly concaves, with shiny surface sparsely punctuated. Propodeum gently truncated; propodeal face with large and areolate punctation.

Legs entirely red except for whitish median and hind tibial spurs, without salient characteristics. Metasoma 1.34 broader than mesosoma on its maximum width. T2 black except on the hind margin where it is lighter and reddish, 2.4 broader than T1 and as broad as long, finely and densely punctuated on the dorsal face, with umbilicate points more spaced and irregular laterally; interpunctual spaces shiny and wide about half of the diameter of a single point. T3-T5 as well as S1-S5 reddish-brown.

Pygidial area reddish-brown, large and with well-defined margins, clearly striated with vertical impressions, some of which just diverging outwards apically (Fig. 2a).

Pubescence on the whole very dense and with a silver-

golden appearance. Head covered by dense and recumbent whitish-golden pubescence, regularly arranged backwards and slightly diverging at vertex, while on the occipital area pubescence is reversely disposed; 3-5 long erect red setae around the eyes, on clypeus and on the basal half of the mandibles; scape and pedicel covered by short but thick setae; flagellomeres with dense and short fuzz. Mesosoma with dorsal recumbent pubescence, on the hind third slightly convergent towards the scutellar scale; few darkish setae occur on fore margin; along the lateral margins, pubescence is inwards recumbent and some long erect setae occur; scattered but not shorter pubescence covers also the pleurae. T1 with scattered, erect silvery setae. T2 densely covered by dark pubescence, basally with a large, sub-squared shaped spot of silvery pubescence extending to the half of the segment, apically with a narrow fringe (slightly expanded in the middle) of the same pubescence, while laterally some scattered and erect silvery setae occur. T3-T5 entirely covered by fringes of silvery pubescence.

Tergal felt-line silvery; ratio between basal margin of T2, length of felt-line and posterior margin is 1:0.92:0.75.

Male. Unknown.

Comparative notes

Smicromyrme bartolozzii sp. n. is morphologically comparable to *S. ellipsifera* (Gribodo, 1884: 390, as *Mutilla*), originally described from Massaua (Eritrea) and subse-



Fig. 1 – Habitus of *Smicromyrme bartolozzii* sp. n. in dorsal (left) and lateral view (right).

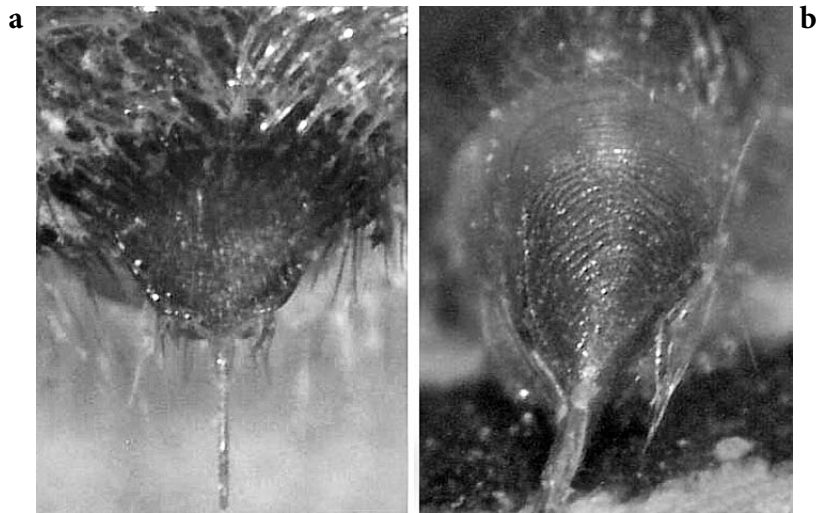


Fig. 2 – **a**, pygidial plate of *Smicromyrme bartolozzii* sp. n.; **b**, *S. ellipsifera* (Gribodo, 1884).

quently recorded for other localities of the same country, of Egypt, Ethiopia and Djibouti (André 1893; 1896; 1910; Bischoff 1921; Invrea 1963). The latter taxon includes also *Mutilla arsinoensis* André, 1896, described from Egypt and synonymized with *S. ellipsifera* by Bischoff (1921: 574), who has not seen the type but has however assumed its identity on the basis of the descriptions provided by André (1896: 275; 1910: 67). In both Gribodo's and André's protologues, in fact, authors have emphasized as diagnostic character the sculpture of pygidial area, where striae

shaped as concentric and regular ellipses cover almost entirely the plate.

