

Mordellochroa species of the Western Palaearctic region (Coleoptera, Mordellidae)

by

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ABSTRACT. — The species of *Mordellochroa* Emery occurring in the Western Palaearctic region have been studied. Judging from the parameres two distinct groups are recognized (Emery's subgenera). *Mordellochroa freyi* (Ermisch) is a junior synonym of *Mordellochroa humerosa* (Rosenhauer). A key to the species and illustrations of each species are given.

INTRODUCTION

The genus *Mordellochroa* Emery caught my attention when I found a male of *Mordellochroa freyi* (Ermisch) on a foray in France (see Batten, 1976). This genus was proposed by Emery (1876) as a subgenus in *Mordellistena* Costa, with *Mordellochroa abdominalis* (Fabricius) as type-species. He stressed that the distal segments of the maxillary palpi of the male have the same appearance as those of the male of *M. tournieri* (Emery), *humerosa* (Rosenhauer) and *pulchella* (Mulsant & Rey), though he placed these in the subgenus *Tolida* Mulsant.

Ermisch (1950) raised *Mordellochroa* to generic rank and separated it from the other genera by the different shape of the distal segment of the maxillary palpi, being hammer-like with an apical excavation in the male, and spindle-shaped or elongated-securiform in the female. This author also attributed *turnieri*, *humerosa*, *pulchella* and *freyi* to the genus *Mordellochroa*. In the following account of the species, I have used the abbreviations as given below:

AC — Author's collection

HM — Hungarian National Museum, Budapest

MF — Museum G. Frey, Tutzing

ML — Rijksmuseum van Natuurlijke Historie, Leiden

SMD — Staatliches Museum, Dresden

ZMHB — Zoologisches Museum an der Humboldt Universität, Berlin

ACCOUNT OF THE SPECIES

Mordellochroa humerosa (Rosenhauer, 1847)

fig. 4—6, 9—10, 13—14

humerosa Rosenhauer, 1847: 38, *Mordella*; Emery, 1876: 82, 103, *Mordellistena* (*Tolida*); Ermisch, 1950: 78, *Mordellochroa*.

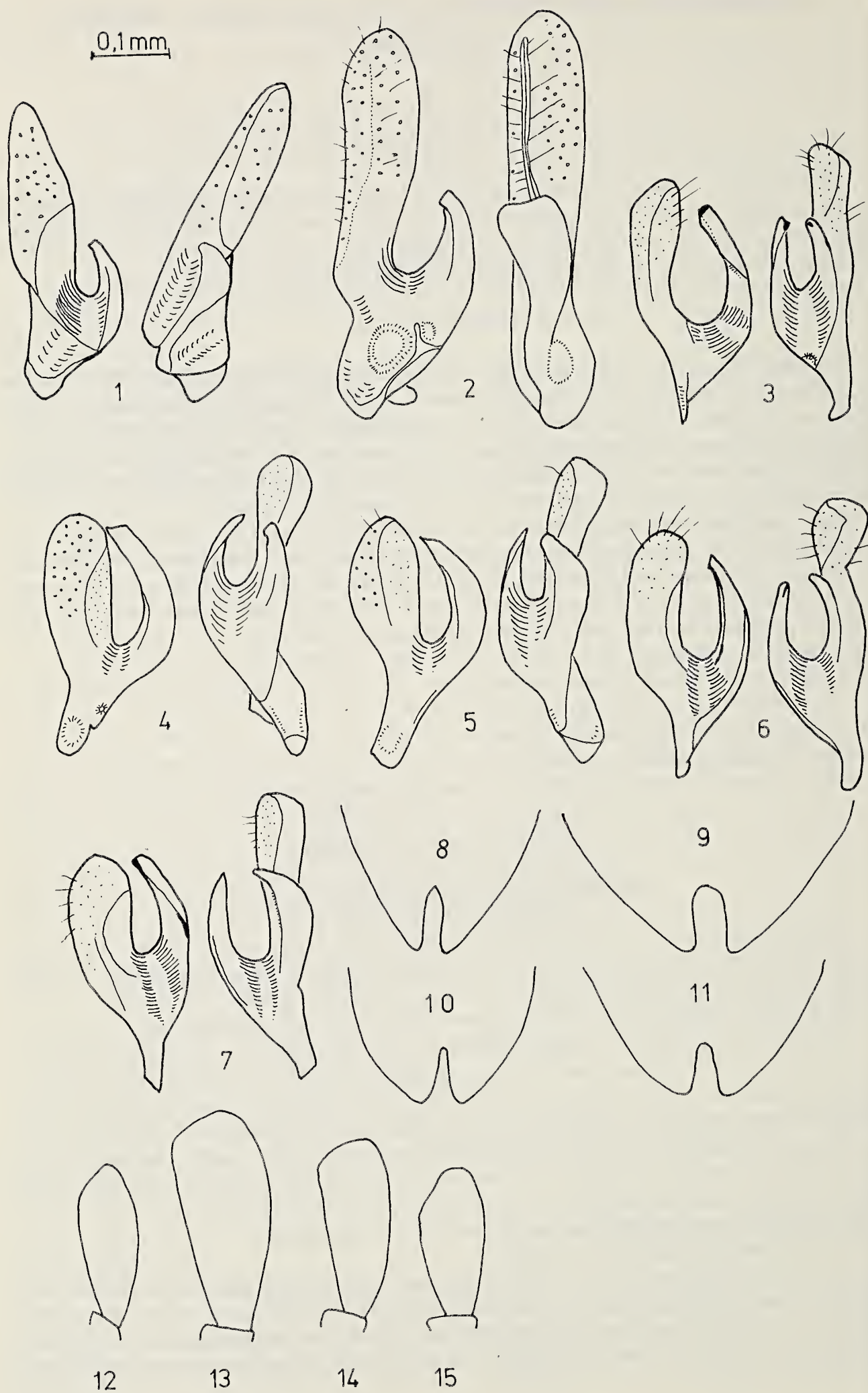
freyi Ermisch, 1944: 211—214, *Tolida*; Ermisch, 1950: 78, *Mordellochroa*, syn. nov.

