قســـــم : الطفيليات والميكروبيولوجيا - كلية الطب - جامعة أسيوط
رئيس القسم : أ.د / عماد كامل نافع

دراسة على دودتين من طفيليات السيكلوسيليد (تريماتودا : سيكلوسيليدى) من دجاج الماء المصرى جالينيولا كلورويس كلورويس

عاطف ســـكلا

وجد الباحث عدة ديدان من طفيليات السيكلوسيليدى فى التجويف البطنى والصـــــدرى لدجاجة الماء كان أكثرها يشبه دودة سيكلوسيلم ميكروستوم الا أن الديدان الحالية يظهر فيهـــا بوضوح ممص بطنى كما أن بويضاتها تحتوى على أجنة ليس بها بقع عينية . وقد ناقش الباحـــث آراء الباحثين السابقين فيما يختص بهاتين الخاصتين ، ورأى أنه من السابق لأوانه أن يعتبر هـــذه الديدان نوعا جديدا من ديدان السيكلوسيلم انتظارا لاتمام دورة حياة هذا الطفيل . كما وجد الباحث فى نفس دجاجة الماء المصابة دودتين تتبعان جنس تيفلوسيلم حيث أن أمعاءها لهـــا نتوءات داخلية . وقد وجد الباحث أيضا ممصا بطنيا فى هذه الديدان ، ونظرا لقلة عدد الديدان التى وجدت ونظرا لكثرة الاختلافات فى أهمية الصفات المورفولوجية فى خلق أنواع جديدة اكتفـــى الباحث فى الوقت الحالى بأن يعطى هذه الديدان اسم الجنس فقط الى حين استكمال دراســـة هذه الديدان ودورة حياتها . هذا وينوه الباحث بأن ديدان التيفولوسيلم لم يسبق وصفها مـــن مصر قبل الآن ، كما أن دجاجة الماء تعتبر عائلا نهائيا جديدا لهذه الديدان لم يسبق وصفهـــا منـــه .

Dept. of Parasitology and Microbiology,
Faculty of Vet. Med., Assiut University
Head of Dept. Prof. Dr. E.K. Nafie.

ON TWO CYCLOCOELIID PARASITES (TREMATODA: CYCLOCOELIDAE) FROM EGYPTIAN MOORHENS, GALLINULA CHLOROPUS CHLOROPUS

(With One Table & Two Figures)

By

A.A. SAKLA

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SUMMARY

Two cyclocoeliid parasites were encountered in the serous cavities of the moorhen, Gallinula chloropus chloropus. Cyclocoelum sp. was found to differ from C. microstomum in having a ventral sucker and non eye-Spotted miracidia. Typhlocoelum sp. was found to differ from all previously described forms in having ventral sucker, great number of medial caecal diverticula, extent of vitelline follicles, smaller eggs and non eye - spotted miracidia. The differnetiating features of both genera were discussed. The presnet author stopped his identification at the generic level waiting for further work on the life cycles of such parasites. Typhlocoelum is described from Egypt for the first time, and Gallinula chloropus chloropus is a new host record for this parasite.

INTRODUCTION

During a survey on helminth parasites of some aquatic birds in Assiut, the present author encountered some cyclocoeliid trematodes in one moorhen, Gallinula chloropus chloropus. Most of the specimens superficially resembled C. microstomum, but close examination indicated that they differ in certain morphological features. Two specimens were found to have medial coecal diverticula which assigns them to the genus Typhlocoelum. This work was therefore done to throw more light on the validity of certain morphological features of cyclocoelliid parasites in relation to their taxonomic position.

MATERIAL and METHODS

Adult parasites were found in pleural and peritoneal cavities of one out of four examined moorhens, shot near Assiut city. Collected worms were thoroughly washed in saline and fixed in 5% formaline. Slight presure was exerted on the worms in order to spread their bodies. Specimens were stained in acetic acid alum carmine and mounted in Canada balsam.

RESULTS

Cyclocoelum sp.

