

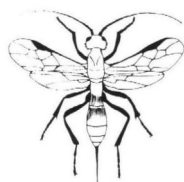
Some Monodontomerinae and Megastigminae (Torymidae) associated with Cynipidae in Spain (Hymenoptera)

R. R. ASKEW and J. L. NIEVES

Askew, R. R. & Nieves, J. L.: Some Monodontomerinae and Megastigminae (Torymidae) associated with Cynipidae in Spain (Hymenoptera).

Ent. scand. 18: 355–359. Copenhagen, Denmark 22 February 1988. ISSN 0013-8711.

Ent. scand.



Microdontomerus impolitus sp. n. and *Liodontomerus centaureae* sp. n. are described from cynipid galls on *Tragopogon* and *Centaurea* respectively. New host and distributional data are given for *M. crassipes* Bouček, *L. papaveris* (Förster), *Chalcimerus borceai* Steffan & Andriescu and *Megastigmus dumicola* Bouček, and generic characters of *Microdontomerus* and *Liodontomerus* are commented upon.

R. R. Askew, Department of Environmental Biology, University of Manchester M13 9PL, England.

J. L. Nieves, Museo Nacional de Ciencias Naturales, J. Gutierrez Abascal 2, 28006 Madrid, Spain.

The torymid fauna in cynipid galls in northern Europe is dominated by Toryminae, but in the Mediterranean region Monodontomerinae are quite well-represented. Two new species belonging to the latter subfamily and reared from cynipid galls on herbaceous plants in Spain are described below where they are attributed to the genera *Microdontomerus* Crawford, 1907 and *Liodontomerus* Gahan, 1914. Both genera (which have American type species) have received a number of junior synonyms (see Szelényi 1957a, Bouček 1976, 1978, 1982) which were mostly applied originally to small groups of European and African species. This has increased morphological variation within the genera to the point where morphological distinctions between them are blurred and need to be based on combinations of characters.

MONODONTOMERINAE

Microdontomerus Crawford, 1907

Bouček (1982) employs this name for the palaeartic species *M. crassipes* Bouček, 1982, *M. robustus* (Bouček, 1970) and *M. ovivorus* (Stefan, 1967), the latter two species being described

originally in *Paraholaspis* Masi, 1921, a genus synonymised under *Antistrophoplex* Crawford, 1914 by Bouček (1976). Bouček (1982), on the advice of E. E. Grissell (Washington), treats *Antistrophoplex* as a junior synonym of *Microdontomerus*. The new species described below is placed in *Microdontomerus* because of affinity with the three species listed above. All four species share the following characters: absence of occipital carina, flagellum with one anellus and seven funicle segments, hind coxa with short but numerous hairs proximally on dorsal edge, hind femur broadened with ventral edge strongly convex in distal half, hind tibia with inner spur at least twice as long as outer spur, propodeum medially smooth with short anterior carinulae but no distinct median carina, hind margin of first gastral tergite distinctly incised medially in both sexes (where known). *Paraholaspis cothurnata* Masi, 1921, which has the hind coxal dorsal edge bare, hind femur only moderately broad with its ventral edge more evenly convex, hind tibia with inner apical spur not twice as long as the outer spur and a fine but distinct median carina on the propodeum, is probably better not considered a species of *Microdontomerus*.

Microdontomerus impolitus sp. n.

Figs. 1-4.

Type material: Holotype ♀, Spain: Madrid, Torrelaguna, ex gall of *Aulacidea tragopogonis* (Thomson), collected 8.v.1986, emerged vi.1986 (second year of gall) (J. L. Nieves), in Museo Nacional de Ciencias Naturales, Madrid. *Paratypes:* 15♂ 23 ♀, same data as holotype, in MNCN Madrid, British Museum (Nat. Hist.), and coll. R. R. Askew.

Diagnosis: *M. impolitus* has less swollen hind femora than *M. crassipes* and *M. robustus* (2.2. and 2.4 times as long as broad in females, respectively) and a longer ovipositor than *M. ovivorus* and *M. robustus* (at most 0.75 and 0.5 times as long as gaster, respectively). The marginal vein is about twice as long as the postmarginal vein, as in *robustus* and *ovivorus*, but in *crassipes* it is at most 1.6 times as long. In its densely reticulate, dull dorsum and short second flagellar segment, *M. impolitus* differs from the three other species mentioned above and resembles some *Liodontomerus* species.

