

**THE FUNGUS GNATS (DIPTERA, MYCETOPHILIDAE)
OF MONK'S WOOD
NATIONAL NATURE RESERVE, CAMBRIDGESHIRE**

By J. H. COLE

2 Lenton Close, Brampton, Huntingdon, Cambs.

& P. J. CHANDLER

*Weston Research Laboratories, 644 Bath Road, Taplow,
Maidenhead, Berks.*

INTRODUCTION

During the summers of 1971 and 1972, Dr. M. J. Service was operating a series of suction traps in Monk's Wood National Nature Reserve, Cambs., while engaged in a study of biting flies. After examining the catches, he passed the bulk of the trapped material for 25th and 28th June, 1971 to one of us (J. H. C.) in case anything of interest remained. The greater part of these catches consisted of small Diptera containing a very high proportion of fungus gnats (Mycetophilidae) in reasonably good condition. The 70 species in these two days' catches indicated a rich fauna for the wood and Dr. Service very kindly agreed to send on more material in 1972, including most of his trap residues from 29th May to 29th September. The vast quantity of material precluded any attempt to obtain quantitative data and it was only possible to list the species present.

The traps were situated in the northern low lying and wetter part of Monk's Wood in an area of open scrub woodland with some well established oak and ash forming a canopy at about 10 m and a number of smaller trees and saplings. The ground flora consisted mainly of dog's mercury (*Mercurialis perennis* L.) and ground ivy (*Glechoma hederacea* L.) with various grasses. Eight traps were arranged equidistant on the perimeter of a 15 m diameter circle; each consisted of a 22.5 cm diameter Vent Axia fan mounted horizontally with its inlet 95 cm above ground level. These traps did not attract insects but only caught those flying at random over the inlets. Further details are given by Service (1974). The traps were operated 24 hours each day and the catches were collected every one to three days. For the present purpose the catches from all eight traps for each collection period were combined.

Only six species of Mycetophilidae have previously been recorded from Monk's Wood (Cole & Wills, 1973) and all these were also found in the traps. The list of 153 species provided here (about 34% of the British list) therefore includes all those known from the wood. One species, *Mycetophila cingulum* Meigen, was not present in the trap catches but was reared by Dr. R. C. Welch from *Polyporus squamosus* in September, 1975.

Two species have been added to the British list from the suction trap material, i.e. *Anatella lenis* Dziedzicki and *Exechiopsis dumitrescae* (Burghela-Balacesco) which were described and figured by Chandler (1977a; 1977b) and three more, two of them not yet described, are noted here. Several other rarely recorded species were obtained of which Chandler (1977a) also discussed *Allodiopsis ingeniosa* Kidd and *Mycetophila lunata* Meigen. Chandler (1978) covered recent records of some other rather local species, of which the most notable was *Manota unifurcata* Lundström, the sole European species of the subfamily Manotinae which since its discovery at Chippenham Fen, Cambs. (Edwards, 1941) has only been found at Windsor Forest, Berks.

COMMENTS ON NOTABLE SPECIES

These notes are restricted to species not already discussed by Chandler (1977a; 1978) except where fresh information is available.

Bolitophila oclusa Edwards

This species is proving more frequent and widespread than had been realised. Recent material has been examined from SUSSEX (Ashplats Wood, Harry's Wood), TAYSIDE (Pass of Killiecrankie), GRAMPIAN (Bridge of Aboyne), GWYNEDD (Llechwedd, Coed Tremadog) and MAYO (Drummin Wood).

Macrocera maculata Meigen

Like some other little known *Macrocera*, *maculata* may be mainly nocturnal in its habits. It has been recorded only from a few south-eastern localities but 2 ♂, 2 ♀ were taken on windows indoors at CAMBS.: Brampton, 13.viii.66 and Alconbury, 4.x.66, 31.viii.67, 2.x.73 (Cole) and 3 ♂ occurred at light-traps at YORKS.: Blacktoft Sands, viii.76 (*A. Greive*) and Pollington Camp, vi.76 (*P. Kendall*) (via P. Skidmore).

Sytemna hungarica Lundström

Edwards (1913; 1925) and Kidd (1959) recorded *hungarica* from a few Scottish and western localities. There have been few recent finds (BERKS.: Windsor Forest; OXON: Cothill; GWYNEDD: Coed y Dolbebin; HIGHLAND REG.: Kinrara), all of single specimens but it is evidently widespread in older woodlands.

