

9.

Danish Fungus-Gnats (Dipt. Fungiv.).
Systematical and faunistical notes.

I. *Ditomyiinae, Bolitophilinae, Diadocidiinae,*
Macrocerinae.

By
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In the year 1840, more than a hundred years ago, the Danish dipterologist C. Stæger published a list of Danish species of fungus-gnats. Since then no systematical collection of these insects has taken place in our country, so it is no wonder that our knowledge of them leaves much to be desired.

In the last 30—40 years our knowledge of the European fauna of *Fungivoridae* has been considerably increased. Of special interest to our knowledge of the Danish fauna are the papers by F. W. Edwards, Karl Landrock, Carl Lundström, and E. Wahlgren, which deal with the faunas of our neighbouring countries.

The subjoined notes are published to supply a contribution to our present knowledge of the Danish species of these delicate insects and to give a revision of the list published by Stæger in agreement with the present terminology.

I wish to express my sincere thanks to mag. scient. S. L. Tuxen for his kindness in allowing me to examine Stæger's collection in the Zoological Museum of Copenhagen. With a few exceptions the present work, besides on Stæger's collection, is based exclusively on my own collection.

Key to the sub-families.

(After F. W. Edwards)

1. Medio-cubital cross-vein present, or these veins connected by fusion..... 2.
- Media and cubitus not connected by a cross-vein or by fusion 6.
2. R_4 present and rather long, generally half or more than half as long as R_5 ; Sc short and ending free; posterior divisions of pronotum with one or more long bristles *Ditomyiinae*.
- R_4 less than half as long as R_5 , sometimes weak or absent; Sc almost always long and ending distinctly in the costa; posterior division of pronotum without long bristles 3.
3. Cross-vein $m-cu$ well before $r-m$, both vertical; media with distinct basal section and running straight as far as the fork..... *Bolitophilinae*.
- Cross-vein $m-cu$ close to $r-m$, or media and radius fused for a short distance..... 4.
4. Cross-vein $m-cu$ and $r-m$ both present, practically in one line; base of M lacking; Rs arising near base of wing....
- *Diadocidiinae*.
- Media and radius fused for a short distance (except in Palaeopterygura, where M is angulate at $r-m$ and $m-cu$)..... 5.
5. Cu_1 and Cu_2 slightly approximated near the base, then divergent; anal angle of wing somewhat square; tibial bristles absent *Macrocerinae*.
- Cu_1 and Cu_2 divergent from the base; anal angle of wing rounded; tibial bristles present even if small ... *Ceroplastinae*.
6. R_1 and Rs separate to the base of the wing; traces of the base of R_{2+3} present..... *Lygistorhininae*.
- Rs arising from R well beyond the base of the wing, or base of Rs wanting (*Leiella*); no trace of R_{2+3} 7.
7. Eyes nearly or quite connected above antennae by a narrow bridge; base of Rs short and transverse; $r-m$ long and in a line with Rs *Lycoriinae*.
- Eyes rounded, without dorsal bridge; base of Rs and $r-m$ both usually more or less oblique..... 8.
8. Prothorax without strong bristles; head flat or slightly concave behind, with a row of projecting orbital bristles, which are more or less curved backwards; antennae inserted far above the middle of the head..... *Manotinae*.
- Prothorax with distinct long bristles; head convex behind; orbital bristles not forming a conspicuous projecting row; antennae inserted about the middle of the head 9.

9. Microtrichia of wings irregularly arranged; *Sc* usually long; lateral ocelli usually far from the eye-margins . . . *Sciophilinae*.
 — Microtrichia of wings in more or less definite lines; *Sc* short; lateral ocelli touching the eye-margins *Fungivorinae*.

Ditomyiinae.

1. The base of the median fork before the base of R_4 ; *C* ends at the tip of R_5 ; postnotum with bristles . . . *Symmerus* Walk.
 — The base of the median fork beyond the base of R_4 ; *C* continues over the tip of R_5 ; postnotum bare . . . *Ditomyia* Winn.

Symmerus Walk. (= *Plesiastina* Winn.)

