

# NOTES ON THE MARIOUTINAE (COLEOPTERA: DERMESTIDAE) WITH A REVIEW OF THE DESCRIBED SPECIES

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**Abstract.** — The characters of the dermestid subfamily Marioutinae are reviewed and illustrated. Keys are provided for the genera of Marioutinae and two species of *Mariouta* Pic. Lectotype is designated for *Mariouta stangei* Reitter, 1910 (Turkmenistan).



**Key words.** — Coleoptera, Dermestidae, Marioutinae, *Mariouta*, *Rhopalosilpha*, taxonomy, keys.

## INTRODUCTION

This interesting subfamily has been proposed twice, once to include an aberrant dermestid (*Mariouta*) and the second time a curious "silphid" (*Rhopalosilpha*). Since their original descriptions little has been published to ascertain their taxonomic positions. Crowson (1951, 1955) classified *Rhopalosilpha* and an unnamed genus from Egypt (probably *Mariouta*) within the family Thorictidae, which was kept as a separate family from Dermestidae despite arguments provided by Anderson (1949) while describing the larva of *Thorictodes*. The two groups were brought together in Dermestidae by Lawrence and Newton (1995), who pointed out similar adult and larval characters between Dermestinae, Marioutinae (larva unknown) and Thorictinae. The group remains poorly known. To stimulate interest and to allow easier recognition of the taxa we provide more information concerning the morphology of the Marioutinae genera and their possible relationships.

## MATERIAL AND ACKNOWLEDGMENTS

The specimens from Saudi Arabia and Oman which provided the initial input for this study were kindly lent by Dr. M. Brancucci of the Naturhistorisches Museum Basel (NHMB). Additional examined material came from the Museum and Institute of Zoology, PAS (MZPW); the Natural History Museum, London (BMNH); Termesztudományi Múzeum, Budapest (TMB) and Deutsche Entomologische Institut, Eberswalde (DEI). The figures 10–14 were done by P. Węgrzynowicz. A. Newton, Jr., S.W. Lingafelter and R.A. Crowson provided additional information or read and commented upon a draft of this paper. Special thanks are due to J.F. Lawrence for critically reading draft of this paper, providing unpublished observation on the internal structure

of *Rhopalosilpha wasmanni*, and for allowing us to use the figure of this species (Fig. 15) which was done by S.P. Kim.

## SUBFAMILY MARIOUTINAE

Marioutinae Jacobson, 1913: 832.

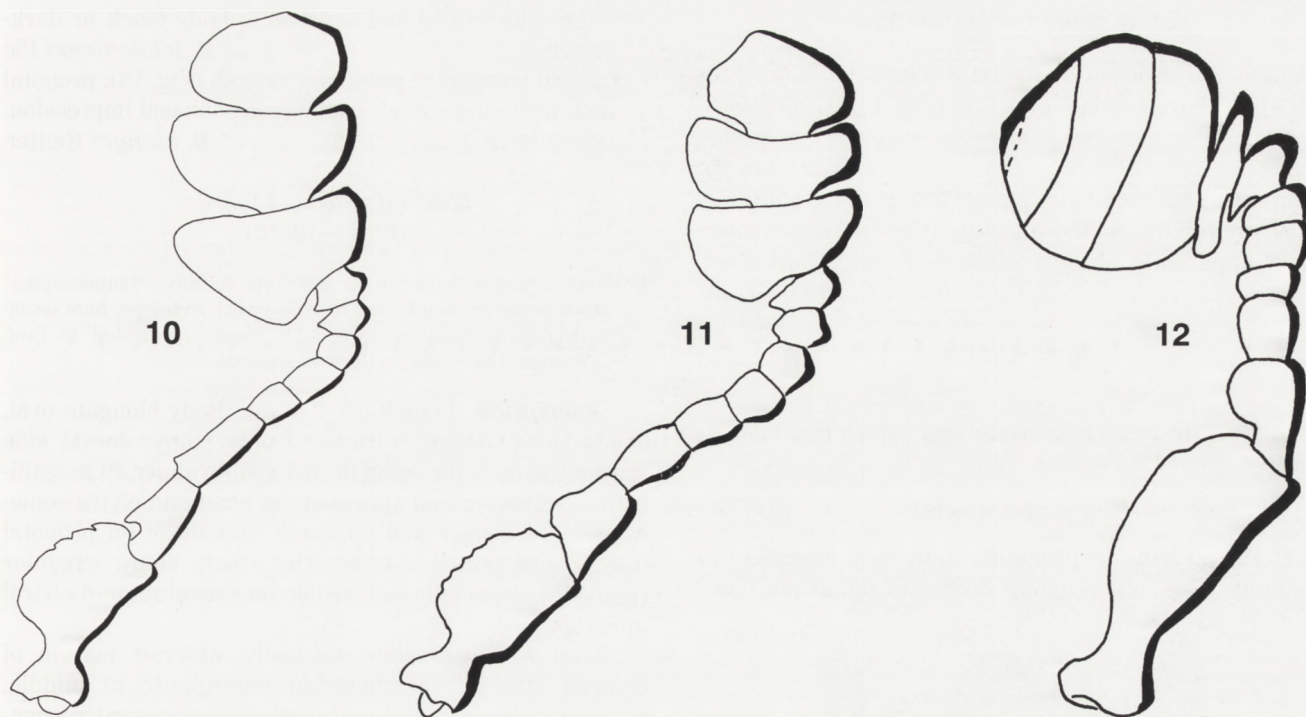
Rhopalosilphinae Arrow, 1929: 98.