Five specimens of this parasite were encountered in the peritoneal cavity of one out of four moorhens examined. The worm is aspinose and is elongated in shape, body length varied from 8-14 mm. (average 11.2 mm.) and maximum breadth varied from 2.5 - 3.2 mm. (average 2.92 mm.). Oral sucker is lacking. weakly developed ventral sucker can be easily located a short distance posterior to the intestinal bifurcation (Fig. 1). It is oval in shape, its transverse diameter is 80-100 U (average 90 U), and its longitudinal diameter is longer and is about 114-127 U (average 120 U). Mouth opening is subterminal. Prepharynx is 800-840 U (average 825 U) in length. Pharynx is well developed, differes in shape in different specimens and measuring 500-519 u (average 510 U) in transverse diameter and 548-570 U (average 555 U) in longitudinal diameter. There is a short oesophagus measuring about 300 U in length. Intestinal caeca are simple ending posteriorly in an intestinal arc. The gonads form a characteristic triangle at the posterior part of the body. Anterior testis is irregular in outline and measures 600-627 U (615 U) by 514-541 U (525 U). The posterior testis, on the other hand, is smooth in outline, oval in shape and measures 643-671 U (660 U) by 438-458 U (450 U). Ovary lies between the two testes, and is ovoidal in shape, measuring 450-475 U (465 U) by 430-442 U (435 U). The uterus fills the space between the gonads and the intestinal bifurcation. Cirrus pouch is located posterior to the pharynx. Vitelline glands are follicular and are located on the lateral fields, both coecal and extracoecal. They are lacking

arround the intestinal arc. Male and female genital pores are situated midway between the mouth and pharynx. The uterus contains numerous golden yellow operculated, fully developed eggs. They contain miracidia which are characteristically not eye-spotted. Some eggs were noticed hatching in the metraterm. The eggs measure 92-100 U (97.5 U) by 40-50 U (45 U).

DISCUSSION

El-NAFFAR (1979) described two cyclocoelliid parasites from the body cavity of moorhens in Assiut, C. microstomum (CREPLIN, 1929) KOSSACK, 1911 and C. problematicum var. gallinulae, n. var. The present author considered the great morphological similarity between C. microstomum and C. mutabile which was also noticed by DUBOIS (1959), PALM (1965) as well as MACKO (1965). However, according to FEIZULLAEV (1970), the present material is similar to C. microstomum which is easily differentiated from C. mutabile by the anterior position of the genital pore and the loosely arranged vitelline follicles. Yet, the present specimens have some morphological differences form those described by El-NAFFAR (1979) which are shown in table 1. The present worm are smaller in size, have ill-developed ventral sucker, longer prepharynx, smaller testes, bigger ovary, differently located genital pore and non eye-spotted miracidia. GINECINSKAJA (1947) has noticed - for the first time the presence of a rudimentary ventral sucker in C. microstomum. However she stated that in the adult fluke, it was possibe to see the ventral sucker only in sections. She added that the muscle fibers were well-developed in the sucker of the metacercaria and were disappeating in the sucker of the young fluke and were absent in the adult. BIHOVSKAJA - PAVLOVSKAJA (1949) examined a big collections of cyclocoeliid parasites and concluded that many characters showed considerable variation with the age (maturity). However, HERBER (1961) noted the presence of penetration glands in immature speciemens of C. arcuatus. LUMSDEN and ZISCHKE (1963) noticed that these glands are absent in mature specimens. The present flukes were found to be completely mature ones as evidenced by the size of the worms and the presence of the hatching ova in the metraterm. The present author had the opportunity to re-examine the material of El-NAFFAR (1979) and failed to localize any trace of a ventral sucker even in the smallest worm which was very near to the size of the biggest present worms (Table 1). WOOTTON (1964) stated that life history studies have repeatedly shown when co-ordinated with adult morphological changes to aid in more clearly demonstrating taxonomic relationships. Moreover, FEIZULLAEV (1971) stated that C. vagum and C.elongatum were identical morphologically in their adult stage but differed in the presence or absence of pigmented eye spots in miracidia seen in the eggs.

