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Limoniidae of Poland (Diptera, Nematocera). Part I: subfamily Eriopterinae

[With 200 text-figs.]

Limoniidae Polski (Diptera, Nematocera). Część I: podrodzina Eriopterinae

Abstract. The paper summarizes available information on the distribution of 85 species of the subfamily *Eriopterinae* (*Limoniidae*, *Diptera*) living in Poland, including 40 species new to this country. Each species is shortly characterized and the details of the male genitalia are illustrated.

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I. INTRODUCTION

The family *Limoniidae* comprises the primitive flies of the infraorder *Tipulomorpha* (HENNIG, 1973). The species of this family are readily distinguished from the other *Tipulomorpha* by wing vein *Sc* ending in costa, and palpi nearly always short, the last segment not much longer than the rest (except in *Pedicia* LATR.) (EDWARDS, 1938).

Limoniidae are widespread throughout all climatic zones, ever preferring most areas. The greatest number of species is known from Asia,

but the most intensively examined is the *Limoniidae* fauna of Europe and North America. Very scarce is the literature dealing with *Limoniidae* of Africa and Australia. In Europe about 650 species are present, 212 of them having been stated by me in Poland till now.

Systematic position of *Limoniidae*

In all systems the family *Limoniidae* is included in the superfamily *Tipuloidea*, but its systematic category is not yet established. At first it was treated as the subfamily of the *Tipulidae* (OSTEN-SACKEN 1887; ALEXANDER 1919, 1921, 1965; EDWARDS 1938; COE 1950; TJEDER 1955 and others). However, many authors regard *Limoniidae* as the separate family (MEIJERE 1919—1921; ENDERLEIN 1908; LACKSCHEWITZ 1940 a, b; SAVČENKO 1969, 1977; SAVČENKO and KRIVOLUCKAJA 1976; HENNIG 1968, 1973; STARY 1976, 1980; SLIPKA and STARY 1977 and others). In the present paper the system of SAVČENKO and KRIVOLUCKAJA (1976), with some modifications, was adopted.

Investigations on *Limoniidae* in Poland

The records of *Limoniidae* from Poland are scarce and mainly scattered in the faunistic lists concerning various regions of Poland, especially the southern Poland (NOWICKI 1865, 1867, 1869, 1870, 1873; LOEW 1870, 1871, 1873; GRZEGORZEK 1873; BOBEK 1890, 1893, 1894). From Śląsk (Silesia) the *Limoniidae* are mentioned by SCHUMMEL (1829) and from Central Poland only by SAKWA (1962) who listed species of *Limoniidae* of the environment of Łódź. From the north eastern regions there are only few notes of SACK (1925) concerning Puszcza Białowieska (Podlasie), and from the sea coast and northern Poland some species were recorded by CZWALINA (1893); RÜBSAAMEN (1901); ENDERLEIN (1908). Some information can be also found in the papers on ecology, ethology and hydrobiology of different groups of insects (WOJTUSIAK 1950; ZAĆWILICHOWSKA 1969; NABAGŁO 1973 and others).

Material

The work is based on material collected by me in 1975—1980 from Pobrzeże Bałtyku (Baltic Coast — 2, near Gdańsk and Żarnowiec), Pojezierze Pomorskie (Pomeranian Lakeland — 3), Pojezierze Mazurskie (Masurian Lakeland — 4), Nizina Wielkopolsko-Kujawska (Lowland of Great Poland and Kujawy — 5), Wyżyna Krakowsko-Wieluńska (Highland of Cracow and Wieluń — 10), Roztocze (highland in the east of Poland — 13), Sudety Zachodnie (West Sudetes Mts — 15), Beskid Za-

chodni (West Beskid Mts — 17), Beskid Wschodni (East Beskid Mts — 18), Bieszczady (Polish East Carpathians — 19), Pieniny (Pieniny Mts — 20), Tatry (Tatra Mts — 21) (Fig. 200). All these materials are now included in the collection of the Institute of Systematic and Experimental Zoology of the Polish Academy of Sciences in Kraków (ZZS). I have also examined the collections of this Institute, the Institute of Zoology of the Polish Academy of Sciences in Warszawa (IZW), Museum of Zoology in Łódź (MZŁ) and the private collections of R. SZADZIEWSKI and J. WIEDENSKA.

Numbers printed in **bold type** mark faunistic zones, after "Catalogue of Polish fauna" (see Fig. 200).

II. SYSTEMATIC PART

Species of the subfamily *Eriopterinae* are rather uniform, although such genera as *Chionea* DALMAN with strongly reduced wings is also included. The body colour is from pale yellow to black. Antennae (Figs. 1, 2, 3) within the majority of species are composed of 16 segments excepting the tribe *Cladurini* with the number of segments reduced and varying from 5 segments in some *Chionea* DALMAN species to 13—14

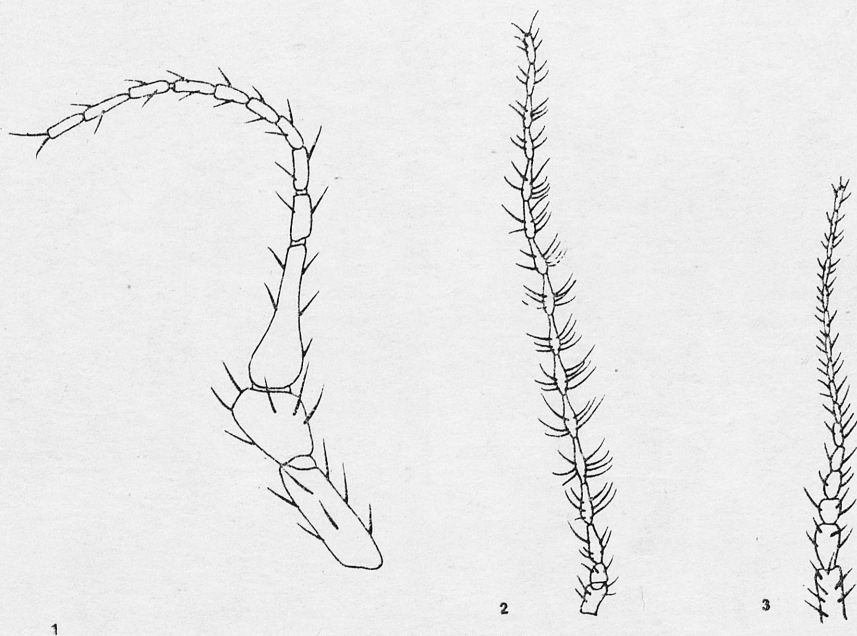


Fig. 1. Male antennae of *Crypteria limnophiloides* BERGROTH

Fig. 2. Male antennae of *Ormosia clavata* (TONNOIR)

Fig. 3. Male antennae of *Gonomyia tenella* (MG.)

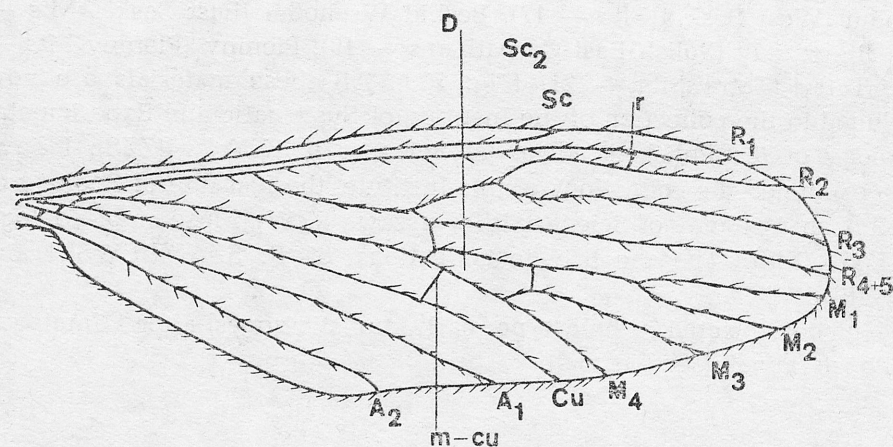


Fig. 4. Wing of *Crypteria limnophiloides* BERGROTH (after COE)

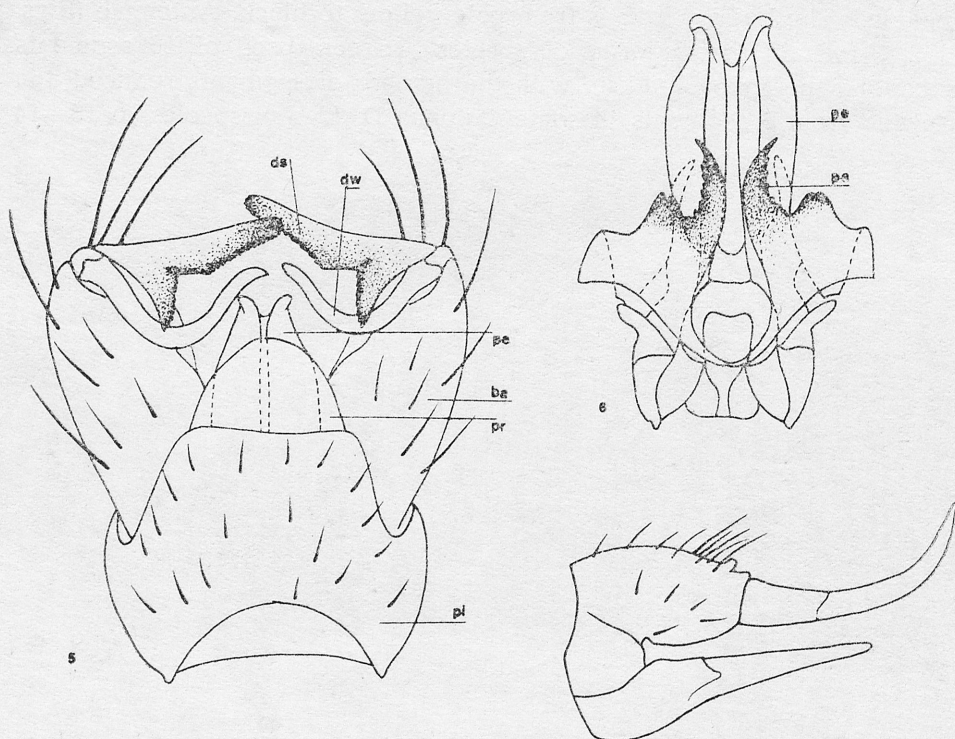


Fig. 5. Male genitalia of *Symplecta stictica* (MG.): *ds* — outer dististylus, *dw* — inner dististylus, *pe* — aedeagus, *ba* — basistylus, *pr* — proctiger, *pl* — IX segment of abdomen

Fig. 6. *Symplecta stictica* (MG.) — complex of aedeagus: *pe* — penis, *pa* — parameres

Fig. 7. Female genitalia

in the genera *Crypteria* BERGROTH and *Neolimnophila* ALEXANDER. The flagellomeres bear long verticils.

Legs are long and slender, again with the exception of the genus *Chionea* DALMAN with strong legs and broad coxae. The tibiae are without spurs. For the taxonomic use the important feature is the shape of merones. The wings (Fig. 4), in spite of individual variability in their venation, are helpful while distinguishings genera, but not suitable for establishing species (EDWARDS, 1926). The most important features in vein pattern are length of the vein Sc_1 , place of branching of Sc_2 , presence or lack of the cross vein r , length of Rs , shape of R_{2+3} , shape of M_{1+2} , presence or lack of the discoidal cell D , position of the cross vein $m-cu$ and length and shape of A_2 . On the wing membranes the macrotrichia and microtrichia may be present and their density are of additional value while estimating the genera and species.

The last two segments of the male abdomen are transformed to the genital apparatus (Figs. 5, 6), whose anatomy is the main criterion in the taxonomy of species. Its basic parts are: IX segment, proctiger, basistyli, dististyli and complex of aedeagus. The genital apparatus of females (Fig. 7) is uniformly shaped and rarely used for estimating species.

The subfamily *Eriopterinae* is distinguished from the other subfamilies of *Limoniidae* by four-branched radial vein and the lack of tibial spurs. *Eriopterinae* represent the greatest subfamily within the whole family *Limoniidae*. In the West Palaearctic there live some 300 species, 85 of them are known to occur in Poland. They belong to four tribes: *Cladurini*, *Eriopterini*, *Molophilini* and *Gonomyini*.

TRIBE CLADURINI

This tribe is regarded by SAVČENKO and KRIVOLUCKAIA (1976) as most primitive in the subfamily *Eriopterini*. Species belonging here are characterized by especially large third antennal segment (Figs. 1, 8, 16, 21) and the number of all antennal segments never exceeding 14. In the wing venation characteristic are four medial veins.

Tribe *Cladurini* comprises in Europe 2 genera with well developed wings: *Neolimnophila* ALEXANDER and *Crypteria* BERGROTH, as well as wingless genus *Chionea* DALMAN. This genus being well adapted to low temperatures, is characterized by strong reduction of wings, reduction of the outer dististylus, shorter and stronger legs and reduced number of antennal segments. All these morphological features are probably apomorphies of this genus and clearly distinguish *Chionea* DALMAN from the other genera of *Cladurini*.

In Poland 3 following genera of this tribe are present.

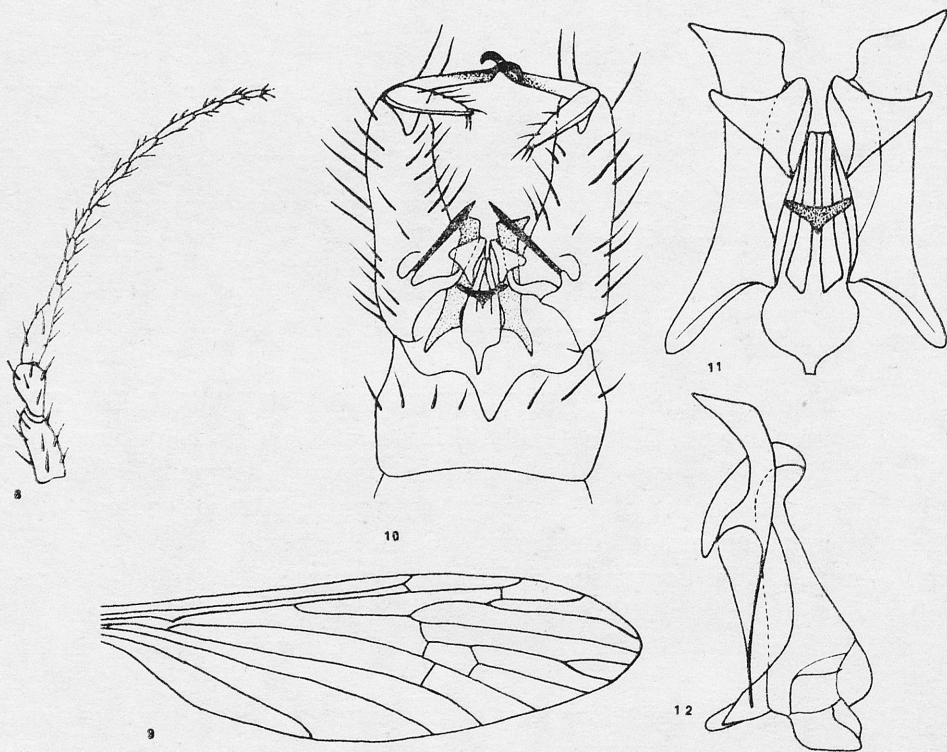
Genus *Neolimnophila* ALEXANDER, 1920

Antennae 11—13 segmented. Vein Sc_2 placed at the end of Sc_1 and vein R_{2+3} nearly as long as R_2 . The cross vein r present. Meron rather small (smaller than in *Crypteria* BERGROTH). There are 16 species of this genus, living in Holarctic, Oriental and Neotropical Regions. In Poland 1 species is known.

Neolimnophila carteri (TONNOIR, 1921)

Body colour dark brown with somewhat lighter legs, thorax grey dusted. Antennae (Fig. 8) 12—13 segmented. Wing 7—9 mm long, without pattern, pale yellow tinged. Veins towards wing-tips with obvious short hairs. Cross vein r on R_2 usually well beyond fork. The A_2 short and straight (Fig. 9).

Male genitalia (Figs. 10, 11, 12): basistylus with the long, straight spine at base; outer dististylus long, narrow and hooked at the



Figs. 8—12. *Neolimnophila carteri* (TONNOIR): 8 — antennae, 9 — wing, 10 — male genitalia, 11 — complex of aedeagus (dorsal view), 12 — complex of aedeagus (lateral view)

end; inner dististylus small and lobe-like. Penis short, broad at the base and narrowing to the end. Parameres very broad, cut at the apex.

Distribution: middle and north Europe. New to Poland.

Bionomics: the species is frequently reported from deciduous forests. The period of flight is between May and August.

Material examined: **10** (Las Wolski near Kraków 29.05.1977, 1♂); **18** (Ciężkowice near Gorlice 26.06.1979, 1♂); **19** (Wetlina 23.07.1978, 1♂); **20** (Krościenko 15.06.1979, 1♂); **21** (Brzegi near Bukowina Tatrzańska 20.07.1979, 1♂, 3♀♀; Dolina Roztoki 30.06.1979, 1♂; Morskie Oko 29.06.1979, 1♂); leg. W. KRZEMIŃSKI, (ZZS).

Genus *Crypteria* BERGROTH, 1913

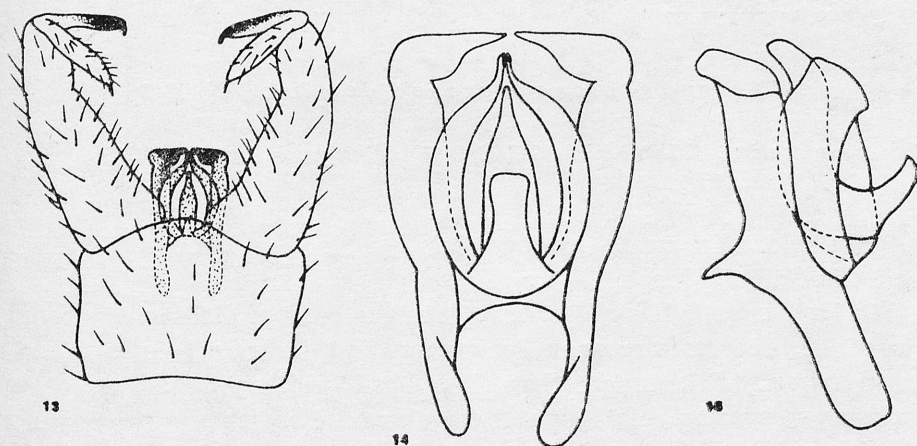
Antennae similar as in the preceding genus, with variable number of segments. Wings of male broadened in middle, wing of female with parallel margins. Sc_2 well removed from tip of Sc_1 . R_{2+3} much shorter than half of R_2 length. Cross vein r present. Meron large.

Few species of this genus live mainly in mountains and north regions of Holarctic. In Poland 1 species known.

Chypteria limnophiloides BERGROTH, 1913

Body colour brown-grey. Wing 5—6.5 mm long, without pattern, brown tinged. Veins with numerous bristles. A_2 straight and long (Fig. 4). Cross vein r just behind the fork of R_2 .

Male genitalia (Figs. 13, 14, 15): outer dististylus short and



Figs. 13—15. *Crypteria limnophiloides* BERGROTH: 13 — male genitalia, 14 — complex of aedeagus (dorsal view), 15 — complex of aedeagus (lateral view)

bent at the end; inner dististylus lobe-like and as long as the outer. Penis short and broad. Parameres broad and bent inwards.

Distribution: north and central Europe. New to Poland.

Bionomics: the species is found in woods, especially near water. The period of flight is between July and September.

Material examined: **10** (Puszcza Dulowska near Trzebinia 12.09.1976, 1♂, 1♀; Las Wolski near Kraków 7.08.1977, 1♂); **19** (Wetlina 23.07.1978, 2♂♂, 1♀), **21** (Dolina Suche Wody 20.07.1979, 1♂); leg. W. KRZEMIŃSKI, (ZZS).

Genus *Chionea* DALMAN, 1816

The number of antennal segments very variable, may be even reduced to 4—5. Wings reduced to microscopic scales. The body of all species covered with dense, long hairs. In the male genitalia only one dististylus present.

Imago appears only in cold months. Two subgenera counting above 20 species live in Holarctic. In Poland 3 species known.

Subgenus *Chionea* DALMAN, 1816

The subgenus is characterized by antennae composed of 7—11 segments (Fig. 16), strong, stout legs and massive male genital apparatus. At the base of dististylus a strongly sclerotized tooth present. Penis short and stout, parameres triangle-shaped.

Over 10 species belonging to this genus live in mountains and north regions of Holarctics. In Poland 1 species known.

Chionea (Chionea) araneoides DALMAN, 1816

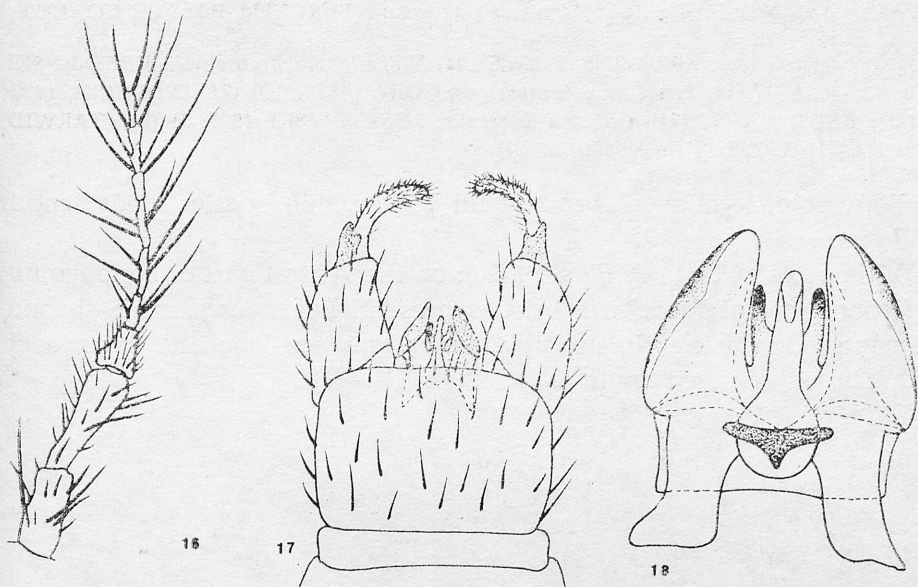
Chionea araneoides: KRZEMIŃSKI 1978: 119 (17); *Chionea hrabei*: TARWID 1947: 274 (21), WOJTUSIAK 1950: 124 (21).

Body colour brown, with brown bristles. Head and genital apparatus nearly black. Body length 3—4 mm.

Male genitalia (Figs. 17, 18): at the base of dististylus strongly sclerotized bifid tooth present. Penis short and thick. Parameres triangular and about 1.5 × longer than their basal width. At the base of parameres two broad plates, longer than valves are present.

Distribution: north Europe and mountains of central and west Europe.

Bionomics: the species is adapted to low temperatures. Imago



Figs 16—18. *Chionea (Chionea) araneoides* DALMAN: 16 — antennae, 17 — male genitalia, 18 — complex of aedeagus (dorsal view)

lives in October to end of March and frequently is to be found on the snow surface especially in the mountain forests. In Poland frequent in Tatry Mts and Higher Beskidy Mts, not noted from lowlands.

Material examined: 17 (Przełęcz Jałowiecka — at altitudes of 1017 m, January 1976, 1♂, leg. K. BOREK; Babia Góra — altitudes between 900—1600 m, 1.12.1974, 8♂♂, 9♀♀; 2.01.1975, 4♂♂, 2♀♀; 11.02.1976, 3♂♂, 5♀♀ — leg. W. KRZEMIŃSKI); 21 (Dolina Jaworzynki — at altitudes between 1070—1200 m, 9.02.1972, 1♂; Hala Gąsienicowa — at altitudes of 1500 m 21.10.1972, 1♂, 1♀ — leg. J. WOJTUSIAK; Przełęcz Iwaniacka — at altitude of 1459 m, 10.02.1968, 2♂♂, 2♀♀, leg. R. WOJTUSIAK; Hala Gąsienicowa 2.03.1976, 1♂, 2♀♀, leg. W. KRZEMIŃSKI), (ZZS).

Subgenus *Niphadobata* ENDERLEIN, 1936

Antennae 4—7 segmented, on the last segment two firm bristles are present, sometimes longer than antennae (Fig. 21). Species belonging here are generally similar to the preceding subgenus, but their male genital apparatus is distinctly different. Tooth at the base of dististylus is absent, penis very long, parameres long, broad and ending with a tooth, whose shape is of taxonomical importance.

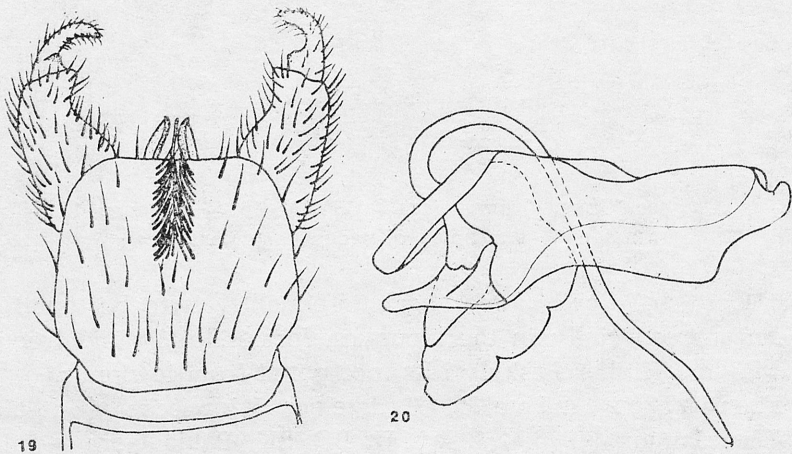
In Europe 14 species present, two of them live in Poland.

Chionea (Niphadobata) botosaneanui BURGHELE-BALACESCO, 1969

Ch. (N.) botosaneanui: KRZEMIŃSKI, 1982: 194; *Niphadobata kratochvili*: KRZEMIŃSKI, 1978: 123—124 (17, 18, 21); *Chionea crassipes*: LOEW, 1870: 160 (21); NOWICKI, 1873: 17 (21); SIMM, 1938: 75 (21); *Chionea lutescens*: ROSZKOWSKI, 1925: 81 (21); TARWID, 1947: 274 (21); WOJTUSIAK, 1950: 124 (21).

Body colour yellowish brown with yellow, thin bristles. Body length 5—7 mm.

Male genitalia (Figs. 19, 20): on the ventral part of hypopygium a distinct row of long, firm bristles present. Penis long and S-shaped, filaments of penis nearly invisible. Parameres are long and wide, each with a broad, rounded tooth.