**Diagnosis.** Marioutinae is diagnosed by the following characters. Winged, wing venation as in *Dermestes* (Crowson 1955: fig. 80); elytron with punctures irregular or with traces of rows; vestiture consists of finer and coarser hairs. Head without median ocellus (Fig. 1) ventrally with distinct antennal grooves (Fig. 3); antenna 11-segmented with loose or compact 3-segmented club; club segments not sexually dimorphic, without specialized sensory areas; Mouthparts: mentum large, pentagonal (Fig. 4); maxillary lacinia (Fig. 5) with strong hook; mandible (Fig. 6) without distinct mola, prostheca long with spinulose setae mesally. Prosternum short in front of coxae; prosternal process strongly reduced and not reaching between coxae; procoxal cavities externally open, internally closed, ovate with lateral slit indistinct (Fig. 2), only weakly exposing trochantin. Mesocoxae separated by less than 0.2 diameter of coxa, apparently contiguous internally (Fig. 7). Hind coxae somewhat projecting (Fig. 7) with largely reduced coxal plates. Ventrite I slightly longer than II, its intercoxal process narrow and acute. Legs stout; tibiae spinose at outer edges; tarsomeres stout, ventrally with sparse bristle-like setae mostly along lateral margins.

**Discussion.** As pointed out by Crowson (1955) and Lawrence and Newton (1995) *Mariouta* and *Rhopalosilpha* clearly belong in Dermestidae and are related to Dermestinae and Thorictinae. Thorictinae are considered here as subfamily of Dermestidae, which was



Figures 1-9. *Mariouta stangei* Reitter, syntype male: (1) head dorsal; (2) prothorax, ventral; (3) head ventral; (4) labium, ventral; (5) left maxilla, ventral; (6) left mandible, dorsal; (7) pterothorax, ventral; (8) aedeagus lateral; (9) same dorsal.



Figures 10–12. Antenna. (10) *Mariouta stangei*; (11) *M. letourneuxi*; (12) *Rhopalosilpha wasmanni*.

admitted by Crowson (1955), who kept it as a separate family in “defence to tradition” rather than basing it on phylogenetic evidence. Lawrence and Newton (1995) called an attention to a secondary ball and socket joint formed by a mesal impression near the apex of the mesocoxa and a small lateral projection near the apex of the metasternal intercoxal process (Fig. 7), which is shared by Dermestinae, Marioutinae and Thorictinae, and may constitute a synapomorphy for these taxa. Further characters shared by these groups but of unknown value are: the absence of the median ocellus (inconspicuous or lost ocellus in *Trichelodes* Carter is an apparently secondary character; Peacock 1978); larva with distinct urogomphi (unknown yet in Marioutinae); and hindgut with strong rectal sclerite forming a loop.

Marioutinae externally resemble Dermestinae in most of adult characters, the major differences that may be of taxonomic value are as follows (Dermestine characters in parentheses): (1) prosternal process (Fig. 2) strongly reduced and not reaching between coxae (narrow but extending behind middle of procoxae); (2) procoxal cavities with complete internal bar (with incomplete internal closure); (3) procoxal cavity without slit exposing trochantin (with lateral slit distinctly exposing trochantin); (4) mesocoxae separated by less than 0.2 diameter of coxa, apparently contiguous internally (separated by at least 0.5 of coxal diameter and not contiguous); (5) hind coxae somewhat projecting (Fig. 7) with largely reduced coxal plates (coxae flat with complete coxal plates); (6) tar-

someres stout, ventrally with sparse bristle-like setae mostly along lateral margins (tarsomeres slender with normal setae on ventral side, setae usually dense).

