Hoverfly Newsletter

Number 1 - Oct. 1982

The Hoverfly Newsletter is the vehicle for news and views of Hoverfly Recording Scheme members. In the compass of four-six sides it is hoped to include information on all aspects of the subject; identification problems, biology, immature stages, where and how to collect particular species and, not least, the question of distribution itself. At present it looks as if funds are available for two issues a year. As it happens I have written most of this first issue - there has to be a beginning - but ultimately production will depend largely on members contributions and needs. So please send me your 'copy',-however brief, and also let me know what you would like to see included and I will try to respond. In this issue we feature a note by Roy Crossley on one of his favourite collecting sites in Yorkshire.

Philip F Entwistle

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Cheilosia - about to do a good turn?

The Commonwealth Institute of Biological Control (CIBC) whose headquarters are in Trinidad but whose activities are global, has been commissioned by the Canada Department of Agriculture to look into the possibility of biological control of a knapweed, (Centaurea maculosa) which is currently a serious weed in North America. CIBC think stem or root-boring larvae of Cheilosia might be the answer and are currently searching for suitable species in Europe for eventual introduction into Canada (minus, of course, any parasites or diseases as these would interfere with the rate of Cheilosia multiplication and Centaurea suppression). Not much is known of the host plants and biology of Cheilosia species so any observations Hoverfly scheme recorders can make on Centaurea-associated species (C.maculosa itself does not occur in the UK) could possibly be of economic value. I would be happy to pass such information to CIBC staff.

Dasysyrphus friuliensis - down from the mountains

Practically the latest addition to the British list, this elegant species is now known from three localities and six specimens. The first notice was by Roy Crossley in May 1980 at Timble Ings a coniferous plantation near Otley in West Yorkshire. Armed with the news of its existance in the UK I hot footed it home to my own collections and there discovered a June 1980 female from Hafren forest, mid-Wales, and two others for 1975, one from Hafren and the other from Coed Sarnau forest 15 miles to the east. 1981 saw a specimen in Bernwood forest (Olly Watts), a mixed deciduous and coniferous area in Buckinghamshire but very close to Oxford. None of these areas is exactly montane though the Welsh localities are circa a 1000ft or more and certainly possess some elements of British moorland and mountain syrphid fauna eg Eristalis rupium and Chrysotoxum arcuatum. But in Poland a recent monograph by Regina Bankowska (Fly Communities of the family Syrphidae and anthropogenic habitats in Poland. Mem. Zool. Polish Acad. Sci. 33, 1-94) states that the two dominant syrphids of the upper montane zone are Cheilosia canicularis (an eastern and central European species not known in the British Isles) and Syrphus friuliensis. The latter occurs exclusively in the mountains and is also common in the higher alpine zone! As Bernwood forest can not by any stretch of imagination be called mountainous, clearly D.friuliensis has been prepared to compromise in order to inhabit our

country (such is the nature of successful immigrants). We now wait to see what the pattern of distribution of this species is, but at present it seems likely to be another spruce forest associated species to be found quite early in the year as is its close relative D.venustus.

Eriozona syrphoides - taking a grip on the nation

There are several contenders, according to taste, for the title of most striking British syrphid. G H Verrall nominated Criorhina ranunculi whilst Colyer and Hammond wrote of Calliprobola speciosa as "one of the handsomest and exotic-looking of our British flies." Neither was in a position to consider the claims of Eriozona syrphoides since this appears to be a comparative newcomer to these islands, but it is certainly very distinctive and could be said at least to be our handsomest member of the Syrphinae. Since its first capture by T H Pennington in Lancashire in 1957 and its recognition by Peter Crow in 1969 it has been found in a dozen localities, the most recent record being also the northernmost (see map). This is in Angus where a specimen was taken by I MacGowan in 1980. All may aspire to see this species which is on the wing from July 3rd to September 22nd and is probably best sought in the vicinity of spruce forests. It will fly at temperatures as low as 10°C (50°F), when nearly everything else is grounded, to as high as you like, its speeds varying from slow enough to catch with your hat to too fast to be hit by an Exocet missile. At present the distribution looks typically 'highland' ie Scotland, Pennines, Wales and the moors of SW England with the exception no records have yet come in for the last region. The Scottish lowlands also constitute a 'gap' which Sir Arthur Duncan, conveniently resident in Dumfries, hopes to fill this year (see map).

