



Notes on Macrocera Meigen (Mycetophiloidea, Keroplatidae) including M. nigropicea Lundström new to Britain

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Macrocera is an easily recognised genus of "fungus gnats" by reason of its long slender antennae, practically as long or often longer than the body. Several of the 22 species on the British list are very common in woods but about two thirds of the species are apparently rather local or uncommon. Some of these, however, occur chiefly on moorland or bogs and have evidently been under recorded because of an upland distribution. The few known larvae spin webs on rotten wood (*M. stigma* Curtis), in grass tussocks (*M. phalerata* Meigen) or in caves and cellars (*M. fasciata* Meigen) and are presumed to be carnivorous like other Keroplatidae; none are known to be habitually associated with fungi.

The only *Macrocera* added to the British list since Edwards' (1925, 1927, 1933, 1941) contributions on the British Mycetophiloidea, was *aterrima* Stackelberg by Hutson & Kidd (1974), who also drew attention to a distinct upland form of *parva* Lundström. Chandler (1978) provided some additional data on the latter form as well as *aterrima* and some other species. Identification of the 22 species and the variety of *parva* is facilitated by the key provided by Hutson, Ackland & Kidd (1980), who gave county records but did not comment on habitats. Also the lack of recent records of several species was not apparent.

My attention was drawn to the under recording of upland species in 1979 when Dr. J. Coulson submitted to me material collected in pitfall traps as part of a survey of moorland sites in northern England. Batches from seven localities in Cumbria, Durham and North Yorkshire included *Macrocera estonica* Landrock in good numbers. The only other record of *estonica* known to me since the Cheshire and Norfolk localities given by Edwards (1941) is from moorland on the Newcastle Hills, Dumfries, 3.ix.1975 (A. E. Stubbs).

The material received from Dr. Coulson also included two females from Cumbria with faintly marked wings, which were initially supposed to be *bipunctata* Edwards, only known as British from the three males in Edwards' type series, collected in Tilberthwaite Ghyll, Lanes. and Bowness, Cumbria (Edwards 1925). However, they differed in several respects, such as the smaller size, darker body colour and faintly darkened wing tip. The discovery of corresponding males in material collected on a Nature Conservancy Survey of Welsh Peatland Sites during 1987, has permitted their identification as *M. nigropicea* Lundström (1906). This was described from one male collected in Russian Lapland (Murmansk district) and since recorded only from a bog in Iceland (Lindroth 1931, Nielsen, Ringdahl & Tuxen 1954).

Recognition of *Macrocera nigropicea* Lundström, 1906:

M. nigropicea appears closest to *maculata* Meigen, to which it runs in the key by Hutson, Ackland & Kidd (1980). It differs in the entirely dark body and fainter wing markings which are similarly distributed. The marks over the base of Rs, in the constriction of the posterior fork and before the tip of R1 are most distinct; the wing tip is only faintly tinged with brown. The antennae are a little longer than the body in the male and a little shorter in the female, while they are longer than the body in both sexes in *maculata*. The few specimens examined have the wing length 3.8-4.0 mm (males) and 3.0-3.7 mm (females).

Material examined

Cumbria: Merlewood, Burns Beck, 12.ix.1978, female; Moorhouse, Bog End, 18.vii.1978, female (J. Coulson), Dyfed (Ceredigion): Rhos Rydd, 30.vii.1987, 2 males, ungrazed/burnt basin mire and 1 male, *Molinia* bog; Gwynedd

(Caernarvon): Migneint, blanket bog, 4.viii.1988, male (P. Holmes, D. Boyce & D. Reed).

Some other little known species

Thus *bipunctata* has not been reported from Britain since 1925; its synonymy with *inversa* Loew is proposed below. Also the three species for which Devon only is cited by Hutson, Ackland & Kidd (1980) had not until recently been found here since the original records based on single specimens. Two of these, *fastuosa* Loew and *longibrachiata* Landrock were found on the same day, 3rd August 1927 at Clovelly, on the North Devon coast by Mr. H. Womersley (Edwards 1927). They were found on a wooded slope with several small streams overgrown with sedges. The only more recent record of either species is of 1 male *M. fastuosa*, swept by the stream in Shelf Held Coppice, Wyre Forest, Worcs, 7.viii.1988 (Chandler).

Womersley's discovery was quite remarkable and any further discovery of either of these species in this district or elsewhere would be most interesting. I have twice visited the woods around Clovelly but have not been able to confirm their continued existence there. The habitat has evidently changed but the precise requirements of the two *Macrocera* species are unknown. The general tidiness of these woods and removal of dead wood may have been detrimental to their survival.

M. propleuralis Edwards (1941) remains known only from the evidently wind blown example found in a beach shelter at Sidmouth, South Devon. Other species are poorly known because of restrictions to high mountains; this applies to *aterrima* and also to *zetterstedtii* Lundström. The latter was recorded from two Perthshire localities (Edwards 1933) and taken by Edwards near Aviemore in May 1934. The only more recent record known to me of *zetterstedtii* was one female from moorland on Cairngorm, 16.vi.1984 (J. H. Cole) until one female was obtained in a water trap laid at Gors Maen Llwyd in Clwyd (Denbigh), 13.x.1988. (Holmes, Boyce and Reed), but this small dark species will probably be found elsewhere on the Scottish and Welsh mountains.

