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CESTODES FROM BIRDS LIVING ALONG THE TISZA

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In the years between 1936 and 1966 I carried out the helminthological elaboration of a material got from investigations in the environs of Szeged and Vásárosnamény. The material investigated has contained the following species, for the most part from Szeged: *Podiceps ruficollis* Pall. (3 pieces), *Ardea cinerea* L. (4 pieces), *A. purpurea* L. (7 pieces), *Anas platyrhynchos* L. (6 pieces), *Rallus aquaticus* L. (2 pieces), *Porzana porzana* L. (3 pieces), *Gallinula chloropus* L. (6 pieces), *Fulica atra* L. (18 pieces), *Tringa erythropus* Pall. (8 pieces), *T. stagnatilis* Bechst. (7 pieces), *Larus ridibundus* L. (7 pieces), *L. canus L.* (1 piece); and for the smaller part from Vásárosnamény: *Podiceps ruficollis* Pall. (2 pieces), *Ardea cinerea* L. (1 piece), *Anas platyrhynchos* L. (2 pieces), *Oriolus oriolus* L. (6 pieces), *Corvus cornix* L. (4 pieces), *Turdus merula* L. (5 pieces), *Sturnus vulgaris* L. (7 pieces).

The investigation has included 99 birds together, belonging to 16 species.

Present paper is containing the description of the *Cestodes* found.

The result of the investigation is an account rendered of 16 *Cestodes* species together belonging to 4 families. A great part of *Cestodes* could also be found in the course of similar investigations carried out in other areas of the country (Transdanubia, plain in Northeastern Hungary). This investigation, however, demonstrated 3 species (*Dilepis undula* Schrank, 1799), *Choanotaenia parina* (Dujardin, 1845), *Variolepis farciminosa* (Goeze, 1782), that are new for the fauna in Hungary. At the same time, it afforded some recent data for the *Cestodes* fauna of birds living along the Tisza.

Taxonomical Part

Dilepididae Fuhrmann, 1907.

Dilepis undula (Schrank, 1788).

It is parasite of several species of singing birds, that is wide-spread

in Europe, more than 35 different bird species. During my collection, I have found it in 2—25 specimens in the gastro-intestinal tract of blackbirds. For our fauna it is a new species.

It is a middle-sized *Cestodes*. Its body length is 20—80 m/m, width 1,8—45 m/m. Scolex width 0,50—0,70 m/m. On the rostellum located in the scolex the spines can be found in two lines, their number changing between 42—50. The size of hooks in the first line is 0,097—0,105 m/m, of those in the second line 0,082—0,102 m/m. The size of suckers lying on the scolex is: 0,290 × 0,280 m/m. Diameter of the proboscis: 0,210 m/m.

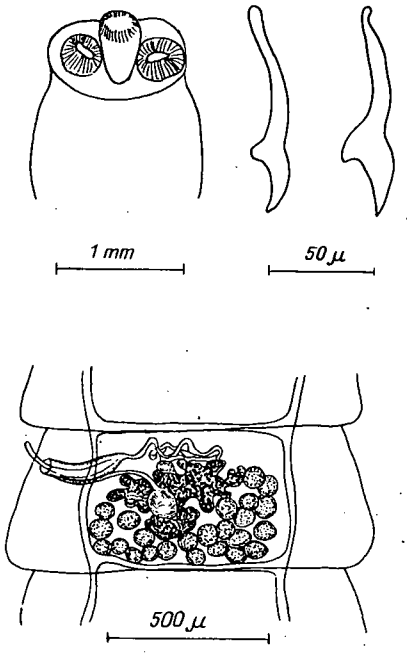


Fig. 1. *Dilepis undula* (Schrank, 1788)

The genital pore is on one side, the cirrusbag goes a little beyond the pipe of poral secretion, being 0,210—0,320 × 0,032 m/m. The vas deferens is highly tortuous. The cirrus wears tiny spines.