Figs. 19—20. *Chionea (Niphadobata) botosaneanui* BURGHELE-BALACESCO: 19 — male genitalia (ventral view), 20 — complex of aedeagus (lateral view)

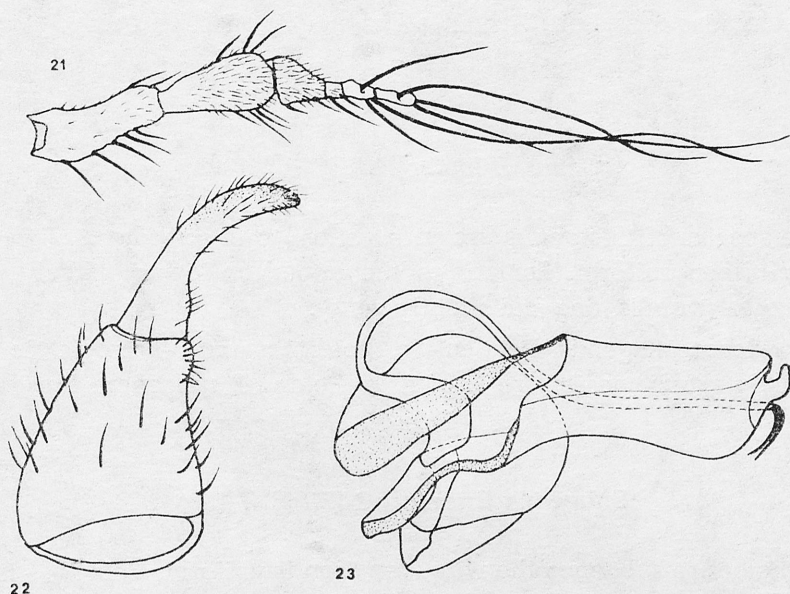
Distribution: till now this species is known only from Carpathians Mts.

Bionomics: similar to *Chionea araneoides* DALMAN.

Material examined: 17 (Babia Góra — at altitudes between 900—1600 m, 1—5.12.1974, 4♂♂, 6♀♀; 2.01.1975, 6♂♂, 3♀♀; 11.02.1976, 4♂♂, 1♀ — leg. W. KRZEMIŃSKI); 21 (Przełęcz Iwaniacka — at altitude of 1450 m, 3♂♂, 1♀, leg. R. WOJTUSIAK; Dolina Jaworzynki — at altitudes between 1070—1200 m, 9.02.1972, 5♂♂, 1♀; Boczań — at altitude of 1200 m — leg. J. WOJTUSIAK; Hala Gąsienicowa 2.03.1976, 7♂♂, 4♀♀, leg. W. KRZEMIŃSKI); (ZZS).

Chionea (Niphadobata) lutescens (LUNDSTROM, 1907)

Chionea lutescens: SZULCZEWSKI, 1947: 16 (5); NABAGŁO, 1973: 269 (10); *Chionea araneoides*: DEMEL, 1924: 117 (4); *Niphadobata lutescens*: KRZEMIŃSKI, 1978: 123 (9, 10, 11a).



Figs. 21—23. *Chionea (Niphadobata) lutescens* (LUNDSTRÖM): 21 — antennae, 22 — basistylus and dististylus, 23 — complex of aedeagus (lateral view)

The species generally very similar to the preceding one. Body length 5.5—6 mm.

Male genitalia (Figs. 22, 23): the row of bristles on hypopygium is lacking. Penis and parameres shaped as described above, excepting the filaments of the penis which are very long and tooth of parameres which is sharp and strongly sclerotized.

Distribution: Palearctic.

Bionomics: the species lives also in lowlands. Other details as in *Chionea araneoides* DALMAN.

Material examined: 10 (Ojców 25.03.1972, 51 specimens, leg. L. NABAGŁO; Skała Kmity near Zabierzów 21.01.1976, 1♀, leg. W. KRZEMIŃSKI); 11a Święty Krzyż (January 1975, 1♂, leg. T. BOJASIŃSKI); 9 (Gołysz near Skoczów, 5.12.1977, 2♂♂, 1♀, leg. W. KRZEMIŃSKI); (ZZS).

TRIBE ERIOPTERINI

Flies of this tribe have mostly 16 segmented antennae, wing venation rather uniform, with 3 medial veins. Venation in three genera differs from the rest: in *Rhabdomastix* SKUSE and *Gonempeda* ALEXANDER where veins R_2 and R_3 are fused over long distance (Figs. 53, 57), and in *Symplectia* MEIGEN where vein A_2 is strongly S-shaped. Macrotrichia rarely present.

Species enclosed here live in all climatic zones. In Poland 8 genera are present.

Genus *Erioptera* MEIGEN, 1803

The species of this genus are pale yellow to dark brown. Wing venation is rather uniform. Sometimes the upper or lower medial vein is branched. A_2 vein is long and slightly wavy.

A widespread genus frequent in Holarctic and Neotropic, in other zones only a few species are known. In Poland 2 subgenera are present.

Subgenus *Erioptera* MEIGEN, 1803

In the entire subgenus the wing venation is uniform. Vein R_{2+3} is very short, R_2 and R_3 long. Discoidal cell is absent. Lower medial vein is branched into M_3 and M_4 . The A_2 vein is long and wavy. The distance between the ends of A_1 and A_2 is nearly the same as the distance between A_1 and Cu .

The subgenus is composed of about 170 species widespread throughout the world, but most of them (about 90) live in Holarctic. In Poland till now 10 species have been found.

Erioptera (Erioptera) divisa (WALKER, 1848)

Erioptera macrophthalma LOEW, 1871: 6 (8).

Body colour pale yellow with palpi and tips of antennae somewhat darker. Eyes large (bigger in males than in the females). Wing 6—9 mm long, yellow tinged.

Male genitalia (Fig. 24): close to the end of basistylus, on its back side a small finger-like hairy lobe is present. Outer dististylus is straight, slightly widened to the end, with blunt tip; inner dististylus slightly bent inwards, with split tip. Penis short, bifid. Parameres are broad, pointed.

Distribution: Europe.

Bionomics: the species flies in damp woods and scrubs. The period of flight is between June and September.

Material examined: 15 (Karpacz 28.07.1979, 6♂♂, 7♀♀), 17 (Żmiąca near Limanowa 29.07.1978, 2♂♂), 20 (Chwała Bogu 15.06.1979, 2♂♂), 21 (Przełom Białki 20.07.1978, 1♂); leg. W. KRZEMIŃSKI; (ZZS).

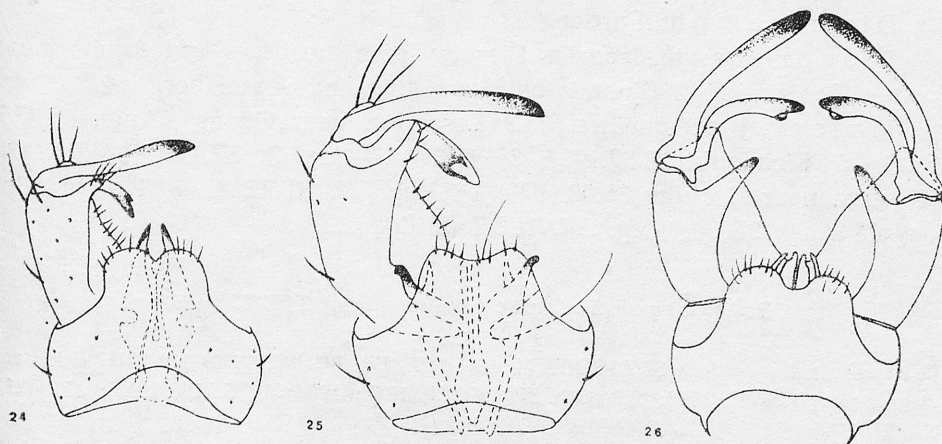


Fig. 24. Male genitalia of *Erioptera (Erioptera) divisa* (WALKER), (after STARÝ)

Fig. 25. Male genitalia of *Erioptera (Erioptera) fuscipennis* MG. (after STARÝ)

Fig. 26. Male genitalia of *Erioptera (Erioptera) fusculeuta* EDWARDS

Erioptera (Erioptera) fuscipennis MEIGEN, 1818

Trichosticha fuscipennis: LOEW, 1870: 160 (21); GRZEGORZEK, 1873: 27 (17). *Erioptera fuscipennis*: BOBEK, 1890: 240 (21); 1894: 166 (18); SZADZIEWSKI, 1983: 64 (5).

Body colour dark brown to nearly black. The head is black with light framed eyes. Antennae are short, dark, with long bristles. Wing 4—6 mm long, is darkened.

Male genitalia (Fig. 25): paler than the abdomen. Finger-like lobe on the basistylus is slender and covered with long bristles. Outer dististylus straight, narrow, tipped bluntly. Inner dististylus sharply bent, widened at the end, provided with two dark small thorns. Penis short, narrow, deeply bifid. Parameres short, pointed each with a blunt, apical process.

Distribution: Europe and North America.

Bionomics: the species flies in damp woods, especially near water.

Erioptera (Erioptera) fusculeuta EDWARDS, 1938

Erioptera (Erioptera) fusculeuta: KRZEMIŃSKI and WIEDENSKA, 1982: 26 (11a).

Species generally resembling the previous one, may be distinguished by the details of genital apparatus.

Male genitalia (Fig. 26): only one small thorn on the inner margin of the inner dististylus is present. Penis widened in the middle. Parameres are narrow, pointed.

Distribution: Europe.

Bionomics: the species flies in damp meadows and scrubs, near water. The period of flight is between June and September.

Material examined: 2 (Leszkowy near Gdańsk, August 1975, 2♂♂); 5 (Siemionki 28.07.1974, 3♂♂, 1♀) — leg. R. SZADZIEWSKI; 10 (Kostrze near Kraków 30.08.1979, 1♂, leg. W. KRZEMIŃSKI); 11a (Cedzyna 22.09.1978, 1♂, leg. J. WIEDENSKA); (ZZS).

Erioptera (Erioptera) gemina TJEDER, 1967

Trichosticha flavescens: GRZEGORZEK, 1873: 27 (17); LOEW, 1870: 160 (21); *Erioptera flavescens*: BOBEK, 1890: 240 (21), NOWICKI, 1867: 199 (21), SACK, 1925: 199 (21), SACK, 1925: 264 (7a), RÜBSAAMEN, 1901: 136 (3).

Body colour yellow. Antennae yellow, darkened to the end, with the bristles somewhat longer than flagellomeres. Wing 5—7 mm long, yellow tinged.

Male genitalia (Fig. 27): basistylus without the finger-like lobe. Outer dististylus strongly widened at the end; inner dististylus provided with the solid, short thorn on its outer side. Penis narrow with the tips curved outwardly. Parameres curved, broad and pointed.

Distribution: Europe.

Bionomics: the species flies in damp woods and scrubs, especially near water. The period of flight is between June and August.

Material examined: 3 (Studzienice 4.07.1978, 2♂♂), 7 (Lipsk 23.07.1976, 5♂♂) — leg. W. KRZEMIŃSKI, (ZZS); 15 (Góry Izerskie 14.07.1960, 1♂, leg. R. BAŃKOWSKA); (IZW).

Erioptera (Erioptera) griseipennis MEIGEN, 1838

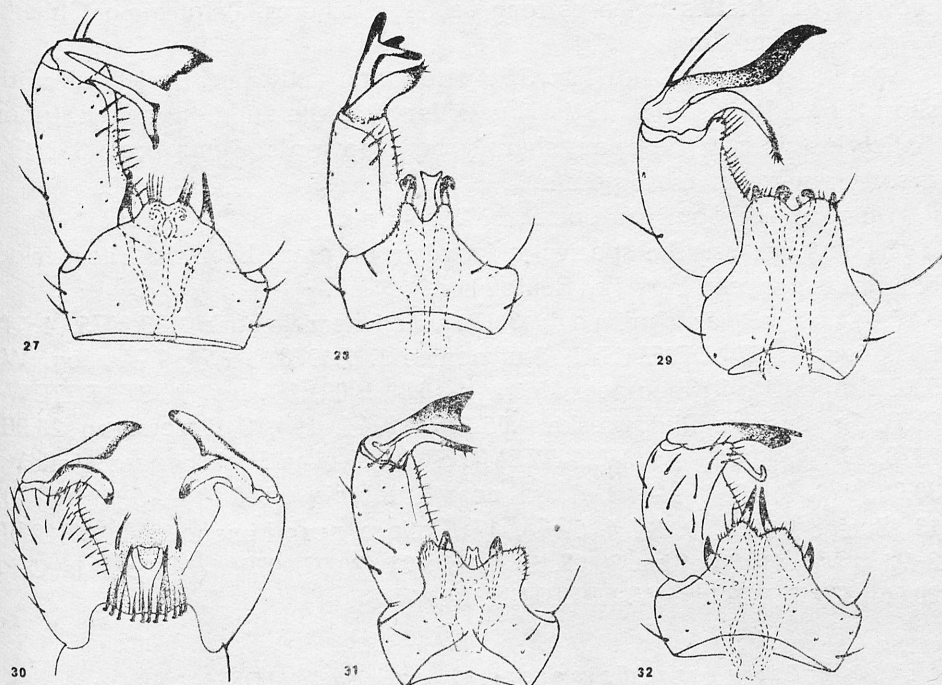
Body colour yellow, with darker head, antennae browned to the end, palpi black. Wings 5—6 mm long, yellow tinged.

Male genitalia (Fig. 28): basistylus with the finger-like lobe. Outer dististylus divided into three divergent arms from near middle; inner dististylus broad and lobe-like. Penis with funnel-like apex. Parameres narrow, pointed, sharply bent towards the back.

Distribution: Europe. New to Poland.

Bionomics: the species is found in woods and scrubs, especially near streams. The period of flight is between May and August.

Material examined: 3 (Wejherowo 8.06.1981, 2♂♂, leg. R. SZADZIEWSKI); 9 (Gołysz near Skoczów 4.08.1976, 8♂♂, 1♀), 17 (Bartne near Gorlice 26.06.1979, 5♂♂, 3♀; Żmiąca near Limanowa 29.07.1978, 4♂♂, 3♀♀), 21 (Bukowina Tatrzńska 20.07.1979, 1♂) — leg. W. KRZEMIŃSKI, (ZZS); 11 (Pińczów 13.06.1957, 1♂), (IZW).



Figs. 27—32. Male genitalia of *Erioptera* (*Erioptera*), (after STARÝ): 27 — *E. (E.) gemina* TJEDER, 28 — *E. (E.) griseipennis* MG., 29 — *E. (E.) limbata* LOEW, 30 — *E. (E.) lutea* MG., 31 — *E. (E.) nigripalpis* GOETGHEBUER, 32 — *E. (E.) sordida* ZETT.

Erioptera (*Erioptera*) *limbata* LOEW, 1873

Erioptera limbata LOEW, 1873: 47 (17).

Body colour yellow-brown with almost black head. Antennae short, not reaching the base of wing. Palpi black. Wing 4.5—6 mm long darkened, especially at the fore margin.

Male genitalia (Fig. 29): basistylus with finger-like lobe. Outer dististylus S-twisted; inner dististylus thin, bent inwards. Penis slender, forked at one third of its length, with the tips folded inwards. Parameres broad, with serrate margins.

Distribution: central and west Europe.

Bionomics: the species is found in scrubs, especially near streams. The period of flight is between May and July.

Erioptera (*Erioptera*) *lutea* MEIGEN, 1804

Erioptera lutea: BOBEK, 1890: 240 (21), BOBEK, 1894: 165 (18); *Trichosticha lutea*: GRZEGORZEK 1873: 26 (17); *Limnobia lutea*: LOEW, 1870: 161 (21).

Body colour variable, from yellow to brown. Head brown, antennae

brown with bristles twice as long as flagellomeres. Palpi almost black. Wing 5—7.5 mm long.

Male genitalia (Fig. 30): paler than abdomen. Basistylus with short, broad lobe. Outer dististylus widened in the middle, pointed. Inner dististylus with acute apex, sharply bent upwards. Penis broad at the base. Parameres narrow, pointed.

Distribution: Europe and Minor Asia.

Bionomics: the species is found in different habitats. The period of flight is between May and September.

Material examined: 3 (Pałubice near Łębork 1.08.1975, 4♂♂, 5♀♀, leg. R. SZADZIEWSKI; Studzienice 1.07.1978, 11♂♂, 7♀♀, leg. W. KRZEMIŃSKI), 4 (Silec near Kętrzyn 16.08.1980, 1♂, leg. R. SZADZIEWSKI), 7a (Puszcza Białowieska 4.05.1967, 2♂♂, 1♀), 8 (Przeworno 26.06.1978, 27♂♂, 11♀♀, leg. W. KRZEMIŃSKI), 10 (Las Wolski near Kraków 30.06.1978, 9♂♂, 11♀♀; Dulowa near Trzebinia 27.08.1979, 5♂♂, 8♀♀), 13 (Susiec 9.08.1979, 3♂♂, 5♀♀), 17 (Żmiąca near Limanowa 29.07.1978, 2♂♂, 4♀♀), 19 (Wetlina 30.07.1978, 1♂), 21 (20.07.1979, 1♂; Morskie Oko 29.06.1979, 7♂♂); leg. W. KRZEMIŃSKI, (ZZS).

Erioptera (Erioptera) longicauda LOEW, 1871

This species was reported by LOEW (1871) from Poland (Beskid Zachodni Mts), but the description given is that of female and is not sufficient for distinguishing it from other species of this genus.

Erioptera (Erioptera) nigripalpis GOETGHEBUER, 1920

Body colour yellow. Antennae yellow, brown to the end. Wing 5.5—7 mm long, yellow tinged.

Male genitalia (Fig. 31): basistylus without the finger-like lobe. Outer dististylus extremely widened apically, and one of the three lobes replaced by a small tooth; inner dististylus slender, bent in the middle and tipped bluntly. Parameres narrow, bifid and strongly curved upwards.

Distribution: central and north Europe. New to Poland.

Bionomics: the species is found in scrubs, especially near water. The species is known to fly from May till June.

Material examined: 20 (Krościenko 15.06.1979, 3♂♂, leg. W. KRZEMIŃSKI), (ZZS).

Erioptera (Erioptera) sordida ZETTERSTEDT, 1838

Body colour grey. Head almost black, very big eyes. Antennae dark brown, with bristles somewhat shorter than their supporting segments. Palpi almost black. Wing 6—7.5 mm long, brown tinged.

Male genitalia (Fig. 32): paler than abdomen. Basistylus with broad, finger-like lobe. Outer dististylus widened at the end, with acute process; inner dististylus narrow, with hooked tip. Penis slender almost completely bifid. Parameres sharp, wide, arcuated.

Distribution: central and north Europe. New to Poland.

Bionomics: the species flies in damp woods. The period of flight is between June and August.

Material examined: 2 (Celbrow near Puck 23.06.1975, 2♂♂, leg. R.SZADZIEWSKI), (ZZS).

Subgenus *Mesocyphona* OSTEN-SACKEN, 1869

Subgenus rather heterogeneous composed of a few species. Wing venation like in subgenus *Erioptera* MG., except that: Sc_2 is placed near the fork of R_1 and Rs ; upper medial vein branched into M_{1+2} and M_3 . Vein A_2 shorter than in *Erioptera*, slightly wavy in the distal part only. The distance between A_1 and A_2 at wing margin nearly twice as long as between A_1 and Cu . The discoidal cell may be open.

In Poland two species are known.

Erioptera (*Mesocyphona*) *bivittata* (LOEW, 1873)

Rhypholophus bivittatus LOEW, 1873: 41 (17 and 8); SZADZIEWSKI, 1983: 64 (2).

Body colour brown; head almost black. Antennae brown with bristles slightly longer than their supporting segments. Wing 5—6 mm long, brown tinged, with numerous macrotrichia. Discoidal cell closed.

Male genitalia (Fig. 33): outer dististylus narrow, slightly bent at the tip and pointed, with serrate outer margin; inner dististylus narrow,

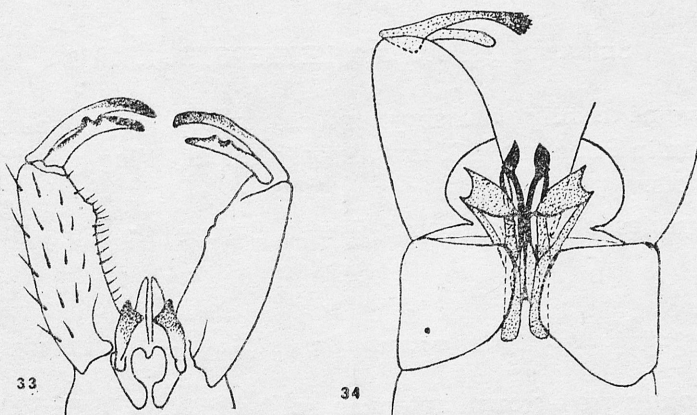


Fig. 33. Male genitalia of *Erioptera* (*Mesocyphona*) *bivittata* (LOEW), (after STARÝ)

Fig. 34. Male genitalia of *Erioptera* (*Mesocyphona*) *fossarum* (LOEW)

arcuated and with two small teeth on the outer margin of its central part. Penis short and broad. Parameres broad.

Distribution: central and north Europe.

Bionomics: the period of flight is between May and August.

Material examined: 2 (Kiezmark near Gdańsk 7.08.1975, 2♂♂, leg. R. SZADZIEWSKI), (ZZS).

Erioptera (Mesocyphona) fossarum (LOEW, 1973)

Mesocyphona fossarum LOEW, 1873: 51 (8).

Body colour black, with brown legs. Head black. Antennae black, with bristles as long as their supporting segments. Wing 6—7 mm long, brown tinged, without macrotrichia.

Male genitalia (Fig. 34): 9th tergite expanded backwards. Outer dististylus rod-shaped; inner dististylus short, tipped bluntly. Penis narrow, deeply bifid. Parameres broad, short.

Distribution: central Europe.

Bionomics: the species flies in damp scrubs and meadows. The period of flight is between May and July.

Genus *Symplecta* MEIGEN, 1804

Wing venation like in genus *Erioptera* MG., excepting shape of vein A_2 , which is either straight (*Psiloconopa* ZETT.), or strongly sinuous (*Symplecta* MEIG.). Discoidal cell mostly closed.

In Poland two subgenera present.

Subgenus *Psiloconopa* ZETTERSTEDT, 1838

Wing veins usually with short and scanty bristles on veins. Vein A_2 shorter than in *Erioptera* MG. and almost straight. Wing membrane clear, without spots.

Four species of this subgenus live in Europe. In Poland 1 species present.

Symplecta (Psiloconopa) pusilla (SCHINNER, 1865)

Body colour grey-brown; antennae and palpi black. Wing 4 mm long, grey tinged. Discoidal cell usually closed (sometimes may be open).

Male genitalia (Fig. 35): outer lateal margin of basistylus

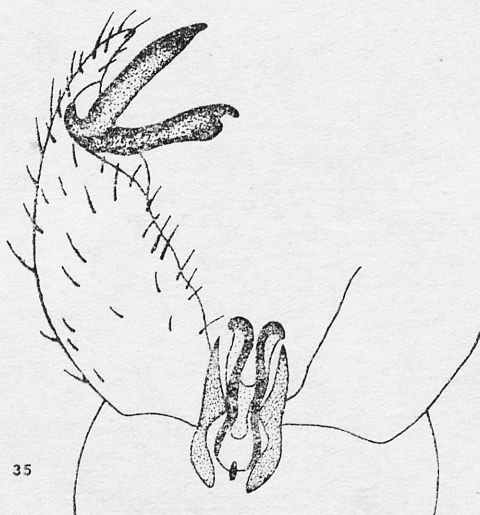


Fig. 35. Male genitalia of *Symplecta (Psiloconopa) pusilla* (SCHINNER)

expanded and partly covering both dististyli. Outer dististylus short, broad, sickle-shaped; inner dististylus short, broad and strongly sclerotized. Penis short, broad, deeply bifid. Parameres narrow, pointed.

Distribution: central and west Europe. New to Poland.

Bionomics: the species is found near bigger streams. The period of flight is between April and July.

Material examined: 11 (Krzyżanowice near Pińczów 28.04. 1957, leg. exped.- PAN, 1♂, 1♀), (IZW).

Subgenus *Symplecta* MEIGEN, 1804

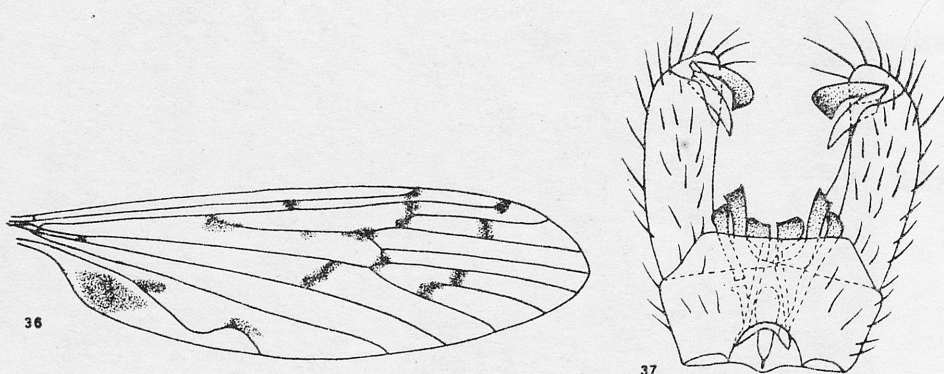
Wing veins nearly bare. Vein A_2 very strongly sinuous distally (Fig. 36). Wing membrane spotted.

The subgenus comprises 12 species living mainly in Holarctic, two species are known from Neotropical region and two from mountainous areas of Oriental region. In Poland two species are known.

Symplecta (Symplecta) hybrida (MEIGEN, 1804)

Symplecta punctipennis: BOBEK, 1893: 26 (10), GRZEGORZEK, 1873: 27 (17), NOWICKI, 1865: 74, 1873: 17 (10, 17, 18); *Limnobia punctipennis*: SCHUMMEL, 1829: 157 (8); *Symplecta hybrida*: SAKWA, 1962: 20 (5); SZADZIEWSKI, 1983: 64 (4).

Body colour dark brown; head and antennae almost black. Flagellomeres oval, bristles shorter than flagellomeres. Wing 6—7 mm long, brown tinged, spotted, with black tinged veins. An extra cross vein in cell R_2 (Fig. 36).



Figs. 36—37. *Symplecta (Symplecta) hybrida* MG.: 36 — wing, 37 — male genitalia

Male genitalia (Fig. 37): basistylus long, widened toward the end. Outer dististylus broad, short with the inner margin prolonged into sharp tooth; inner dististylus arcuated, short, pointed. Penis short, bifid, ending with broad lobes. Parameres narrow, widened to the end, black margin serrate.

Distribution: Palaearctic.

Bionomics: the species is found in different habitats. The period of flight is between April and September.