Most of the characters listed above to separate Marioutinae and Dermestinae are shared by Marioutinae and Thorictinae: (1) prosternal process reduced to almost absent; (2) procoxal cavities with complete internal closure and hidden trochantin; (3) mesocoxae narrowly separated; (4) hind coxal plates at least somewhat reduced; (6) tarsomeres with bristle-like setae. These arguments may well support Crowson's opinion who included Marioutinae in the Thorictinae.

Thorictinae (including *Thorictodes* and *Thorictus*) are small, always wingless beetles and are easily distinguished from Marioutinae and Dermestinae by the following characters: (1) mandible with traces of mola and without a prostheca; (2) ventral side of thorax with pores or specialized trichomes; (3) first abdominal ventrite at least as long as the two following together; (4) intercoxal process of ventrite I broad and rounded apically; (5) hind coxae almost rounded, without distinct plates and broadly separated at middle; and (6) antennal club with specialized sensillary areas (Banck 1927).

Marioutinae share characters with both Thorictinae and Dermestinae, and occupy somewhat intermediate position. Further detailed studies including all the remaining subfamilies of Dermestidae are required to set a proper taxonomic rank for this group.

### Key to genera of Marioutinae

1. Antenna with loose, flattened 3-segmented club (Figs 10–11); elytron striate-punctate (Fig. 13) with epipleuron present; surfaces shortly and sparsely pubescent. . . . . *Mariouta* Pic
- Antenna with rounded, compact 3-segmented club (Fig. 12); elytron irregularly punctate (Fig. 15) with epipleuron apparently absent; surfaces densely pubescent. . . . . *Rhopalosilpha* Arrow

### *Mariouta* Pic

*Mariouta* Pic, 1898: 73. Type species, by monotypy: *M. letourneuxi* Pic, 1898. The generic name apparently derived from the Lake Mariut (Mariout in French) in Egypt.

### Key to the species

1. Lateral margins of pronotum anteriorly crenulate or serrate (Fig. 14); pronotal disk with admedian basal

impressions deep and separated; body black or dark-brown. . . . . *M. letourneuxi* Pic

– Lateral margins of pronotum smooth (Fig. 13); pronotal disk with single weak transverse subbasal impression; body brown . . . . . *M. stangei* Reitter

### *Mariouta stangei* Reitter (Figs 1–10, 13)

*Mariouta stangei* Reitter, 1910: 239. Type locality: "Transkaspien" [Turkmenistan: Belek near Krasnovodsk], lectotype, here designated, TMB; Zhantiev 1976: 122. Species dedicated to Prof. G. Stange (1849–1930), a German lepidopterist.

**Description.** Length 6.2–7.0 mm. Body elongate oval, somewhat flattened; surfaces feebly shiny; dorsal side sparsely setose, the setae hardly visible under 10 magnification, yellowish and appressed, on head and elytra somewhat more denser and apparent than those on pronotal disk; entire dorsal surface with weak, shiny, irregular rugosities, especially well visible on pronotum and elytral intervals.

Head weakly inclined ventrally; anterior margin of clypeus straight to somewhat emarginate at middle, sparsely setose; frontal and vertical surfaces microrugu-

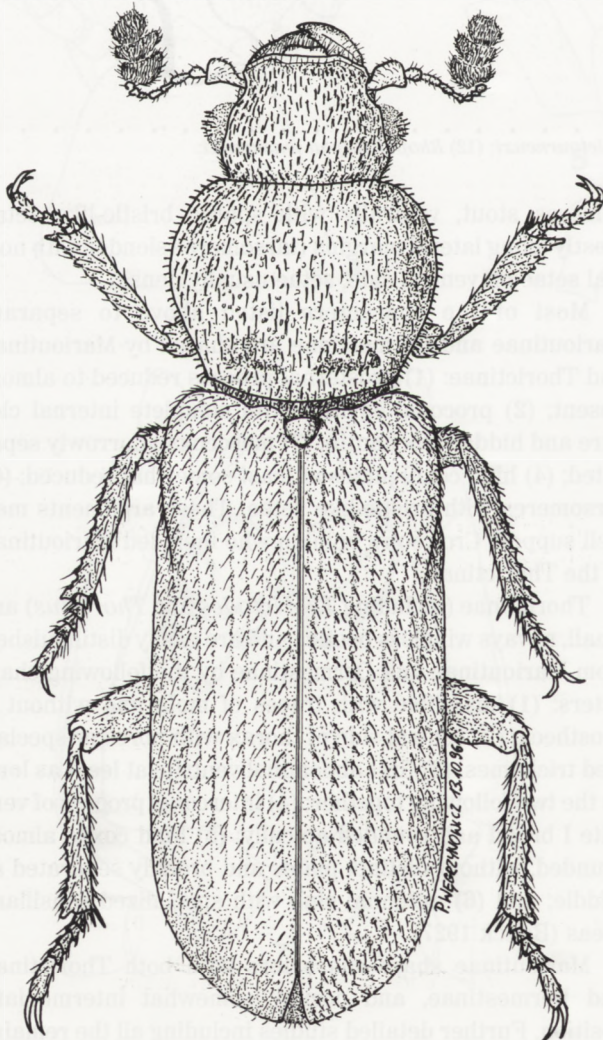


Figure 13. *Mariouta stangei* Reitter, specimen from Oman, by P. Węgrzynowicz.