The ovary is divided into two major lobules that are dismembered into further smaller lobules. The vitelline gland may be found in the middle below the ovary, its size being 0,140 × 0,105 m/m.

The testicles are between the ovary and the posterior rim of the segment. Their number changes between 25 and 38. Their diameter changes between 0,058—0,070 m/m.

The area between the pipes of secretion is filled by the uterus which is full of ova. The size of an ovum is 0,04—0,60 × 0,059 m/m, the diameter of the oncosphere 0,039—0,047. Size of the embryonary hooks is 0,019—0,022 m/m.

Dilepis unilateralis (R u d., 1819).

It is the characteristic parasite of *Ardeidae*. In the literature we may find several morphologic descriptions of its; recently, the species is characterized by M a c k o (1960). The larger spines observed on the specimens collected are of the size 25 mikron, the smaller ones 17 mikron.

In the course of my collection, I have found it in a few (1—8) specimens from the *Ardea cinerea* and *Ardea purpurea*.

In this country it was first found from the same hosts (S e y, 1967).

Gryporhynchus cheilancristrotum (W e d l, 1855).

It occurred in both of the investigated heron species, in 2—25 specimens. From its morphologic peculiarities it is to be mentioned that four big spines can be observed along the cirrus. Only young animals were infected by them.

In this country it was first demonstrated similarly from these hosts (S e y, 1967).

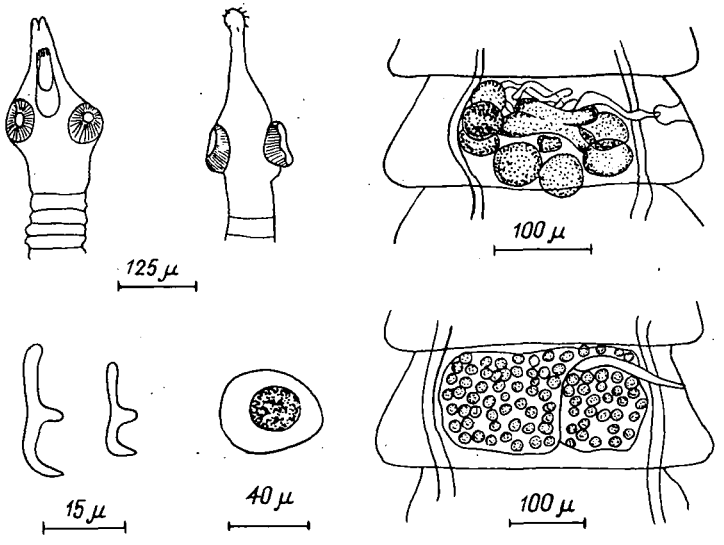


Fig. 2. *Dilepis unilateralis* (R u d., 1819)

Choanotaeniidae M a t h e v o s s i a n, 1953.

Choanotaenia parina (D u j a r d i n, 1845).

It is a parasite of the intestines of species belonging to the *Paridae* and *Sturnidae* families.

During my collection, I have found some specimens of it in the small intestines of the *Sturnus vulgaris*. It has proved to be a new species in our fauna.

It is a middle-sized parasite. Its length is 25—50 m/m, width 0,84—1,05 m/m. Its scolex is small, diameter: 0,280—0,350 m/m. The spines on the rostellum — as seen on the few specimens investigated by me — are located in two lines. The hooks in the second line begin in a distance

1 mikron—1,5 mikron behind the first line. The number of hooks changes between 19—20, their size is 0,020 m/m. The suckers on the scolex are of round shape, their diameter being 0,140—0,175 m/m.