In describing his *Tolida freyi*, Ermisch (1944) compared the single known female with *turnieri* as the females of both species have a similar incision at the apex of the fifth sternite, which is lacking in *humerosa*. Moreover Ermisch wrote: "Auf den ersten Blick macht die neue Art den Eindruck einer *T. humerosa* Rosenh." During a revision of the Mordellidae of the Rijksmuseum van Natuurlijke Historie, Leiden, I found a female *humerosa* with an incision and two females without incision in the fifth sternite. Furthermore I studied some specimens from France and Spain identified tentatively as *freyi*.

At my disposal were the following specimens labelled *M. humerosa*:

1. series containing females with incision:

Rumania: 1 ♀ Herkulesbad, 17.VIII.1939, det. Ermisch (SMD); 8 ♀ Herkulesbad, 14 and 18.VIII.1933, det. Ermisch 1958, (ZMHB); 1 ♀ Herk [ulesbad] VIII.1896, leg. Veth, det. R. Batten, 1974 (ML); 1 ♂ Orsova (near Herkulesbad) 1909, leg. Ujhelyi, (label: genitalpräparat) (SMD). Yugoslavia: 1 ♀ Vrdolje (= Vrhpolje), 1050 m., 15.VIII.1911, leg. Spaney-Schuhmacher S.V., det. Ermisch (ZMHB).



2. series containing females without incision:

Yugoslavia: 1 ♀ Stojkovce, VII.1923, leg. Stöcklein, det. Ermisch, 1947 (Tolida) (MF); 2 ♀ Herzegowina, Nevesinje, leg. V. Zoufal, det. R. Batten, 1974, (ML). Turkey: 1 ♂ and 1 ♀ Anatolia, N. border of river Tunçeli, 26.VII.1965, leg. Korge & Heinz, det. Ermisch (SMD). Hungary: 1 ♀ Berhida, leg. Dr. Lenci, det. Ermisch (HM); 1 ♀ B. Sztmikály (= "Balatonederics Szentihály", Dr. Z. Kaszab i.l.) leg. Dr. Lenci, det. Ermisch 1955 (HM).

3. series containing no females:

Cyprus: 1 ♂, Karavas, Kyrenia, V.1973, leg. Dr. A. Pfeffer (collection J. Horák).

Moreover I examined the following specimens labelled *freyi* all det. R. Batten, 1973—1975:

France: 1 ♀ Ardèche, Jaujac, 2.VII.1967, leg. L. D. Brongersma (ML); 1 ♂ and 2 ♀ (Pyr. Or.) Vernet, 9.VII.1973 (AC); 1 ♂ (Ardèche) Bois de Paiolive, 4.VII.1974 (AC). Spain: 2 ♂ Fuente, leg. Pozuelo (ML); 1 ♂ (Sevilla) between Lebrija and Trebujena, 10.V.1960, leg. excursion Leiden Museum (ML); 1 ♂ (Legroño) Torrecilla en Cameros, 12.VII.1973, leg. Hozman (collection J. Horák); 1 ♀ (Zaragoza) Tiermas, 7.VII.1974 (AC); 1 ♀ (Huesca) Ordesa-Torla, 8.VII.1974 (AC); 1 ♀ (Salamanca) Béjar, 5.VII.1975 (AC); 1 ♂ (Cordoba) Belmez, 6.VII.1975 (AC); all leg. R. Batten (AC).

