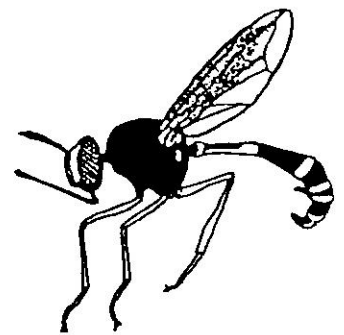


Conopid Recording Scheme.



NEWSLETTER 4
NOVEMBER 1991

INCORPORATING THE LONCHOPTERIDAE STUDY GROUP

Still no sign of the "Sicus Special" which I promised last time, but I was determined to try to get an issue ready for distribution at this year's Diptera Day at the BM(NH) - as I still insist on calling it. Sicus will just have to wait until next time, I'm afraid.

Since issue 3 was circulated, part one of Steve Falk's National Diptera Review (Falk, 1991) has become available. This is an excellent and much-needed piece of work, but is unfortunately already somewhat out of date as far as the Conopidae is concerned, due to its long gestation within the brave and battered body that we used to call the NCC. I don't presently have the time to go through all of the data needed to bring the Review up to date, but wanted nevertheless to deal with the vexed question of Myopa extricata as a matter of urgency. Steve records this species as rare and declining in Britain, with only two post-1960 sites. In fact, more recent work has shown that this is some way from the truth, and has revealed serious problems of misidentification regarding this species. The bulk of this newsletter is therefore devoted to trying to sort out some of the problems associated with determining M extricata, based on work towards a complete review of the "Myopa testacea group", to which this species belongs.

Myopa extricata

The Myopa testacea group comprises a number of closely related and similar-looking species, of which there are six currently recorded from Britain. These are:

| | |
|--------------------|--------------|
| M testacea | M polystigma |
| M extricata | M vicaria |
| M tessellatipennis | M strandi |

This group can be distinguished from the remainder of the genus by the possession of a "beard" of longish white hairs along the lower margin of the jowls (see fig 8), as well as in having the middle crossvein of the wing always infuscated blackish. The dorsal coloration of the abdomen is invariably reddish-brown, never black or blackish.

Ken Smith's Handbook key is, unfortunately, rather misleading for two main reasons. The "polystigma" of Ken's key was later found to be a composite of two species, the rarer of which (polystigma sensu stricto) tends to key out with M testacea. In addition, the coloration characteristics used in the key (ie, thoracic midstripe and wing pattern) are subject to considerable variation, particularly the latter.

Nevertheless, a specimen belonging to the testacea-group should reach couplet 5 of Ken's key without difficulty. Vicaria and strandii can then be separated off relatively easily by virtue of their unusual hairiness. Whilst closely resembling the other members of the group, careful application of the criteria given in Ken's couplet 6 should serve to isolate these two, which can then be identified at couplet 7. With experience, they can be spotted by eye, but to begin with, a microscope graticule is invaluable in measuring the abdominal hairs for comparison with the metatarsal length.

Genuine polystigma can also be separated off fairly easily by the presence of 5-9 black bristles on the mesopleuron. Myopa polystigma is a smallish species (about 5.5-8.0mm total length), with the black thoracic midstripe normally extending right up to the base of the scutellum. The presence of mesopleural bristles is almost unique to polystigma, although I have seen one (continental) specimen of tessellatipennis with one bristle on one side and two on the other, but this condition is thought to be very rare.

This leaves us with three species: testacea, extricata and tessellatipennis. Seen side-by-side, the former and the latter are easily told apart and should rarely be confused. Myopa extricata is, however, the fly in the ointment so to speak, in that it is roughly intermediate between the other two, and is highly variable. At this point, it becomes necessary to look at the genitalia.

The naughty bits

The genital capsule of the males of all three species is armed with a small tooth (the paralobe). If the genitalia are reflexed, the paralobe is easy to see, but if not, the specimen will need to be relaxed and the capsule hinged out.

The paralobe of M extricata is highly distinctive (see fig 3), being a broad, rounded blade nearly as broad at the top as at the base. Both testacea and tessellatipennis have a narrower, more nearly triangular paralobe, as shown in fig 2. Note also the different overall shape of the genital capsule. The presence of a broadly ovoid paralobe appears to be definitive for M extricata.

