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اللوكريد يوم بني نوع جديد من طفيليات التريباتودا
التي تصيب أحد الاسماك النيلية
بمحافظة أسيوط

محمد النفار

تم وصف هذا النوع الجديد من لفائفي السمكة النيلية (باريس بنسي) بأسيوط . وقد تم وصف ورسم ومقارنة هذا النوع بالانواع الأخرى القريبة له من نفس الجنس . ويتصف هذا النوع الجديد بامتداد الغدد المحييه من الطرف الخلفي للدوده حتى المبيض ، المرء قصير ، الخصيتان مائلتان مع عدم وجود فاصل بين الخصيات ، وجود حيز بين المبيض والخصيه الاماميه ، كما أن الردوب المعويه لاتصل الى نهاية الجسم .

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**ALLOCREADIUM SP.N., A TREMATODE PARASITE
FROM A FRESHWATER FISH AT ASSIUT PROVINCE, A.R. EGYPT**
(With One Table and One Figure)

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SUMMARY

Allocreadium bynni sp.n. was collected from the ileum of the fresh-water fish Barbus bynni captured from the River Nile of Assiut. The new species was described, drawn and compared with other related species of Allocreadium. Different morphological features were studied. Vitellaria extending to the ovary, oesophagus short, testes oblique, absence of intertesticular space, the ovary is separated from the anterior testis by a space and the caeca not reaching to the posterior end are constant features and can be safely used in separation of the present species from different Allocreadium parasites.

INTRODUCTION

One of the major problems which are suffering from is a considerable drop of the Nile fish productivity. One of the possible causes of such drop is the infection of the economically important Nile fishes with helminth parasites. In the present work, it is intended to survey and identify the helminths parasitizing on the economically important Nile fishes.

MATERIAL and METHODS

Allocreadium bynni sp.n. was collected from the ileum of Barbus bynni caught from the River Nile of Assiut. The alimentary canals of the fish examined were opened in physiological saline, and the encountered flukes were adequately washed in physiological saline solution. Then, they were fixed in 10% formol saline in acid alum carmine as usual and mounted in canada balsam. Measurements were taken from mounted specimens and all drawings were done by camera lucida. All the measurements are in millimeters.

RESULTS***Allocreadiidae* Stossich, 1903*****Allocreadinae* Looss, 1902*****Allcoreadium* Looss, 1900*****Allocreadium bnni* sp.n.**

Three out of one hundred fish were found infected. The number of flukes were 2 - 4 per fish.

Description :

The body is oval or slightly elongated, broad in the middle and narrow at both ends. It is small in size, measuring 2.2 - 3.4 mm (2.9 mm) with a maximum breadth in the region of the ventral sucker; is 0.98 - 1.2 mm (1.12 mm). The tegument is smooth.

The oral sucker is subterminal, measuring 0.37 - 0.40 by 0.40 - 0.47 mm (0.38 x 0.44 mm). The ventral sucker is nearly equal to the oral sucker measuring 0.38 - 0.41 by 0.44 - 0.48 mm (0.40 x 0.46 mm). The distance between the oral sucker and ventral sucker is 0.27 - 0.37 mm (0.33 mm). The preacetabular length is 0.64 - 0.81 mm. The postacetabular body length is 1.15 - 1.76 mm. The prepharynx is absent and the pharynx measures 0.095 - 0.125 by 0.098 - 0.129 mm. It leads to a short oesophagus measuring 0.066 - 0.092 mm (0.076 mm). The intestinal caeca terminate nearly halfway between the posterior testis and the posterior end of the body.

The two testes are oblique with no intertesticular space. They are nearly spherical in shape, and they are situated in the posterior half of body. The anterior testis measures 0.34 - 0.41 by 0.33 - 0.44 mm (0.38 x 0.39 mm). The posterior testis is slightly larger than the anterior one, measuring 0.34 - 0.52 x 0.34 - 0.48 mm (0.42 x 0.43 mm). The cirrus pouch is large, measuring 0.57 - 0.74 by 0.27 - 0.33 mm and contains a coiled seminal vesicle which leads to a muscular ejaculatory duct that opens in the genital atrium. The latter lies nearly at the level of intestinal bifurcation.

The ovary is spherical to elliptical in shape, lies in the area between the ventral sucker and the anterior testis. It measures 0.15 - 0.23 by 0.13 - 0.21 mm (0.19 x 0.17 mm).