Only one species is known from the palaeartic region.

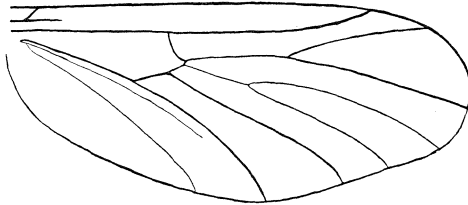


Fig. 1. *Symmerus annulatus* Meig.

S. annulatus Meig. (Landrock 1927 p. 6 Tfl. I Fig. 1).

The species is not mentioned in Stæger's list, but in his collection there are 11 ♂♂, 1 ♀; 1 ♂, 1 ♀ are labelled Falster. I took 1 ♂ at Klakring on 10. VIII. 1918, and Dr. P. Esben-Petersen took 1 ♂ at Næsgaard, Falster, on 25. VII. 1929.

Ditomyia Winn.

Two species are known from the palaeartic region, one of these is found in Denmark, too.

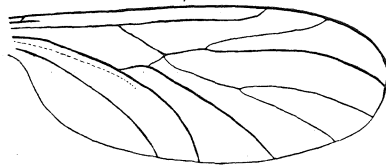


Fig. 2. *Ditomyia fasciata* Meig.

D. fasciata Meig. (Landrock 1927 p. 7).

Stæger does not mention the species in his list, but the species is represented in his collection by 2 ♂♂ 2 ♀♀ without indication of locality. A specimen was taken at Haslum Skovbæk in June 1922 (Hj. Ussing) and a ♂ at Dyrehaven near Copenhagen 15. VI. 1936 (J. P. Kryger). In the collection of the Zoological Museum of Copenhagen there are 4 ♂♂ 1 ♀ from Faaborg reared on the 28th of March 1921 (C. S. Larsen).

Bolitophilinae.

Landrock (1925) proposed that the old genus *Bolitophila* should be divided into two, viz. *Bolitophila* Meig.

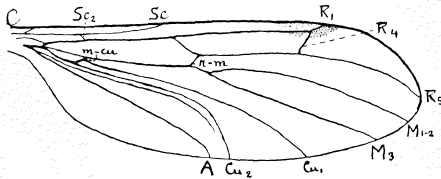


Fig. 3. *Bolitophilella cinerea* Meig. ♀.

in which R_4 ends in C , and *Bolitophilella* Landr., in which R_4 ends in R_1 .

Of the Danish species, *glabrata* Loew, *hybrida* Meig., *maculipennis* Walk., *pseudohybrida* Landr., and *rossica* Landr. belong to the first group, and the other two species, *cinerea* Meig. and *tenella* Meig., to the second group.

From the palaeartic region eleven species are known, at present we know seven of them from Denmark.

Key to the species.

1. R_4 ending in Costa *Bolitophila* Meig.
- R_4 ending in R_1 *Bolitophilella* Landr.
2. Cross-vein *m-cu* obliterated, Cu_1 in contact with M or even fused with it for a short distance 3.
- Cross-vein *m-cu* short but distinct 5.

3. Pterostigma conspicuously dark, and a spot over *r-m*
..... *maculipennis* Walk.
- Pterostigma faint 4.
4. Mesonotum greyish pruinose *pseudohybrida* Landr.
- Mesonotum shining *glabrata* Loew
5. *Sc* ending in *C* before the origin of *Rs* *rossica* Landr.
- *Sc* ending in *C* over or beyond the origin of *Rs* *hybrida* Meig.
6. Cross-vein *m-cu* entirely obliterated, *Cu*₁ fused with *M* for
a short distance *tenella* Winn.
- Cross-vein *m-cu* short but distinct *cinerea* Meig.

B. maculipennis Walk. (Stæger 1840 p. 228 *bimaculata* Zett.; Landrock 1912 p. 43 *bimaculata* Zett. Fig. 2, 8, 19; Edwards 1925 p. 513; Landrock 1927 p. 9).

