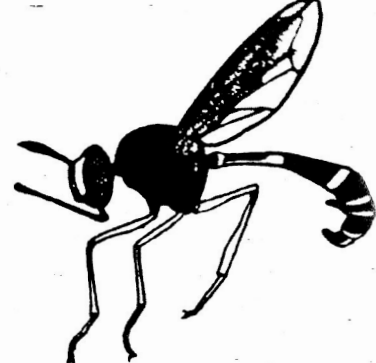


Conopid Recording Scheme



INCORPORATING THE LONCHOPTERIDAE STUDY GROUP

ORGANISER: DAVID CLEMENTS

NEWSLETTER 1

? 1988

Introduction

For a good few years now, the Conopid Recording Scheme has been under the steady stewardship of Ken Smith at the BM(NH). Ken has been studying this family in detail since the 1950's, both at home and abroad, and he has published many fundamental papers which have established him as a leading authority on this fascinating group. His early paper on 'The distribution and habits of the British Conopidae' (Smith, 1959), with its supplement in 1961, and his Royal Entomological Society Handbook of 1969 have all served to give great impetus to the study of Conopidae in Britain. However, the pressures of Ken's other work have meant that the Recording Scheme has had to keep a low profile, acting as a storing post for the steady flow of data from a band of regular recorders. With the recent growth of interest in the Diptera, and the great success of the Hoverfly and Larger Brachycera Schemes in particular, it seemed a fitting time to relaunch the Conopid Scheme into the mainstream of Diptera recording. In November of 1987, I took over the running of the Scheme with the intention of doing just that. The Scheme will still have the great benefit of Ken's expertise and advice to guide it, but otherwise it will be up to me to get things moving. But before I get started, I would just like to say a big thankyou to Ken for his past efforts on the Scheme's behalf, and wish him well with all the many projects he has lined up for the future. I'm sure you would all want to join me in that.

Two immediate developments for the Scheme will be the introduction of a regular Newsletter and a Conopid Recording Card. The Newsletter will be very much in the mould of the highly-successful Hoverfly and Larger Brachycera Newsletters, acting as a forum for recorder's comments, field notes and observations. It will hopefully include identification help, a bibliography of Conopid literature and regular updates on the Scheme's progress. Ideally, it will become a focal point for all those observations of Conopid behaviour which never get published anywhere else; but in reality it all depends on you. There is still plenty of scope for some important contributions to the understanding of these creatures, and it would be really good to be able to say 'You read it here first!'

Hello Hymenopterists!

As most of you will know, the Conopids are a parasitic group, preying entirely on Hymenoptera in Britain (as far as we are aware). Since there is such a close relationship between the Conopidae and the Hymenoptera, it seems most sensible that there should be a similarly close relationship between Conopid recorders and the Bees, Wasps and Ants Recording Scheme. This Newsletter will therefore be circulated to all the listed BWARS participants, as well as to everyone on the Diptera Recording Schemes register, at least in the first instance. However, subsequent issues will only be circulated to people listed under either 'C' or 'All' on the most recent Diptera Schemes address list (Dec., 1987), and to anyone else who has specifically requested it.

IF YOU WANT TO ADD YOUR NAME TO THE MAILING LIST, PLEASE RETURN THE SLIP AT THE END OF THE NEWSLETTER. A BRC pre-paid label is enclosed.

Identification

As mentioned above, Ken Smith has written the standard work for the British Conopid hunter, which is:

SMITH, K.G.V. 1969, Diptera: Conopidae.

R. ent. Soc. Lond. Handbks. Ident. Br. insects 10(3a):19 pp.

This is still in print, and is available from the British Museum (Natural History), which now handles the publishing of the Handbook series.

IMPORTANT NOTE

Since the publication of the handbook, there has been one addition to the British Conopid fauna, and a reassessment of the species previously regarded as Myopa polystigma Rondani. Details are given in Smith (1970), and can best be summarised by saying that most of the material previously assigned to M. polystigma in fact belongs to M. tessellatipennis Motschulsky. M. polystigma is apparently much rarer than was previously thought, although both species occur in Britain. Both species are part of the M. testacea complex, one of the trickier areas of a taxonomically difficult genus. The handbook key was intended as a stop-gap measure, and cannot be considered absolute as many of the key characters are not constant within the species. However, when using the handbook key, genuine M. polystigma should key out with M. testacea, from which it would be distinguishable by the much more extensive wing markings. M. tessellatipennis would most probably key out where M. polystigma presently occurs in this key. The genus Myopa is overdue for revision at a European level. There are problems in the huge synonymy involved and uncertainty over the actual number of species which exist. Almost certainly there are new species awaiting discovery. The Conopidae part of the Palaearctic Catalogue of Diptera has been prepared by Chvála and Smith, and will soon be published, thus providing a foundation for future work on the genus. In the meantime, long series from a single locality, and pairs in copulo are needed to help in establishing the range of variation within the species. Many specimens simply cannot be confidently identified to species at present, and virtually all determinations should be regarded as provisional. I can help with some Myopa determinations, and Ken Smith will probably be able to look at others, but many may simply have to be held sub judice for the time being.