The genital pore changes by haphazard and opens in the frontal one-third part of the segments. The testicles take place below the ovary and vitelline gland, their number being 19—22, diameter 0,07 m/m. The cirrusbag is 0,170—0,200 m/m long a little overlapping the secretory vessel. The vagina opens into the cloaca under the cirrusbag. The ovary

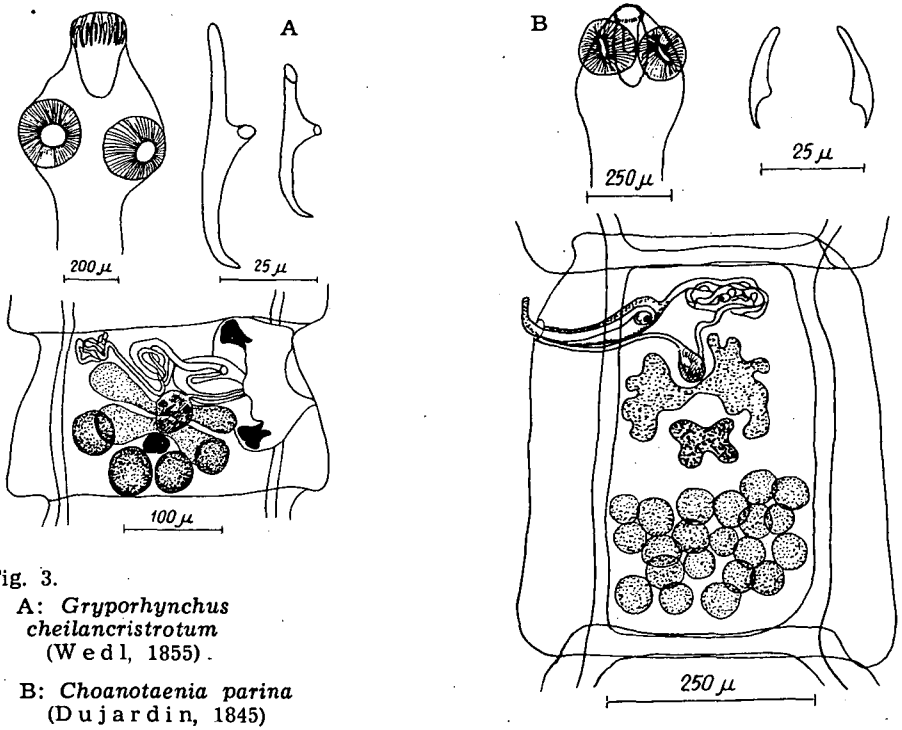


Fig. 3.
A: *Gryporhynchus cheilancristrotum* (W e d l, 1855).
B: *Choanotaenia parina* (D u j a r d i n, 1845)

is divided into two major lobules that consist of smaller lobules. The vitelline gland takes place in the middle-line of the segment, in the centre, being 0,140 × 0,070 m/m.

The uterus is bag-shaped, the whole segment is filled with ova.

The size of an ovum is: 0,041 × 0,040, that of the oncosphere 0,030 × 0,028 m/m. The size of the embryonary spine is 0,015 m/m.

Choanotaenia porosa (R u d., 1819).

It is a typical parasite of gulls. We have found 3 specimens in a single individual of black-headed gulls from Szeged.

In this country, it was first demonstrated similarly from a gull (S e y, 1967).

Kowalewskiella cingulifera (K r a b b e, 1869).

It is a common parasite of the *Charadriidae* family, occurring in great number (25—78 pieces) in the *Tringa* species investigated.