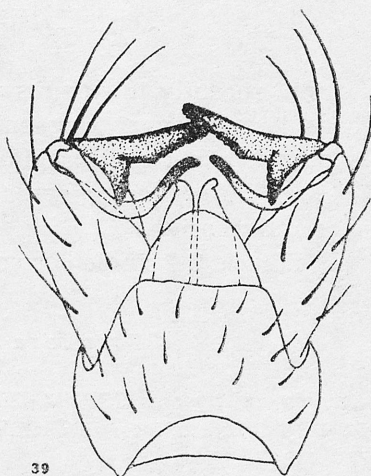
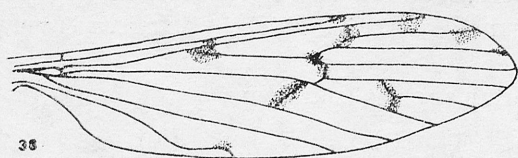
Material examined: 4 (Rubcowo near Augustów 22.07.1977, 4♂♂, leg. R. SZADZIEWSKI), (ZZS); 6 (Warszawa — Pole Mokotowskie 11.07.1945, 1♂, leg. J. PUŃSKA; Koło near Piaseczno 13.06.1958, 2♂♂, 1♀, leg. M. MROCZKOWSKI; Nowy Dwór Mazowiecki 23.05.1962, 1♂, 1♀, leg. J. KRZEMIŃSKI), (IZW); 9 (Gołysz near Skoczów 4.08.1979, 9♂♂, 11♀♀, leg. W. KRZEMIŃSKI); 10 (Tyniec near Kraków 11.05.1977, 7♂♂, 6♀♀; Kostrze near Kraków 30.08.1979, 4♂♂, 9♀♀); 11 (Pinczów 28.05.1978, 6♂♂, 2♀♀); 17 (Ciężkowice near Gorlice 26.06.1979, 1♂, 2♀♀); leg. W. KRZEMIŃSKI, (ZZS).

Symplecta (Symplecta) stictica (MEIGEN, 1818)

Limnobia similis SCHUMMEL, 1829: 156 (8); *Limnobia stictica*: SCHUMMEL, 1829: 155 (8); *Symplecta similis*: BOBEK, 1893: 26 (10); *Symplecta stictica*: GRZEGORZEK, 1873: 27 (17), NOWICKI, 1873: 17 (10, 17); SZADZIEWSKI, 1983: 64 (2, 5).

Body colour dark brown, head almost black. Basal antennal segments dark brown, flagellum yellowish brown, with bristles shorter than flagellomeres. Legs light brown. Wing 6—7 mm long, yellow tinged with dark spots, no extra cross-vein in cell R_2 (Fig. 38).

Male genitalia (Figs. 39, 40, 41): basistylus of even width over entire length. Outer dististylus divided in two wide lobes at right angles; inner dististylus long, narrow, curved into a hook. Penis bifid over its



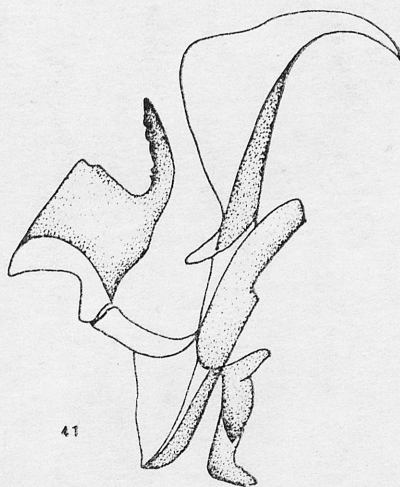
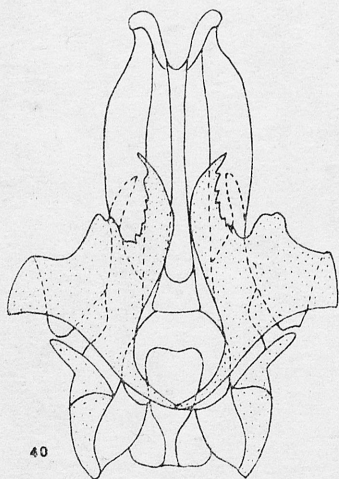
Figs. 38—39. *Symplecta (Symplecta) stictica* (MG.): 38 — wing, 39 — male genitalia

entire length in the middle part conspicuously widened. Parameres broad, with inner margin serrate, and a single hooked tooth.

Distribution: Holarctic.

Bionomics: the species is found in woods and scrubs, especially near water. The period of flight is between May and October.

Material examined: 2 (Kiezmark near Gdańsk 7.08.1975, 3♂♂, 1♀; Górki Wschodnie near Gdańsk, 18.08.1977, 2♂♂), 5 (Ciechocinek 17.06.1972, 1♂, 1♀; Toruń — Las Piwnicki 23.07.1972, 1♂) — leg. R. SZADZIEWSKI, (ZZS); 14 (Tarnobrzeg 19.09.1961, 1♂, leg. S. KOZIOŁ, (IZW); 17 (Żmiąca near Limanowa 29.07.1978, 4♂♂, 3♀♀, leg. W. KRZEMIŃSKI, (ZZS).



Figs. 40—41. *Symplecta (Symplecta) stictica* (MG.): 40 — complex of aedeagus (dorsal view), 41 — complex of aedeagus (lateral view)

Genus *Trimicra* OSTEN-SACKEN, 1861

Until recently this genus was regarded as subgenus of *Erioptera* MG. Three last antennal segments very small. Wing venation is like in *Psiloconopa*, but the discoidal cell is closed and A_2 short and straight. The main difference concerns the male genitalia which in *Trimicra* is very large and massive.

In Europe the single cosmopolitan species is known.

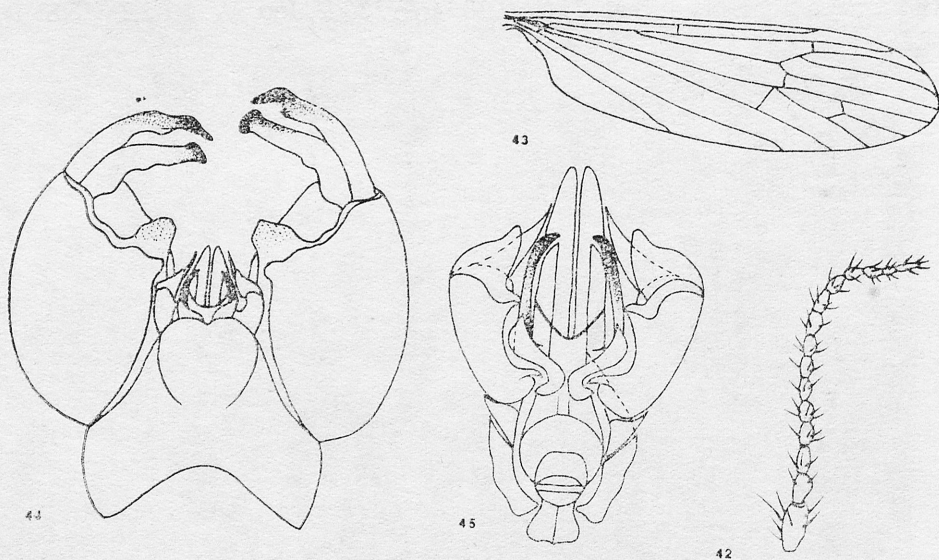
Trimicra pilipes (FABRICIUS, 1787)

Limnobia umbripennis SCHUMMEL, 1829: 149; *Limnobia fimbriata*: SCHUMMEL, 1829: 152 (8); *Trimicra pilipes*: GRZEGORZEK, 1873: 27 (17); *Gnophomyia pilipes*: NOWICKI, 1869: 148 (21).

Body colour dark brown; head, antennae and palpi black. Antennae long, bristles shorter than flagellomeres (Fig. 42). Wing (Fig. 43) 6—12 mm long, brown tinged.

Male genitalia (Figs. 44, 45): basistylus short and very broad, with tubercle on the inner dorsal margin. Outer dististylus pointed, with blunt tooth on the end of the inner margin; inner dististylus curved, widened at the end. Penis widened in the middle, bifid over its entire length. Parameres as in fig. 45.

Distribution: Palaearctic.



Figs. 42—45. *Trimicra pilipes* (FABR.): 42 — antenna, 43 — wing, 44 — male genitalia, 45 — complex of aedeagus (dorsal view)

Bionomics: the species flies in damp scrubs and meadows, especially near water. The period of flight is between June and September.

Material examined: 2 (Karwia near Puck 25.08.1958, 1♂, leg. R. Bielawski), (IZW); (Kieźmark near Gdańsk 7.08.1975, 4♂♂, 1♀♀, leg. R. SZADZIEWSKI); 5 (Toruń 23.07.1972, 3♂♂, 3♀♀); 19 (Ustrzyki Górne 23—30.07.1980, 2♂♂); leg. R. SZADZIEWSKI, (ZZS).

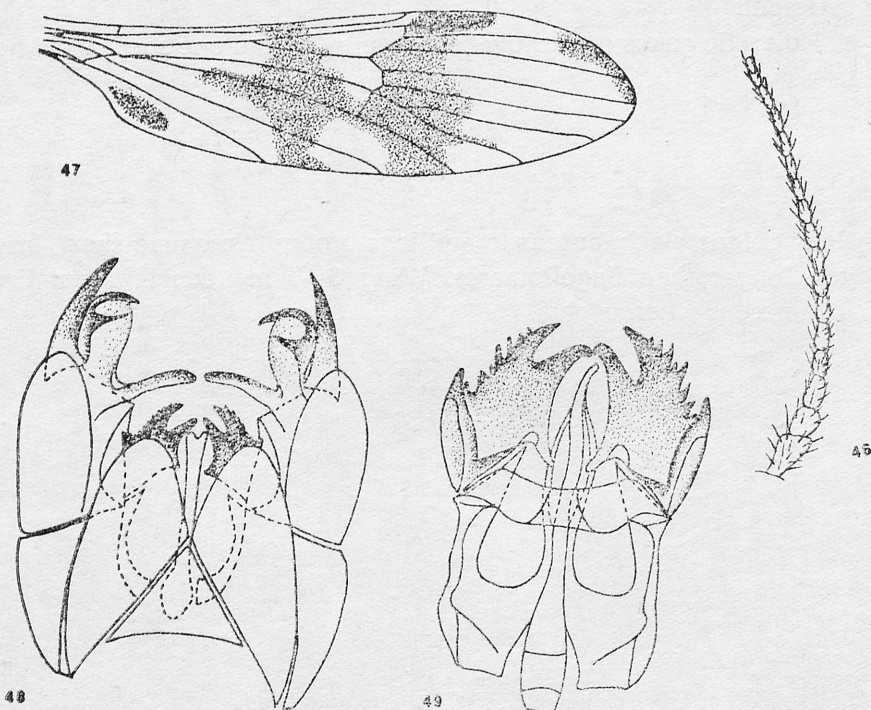
Genus *Arctoconopa* ALEXANDER, 1955

Until recently this genus was regarded as a subgenus of *Erioptera* MG., basing on similar wing venation, however its male genitalia are distinctly different. Wings without macrotrichia, discoidal cell open, vein A_2 straight. Penis not bifid.

This genus comprises 20 species distributed in Holarctic. In Poland one species is known.

Arctoconopa melampodia (LOEW, 1873)

Acyphona melampodia LOEW, 1873: 48 (5, 17); *Trichosticha melampodia*: GRZEGORZEK, 1873, 27 (17).



Figs. 46—49. *Arctoconopa melampodia* (LOEW): 46 — antenna, 47 — wing, 48 — male genitalia, 49 — complex of aedeagus

Body colour black. Flagellomeres broad with bristles not longer than flagellomeres (Fig. 46). Wing (Fig. 47) 6—7 mm long, with broad dark bars and black veins.

Male genitalia (Figs. 48, 49): basistylus short, broad. Outer dististylus short, arcuated, pointed; inner dististylus as in Fig. 48. Penis very narrow, S-curved. Parameres very broad, with comb-shaped margins.

Distribution: north, west and central Europe.

Bionomics: the species flies near streams. The period of flight is between May and July.

Material examined: 11a (Marzysz 20.05.1978, 1♂, leg. J. WIĘDŃSKA), (ZZS).

Genus *Scleroprocta* EDWARDS, 1938

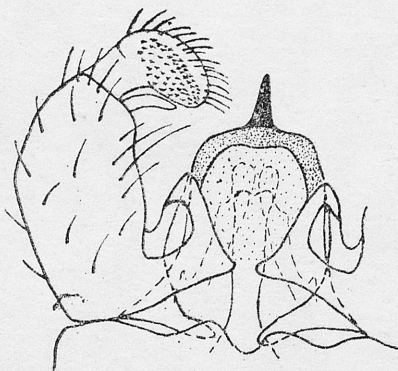
Until recently, this genus was regarded as a subgenus of *Ormosia* ROND. because of a great similarity in wing venation and the presence of numerous macrotrichia on the wing membrane. However, it might be distinguished in having the male genital apparatus not twisted, and proctiger being strongly sclerotized. Discoidal cell closed, vein A_2 short and straight.

A Holarctic genus enclosing 7 species. In Poland one species is known.

Scleroprocta pentagonalis (LOEW, 1873)

Rhypholophus pentagonalis LOEW, 1873: 46 (5, 8).

Body colour black, antennae and legs brown. Antennae short, bristles a little longer than flagellomeres. Wing 6—7 mm long, brown tinged, with numerous macrotrichia.



50

Fig. 50. Male genitalia of *Scleroprocta pentagonalis* (LOEW)

Male genitalia (Fig. 50): basistylus short, broad. Outer dististylus short, strongly widened apically; inner dististylus small, narrow, slightly bent. Penis short, narrow. Parameres narrow, pointed, slightly longer than penis. Proctiger broad, ending with strongly sclerotized thorn.

Distribution: north, west and central Europe.

Bionomics: the species flies near streams. The period of flight is between May and July.

Genus *Rhabdomastix* SKUSE, 1890

Body colour varies from yellow to dark brown. Veins R_2 and R_3 are fused over long distance and the end of R_2 nearly perpendicular to R_3 . Discoidal cell closed. Male genitalia with long, narrow basistylus and rod-like outer dististyli.

This genus comprises 3 subgenera, two of them living in Poland.

Subgenus *Paleogonomyia* MEUNIER, 1899

This subgenus was identified in Baltic amber, later species were found in central Europe and east Asia (ALEXANDER 1935). Species of this subgenus are characterized by very long antennae, exceeding half of body length, their segments being very long. Discoidal cell closed, vein A_2 short and almost straight.

In Poland 1 species is known.

Rhabdomastix (Paleogonomyia) hirticornis LACKSCHEWITZ, 1940

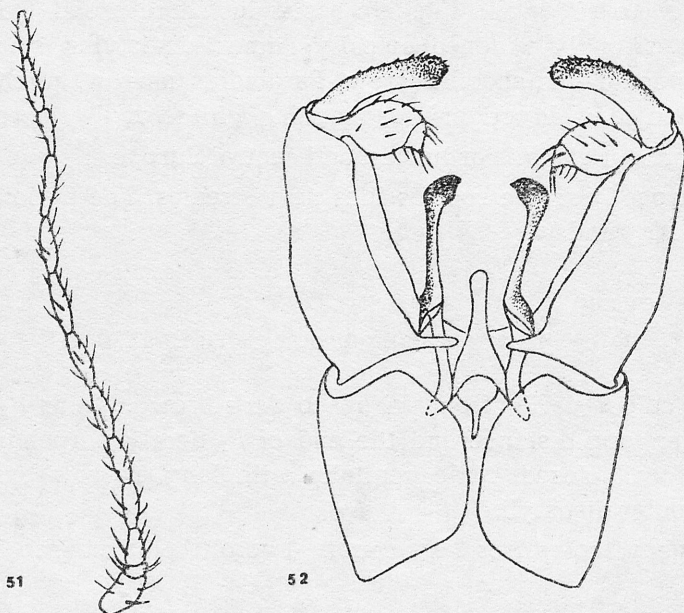
Body colour brown. Antennae (Fig. 51) almost of body length, flagellomeres cylindrical, longer than basal segments, bristles shorter than half of flagellomere. Wing 5—6.5 mm long, brown tinged.

Male genitalia (Fig. 52): basistylus long, narrow. Outer dististylus small, rod-like; inner dististylus short, broad. Penis narrow, somewhat widened apically. Parameres long, narrow, widened to the end.

Distribution: central and south Europe. New to Poland.

Bionomics: the species is found in scrubs especially near streams. The period of flight is between May and August.

Material examined: 17 (Kasinka Mała near Limanowa 27.06. 1970, 1♂, leg. K. KOWNACKI), (ZZS).



Figs. 51—52. *Rhabdomastix* (*Paleogonomyia*) *hirticornis* LACKSCH.: 51 — antennae, 52 — male genitalia

Subgenus *Sacandaga* ALEXANDER, 1911

Wing venation like in the preceding subgenus. Characteristic for this subgenus are antennae shorter than half body length, with small segments.

This subgenus comprises numerous species, widely distributed over Europe, Asia, North America and Africa. In Poland probably two species are present.

Rhabdomastix (*Sacandaga*) *laeta* (LOEW, 1873)

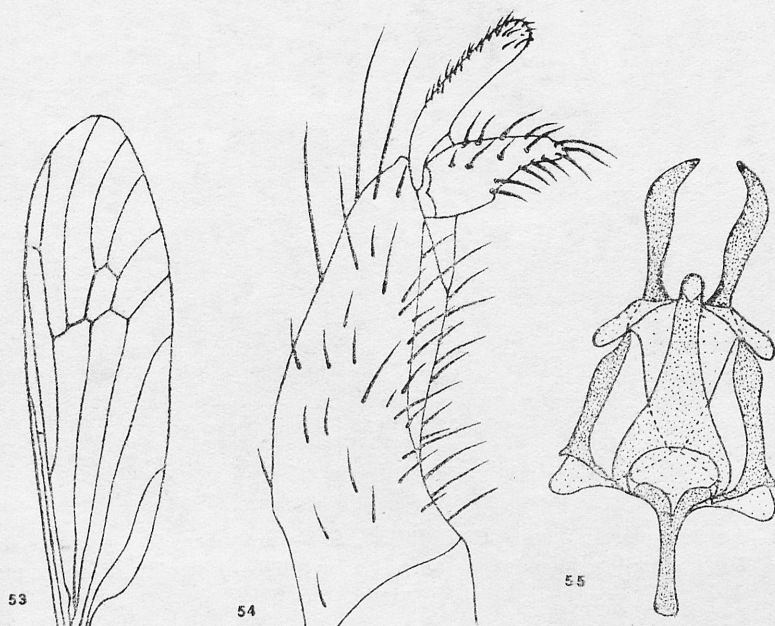
Body colour yellow, with head, antennae and palpi brown. Flagellomeres small, bristles shorter than flagellomere. Wing (Fig. 53) 5.5—6 mm long, yellow tinged.

Male genitalia (Figs. 54, 55): basistylus narrow. Outer dististylus short, rod-like; inner dististylus lobe-like with firm bristles at the itp. Penis narrow, short. Parameres long, narrow.

Distribution: Europe. New to Poland.

Bionomics: the species flies near streams. The period of flight is between June and August.

Material examined: 13 (Susiec 9.08.1979, 1♂), 17 (Uście Gorlickie near Gorlice 15.08.1978, 1♂); leg. W. KRZEMIŃSKI, (ZZS).



Figs. 53—55, *Rhabdomastix* (*Sacandaga*) *laeta* (LOEW): 53 — wing, 54 — male genitalia, 55 — complex of aedeagus

Rhabdomastix (*Sacandaga*) *schistacea* (SCHUMMEL, 1829)

This species was reported from Poland, Śląsk (*Limnobia schistacea* SCHUMMEL, 1829: 146). A description given is not sufficient for distinguishing it from others species of this genus.

Genus *Gonempeda* ALEXANDER, 1924

The species of this genus are yellow. Second antennal segment larger than others. Veins R_2 and R_3 are fused over long distance; cross vein r present; discoidal cell closed. Hypopygium not inverted.

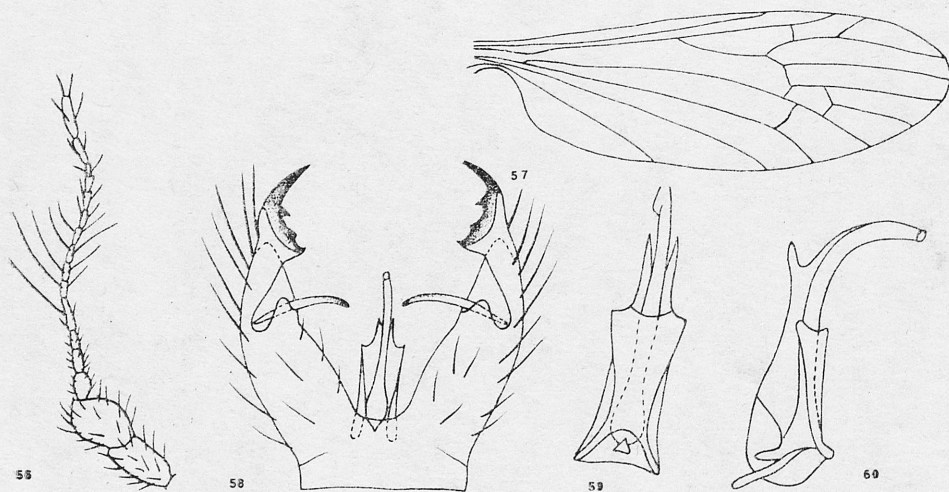
Genus distributed in Holarctic. One species lives in Europe, reported also from Poland.

Gonempeda flava (SCHUMMEL, 1829)

Limnobia flava SCHUMMEL, 1829: 148 (8).

Body colour pale yellow. Head black. Antennae (Fig. 56) light brown, bristles longer than flagellomeres. Wing (Fig. 57) mm long, yellow tinged.

Male genitalia (Figs. 58, 59, 60): basistylus narrow. Outer



Figs. 56—60. *Gonempeda flava* (SCHUMMEL): 56 — antennae, 57 — wing, 58 — male genitalia, 59 — complex of aedeagus (dorsal view), 60 — complex of aedeagus (lateral view)

dististylus big, strongly widened in its apical part, the dorsal margin provided with big teeth; inner dististylus long, narrow. Penis short, narrow, sharply bent toward the back, with two acute processes localized in the place of bending. Parameres fused into small plate.

Distribution: Europe.

Bionomics: the species is found near streams. The period of flight is between May and July.

Material examined: 2 (Gdańsk — Babi Dół 16.07.1980, 1♂, leg. R. SZADZIEWSKI), 10 (Mydlniki near Kraków 30.06.1976, 2♂♂, 1♀), 17 (Dragaszów near Gorlice 15.08.1978, 1♂, 2♀♀; Cieżkowice 26.06.1979, 2♂♂); leg. W. KRZEMIŃSKI, (ZZS).

TRIBE MOLOPHILINI

Flies of this tribe have the antennae structure as in *Eriopterini*. Also wing venation resembles the preceding tribe. However, in *Molophilini* macrotrichia are often present on the wing membrane. A very characteristic feature of this tribe is the male genital apparatus twisted from 45° to 180°. Two genera (*Tasiocera* SKUSE and *Molophilus* CURTIS) differ from the others in having parameres modified. Besides, in *Tasiocera* only one dististylus is present.

The tribe comprise numerous species living in all climatic zones. In Poland 8 genera are present.

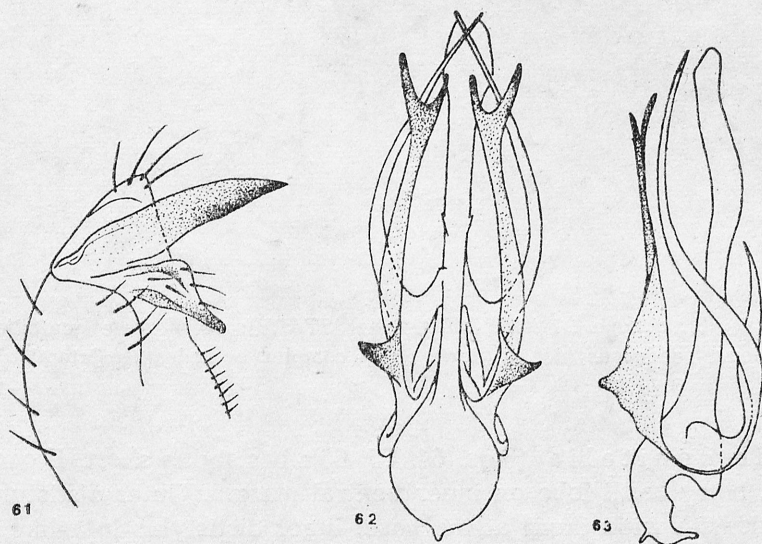
Genus *Erioconopa* STARÝ, 1976

This genus is generally similar to genera *Erioptera* MG. and *Arctocnopa* ALEX., but their male genital apparatus is twisted from 45° to 90° (STARÝ 1976). Wing venation resembling that in *Erioptera* MG. In some species discoidal cell is closed. Penis is straight and not divided. Parameres long and thin.

This genus comprises 6 species living in Palaearctic. In Poland 2 species stated by me.

Erioconopa diuturna (WALKER, 1848)

Body colour dark grey brown. Head dark brown; flagellomeres oval, with bristles shorter than flagellomeres. Wing 5—6 mm long, brown tinged, narrow. Discoidal cell open; vein A_2 long and slightly wavy.



Figs. 61—63. *Erioconopa diuturna* (WALKER), (after STARÝ): 61 — male genitalia, 62 — complex of aedeagus (dorsal view), 63 — complex of aedeagus (lateral view)

Male genitalia (Figs. 61, 62, 63): basistylus short, broad, without processes. Outer dististylus short, broad, slightly bent in third part of its length. Inner dististylus lobe-like. Penis long, narrow, with flat, widened apex. Parameres bifid at the base; inner arm broad with bifid apices, outer arm long, narrow, slightly exceeding the tip of the penis.

Distribution: Europe. New to Poland.

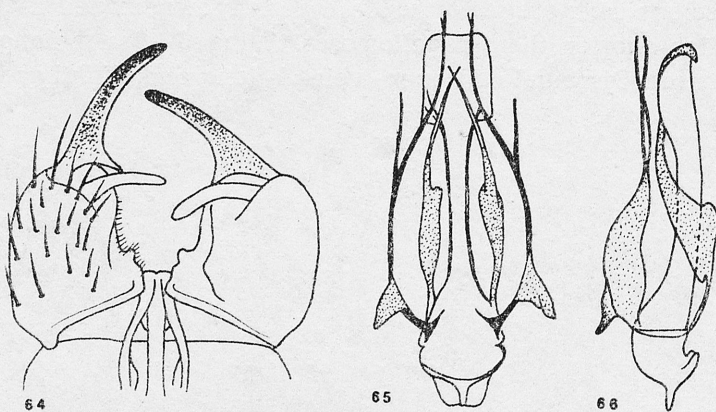
Bionomics: the species is found in damp, mixed forests. The period of flight is between September and October.

Material examined: 10 (Puszcza Dulowska near Trzebinia 23. X.1977, 8♂♂, leg. W. KRZEMIŃSKI), (ZZS).

Erioconopa trivialis (MEIGEN, 1818)

Limnobia ciliaris SCHUMMEL, 1829: 151 (8); *Trichosticha trivialis*: GRZEGORZEK, 1873: 27 (17); *Erioconopa trivialis*: SZADZIEWSKI, 1983: 64 (3).