A series of identification notes is being produced, and will be included with future newsletters. Part 1 (Conopinae) is now available, and this will eventually be followed by notes on the Myopinae, but subject to the above! TO RECEIVE COPIES OF THE IDENTIFICATION NOTES, PLEASE RETURN THE TEAR-OFF SLIP AT THE END OF THIS NEWSLETTER. A pre-paid BRC label is enclosed.

Problematical specimens of any genus can be sent to me (preferably pinned), but I would appreciate some advance warning of any massive consignments.

Hosts

The Conopidae are protelean parasitoids, which is another way of saying that they are parasitic in their larval stage, developing within and ultimately killing the host. The host is almost always a hymenopteran, except in the Stylogasterinae, a subfamily which does not occur in Britain. In fact the Stylogasterids are distinct from other Conopids in a number of ways, and there are good reasons for considering them as a separate family. In the rest of the Conopidae, the female inserts an egg into the abdomen of a Hymenopteran, sometimes in flight, which subsequently develops within it. The Conopid larva eventually fills the entire abdominal cavity, and the larvae of many species have an elongated anterior section in the final instar, which is used to reach up through the host's waspish waist in order to consume the thoracic contents as well. At this point the host expires and the Conopid pupates in situ.

R. R. Askew's excellent book 'Parasitic Insects' (1970) gives a good introduction to the habits of the Conopidae, and to parasites in general. Conopid biology in particular is dealt with in some detail by Smith (1966), which lists the then-known hosts and indicates which Conopids have been described in the larval stage. Some further progress has been made since then, but it is fair to say that a great deal remains to be done. Significant contributions can be made by the Conopid recording contingent, and two specific ways spring immediately to mind.

- i) Observations of behaviour - No matter how seemingly insignificant, any carefully-documented observations are of value. The new Conopid Recording Card will have a specific 'box' designed to accommodate such information, or you could make notes in the field and write them up for the Newsletter.
- ii) Collection of hosts - If you see a Conopid wrestling with a Hymenopteran, or ovipositing on one, or interacting in any other way with one, COLLECT THE HYMENOPTERAN as well as the Conopid. It is always possible to get the host identified (contact me), and the specimen may yield a bounty of valuable data - the site of oviposition perhaps, or the caste and condition of the host. The Conopid ovum will probably never have been described, still less reared through, and with the host securely pinned next to its Conopid antagonist, its scientific testimony is preserved for others to ponder. Remember, it is vital to keep the host and parasite specimens (and any associated bits and pieces) mounted together, or clearly labelled with full, duplicate data, so that they can always be associated with each other in the future.

The present state of the Scheme

Future Newsletters will contain a statement of the Recording Scheme's progress, and any interesting snippets of information which have arisen from the data. At present I am engaged in transferring all the data held by the Scheme onto standard GEN 13-type BRC cards, fully cross-referencing the records to their original source. This in itself will take some time, particularly where older data is involved. I will also be following up anomalies and queries, and extracting data from the literature etc. An example of the new Conopid Recording Card is enclosed with this Newsletter. This card is primarily intended for single species records, or for a number of species recorded at a single site. Numerous site-records for a single species (such as when extracting from museum collections, etc.) will be best accommodated on GEN 13 cards. Stocks of both cards are available from Brian Eversham at the address given below. Please try to be as rigorous as possible in recording locality, grid-reference, date and collector details, at the very least. Records without grid-refs are a major headache!

Notes on completing the card will be sent to everyone who returns the slip at the end of the newsletter.

GEN 13 and Conopid Recording Cards can be obtained from:

Brian Eversham
Institute of Terrestrial Ecology
Monks Wood Experimental Station
Abbots Ripton
HUNTINGDON
Cambs.
PE17 2LS

STOP-PRESS! - Leopoldius brevirostris from Gloucestershire

Leopoldius brevirostris is a very rare Conopid, added to the British list by Wainwright in 1938. Wainwright gives four localities for this species, in the counties Oxon., Berks., Hants. and Worcs. Since then, only two other sites appear to have arisen, one in Cambs. and a second one in Hants. To this list can now be

added Gloucestershire, from a specimen taken way back in 1983 by Keith Alexander, and initially assigned to the commoner L. signatus by yours truly! Such mistakes are possible in the absence of comparative material, although the species are distinct once the differences are known. The most reliable feature is the size and shape of the theca in females, illustrated in the accompanying notes, and the facial striping and epandrium shape in the male (also illustrated). Well, anyone can make a mistake...