Inside the Globes

Trollius europaeus, the globeflower, is unusual in that the 'petals' are in fact 'sepals' whilst the true petals are greatly reduced in size and function only as nectaries. But in addition the anthers and stigmas are totally enfolded by the overlapping sepals and do not become exposed until the flower begins to senesce and the sepals to fall. Pollen and nectar collection is thus for those insects which are persistent or ingenious enough to force a way between the sepals. Once inside the flower such insects are at an advantage because they can continue to feed even in the rain and it tends to rain a lot where globeflower grows which is in mountainous districts north of South Wales and up to 3000 ft above sea level in Scotland. Where I have encountered it in Sutherland the dominant insect inside globeflowers is Cheilosia nasutula which comprises over

95% of all insects present. It would be interesting to know if C.nasutula is present in globeflowers elsewhere and if not then what it is replaced by. Incidentally the host plant of C.nasutula appears not to be known.

Malaise traps and hoverflies

Trapping insects is an interesting pastime not least in comparing trap captures with insects falling to the observant eye and net in the same locality. The principle of the Malaise trap will be known to most but basically it consists of a single wall of netting, into which insects fly, surmounted by a typical roof of netting but sloping up to a lobster pot type collecting vessel at one end. It is a passive trap in that any insect flying into it may be snared, but it does not, as far as is known, attract insects. However, not all insects falling to the 'butterfly net' are present among Malaise trap captives and conversely not all insects present in Malaise traps will necessarily be seen on the wing. Thus near Lairg in Sutherland a Malaise trap caught Sphegina clunipes very commonly though I never netted it. Similarly in Central Wales I rarely saw either Chysotoxum arcuatum or Sericomyia lappona but took both quite commonly in Malaise traps. The message is clearly, and I shall have more to say on this in due course, that a single method of assessment is unlikely to give a full picture of species representation in one locality. So if you wish to known yourlocal hoverfly fauna comprehensively, use as many capture systems as possible.

Parasyrphus malinellus - getting vulgar now?

Parasyrphus is often regarded as difficult though in practice it is not really so since only four species are likely to be encountered. Of these P.punctulatus can immediately be separated by the paired spots on abdominal segments 3 and 4 leaving only three species to disentangle. The best key to this genus was provided by Speight, Chandler & Nash (1975, Proc. Royal Irish Academy 75 (B), 1-80). We may note these authors spell malinellus correctly whilst in the check list of British Insects, XI pt 5 p 64 it is incorrectly rendered as P.mallinellus (and, alas on the Diptera Recording Scheme general card for Hoverflies). From the disjunct distribution given in Coe's Royal Entomological Society Handbook to the Syrphidae - the North of Scotland and then no records until Southern England - it is now emerging that the true distribution is much more general. I have taken it in two localities north of Inverness, in Central Wales and in Oxfordshire whilst Roy Crossley has taken it in West Yorkshire. Both Martin Speight and Peter Chandler have taken it in Ireland (see map). It may seem like a hobby horse, but I cannot avoid

saying this species seems strongly associated with conifers. In the basically deciduous wood in Oxfordshire for which I have a record, I took a single female by spruces and pines. Since P.malinellus larvae are almost certainly predatory on aphids in which spruce is rich and pine poor, we must opt for spruce as the most likely associate tree. Olly Watts took it near Oxford at Bernwood, also a mixed conifer/broad leaf forest.

The Snow syrphid - Melangyna quadrimaculata

The literature suggests this dark narrow-bodied hoverfly to be very locally distributed in the British Isles and there are only two records for Ireland. But is it really so, or is it simply out and about before hoverfly recorders? On the only occasion I deliberately sought it, I took it when there was two thirds snow cover on the ground (but not on the trees) in an Oxfordshire wood on the 18th March 1978. It was quite frequent, on hazel catkins - which a well known dipterist told me are not visited by hoverflies. Because the local people cut all the low-growing catkins for household decoration I took the precaution of carrying an 8 ft cane handle for my net and this gave me a distinct advantage. Incidentally in the same year I took two specimens on 4th April not far from Lairg in the far North of Scotland, this time on willow catkins but with no snow on the ground.

The juvenile stages of M.quadrimaculata appear to be unknown though William Lundbeck (Diptera Danica, part V, p.35, 1916) mentions the Chalcidoid parasitic wasp Pteromalus quadrimaculata as having been bred from it, so possibly 'undescribed' may be a better adjective than 'unknown'.