There are also good features for identification of females. The females of Myopa do not have a conspicuous theca as in many other conopids, but instead have patches of close-set, stubby bristles beneath each of abdominal segments 5 and 6. The layout of these bristles is apparently distinct for each of the species, although this needs further investigation. In addition, there are pair of small sclerotized spines set on either side of the last apparent segment (segment 8) which, like the paralobes of the male, are fairly easy to see with the abdomen extended.

In M testacea, the spines of segment 8 are very distinctive in being long, about 3.5 to 4 times the basal width (see fig 4). The spines of extricata and tessellatipennis are much shorter,

about 2 to 2.5 times the basal width (see fig 5). These two can, however, be separated from each other by the shape of the bristle patches beneath segments 5 and 6, which are approximately as shown in figs 13 and 14.

These genitalia characteristics seem to be reliable, and should be checked wherever there is doubt about a specimen's identity. In many cases, these characteristics can be seen without needing to do any preparatory work on the specimen, and if not, all that is needed is a brief spell in the relaxing tin.

In addition to these characteristics, there are a range of other features which can be used to confirm identities. These are summarized in the table given at the end. The features given in the table are listed in what I believe to be a descending order of reliability, and it should be noted that all are subject to intergraded variation. Wing pattern, much relied on in the past, is particularly problematical. "Typical" testacea has only the middle crossvein infuscated, with perhaps just a little browning along the main anterior veins (fig 9). "Typical" tessellatipennis has a great deal of browning along all of the main veins, and usually has additional blackish clouds besides that of the middle crossvein (fig 11). But again, extricata causes problems, varying all the way from the darkish end of the testacea range to the "typical" tessellatipennis condition. "Typical" extricata lies somewhere between the two (fig 10), but nearly 50% of the specimens I have seen could be described as non-typical. Figs 9-11 show examples of typical specimens of all three, but the overlapping lines to the right give a rough indication of the ranges of variation.

The blackish thoracic midstripe extending to the base of the scutellum seems to be reasonably reliable in separating testacea, although I have seen a number of specimens with the tessellatipennis/extricata condition (figs 6 and 7). Similarly the absence of black hairs on the upper face (fig 8 "H") is moderately reliable in indicating testacea. The presence of stout postero-ventral apical bristles beside the hairless area beneath the tip of the hind femure is indicative of extricata, a typical illustration of which is given by fig 12. However, a good percentage of extricata specimens have hairs in this position which are similar to, or indistinguishable from, hairs elsewhere on the femure, as is usually the case with testacea and tessellatipennis. In fact I would suggest that all of the non-genitalia characteristics in the table should be treated with considerable caution, and should ideally be used as a supplement only in confirming identification.

As always, one should beware of "making a specimen fit" the characteristics, especially if you don't know the genus well. There is always the possibility of additional species lurking amongst the British fauna. Using this approach, however, I am finding that M extricata is rather more widely distributed and frequent than was previously thought to be the case. I have

Fig 1

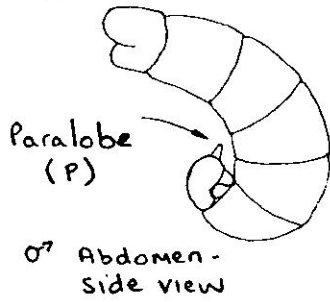
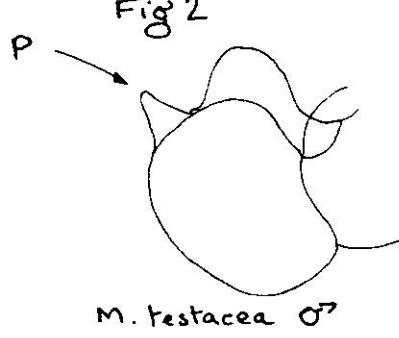