Sciophila fenestella Curtis

The only published records are from Hereford and Hants (Edwards, 1913) but it has also been recorded in two local lists discussed below (Chandler, 1975; 1976).

Sciophila sp. near *cliftoni* Edwards

The occurrence of *cliftoni* in Britain was based on the male type of unknown locality, in the Clifton collection, although it has been recorded from Siberia and Mongolia (Laštovka & Matile, 1974), one of the latter differing from the type in having a mainly yellow flagellum. Several males of a very similar species, which is to be described as new by Mr. A. M. Hutson, have occurred at Monk's

Wood and another in alder carr at SURREY: Cosford Mill, 15.ix.73 (*Chandler*). These specimens differ from the type of *cliftoni* in a distinctly dark tip to the hind femora and in a narrower more elongate tip to the hypopygial tergite (but not as long and slender as found in *adamsi* Edwards).

Coelophthinia thoracica Winnertz

Edwards (1925; 1941) only quoted a few scattered records but recent material has been examined from several localities in Scotland, Wales and Ireland as well as NORFOLK (Wheatfen Broad), GLOS. (Ashwell Grove), HANTS. (Leckford) and DEVON (Dartmeet).

Palaeodocosia janickii (Dziedzicki)

This, rather than *alpicola* (Strobl), is evidently the most frequent member of this scarce genus in Britain. Records of *alpicola* based on females (*Chandler*, 1975; 1976) are unreliable and probably refer to *janickii*. New records based on male *janickii*, additional to those given by Edwards (1941) and Kidd (1959) are TAYSIDE: Den of Airlie, 4.vii.77 (*McLean*); OXON: Sarsgrove Wood, 12.vi.77 (*Chandler*) and BERKS: Windsor Forest, 23.x.77 (*Chandler*).

Grzegorzekia collaris (Meigen)

Edwards (1925) gave only three records from southern England. The only other example known to us is a female from sallow carr, HIGHLAND REG. (SUTHERLAND): Mound Alderwood, 14.vi.76 (*Stubbs*).

Allodiopsis (Gymnagonia) ingeniosa Kidd

Additional records for this species are OXON: Goring, 8.ix.63 (*Cole*); Sydling's Copse, 7.v.77 (*Ismay*).

Allodiopsis (Myrosia) maculosa (Meigen)

This fly appears to be very local, being recorded from scattered localities in England and Wales north to Lancs (Edwards, 1925; Kidd, 1959; Kidd & Ackland, 1970). Other examples have occurred at CAMBS.: Newmarket, Sussex Lodge, 5.ix.1894, ♂ (*G. H. Verrall*), 17.ix.22, ♂ (*J. E. Collin*) (both in Hope Dept.); NORFOLK: Earlham Wood, 19.x.1977, ♂ (*McLean*); POWYS: Llangynidr, 8.x.77, ♂ (*Chandler*) and LONDON: Bromley, Scrogginhall Wood, reared 20.iii.65 ex *Coprinus atramentarius* collected 10.x.64, ♀ (*Chandler*).

Exechiopsis (Xenexechia) crucigera (Lundström)

There are several old records from southern England (Edwards, 1913; 1925; Morley, 1920; Hamm, 1926) but the only other recent find known to us was a male from ANGLESEY: Carreglwyd, 9.vii.76 (*Ismay*).

Exechiopsis (Xenexechia) pollicata (Edwards)

Apart from material mentioned by Edwards (1925) *pollicata* has been recorded from a few other localities by Kidd (1959), Edwards (1951) and Le Gros (1966). Other material seen is from SUFFOLK: Timworth, 19.ii.1916 (*C. G. Nurse*) and CAMBS.: Cambridge, 1.xi.03 (*F. Jenkinson*). The Monk's Wood male is the only example

collected since Le Gros' find of a single male in an old mine shaft in Kent, i.66.

Trichonta fusca Landrock

An addition to the British list. It was described by Landrock (1918) from a single Hungarian male. The identification has been confirmed by Dr. R. J. Gagné, who is preparing a revision of the Holarctic species of the genus.