Hoverflies in Timble Ings, Yorkshire - by Roy Crossley

The bleak uplands of the Pennines are not noted for their syrphid fauna, nor for any other group of insects either, apart from a few northern goodies which are more usually associated with Scotland. On the hills about six miles north of my home in Otley is an area of extensive afforestation associated with a group of reservoirs which were constructed towards the end of the last century. One of these forests, known as Timble Ings, covers about 600 acres at altitudes ranging from 600' to 1,000'. The forest consists chiefly of conifers of various species and with a wide range of ages, the first plantings having been made about 70 years ago. The forest is surrounded on three sides by open heather

moorland maintained principally for grouse, and rough pastures given over to sheep grazing and cattle rearing. Within the forest there is a variety of habitats, including some boggy areas, heather bordered rides, and a hill stream that feeds the reservoir a mile or so away.

Although I had collected there casually for a few years after coming to live in Otley in 1972, I started to visit the forest with much more regularity when I began to fill in cards for the ground beetle mapping scheme about 1975. Since then it has become one of my most regular hunting grounds, not only for beetles and hemiptera, but also in recent years I have been paying particular attention to syrphids in connection with the mapping scheme.

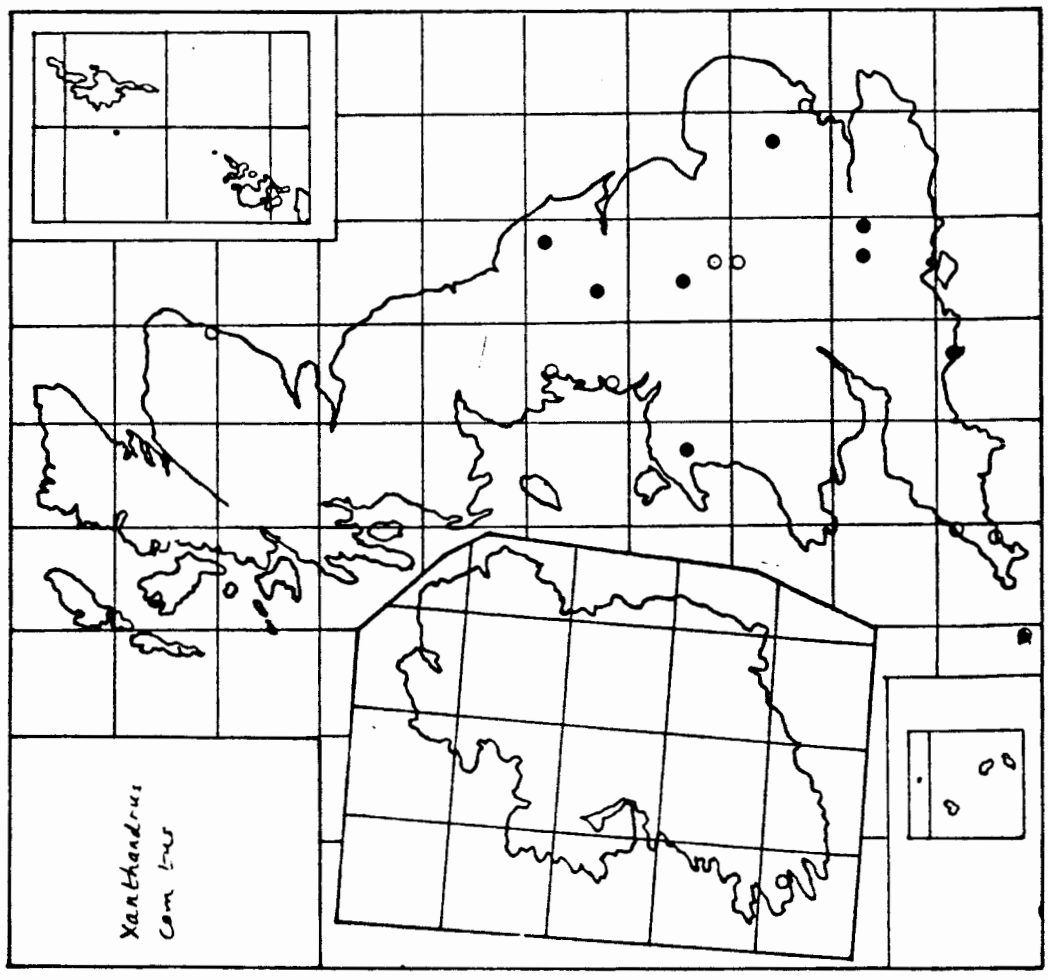
So far I have recorded 68 species of Syrphidae and the list naturally includes many which are common and widespread. However, there have been some notable discoveries, including a single specimen of Dasysyrphus friuliensis in May 1980, and Parasyrphus malinellus the previous year. The record of D.friuliensis has been published (Ent.Record: 93: 233), and P.malinellus was mentioned in a note that appeared in Entomologist's mon.Mag. (115:200) recording Eriozona syrphoides at Timble. Several E.syrphoides were seen in late August and early September 1979 and again in the summer of 1980 so clearly there must be a breeding population. Less spectacular, but also very interesting, has been the discovery of three species of the Sphaerophoria menthastri complex, these being S.abbreviata, S.menthastri and S.philanthus.