Fig 2



P

Fig 3

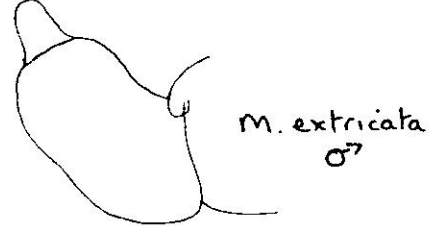


Fig 6

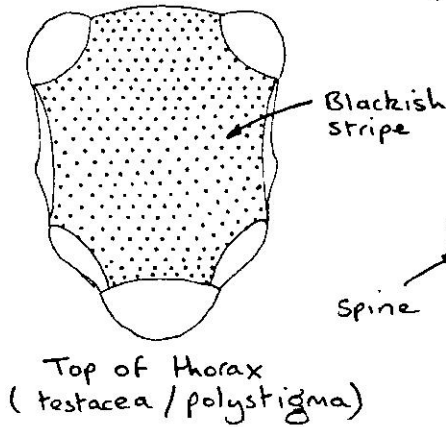


Fig 4

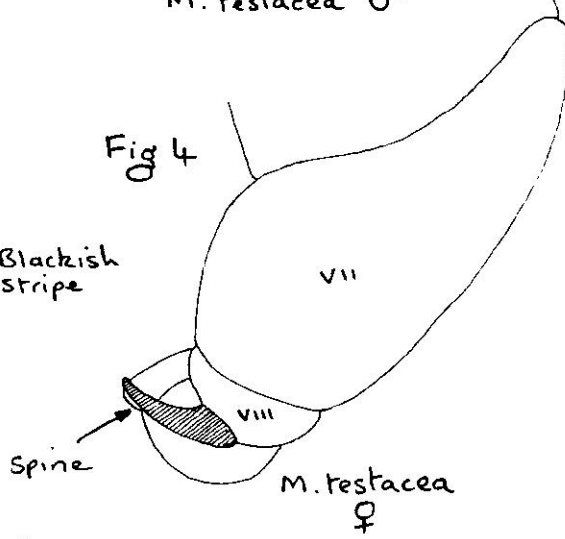


Fig 5

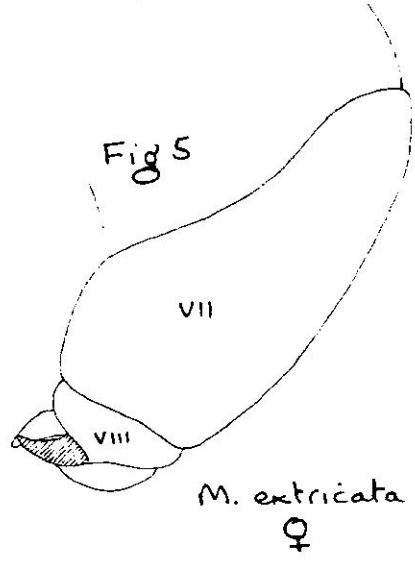


Fig 7

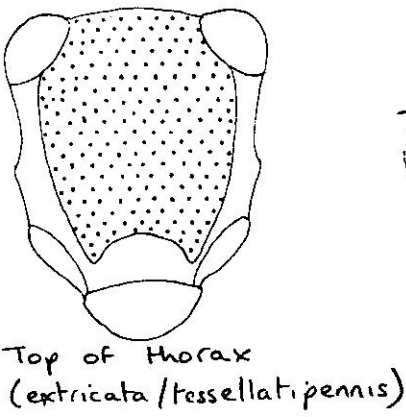


Fig 9

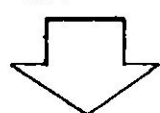
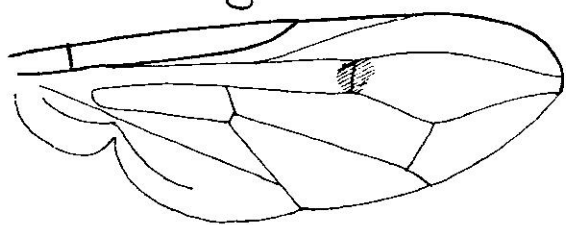


Fig 10

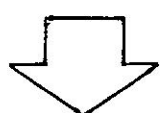
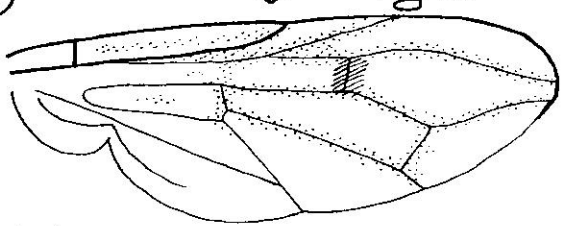