The comparison between *S. bartolozzii* sp. n. and the holotype of *S. ellipsifera*, kept at the Civic Museum of Natural History of Genoa (labels are as follows: “Massaua / 23.XII / G. Doria 1879”, “Typus”, “*ellipsifera* / Grib.”, “*Smicromyrme* / *ellipsifera* Gribodo / B. Petersen det. 1986”, “Holotype / teste B. Petersen”), led to exclude the possible identity of the two species primarily on the basis of this character (Figs 2a, b). In *S. bartolozzii* sp. n. the py-

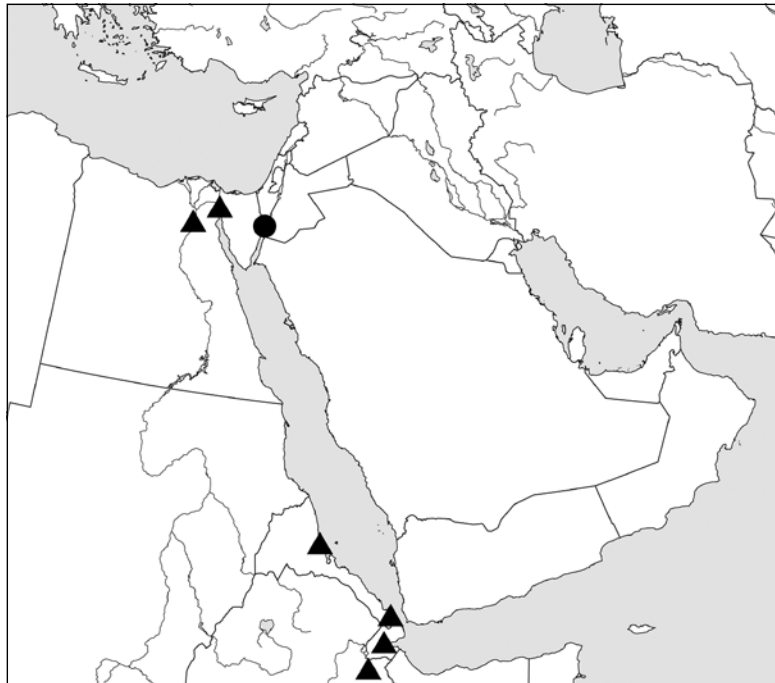


Fig. 3 – Known distribution of *Smicromyrme bartolozzii* sp. n. (black circle) and *S. ellipsifera* (Gribodo, 1884) (black triangles); these latter are given according Gribodo (1884), André (1893, 1896, 1910), Bischoff (1920-1921) and Invrea (1963).

gidial plate resembles rather that of *S. hierosolymitana* Invrea, 1953, occurring also in the same geographical area, from which however it differs remarkably in other features, such as size ratios, punctuation and pubescence pattern. On the contrary, at first glance the type of the new species shows a clear similarity to the Gribodo's type, though in this latter the punctuation of head is more dense, large and irregularly spaced, eyes are slightly smaller and more distanced from the occipital margin, second flagellomere is remarkably longer than the third (just slightly longer in *S. bartolozzii* sp. n.), the pronotum is more curved, pleurae are smoother and brighter, hind angles of mesosoma are more rounded, as well as the spot of pubescence on T2.

Derivatio nominis

The new species is dedicated to one of its collectors, Luca Bartolozzi, world authority of Lucanidae and Brenthididae and indispensable reference for many entomologists who began their careers at "La Specola" Museum.

Distribution and zoogeographical remarks

Eilat is a coastal plain at the southern end of Negev desert. In comparison to other areas of Israel, this latter is characterized by a peculiar occurrence of noticeable percentages of taxa with Palaeotropical origin (or affinities) in several faunal groups (see Yom-Tov & Tchernov 1988; Friedman 2009). In this view, the presence of a new species affine to an element belonging to the Ethiopian region is not surprising. The known distribution for both species is shown in Fig. 3.

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