Trichonta sp. near *nigritula* Edwards

A rather dark coloured species which runs in Edwards' (1925) key to *nigritula*, but with small differences in the genitalia. Dr. Gagné has identified these as belonging to a new species he is describing also from North American material.

Phronia disgrega Dziedzicki

No records have appeared apart from those quoted by Edwards (1913; 1925) from Invernessshire and Norfolk. One other male has been seen from LONDON: Bromley, 12.x.74 in deciduous woods (*Chandler*).

Phronia siebeckii Dziedzicki

In addition to the records published by Buxton (1960) as *sinuata* Freeman and by Kidd & Ackland (1969), single males have occurred at BERKS.: Windsor Forest, 29.v.74 (*Stubbs*); SUSSEX: Crowborough, 18.ix.74 (*Chandler*) and NORFOLK: Wayland Wood, 4.xi.76 (*McLean*).

Mycetophila lunata Meigen

Mr. R. E. Evans has succeeded in rearing *lunata* again from *Coniophora puteana* collected ix.76 at Wheatfen Broad, where it had previously been collected by Messrs Irwin and Ismay. One other locality is POWYS: Cwm Coedcerrig, 9.x.77, ♂ (*McLean*).

SPECIES LIST

All records of species in which females cannot be determined with certainty are based on males. The nomenclature and arrangement follow the recent check list (Kloet & Hincks, 1976) except in the case of certain *Phronia* species where Gagné's (1975) revision is followed. Dates are only given for uncommon species or those which were poorly represented in this material.

Bolitophilinae

Bolitophila (*B.*) *cinerea* Meigen; *B. (B.) tenella* Winnertz, 1 ♂, 29.v.72; *B. (Chiopisa) hybrida* (Meigen); *B. (C.) oclusa* Edwards, 3 ♂; 3.vi., 30.vi. & 28.vii.72.

Diadocidiinae

Diadocidia ferruginosa (Meigen).

Ditomyiinae

Ditomyia fasciata (Meigen); *Symmerus annulatus* (Meigen).

Keroplatinae

Macrocera angulata Meigen; *M. crassicornis* Winnertz, 1 ♂, 2.viii.71; *M. fasciata* Meigen; *M. lutea* Meigen; *M. maculata* Meigen, 1 ♂, 26.ix.72; *M. parva* Lundström, 1 ♀, 28.vi.71; *M. phalerata* Meigen; *M. sigma* Curtis; *M. vittata* Meigen;

Macrorrhyncha flava Winnertz; *Keroplatus testaceus* Dalman, 1 ♂, 11.viii.72; *Cerotelion lineatus* (Fabricius); *Orfelia (Isoneuromyia) semirufa* (Meigen), 2 ♂; 22.viii. & 26.ix.72; *O. (Monocentrotia) lundstroemi* (Edwards), 1 ♂, 25.vi.71; *O. (Neoplatyura) modesta* (Winnertz), 1 ♂, 25.viii.72; *O. (N.) nigricauda* (Strobl), 1 ♂, 14.viii.72; *O. (O.) discoloria* (Meigen), 1 ♂, 25.vi.71; *O. (O.) fasciata* (Meigen); *O. (O.) nemoralis* (Meigen); *O. (O.) nigricornis* (Fabricius), 1 ♀, 28.vi.71; *O. (O.) unicolor* (Staeger); *O. (Pyratula) zonata* (Zetterstedt), 1 ♂, 28.vi.71.