M. crassipes and *M. impolitus* are parasitoids in galls of Cynipidae whereas *M. ovivorus* was reared from eggs of the buprestid *Steraspis speciosa* Klug in Algeria (Stefan 1967). No host is known for *M. robustus* which is recorded from the U.S.S.R. (Crimea) and south-eastern Europe as far west as Italy (Bouček 1982).

Description

Female. Head and thorax dark bronze with little or no green colouration (one specimen narrowly green on posterior orbit); gaster black with violet reflections; coxae and most of femora concolorous with thorax, trochanters in part, femora on apical fifths, tibiae and tarsi reddish testaceous, fifth tarsomeres and claws infuscate; wings lightly infumate with a large, ill-defined fuscous spot of variable intensity on the disc. Length (including ovipositor) 3.4-3.6 mm.

Head dorsally as in Fig. 1; lateral ocellus separated from orbit by twice its diameter. In facial view, a little over 1.2 times as broad as high, eyes separated by a distance very slightly longer than their height, inner orbits slightly divergent ventrad; malar space equal to eye breadth. Antenna (Fig. 2) with scape reaching only to dorsal edge of eye; pedicel as long as three basal flagellar segments; flagellum subclavate with one anellus and seven funicle segments, all segments transverse, first funicle segment shorter and slightly narrower than second funicle segment but broader than pedicel.

Thorax (and head) dull with very dense reticulation and scattered, short, white and slightly flattened hairs (especially visible on lower face). In dorsal view (Fig. 1) 1.35 times as long as broad;

scutellum as broad as long. Prepectus with anterior carina defined only in dorsal half. Metapleuron pilose posteriorly, relatively strongly sculptured and not very shining. Legs with front and hind femora swollen, the latter (Fig. 4) 2.8 times as long as broad, its ventral edge gently curved in proximal quarter but thereafter distinctly convex; hind tibia with inner apical spur about 4 times as long as outer (which is scarcely developed) and about half as long as dorsal face of hind basitarsus. Propodeum steeply declived, smooth medially and reticulate laterally with about 10 longitudinal, anterior carinulae, about twice as long as dorsellum medially; spiracles separated from metanotum by rather less than their major diameters.

Forewing (Fig. 3) with ratio lengths costal cell: marginal vein:stigmatal vein:postmarginal vein as 102:44:19:23; cubital and basal veins pilose; basal cell with a few hairs on uppersurface; costal cell with hairs only on undersurface; speculum large; disc with dense trichiation posterior to stigma but sparsely pilose between stigmatal vein and parastigma.