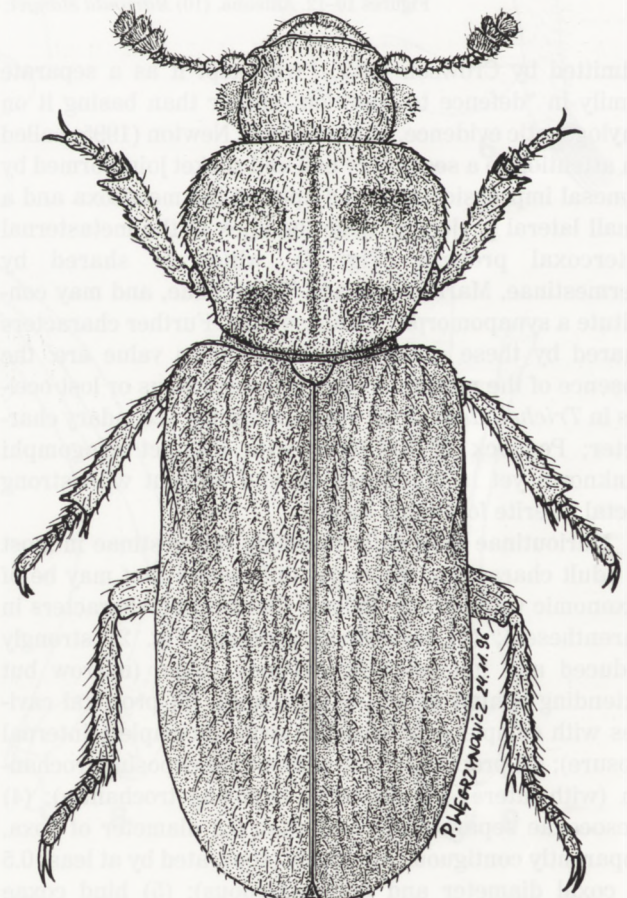


Figure 14. *Mariouta letourneuxi* Pic, specimen from Egypt, by P. Węgrzynowicz.

lose and setose. Antenna as in Fig. 10. Pronotum 0.77–0.80 × as long as wide, widest at anterior third, more strongly narrowing posteriorly than anteriorly; lateral edges smooth and entirely bordered; base arcuate to weakly emarginate near middle, bordered. Pronotal disk flat, gradually sloping towards lateral margins; with not clearly limited transverse impression before base (Fig. 13); surface rugulose and setose. Elytra 1.7–1.8 × as long as wide and 2.2–2.3 × as long as pronotum; striae punctures apparent, and dark, each bearing short recumbent setae; intervals microrugose and sparsely setose. Legs: all tibiae weakly expanded apically and spinose; protibia carinate at outer edge with several denticles or small teeth near apex. Aedeagus as in Figures 8, 9.

**Types.** “Transcaspien, St.Belek, v.[19]09, coll. Stange/Typus” ex. coll. E. Reitter (TMB, lectotype); same data but without typus label (1, TMB, paralectotype); same data as lectotype, without “Typus and E. Reitter coll.” labels (2, MZPW, paralectotypes; one male completely dissected on slide).

**Other material examined.** Saudi Arabia: 248 km S Salwah, 23°N 52°E (Rub al Khali), 20.v.1985, W. Büttiker (1, NHMB). Oman: 25 km of Netge of Umm al Samim, 21°27'N 55°38'E, 17.xi.1988, dunes of Sabkha, M.D. Gallagher (1, MZPW).

**Distribution.** Turkmenistan, Saudi Arabia, Oman.

#### *Mariouta letourneuxi* Pic

(Figs 11, 14)

*Mariouta letourneuxi* Pic, 1898: 73. Type locality: Egypt, near Lake Mariut ?. Type not examined, probably in M. Pic collection in MNHN, Paris. Species name apparently derived from a French name Letourneux.