In coll. Stæger there are 1 ♂ 3 ♀♀; 1 ♀ is labelled Charlottenlund and 1 ♀ Frederiksberg, the others are without indication of locality.

I collected the species at Silkeborg Sønderskov, 1 ♂, 29. IV. 1933, Rudstrup Skov, 1 ♂, 30. IV. 1933, and 1 ♂, 6. V. 1934, Funder 1 ♀, 30. IX. 1930.

B. glabrata Loew (Stæger 1840 p. 228 *B. fusca* Meig. var. b; Landrock 1912 p. 48 Fig. 4, 12; Landrock 1927 p. 9 Fig. 10 c).

In coll. Stæger there are 1 ♂ 1 ♀ without indication of locality. In the list Stæger only mentions the ♀, but in his description of the differences between *B. fusca* var. b and *B. cinerea* (l. c. p. 229) he mentions characters suggesting *B. glabrata*.

B. pseudohybrida Landr. (Stæger 1840 p. 228 *fusca* Stæg. nec Meig.; Landrock 1912 p. 36, 45 Fig. 15, 17; Landrock 1927 p. 10 Tfl. III Fig. 2, 5).

In the Stæger-collection there are 2 ♂♂ 3 ♀♀ labelled "*B. fusca* Meig.", 1 ♀ is labelled Frederiksberg, the other specimens are without indication of locality. The 2 ♂♂ are *pseudohybrida* Landr., the 3 ♀♀ may perhaps be *hybrida* Meig. (= *fusca* Meig.), the mesonotum in each specimen is yellowish brown with three distinct stripes, but *m-cu* is obliterated.

I know *pseudohybrida* Landr. from Silkeborg, 1 ♀, 3. X. 1918, Silkeborg Sønderskov 2 ♂♂, Nov. 1940, Funder 2 ♂♂, 30. IX. 1930.

B. hybrida Meig. (Landrock 1912 p. 44 Fig. 1, 9, 18; Landrock 1927 p. 9 Tfl. III Fig. 3, 6).

At Holtum Aa Ringkjøbing Amt 2 ♂♂, 15. VI. 1929. In one of my specimens *m-cu* is obliterated.

B. rossica Landr. (Landrock 1912 p. 37, 45 Fig. 16; Landrock 1927 p. 10 Tfl. III Fig. 4).

In Vester Høgild plantation I collected 1 ♂ on 28. IX. 1930.

The species is described on the basis of a ♂ from Polonia, and Okada (Insecta Matsumurana 1934, IX p. 15) mentions 2 ♀ from Japan; no other locality is known for this species.

B. hybrida and *B. rossica* are much alike, but on examining the hypopygium they are easily separated.

B. (Bolitophilella) tenella Winn. (Landrock 1912 p. 51 Fig. 6, 13, 14, 23; Landrock 1927 p. 11 Tfl. III Fig. 8).

I have collected this species in different places in the neighbourhood of Silkeborg during the months of May, July—October and at Ildal, Rye Sønderskov, 2 ♀♀ 30. V. 1935.

B. (Bolitophilella) cinerea Meig. (Stæger 1840 p. 229; Landrock 1912 p. 49 Fig. 3, 10, 21; Landrock 1927 p. 11).

In the coll. Stæger the species is represented by 6 ♂♂ 12 ♀♀, 1 ♂ is labelled Charlottenlund and 1 ♀ is labelled Frederiksberg, the other specimens are without indication of locality.

The species seems to be of widespread occurrence, being found all over the country; it is common in the forests around Silkeborg, I also know it from Rudstrup Skov, Funder, Velling Skov, Vrads, Nørholm Skov at Sig St., Vester Høgild, Skamling (J. Kr. Findal), Hjerting near Esbjerg, Oxbøl; and on Bornholm it has been col-

lected at Kobbæa and at Rø by Dr. P. Esben-Petersen, and I found it at Blykobbe.

In a ♀ taken at Oxbøl I found *M* and *Cu*₁ to be well separated in the right wing, but in the left wing they were fused for a short distance.

Diadocidiinae.

Diadocidia Ruthe.