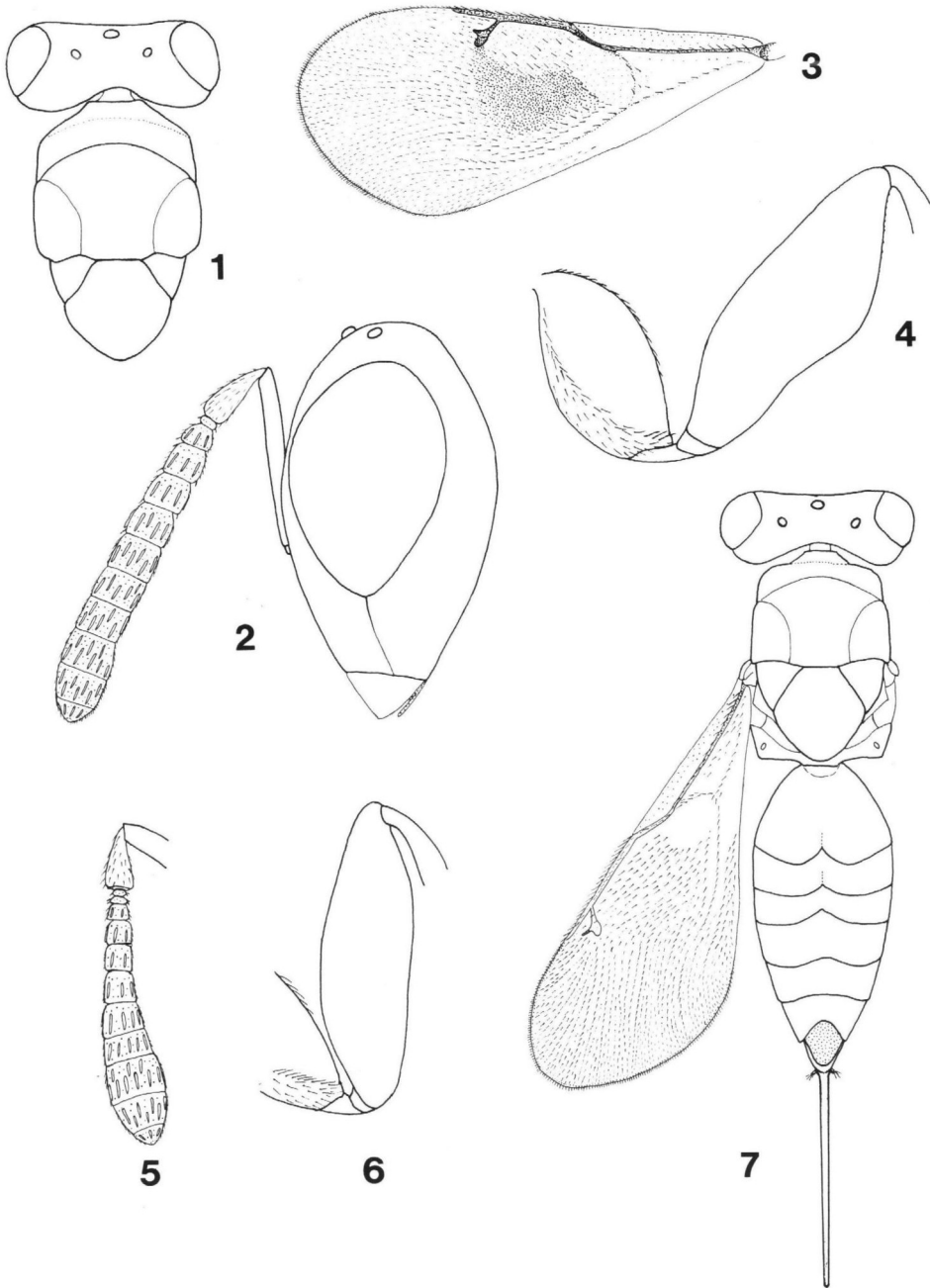
Gaster (excluding ovipositor) about as long as rest of body; hind margins of tergites 1 and 2 deeply incised, 3 more shallowly so, 4 to 6 increasingly emarginate; hypopygium at about two-fifths gastral length; ovipositor about 1.9 times as long as hind tibia and equal in length to gaster.

Male. Similar in colour to female but rather more greenish, particularly around eyes. Antennal flagellum more slender, clavate; first funicle segment almost anelliform, hardly as broad as pedicel and only slightly longer, although distinctly broader, than anellus. Hind femur broader, about 2.5 times as long as broad, apical third of its ventral edge with indications of serration. Gaster with posterior margin of only first tergite medially incised, the remaining tergites almost straight posteriorly. Length 1.9 mm.

Microdontomerus crassipes Bouček, 1982

This species was described from Spain and Algeria, the North African material being reared from 'gall on *Centaurea sphaerocephala*'. The following records from Spain confirm that the species is a parasitoid in galls of Cynipidae:

10♂ 13♀ ex galls of *Isocolus tavaresi* Nieves on *Centaurea aspera*, Toro, Zamora, collected



Figs. 1-7. *Microdontomerus impolitus* sp. n. and *Liodontomerus centaureae* sp. n., females: 1-4, *M. impolitus*: 1. Head and thorax, dorsal view; 2. Head and antenna, left lateral view; 3. Left forewing; 4. Coxa and femur of left hind leg. 5-7, *L. centaureae*: 5. Pedicel and flagellum; 6. Femur of left hind leg; 7. Body and left forewing, dorsal view.

14.iv.1985, emerged v.1985; 1♂ 4♀ as above, coll. 16.iii.1986, em. vi.1986; 3♂ 2♀ as above, Tuejar, Valencia, coll. 21.v.1982, em. v.1982; 7♂ as above, Rincón de Ademuz, Valencia, coll. 2.iv.1985, em. vi.1985; 1♂ 1♀ ex heads of *Centaurea conifera*, Arganda, Madrid, coll. 9.xi.1983, em. vii.1984. All leg. J. L. Nieves.

1♂ 2♀ ex galls *Andricus kollari* (Hartig) ♀ on *Quercus petraea*, Montseny, Catalonia, coll. viii.1981, em. 2.v.1982; 1♀ ex gall *A. kollari* ♀ on *Quercus pubescens*, Matadepera, Catalonia, em. 12.vi.1981. All leg. J. Pujade i Villar.