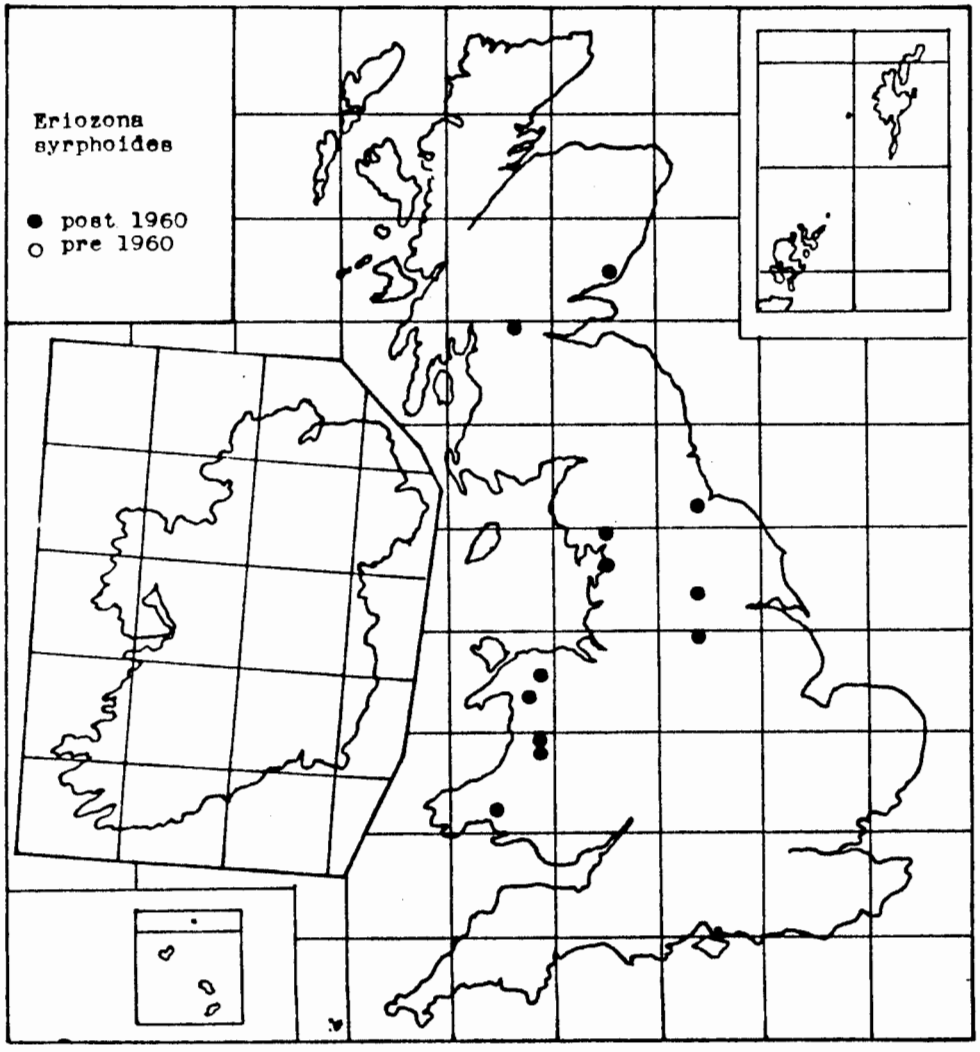
Easter Saturday last year was a day to remember when I took nine syrphid species on one sallow bush in a boggy spot at the edge of the forest. A note appeared subsequently in 'The Naturalist' (106:152.(Oct.-Dec.1981)), but, just in case there are any readers of this Newsletter who do not enjoy the privilege of reading our Yorkshire journal I will repeat the list! Melangyna lasiophthalma, M.quadrimaculata, Syrphus torvus, Platycheirus albimanus, P.discimanus, Cheilosia grossa, Eristalis pertinax, E.intricarius, Criorhina ranunculi. Maybe not a mouthwatering lot to southern entomologists, but enough to set the adrenalin flowing at the start of the season for anyone collecting in our inhospitable northern hill country! The last collecting trip of 1981 in search of syrphids, on 19th September, produced as the