LONCHOPTERIDAE STUDY GROUP

The Lonchopteridae are a small family, with less than forty species worldwide and only seven species in Britain. However, many workers find themselves drawn to this interesting little group, although there has been no concerted effort to draw records together at a national level. Since the Conopidae are a relatively small family, I felt that it would be both convenient and useful to set up a small sub-scheme to cater for the Lonchopterid-fancier, since this would not appreciably add to the workload of running the scheme. I am not proposing a full scheme for the Lonchopterids, and there would not be a specific recording card. The Lonchopterids are too dissimilar in essence and biology to comfortably lump them with the Conopidae on one card. However, I would be very pleased to act as a central compiler for Lonchopterid records, which could easily be submitted on the standard BRC GEN 13 card. My friend Martin Drake of the NCC's England Field Unit is another keen Lonchopteridae man, and between us we feel that a study group would be a good idea. Of course, Martin has his work cut out dealing with the Larger Brachycera Scheme, for which he is the national organiser. Since the Conopid Scheme is relatively small, I would be ideally placed to handle the additional work involved.

Obviously, the Study Group's success will depend very largely on the response of recorders. There is an excellent key available (Smith, 1969), and they are a delightful little group to work on. Damp, shaded spots are a good place to start looking, especially in wooded situations.

Reference

SMITH, K.G.V. 1969, Diptera: Lonchopteridae.

R. ent. Soc. Lond. Handbks. Ident. Br. Insects 10(2ai):9pp.

A SELECTIVE BIBLIOGRAPHY OF BRITISH AND EUROPEAN CONOPIDAE LITERATURE

The European literature on the Conopidae is quite vast, but much of it is only of peripheral interest as far as the UK is concerned. The papers of Chvála (1961-1965) listed below are in themselves excellent bibliographic sources for the European worker. I hope to begin a highly selective bibliographical list here, covering papers which may be useful or of interest to the British recorder, adding titles on an ad hoc basis. I would be very glad to hear of suitable additions from readers, particularly from local natural history society journals. Reprints or photocopies would be even more appreciated, as I am trying to compile a comprehensive data source for scheme users.

Askew, R.R. 1971, Parasitic Insects. Heinemann Books, xvii+361pp.

Brindle, A. 1963, Taxonomic notes on the larvae of British Diptera, 13.

Conopidae. Entomologist 96:17-19.

Chvála, M. 1961, Czechoslovak species of the subfamily Conopinae (Diptera:

Conopidae). Acta Universitatis Carolinae-Biologica

1961(2):103-145.

- Chvála, M. 1963, A review of the Conopid flies of the genus Sicus Scop.
(Diptera: Conopidae). Acta Universitatis Carolinae-Biologica
1963(3):275-282.
- Chvála, M. 1965, Czechoslovak species of the subfamilies Myopinae and Dalmaniinae
(Diptera: Conopidae) Acta Universitatis Carolinae-Biologica
1965(2):93-149.
- Collin, J.E. 1960[1959], The British species of Myopa (Dipt., Conopidae)
Ent. mon. Mag. 95:145-151.
- Faulkner, H.J. 1931, Sex distinctions in the Conopidae.
Ent. mon. Mag. 67:61-62.
- Lyneborg, L. 1962, Danske acalypterate fleur.1. Conopidae et al [Danish].
Ent. medd. 31:249-264.
- Smith, K.G.V. 1952, The Irish Conopidae (Diptera).
Proc. R. Ir. Academy 54(B):203-208.
- Smith, K.G.V. 1954, A second British record of Myopa occulta Meig. (Dipt.,
Conopidae) with notes on related species of the genus.
J. Soc. Brit. Ent. 5:124-126.
- Smith, K.G.V. 1955, The Conopidae (Diptera) in the Dale Collection with revisionary
notes on the British species of Thecophora Rond. (=Oncomyia Lw.).
Ent. mon. Mag. 91:298-300.
- Smith, K.G.V. 1959, The distribution and habits of the British Conopidae (Dipt.).
Trans. Soc. Brit. Ent. 13:113-136.
- Smith, K.G.V. 1961, Supplementary records of the distribution and habits of the
British Conopidae (Diptera).
Entomologist 94:237-239.
- Smith, K.G.V. 1966, The larva of Thecophora occidentis with comments upon the
biology of Conopidae (Diptera).
J. Zool., Lond. 149:263-276.
- Smith, K.G.V. 1970. The identity of Myopa polystigma Rondani and an additional
British and Continental species of the genus (Diptera,
Conopidae). Entomologist 103:186-189.
- Wainwright. C.J. 1938, A second British species of Leopoldius Rond. (Conopidae)
Ent. mon. Mag. 74:85-89.

This list will be expanded in later issues of the Newsletter.

All contributions to the Newsletter will be most gratefully received. These can
be sent along with Conopid records to :

David Clements

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Spitalgate Lane
Cirencester
GLOS. GL7 2DE.