Slight differences between specimens reared from *Centaurea* and from *Quercus* are not thought to indicate heterospecificity.

Liodontomerus Gahan, 1914

Liodontomerus is a large genus, particularly well-represented in south-western Europe. Hosts of only a few species have been recorded and these are phytophagous insects (Eurytomidae, Cecidomyiidae, Cynipidae) living in herbaceous plants. Bouček (1982) considers *Liodontomerus* to be an assemblage of species-groups, most of which have previously been accorded generic status. As presently understood it is a difficult genus to define, but most species are rather dull with dense sculpturation, the occipital carina is absent or weak, the hind femur is not exceptionally broad and there are generally two anelli and six funicle segments. *Liodontomerus* is close to *Microdontomerus*. In Bouček's (1978) key, *Liodontomerus* and *Antistrophoplex* (= *Microdontomerus*) lie in different sections distinguished by the marginal vein being much shorter than (*Liodontomerus*) or longer than (*Microdontomerus*) half the length of the costal cell. This is an error, as can be seen from lengths of costal cell and marginal vein quoted in species' descriptions, and *Liodontomerus arcus* Bouček, 1970 and *L. nitens* Bouček, 1982 have the marginal vein slightly longer than half the costal cell, whereas in *Microdontomerus crassipes*, *M. ovivorus* and *M. impolitus* the marginal vein is much shorter than half the length of the costal cell, as is the condition in some other species of *Liodontomerus*.

Liodontomerus centaureae sp. n.

Figs. 5-7.

Type material: Holotype ♀, Spain, Guadalajara, Pozo

de Guadalajara, ex stem of *Centaurea scabiosa* containing galls of *Phanacis centaureae* Förster, collected 4.xii.1983, emerged vi.1984 (J. L. Nieves), in Museo Nacional de Ciencias Naturales, Madrid. — *Paratypes:* 3♀, same data as holotype, in British Museum (Nat. Hist.), M.N.C.N. Madrid, and coll. R. R. Askew.

Diagnosis: *L. centaureae* runs in Szelényi's (1959) key as far as *L. mayri* (Wachtl, 1883), from which it differs in having broad hind femora and narrow thorax (1.2 to 1.3 times as long as broad in *mayri*), and *L. pannonicus* (Ruschka, 1923) which has an ovipositor only half as long as the gaster. *L. centaureae* is the third species of *Liodontomerus* to be associated with galls of Cynipidae. *L. mayri* is known to attack *Aulacidea scorzonerae* (Giraud), and it is said to have been reared from a leaf gall of an *Aulacidea* species on *Tragopogon orientalis* in Hungary (Szelényi 1957b). However, the latter material is claimed to have one anellus and seven funicle segments in the antenna, which throws doubt on the record. *L. papaveris* (Förster, 1856) was described as a parasite of *Aylax papaveris* (Perris) and it has also been reared from *Papaver* seed capsules galled by *A. minor* Hartig in France (R. R. Askew) and *A. oraniensis* Barbotin in Spain (J. L. Nieves) and from galls of *Xestophanes szepigetii* Balás on *Potentilla* in Hungary (Szelényi 1957b). *L. papaveris* has antennal anelli and ovipositor similar to those of *L. centaureae* but it is greenish in colour and relatively shining, the posterior margins of the basal gastral tergites are less sharply incised (second tergite only weakly incised), there is no trace of an occipital carina and the lower edge of the hind femur is concave in its apical sixth.

Description

Female. Head and thorax dark bronze-green, green on mouth margin, narrowly around eyes, anterior faces of front coxae and on mesosternum; propodeum coppery; gaster blackish with coppery to violet reflections; scape testaceous in proximal half, remainder of antenna brown; femora brownish with only weak metallic reflections, paler apically; tibiae and front tarsi light brown; middle and hind tarsi whitish-brown except last tarsomere of hind leg which is contrastingly dark brown; wings clear with yellowish venation. Length (including ovipositor) 2.8–3.0 mm.

Head in dorsal view as in Fig. 7. In facial view rather short, almost 1.3 times as broad as high; eyes separated by about 1.2 times their height; malar space slightly shorter than eye breadth; cheeks slightly convex, strongly convergent. Occipital carina present but very weak. Antenna with scape as long as breadth of an eye; pedicel as long as four proximal flagellar segments; flagellum (Fig. 5) strongly clavate with two anelli and six transverse funicle segments, the segments progressively broader distad with sixth funicle more

than twice as broad as first and the clava broader still.