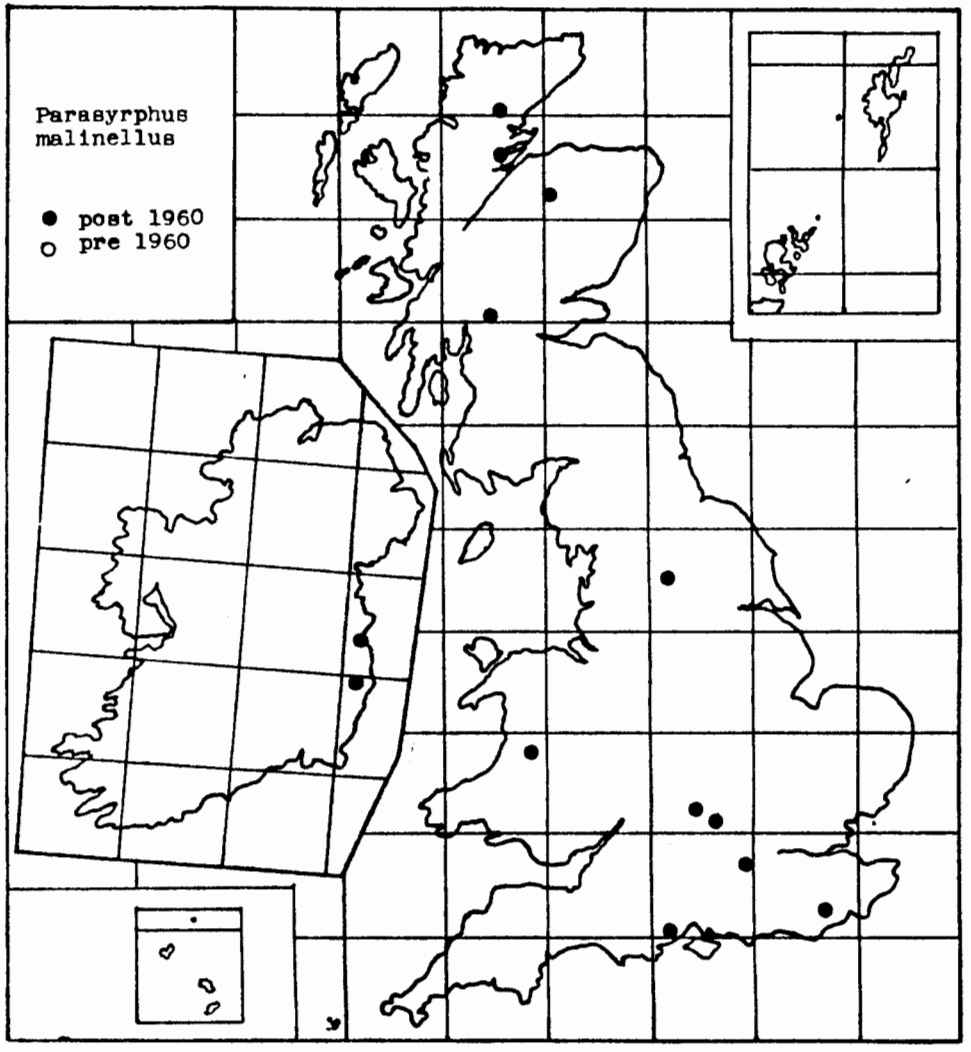
final specimen of the day, Arctophila fulva, sitting on a thistle head at the side of the track.

Eighty years ago the whole area now covered by forest was open farmland and the remains of the old gritstone walls are still amply in evidence amongst the conifers. In those days such a countryside could only be expected to produce a modest list of between twenty and thirty common species and it is interesting to reflect upon the diversity which is now to be found there as a result of afforestation. This is parallelled by other groups of insects, and of course by bird species too.

Eventually I plan to publish a comprehensive paper, probably in 'The Naturalist' discussing the results of all my collecting at Timble Ings, but for the time being I am content to carry on with the field work.