Body colour dark greyish brown. Head and antennae black. Wing 5—7.5 mm long, brown tinged. Discoidal cell mostly closed, but sometimes open; vein A_2 long and slightly wavy.



Figs. 64—66. *Erioconopa trivialis* (MG.), (after STARÝ): 64 — male genitalia, 65 — complex of aedeagus (dorsal view), 66 — complex of aedeagus (lateral view)

Male genitalia (Figs. 64, 65, 66): basistylus short, broad, with a small, hairy basal lobe on inner ventral margin. Outer dististylus big, arcuated, with wide thorn at the base; inner dististylus lobe-like, small. Penis short, narrow, with flat widened apex. Parameres bifid from the base, not reaching the tip of the penis.

Distribution: Europe.

Bionomics: the species flies in damp woods and scrubs, especially near water. The period of flight is between April and October.

Material examined: 2 (Szczecin 1.10.1916, 1♂, leg. E. HONAUJ, (IZW); 3 (Pałubice near Łębork 1.08.1975, 1♂, leg. R. SZADZIEWSKI); 5 (Tuszyn near Łódź 3.08.1980, 2♂♂, leg. B. SOSZYŃSKI), (ZZS); 7 (Białowieża 22.09.1959, 1♂, leg. E. KIERUCH), (IZW); 10 (Kostrze near Kraków 30.08.1979, 6♂♂, 3♀♀); 14 (Puszcza Niepołomska near Bochnia 8.05.1976, 3♂♂, 2♀♀) — leg. W. KRZEMIŃSKI; 11a (Zagnańsk 19.05.1977, 2♂♂, 1♀, leg. J. WIEDENSKA); (ZZS).

Genus *Cheilotrichia* ROSSI, 1848

This genus comprises small species. Second antennal segment large (as in *Gonempeda* ALEX.). Characteristic feature in wing venation is fusion of veins R_2 and R_3 over long distance, with cross vein r present. Discoidal cell may be open or closed, vein A_2 straight. Outer dististylus with one or several additional processes mainly on inner margin.

About 100 species of this genus are enclosed in few subgenera. Species of *Cheilotrichia* ROSSI in Poland belong to 2 subgenera.

Subgenus *Cheilotrichia* ROSSI, 1848

Cross-vein r placed far before fork of R_2 and R_3 ; Sc_2 at end of Sc . Discoidal cell closed. Pteropleurites with bristles.

Sixteen species of this subgenus live in Holarctic, Oriental and Ethiopian Region. In Poland 1 species known.

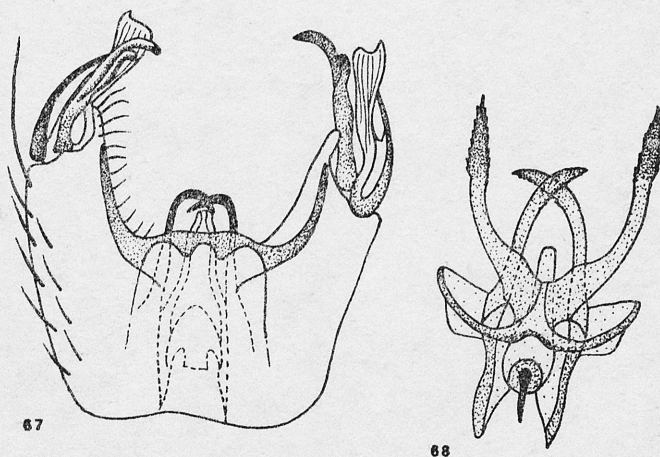
Cheilotrichia (*Cheilotrichia*) *imbuta* (MEIGEN, 1818)

Trichosticha imbuta: GRZEGORZEK, 1873: 27 (17); LOEW, 1870: 160 (21).

Body colour pale yellow, with black eyes, palpi and scape of antennae. Legs with black bars. Wing 3.5—4 mm long, yellow tinged.

Male genitalia (Figs. 67, 68): basistylus narrow. Outer and inner dististyli are bifid. Penis short, broad. Inner parameres narrow, bent to inside. Outer parameres long, wide at the base, slightly arcuated, their third distal parts widened, outer and inner margins are serrate.

Distribution: Palaearctic.



Figs. 67—68. *Cheilotrichia* (*Cheilotrichia*) *imbuta* (MG.): 67 — male genitalia (after STARY), 68 — complex of aedeagus

Bionomics: the species flies near streams. The period of flight is between May and August.

Material examined: 2 (Brzyno near Żarnowiec 8.07.1980, 10♂♂, leg. R. SZADZIEWSKI); 3 (Wielkie Swornigacie 8.07.1978, 9♂♂, 4♀♀, leg. W. KRZEMIŃSKI); 4 (Węgorzewo 13.06.1980, 2♂♂, 7♀♀, leg. R. SZADZIEWSKI); 10 (Mydlniki near Kraków 30.06.1979, 3♂♂, 1♀); 13 (Susiec 9.08.1979, 7♂♂, 3♀♀); 15 (Karpacz 28.07.1979, 2♂♂); 17 (Żmiąca nar Limanowa 29.07.1978, 5♂♂; Ciężkowice near Gorlice 26.06.1979, 2♂♂, 3♀♀) — leg. W. KRZEMIŃSKI; 19 (Wetlina near Cisna, July 1979, 1♂, leg. M. SZEWCZYK); (ZZS).

Subgenus *Empeda* OSTEN-SACKEN, 1869

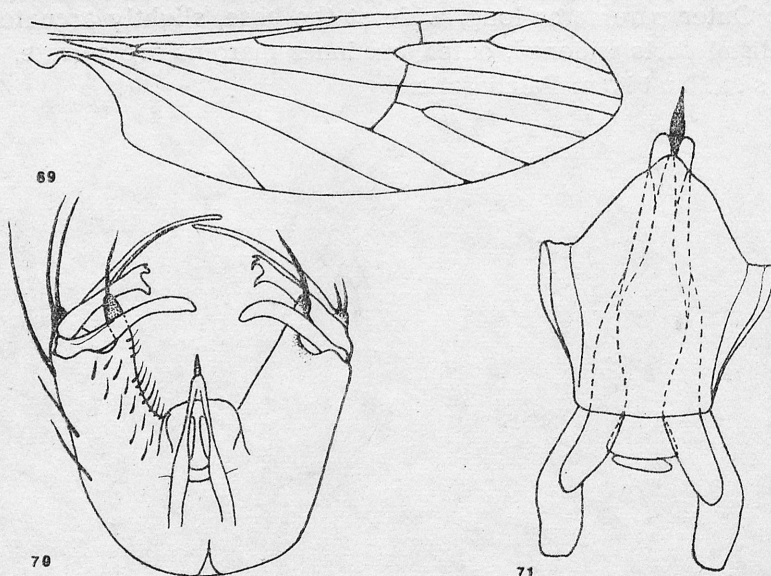
Wing venation only slightly different from that of the preceding subgenus. Vein Sc_2 situated before the end of Sc_1 , discoidal cell open, vein A_2 short. Pteropleurites without bristles.

Subgenus composed of 85 species distributed throughout Palaearctic. In Poland 1 species known.

Cheilotrichia (Empeda) cinerascens (MEIGEN, 1804)

Limnobia nubila SCHUMMEL, 1829: 147 (8).

Body colour dark brown. Head dark grey; antennae and palpi black. Wing 5—7 mm long, brown tinged (Fig. 69).



Figs. 69—71. *Cheilotrichia (Empeda) cinerascens* (MG.): 69 — wing, 70 — male genitalia (after STARÝ), 71 — complex of aedeagus

Male genitalia (Figs. 70, 71): outer dististylus narrow, pointed with a short tridentate branch arising near base. Inner dististylus lobe-like. Penis short, broad, with sharp process at the end. Parameres are fused.

Distribution: Europe.

Bionomics: the species is found in different habitats. The period of flight is between April and September.

Material examined: 4 (Silec near Kętrzyn 2.05.1980, 10♂♂, 1♀, leg. R. SZADZIEWSKI); 5 (Męcikał 9.07.1978, 1♀); 10 (Skala Kmity near Zabierzów 9.10.1977, 12♂♂, 3♀♀; Kostrze near Kraków 11.10.1977, 7♂♂, 9♀♀; Dulowa near Trzebinia 7.10.1978, 19♂♂, 11♀♀); 14 (Nowy Wiśnicz near Bochnia 1.05.1977, 1♂; Puszcza Niepołomska — Stanisławice 14.05.1978, 7♂♂, 2♀♀); 17 (Zawoja 7.09.1977, 2♂♂, 1♀; Bartne near Gorlice 15.08.1978, 1♂, 3♀♀; Żmiąca near Limanowa 29.07.1978, 8♂♂, 11♀♀; Ciężkowice near Gorlice 26.06.1979, 15♂♂, 3♀♀; Mucharz near Wadowice 31.04.1978, 1♂; Myślenice near Kraków 11.09.1979, 8♂♂, 1♀); 19 (Wetlina near Cisna 23.07.1978, 1♂, 2♀♀); 20 (Wysoka 24.08.1979, 11♂♂, 7♀♀); 21 (Pawlikowski Wierch 20.07.1979, 6♂♂, 2♀♀); leg. W. KRZEMIŃSKI, (ZZS).

Genus *Ilisia* RONDANI, 1856

Wings with numerous dark spots. Wing venation is similar as in the genus *Erioptera* MG., but discoidal cell is long, closed; vein A_2 short and straight. The wing membrane is without macrotrichia. Hopopygium twisted. Outer dististylus without additional processes.

Not numerous Holarctic genus. In Poland 2 species are present.

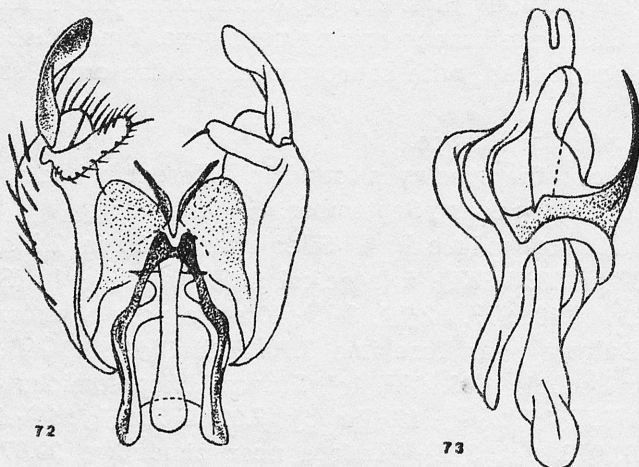
Ilisia maculata (MEIGEN, 1804)

Trichosticha maculata: GRZEGORZEK, 1873: 27 (17); LOEW, 1870: 160 (21); *Erioptera maculata*: BOBEK, 1894: 165 (18); NOWICKI, 1873: 16 (17, 18, 21); *Ilisia maculata*: SAKWA, 1962: 20 (5).

Body colour dark brown with darker head and palpi. On legs dark bars are present. Wing length 7—9 mm, with the numerous dark spots having more or less obviously paler centres.

Male genitalia (Figs. 72, 73): ventral side of the base of basistylus expanded into wide, bent backwards and pointed process. Outer dististylus broad, slightly bent; inner dististylus small, lobe-like with firm bristles on tip. Aedeagus with a pair of simple curved hook-like processes sternally.

Distribution: Europe.



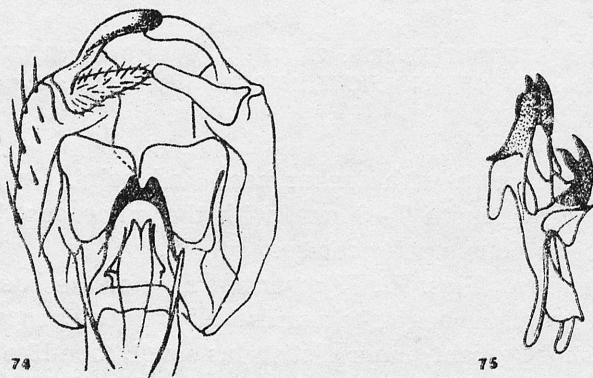
Figs. 72—73. *Ilisia maculata* MG. (after STARÝ): 72 — male genitalia, 73 — complex of aedeagus (lateral view)

Bionomics: the species flies in damp woods and scrubs. The period of flight is between June and September.

Material examined: 4 (Rogożynek near Lipsk 22.07.1975, 1♂); 8 (Gołysz near Skoczów 4.08.1979, 9♂♂, 1♀); 10 (Skała Kmity near Zabierzów 18.08.1979, 3♂♂, 7♀♀); 17 (Bartne near Gorlice 25.06.1978, 1♂, 2♀♀); 19 (Wetlina near Cisna 23.07.1978, 7♂♂, 3♀♀); 20 (Chwała Bogu 14.06.1979, 1♂); leg. W. KRZEMIŃSKI, (ZZS).

Ilisiaoccoecata (EDWARDS, 1936)

A species resembling the previous one, differs only in the details of the male genitalia (Figs. 74, 75). Basistylus without the pointed sternal



Figs. 74—75. *Ilisiaoccoecata* (EDWARDS), (after STARÝ): 74 — male genitalia, 75 — complex of aedeagus (lateral view)

process. Outer dististylus slightly widened apically. Aedeagus with the sternal hook-like process bifid.

Distribution: north, west and central Europe. New to Poland.

Bionomics: the species is found in damp woods. The period of flight is between April and September.

Material examined: 17 (Myślenice near Kraków 11.09.1979, 2♂♂, leg. W. KRZEMIŃSKI), (ZZS).

Genus *Hoplolabis* OSTEN-SACKEN, 1869

This genus sometimes is considered as subgenus of *Ilisia* ROND. Wing venation is very similar as in genus *Ilisia* ROND. On 9th abdominal segment are two large, strongly sclerotized teeth. Outer dististylus with processe on inner margin.

This genus is mostly represented in Holarctic. In Europe 1 subgenus is presented.

Subgenus *Parilisia* SAVCHENKO, 1976

Species of this subgenus are yellow or light brown coloured. They differ from the nominate subgenus (which does not occur in Europe) in ving venation having the discoidal cell simple, without an additional cross-vein. Outer dististylus with processes on inner margin.

In Europe 14 species present, four of them live in Poland.

Hoplolabis (Parilisia) areolata (SIEBKE, 1872)

Ilisia (Parilisia) areolata: KRZEMIŃSKI and WIEDEŃSKA, 1982: 37 (11a).

Body colour brownish, antennae dark, palpi black. Wing 5—6 mm long, clear, yellow tinged. Discoidal cell very small.

Male genitalia (Fig. 76): outer dististylus with three processes on its inner side. Inner dististylus short, lobe-like. Outer parameres long, narrow, arcuated. Teeth on 9th tergite are very wide. Other details are presented on Fig. 76.

Distribution: Europe.

Bionomics: the species is found in damp scrubs and meadows, especially near river. The period of flight is between May and September.

Material examined: 11a (Cedzyna 22.09.1978, 1♂, leg. J. WIEDEŃSKA), (ZZS); 14 (Tarnobrzeg 16.09.1961, 2♂♂, leg. Z. KOZIOŁ), (IZW).

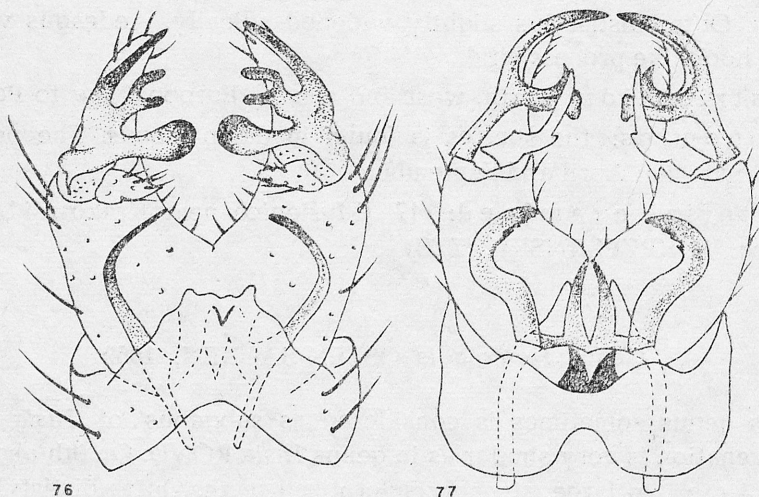


Fig. 76. Male genitalia of *Hoplolabis (Parilisia) areolata* (SIEBKE), (after STARÝ)

Fig. 77. Male genitalia of *Hoplolabis (Parilisia) mannheimsi* (MENDL)

Hoplolabis (Parilisia) mannheimsi (MENDL, 1974)

Body colour brown. Wing 5.5—6 mm long, pale yellow tinged.

Male genitalia (Fig. 77): process on ventral side of the outer dististylus is bifid, with its outer part sharp and the inner part widened. Inner dististylus long, narrow, bent backwards apically. Outer parameres very broad, strongly arcuated. Teeth on 9th tergite are small, sharp. Other details are presented on Fig. 77.

Distribution: central and south Europe. New to Poland.

Bionomics: the species is found in damp woods, especially near streams. The species is known to fly from May till July.

Material examined: 21 (Brzegi near Bukowina Tatrzańska 20.07.1979, 4♂♂, leg. W. KRZEMIŃSKI), (ZZS).

Hoplolabis (Parilisia) spinosa (NIELSEN, 1953)

Body colour brown. Wing 5—6 mm long, slightly yellow tinged.

Male genitalia (Fig. 78): resembling these of preceding species, excepting outer parameres which are narrow, arcuated and pointed. Teeth on 9th tergite are curved to each other. Other details are presented on Fig. 78.

Distribution: central Europe. New to Poland.

Bionomics: the species is found in damp scrubs, especially near streams. The species is known to fly from May till August.

Material examined: 17 (Uście Gorlickie near Gorlice 15.08.1978, 5♂♂, leg. W. KRZEMIŃSKI), (ZZS).

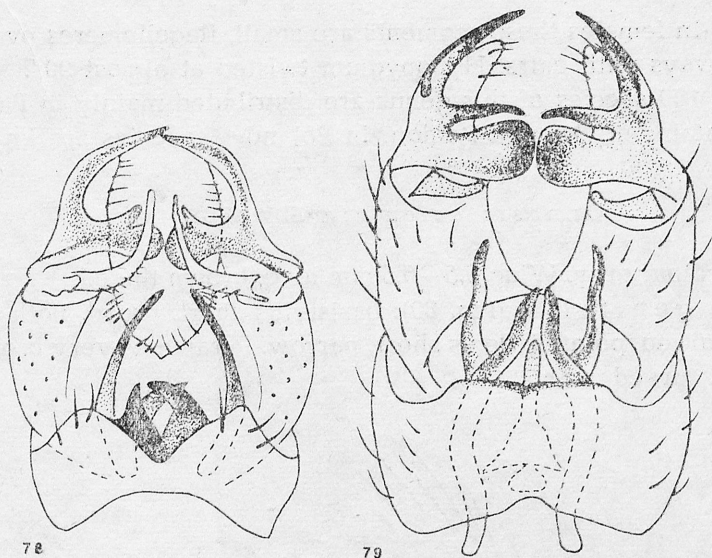


Fig. 78. Male genitalia of *Hoplolabis (Parilisia) spinosa* (NIELSEN), (after STARÝ)
 Fig. 79. Male genitalia of *Hoplolabis (Parilisia) vicina* (TONNOIR)

Hoplolabis (Parilisia) vicina (TONNOIR, 1920)

Ilisia (Parilisia) vicina: KRZEMIŃSKI and WIEDEŃSKA, 1982: 37 (11a).

Body colour light brownish. Wing 6.5—7 mm long, yellow tinged.

Male genitalia (Fig. 79): process on ventral side of the outer dististylus is bifid with its outer part small and narrow and the inner part big, apically widened. Inner dististylus small, lobe-like. Outer parameres are twice slightly bent outwards. Teeth on 9th tergite are very broad, with their back margins sclerotized.

Distribution: Europe.

Bionomics: the species is found damp scrubs and meadows, especially near streams. The period of flight is between May and August.

Material examined: 4 (Silec near Kętrzyn 2.05.1980, 4♂♂, leg. R. SZADZIEWSKI); 11a (Marzysz 19.05.1977, 2♂♂, leg. J. WIEDEŃSKA), (ZZS).

Genus *Ormosia* RONDANI, 1856

Body colour varies from light brown to almost black. Wing venation uniform within the genus. Discoidal cell open. Vein A_2 is short, straight. On the wing membrane numerous macrotrichia are present. The segments of antennae of males are very characteristic, long and spindle shaped

nodulose. In females these segments are small, flagellomeres oval. Pteropleura always with hairs. Hypopygium twisted at almost 90° .

About 180 species of this genus are distributed mainly in Palaearctic and mountains of Oriental Region. In Poland 11 species are known.

Ormosia aciculata EDWARDS, 1921

Body colour grey. Wing 5.5—6.5 mm long, brown tinged.

Male genitalia (Fig. 80): basistylus short, broad. Both dististyli slender, curved, pointed. Penis short, narrow. Parameres very broad, short with long, curved teeth.



Fig. 80. Male genitalia of *Ormosia aciculata* EDWARDS

Distribution: west, central and east Europe. New to Poland.

Bionomics: the species is found near big streams and rivers. The species is known to fly in May.

Material examined: 19 (Ustrzyki Dolne 11.05.1968, 1♂, leg. W. MIKOŁAJCZYK), (ZZS).

Ormosia albitibia EDWARDS, 1921

Body colour dark brown; head black. Wing 6—7 mm long, brown tinged.

Male genitalia (Fig. 81): basistylus short, broad. Outer dististylus short, broad, at the end bent and widened. Inner dististylus long, arcuated, pointed. Penis narrow, in the apical part slightly widened. Parameres thin, sharp.

Distribution: west and middle Europe. New to Poland.

Bionomics: the species flies in damp woods and scrubs, especially near streams. The period of flight is between July and September.

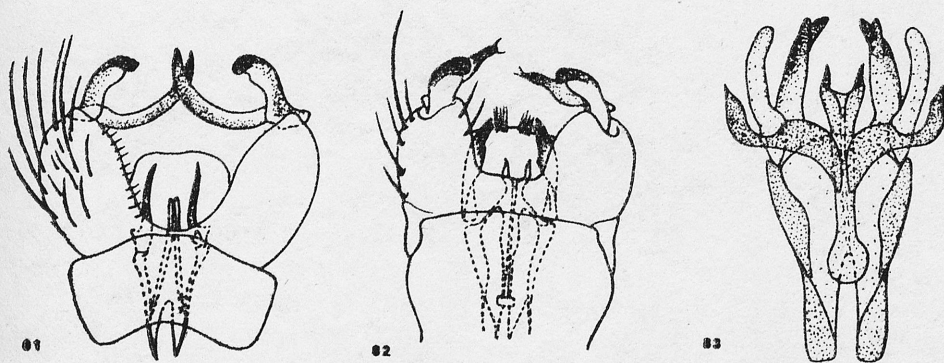


Fig. 81. Male genitalia of *Ormosia albitibia* EDWARDS (after STARÝ)
Figs. 82—83. *Ormosia bifida* (LACKSCH.): 82 — male genitalia (after STARÝ), 83 —
complex of aedeagus (dorsal view)

Material examined: 10 (Skała Kmity near Zabierzów 18.08.1979, 3♂♂, 1♀); 15 (Karpacz 28.07.1979, 1♀); 17 (Jaworzna 30.08.1978, 5♂♂, 3♀♀; Myślenice 11.09.1979, 2♂♂, 4♀♀); 19 (Wetlina 23.07.1978, 1♂, 2♀♀); 20 (Wysoka 25.08.1979, 14♂♂, 5♀♀); 21 (Brzegi near Bukowina Tatrzańska 20.07.1979, 1♂); leg. W. KRZEMIŃSKI, (ZZS).

Ormosia bifida (LACKSCHEWITZ, 1940)

Species generally resembling the previous one, differs in the details of the male genitalia (Figs. 82, 83): inner dististylus short, lobe-like. Penis with bifid apex. Parameres as in Fig. 83.

Distribution: west and central Europe. New to Poland.

Bionomics: the species is found in damp woods, especially near streams in the mountains. The species is known to fly from June till August.

Material examined: 15 (Karpacz 28.07.1979, 3♂♂); 21 (Hala Gąsienicowa 30.06.1979, 4♂♂); leg. W. KRZEMIŃSKI, (ZZS).

Ormosia clavata (TONNOIR, 1920)

Species similar to the preceding ones. Wing length 6—7 mm.

Male genitalia (Fig. 84): basistylus broad, narrowing towards the end, short. Outer dististylus short, clubbed. Inner dististylus lobe-like, bent in the middle. Penis narrow, widened to the end and pointed. Parameres as in Fig. 84.

Distribution, north, west and central Europe. New to Poland.

Bionomics: the species is found in mixed forests, especially near water. The species is known to fly from July till August.

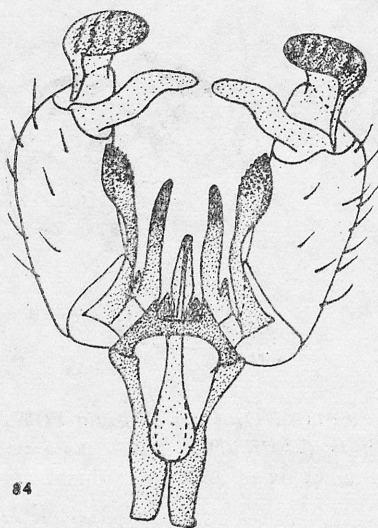


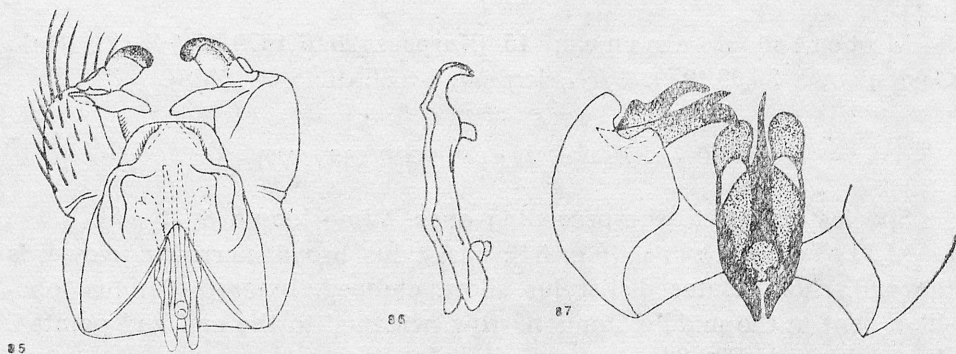
Fig. 84. Male genitalia of *Ormosia clavata* (TONNOIR)

Material examined: 2 (Gdańsk — Dolina Radości 5.08.1980, 2♂♂, 1♀, leg. R. SZADZIEWSKI); 10 (Puszcza Dulowska near Trzebinia 7.08.1977, 1♂, leg. W. KRZEMIŃSKI); 13 (Susiec 9.08.1979, 2♂♂, 1♀); 20 (Krościenko 24.08.1979, 1♂); 21 (Brzegi near Bukowina Tatrzańska 20.07.1979, 2♂♂); leg. W. KRZEMIŃSKI, (ZZS).