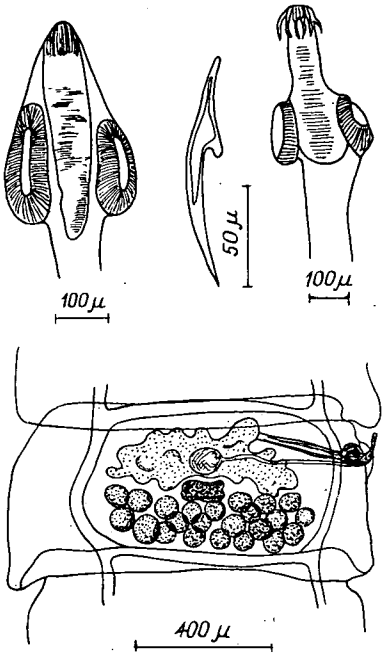
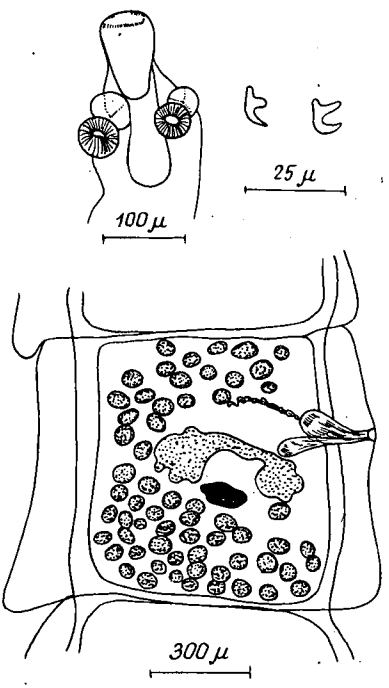


Fig. 4.
A: *Choanotaenia porosa* (Rud., 1819)



B: *Kowalewskiella cingulifera* (Krabbe, 1869)

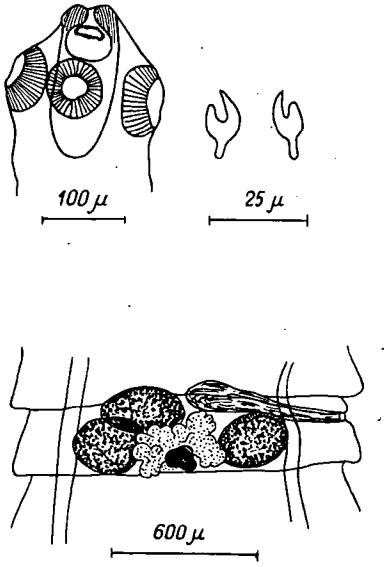
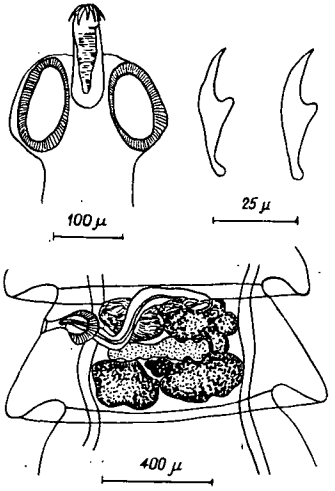


Fig. 5.
A: *Dicranotaenia coronula* (Dujardin, 1845)



B: *Sobolevicanthus octacantha* (Krabbe, 1869)

In this country, it was first found similarly in these hosts (Sey, 1967).

Hymenolepididae (Ariola, 1899).

Dicranotaenia coronula (Dujardin, 1845; Railliet, 1892).

It is a wide-spread parasite of the gastro-intestinal tract of *Anseriformes*. It could be observed, in 3—8 specimens, in an *Anas platyrhynchos* from Vásárosnamény. The species was described by Dujardin under the name *Taenia coronula* in 1845. Classified into different genera by later authors, at present it is considered as belonging to the genus *Dicranotaenia* proposed by Railliet (1892).

In the recent literature its detailed morphologic description is given by Czaplinsky (1956) and Beverley-Burton (1962).

Aploparaksis furcigera (Rud., 1819).

It has occurred in a few specimens in the gastro-intestinal tract of an *Anas platyrhynchos* from Szeged. The size of spines on the rostellum has been found to be 51—55 mikron.

In this country, it was first observed similarly in the host mentioned above (Sey, 1967).