Eriozona
syrphoides
post 1960
pre 1960


Parasyrphus
malinellus
post 1960
pre 1960

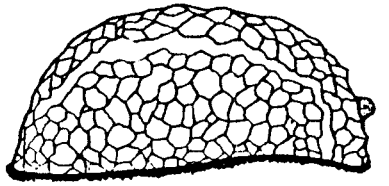
Hoverflies and Ants

A Plea for collection of information on the distribution of Microdon in Britain

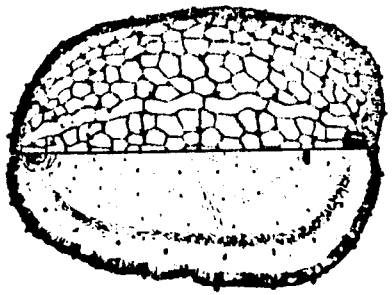
Three species of Hoverfly (Diptera, Syrphidae) genus Microdon are known in Britain and all are obligatorily associated with ants. Though the adults are large hive bee-like flies and probably not really uncommon in some localities, they have such secretive habits that they are seldom encountered.

Fortunately, despite adult shyness, the prominent pupae can quite easily be found in the periphery of ant nests in April/May. Adults can then be readily obtained from the pupae.

The Hoverfly Recording Scheme requires up-to-date information on Microdon distribution. We greatly hope members of the British Section of the International Union for the Study of Social Insects will be able to assist in this. Brief notes on the British species follow.



Lateral



Dorsal

Ventral

Larva of Microdon eggeri

Adults. These are sturdy hive bee -like flies with somewhat tawny pubescence (body length 8-11mm, wing length 6-9mm). The antennae are strongly elbowed. They are about in May-July and have been described as reluctant fliers. They fly low, only a few inches off the ground emitting a distinct humming noise and with the abdomen pendulous. Females enter nests to lay eggs which take about 12 days to hatch.

Larvae. At first these are rather elongated and move swiftly. Later they assume an oval and strongly domed form typical of the genus. The dorsum then bears a reticulated pattern and appears moist. Because of this, and also because they have lost external signs of segmentation, they were originally described as molluscs! They are scavengers and feed on the solid particles ejected from the hypopharyngeal pockets of ants. Provided the larvae stay upright they are not attacked but if they become overturned the ants eat them.

Mature larvae are almost hemispherical and probably dull white to dull brown in colour and 9-11mm long. They have a fine but distinct marginal fringe of short hairs. In April they move to the periphery of the nest to pupate.

Puparia. These are reddish brown with 2 little horn-like tubercles dorsally and have been found, for example, under old bark of birch (with Lasius niger) and on the underside of stones over ant nests (of Formica fusca). Adults are said to emerge from puparia at night and "the golden and silvery pile of newly emerged adults is licked by ants but they do not do them any injury" (in Donisthorpe).

Ant Associations

Microdon devius: Lasius fuliginosus, Formica fusca, F.rufa, F.sanguinea.

M.eggeri : Lasius niger.

M.mutabilis : Myrmica ruginodis, Lasius niger, Formica fusca, F.lemani

Distribution. The attached maps embody most of the known records from which it can be seen there have been very few post-1960 observations.