Ormosia depilata EDWARDS, 1938

Body colour light brown. Wing 5,5—7 mm long, yellow tinged.

Male genitalia (Figs. 85, 86): basistylus short and very broad. Outer dististylus short, clubbed. Inner dististylus short, lobelike. Penis



Figs. 85—86. *Ormosia depilata* EDWARDS (after STARÝ): 85 — male genitalia, 86 — complex of aedeagus (lateral view)

Fig. 87. Male genitalia of *Ormosia hederæ* (CURTIS)

bifid over its entire length. Parameres very small, broad. Other details are presented on Fig. 85.

Distribution: north, west and central Europe. New to Poland.

Bionomics: the species flies in damp scrubs and meadows. The period of flight is between May and August.

Material examined: 4 (Surwile lake near Węgorzewo 13.06.1980, 1♂, leg. R. SZADZIEWSKI); 14 (Puszcza Niepołomska near Bochnia 14.05.1978, 1♂, 2♀♀); 15 (Karpacz 28.07.1979, 2♂♂) — leg. W. KRZEMIŃSKI, (ZZS); 19 (Ustrzyki Dolne 1.08.1978, 9♂♂, 3♀♀, leg. W. MIKOŁAJCZYK), (IZW); 20 (Krościenko 15.06.1979, 1♂; Wysoka 25.08.1979, 4♂♂, 2♀♀); 21 (Brzegi near Bukowina Tatrzańska 20.07.1979, 2♂♂); leg. W. KRZEMIŃSKI, (ZZS).

Ormosia hederæ (CURTIS, 1835)

Ormosia hederæ: KRZEMIŃSKI and WIEDŃSKA, 1982: 98 (11a).

Body colour dark brown; head almost black. Wing 6—7 mm long, brown tinged.

Male genitalia (Fig. 87): basistylus very short, broad. Outer dististylus short, sharply bent in the middle and pointed. Inner dististylus broad and bifid. Penis narrow, with widened and rounded tip. Parameres as is Fig. 87.

Distribution: Europe.

Bionomics: the species flies in damp scrubs and meadows. The period of flight is between May and October.

Material examined: 4 (Przerwanki near Giżycko 30.05.1957, 3♂♂, leg. P. TROJAN), (IZW); 10 (Kraków — Piaski Wielkie 22.09.1982, 3♂♂, 2♀♀, leg. W. KRZEMIŃSKI); 11a (Zagnańsk 21.05.1977, 1♂, leg. J. WIEDŃSKI); (ZZS).

Ormosia lineata (MEIGEN, 1804)

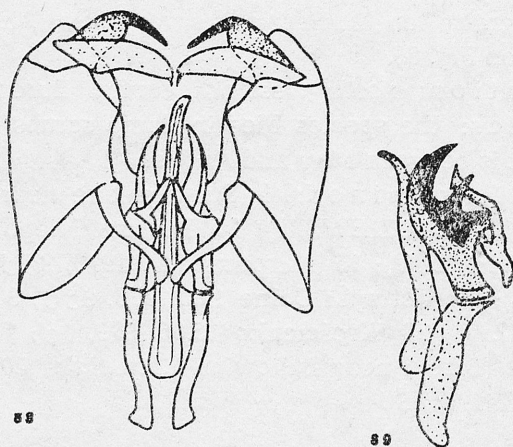
Dasyptera lineata: GRZEGORZEK, 1873: 27 (17); *Dasyptera distincta*: NOWICKI, 1867: 199 (21).

Body colour dark brown. Wing 4.5—6 mm long, with clear membrane and dark veins.

Male genitalia (Figs. 88, 89): outer dististylus short, hooked. Inner dististylus lobe-like. Penis narrow. Other details as presented on Fig. 89.

Distribution: Europe.

Bionomics: the species flies in damp woods and scrubs. The period of flight is between April and August.



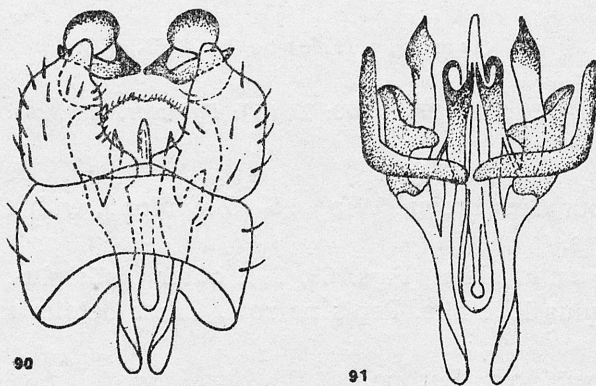
Figs. 88—89. *Ormosia lineata* (MG.): 88 — male genitalia, 89 — complex of aedeagus (lateral view)

Material examined: 4 (Silec near Kętrzyn 2.05.1980, 2♂♂, leg. R. SZADZIEWSKI); 10 (Krzeszowice near Kraków 4.06.1979, 4♂♂, 2♀♀); 14 (Puszcza Niepołomicka near Bochnia 8.05.1976, 11♂♂, 7♀♀); 17 (Rytro near Nowy Sącz 15.05.1978, 3♂♂; Dragoszów near Gorlice 15.08.1978, 8♂♂, 4♀♀); 21 (Zakopane 20.05.1979, 12♂♂, 1♀); leg. W. KRZEMIŃSKI, (ZZS).

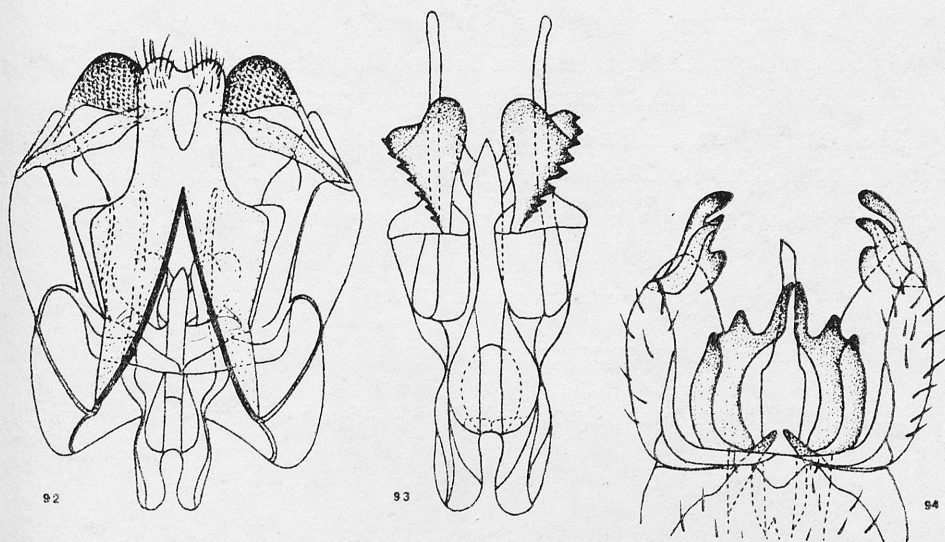
Ormosia moravica STARÝ, 1969

Body colour dark grey. Wing 4,5—5 mm long, brown tinged.

Male genitalia (Figs. 90, 91): outer dististylus short, clubbed. Inner dististylus narrow, slightly bent, with big thorn at the tip. Penis narrow. Parameres as in Fig. 91.



Figs. 90—91. *Ormosia moravica* STARÝ (after STARÝ): 90 — male genitalia, 91 — complex of aedeagus (dorsal view)



Figs. 92—93. *Ormosia nodulosa* (MACQUART): 92 — male genitalia, 93 — complex of aedeagus (dorsal view)

Fig. 94 Male genitalia of *Ormosia ruficauda* (ZETT.)

Distribution: central Europe. New to Poland.

Bionomics: the species is found in scrubs, especially near streams. The species is known to fly from May till August.

Material examined: 17 (Bartne near Gorlice 16.08.1978, 3♂♂, 1♀, leg. W. KRZEMIŃSKI), (ZZS).

Ormosia nodulosa (MACQUART, 1826)

Dasyptera nodulosa: LOEW, 1870: 160 (21); NOWICKI, 1867: 199 (21).

Body colour dark grey. Wing 4.5—7 mm long, brown tinged.

Male genitalia (Figs. 92, 93): outer dististylus short, with clubbed tip. Inner dististylus lobe-like. Penis slender, widened apically. Parameres are presented on Fig. 93.

Distribution: Europe.

Bionomics: the species is found in damp woods. The period of flight is between May and September.

Ormosia ruficauda (ZETTERSTEDT, 1838)

Species resembling the preceding ones. Wing 4.5—6 mm long, brown tinged.

Male genitalia (Fig. 94): outer and inner dististili short. Penis widened in the middle. Other details are presented on Fig. 94.

Distribution: Europe. New to Poland.

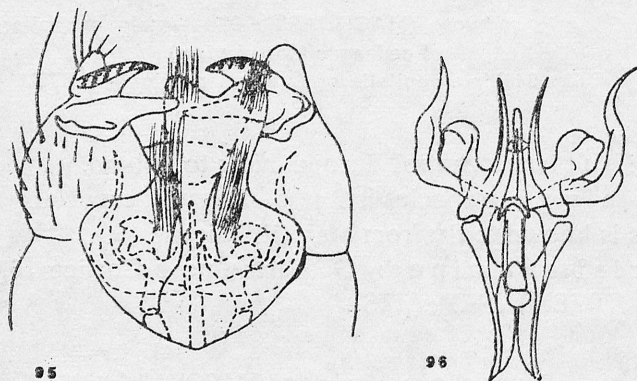
Bionomics: the species flies in damp scrubs, especially near water. The period of flight is between May and August.

Material examined: 3 (Studzienice 1.07.1978, 2♂♂); 10 (Las Wolski near Kraków 21.05.1977, 3♂♂); 21 (Dolina Suche Wody 20.07.1979, 1♂); leg. W. KRZEMIŃSKI, (ZZS).

Ormosia similis (STAEGER, 1840)

? = *Ormosia staegeriana* ALEXANDER, 1953.

Body colour yellowish-brown. Wing 4—5 mm long, yellow tinged. Head black.



Figs. 95—96. *Ormosia similis* (STAEGER), (after STARÝ): 95 — male genitalia, 96 — complex of aedeagus

Male genitalia (Figs. 95, 96): basistylus very short. Outer dististylus short, the clubbed tip set with numerous close-set rows of minute spicules; inner dististylus pale, simpl. Penis narrow. Parameres and other details are presented on Fig. 96.

Distribution: Europe. New to Poland.

Bionomics: the species flies in damp wood, especially near streams. The period of flight is between June and September.

Material examined: 15 (Karpacz 28.07.1979, 6♂♂, 2♀♀); 17 (Zawoja 21.06.1977, 1♂; Jaworzyna near Limanowa 30.08.1979, 2♂♂, 4♀♀); 19 (Wetlina 14.07.1978, 1♂) — leg. W. KRZEMIŃSKI, (ZZS); 19 (Ustrzyki Górne 10.09.1969, 1♂, leg. W. MIKOŁAJCZYK), (IZW); 21 (Morskie Oko and Dolina Róztoki 30.06.1979, 5♂♂, 1♀, leg. W. KRZEMIŃSKI), (ZZS).

Genus *Rhypholophus* KOLENATI, 1860

The species of this genus are brown or black coloured. Antennae are short, with small flagellomeres. On the wing membrane numerous macrotrichia are present. Discoidal cell may be open or closed; vein A_2 is mostly long and sinuous. Penis is very characteristically shaped, with deep split into two slender tubes.

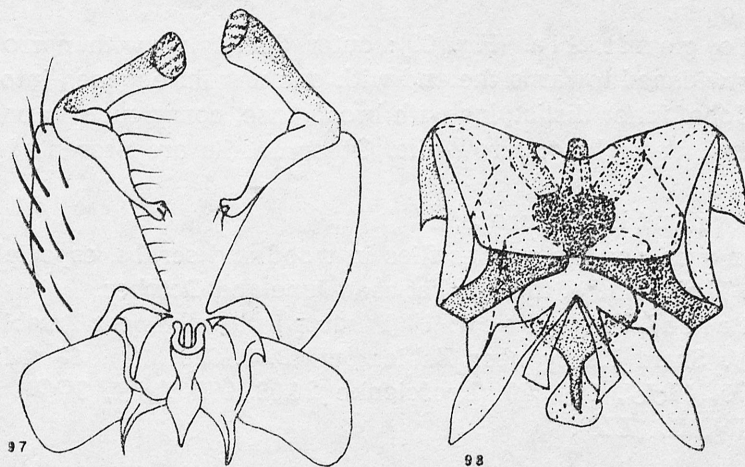
A Holarctic genus composed of 22 species. In Poland 4 species.

Rhypholophus fascipennis (ZETTERSTEDT, 1838)

Rhypholophus tephronotus LOEW, 1873: 43 (South Poland).

Body colour black. Wing 8—9 mm long, brown tinged, with big black stigma. Discoidal cell closed.

Male genitalia (Figs. 97, 98): outer dististylus broad, clubbed. Inner dististylus with tip provided with two firm, black bristles. Penis and parameres are presented on Fig. 98.



Figs. 97—98. *Rhypholophus fascipennis* (ZETT.): 97 — male genitalia (after STARÝ),
98 — complex of aedeagus

Distribution: Holarctic.

Bionomics: the species flies in woods, especially near streams in the mountains. The period of flight is between June and August.

Material examined: 21 (Dolina Pięciu Stawów and Hala Gąsienicowa 30.06.1979, 5♂♂, leg. W. KRZEMIŃSKI), (ZZS).

Rhypholophus haemorrhoidalis (ZETTERSTEDT, 1838)

Dasyptera haemorrhoidalis: BOBEK, 1890: 241 (17, 18, 21); BOBEK, 1893: 26 (10); GRZEGORZEK, 1873: 27 (17); LOEW, 1870: 160 (21); NOWICKI, 1873: 27 (17, 18, 21); NOWICKI, 1867: 199 (21).

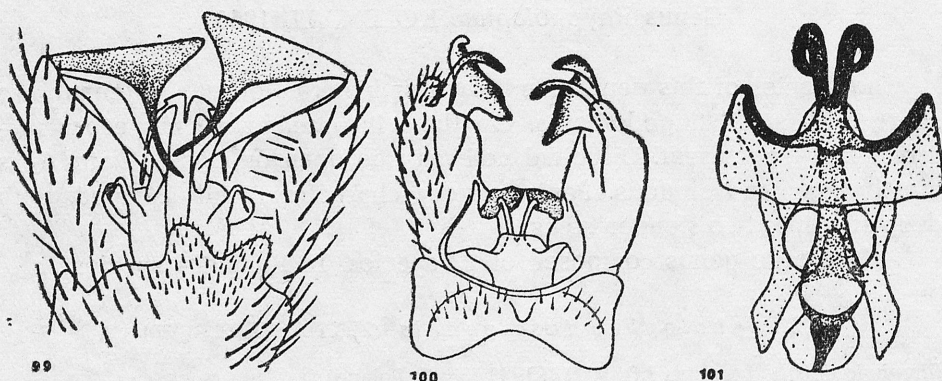


Fig. 99. Male genitalia of *Rhypholophus haemorrhoidalis* (ZETT.), (after MEIJERE)
Figs. 100—101. *Rhypholophus phrygonopterus* KOLENATI: 100 — male genitalia (after
STARÝ), 101 — complex of aedeagus

Body colour dark brown. Wing 7—8 mm long, brown tinged. Discoidal cell open.

Male genitalia (Fig. 99): outer dististylus with narrow base, strongly widened towards the end with one margin expanded into a long, narrow lobe. Inner dististylus with broad base, conspicuously narrowing to the end. Penis long, arrow-like. Other details are presented on Fig. 99.

Distribution: Europe.

Bionomics: the species flies in wood and scrubs, especially near streams. The period of flight is between June and October.

Material examined: **10** (Puszcza Dulowska near Trzebinia 7.10.1978, 1♂, Skala Kmity near Zabierzów 18.08.1979, 1♀); **17** (Myślenice 11.09.1979, 17♂♂, 1♀); **20** (Krościenko 24.08.1979, 9♂♂, 3♀♀); leg. W. KRZEMIŃSKI, (ZZS).

Rhypholophus phrygonopterus KOLENATI, 1860

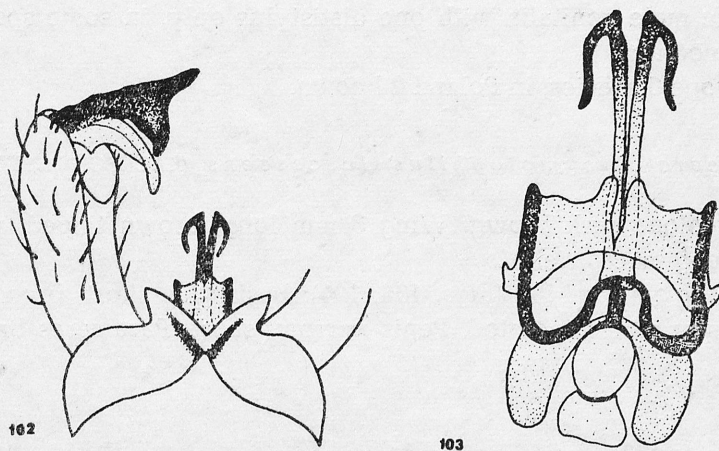
Rhypholophus phrygonopterus: SACK, 1925: 264 (7a).

Body colour brown, head almost black. Wing 8.5—10 mm long, brown tinged. Discoidal cell closed.

Male genitalia (Figs. 100, 101): basistylus short, broad. Outer dististylus very broad, short. Inner dististylus narrow, arcuated. Penis bifid in the third part of its length, with tips twisted to its base. Other details are presented on Fig. 101.

Distribution: middle and south Europe.

Bionomics: the species is found in woods in the mountains. The period of flight is between May and June.



Figs. 102—103. *Rhypholophus varius* (MG.): 102 — male genitalia, 103 — complex of aedeagus (dorsal view)

Rhypholophus varius (MEIGEN, 1818)

Ormosia varia: SAKWA, 1962: 326 (5).

Species very similar to *Rh. haemorrhoidalis* ZETT. differing from the latter in the shape of outer dististylus whose expanded lobe is wide and short. Penis very narrow, arrow like, bifid. Other details are presented on Figs. 102 and 103.

Distribution: north, central and west Europe.

Bionomics: the species flies in damp woods and scrubs. The period of flight is in May and between August and September.

Material examined: 10 (Puszcza Dulowska near Trzebinia 12.09.1978, 1♂; Kraków 22.09.1982, 7♂♂, 5♀♀); 14 (Puszcza Niepołomska near Bochnia 14.05.1978, 1♂); 17 (Myślenice near Kraków 11.09.1979, 11♂♂, 7♀♀); leg. W. KRZEMIŃSKI, (ZZS).

Genus *Tasiocera* SKUSE, 1889

This genus comprises very small species (body length 2—4 mm), dark brown or black coloured. Wing membrane with numerous macrotrichia. Discoidal cell open.

This genus is mostly represented in tropic climate. In Poland one subgenus is presented.

Subgenus *Dasymolophilus* GOETGHEBUER, 1920

Antennal segments small, with bristles longer than segments. Discoidal cell open. Cross vein *m-cu* placed before or in the fork of medial

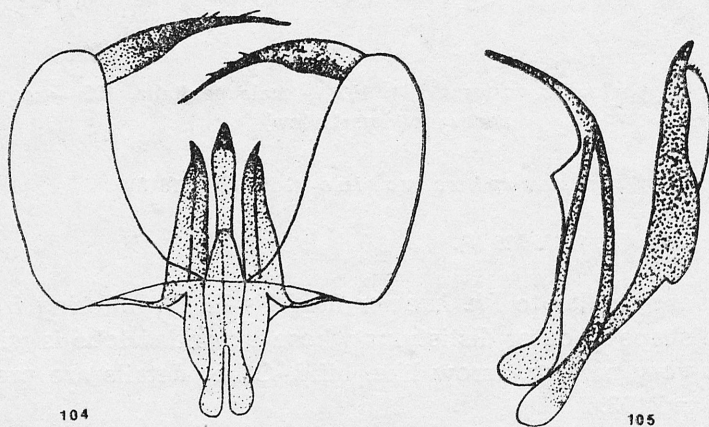
veins. The male genitalia with one dististylus only, in some species parameres modified.

In Europe 6 species, in Poland 2 known.

Tasiocera (Dasymolophilus) fuscescens (LACKSCHEWITZ, 1939)

Body colour dark brown. Wing 3 mm long, brown tinged, with numerous, long macrotrichia.

Male genitalia (Figs. 104, 105): basistylus short, broad. Single dististylus arcuated, pointed. Penis narrow, short. Parameres broad, pointed.



Figs. 104—105. *Tasiocera (Dasymolophilus) fuscescens* (LACKSCH.), (after FREEMAN):
104 — male genitalia, 105 — complex of aedeagus

Distribution: Europe. New to Poland.

Bionomics: the species is found in damp woods and scrubs, especially near streams. The period of flight is between June and August.

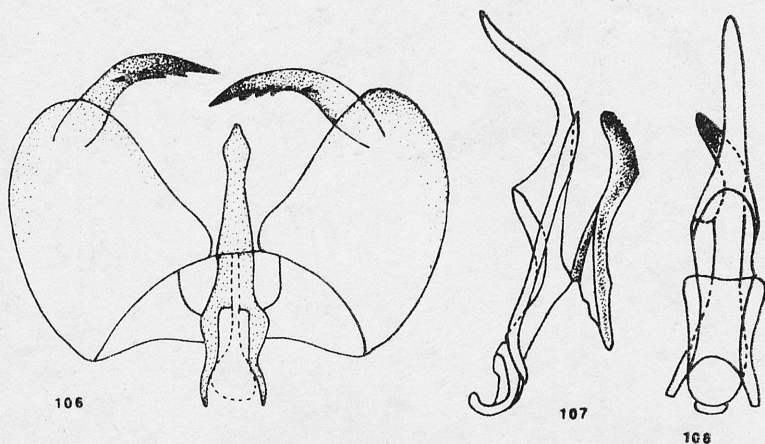
Material examined: 10 (Kraków — Piaski Wielkie 8.06.1980, 1♂); 19 (Wetlina 23.07.1978, 5♂♂, 7♀) — leg. W. KRZEMIŃSKI; 19 (Ustrzyki Górne 24.07.1980, 1♂, leg. R. SZADZIEWSKI); (ZZS).

Tasiocera (Dasymolophilus) murina (MEIGEN, 1818)

Erioptera murina: LOEW, 1870: 160 (21); NOWICKI, 1967: 199 (21).

Body colour dark brown. Wing 3—4 mm long, brown tinged, with numerous macrotrichia.

Male genitalia (Figs. 106, 107, 108): basistylus short, broad. Dististylus slender, narrow, pointed, its inner margin serrate. Penis narrow; parameres completely reduced.



Figs. 106—108. *Tasiocera (Dasymolophilus) murina* (MG.): 106 — male genitalia (after FREEMAN), 107 — complex of aedeagus (lateral view), 108 — complex of aedeagus (dorsal view)

Distribution: Europe.

Bionomics: the species flies in damp woods and scrubs, especially near streams and rivers. The period of flight is between May and July.

Material examined: 2 (Brzyno near Żarnowiec 8.07.1980, 2♂♂, leg. R. SZADZIEWSKI); 4 (Surwile lack near Węgorzewo 13.06.1980, 1♂, leg. R. SZADZIEWSKI); 20 (Czorsztyn 13.06.1979, 12♂♂, 17♀♀, leg. W. Krzemiński); (ZZS).

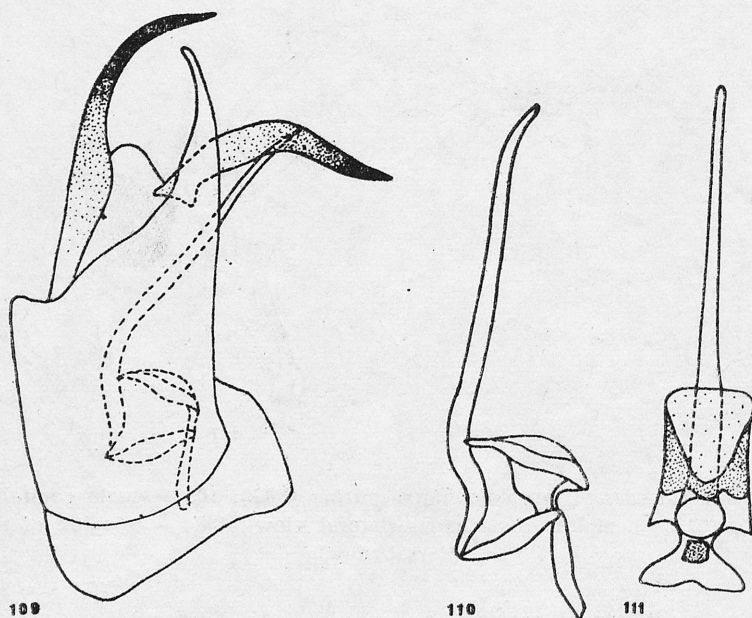
Genus *Molophilus* CURTIS, 1833

Species of this genus are small, their body colour varying from pale yellow to black. The wing membrane is without macrotrichia, only on veins long macrotrichia are present. The wing venation uniform within the whole genus. The discoidal cell open; cross-vein *m-cu* behind the fork of medial vein; A_2 long and slightly wavy curved. In the male genitalia one or both dististyli may be present. Penis always very long, S-curved. Parameres are reduced, instead of them a tegmen is developed (EDWARDS 1938).

The genus is composed of 500 species living in all climatic zones. Mostly represented in Australia and South America, less numerous in Africa. In Poland 22 species recorded till now.

Molophilus appendiculatus (STAEGER, 1840)

Erioptera appendiculata: GRZEGORZEK, 1873: 27 (17); LOEW, 1870: 160 (21); *Molophilus appendiculatus*: BOBEK, 1890: 240 (21); NOWICKI, 1873: 17 (10, 17, 21).



Figs. 109—11. *Molophilus appendiculatus* (STAEGER): 109 — male genitalia (lateral view), (after COE); 110 — complex of aedeagus (lateral view), 111 — complex of aedeagus (ventral view)

Body colour yellow. Wing 6—7 mm long, yellow tinged.

Male genitalia (Figs. 109, 110, 111): basistylus with small dorsal lobe, and ventral lobe long, finely pointed. Both dististyli narrow, arcuated, pointed.

Distribution: Europe.