It is separated from the anterior testis by 0.08 - 0.11 mm. The receptaculum seminis is large, lies posterolateral to the ovary, measuring 0.23 - 0.28 by 0.09 - 0.10 mm. The follicular vitellaria are situated in the two lateral fields at the posterior 2/3 of the body. They are confused together behind the posterior testis to form a continuous band.

The uterus is coiled and confined between the testes and the ventral sucker. The egg is oval or elliptical in shape, yellowish in colour with an operculum at one, while the other pole is provided by a knob. The egg measures 0.084 - 0.090 by 0.055 - 0.062 mm (0.087 x 0.059 mm).

DISCUSSION

The parasite under discussion possesses morphological characters that agree with those of genus *Allocreadium* (LOOSS, 1900) which belongs to sub family Allocreadinae (LOOSS, 1902) of the family Allocreadiidae (STOSSICH, 1903).

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SAOUD et al. (1974) described Allocreadium sudanesis sp.nov. from the cyprinid fish Bagrus bayad from the white Nile in the Sudan, and gave a key for the identification of five African species of the genus Allocreadium.

THOMAS (1957) and SAOUD et al. (1974) considered the following characters to be important in the differentiation of the various species of Allocreadium :

- 1) Relative size of oral and ventral sucker;
- 2) Extents of vitelline glands;
- 3) Position of the ovary;
- 4) Extent of inter-testicular space;
- 5) Length of oesophagus;
- 6) The size of the pharynx;
- 7) The position of the genital pore;
- 8) Geographical distribution of the host.

An extensive literature exists on the species of Allocreadium showed that the genus occurs only in freshwater fishes.

So far, seven species of Allocreadium have been reported from freshwater fishes of Africa. These are : A. Voltanum (THOMAS 1957) from Alestes macrolepidotus from Black volta River in Ghana; A. indistinctum (BEER 1959) from Barbus sp. from Vitshumbi on Lake Edward in Zair (Congo); A. mazoensis (BEVERLEY-BURTON 1962) from Clarias mossambicus from Mozoe in Rhodesia; A. ghanensis. (FISCHTHAL and THOMAS 1972) from Synodontis sp from the Volta River in Ghana; A. engraulicypridis (KHALIL and THURSTON 1973) from Engraulicypria argenteus from Kaazi (near Kampala) on Lake Victoria; A. sudanensis (SAOUD et al. 1974) from Barbus bynni from the white Nile in Sudan; an A. aswanensis (EL-NAFFAR et al. 1984) from Barbus bynni from Lake Nasser at Asswan. The latter species is distinguished from other species of Allocreadium by : Vitellaria extending to the ovary, eggs relatively small, oesophagus long and the two tandem testes are distinctly separated by an intertesticular space.

Allocreadium bynni n.sp can be easily distinguished from A. voltanum by the unlobed testes, the extension of the uterus posteriorly behind anterior testis and in the host and locality.

It differs from A. mazoensis in the host, locality, absence of cuticular spines, the subterminal oral sucker, equal size of the ventral sucker and oral sucker and in the size of the ovary to the testes. It differs from A. ghanensis in the host, locality, and in that the vitellaria do not extending to the level of genital pore. It differs from A. engraulicypridis in the host, locality and in that the vitellaria do not extending anteriorly to the level of the oral sucker. The present new species differs from A. sudanensis in the locality, oblique testis, caeca not reaching to the posterior end the body, and the ovary is separated by a space from the anterior testis. It differs from A. aswanensis in the locality, general outline of the body, oblique testes, short oesophagus and absence of distinct intertesticular space.

The comparison between the present new species, A. sudanensis and A. aswanensis is summarized in the table.

In conclusion, the present authors considering the species under discussion as new species to which the name Allocreadium bynni n.sp. is proposed. Diagnosis :

- 1) Host : Barbus bynni.
- 2) Habitat : Ileum.
- 3) Locality : River Nile of Assiut (new locality).
- 4) Size : 2.2 - 3.4 X 0.98 - 1.23 mm (2.9 X 1.12 mm).
- 5) Oesphaqus : short.

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- 6) Testes : Oblique, absence of intrtesticular space.
 7) Ovary : separated from the anterior testis by a space.
 8) Vitellaria : extending to the ovary.
 9) Caeca : Not reaching to the posterior end the body
 Eggs : $.084 - 0.090 \times 0.055 - 0.62$ mm (0.087×0.059).