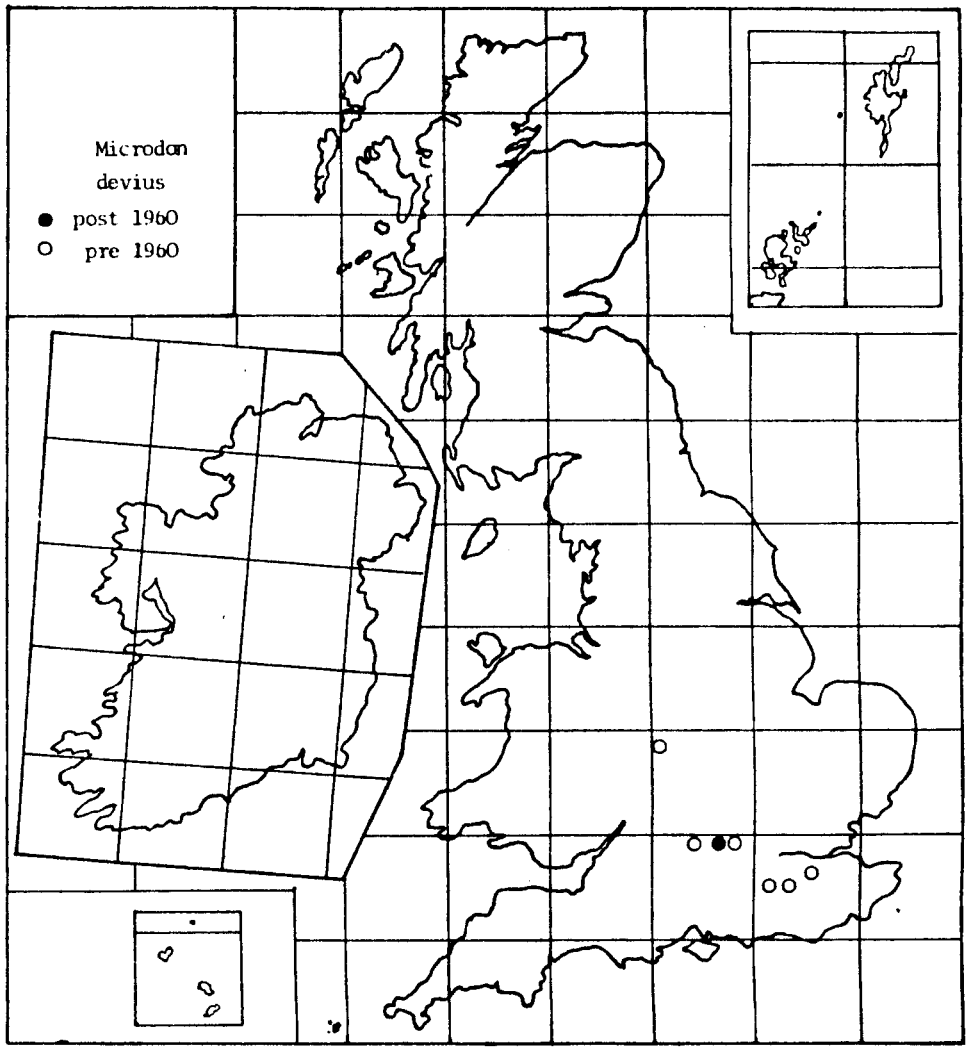
M.devius seems an essentially southern species probably associated with chalk grassland. M.eggeri has a strongly disjunct distribution with populations in the Spey Valley/Rannoch area of Scotland and on southern dry heaths in England. It is said to be characteristic of Surrey heaths where it inhabits open areas with old ant-infested birch stumps and logs (with L.niger nests). Puparia can be found under loose bark in the spring. M. mutabilis is the most widespread and is the only species known from Ireland.

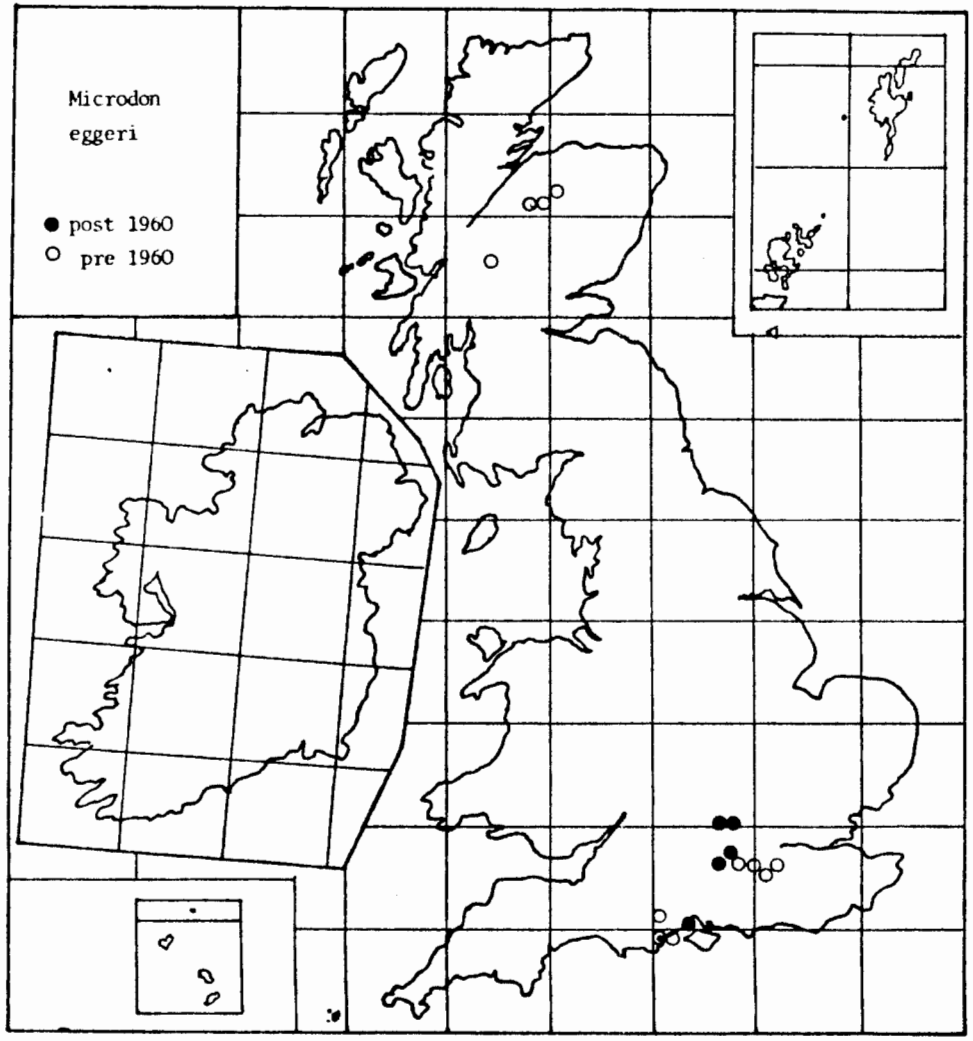
Please be on the look out for puparia in April/May and, of course, larvae any time from June to April, and send all records and, if possible, specimens to:-

