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*PIPUNCULIDAE (DIPTERA) OF MOIST MEADOWS ON THE
MAZOVIAN LOWLAND*

ABSTRACT

The object of the study are the flies of the family *Pipunculidae*, parasitizing in *Homoptera-Auchenorrhyncha* on moist meadows of the Mazovian Lowland. The species composition, abundance and dominance structure of flies are discussed.

ANALYSIS OF THE MATERIAL

The flies of the family *Pipunculidae*, which are internal parasites of *Homoptera-Auchenorrhyncha*, are of great significance in maintaining the biocoenotic balance in grass ecosystems.

The knowledge of this interesting group of flies, both in Poland and abroad, is still insufficient because of difficulties in obtaining material. Thus, it seems worthwhile to add some information on the *Pipunculidae* fauna of moist meadows. On the meadows examined *Pipunculidae* are not abundant, and despite the various collecting methods applied (Bańkowska 1989) only about 100 individuals were caught. Five species were distinguished, i.e. 22% of *Pipunculidae* known from the Mazovian Lowland and 10% known from Poland (Bańkowska 1981). These were:

Eudorylas fuscipes (Zett.)

A species most abundantly represented on moist meadows (Tab. 1). Quite common in Poland on open areas. Occurs all over Europe. Known as a parasite of *Macrosteles laevis* (Rib.).

Eudorylas terminalis (Thoms.)

Some individuals of this species have been caught on the Chylice meadow. Distributed all over Europe. In Poland recorded at numerous localities (Bańkowska 1972). Parasitizing in *Homoptera* of the family *Cicadellidae*.

Table 1. Species composition of *Pipunculidae* fauna of moist meadows on the Mazovian Lowland (xxx — dominants, xx — subdominants, x — accessory species)

No.	Species	Locality			
		Klembów	Białoleka	Chylice	Zbroszki
1	<i>Eudorylas terminalis</i> (Thoms.)			xx	
2	<i>Eudorylas fuscipes</i> (Zett.)	x	xx	xxx	x
3	<i>Alloneura sylvatica</i> (Meig.)	x	x	xxx	x
4	<i>Pipunculus campestris</i> Latr.		x		
5	<i>Dorylomorpha xanthopus</i> (Thoms.)			x	

Alloneura sylvatica (Meig.)

Caught quite abundantly on all the meadows examined (Tab. 1). A European species, common in Poland. Known as a parasite of cicadas: *Arthaldeus pascuellus* (Fall.) and *Macrosteles laevis* (Rib.).

Pipunculus campestris Latr.

Few individuals have been caught on the Białoleka Dworska meadow. A European species, not frequent in Poland. A parasite of *Macrosteles laevis*.

Dorylomorpha xanthopus (Thoms.)

One individual of this species has been caught at Chylice. Lives in central and northern Europe. In Poland known only from Western Pomerania, Mazovia (Białoleka Dworska) and Silesia.

The relative abundance of *Pipunculidae* as in the majority of parasites was relatively low and fluctuated between 0.03 (mean from three years) on the Białoleka meadow, 0.06 at Chylice and 0.07 at Klembów and Zbroszki.

On moist meadows two species of *Pipunculidae* dominated: *Eudorylas fuscipes* (52%) and *Alloneura sylvatica* (38%). Their relative abundance on Zbroszki pasture in 1983 was 0.07 and 0.05, respectively. It is conditioned by a great abundance of cicadas on the pasture, which are their food base. Both *Arthaldeus pascuellus* and *Macrosteles laevis* belonged to the group of dominant cicadas and occurred very abundantly on the pasture (Chudzicka 1989).

On moist meadows *Pipunculidae* begin to appear in the middle of May. The maximum appearance of adult forms is in July and the middle of August. In September and October they are only few.

The phenology of *Pipunculidae* depends closely on the biology of their particular host species as among cicadas there are species having one, two and three generations. The number of generations of these parasitic flies is closely synchronized with that of their hosts.

Generally, it can be said that the fauna of *Pipunculidae* of moist meadows examined is distinctly poorer as compared to fauna of forest habitats. Quite likely

the influence of man management on seminatural meadows is greatly responsible for the decrease in the number of species and abundance of the group of parasitic flies examined.

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REFERENCES

- Bańkowska R. 1972. Przegląd polskich gatunków z rodziny *Pipunculidae* (Diptera). *Fragm. Faun.* Warszawa, 18: 257-274.
- Bańkowska R. 1981. *Pipunculidae* (Diptera) of Warsaw and Mazovia. In: Species composition and origin of the fauna of Warsaw. Part 2. *Memorabilia Zool.*, 35: 85-91.
- Bańkowska R. 1989. Study area and methods of material collecting on moist meadows on the Mazovian Lowland. *Memorabilia Zool.*, 43: 7-15.
- Chudzicka E. 1989. Leafhoppers (*Homoptera*, *Auchenorrhyncha*) of moist meadows on the Mazovian Lowland. *Memorabilia Zool.*, 43: 93-118.

PIPUNCULIDAE (DIPTERA) ŁĄK ŚWIEŻYCH NIZINY MAZOWIECKIEJ

STRESZCZENIE

W pracy podano pięć gatunków *Pipunculidae* złowionych na łąkach świeżych Niziny Mazowieckiej (tabl. 1). Najliczniej występowały *Eudorylas fuscipes* (Zett.) — 52% i *Alloneura sylvatica* (Meig.) — 38%, pasożytujące w pluskwiakach *Arthaldeus pascuellus* (Fall.) i *Macrostes laevis* (Rib.).

PIPUNCULIDAE (DIPTERA) СВЕЖИХ ЛУГОВ МАЗОВЕЦКОЙ НИЗМЕННОСТИ

РЕЗЮМЕ

Работа охватывает паразитирующие в клопах (*Homoptera*, *Auchenorrhyncha*) мухи из семейства *Pipunculidae*, живущие на свежих лугах Мазовецкой низменности. Обсужден в ней видовой состав исследуемых мух, их численность и структура доминанции.