Thorax (and head) dull with exceedingly dense reticulation and scattered, short, white, slightly flattened hairs. In dorsal view (Fig. 7) 1.5 times as long as broad, the pronotum in front of the collar descending very steeply. Prepectus anteriorly carinate. Metapleuron reticulate posteriorly, almost smooth anteriorly, pilose near posterior margin. Legs with front and hind femora swollen, hind femur (Fig. 6) 3.4 times as long as broad and scarcely broader than front femur; hind tibia with two apical spurs, the inner about twice as long as the outer and much less than half the length of the dorsal edge of the basitarsus. Propodeum steeply declived, smooth centrally and reticulate laterally, with about 10 short anterior carinulae, medially about 3 times as long as dorsellum; spiracle separated from metanotum by a distance equal to or rather more than its major diameter.

Forewing (Fig. 7) with ratio length costal cell: marginal vein: stigmal vein: postmarginal vein as 72:28:13:16; basal and cubital veins pilose; upper surface of costal cell bare but basal cell pilose on upper surface, especially proximally; speculum large, just reaching marginal vein.

Gaster (Fig. 7) excluding ovipositor about as long as rest of body; posterior margins of tergites 1 and 2 deeply incised medially, tergite 3 moderately incised; hypopygium at almost 0.75 gaster length; ovipositor 1.5 times as long as hind tibia and 0.7 times as long as gaster.

Male. Unknown.

Chalcimerus borceai Steffan & Andriescu, 1963

Chalcimerus is attributed to the tribe Chalcimerini (Bouček 1978) which in some respects approaches Podagrionini within Monodontomerinae. This, the only known species, was described from three females from Romania and Crete, and has subsequently been found in Israel, and in Algeria where it was reared from *Aylax oraniensis* galls in *Papaver* heads (see Bouček 1978). The known range of the species is now extended to Spain:

Madrid, Arganda, 3♀ reared from mixed galls of *Aylax oraniensis* and *Aulacidea nigripes* Barbotin in heads of *Papaver* sp., collected 26.vi.1985, emerged vii.1985 (J. L. Nieves).

MEGASTIGMINAE

Megastigmus dumicola Bouček, 1982

This species, described from southern France (St. Tropez), differs from others in the genus in having a clearly petiolate gaster. It is mainly red brown in colour but with a slightly metallic tinge on the scutellum which led Bouček (1982) to suggest an affinity with the more strongly metallic species which are parasitoids in cynipid galls on *Quercus*. One female reared from a gall of *Plagiotrochus kiefferianus* Tavares ♀ on *Q. coccifera*, Spain, Madrid, Peiales de Tojuna, collected 16.ii.1984, emerged iii.1984 (J. L. Nieves), both confirms this affinity and constitutes an extension of the known range.

References

- Bouček, Z. 1970. On some new and otherwise interesting Torymidae, Ormyridae, Eurytomidae and Pteromalidae (Hymenoptera), mainly from the Mediterranean subregion. *Boll. Lab. Ent. agr. Filippo Silvestri* 27(1969): 27–54.
- 1976. Changes in the classification of some African Chalcidoidea (Hymenoptera). *J. ent. Soc. sth. Afr.* 39: 345–355.
- 1978. A study of the non-podagrionine Torymidae with enlarged hind femora, with a key to the African genera (Hymenoptera). *Ibidem* 41: 91–134.
- 1982. Four new Mediterranean Torymidae (Hymenoptera). *Entomologist's Gaz.* 33: 183–191.
- Steffan, J. R. 1967. *Paraholaspis ovivora* n. sp. (Hym. Torymidae) parasite des oeufs du bupreste *Steraspis speciosa* Klug. *Entomophaga* 12: 149–152.
- Steffan, J. R. & Andriescu, I. 1963. Un nouveau genre de torymide paléarctique (Hym. Torymidae). *Anal. Stiint. Univ. Al. I. Cuza Sect. II* 8(1962): 225–231.
- Szelényi, G. 1957a. The genera of the subfamily Monodontomerinae (Hym. Chalcidoidea). *Annl. hist.-nat. Mus. nain. hung.* (s.n.) 8: 381–388.
- 1957b. Notizen über die Arten der Gattung *Liodontomerus* Gah. (Hym. Chalcid.). *Folia ent. hung.* (s.n.) 10: 111–123.
- 1959. Two new species of *Liodontomerus* Gah. (Hym., Chalcidoidea). *Acta zool. Acad. Sci. Hung.* 5: 141–146.