Fig 11

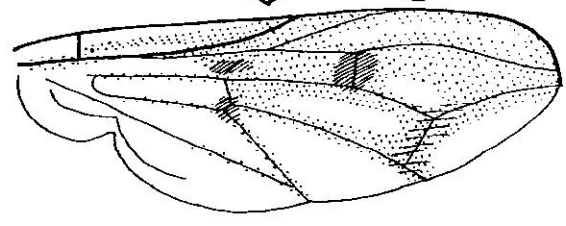


Fig 8

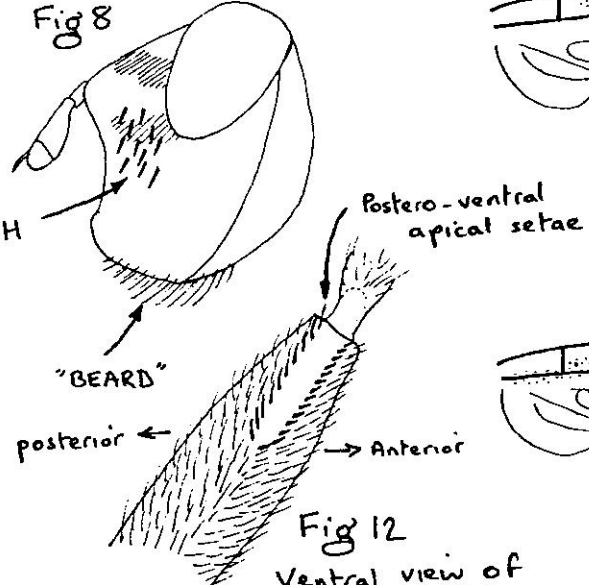


Fig 12

Ventral view of apex of femur - M. extricata

seen specimens of this species taken recently from Pembrokeshire, Dorset, Cornwall and Gloucestershire, all taken early in the year (April - May), and frequently on the flowerheads of dandelion.

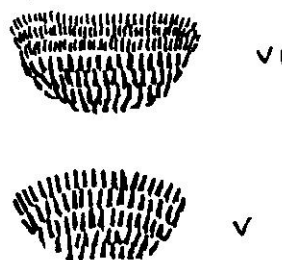
Eventually, I hope to extend this approach to the remainder of the genus, and a paper on the whole of the testacea-group is in preparation. I still need to see specimens, especially of polystigma and tessellatipennis, and any loans or donations will be gratefully received. I'm happy to identify series of Myopa from collections, on the understanding that some are likely to get their genitalia dissected off for close examination. The work to date has been greatly assisted by loans from Jon Cole, Mick Parker, Steve Coker and Lita Greve-Jensen of the University of Bergen Museum, Norway.

| | <u>TESTACEA</u> | <u>EXTRICATA</u> | <u>TESSELLATIPENNIS</u> |
|--|-------------------|------------------|-------------------------|
| HAIRS ON MESOPLEURON | NO | NO | NO (RARELY 1 OR 2) |
| ♂ PARALOBE | SMALL, TRIANGULAR | LARGE, ROUNDED | SMALL, TRIANGULAR |
| ♀ OVIPOSITOR TOOTH | LONG | SHORT | SHORT |
| TOTAL LENGTH | 6 - 11mm | 6.5 - 10mm | 5.5 - 8mm |
| R - M ONLY INFUSCATED | YES | RARELY | NO |
| OTHER WINGCLOUDS | NO | USUALLY | YES |
| THORACIC MIDSTRIPE REACHES SCUTELLUM | USUALLY | SELDOM | SELDOM |
| HAIRS ON UPPER FACE | MAINLY PALE | SOME BLACK | SOME BLACK |
| POSTEROVENTRAL APICAL SETAE ON HIND FEMORA | USUALLY FINE | USUALLY STOUT | FINE |
| PROBOSCIS LAST SECTION AS LONG AS FRONT TARSUS | YES | YES | NO |
| PALPI | DARK | PALE | DARK |

Fig 13

*M. extricata* ♀

Fig 14

*M. tessellatipennis* ♀

Ventral views of abdominal segments
5 and 6, showing bristle-patches.

Whatever Happened to *Myopa curtirostris*?...