Hence, further biological studies on the life cycle of the present parasites should be done before the specific identification of the species can be proved.

Typhlocoelum sp.

Two specimens of this parasite were found in the pleural cavity of one out of four moorhens examined. They were found in the same host as the previously described five specimens.

The body is aspinose, elongated in shape. It measures 7.1-7.46 mm. (average 7.28 mm.) Its maximum breadth is 2.12-2.68 mm. (average 2.56 mm.). Oral sucker is lacking. A ventral sucker is located a short distance posterior to the intestinal bifurcation (Fig. 2). It is oval in outline and measures 97.5 x 75 U in length. Mouth opening is subterminal. Prepharynx is about 480 U in length. Pharynx is oval in shape measuring 345 x 360 U. Oesophagus is short measuring about 300 U. Intestihal caeca are characterised by having medial diverticula along-side the whole length of the caeca. About 25 diverticula can be counted on each side. Intestinal arc is simple. Testes are rounded and diagonally orientated posteriorly. Anterior testis is 370-380 x 320-340 U (average 375 x 330 U), while posterior testis is 350-370 x 320-340 (average 360 x 330 U). Ovary is rounded, larger than the testes and lies a little in advance of the anterior testis. It is more or less rounded in outline and its diameter is 380-400 U (average 390 U).

Uterine coils fill most of the interacaecal space. Cirus pouch is post-pharyngeal. Male and female genital pores are located just anterior to the pharynx. Vitelline follicles are occupying the lateral fields, they are mostly extracaecal. Few follicles can be seen around the intestinal arc. Ova are golden yellow in colour, operculated, containing fully developed, non eye-spotted miracidia. They measure 100-110 U (average 105 U) by

54-66 U (average 60 U).

DISCUSSION

According to WITENBERG (1926), Cyclocoelidae KOSSACK, (1911) are divided into two subfamilies, viz.Cyclocoelinae STOSSICH, (1902) and Typhlocoelinae HARRAH, (1922). His scheme was severely criticized by JOYEUX and BAER (1927) who considered cycolcoelinae to be the only valid subfamily. CHATTERJI (1958) strongly supported the view of JOYEUX and BAER (1927).

As many as 19 genera and several subgenera were classified under the cyclocoelinae. However, JOYEUX and BAER (1927) drastically reduced the number to three genera only; Cyclocoelum BRANDS, (1892), Typhlocoelum STOSSICH, (1902) and Spaniometra KOSSACK, (1911). They strongly criticized the common habit of many systematists of giving unnecessary importance to very minor characters. CHATTERJI (1958) reduced Spaniometra to be a synonym of Cyclocoelum.

According to GOHAR (1934), only three representatives of the genus Cyclocoelum were previously described from Egypt. El-NAFFAR (1979) added one more species and one variety. No representatives of the genus Typhlocoelum were described from Egypt uptill now. The present material is therefore considered to be the first typhlocoeliid parasites encountered in Egyptian birds.

The present material differ from all previously described forms in having a distinct ventral sucker,great number of medial caecal diverticula, shape and size of gonads, extent of vitelline follicles as well as the smaller size of ova. moreover, the ova contain non eye-spotted miracidia. However, the present author prefers to leave the taxonomic position of the present material at the generic level because fo the much controversy about the validity of the different morphological features of the genus. Further studies on the life cycle of the present parasite will help to throw more light on its exact taxonomic position. However, Gallinula chloropus chloropus seems to be a new host for typhlocoeliid parasites.