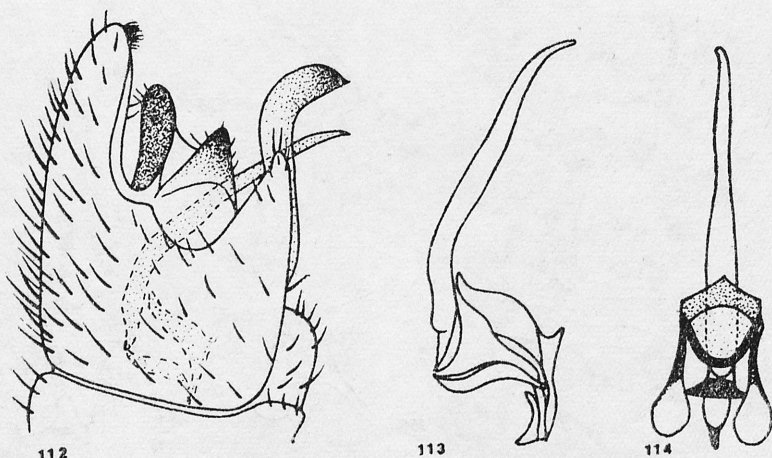
Bionomics: the species flies in damp woods, especially near streams. The period of flight is between May and August.

Material examined: 2 (Gdańsk 8.05.1975, 2♂♂; Gdańsk — Dolina Radości 6.08.1980, 2♂♂, 3♀♀, leg. R. SZADZIEWSKI); 4 (Nowe Miasto Lubawskie 14.07.1980, 1♂; Silec near Kętrzyn 16.08.1980, 2♂♂, 1♀ — leg. R. SZADZIEWSKI); 10 (Mydlniki 30.06.1976, 4♂♂, 2♀♀; Las Wolski 29.05.1977, 18♂♂, 7♀♀, Skała Kmity near Zabierzów 18.08.1979, 5♂♂, 7♀♀); 17 (Jaworzna near Limanowa 30.08.1978, 1♂, 4♀♀); 19 (Wetlina 30.07.1978, 3♂♂); 20 (Krościenko 24.08.1979, 1♂); 21 (Pawlikowski Wierch 20.07.1979, 1♂, 1♀); leg. W. KRZEMIŃSKI, (ZZS).

Molophilus ater (MEIGEN, 1804)

Body colour black. Wings abbreviated, 2—3.5 mm long, black tinged.

Male genitalia (Figs. 112, 113, 114): dorsal part of basistylus



Figs. 112—114. *Molophilus ater* (MG.): 112 — male genitalia (lateral view), 113 — complex of aedeagus (lateral view) 114 — complex of aedeagus (ventral view)

expanded into big, broad lobe; ventral lobe short, broad. Dorsal dististylus reduced to short, triangular tooth; ventral dististylus broad, sharply bent.

Distribution: Europe. New to Poland.

Bionomics: the species flies in peaty areas. The period of flight is between May and June.

Material examined: 4 (Silec near Kętrzyn 2.05.1980, 11♂♂, leg. R. SZADZIEWSKI); 10 (Kostrze near Kraków 15.06. 1976, 7♂♂, 3♀♀; Tyniec near Kraków 11.06.1977, 2♂♂, 5♀♀); 14 (Puszcza Niepołomska near Bochnia 14.05.1978, 4♂♂, 2♀♀); 21 (Zakopane 20.05.1979, 2♂♂, 2♀♀); leg. W. KRZEMIŃSKI, (ZZS).

Molophilus bifidus GOETGHEBUER, 1920

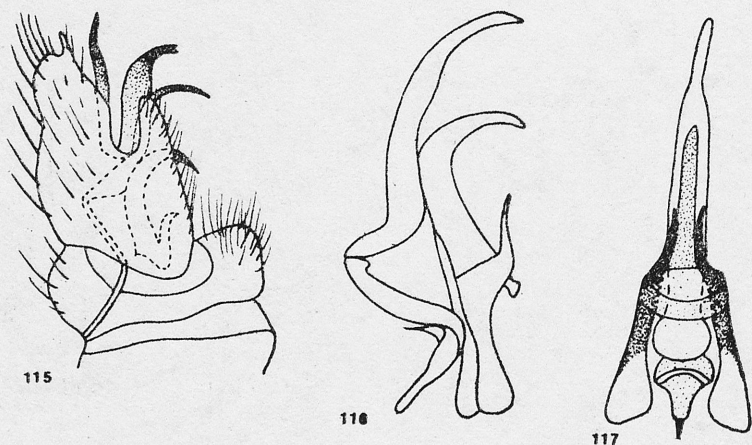
Body colour light brown. Wing 6—7 mm long, yellow tinged.

Male genitalia (Figs. 115, 116, 117): basistylus short, its dorsal part expanded into short, bluntly cut lobe; ventral lobe short, broad. Dorsal dististylus narrow, slightly wavy curved, ventral dististylus bent downside, its distal part conspicuously narrowed, with bifid tip.

Distribution: Europe. New to Poland.

Bionomics: the species is found in woods, especially near big streams and rivers. The period of flight is between May and August.

Material examined: 3 (Rytel near Chojnice 11.07.1978, 1♂, leg. W. KRZEMIŃSKI, (ZZS); 8 (Pilchowice near Lwówek Śląski 21.07. 1961, 1♂, leg. E. KIERYCH, (IZW); 15 (Karpacz 27.07.1979, 2♂♂); 19 (Ustrzyki Górne 24.07.1980, 1♂); leg. W. KRZEMIŃSKI, (ZZS).

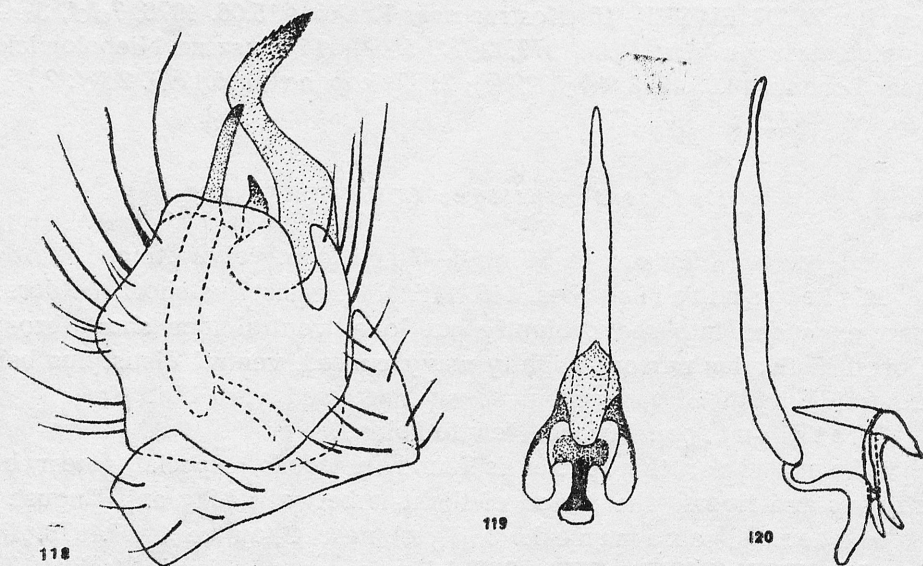


Figs. 115—117. *Molophilus bifidus* GOETGHEBUER: 115 — male genitalia (lateral view), 116 — complex of aedeagus (lateral view), 117 — complex of aedeagus (ventral view)

Molophilus bihamatus MEIJERE, 1918

Body colour brown. Wing 3—4 mm long, brown tinged.

Male genitalia (Figs. 118, 119, 120): basistylus with a nodular protuberance on its dorsal side; ventral lobe rather short, broad. Dorsal dististylus reduced to small, narrow tooth; ventral dististylus long, broad, sharply bent towards ventral side, pointed.



Figs. 118—120. *Molophilus bihamatus* MEIJERE: 118 — male genitalia (lateral view), 119 — complex of aedeagus (lateral view), 120 — complex of aedeagus (ventral view)

Distribution: Europe. New to Poland.

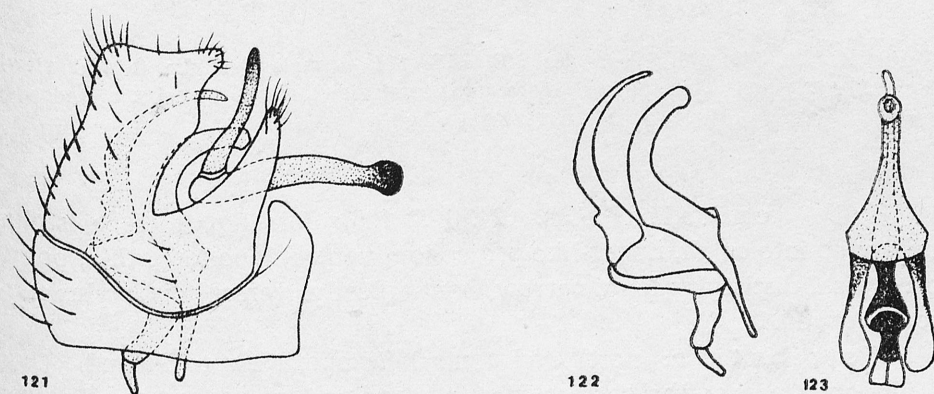
Bionomics: the species is found in damp woods and scrubs, especially near water. The period of flight is between May and July.

Material examined: 10 (Las Wolski near Kraków 21.05.1976, 1♂, leg. W. KRZEMIŃSKI), (ZZS).

Molophilus cinereifrons MEIJERE, 1920

Body colour yellow. Wing 5—6 mm long, yellow tided.

Male genitalia (Figs. 121, 122, 123): basistylus with a small nodular protuberance on its dorsal side and with short, stout dorsal lobe; ventral lobe rather short, stout. Dorsal dististylus rather long, thin; ventral dististylus big, rod-like tipped.



Figs. 121—123. *Molophilus cinereifrons* MEIJERE: 121 — male genitalia (lateral view), 122 — complex of aedeagus (lateral view), 123 — complex of aedeagus (ventral view)

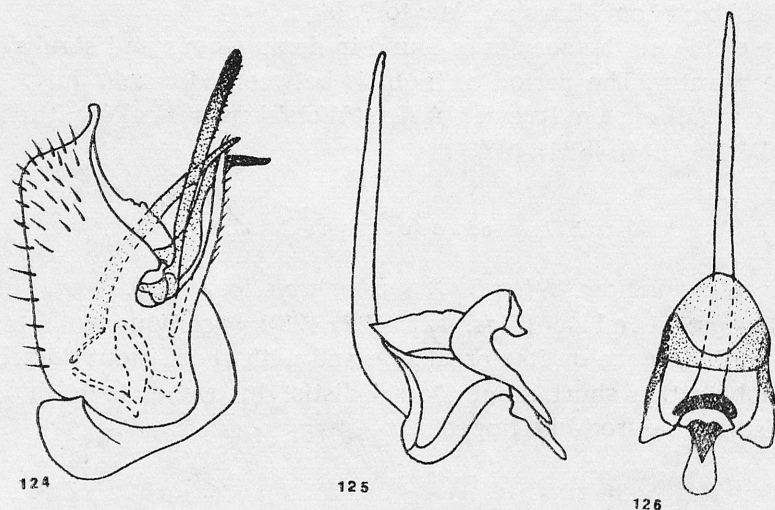
Distribution: Europe. New to Poland.

Bionomics: the species flies in woods, especially near streams. The period of flight is between April and September.

Material examined: 6 (Puszcza Kampinoska near Warszawa 23.07.1955, 1♀, leg. P. TROJAN), (IZW); 10 (Las Wolski near Kraków 21.05.1977, 2♂♂, 11♀♀); 17 (Zawoja 2.07.1976, 1♂; Żmiąca near Limanowa 30.08.1978, 14♂♂, 7♀♀; Mucharz near Wadowice 31.04.1978, 1♂; Ciężkowice near Gorlice 26.06.1979, 3♀♀, 6♂♂; Myślenice 11.09.1979, 1♂); 19 (Wetlina 23.07.1978, 2♂♂, 1♀); 20 (Czorsztyn 15.08.1979, 7♂♂, 3♀♀); leg. W. KRZEMIŃSKI, (ZZS).

Molophilus corniger MEIJERE, 1920

Body colour yellow, with dark brown head. Wing 5—6 mm long, yellow tinged.



Figs. 124—126. *Molophilus corniger* MEIJERE: 124 — male genitalia (lateral view), (after STARY), 125 — complex of aedeagus (lateral view), 126 — complex of aedeagus (ventral view)

Male genitalia (Figs. 124, 125, 126): dorsal part of basistylus expanded into small, finger-like projection; ventral lobe long, thin, pointed. Dorsal dististylus long, narrow, bent apically; ventral dististylus narrow, curved.

Distribution: north and central Europe. New to Poland.

Bionomics: the species flies in wood and scrubs, especially near streams. The period of flight is between May and August.

Material examined: 2 (Gdańsk 8.05.1975, 1♂, 1♀, leg. R. SZADZIEWSKI); 13 (Susiec 9.08.1979, 1♂); 17 (Jaworzna near Limanowa 30.08.1978, 2♂♂, 1♀); leg. W. KRZEMIŃSKI, (ZZS).

Molophilus curvatus TONNOIR, 1920

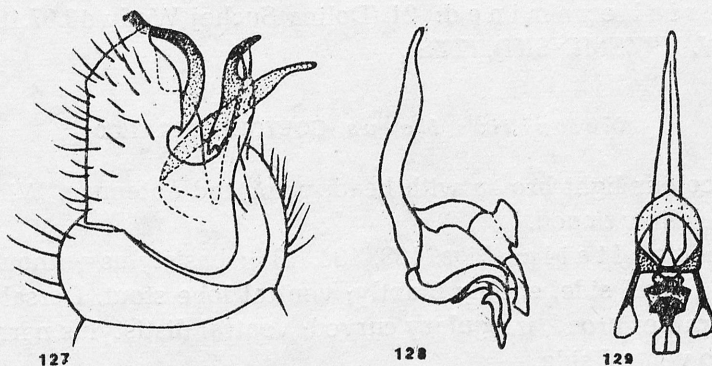
Body colour brown. Wing 5—6 mm long, yellow tinged.

Male genitalia (Figs. 127, 128, 129): dorsal part of basistylus with small process; ventral lobe rather short, narrow. Dorsal and ventral dististyli narrow, long, wavy, irregularly curved.

Distribution: Europe. New to Poland.

Bionomics: the species flies in damp woods, especially near water. The period of flight is between May and August.

Material examined: 17 (Zawoja 2.07.1976, 3♂♂; Dragaszów near Gorlice 15.08.1978, 1♂, 5♀♀); 19 (Wetlina 23.07.1978, 6♂♂, 2♀♀); 20 (Czorsztyn 13.06.1979, 1♂); 21 (Dolina Sucheje Wody 20.07.1979, 2♂♂); leg. W. KRZEMIŃSKI, (ZZS).



Figs. 127—129. *Molophilus curvatus* TONNOIR: 127 — male genitalia (lateral view), 128 — complex of aedeagus (lateral view), 129 — complex of aedeagus (ventral view)

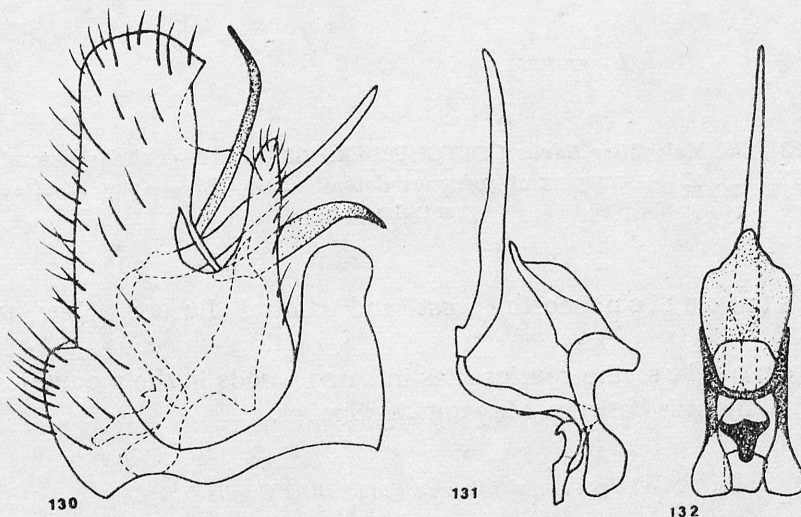
Molophilus scutellatus GOETGHEBUER, 1929

Body colour dark brown. Wing 6—7 mm long, slightly yellow tinged.

Male genitalia (Figs. 130, 131, 132): dorsal part of basistylus without processes, tipped bluntly; ventral lobe stout. Dorsal dististylus narrow, bent apically towards the back; ventral dististylus wider than the dorsal, its distal part conspicuously narrowed, pointed.

Distribution: central and south Europe. New to Poland.

Bionomics: the species is found in woods, especially near streams and on peat-bogs. The period of flight is between June and July.



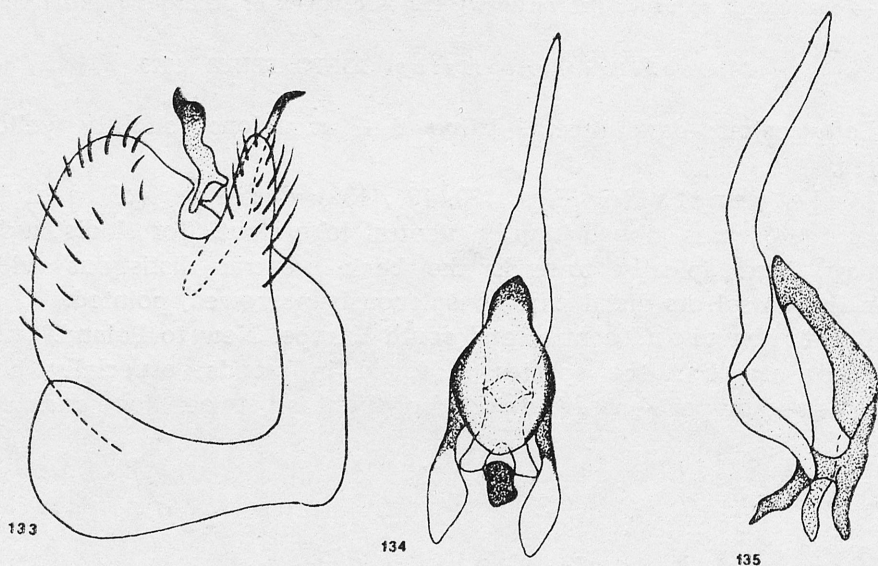
Figs. 130—132. *Molophilus scutellatus* GOETGHEBUER: 130 — male genitalia (lateral view), 131 — complex of aedeagus (lateral view), 132 — complex of aedeagus (ventral view)

Material examined: 21 (Dolina Suche Wody 18.07.1979, 2♂♂, 1♀, leg. W. KRZEMIŃSKI), (ZZS).

Molophilus flavus GOETGHEBUER, 1920

Body colour light brown with head, palpi and antennae. Wing 4.5—6 mm long, yellow tinged.

Male genitalia (Figs. 133, 134, 135): basistylus without processes on its dorsal side, ending bluntly; ventral lobe stout. Dorsal dististylus short, rather broad, irregularly curved; ventral dististylus narrow, bent apically to ventral side.



Figs. 133—135. *Molophilus flavus* GOETGHEBUER: 133 — male genitalia (lateral view), (after STARÝ); 134 — complex of aedeagus (lateral view), 135 — complex of aedeagus (ventral view)

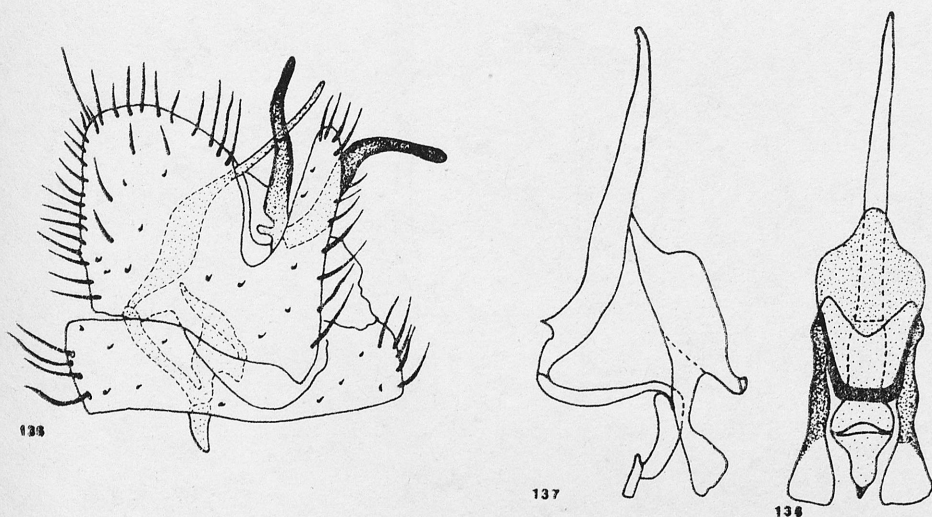
Distribution: north, west and central Europe. New to Poland.

Bionomics: the species flies in damp woods in the mountains. The period of flight is between May and September.

Molophilus fluviatilis BANGERTER, 1947

Body colour black; palpi and antennae dark brown. Wing 4—6 mm long, brown tinged.

Male genitalia (Figs. 136, 137, 138): dorsal part of basistylus



Figs. 136—138. *Molophilus fluviatilis* BANGERTER: 136 — male genitalia (lateral view), (after STARY); 137 — complex of aedeagus (lateral view), 138 — complex of aedeagus (ventral view)

without processes, ending bluntly; ventral lobe rather long, stout. Dorsal and ventral dististyli narrow, sharply bent.

Distribution: west and central Europe. New to Poland.

Bionomics: the species is found in woods, especially near water. The period of flight is between May and July.

Material examined: 17 (Gorce Mts — Olszowy Potok 11.05.1970, 1♂, leg. A. KOWNACKI); 15 (Kopa near Karpacz, at altitudes between 1000—1200 m, 28.07.1979, 2♂♂, 1♀, leg. W. KRZEMIŃSKI), (ZZS).

Molophilus griseus (MEIGEN, 1804)

Molophilus griseus: SZADZIEWSKI, 1983: 64 (5).

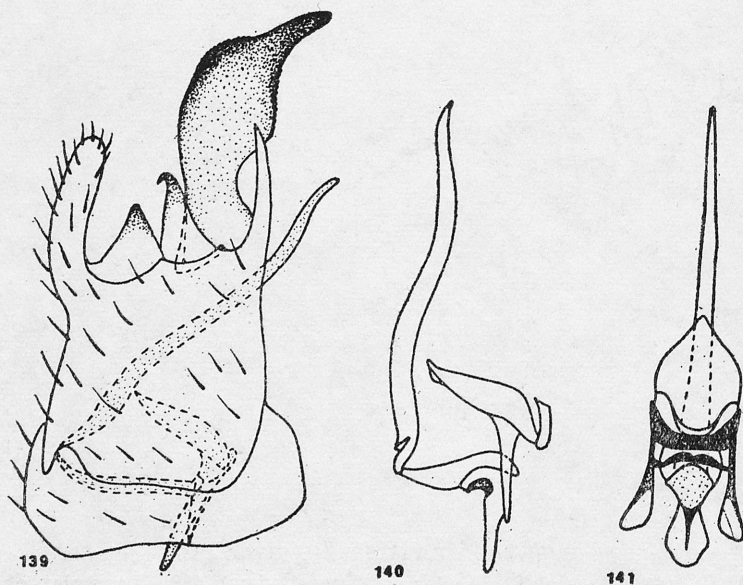
Body colour brown; antennae dark. Wing 5—5.6 mm long, brown tinged.

Male genitalia (Figs. 139, 140, 141): basistylus with big dorsal lobe; ventral lobe expanded into long, pointed process. Dorsal dististylus short, curved, pointed; ventral dististylus very big, broad, with serrate expansions in middle.

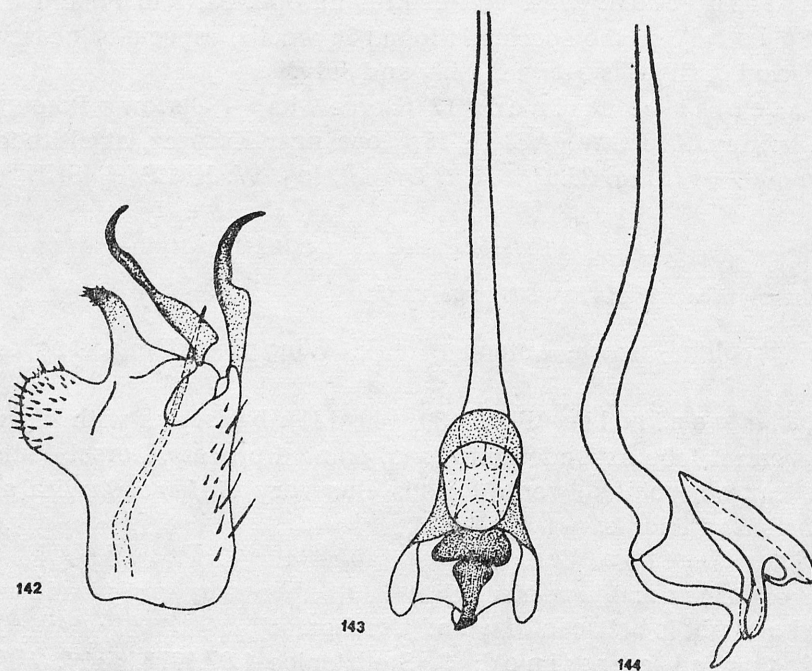
Distribution: Europe.

Bionomics: the species flies in damp scrubs and meadows. The period of flight is between May and October.

Material examined: 3 (Studzienice 1.07.1978, 5♂♂, 2♀♀); 10 Kostrze 30.08.1980, 7♂♂, 6♀♀ — leg. W. KRZEMIŃSKI, (ZZS); 7a (Białowieża 21.09.1959, 2♂♂, leg. E. KIERYCH; 27.10.1962, 1♀, leg. W. MIKOŁAJCZYK), (IZW).



Figs. 139—141. *Molophilus griseus* (MG.): 139 — male genitalia (lateral view), 140 — complex of aedeagus (lateral view), 141 — complex of aedeagus (ventral view)



Figs. 142—144. *Molophilus lackschewitzianus* ALEX.: 142 — male genitalia (lateral view), (after STARÝ); 143 — complex of aedeagus (lateral view), 144 — complex of aedeagus (ventral view)

Molophilus lackschewitzianus ALEXANDER, 1952

Body colour light brown. Wing 5—6 mm long, yellow tinged.

Male genitalia (Figs. 142, 143, 144): basistylus with a big nodular protuberance on its dorsal side and dorsal lobe long, broad; ventral lobe short, stout. Dististyli narrow, curved.

Distribution: middle Europe. New to Poland.

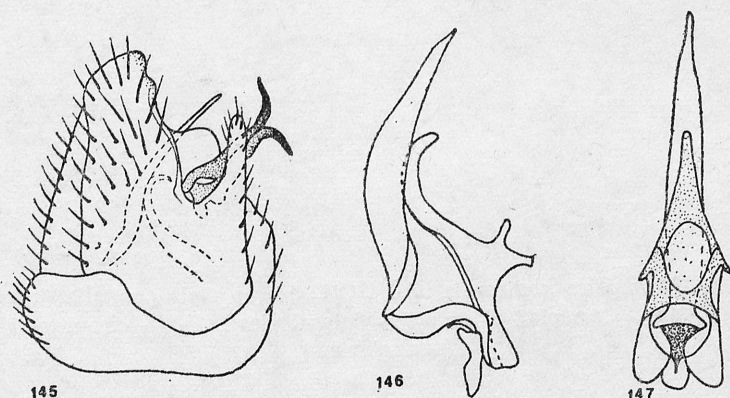
Bionomics: the species is found in woods, especially near water. The species is known to fly from June till August.