Two species of this genus are known from the palae-arctic region, and one of them is known from Denmark.

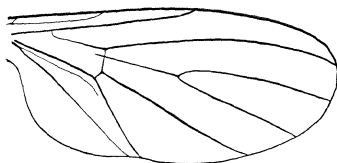


Fig. 4. *Diadocidia ferruginosa* Meig.

D. ferruginosa Meig. (Landrock 1927 p. 12).

The species is represented in coll. Stæger — but not mentioned in his list — by 2 ♂♂ 1 ♀; one of the males is labelled Ordrup. I know the species from Allerup Bakker, 1 ♀ 26. VI. 1927 (A. Chr. Thomsen), Rudstrup Skov, 1 ♀ 17. IX. 1929. In July, 1932, I caught 3 ♀♀ on Bornholm: at Ekkodal, Blykobbe, and Humledal.

Macrocerinae.

Macrocera Meig.

Key to the species.

1. Wings conspicuously hairy..... 7.
- Wings not conspicuously hairy..... 2.
2. Wings entirely without spots..... 3.
- Wings spotted..... 5.
3. Mesonotum with yellow bristles..... *lutea* Meig.
- Mesonotum with black bristles..... 4.
4. Male antennae more than twice as long as the body.....
- *vittata* Meig.
- Male antennae not twice as long as the body *parva* Lundstr.



Fig. 5. *Macrocera stigma* Curt.

5. Tip of the wings infuscated..... 6.
 — Tip of the wings clear..... *centralis* Meig.
 6. Wings with a complete central fascia just before the middle,
 and a spot at the wing-margin in Cell Cu_1 . *fascipennis* Stæger.
 — Wings with an incomplete fascia beyond the middle, no
 spot at the wing-margin in cell Cu_1 *angulata* Meig.
 7. Tip of wing broadly dark..... *phalerata* Meig.
 — Tip of wing clear 8.
 8. Tip of R_1 pale, wings densely hairy..... *stigma* Curt.
 — Tip of R_1 brown, wings less hairy *stigmoides* Edw.

M. lutea Meig. (Landrock 1927 p. 19 Tfl. III Fig. 15).

At Silkeborg I caught 1 ♂ 7. VII. 1919 and 1 ♀ 19. VI. 1921 and at Hald near Viborg 1 ♀ 10. VII. 1930; from Østerlars, Bornholm, I have seen 1 ♂ caught on 22. VI. 1933 (Lohmander). The specimens mentioned by Stæger (1840 p. 230) prove to be *M. stigmoides* Edw.

M. vittata Meig. (Landrock 1927 p. 23 Tfl. III Fig 23).

In coll. Stæger 1 ♂ 1 ♀ of this species are placed as *fasciata*, the locality is not stated.

I have seen specimens of the species from Silkeborg, Rudstrup Skov, Tollund (Esben-Petersen), Esbjerg, Skamling (J. Kr. Findal), Lundum, Næsgaard Falster (Esben-Petersen); Bornholm from Paradisbakkerne and Aaremyre. All the specimens were caught in the period June—August.

M. parva Lundstr. (Lundström 1914 Acta F. F. F. 39 No. 3 p. 7 Tfl. I Fig. 4; Landrock 1927 p. 20).

Among the specimens of "*M. lutea*" in coll. Stæger there is a male which may be *parva* Lundstr., though

it does not in all respects agree with the description given by Lundström (l. c.). In our specimen the mesonotum is unstriped and with black bristles; in the original description nothing is mentioned about the bristles, but the allied species, *lutea* Meig., has yellow bristles on the mesonotum.

[*M. fasciata* Meig.

The species has not yet been found in Denmark. The specimens mentioned by Stæger (1840 p. 230) prove to be *M. stigma* p. p.]

M. fascipennis Stæg. (Stæger 1840 p. 231; Edwards Ent. Tidskr. 1924 p. 165; Landrock 1927 p. 17).

The type-specimen, 1 ♂ in coll. Stæger, is present and in good condition. Chr. Drewsen has caught the specimen, but the locality is not stated. It is the only specimen I have ever seen.