Sciophilinae

Mycomya cinerascens (Macquart); *M. duplicata* Edwards, 1 ♂, 28.vi.71; *M. incisurata* (Zetterstedt); *M. prominens* (Lundström); *M. tenuis* (Walker); *M. trilineata* (Zetterstedt); *M. winnertzi* (Dziedzicki); *Neoempheria pictipennis* (Haliday); *Allocotocera pulchella* (Curtis); *Leptomorphus walkeri* Curtis, 2 ♂; 11.viii. & 1.ix.72; *Neuratelia nemoralis* (Meigen); *Syntemna hungarica* (Lundström), 1 ♂, 28.vii.72; *Phthinia humilis* Winnertz; *P. winnertzi* Mik; *Megalopelma nigroclavatum* (Strobl), 1 ♂, 3.vi.72, 2 ♂, 25.viii.72; *Sciophila fenestella* Curtis, 8 ♂: 3.vi., 30.vi., 19.vii. 14.viii., 25.viii., 11.ix. & 26.ix.72; 5. species near *cliftoni* Edwards, 9 ♂, 25.vi.71, 3.vi., 17.vii., 25/28.vii., 25.viii. & 26.ix.72; *Acnemia nitidicollis* (Meigen); *Monoclona rufilatera* (Walker); *Coelophthina thoracica* (Winnertz), 2 ♂, 28.vi.71, 1 ♂, 28.vii.72; *Palaeodocosia janickii* (Dziedzicki), 6 ♂; 28.vi.71, 16.vi., 26.vi., 14.viii., 25.viii. & 15.ix.72; *Grzegorzekia collaris* (Meigen), 1 ♀, 28.vi.71, 1 ♂, 23.vi.72; *Apolephthisa subincana* (Curtis); *Boletina dubia* (Meigen); *B. flaviventris* Strobl; *B. gripha* Dziedzicki; *B. plana* Walker; *B. trivittata* (Meigen); *Synapha vitripennis* (Meigen); *Leia bimaculata* (Meigen), 1 ♂, 19.ix.72; *Tetragoneura sylvatica* (Curtis); *Ectrepesthoneura hirta* (Winnertz), 2 ♂, 28.vi.71, 1 ♂, 23.vi.72.

Manotinae

Manota unifurcata Lundström, 3 ♂, 29.v., 23.vi. & 22.viii.72.

Mycetophilinae

Anatella ciliata Winnertz, 5 ♂: 28.vi.71, 5.vi.72, 26.vi.72; *A. lenis* Dziedzicki, 1 ♂, 15.ix.72; *A. longisetosa* Dziedzicki, 5 ♂, 23.vi., 25.vii., 22.viii., 25.viii. & 26.ix.72; *A. minuta* (Staeger), 6 ♂: 28.vi.71, 1.viii., 25.viii. & 15.ix.72; *A. setigera* Edwards 3 ♂, 29.v., 23.vi. & 31.vii.72; *A. simpatica* Dziedzicki, 6 ♂; 28.vi.71, 17.vii., 8.viii. & 26.ix.72; *A. turi* Dziedzicki, 4 ♂: 28.vi.71, 1 ♂, 25.viii.72; *A. unguigera* Edwards, 1 ♂, 25.vi.71; *Rymosia fasciata* (Meigen); *R. placida* Winnertz, 1 ♂, 15.ix.72; *R. winnertzi* Barendrecht, 2 ♂: 25.vii. & 25.viii.72; *Allodiopsis (Gymnogonia) excogitata* (Dziedzicki); *A. (G.) ingeniosa* Kidd, 4 ♂: 17.vi., 8.viii., 15.ix. & 29.ix.72; *A. (Myrosia) maculosa* (Meigen), 1 ♂, 29.ix.72; *Exechia bicincta* (Staeger), 1 ♂, 14.vii.72; *E. contaminata* Winnertz; *E. dorsalis* (Staeger); *E. fusca* (Meigen); *E. spinuligera* Lundström; *Exechiopsis (E.) clypeata* (Lundström); *E. (E.) dumitrescae* (Borghese-Balacesco), 5 ♂, 2 ♀: 28.vi.71, 5.vi., 10.vii., 18.vii., 26.ix. & 29.ix.72; *E. (E.) intersecta* (Meigen); *E. (E.) subulata* (Winnertz); *E. (Xenexechia) crucigera* (Lundström), 2 ♂, 15.ix.72; *E. (X.) leptura* (Meigen); *E. (X.) pollicata* (Edwards), 1 ♂, 15.ix.72; *Pseudexechia trisignata* (Edwards); *Alloidia (A.) lugens* (Wiedemann); *A. (A.) lundstroemi* Edwards; *A. (A.) ornaticollis* (Meigen); *A. (Brachycampta) alternans* (Zetterstedt), 2 ♂: 3.viii. & 29.ix.72; *A. (B.) grata* (Meigen); *A. (B.) neglecta* Edwards, 1 ♂, 8.viii.72; *A. (B.) pistillata* Lundström, 1 ♂, 18.viii.72; *A. (B.) sylvatica* (Landrock), 2 ♂: 10.vii. & 8.viii.72; *Brevicornu (Stigmatomevia) crassicornu* (Stannius); *B. (B.) auriculatum* (Edwards), 2 ♂: 25.viii. & 29.ix.72; *B. (B.) fissicauda* (Lundström), 1 ♂, 25.viii.72; *B. (B.) fuscipenne* (Staeger), 2 ♂: 28.vi.71, 1.ix.72; *B. (B.) griseicollu* (Staeger); *B. (B.) ruficornu* (Meigen); *B. (B.) sericoma* (Meigen); *Pseudobrachypeza helvetica* (Walker); *Cordyla crassicornis* Meigen; *C. fissa* Edwards; *Trichonta atricauda* (Zetterstedt); *T. fusca* Landrock, 2 ♂, 12.vi. & 19.ix.72; *T. melanura* (Staeger); *T. species near nigrifula* Edwards, 6 ♂: 3.vi., 5.vii., 25.viii., 1.viii. & 14.viii.72; *T. vitta* (Meigen); *Phronia biarcuata* Becker (= *johannae* Steenberg); *P. braueri* Dziedzicki, 1 ♂, 21.viii.72; *P. cinerascens* Winnertz; *P. disgrega* Dziedzicki, 4 ♂: 5.vi., 1.viii., 22.viii. & 26.ix.72; *P. flavipes* Winnertz; *P. forcipata* Winnertz; *P. fusciventris* van Duzee (= *tarsata* auct.); *P. humeralis* Winnertz; *P. nigricornis*