Material examined: 19 (Wetlina 23.06.1960, 1♂, leg. W. MIKOŁAJCZYK), (ZZS).

Molophilus medius MEIJERE, 1918

Body colour yellow, with dark brown head and palpi. Wing 4—5 mm long, yellow tinged.

Male genitalia (Figs. 145, 146, 147): dorsal lobe stout, without processes on its dorsal side; ventral lobe moderately long, rather narrow. Both dististyli are narrow, the sharp tips turned in opposite directions.



Figs. 145—147. *Molophilus medius* MEIJERE: 145 — male genitalia (lateral view), (after STARÝ); 146 — complex of aedeagus (lateral view), 147 — complex of aedeagus (ventral view)

Distribution: Europe. New to Poland.

Bionomics: the species flies in damp woods. The period of flight is between June and September.

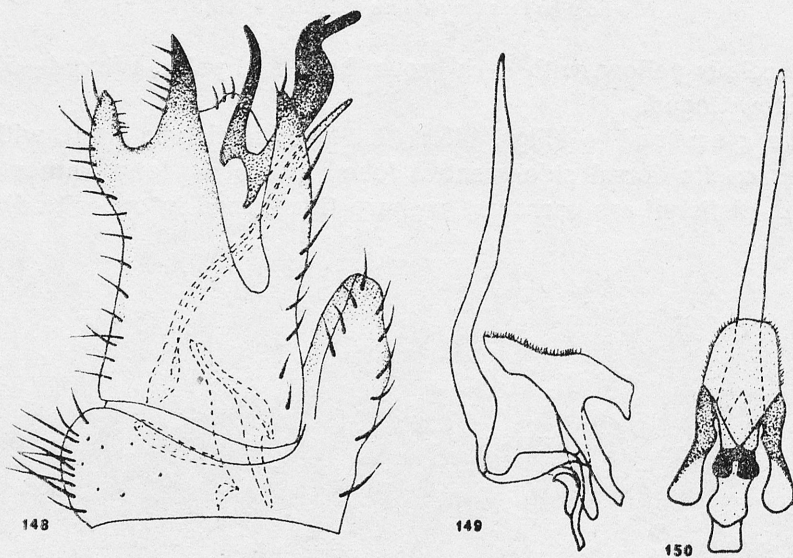
Material examined: 4 (Sarag lake 9.07.1978, 1♂, leg. T. WIESER); 19 (Dulowa near Trzebinia 12.09.1976, 7♂♂, 9♀♀; Kostrze near Kraków 30.08.1979, 3♂♂, 1♀); 13 (Susiec 9.08.1979, 5♂♂, 4♀♀); 15 (Karpacz 28.07.1979, 11♂♂, 3♀♀); 17 (Żmiąca near Limanowa 29.07.1978, 1♂, 4♀♀)

— leg. W. KRZEMIŃSKI; 19 (Ustrzyki Górne 23.07.1980, 2♂♂, 1♀, leg. R. SZADZIEWSKI), (ZZS); 19 (Ustrzyki Górne 11—18.06.1966, 2♂♂, leg. R. BAŃKOWSKA), (IZW); 20 (Czorsztyn 13.06.1979, 7♂♂, leg. W. KRZEMIŃSKI), (ZZS).

Molophilus nodicornis LACKSCHEWITZ, 1935

Molophilus nodicornis LACKSCHEWITZ, 1935: 11 (15).

Body colour dark brown. Wing 4—6 mm long, yellow tinged. Antennae very long.



Figs. 148—150. *Molophilus nodicornis* LACKSCH.: 148 — male genitalia (lateral view), (after STARÝ); 149 — complex of aedeagus (lateral view), 150 — complex of aedeagus (ventral view)

Male genitalia (Figs. 148, 149, 150): basistylus with long, stout lobe on its dorsal side; ventral lobe long, broad. Dorsal dististylus short, narrow, pointed. Ventral dististylus long, broad, its distal third part sharply bent to the ventral side, bifid.

Distribution: central Europe.

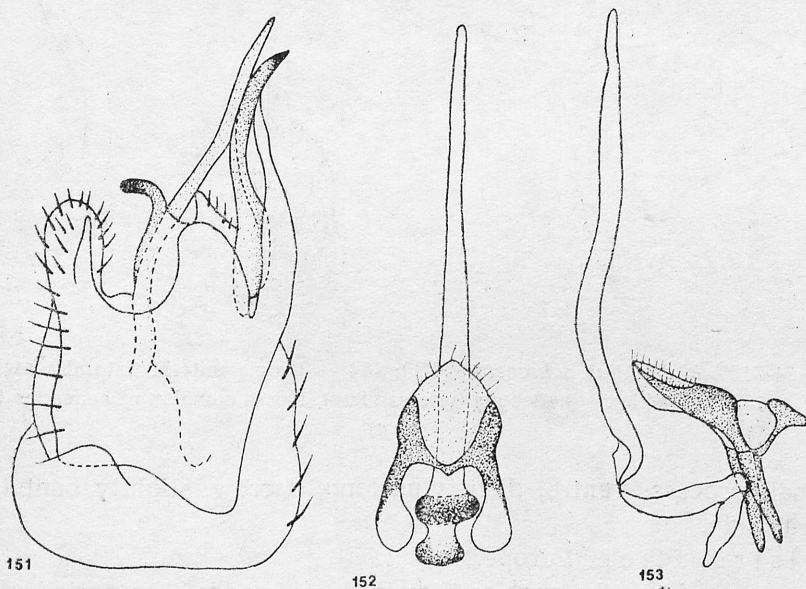
Bionomics: the species is known to fly from June till July.

Molophilus obscurus (MEIGEN, 1818)

Erioptera obscura: GRZEGORZEK, 1873: 27 (17); LOEW, 1870: 160 (21); RÜBSAAMEN, 1901: 136 (4); *Molophilus obscurus*: BOBEK, 1890 (21); NOWICKI, 1873: 17 (17, 21).

Body colour black. Wing 3—5 mm long, brown tinged.

Male genitalia (Figs. 151, 152, 153): basistylus with big lobe on its dorsal side, and with stout, blunt black hook; ventral lobe long, strongly sclerotized, pointed. Dorsal dististylus small, almost triangular; ventral dististylus big, broad, slightly arcuated.



Figs. 151—153. *Molophilus obscurus* (MG.): 151 — male genitalia (lateral view), (after STARÝ); 152 — complex of aedeagus (lateral view), 153 — complex of aedeagus (ventral view)

Distribution: Europe.

Bionomics: the species flies in damp scrubs and meadow. The period of flight is between April and September.

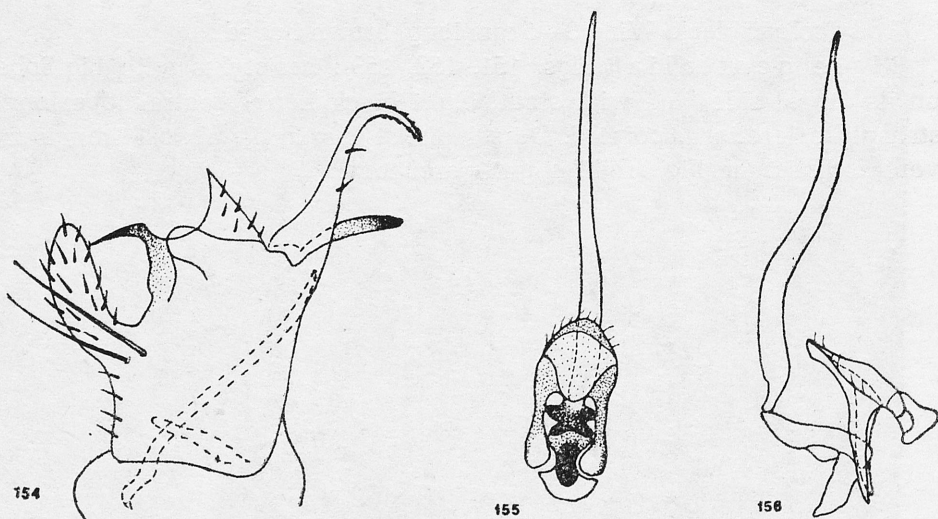
Material examined: 10 (Mydlniki near Kraków 30.06.1976, 4♂♂, 1♀; Las Wolski near Kraków 29.05.1977, 16♂♂; Dulowa near Trzebinia 12.05.1976, 1♂, 3♀♀, leg. K. KRZEMIŃSKI); 11a (Cedzyna 22.09.1978, 1♂, leg. J. WIEDENSKA), (ZZS).

Molophilus ochraceus (MEIGEN, 1818)

Erioptera ochracea: CZWALINA, 1893: 8 (2, 4); GRZEGORZEK, 1873: 27 (17); LOEW, 1870: 160 (21); NOWICKI 1867: 199 (21); NOWICKI 1870: 23 (20); *Molophilus ochraceus*: NOWICKI, 1873: 17 (17, 20, 21); SAKWA, 1962: 327 (5).

Body colour yellow. Wing 4.5—5 mm long, yellow tinged.

Male genitalia (Figs. 154, 155, 156): basistylus with large lobe on its dorsal side and with strongly, pointed black hook; ventral lobe long, narrow, curved and pointed. Dorsal dististylus extremely reduced



Figs. 154—156. *Molophilus ochraceus* (MG.): 154 — male genitalia (lateral view), (after STARÝ); 155 — complex of aedeagus (lateral view), 156 — complex of aedeagus (ventral view)

to small process; ventral dististylus long, narrow, slightly bent toward ventral side.

Distribution: Europe.

Bionomics: the species flies in damp woods. The period of flight is between May and August.

Material examined: 4 (Rytel 11.07.1978, 9♂♂, 5♀♀); 5 (Górki Grabińskie near Łódź 3.07.1980, 1♂); 9 (Gołysz near Skoczów 4.08.1979, 1♂, 3♀♀); 10 (Mydlniki near Kraków 30.06.1976, 5♂♂; Wola Filipowska near Zabierzów 27.05.1979, 2♂♂, 1♀); 17 (Uście Gorlickie near Gorlice 15.08.1978, 2♂♂; Żmiąca near Limanowa 29.07.1978, 1♂; Ciężkowice near Gorlice 26.06.1979, 7♂♂, 4♀♀); 19 (Wetlina 23.07.1978, 9♂♂, 3♀♀); 21 (Brzegi near Bukowina Tatrzańska 20.07.1979, 1♂); leg. W. KRZEMIŃSKI, (ZZS).

Molophilus ochrescens EDWARDS, 1938

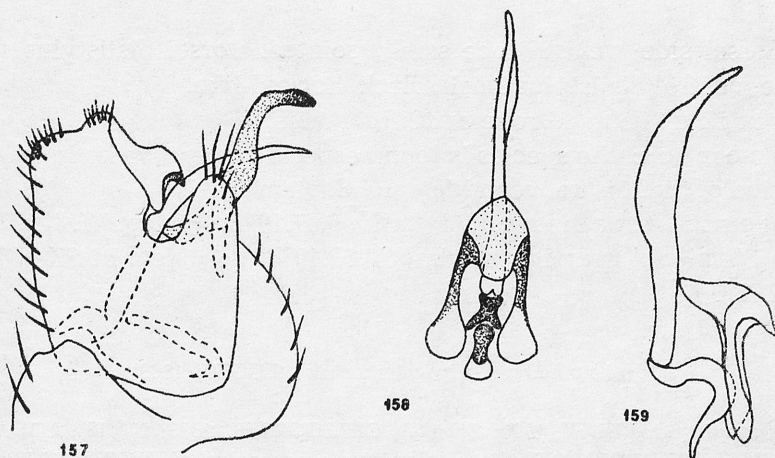
Body colour yellow, with black head and antennae. Wing 5—6 mm long, yellow tinged.

Male genitalia (Figs. 157, 158, 159): dorsal lobe ending with small sclerotized tooth; ventral lobe short, stout. Dorsal dististylus vestigial; ventral dististylus long, apically bent toward ventral side.

Distribution: Europe. New to Poland.

Bionomics: the species flies in damp wood and scrubs. The period of flight is between June and August.

Material examined: 10 (Kostrze near Kraków 20.06.1976, 2♂♂);



Figs. 157—159. *Molophilus ochrescens* EDWARDS: 157 — male genitalia (lateral view), (after STARY); 158 — complex of aedeagus (lateral view), 159 — complex of aedeagus (ventral view)

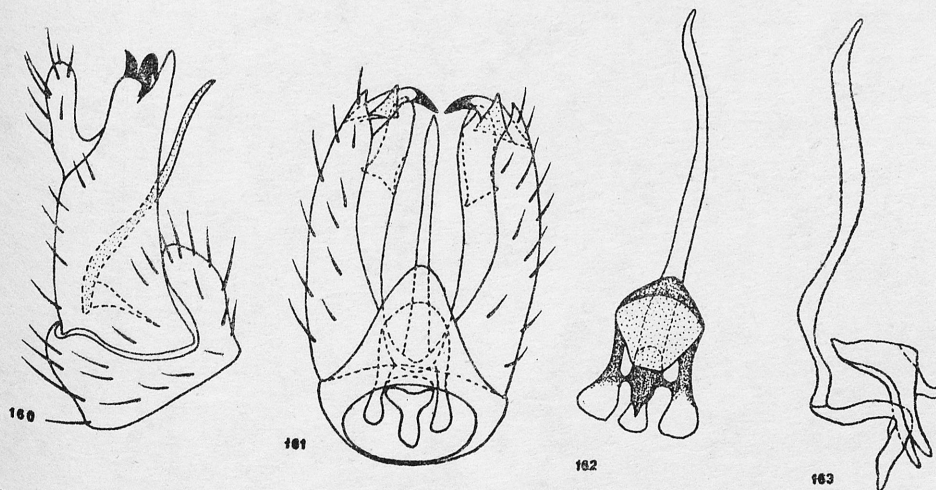
13 (Susiec 9.08.1979, 6♂♂, 1♀); 17 (Uście Gorlickie near Gorlice 15.08.1978, 1♂); 19 (Wetlina 23.07.1978, 4♂♂, 2♀♀); 20 (Krościenko 25.08.1979, 1♀); 21 (Wcisowa Skała near Bukowina Tatrzańska 20.07.1979, 9♂♂, 7♀♀); leg. W. KRZEMIŃSKI, (ZZS).

Molophilus pleuralis MEIJERE, 1920

Molophilus pleuralis: SZADZIEWSKI, 1983: 64 (5).

Body colour light brown. Wing 6—7 mm long, yellow tinged.

Male genitalia (Figs. 160, 161, 162, 163): differs from other species of this genus. Basistylus is long, narrowing to end, with large lobe



Figs. 160—163. *Molophilus pleuralis* MEIJERE: 160 — male genitalia (lateral view), 161 — male genitalia (ventral view), 162 — complex of aedeagus (lateral view), 163 — complex of aedeagus (ventral view)

on its dorsal side; ventral lobe small, pointed. Dorsal dististylus minute and pale; ventral dististylus small, black, hooked-like.

Distribution: Europe and Minor Asia.

Bionomics: the species is found especially near water in lowlands. The period of flight is between May and September.

Material examined: 3 (Laska 6.07.1978, 1♂, leg. W. KRZEMIŃSKI); 5 (Siemionki near Inowrocław 28.07.1974, 2♂♂, leg. R. SZADZIEWSKI), (ZZS).

Molophilus propinquus (EGGER, 1863)

Erioptera propinqua: BOBEK, 1890: 240 (21); GRZEGORZEK, 1873: 27 (17); LOEW, 1870: 160 (21); NOWICKI, 1867: 199 (21); *Molophilus propinquus*: NOWICKI, 1873: 17 (17, 21).

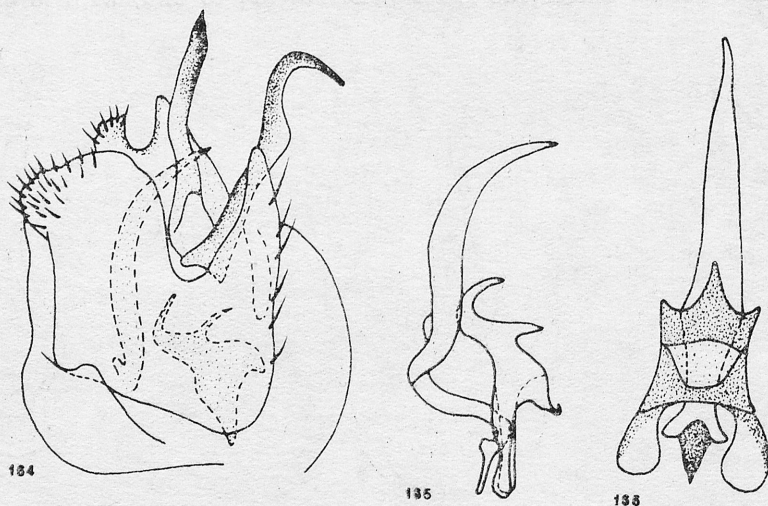
Body colour brown. Wing 4—5.5 mm long, brown tinged.

Male genitalia (Figs. 164, 165, 166): basistylus as in Fig. 164. Dorsal dististylus rather long, covered with fine spicules; ventral dististylus in the third distal part conspicuously narrowed and bent at right angle toward the ventral side.

Distribution: Europe.

Bionomics: the species flies in damp woods, especially near water. The period of flight is between May and September.

Material examined: 2 (Gdańsk — Dolina Radości 5.08.1980, 1♂, leg. R. SZADZIEWSKI); 10 (Mydlniki near Kraków 30.06.1976, 7♂♂,



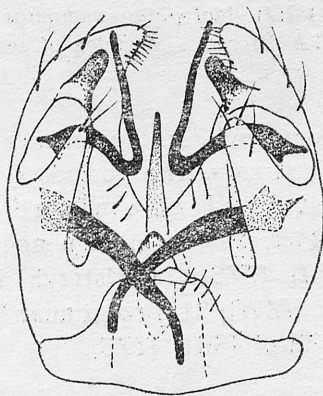
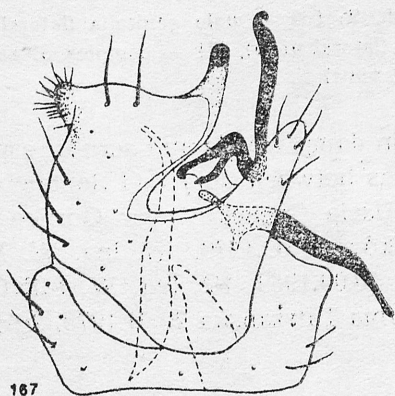
Figs. 164—166. *Molophilus propinquus* (EGGER): 164 — male genitalia (lateral view), (after STARY); 165 — complex of aedeagus (lateral view), 166 — complex of aedeagus (ventral view)

1♀, leg. W. KRZEMIŃSKI); **11a** (Zagnańsk 21.05.1977, 1♂, leg. J. WIEDEŃSKA); **17** (Ciężkowice near Gorlice 26.06.1979, 8♂♂, 7♀♀; Myślenice near Kraków 11.09.1979, 1♂); **19** (Wetlina 23.07.1978, 3♂♂, 5♀♀); **20** (Czorsztyn 15.06.1979, 2♂♂, 4♀♀); **21** (Brzegi near Bukowina Tatrzańska 20.07.1979, 2♂♂); leg. W. KRZEMIŃSKI, (ZZS).

Molophilus serpentiger EDWARDS, 1938

Body colour brown; head dark grey. Wing 5.5—6 mm long, yellow tinged.

Male genitalia (Figs. 167, 168): dorsal lobe of basistylus with big, strongly sclerotized process and with a nodular protuberance on its dorsal side; ventral lobe big, stout. Dorsal dististylus long, narrow, with a strong double bend; ventral dististylus long, with slightly bent apex.



Figs. 167—168. *Molophilus serpentiger* EDWARDS (after STARÝ): 167 — male genitalia (lateral view), 168 — male genitalia (ventral view)

Distribution: central and west Europe. New to Poland.

Bionomics: the species is found in damp scrubs. The species is known to fly from May till June.

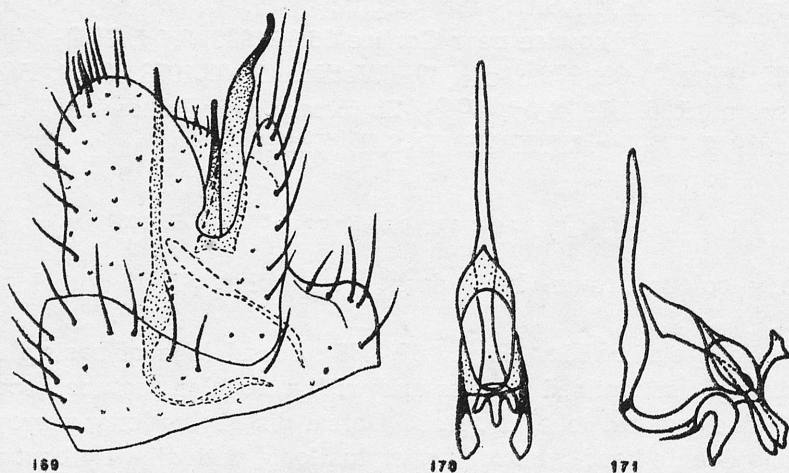
Material examined: **10** (Kraków — Piaski Wielkie 8.06.1980, 2♂♂, leg. W. KRZEMIŃSKI), (ZZS).

Molophilus undulatus TONNOIR, 1920

Body colour light brown. Wing 4.5—6 mm long, yellow tinged.

Male genitalia (Figs. 169, 170, 171): basistylus without processes in dorsal part; ventral lobe big, stout. Dorsal dististylus short, straight, narrow, pointed; ventral dististylus long, broad, with slightly bent apex, pointed.

Distribution: Europe. New to Poland.

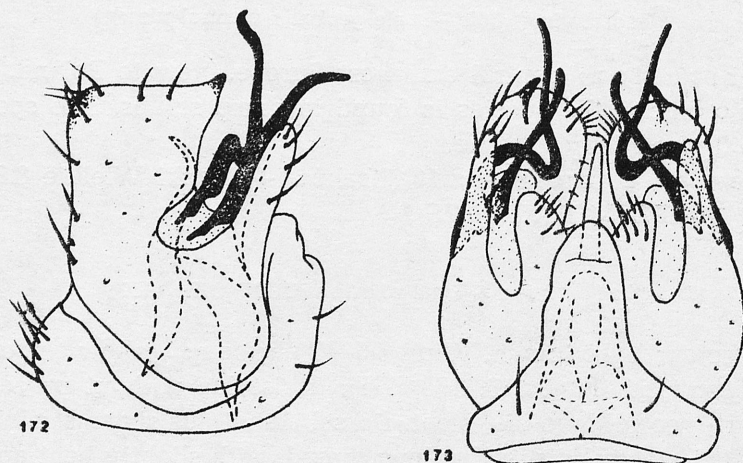


Figs. 169—171. *Molophilus undulatus* TONNOIR: 169 — male genitalia (lateral view), (after STARÝ); 170 — complex of aedeagus (lateral view), 171 — complex of aedeagus (ventral view)

Bionomics: the species flies in damp woods and scrubs, especially near stream. The period of flight is between July and September.

Material examined: 17 (Uście Gorlickie near Gorlice 15.08.1978, 2♂♂, 1♀; Myślenice near Kraków 11.09.1979, 1♂, leg. W. KRZEMIŃSKI), (ZZS); 19 (Ustrzyki Dolne 10.09.1969, 1♀, leg. W. MIKOŁAJCZYK), (IZW); 21 (Brzegi near Bukowina Tatrzańska 20.07.1979, 2♂♂, leg. W. KRZEMIŃSKI), (ZZS).

Molophilus variispinus STARÝ, 1971



Figs. 172—173. *Molophilus variispinus* STARÝ (after STARÝ): 172 — male genitalia (lateral view), 173 — male genitalia (ventral view)

Body colour yellow. Wing 5.5—6 mm long, yellow tinged.

Male genitalia (Figs. 172, 173): dorsal lobe of basistylus with pointed, strongly sclerotized process; ventral lobe rather big, stout. Dorsal dististylus long, narrow, with a strong double bend; ventral lobe long, narrow, with slightly bent apex.

This species is very similar to *M. serpentiger* EDW.

Distribution: central Europe. New to Poland.

Bionomics: the species is found in damp woods, especially near streams. The period of flight is between May and August.

Material examined: 17 (Zawoja 2.07.1976, 1♂; Zmiąca near Limanowa 30.08.1978, 2♂♂); 20 (Czorsztyn 13.06.1979, 2♂♂); leg. W. KRZEMIŃSKI, (ZZS).

TRIBE GONOMYINI

Antennae and wing venation similar as in *Eriopterini*. However, in some genera veins R_2 and R_3 are fused over long distance and cross vein r is often lacking. Gonomyini differ from other tribes in having merones very small. This tribe comprises numerous species widespread throughout the world.

In Europe 5 genera are living, in Poland 4 of them are known.

Genus *Gnophomyia* OSTEN-SACKEN, 1859

This genus comprises large, dark coloured crane flies. Vein Sc_2 is placed far before end of Sc_1 ; vein R_{4+5} is direct continuation of vein R_s ; vein r present; discoidal cell closed.

Genus composed of about 130 species distributed throughout world, mostly represented in Neotropic Region. In Europe 2 species living, in Poland 2 species known.

Gnophomyia lugubris (ZETTERSTEDT, 1838)

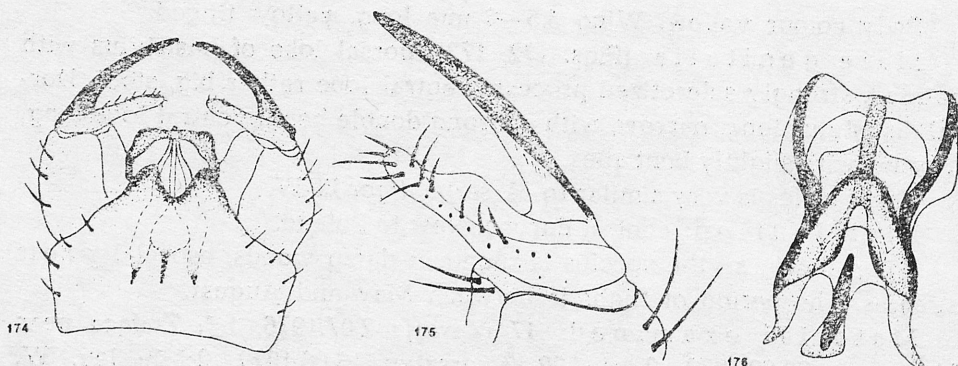
Body colour black. Wing 6—9 mm long, brown tinged, with black veins.