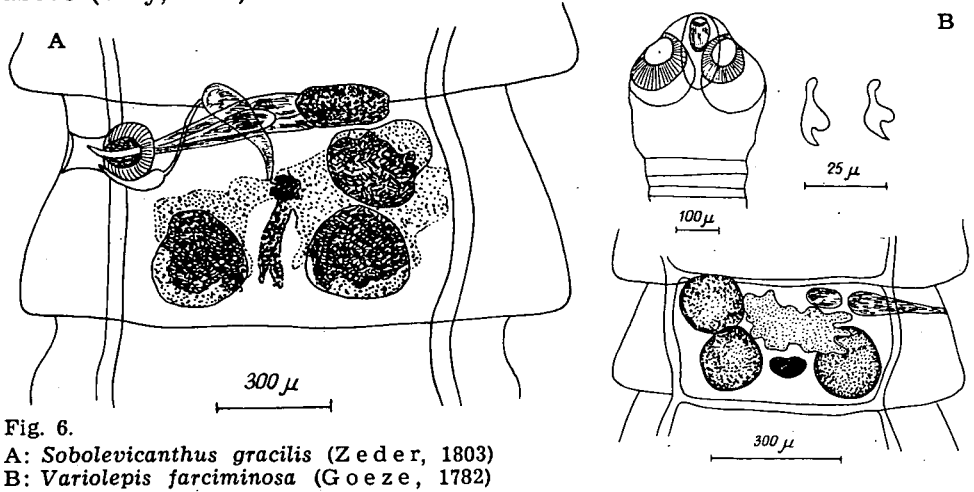


Fig. 6.
A: *Sobolevicanthus gracilis* (Zeder, 1803)
B: *Variolepis farciminosa* (Goeze, 1782)

Sobolevicanthus gracilis (Zeder, 1803).

It has occurred, together with the previous species, in the gastro-intestinal tract of *Anas platyrhynchos*. There must have been but a lesser infection because it was observed only in 2—5 specimens in two *Anas platyrhynchos*. It can be found in domestic ducks, as well.

Sobolevicanthus octacantha (Krabbe, 1869).

It could be observed in a single case in the medium part of the gastro-intestinal tract of an *Anas platyrhynchos* from Vásárosnamény.

In this country, it was first demonstrated in the same species (Sey, 1967).

Variolepis farciminosa (Goeze, 1782).

It is a wide-spread species, a parasite of the gastro-intestinal tract of warblers. During my collection, it was found in the gastro-intestinal tract of an *Oriolus* and *Turdus merula* from Vásárosnamény.

It is a new species in our fauna.

Being a middle-sized parasite, its length is 39—70 m/m, width 1,0—1,6 m/m. Diameter of scolex: 0,200—0,287 m/m. The suckers are nearly round-shaped, their diameter is 0,120 m/m. On the rostellum there are 10 spines, 0,019 m/m long.

The genital pore opens in the frontal one-third part of the segments. The cirrusbag is thick-walled, its size being 0,210 m/m. The cirrusbag goes a little beyond the secretory pipe. The inner vesicula seminalis fills almost the entire cirrusbag, its size being 0,090 × 0,047 m/m. The vesicula seminalis formed by the vas deferens is oval-shaped, of a size 0,070 × 0,051 m/m. The three testicles form an obtuse angle with one another. The poral and middle testicles lie about in one line and the aporal one may be observed forward and a little laterally, compared to the middle testicle. Size of testicles: 0,180 × 0,140 m/m.

The ovary is lobular its size is 0,315 × 0,140 m/m. The uterus fills the entire parenchyma of the segment. The vitelline gland is to be found below the ovary, its size being 0,105 × 0,070 m/m.

The size of the oncosphere is 0,039 × 0,030 m/m. The embryonary hook is 0,016 m/m long.

Passerilepis passeris (Gmelin, 1790).

It is a typical parasite of warblers but it occurs in some rodents, too. During my collection, I have found some 2—9 specimens of it in the gastro-intestinal tract of *Corvus cornix* from Vásárosnamény.