M. angulata Meig. (Stæger 1840 p. 231; Landrock 1927 p. 15).

In coll. Stæger 1 ♀ labelled Frederiksberg is present, in the list the species is reported from Næstved (Schjødte). I have seen the species collected from Silkeborg, Rudstrup Skov, Funder, Grejsdal (J. Kr. Findal).

My dates are: 17. VI.—14. VIII.

M. centralis Meig. (Stæger 1840 p. 231; Landrock 1927 p. 15).

In the list Næstved (Schjødte) is mentioned as the locality, in the coll. Stæger 1 ♂ is labelled Lersø (near Copenhagen). Dr. P. Esben-Petersen has taken the species at Strandby, the parish of Vester Ulslev, I have caught it at Silkeborg and at Humledal, Bornholm, and on this island Dr. Lohmander took it at Ibsker and Eskegaard.

M. phalerata Meig. (Stæger 1840 p. 231; Landrock 1927 p. 21).

The species is represented in the Stæger-collection with 1 ♂ 1 ♀ without label, but in the list Charlottenlund is mentioned as the locality. I only know these two specimens.

M. stigma Curt. (Landrock 1927 p. 22 Tfl. III Fig. 19).

In coll. Stæger 1 ♂, labelled Ordrup, and 1 ♀ of this species are referred to *M. fasciata*.

The species seems to be of widespread occurrence all over the country. I have seen specimens from Silkeborg, Rudstrup Skov, Velling Skov, Jexen Dal (Esben-Petersen), Holtum Aa Ringkjøbing Amt, Ansø Vandmølle, Rye Sønderskov, Vejen (J. Kr. Findal), Errested Vesterskov, and from Bornholm: from Bobbeaa (Esben-Petersen), Østerlars, and Olsker (Lohmander).

My dates are: 20. V.—14. VII.

M. stigmoides Edw. (Landrock 1927 p. 22 Tfl. III Fig. 20).

Of this delicate little species there are 5 ♂♂ 3 ♀♀ in the Stæger-collection labelled *M. lutea*, but without indication of locality. I know the species from Allerup Bakker (A. Chr. Thomsen) and from Bornholm: from Ibsker (Lohmander), Humledal, Aaremyre, and Ekkodal.

My dates are: 26. VI.—22. VII.

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Dansk Oversigt.

For mere end hundrede Aar siden, i Aaret 1840, publicerede C. Stæger sin kendte Fortegnelse over danske Svampemyg. Siden Stægers Dage er der i Danmark ikke foretaget systematiske Indsamlinger af disse Insekter, saa det er ikke underligt, vort Kendskab til den danske Svampemyg-Fauna lader en Del tilbage at

ønske, saa meget mere, som der i de sidste Aartier er offentliggjort Arbejder om vore Nabolandes Fauna.

Grundlaget for ovenstaaende Meddelelser om danske Svampemyg er dels Stægers Samling, der endnu findes i god Stand i Zoologisk Museum i København, dels egne Indsamlinger suppleret med enkelte andre Fund.

Som det var at vente, viste enkelte af Stægers Bestemmelser sig at være knyttet til collective Arter, hvoriblandt nogle er Arter, vi ellers ikke kendte her fra Landet. Kun een Art, *Macrocera fasciata* Meig., maa, i alle Tilfælde foreløbig, udgaa af den danske Fortegnelse, da de herhen stillede Exemplarer er *M. stigma* p. p.

I de ovenfor nævnte Underfamilier fordeler Artsantallet her i Landet sig som følger: *Ditomyiinae*: 2 Arter, *Bolitophilinae*: 5 Arter, *Diadocidiinae*: 1 Art og *Macrocerinae*: 9 Arter.

Stæger (1840 p. 288) giver i et Resumé følgende Oversigt: *Bolitophila* 3 Arter, *Macrocera* 6 Arter. I Stægers Samling er dog baade *Ditomyiinae* og *Diadocidiinae* repræsenteret med henholdsvis 2 og 1 Art.