(Zetterstedt); *P. notata* Dziedzicki, 1 ♂, 5.ix.72; *P. obtusa* Winnertz, 3 ♂: 12.vii., 8.viii. & 19.ix.72; *P. siebeckii* Dziedzicki, 5 ♂: 11.ix., 15.ix. & 26.ix.72; *P. strenua* Winnertz (= *flavicollis* Winnertz); *P. tenuis* Winnertz; *P. triangularis* Winnertz; *Dynatosoma fuscicorne* (Meigen); *D. reciprocum* (Walker), 1 ♂, 8.viii.72; *Mycetophila adumbrata* Mik; *M. cingulum* Meigen; *M. edwardsi* Lundström; *M. forcipata* Lundström; *M. formosa* Lundström; *M. fungorum* (Degeer); *M. ichneumonea* Say; *M. lunata* Meigen, 1 ♂, 29.ix.72; *M. ocellus* Walker; *M. pumila* Winnertz, 1 ♀, 6.vii.68; *M. ruficollis* Meigen; *M. semifusca* Meigen, 1 ♀, 28.vi.72; *M. sordida* Wulp, 1 ♂, 27. viii.71; *M. trinotata* Staeger; *M. unicolor* Stannius, 1 ♂, 25.vi.71; *M. vittipes* Zetterstedt; *Zygomyia humeralis* (Wiedemann); *Z. notata* (Stannius); *Z. valida* Winnertz; *Sceptonia fumipes* Edwards, 1 ♂, 31.vii.72; *Epicrypta aterrima* (Zetterstedt), 1 ♂, 22.viii.72; *E. scatophora* (Perris) of Edwards (1925), 1 ♂, 14.viii.72; *Platurocypta punctum* Stannius; *P. testata* (Edwards).

COMPARISON WITH OTHER WELL-KNOWN LOCALITIES

No other area of comparable extent has as comprehensive a list of fungus gnats, although application of similar methods would probably give results as good or better in most semi-natural deciduous woods, particularly where decaying wood was abundant and a good fungus flora present.

A comparison with some other areas which have been well worked, chiefly by sweeping in suitable situations or occasionally by rearing, would perhaps be useful. Two recent local lists available are for the Leckford Estate in north Hampshire (Chandler, 1975) and for the Dolgellau area of Gwynedd in north Wales (Chandler, 1976); both lists cover diverse habitats, in the latter instance over a comparatively large area, but in each case damp deciduous woodland was the most productive habitat for fungus gnats.

The Leckford list comprised 101 species and more recent collecting has increased this to 126; curiously, only 71 of these occur in Monk's Wood although the carr woodland in the Test valley resembles the study area, but some of the additional species at Leckford were found in other habitats, e.g. dry beech woods, chalk scrub or open fen. Infrequent species in common were *Bolitophila occlusa*, *Keroplatus testaceus*, *Macrocera parva* (commoner in the north), *Megalopelma nigroclavatum*, *Sciophila jenestella*, *Coelophthinia thoracica*, *Anatella turi* and *Mycetophila sordida*.