In this country, it was first observed in the same host (Sey, 1967).

Diorchis inflata (Rud., 1819).

It is a wide-spread *Cestoda* of the gastro-intestinal tract of *Rallidae* and *Anatidae*. During my collection I have found it in great number (10—105) in *Fulica atra* and *Anas platyrhynchos* originating from Szeged.

In this country, it was first found in *Fulica atra* (Sey, 1966).

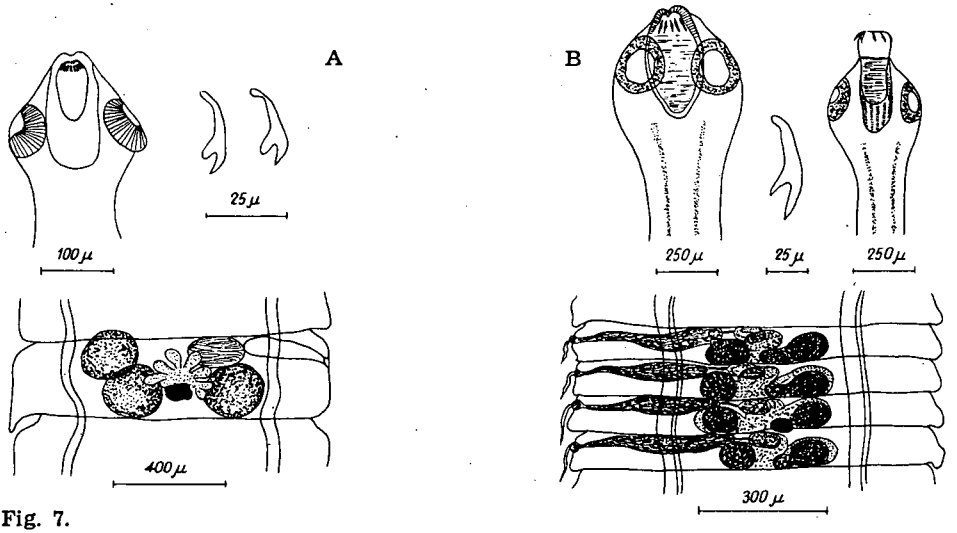


Fig. 7.

A: *Passerilepis passeris* (Gmelin, 1790)

B: *Diorchis inflata* (Rud., 1819)

Diorchis ransomi Schultz, 1940.

It was found, together with the previous species, in *Fulica atra*, resp. *Rallus aquaticus*. The degree of infection was similarly high (5—63 specimens).

In this country, it was first observed in the same hosts (Sey, 1966).

Amabilidae Braun, 1900.

Schistotaenia macrorhyncha (Rud., 1810).

It is a typical parasite of *Podiceps* species. It was found, in 1—5 specimens, in the frontal part of the gastro-intestinal tract of *Podiceps ruficollis* originating from Szeged.

In this country, it was first observed similarly in the same host (Sey, 1967).