All these females have an incision in the fifth sternite. Within this material the genitalia of the males from Orsova and Tunçeli were studied. There is no important difference between the parameres of males of a population with females having an incision (fig. 4) compared with the parameres of males of a population with females without an incision (fig. 5). Nor there is a difference in the proportions of the specimens from the different groups.

The differences in the structure of the distal sternite in the female do not seem to point to a subspecific distinction, as is suggested by the map of *humerosa*-localities (fig. 8).

A study of the parameres of material identified as *humerosa* and *freyi* (fig. 6) yielded no difference at all. Furthermore I studied carefully all the features of *freyi* mentioned by Ermisch (1944) and noticed no differences in pubescence, punctation or colour; the distal segments of the maxillary palpi of the females are identical (compare fig. 13 and 14). The breadth/length ratios of the specimens referred to *humerosa* (from eastern Europe) and *freyi* (from France and Spain) overlap:

	" <i>humerosa</i> "	" <i>freyi</i> "
breadth/length head	1.1 —1.4	1.2—1.4
breadth/length pronotum	1.15—1.6	1.15—1.5
length/breadth elytrum	2.1 —2.4	2.1—2.5
length pygidial style/fifth sternite	2	2

My conclusion is that *Mordellochroa freyi* is a junior synonym of *M. humerosa*.

Mordellochroa abdominalis (Fabricius)

fig. 1

abdominalis Fabricius, 1775: 264, *Mordella*; Emery, 1876: 80, 83, *Mordellistena* (*Mordellochroa*); Ermisch, 1950: 78, *Mordellochroa*.

Figs. 1—7. Parameres (right paramere on left hand, left paramere on right hand) of *Mordellochroa* species. 1: *abdominalis*, Jajce (Yugoslavia) leg. G. J. Slob, A.C.; 2: *milleri*, Mehádia (Rumania); 3: *tournieri*, Malaucène (France, Vaucluse); 4: *humerosa*, Orsova (Rumania); 5: *humerosa* Tunçeli (Turkey); 6: "*freyi*", Vernet (France Pyr. Or.); 7: *pulchella*, Corsica (France).

Figs. 8—15. Fifth sternite and terminal segment of right maxillary palp of *Mordellochroa* females. 8, 12: *tournieri*, Jajce (Yugoslavia); 9, 13: *humerosa*, Herkulesbad (Rumania); 10, 14: "*freyi*", Jaujac (France); 11, 15: *pulchella*, Corsica, St. Florent (France). Scale line = 0.1 mm.



Fig. 16. Localities of *Mordellochroa humerosa* in eastern Europe. ○ = females with incision, ● = females without incision. 1. Herkulesbad, 2. Orsova, 3. Vrhpolje, 4. Berhida, 5. B. Szentihály, 6. Nevesinje, 7. Stojkovce.

Mordellochroa milleri (Emery)

fig. 2

milleri Emery, 1876: 80, 83, *Mordellistena* (*Mordellochroa*); Ermisch, 1950: 78, *Mordellochroa*.

At my disposal are 1 ♂ and 1 ♀ of the Budapest Museum, both labelled "Mehadia, 1865, J. Friv.[alski]", "paratypus 1876, *Mordellistena* *Milleri* Emery". The genitalia of the male have been extracted and the parameres are figured. The penis is broadened to oval at apex.

Mordellochroa pulchella (Mulsant & Rey)

fig. 7, 11, 15

pulchella Mulsant & Rey, 1859: 232, *Mordella*; Emery, 1876: 82, 104, *Mordellistena* (*Tolida*); Ermisch, 1950: 78, *Mordellochroa*.

In the collection of the Leiden Museum are 2 ♂ and 2 ♀ of *Mordellochroa pulchella*, det. R. Batten 1974. The genitalia of both males, labelled: "France, Corsica, L. v. d. Pijl, on *Ruta corsica*" are extracted by me and the parameres of one specimen figured.

Mr. J. Horák kindly presented me with a male specimen from Bonira (Algeria), 12-14.VI. 1972, leg. A. Hoffer & J. Horák, which is striking because the tibiae are golden, except the apex of the tibiae of the middle legs, and the distal half of the tibiae of the hind legs being black.

Mordellochroa tournieri (Emery)

fig. 3, 8, 12

tournieri Emery, 1876: 82, 102, *Mordellistena* (*Tolida*); Ermisch, 1950: 78, *Mordellochroa*.

graeca Schilsky, 1895: 56, *Mordellistena* (*Tolida*); Ermisch, 1956: 292, *Mordellochroa* (jun. syn. of *tournieri*).

schusteri Schilsky, 1895: 55, *Mordellistena* (*Tolida*); Ermisch, 1943: 18—21, *Tolida* (jun. syn. of *tournieri*).

similis Scegoleva-Barovskaja, 1930: 752, *Mordellistena*; Ermisch, 1943: 18—21, *Tolida* (jun. syn. of *tournieri*).