M. curtirostris Krober has always been a difficult species to quantify, chronically rare in Britain and difficult to isolate from *M. fasciata* Mg. Ken Smith's Handbook admitted it as a separate species, but there has long been the suspicion that *curtirostris* may be no more than a later-flying, darker morph of *fasciata*, possibly utilizing a different host. Milan Chvala considered the two to be synonymous in his review of 1965, and in this he followed Zimina (1963). Martin Speight recorded *curtirostris* from Ireland in 1977, and attempted to provide a more rigorous basis for its separation (Speight, 1978). However, the Palearctic Checklist (Chvala and Smith, 1988) consigns *curtirostris* to synonymy.

Other than the somewhat surprising Irish record, *curtirostris* has always been apparently a denizen of the south and east of England, with a distribution rather similar to that of the commoner *M. fasciata*. The most recent records of *curtirostris* that I am aware of are those of Mike Edwards and Ian McLean in Norfolk (Edwards, 1985), one of only seven records known for the UK as a whole. Through Mike Edwards' generosity, I have now had the opportunity to examine his specimen. Whilst it does certainly approach the "*curtirostris*" criteria used in Ken's key, it does not meet with the specification put forward by Martin Speight, but appears to be transitional between the two. Other than its late flight-date (August), there seems to be little to suggest that it is anything other than a small, dark *fasciata*, and this is what I consider it to be. Sorry Mike!

In any event, *M. fasciata* itself has a flight period which extends from May to September (2nd), with most of the records dating from July onwards. I am therefore fairly confident that the sinking of *curtirostris* within *fasciata* is justified. Nevertheless, I would advocate recording any specimens which meet the *curtirostris* criteria as "var *curtirostris*", just in case...

For information, Martin Speight's criteria for separation are as follows:

| | | |
|--------------------|--|--|
| <i>Character</i> | <i>M. curtirostris</i> | <i>M. fasciata</i> |
| hairs on frons: | all black | mostly black, but with admixture of yellow hairs just above antennae. |
| mesonotal margins: | black, as dorsum | red-brown, dorsum black |
| abd. tergite 2: | black, with posterolateral silver-grey patches | black, with lateral red-brown markings carrying silver-grey patches posteriorly. |

Leopoldius brevirostris - again

As many of you will know, I recently published distribution maps for our two Leopoldius species, summarizing the known and assumed biological information (Clements, 1990). Even whilst that paper was in press, I was made aware of two new captures of L brevirostris, bringing the total of UK records to eleven. Now as I prepare this newsletter, it has happened again! John Deeming of the National Museum of Wales has written to tell me of a male brevirostris found by Mike Cornes at his home in Thornbury, Bristol. It was noticed dead and trapped amongst the hairs of a cactus in a greenhouse, recalling the earlier record of a specimen found trapped in a sunhouse in Totton, Hants, back in 1952.

L brevirostris is beginning to show a distinct affinity for woodland rides and edges - Mike Cornes' house is close to an extensive area of woodland - unlike L signatus which is much more catholic in its choice of habitats (yes, they include churchyards...). To date, L brevirostris has not been taken at ivy flowers, which is by far the commonest capture situation for L signatus.

Any Leopoldius in which the yellow coloration of the face extends above the antennae should be examined closely for the occurrence of the widespread continental species L diadematus and L coronatus, either of which could also occur in Britain.

...and finally, a bit about Sicus after all

Steve Falk's National Review of Diptera mentions two new records for Sicus abdominalis, one of our rarest conopids, one from Cambridgeshire and one from Surrey. Both specimens were taken by the indefatigable Alan Stubbs, who has very kindly allowed me to examine his Sicus material. I am happy to confirm the Surrey record, but the jury is still out on the Cambridgeshire specimen, pending some further research. However, I have recently been able to confirm another male abdominalis from amongst a series of S ferrugineus, taken by the late Peter Crow in Merionethshire, and now lodged at Liverpool Museum.

A further specimen from the Alan Stubbs collection, taken in Berkshire, is giving difficulty in being somewhat different from any of the known Palaearctic species. Whilst generally resembling ferrugineus, this specimen is almost entirely covered in silvery pubescence. Watch this space!

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Recorders please note - possible change of address in the near future, to be circulated.