

## P-0684

PARASITES OF INVERTEBRATES FROM  
THE BASIN OF THE RIVER DNIESTER

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This study is a part of a wide programme of hydrochemical and hydrobiological research of the different parts of the river Dniester and Dniester Reservoir. The main aim of our research was to study the parasite fauna of such groups that is rich in species [mollusks, crustacea, insecta]. Along with this we have searched for possible changes of the composition of parasite species together with their numbers.

Various parts of the Dniester were investigated, ranging from the town Striy to the sea-border. More than 3000 specimens [38 animal species] have been studied for parasites; 456 [13,8%] turned out to be infected. A systematic study of the parasites showed that they belong to different taxonomic groups [gregarines, microsporidians, trematodes, cestodes, acanthocephalans, nematodes].

The numbers and parasite species composition are variable in different parts of the Dniester. Only 6 parasite species were found in the upper Dniester [7,6%]. Coming closer to the lower reaches of the river the composition and numbers increase, the biggest being in the Lower Dniester. 15 parasite species were met in the Dniester Reservoir [14,4%]. The most number parasite species [33] were recorded in the Lower Dniester. The percent of infected invertebrate species ranged from 1,0 up to 100% and the total ranged from 1,6 up to 35,6%. Trematode larvae turned out to be the main parasites of the invertebrates of the studied water bodies of the Lower Dniester [among 33 recorded parasites 24 are helminths]. Most frequently were met larvae of trematodes that finally develop in vertebrates [amphibians, fish and birds].

A significant influence upon the parasite fauna of the invertebrates has the water flow, the abundance of aquatic vegetation, the temperature, the water level, the salinity and oxygen content.

An analysis of our data and the data from the literature shows that the percent of infected invertebrates species increased to 23,0% in last years.

P-0686 THE USE OF DIFFERENT COLLECTION METHODS FOR  
SAMPLING SAND-FLIES IN GHIR CITY, FARS PROVINCE, IRAN.

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An investigation was carried out over one year in Ghir city Fars province, south of Iran (53°, 20° east longitude and 28°, 8 north longitude) to compare CDC light traps and sticky paper traps for sampling sand-flies from outdoor and indoor resting places. The city of Ghir is one of major foci of visceral leishmaniasis (VL) in Iran. This area was chosen as a suitable location for collection of *Ph.keshishiani* probable vector of VL and other species of sand-flies. In this area 14 observations were made on two weeks intervals, over a period of 8 months during the active season of sand-flies.

Sticky paper traps were placed before dusk in : the rooms, courtyards, animal shelters, burrows, rock crevices and other likely places. This traps were removed next morning before sunrise. CDC light traps were operated 30 minutes after sunset to 30 minutes before sunrise.

The sticky paper traps, were useful in the determining the seasonal distribution of sand-flies, by the method more than 20 species were collected in different resting places. CDC light traps were found to be very useful for collection of female species of *Phlebotomus keshishiani* and *Ph.major* probable vectors of leishmaniasis in Iran. Species of genus *Sergentomyia* were not attracted to light and only few number of this genus were collected by CDC light trap.

## P-0685

THE BITING MIDGES (DIPTERA  
CERATOPOGONIDAE) - BLOODSUCKERS OF  
REPTILES AND BATS - AS POSSIBLE  
COLLABORATORS OF ARBOVIRUSES  
CIRCULATION IN THE NATURE.

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At the present time it is known that bloodsuckers of Culicoides genus are the specific carriers of live stock ephemera fever (Walkes, 1979), blutanioses, Japanese encephaloses, gemosparidiosis (Greiner, Benel, 1977, L'vov, 1982), filyarias intermediate masters *Onchocerca cervicalis* (Pirog, 1954, Molev, 1955), *O. gisoni* (Lee, Reye, Dyce, 1963).

Identification of feeders of the double winged bloodsuckers - is the significant aspect of nourishment in theoretical as well as practical regard. The work that we have conducted in Kazakhstan's deserts Ulkunkum and Djapalakum at Iliy river that takes its beginning in China has shown that desert species of biting midges *Leptoconops* genus are able to attack reptiles for bloodsucking such as - *Eremias velox*, *E. intermedia*, *Phrynocephalus versicolor*, from the size of 47-70 mm (weight 4,3 g) up to 71-140 mm (weight 9,6 g). The bloodsucking were undergone adults and young species of lizards at the time from 9.00 to 19.00 at the temperature 29-35°C. *L.minutus* and *L. sp.n.* were attacking the reptiles during sunny as well as rainy weather. the largest number of attacking species was seen on mounting reptiles. They were feeding on the mostly on the neck, near by the eyes, head, limbs of reptiles that were striving to shake them off to get rid of the insects. In Kasakstan at Northern Tian-Shan was found bloodsucking on the bats (*Rhinolophus ferrumequinum*, *Myotis blythi*) by *L. bezzii*. Traffic connections of biting midges with reptiles and bats are enlarging the range of feeders which has certain epidemiological and epizootological importance since the bats are known as carriers and natural reservoirs of some dangerous diseases.

## P-0687

SURVEY OF MALLOPHAGA (PHTHIRAPTERA -  
INSECTA) OF POULTRY (GALLUS DOMESTICUS) IN  
STARA ZAGORA REGION (BULGARIA)

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The aim of our investigations was to study the species of lice parasiting on poultry in Stara Zagora region in Bulgaria.

Three hundred and forty-nine male and female poultry (*Gallus domesticus*) in the region of the town of Stara Zagora were examined during the period from October 1994 to October 1996. The investigation included 3 towns and 29 villages in the central part of Bulgaria. 314 of 349 birds were found infected (90 %). A total of 6497 lice was collected.

Four Mallophaga species were found: 3 Amblyceran (*Menopon gallinae* Linnaeus, 1758; *Eornenacanthus stramineus* Monnig, 1934; *Menacanthus cornutus* Schommer, 1913) and 1 Ischnoceran (*Gonlocotes hologaster* Nitzsch in Burmeister, 1838). The predominant species was *Menopon gallinae* (145 infected of 349 examined birds).

All of the species found during our investigations had not been reported as bird fauna in Bulgaria.

Some important taxonomic features for identification of these species are given: length, width, form and colour of the body; length, width and form of the head; maxillary palpa; antennae; eyes; setae.

Site specificity data are given for each species of Mallophaga insects from poultry in Stara Zagora district.

All four species are widespread on poultry in the investigated region.