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Table (1): Comparison between C. microstomum and the present material

	C. microstomum after El-Naffar (1979)	Present material
Body length	1.5-2.3 cm (1.8 cm)	0.8-1.4 cm (1.12 cm)
Body breadth	3 -5.5 mm (4 mm)	2.5-3.2 mm (2.92 mm)
O.S.:	lacking	lacking
V.S.:	lacking	present, ill-developed (90 x 120 U)
Prepharynx	680-790 U (730 U)	800-840 U (825 U)
Pharynx	720-830 x 860-940 U (750 x 900 U)	500-519 x 548-570 U (510 x 555 U)
Oesophagus	Not mentioned	(300 U)
Ant. testes	480-1080 x 360-840 U (870 x 570 U)	600-627 x 514-541 U (615 x 525 U)
Post. testes	540-1100 x 360-740 U (900 x 540 U)	643-671 x 438-458 U (660 x 450 U)
Ovary	360-540 x 300-420 U (413 x 358 U)	450-475 x 430-442 U (465 x 435 U)
Genital Pore	Just anterior to pharynx	Midway between mouth & pharynx.
Eggs	110-118 x 68-72 U (115 x 70 U)	92-100 x 40-50 U (97.5 x 45 U)
Miracidium	Eye-spotted	Not eye-spotted
Location	Peritoneal cavity	Peritoneal cavity
host	Gallinula chloropus	Gallinula chloropus
Locality	Assiut	Assiut

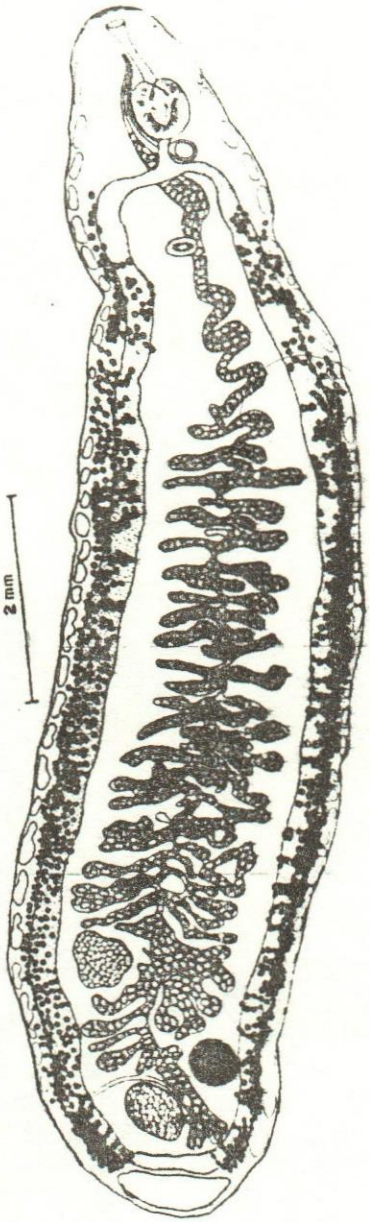

Fig. 1

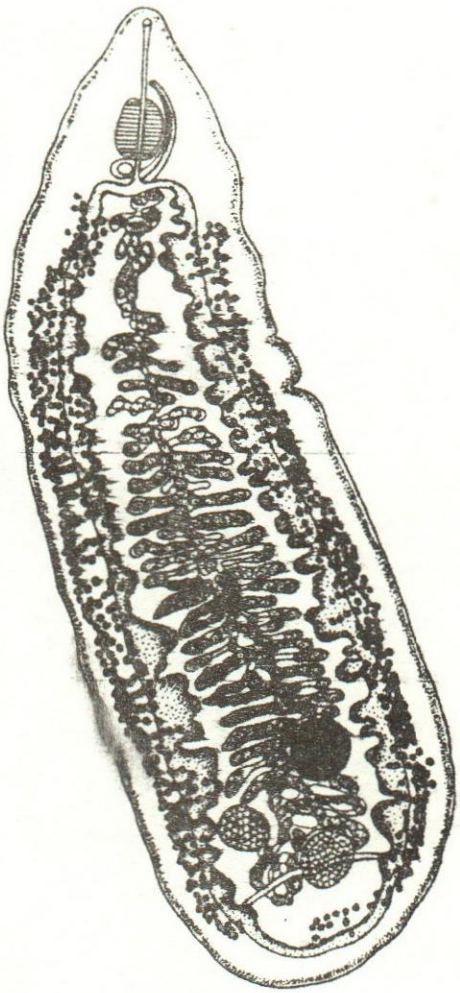

Fig 2

Fig. 1 Fig. 2