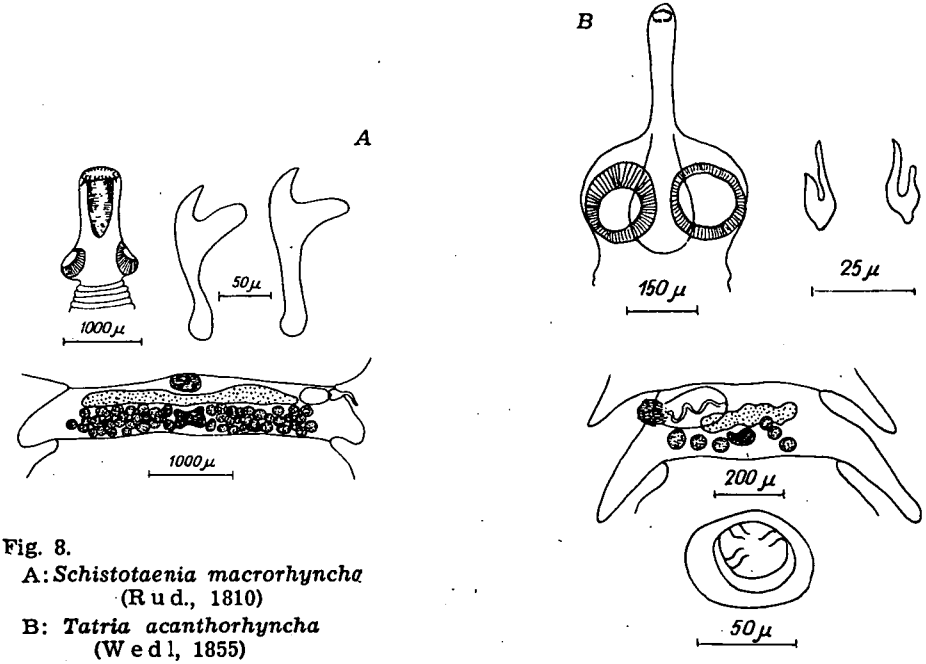


Fig. 8.
A: *Schistotaenia macrorhyncha* (Rud., 1810)
B: *Tatria acanthorhyncha* (Wedl, 1855)

Tatria acanthorhyncha (Wedl, 1855).

It was more frequent than the previous species since it occurred in every *Podiceps* originating from Szeged. The degree of infection was moderate (5—10 specimens a bird).

In this country, it was first found similarly in *Podiceps ruficollis* (Sey, 1967).

Summary

The paper is containing a description of *Cestodes* collected from birds originating from the environs of Szeged and Vásárosnamény (16 species, 98 specimens), in the years between 1963 and 1965. In the

course of the investigation, the following *Cestodes* were observed: *Dilepididae: Dilepis undula, D. unilateralis, Gryporhynchus cheilancristrotum; Choanotaenia: Choanotenia parina, Ch. porosa, Kowalewskiella cingulifera; Hymenolepididae: Dicranotaenia coronula, Aploparaksis furcigera, Sobolevicanhus gracilis, S. octacantha, Variolepis farciminosa, Passerilepis passeris, Diorchis inflata, D. ransomi; Amabilidae: Schistotaenia macrorhyncha, Tatria acanthorhyncha.*

Three of the parasites found *(Dilepis undula, Choanotaenia parina, Variolepis farciminosa)* have proved to be new species in our fauna.

The occurrence of *Variolepis farciminosa*, in the *Turdus merula*, and *Diorchis inflata* in the small intestines of *Anas platyrhynchos* means a new host in Hungarian relation.

The data made known in the paper are first results concerning the *Cestodes* fauna of fowls living along the Tisza.

Occurrence of the Cestodes described according to hosts:

Podiceps ruficollis	*Tatria acanthorhyncha* *Schistotaenia macrorhyncha*
Ardea cinerea	*Dilepis unilateris* *Gryporhynchus cheilancristrotum*
Ardea purpurea	*Dilepis unilateralis* *Gryporhynchus cheilancristrotum*
Anas platyrhynchos	*Dicranotaenia coronula* *Aploparaksis furcigera* *Sobolevicanthus gracilis* *Sobolevicanthus octacantha* *Diorchis inflata*
Rallus aquaticus	—
Porzana porzana	—
Gallinula chloropus	*Diorchis ransomi*
Fulica atra	*Diorchis inflata* *Diorchis ransomi*
Tringa erythropus	*Kowalewskiella cingulifera*
Tringa stagnatilis	*Kowalewskiella cingulifera*
Larus ridibundus	*Choanotaenia porosa*
Larus canus	—
Oriolus oriolus	*Variolepis farciminosa*

Corvus cornix

Passerilepis passeris

Turdus merula

Dilepis undula
Variolepis farciminosa

Sturnus vulgaris

Choanotaenia parina

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