**Diagnosis.** This species is very similar to *M. stangei* redescribed above. It can be distinguished from that species in having: dark brown to black body; antennal club smaller (Fig. 11); the pronotal edges crenulate to weakly serrate anteriorly and not clearly bordered in basal third; the pronotal disk with subbasal impressions deep, separated by longitudinal line or sulcus reaching almost anterior margin of pronotum (Fig. 14); additional weak impressions are present before middle of pronotum; elytral primary punctures weakly traceable; intervals densely granulose approaching leather-like appearance.

**Material examined.** Egypt, no further data (1, MZPW). Algeria: Ain-Sefrai (3, TMB); Les Salines (1, DEI).

**Distribution.** Egypt, Algeria, Morocco (Mroczkowski 1968).

#### *Rhopalosilpha* Arrow

*Rhopalosilpha* Arrow, 1929: 97. Type species, by monotypy: *R. wasmanni* Arrow, 1929. Name of the genus derived from Greek rhopalon = club, and the genus name *Silpha*.

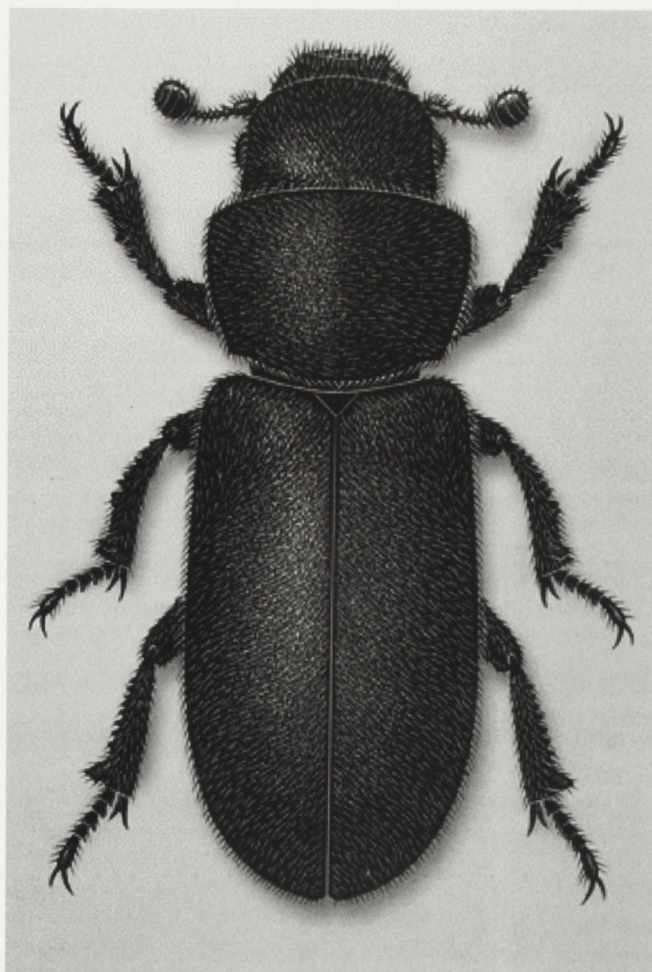


Figure 15. *Rhopalosilpha wasmanni*, by S.P. Kim.

**Discussion.** This genus was well described and illustrated by Arrow (1929). Comparing both marioutine genera, in addition to the characters mentioned in the key, *Rhopalosilpha* is much more convex, almost subcylindrical with dorsal and ventral surfaces densely setose. Head is more strongly inclined ventrally with long outstanding setae in the gular region. Eyes small and distinctly lateral, barely visible from dorsal and ventral sides, while these in *Mariouta* are large, hemispherical and well extending to ventral side, in both genera with sparse interfacetal setae. Pronotum in *Rhopalosilpha* is widest at anterior angles, lateral margins unbordered with edges faintly serrate and setose; disk flattened without impressions. The pronotum is widest at anterior third, disk bears weak impressions, the lateral margins are bordered and smooth to weakly serrate anteriorly in *Mariouta*. The legs are comparatively shorter and stouter in *Rhopalosilpha* than in *Mariouta*.

#### *Rhopalosilpha wasmanni* Arrow

(Figs 12, 15)

*Rhopalosilpha Wasmanni* Arrow, 1929: 97. Type locality: Iran, Kurdistan. 3 syntypes in BMNH, London (species dedicated to Erich Wasmann, eminent Austrian entomologist).

**Material examined.** Saudi Arabia: Hofuf, 28.iii.1978, W. Büttiker (1, NHMB).

**Distribution.** Iran (Kurdistan); Saudi Arabia (new record).

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Received: January 27, 1997

Accepted: April 2, 1997

Corresponding Editor: J. Pakaluk  
Issue Editor: S. A. Ślipiński