The north Welsh list included 194 species (only 101 in common with Monk's Wood) accumulated on three intensive surveys during October, 1975 and July, 1976 but many distinct localities were studied. Several rather uniform oakwoods with seepages or streams were productive but the most prolific was the local naturalists' trust reserve at Coed y Dolbebin, where two visits produced a combined total of 102 species (58 in common with Monk's Wood); in this case fungus gnats were concentrated in very large numbers at the base of a rather open oakwood on a rocky hillside where the shaded side of a dry stone wall was acting as a refuge. The uncommon species *Syntemna hungarica* and *Phronia obtusa* were present at both Dolbebin and Monk's Wood.

Two other rather different localities have been given much attention in recent years by one of us (P. J. C), viz., Windsor Forest, Berkshire and Knole Park, Kent. At Windsor Forest, in the old beech and oak woods of the Highstanding Hill area, the vicinity of the mainly shaded Badger's Brook has been found the most productive of fungus gnats; frequent visits over the past decade have resulted in a list of 112 species for this limited area (71 in common with Monk's Wood). Taking into account the more diverse but generally drier areas of Windsor Forest and Great Park, which have received much less effort, a total of 125 species has been reached (79 in common with Monk's Wood). Uncommon species found both at Windsor and Monk's Wood are *Bolitophila tenella*, *Keroplatus testaceus*, *Syntemna hungarica*, *Palaeodocosia janickii*, *Manota unifurcata*, *Anatella turi* and *Phronia siebeckii*.

Knole Park is mainly dry woodland, principally of beech with some oak and other trees; it is heavily grazed by deer but its redeeming feature is the presence of many old and partly decayed trees; fallen trunks and stumps are frequent and there is a rich fungus flora. Regular visits since 1966, mostly during the autumn, have produced 88 species of fungus gnats (54 in common with Monk's Wood). Several of the acid woodlands and heathlands in Surrey have also been well collected, although on fewer occasions; the best list is for Chobham Common where an area of damper mixed deciduous woodland at Gracious Pond has contributed many records. The Chobham list includes 69 species (only 36 in common with Monk's Wood).

A good amount of mycetophilid distribution data is being built up and it can be said that the Monk's Wood list is probably typical of a lowland woodland in southern England. The differences between this list and those of the other lowland localities discussed above are chiefly to be explained by the different collecting techniques, the collecting at Monk's Wood being random within the micro-habitat concerned while effort in sweeping is usually concentrated for the best results in damp shaded spots likely to be acting as refuges (particularly in dry weather). The seasonal distribution of collecting, the prevailing weather conditions at the time of the visits and local differences in environmental conditions have also been important. Those fungus gnats which develop in gill fungi, e.g. most Exechiini and *Bolitophila*, are usually most abundant in the autumn, especially when it is mild and humid; the absence of October catches from the Monk's Wood material may have resulted in these groups being under-recorded.

Further collecting using different techniques will certainly increase the Monk's Wood list which still lacks many generally common species. More species of such genera as *Boletina*, *Mycomya*, *Sciophila* or *Leia* should occur. Several *Leia* species, however, occur mainly on tree foliage, while *Docosia* and some species of

Cordyla inhabit tree trunks; these have probably not been recorded because they would not have come within reach of the traps. Some groups of Exechiini, e.g. *Anatella* and *Allodia* (sub-genus *Brachycampta*), are unusually well represented while *Exechia* itself is poorly recorded. *Phronia*, particularly associated with encrusting fungi on rotten wood is represented by 15 of the 25 British species while the list of only 16 of about 60 species of *Mycetophila* suggests that it is an unproductive method for obtaining this genus. Such common species as *alea* (Laffoon), *britannica* Laštovka & Kidd, *marginata* Winnertz, *ornata* Stephens and *signatoides* Dzedzicki must surely occur. In spite of these shortcomings, it is considered that a good basis has been provided for knowledge of the composition of the Mycetophilid fauna of a relatively small relict area of deciduous forest which is situated in a sparsely wooded district of eastern England.