Male genitalia (Figs. 174, 175, 176): basistylus short, broad. Outer dististylus long, slender. Inner dististylus rather short, lobe-like, simple. Penis short, narrow. Other details are present on Fig. 176.

Distribution: Palaearctic. New to Poland.

Bionomics: the species is found in damp woods. The period of flight is between May and August.

Material examined: 5 (Tuszyn near Łódź 26.06.1980, 2♂♂, 1♀, leg. W. KRZEMIŃSKI, (ZZS).



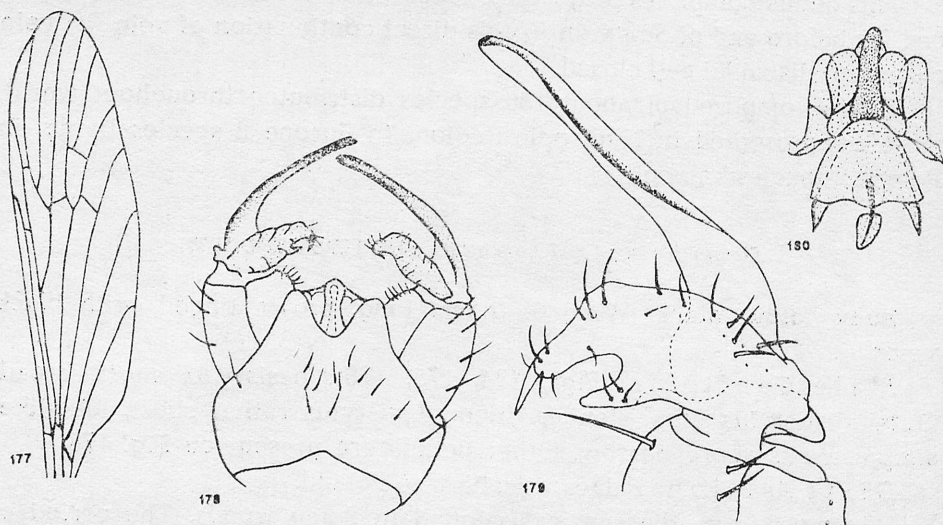
Figs. 174—176. *Gnophomyia lugubris* (ZETT.): 174 — male genitalia (after STARÝ), 175 — outer and inner dististylus (after STARÝ), 176 — complex of aedeagus (dorsal view)

Gnophomyia viridipennis (GIMMERTHAL, 1840)

This species is very similar to *Gnophomyia lugubris* ZETT. Body colour black. Wing 6—8 mm long, brown tinged, with black veins (Fig. 177).

Male genitalia (Figs. 178, 179, 180): basistylus short, broad. Outer dististylus long, slender. Inner dististylus rather short, very wide, with bifid tip. Penis short, slender. Other details are presented on Fig. 180.

Distribution: north and west Europe. New to Poland.



Figs. 177—180. *Gnophomyia viridipennis* (GIMMERTHAL): 177 — wing, 178 — male genitalia (after STARÝ), 179 — outer and inner dististylus (after STARÝ), 180 — complex of aedeagus (dorsal view)

Bionomics: the species is found in damp woods and scrubs, especially near water. The period of flight is between April and September.

Material examined: 17 (Ciężkowice near Gorlice 26.06.1979, 1♂, leg. W. KRZEMIŃSKI), (ZZS).

Genus *Lipsotrix* LOEW, 1873

Species of this genus are relatively large, yellow coloured. Vein Sc_2 placed at the end of Sc ; veins R_2 and R_3 fused over third part of their length. Discoidal cell closed. Dististyli without additional processes. Penis bilaterally flattened.

Genus *Lipsotrix* is distributed over Holarctic and Oriental region. Till now 55 species are known, 1 in Poland.

Lipsotrix errans (WALKER, 1848)

Lipsotrix icterica: NOWICKI, 1873: 17 (17).

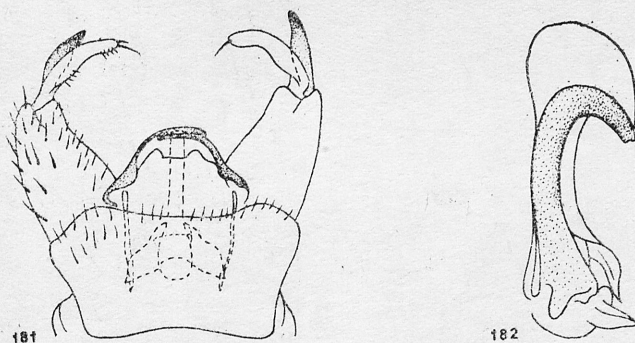
Body colour pale yellow, with palpi, tips of femora and 8th segment of abdomen black. Wing 8—10 mm long, yellow tinged.

Male genitalia (Figs. 181, 182): penis curved with a large cowl-like flattened expansion above. Parameres narrow, bent at middle.

Distribution: north, west and central Europe.

Bionomics: the species flies in woods and scrubs, especially near streams. The period of flight is between June and August.

Material examined: 17 (Bartne near Gorlice 16.08.1978, 2♂♂; Ciężkowice near Gorlice 26.06.1979, 1♂); 19 (Wetlina 23.08.1978, 1♂); 20 (Krościenko 24.08.1979, 1♂); leg. W. KRZEMIŃSKI, (ZZS).



Figs. 181—182. *Lipsotrix errans* (WALKER), (after STARÝ): 181 — male genitalia, 182 — aedeagal complex (lateral view)

Genus *Idiocera* DALE, 1842

On the wing membrane few dark spots are present. Vein Sc short, veins R_2 and R_3 fused over long distance, R_2 almost vertical (Fig. 183). Discoidal cell open. In the male genitalia basistylus with long process, three dististyli present, with additional processes.

This genus comprises about 160 species, living on all continents besides South America. In Poland 1 subgenus with 1 species present.

Subgenus *Euptilostena* ALEXANDER, 1938

Dark coloured species, differing from *Idiocera* s. str. in having the additional cross vein between R_3 and R_{4+5} .

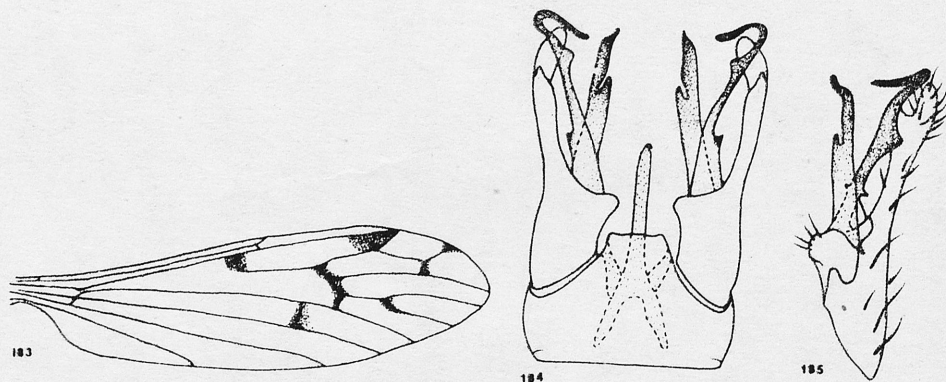
In Poland 1 species known till now.

Idiocera (Euptilostena) jucunda (LOEW, 1873)

Gonomyia jucunda LOEW, 1873: 54 (17).

Body colour dark brown. Wing 7—8 mm long, clear, with dark spots in medial and radial field.

Male genitalia (Figs. 184, 185): side part of basistylus expanded into long, widened and apically bifid process. Outer dististylus broad, bifid with the outer part expanded into long, pointed process; inner dististylus long, with side short processes, and apically sharply bent to inside. Penis long, narrow, with little hooked process at the tip. Parameres strongly reduced.



Figs. 183—185. *Idiocera (Euptilostena) jucunda* (LOEW): 183 — wing, 184 — male genitalia (dorsal view), 185 — basistylus with outer and inner dististylus (ventral view)

Distribution: central Europe.

Bionomics: the species is found in woods and scrubs, especially near streams. The species is known to fly from June till August.

Genus *Gonomyia* MEIGEN, 1818

Veins R_2 and R_3 fused over long distance, cross vein R absent. Discoidal cell may be closed (Fig. 195). In some species penis and parameres are asymmetric.

The genus comprises 250 species grouped in 7 subgenera. In Poland 4 subgenera present.

Subgenus *Protogonomyia* ALEXANDER, 1934

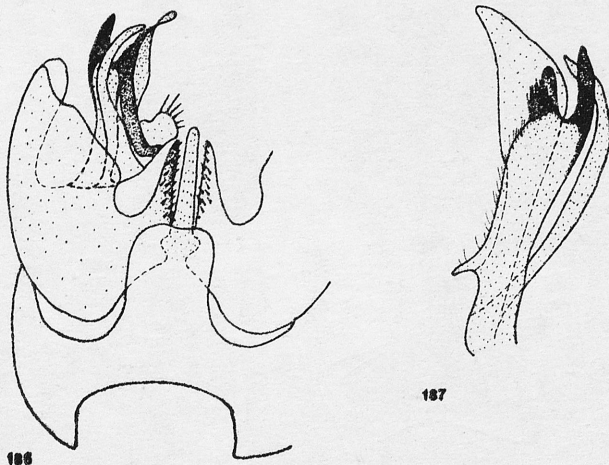
Vein R_2 longer than R_{2+3} . Discoidal cell closed. Basistylus not elongated distally.

In Europe 2 species of this subgenus present, in Poland 1 is known till now.

Gonomyia (Protogonomyia) limbata (VON ROSER, 1840)

Gonomyia (Protogonomyia) limbata: STARÝ, 1980: 45 (9).

Body colour black, with yellow markings on pleural and with yellow scutellum. Wing 6.5—7 mm long, with dark brown veins.



Figs. 186—187. *Gonomyia (Protogonomyia) limbata* (ROSER): 186 — male genitalia (dorsal view), 187 — dististyli (ventral view)

Male genitalia (Figs. 186, 187): basistylus rather short, broad. Three dististyli are present. Penis long, narrow, claw-shaped apically. Parameres strongly reduced. Other details are presented on Fig. 187.

Distribution: central and south Europe.

Bionomics: the species is known to fly from June till August.

Subgenus *Ellipteroides* BECKER, 1907

Vein R_2 nearly as long as R_{2+3} . Discoidal cell open. Cross-vein *m-cu* before fork of medial vein. Basistylus elongated distally. Three dististyli present.

In Europe 2 species of this subgenus present, in Poland 1 is known till now.

Gonomyia (Ellipteroides) lateralis (MACQUART, 1835)

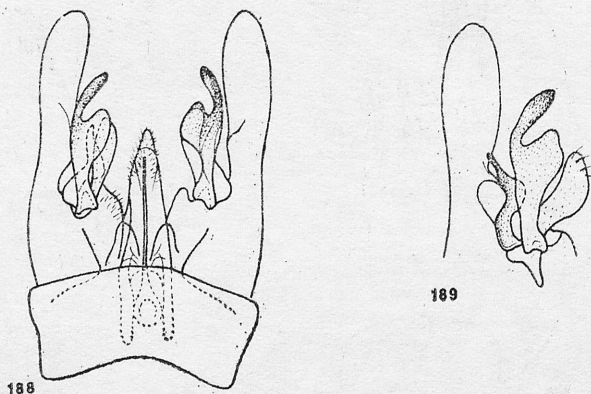
Gonomyia cincta: GRZEGORZEK, 1873: 27 (17); NOWICKI, 1873: 17 (17).

Body colour black, with yellow markings on pleurae and dark scutellum. Wing 7—8 mm long, brown tinged.

Male genitalia (Figs. 188, 189): basistylus with side margin expanded into big lobe, longer than dististyli. Outer dististylus broad, with wide process in medial part; medial dististylus small, S-curved; inner dististylus broad, lobe-like, smaller than outer one. Penis short, broad. Parameres very small, wide.

Distribution: Europe.

Bionomics: the species is found in wood. The period of flight is between May and July.



Figs. 188—189. *Gonomyia (Ellipteroides) lateralis* (MACQUART), (after STARÝ): 188 — male genitalia, 189 — dististyli (dorsal view)

Subgenus *Prolipophleps* SAVCHENKO, 1972

Veins R_s and Sc_1 very short; discoidal cell closed; cross-vein $m-cu$ at the fork of medial vein. Dististyli with numerous processes.

Palearctic subgenus composed of 7 species, in Poland 1 present.

Gonomyia (Prolipophleps) abbreviata LOEW, 1873

Body colour brown, head black. Wing 5—6 mm long, slightly darkened.

Male genitalia (Fig. 190): basistylus long, narrow. Outer dististylus long, bent at the tip, with 2 broad, short teeth on its inner side. Inner dististylus with 4 sharp teeth. Penis wide, apically fibrid, both tips thin, sharp, strongly sclerotized and bent to the back.

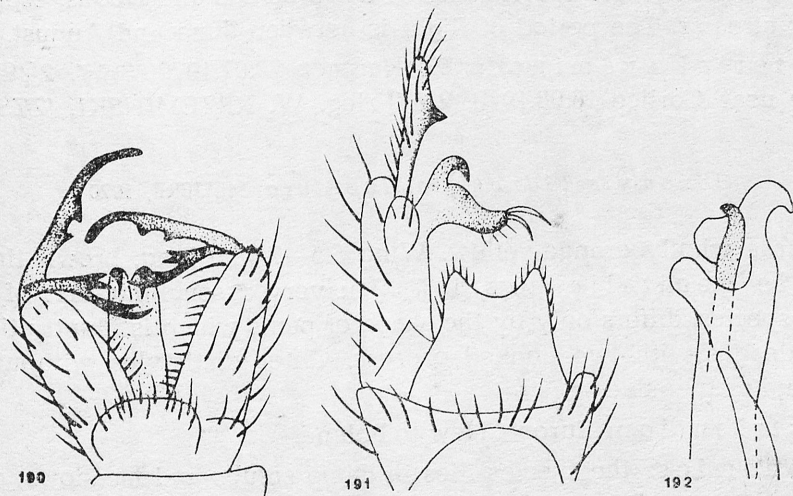


Fig. 190. Male genitalia of *Gonomyia (Prolipophleps) abbreviata* LOEW, (after MEIJERE)

Figs. 191—192. *Gonomyia (Gonomyia) dentata* MG.: 191 — male genitalia (after MEIJERE), 192 — penis (lateral view), (after COE)

Distribution: Europe. New to Poland.

Bionomics: the species is found in scrubs, especially near streams. The period of flight is between June and September.

Material examined: 17 (Ciężkowice near Gorlice 26.06.1979, 1♂, leg. W. KRZEMIŃSKI), (ZZS).

Subgenus *Gonomyia* MEIGEN, 1818

R_2 always short, distinct and oblique; discoidal cell closed; cross-vein $m-cu$ usually placed behind or at the fork of medial vein. Basistylus with finger-like lobe at the tip; two dististyli are present.

Subgenus widespread over the world, most numerous in Holarctic (65 species present), in Poland 4 species.

Gonomyia (Gonomyia) dentata MEIGEN, 1920

Pleurae always blackish. Wing 5.5—6 mm long, slightly darkened.

Male genitalia (Figs. 191, 192): basistylus narrow, with small finger-like lobe. Outer dististylus straight, with wide, short tooth on its inner margin. Inner dististylus bifid, its outer part shaped as sharp, hooked tooth; inner part broad, lobe like. Aedeagus with one hooked process, penis stout, truncate at tip. Other details are presented on Fig. 192.

Distribution: Europe. New to Poland.

Bionomics: the species flies in damp scrubs and woods, especially near streams. The period of flight is between June and August.

Material examined: 15 (Karpacz 28.07.1979, 3♂♂, 2♀♀); 17 (Bartne near Gorlice 16.08.1978, 2♂♂); leg. W. KRZEMIŃSKI, (ZZS).

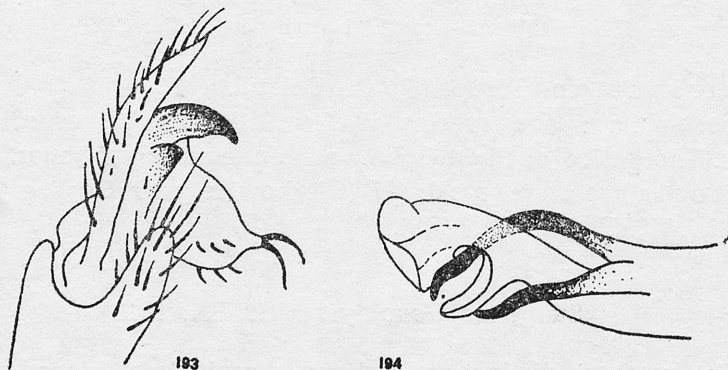
Gonomyia (Gonomyia) lucidula MEIJERE, 1920

Pleurae wholly orange-yellow. Wing 5.5—7 mm long, brown tinged.

Male genitalia (Figs. 193, 194): very resembling that of preceding species, differs only by the shape of penis which is bluntly tipped and aedeagus with two hooked process. Outer dististylus without the tooth on its inner side.

Distribution: Europe. New to Poland.

Bionomics: the species flies in damp scrubs and meadows, especially near water. The period of flight is between June and August.

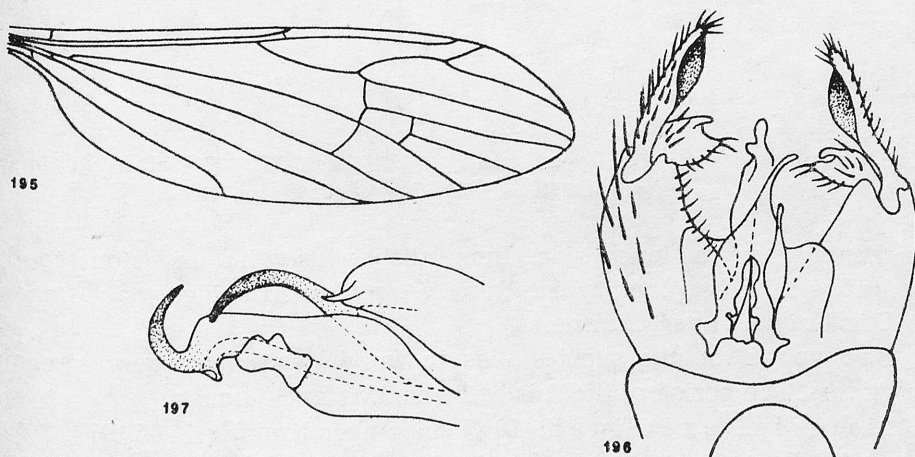


Figs. 193—194. *Gonomyia (Gonomyia) lucidula* MEIJERE, (after COE): 193 — dististyli (dorsal view), 194 — penis (lateral view)

Material examined: 5 (Dłutów near Łódź 28.06.1980, 3♂♂, 1♀); 10 (Mydlniki near Kraków 30.06.1976, 2♂♂); 19 (Wetlina 23.07.1978, 2♂♂); 21 (Bukowina Tatrzańska 20.07.1979, 1♂); leg. W. KRZEMIŃSKI, (ZZS).

Gonomyia (Gonomyia) simplex TONNOIR, 1920

Pleurae with dark markings. Wing 5.5—8 mm long, yellow tinged (Fig. 195).



Figs. 195—197. *Gonomyia (Gonomyia) simplex* TONNOIR: 195 — wing, 196 — male genitalia (after STARÝ), 197 — penis (lateral view), (after COE)

Male genitalia (Figs. 196, 197): outer dististylus with rounded, blackened area on inner side. Inner dististylus with one small black tooth. Penis with narrowed, hooked tip, and aedeagus with only single hooked process.

Distribution: central and north Europe. New to Poland.

Bionomics: the species flies in damp woods. The period of flight is between June and August.

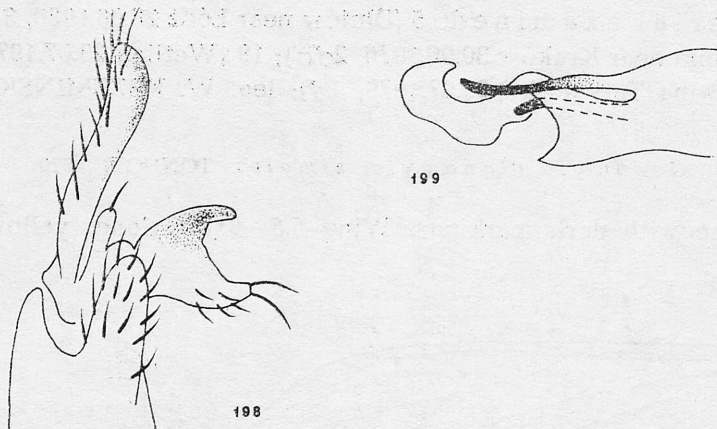
Material examined: 17 (Babia Góra — at altitudes between 900—1000 m, 2.07.1976, 1♂; Bartne near Gorlice 16.08.1978, 3♂♂); 20 (Chwała Bogu 14.06.1979, 1♂); leg. W. KRZEMIŃSKI, (ZZS).

Gonomyia (Gonomyia) tenella (MEIGEN, 1818)

Gnophomyia tenella: BOBEK, 1890: 241 (21); *Goniomyia tenella*: GRZEGORZEK, 1873: 27 (17); *Gonomyia tenella*: NOWICKI, 1869: 148 (21); *Limnobia tenella*: SCHUMMEL, 1829: 145 (15); SZADZIEWSKI, 1983: 64 (5).

Pleurae light brown. Wing 5—7 mm long, yellow tinged.

Male genitalia (Figs. 198, 199): outer dististylus with a small



Figs. 198—199. *Gonomyia (Gonomyia) tenella* (MG.), (after COE): 198 — dististyli (dorsal view), 199 — penis (lateral view)

blackened area on inner side. Inner dististylus with one stout tooth. Aedeagus with two long, pointed hooks; penis with wide, hooked apex.

Distribution: Europe.

Bionomics: the species flies in woods, especially near streams and rivers. The period of flight is between May and August.

Material examined: **10** (Tyniec near Kraków 11.05.1977, 3♂♂, 2♀♀); **11** (Bogucice near Pińczów 28.06.1980, 1♂, 2♀♀) — leg. W. KRZEMIŃSKI, (ZZS); Grabowiec near Pińczów 26.05.1959, 1♂, leg. W. MIKOŁAJCZYK, (IZW); **11a** (Cedzyna 20.06.1978, 1♂, leg. J. WIEDŃSKA); **17** (Uście Gorlickie near Gorlice 15.08.1978, 2♂♂, 3♀♀, leg. W. KRZEMIŃSKI, (ZZS); **19** (Ustrzyki Górne 11—18.06.1966, 1♀, leg. R. BAŃKOWSKA, (IZW).

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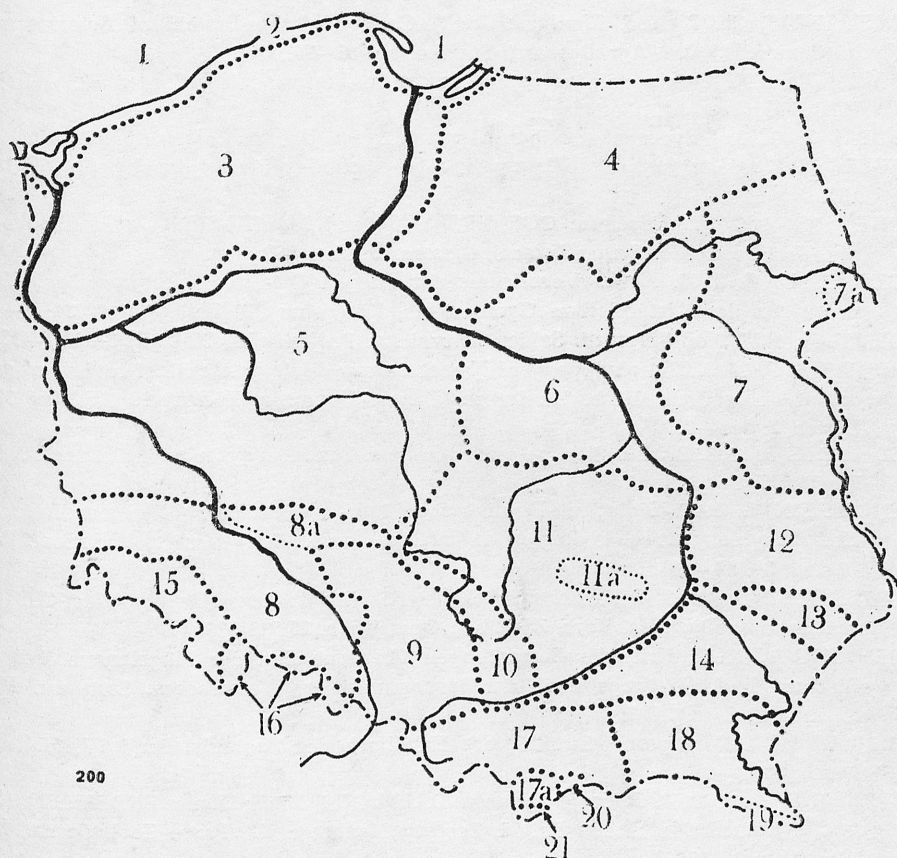


Fig. 200. Map of Poland with zoogeographical regions (after "Catalogus faunae Poloniae": 1 — Baltic Sea, 2 — Baltic Coast, 3 — Pomeranian Lakeland, 4 — Masurian Lakeland, 5 — Lowland of Great Poland and Kujawy, 6 — Masovian Lowland, 7 — Podlasie, 7a — Bialowieza Forest, 8 — Lower Silesia, 8a — Trzebnickie Hills, 9 — Upper Silesia, 10 — Cracow—Wieluń Upland, 11 — Little Poland Highland, 11a — Świętokrzyskie Mts., 12 — Lubelska Highland, 13 — Roztocze, 14 — Sandomierska Lowland, 15 — Western Sudetes Mts., 16 — Eastern Sudetes Mts., 17 — Western Beskid, 17a — Nowotarska Basin, 18 — Eastern Beskid, 19 — Bieszczady Mts., 20 — Pieniny Mts., 21 — Tatra Mts.

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STRESZCZENIE

W latach 1975—1980 prowadzono badania fauny muchówek z podrodziny *Eriopterinae* (*Diptera*, *Limoniidae*) w Polsce. Autor stwierdził występowanie 85 gatunków, z czego 42 są nowe dla naszej fauny. Praca niniejsza zawiera ogólną charakterystykę podrodziny, plemion, rodza-

jów i podrodzajów oraz wykaz wszystkich gatunków. Przy poszczególnych gatunkach podano ich krótki opis, rysunki aparatu kopulacyjnego samca, ogólne informacje o występowaniu na świecie, dane dotyczące czasu i środowiska występowania oraz szczegółowe informacje o występowaniu w Polsce. Podział Polski na poszczególne krainy przyjęto za Katalogiem Fauny Polski. Przy poszczególnych okazach podano również miejsce ich obecnego przechowywania.

Redaktor pracy: prof. dr J. Pawłowski

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Comment: numbers printed in **bold type** refer to pages where descriptions of taxon are given; numbers printed in *cursive* refer to pages with illustrations.

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