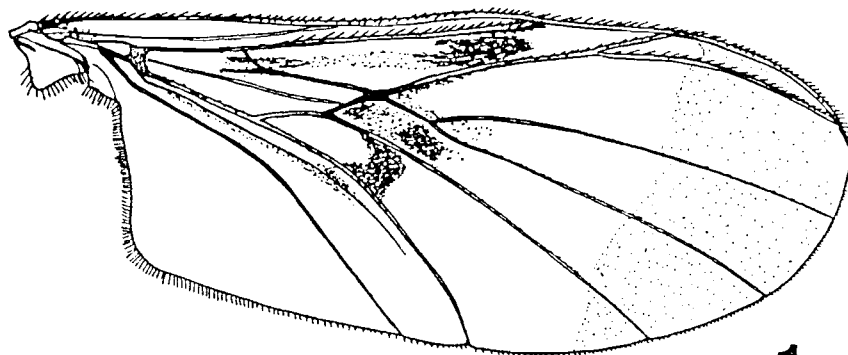
M. fascipennis Staeger has been recorded mainly from lowland bogs in wooded districts (Chandler 1977). One earlier record, cited from Cheshire by Kidd (1959), must be corrected as the specimen (in Manchester University Museum) is *phalerata* Meigen. Several Welsh records have, however, recently been obtained for this species, from Anglesey: Cors Goch, 7.vii.1976 (J. W. Ismay); Cors Graianog, 8.vii.1976 (A. E. Stubbs); Amlwch, Afon Goch, bog, 9.vii.1987 (W. Ely); Gwynedd (Merioneth) Cors Barfog, 25.vii.1988, and Dyfed (Pembrokeshire): Dowrog Common, humid heath, 21.vii.1987 (P. Holmes, D. Boyce & D. Reed).

The Survey by Holmes, Boyce and Reed also produced two new records and a new habitat association for *M. pusilla* Meigen (synonymy with *nana* Macquart recognised below), previously reported from drier woodland edge (hedgerow and garden) habitats in Oxon., Herts., Cambs. and Yorks. The new material is from raised bog in Dyfed (Ceredigion): Cors Caron, 27.vii.1987, 8 males, 2 females and blanket bog in Powys (Montgomery): Llanbrinmair Moor, 1.viii.1988, 3 males, 1 female.

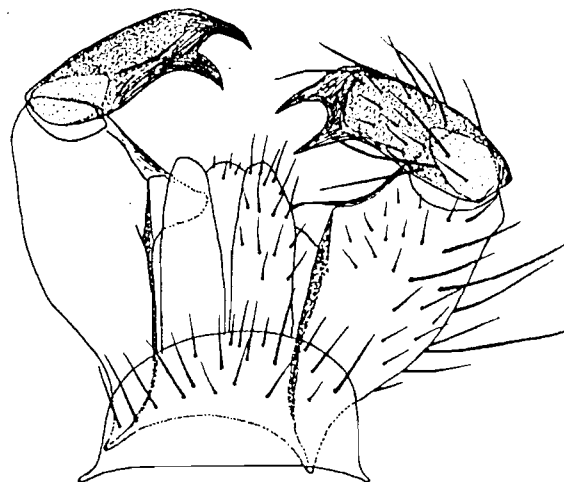
Summary of habitats of British *Macrocera* species

Woodland, usually damp ground or near streams: *fasciata* Meigen, *vittata* Meigen, *angulata* Meigen, *phalerata* Meigen, *stigma* Curtis, *stigmoides* Edwards, *tusca* Loew, *fastuosa* Loew*, *longibrachiata* Landrock*, (*parva* Lundström, *anglica* Edwards).

Drier woodland: *anglica* Edwards, *lutea* Meigen, *crassicornis* Winnertz, (*tusca* Loew, *centralis* Meigen).



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Figs. 1-2 *Macrocera nigropicea* Lundström, 1, Male wing; 2, Dorsal view of male genitalia.

Woodland edge and hedgerows adjacent to meadowland: *maculata* Meigen, *nana* Macquart*, (*crassicomis* Winnertz).
 Bogs, usually in woodland: *fascipennis* Staeger*.
 Bogs, moorland or fen in more open situations: *parva* Lundström, *inversa* Loew*, *estonica* Landrock*, *nigropicea* Lundström*, (*nana* Macquart*).
 Moorland on high mountains: *aterrima* Stackelberg*, *parva* Lundström variety*, *zetterstedti* Lundström*.
 Habitat uncertain: *propleuralis* Edwards*.
 *Known from ten or fewer British localities.

New synonymy for the British list

Macrocera nana Macquart, 1826: 110.
Macrocera pusilla Meigen, 1830: 293, syn.
 Macquart's description agrees with that of Meigen and Macquart himself (1834) synonymised his name with *pusilla* Meigen. This synonymy was accepted by Matile (1977).

Macrocera inversa Loew, 1869: 16.
Macrocera bipunctata Edwards, 1925: 520, syn. n.
 Matile (1980) recorded *inversa* from France and Italy, citing earlier records from Czechoslovakia, Germany and Holland. He suggested the above synonymy, which is confirmed by the genitalia figures given by Hutson, Ackland and Kidd (1980) for *bipunctata* and by Landrock (1926) for *inversa*.

Acknowledgements

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