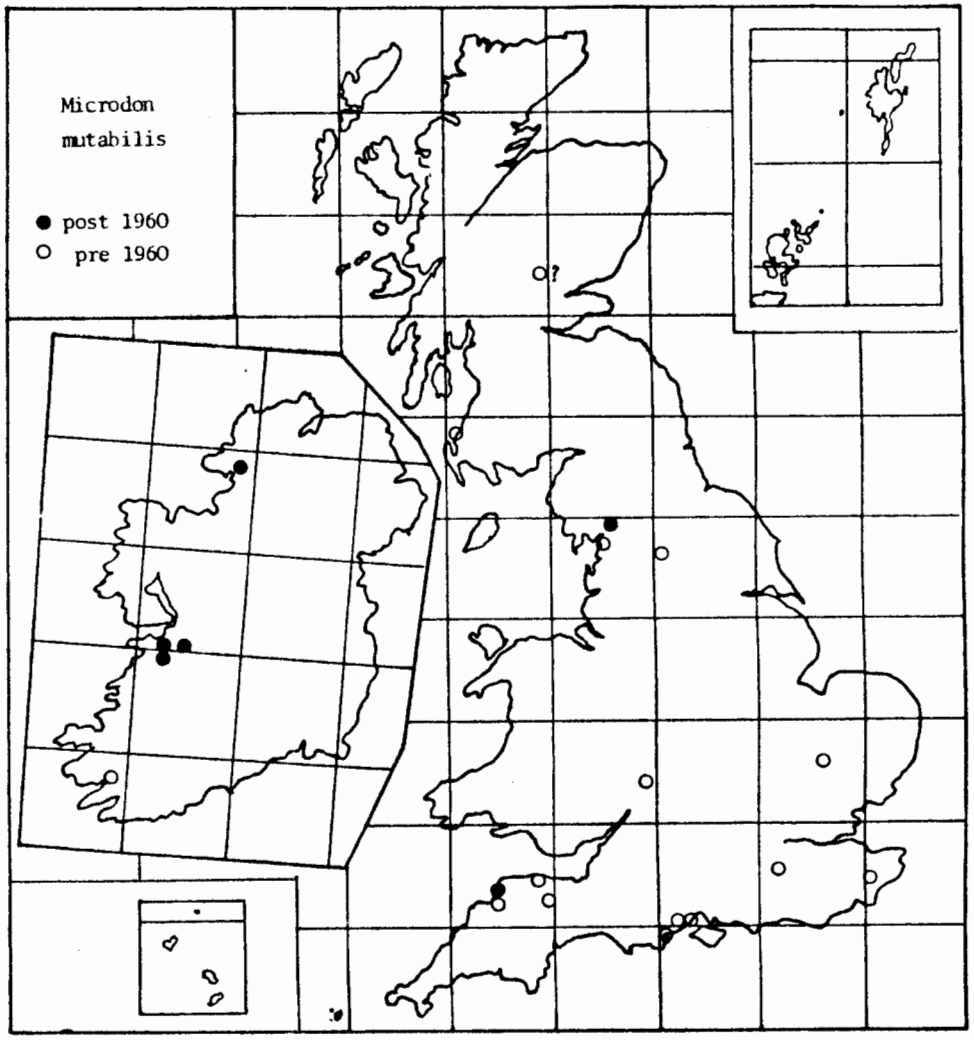
P F Entwistle
NERC Institute of Virology
Mansfield Road
OXFORD OX1 3SR

Tel: Oxford (0865) 512361 (evenings 50474)

Good hunting and very many thanks.




Microdon
eggeri
● post 1960
○ pre 1960


Microdon
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● post 1960
○ pre 1960