

GENERIC SYNOPSIS OF SIEROLOMORPHIDAE (HYMENOPTERA)

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ABSTRACT

The enigmatic species *Proscleroderma punctata* is restudied, removed from the Bethylidae and transferred to the Sierolomorphidae. The systematic position of the genus is discussed. A key for identification of the genera of sierolomorphids is provided.

KEY WORDS: Sierolomorphidae, *Proscleroderma*, key to genera.

INTRODUCTION

The family Sierolomorphidae contains only a few species, all of which have been assigned to the genus *Sierolomorpha*. Initially it was only known from North America by a single species. The second species was described from Hawaii. Evans (1961) revised the Nearctic representatives and added five more species. Subsequently Nagy (1971) described two new species from the eastern Palaearctic region. It is obvious that the family occurs in the East Mediterranean area.

Recently I discovered that *Proscleroderma* Kieffer also belongs to the family. Kieffer (1905) established this genus without including species. Later, Kieffer (1906) redescribed the genus and included a single species, *punctata*. He placed this taxon in the Bethylidae. The genus has remained enigmatic since then. I lately examined the type material of *Proscleroderma* that belongs to the Museum National d'Histoire Naturelle, Paris, and concluded that the genus is misassigned in Bethylidae; it really belongs to Sierolomorphidae, where it becomes the second genus in the family.

The purpose of this paper is to redescribe *Proscleroderma* and its type-species and to provide a key to the two genera of the Sierolomorphidae.

Proscleroderma Kieffer,

1905 *Proscleroderma* Kieffer, 1905:100 (without included species).

Type-species: *Proscleroderma punctatum* Kieffer, 1906:430, first included species and by monotypy.

Head hypognathous, inner orbit of eye not emarginate. Antennal tubercles projecting. Occipital carina sharp dorsally, continued ventrally to hypostoma. Propleuron large, oblique, considerably longer than front coxa. Pronotum elongate, campanuliform, as long as wide posteriorly. Scuto- scutellar suture straight, transverse. Female brachypterous (male unknown), wings scale-like, hardly longer than tegula. Mesepimeron with subtegular pit evanescent. Mesosternum declivous, without horizontal pad in front of mid coxae. Propodeal disc large, rounded, longer than posterior declivity of propodeum; without longitudinal carinules but with a median furrow, and not carinu- lately bordered on the sides. Felt lines of second abdominal segment situated at the base of sternite, having the form of densely pilose orifices. Other features like *Sierolomorpha*.

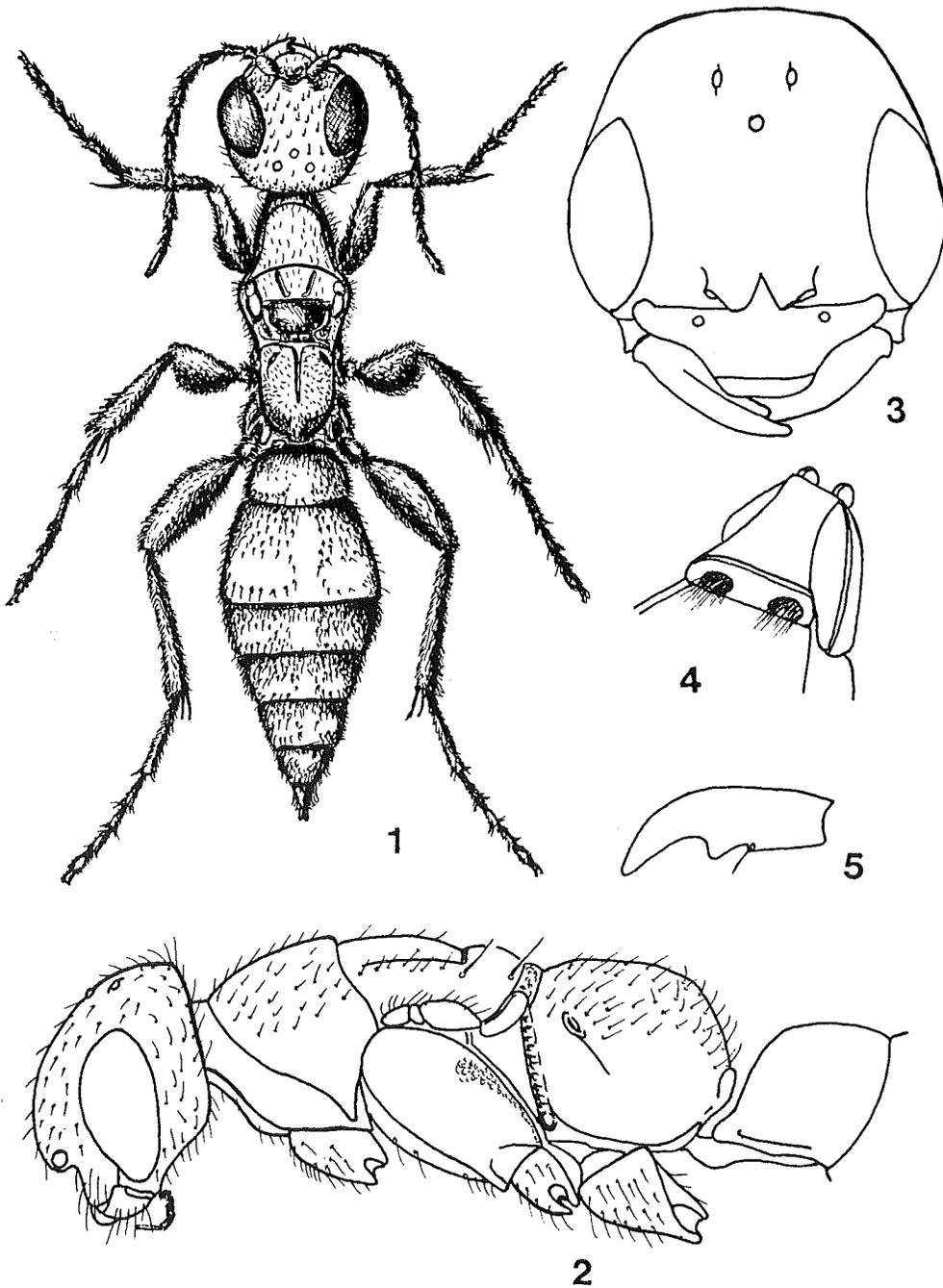
Proscleroderma punctata Kieffer, 1906
(Figs. 1–5)