The holotype of *graeca*, labelled: "Attica Reitter", "♂", "graeca Schils", is in the collection of the Berlin Museum. I extracted the genitalia and compared them with those of several male *tournieri* from France in my collection. They are similar, so I agree with the synonymy put forward by Ermisch (1956).

The study of the parameres of all known species of *Mordellochroa* shows that those of *milleri* and *abdominalis* are most characteristic: the right paramere is provided with a very short ventral lobe, the left paramere with an appendix to the dorsal lobe but missing a ventral lobe (fig. 1 and 2). In the other species the right paramere has lobes of almost equal length, the left paramere bears a ventral lobe and an appendix of the dorsal lobe of equal length (fig. 3—7). Externally the two groups differ in the colour of the abdomen. In this respect it may be remembered that Emery (1876) placed the species with a black abdomen and parameres, as in fig. 3—7, in the subgenus *Tolida*. Evidently there are two distinct groups (Emery's subgenera) in the genus *Mordellochroa*.

Mordellochroa Emery

Diagnosis: Distal segment of maxillary palpi in male hammer- or nut-like, in the female spindle-shaped or elongated-securiform. Penultimate segment of anterior tarsi straight at apex. Hind tibiae with strigosities in addition to an apical one. Strigosities on first and second segments of hind tarsi. Apical spurs of hind tibiae yellow, sometimes infuscated. Type-species: *Mordella abdominalis* Fabricius, 1775.

Key to the species

Strigosities on hind legs noted as follows: Str. 3/2—3—2 means: 3 or 2 strigosities on tibiae, the apical strigosity excepted, 3 on first tarsal segment, 2 on second tarsal segment.

- 1.y Abdomen orange to light yellow, at least partly. Right paramere with very short ventral lobe, left paramere with appendix to dorsal lobe but missing a ventral lobe (fig. 1 and 2). Fifth sternite of female without incision 2
- z Abdomen entirely black. Right paramere with lobes of almost equal length, left paramere with ventral lobe and appendix of dorsal one of equal length (fig. 3—7). Fifth sternite of female with incision, except in some specimens of *humerosa* (fig. 8—11). 3
- 2.y Insect wholly black except abdomen, at least partly, and base of pygidial style orange; moreover male: base of pronotum ferrugineous; female: anterior legs and pronotum orange (sometimes black area in middle), scutellum ferrugineous. Pygidial style broad. Str. 2-2-1. Parameres as in fig. 1. Length 4.5—6 mm. S. Europe, Caucasus, Daghestan . . . *abdominalis*
- z Insect wholly light yellow or golden except elytra, eyes, strigosities on hindlegs, bristles at apex of tibiae, and tarsi black or brownish black. Both sexes are coloured similarly. Pygidial style narrow, 4 × as long as 5th sternite. Str. 3-3-1. Parameres as in fig. 2. Length 5.0—6.3 mm. Austria, Hungary, Rumania *milleri*
- 3.y Elytra black, sometimes patch of yellow pubescence on shoulders. Fifth sternite at apex in male slightly concave. Female: distal segment of maxillary palpi slender, spindle-shaped (fig.

- 12). Str. 2-2-1. Parameres as in fig. 3. Length 3.0—5.5 mm. Middle and South Europe
 *tournieri*
 z Elytra black with orange or golden marks 4
 4.y Elytra with orange oval mark on shoulder, extending sometimes to one third of elytron. In
 lateral view sides of pronotum slightly concave. Pygidial style twice as long as fifth sternite.
 Female: distal segment of maxillary palpi elongated-securiform, broadest at apex, with
 edges rounded (fig. 13, 14); fifth sternite rounded at apex or with incision of variable width
 (fig. 9, 10). Str. 4/2-3/2-1/0. Parameres as in fig. 4, 5 and 6. Length 3.3-5.5 mm. South Europe,
 Anatolia, Syria, Cyprus *humerosa*
 z Elytra with golden oval marks, one on shoulder and one at apex. Marks variable in extension
 but touching neither each other, nor suture of elytra, sometimes hardly visible, especially
 apical ones. In lateral view sides of pronotum straight to slightly convex. Pygidial style more
 than twice as long as fifth sternite. Female: distal segment of maxillary palpi spindle-shaped,
 broadest at 3/4 of length (fig. 11). Str. 3/2-3/2-1. Parameres as in fig. 7. Length 3.3—3.8 mm.
 Italy, Corsica, Algeria *pulchella*

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PERSONALIA

Op 1 december j.l. promoveerde ons lid L. H. M. Blommers aan de Universiteit van Amsterdam op een proefschrift getiteld „Roofmijten van Madagascar, en hun rol bij de regulatie van schadelijke spintmijten”. Promotor was Dr. W. Helle, copromotor prof. Dr. J. H. Stock.