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REFERENCES

- BUXTON, P. A., 1960. British Diptera associated with fungi. III. Flies of all families reared from about 150 species of fungi. *Entomologist's mon. Mag.*, **96**: 61-94.
- CHANDLER, P. J., 1975. A preliminary report on the Leckford Estate Mycetophilidae (fungus gnats). 31 pp. *The Leckford Survey* (June 1974). The John Spedan Lewis Trust for the advancement of the natural sciences.
- CHANDLER, P. J., 1976. Report No. 5 (Insects) Diptera — Family Mycetophilidae (fungus gnats). *Biological Recording Working Group for Wales. Reports & Records of Field Meetings 1974-5*: 85-109. National Museum of Wales.
- CHANDLER, P. J., 1977a. Studies of some fungus gnats (Diptera, Mycetophilidae) including nine additions to the British list. *Syst. Ent.*, **2**: 67-93.
- CHANDLER, P. J., 1977b. Some fungus gnats of the tribe Exechiini (Diptera, Mycetophilidae) new to the British Isles. *Proc. Br. ent. nat. Hist. Soc.*, **10**: 71-85.
- CHANDLER, P. J., 1978. Notes on British Fungus gnats. I. Subfamilies Ditomyiinae, Bolitophilinae, Diadocidiinae, Manotinae and Keroplatinae (Diptera, Mycetophilidae). *Entomologist's mon. Mag.*, **113**: 31-44.
- COLE, J. H. & WILLS, H. J., 1973. Diptera: other families. In Steele, R. C. & Welch, R.C. *Monk's Wood: a nature reserve record*. Nature Conservancy, Abbot's Ripton, Huntingdon.

- EDWARDS, F. W., 1913. Notes on British Mycetophilidae. *Trans. ent. Soc. Lond.*, **1913**: 334-382.
- EDWARDS, F. W., 1925. British fungus gnats (Diptera, Mycetophilidae) with a revised generic classification of the family. *Trans. ent. Soc. Lond.*, **1924**: 505-670.
- EDWARDS, F. W., 1941. Notes on British fungus gnats (Diptera, Mycetophilidae). *Entomologist's mon. Mag.* **77**: 1-32; 67-82.
- EDWARDS, J., 1951. A list of Staffordshire Diptera. Part 1. *Trans. a. Rep. N. Staffs. Fld Club*, **85**: 31-47.
- GAGNE, R. J., 1975. A revision of the Nearctic species of the genus *Phronia* (Diptera: Mycetophilidae). *Trans. Am. ent. Soc.*, **101**: 227-318.
- HAMM, A. H., 1926. Diptera, pp. 248-279. In Walker, J. J. (Ed.), *The Natural History of the Oxford District*. Oxford.
- KIDD, L. N., 1959. I. Nematocera. pp. 15-107. In Kidd, L. N. & Brindle, A., *The Diptera of Lancashire & Cheshire*. Lanc. and Chesh. Fauna Comm.
- KIDD, L. N. & ACKLAND, D. M., 1969. Some corrections to the British List and other notes on British fungus gnats (Diptera: Mycetophilidae). *Entomologist*, **102**: 22-24.
- KIDD, L. N. & ACKLAND, D. M., 1970. *Mycetophila bohémica* Laštovka and *Dynatosoma nigromaculatum* Lundst. new to Britain and notes on other little known fungus gnats (Diptera, Mycetophilidae). *Entomologist*, **103**: 10-17.
- KLOET, G. S. & HINCKS, W. D., 1975. A check list of British insects. 2nd Edition (rev.). Part 5. Diptera and Siphonaptera. *Handbk Ident. Br. Ins.* **11** (5): 1-139.
- LANDROCK, K., 1918. Tabellen zum Bestimmen europäischer Pilzmücken. II Teil. *Wein. ent. Ztg.* **37**: 107-120.
- LASTOVKA, P. & MATILE, L., 1974. Mycetophilidae (Diptera) de Mongolie. *Acta zool. hung.* **20**: 93-135.
- LE GROS, A., 1966. Subterranean fungus gnats. *Entomologist's Rec. J. Var.*, **78**: 237.
- MORLEY, C. M., 1920. Collecting fungus gnats. *Entomologist*, **53**: 83-84.
- SERVICE, M. J., 1974. Further results of catches of *Culicoides* (Diptera, Ceratopogonidae) and mosquitoes from suction traps. *J. med. Ent.*, **2**: 471-479.