Proscleroderma punctatum Kieffer, 1906:430, ♀, Pl. X, Fig. 7 (gender feminine, cf. emendation for *Scleroderma* by Westwood, 1839:164).

Description of holotype female: Length about 8.0 mm. Head black; mandibles, palpi, first three segments of antennae, legs and thorax, save mesoscutum, scutellum and mesopleuron, yellowish-testaceous. Segments 4–12 of antennae opaque gray, almost blackish. Mesoscutum, scutellum and mesopleuron, including mesosternal declivity, dark castaneous. Distal segment of fore tarsi infuscated. Abdomen dark steel-bluish, save last two apical segments brownish. Pubescence of body and appendages yellowish-white, lighter on thoracic dorsum, darker on abdomen.

Head in frontal view (Fig. 3) as wide as high, subcircular in outline, with the eyes moderately bulging. Minimum distance between eyes $1.2\times$ greater than eye length in lateral view of head. Eye $1.7\times$ as high as wide; almost glabrous save some very short setulae, not more than three, on lower half; facets of uniform size throughout. Front protuberant at level of antennal toruli, the socket closed in a projecting tubercle. Malar space narrow, without genal gland. Postocellar line $1.2\times$ greater than ocello-ocular line. Clypeal disc wide, strongly sclerotized except for narrow semi-transparent apical margin, where delicately reticulate. Both mandibles tridentate. Palpal formula 6–4. Antennae 12-segmented, rather long, comparable with length of the thorax scape twice as long as wide; pedicel $1.2\times$ as long as wide; first flagellar segment $1.5\times$ as long as wide, following segments twice as long as wide, but last segment a little longer. Antennal pubescence short and decumbent, except an apical row of erect, thicker setulae on each segment, about half as long as width of segment. Surface of head polished, shining, nowhere alutaceous; it is covered with scattered, shallow setiferous punctures; pubescence short, slightly longer and conspicuously thicker on clypeus and mandibles.

Thoracic dorsum about twice as long as wide at level of mesopleurum. Pronotum dorsally flat, surface practically sculptureless save for scattered, extremely shallow piliferous punctures on the sides. Lateral pronotal lobe large, reaching tegula and base of front coxa; longitudinally and obliquely impressed (Fig. 2), bottom of the impression sulcate, the shallow sulcus separating pleural fold from the jugal fold. Mesoscutum twice as wide as long, with notauli well impressed and converging posterad. Scutellum flat, with pair of long setae laterally (Fig. 2). Metanotum transverse, micropunctate, slightly shagreened. Disc of propodeum flat, about as long as wide, with median, longitudinal sulcus well impressed on its basal five-sixth (Fig. 1). Surface of mesoscutum, scutellum and propodeum smooth (i.e., neither rugose nor alutaceous), clothed with short pubescence. Prosternum small, rhomboidal in shape, with a median pit. Mesosternal declivity without horizontal pad anterad of mid coxae, i.e., evenly declivous throughout, not incurved; mesosternum without precoxal lobes, transversely truncate at coxal cavity. Mesopleuron without anterior keel or transverse groove, surface sparsely punctate and pilose, except micropunctate and shagreened around the spiracle; pit of spiracle extremely small, almost indistinct. Tegula normal, subcircular in outline. Spiracle of propodeum separated from metanotum by its own major diameter. All coxae contiguous; the metacoxa with strong, triangular tubercle dorsally (Fig. 2). Front femur $2.6\times$ as long as wide, mid femur $1.8\times$, hind femur $3.3\times$. Tibial spur formula 1–2–2, inner spur of hind tibia about one and a half times as long as outer spur. Legs moderately pubescent, outer aspect of mid tibia with some irregular rows of strong spinulae. Claws bidentate (Fig. 5), with apical tooth about thrice as long as the basal one. Abdomen (Fig. 1) slightly broader than head, slightly longer than head plus thorax. Second tergite the largest. Tergites 1–4 have laterotergites separated by longitudinal sulcus; laterotergites 2–4 are short, triangular, semi-transparent and polished; that of the first tergite (Fig. 4) semicircularly widened. Tergites sparsely covered with shallow, moderately large piliferous punctures. First sternite flat, separated from the second by deep transverse groove. Anterior declivity of second sternite with pair of densely



Figs. 1-5. *Proscleroderma punctata* Kieffer, holotype female. 1: habitus; 2: head and thorax in lateral view; 3: head, frontal view; 4: felt lines of second sternite, sublateral view; 5: tarsal claw.

pubescent pits (Fig. 4). All sternites punctate alike to tergites, except sixth sternite densely micropunctate to aciculate and densely pubescent on the sides. Male and biology unknown.

MATERIAL EXAMINED. 1 female holotype, labelled "Syrie," a printed yellow label with black frame, which denotes that it is from the collection of Ernest André [and cf. original description of Kieffer "Patrie. Syrie (Collection de M. Ern André)"]; the second label "Kieffer det.," a white label with black frame, in Kieffer's writing; third label "*Cephalonomia punctata*" in Kieffer's writing; fourth label "♀" printed; fifth label "*Cephalonomaea* (sic!) *punctata* Kieff.," in Kieffer's writing; sixth label is "Holotype," a red museum label; and I have added a seventh label: "Holotypus: *Proscleroderma punctata* Kieff. ♀, teste Q. Argaman-1989," a white label with red frame. The holotype is deposited in the collection of the Muséum National d'Histoire Naturelle, Paris, France.

NOTE. The specimen was collected in the Near East at the end of the 19th century. A female specimen of *Holepyris orientalis* Kieffer, 1906, marked with a printed yellow label exactly as above was cited by Kieffer (1914:379) as from "Syrien (Kaifa)." The exact locality, where the type of *Proscleroderma* was collected cannot be conjectured, however.

DISCUSSION

The genus *Proscleroderma*, based on the single species, *punctata*, has proved not to be referable to the family Bethyilidae. The following characters should be sufficient to establish its distinctness:

The absence of median keel of clypeus, the hypognathous position of head, well-developed metanotum and definable metapostnotum at the bottom and base of propodeal sulcus, absence of precoxal lobes of mesosternum, the transverse first tergite and the developed laterotergites, as well as the absence of hind tibial calcar and hind basitarsal strigil, exclude it from the Bethyilidae. Despite the brachyptery of female *Proscleroderma*, the flat clypeal disc, low antennal insertion, 12-segmented antennae, entire inner eye orbit, deep notauli of mesoscutum, absence of precoxal lobes, transverse first abdominal segment, these, in combination with the general shape of the mesepimeron would associate *Proscleroderma* with Sierolomorphidae. Within this family, the genus *Sierolomorpha* Ashmead approaches *Proscleroderma* closely. In *Sierolomorpha*, however, the occipital carina, very tiny dorsally and evanescent on the sides of foramen magnum, does not approximate postgenal bridge ventrally; scuto-scutellar suture arcuate and enlarged on the sides; mesepimeron provided with a sharp subtegular pit, and only anterior half of mesosternum declivous, then incurved, so that the posterior half is horizontal and somewhat bulging in lateral view of thorax.

Although sierolomorphids possess no extremely outstanding features, they warrant an independent family status, confirmed through the comprehensive studies concerning classification of the aculeate Hymenoptera (Brothers, 1975; Genise, 1986). The family Sierolomorphidae is herewith regarded as including two genera. These genera may be identified by means of the following key.

KEY TO GENERA OF SIEROLOMORPHIDAE

- 1 (2) Both sexes fully winged; occipital carina incomplete below, not reaching hypostomal carina; propleuron vertical, shorter than front coxa; pronotum transverse, three times as wide as long medially; propodeal disc much shorter than posterior declivity of propodeum, longitudinally carinate mesad and bordered on the sides; felt lines of second abdominal segment at base of tergite, represented by round, yellowish, delicately aciculate areas, the opening of subcuticular glandular organs. *Sierolomorpha* Ashmead, 1903.
- 2 (1) Female subapterous, male not yet known; occipital carina ending on hypostomal carina;

propleurum obliquely straight, longer than front coxa; pronotum as wide as long; propodeal disc longer than posterior declivity of propodeum, with a longitudinal furrow mesad, not bordered on the sides; felt lines of second abdominal segment situated at the base of sternite, having form of densely pilose orifices. *Proscleroderma* Kieffer, 1905.

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