**Key to the species of *Allocreadium*
from African Freshwater fishes**

- 1- Testes lobed A. Voltanum
 Testes spherical or oval smooth outline 2
- 2- Vitellaria extending anteriorly to the pharyngeal level A. ghanensis
 A. engraulicypridis
 Vitellaria not extending anterior to the acetabulum 3
- 3- Vitelline follicles small and numerous, tegumental spines Present anteriorly
 A. mazoensis
 Vitelline follicles large and less numerous, no tegumental spines 4
- 4- Vitellaria extending to the ovary, eggs relatively small 5
- 5 a- Oesophagus short, posterior testis overlap the anterior testis
 * Testis one behind the other, ovary immediately in front of the anterior testis, caeca terminate
 very close to the posterior end of the body A. sudanensis
 * Testis oblique, ovary separated from the anterior testis by a space, caeca not reaching to the posterior end
 A. bynni
- 5 b- Oesophagus long, two testes are distinctly separated by an intertesticular space
 A. aswanensis
 vitellaria extending only to the anterior testis, the eggs relatively larger A.
 A. indistinctum

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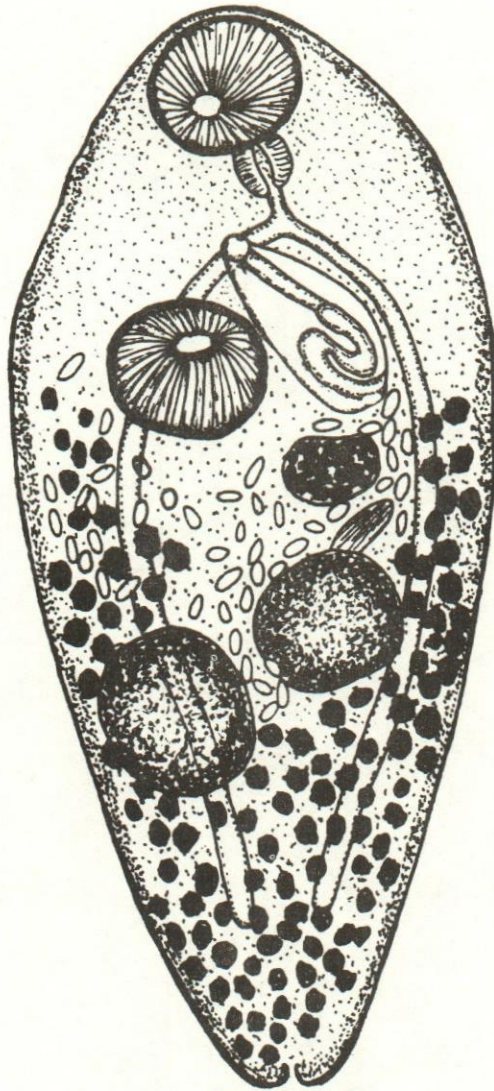
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Table (1)
Comparison between *Allocreadium sudanensis*, *A. aswanensis* and *A. bynni* n.sp.
(All measurements are in mm)

	Allocreadium sudanensis Saoud et al (1974)	Allocreadium aswanensis El-Naffar et al (1984)	Allocreadium bynni n.sp.
Host	Barbus bynni	Barbus bynni	Barbus bynni
Locality	White Nile in the Sudan	Lake Nasser at Asswan	River Nile of Assiut
Body size	2.89-3.71X0.92-1.33	2.24-4.56X0.88-1.33(3.90X1.09)	2.2-3.4X0.98-1.25(2.9X1.12)
Cuticular spine	absent	absent	absent
Oral sucker	0.32-0.39X0.36-0.38	0.28-0.36X0.33-0.39(0.32X0.37)	0.37-0.40X0.40-0.47(0.38X0.44)
Ventral sucker	0.40-0.46X0.36-0.47	0.32-0.39X0.29-0.39(0.36X0.35)	0.38-0.41X0.44-0.48(0.40X0.46)
Oesophagus	short	long, 0.33-0.56 (0.47)	short, 0.06-0.092 (0.076)
Intestinal caeca	terminate very close to the posterior end of the body	extend near the posterior end of the body	terminate nearly half way between the post. testis and the post. end of the body
Testes	One behind the other	One behind the other	Obligate
Anterior testis	0.47-0.63X0.48-0.55	0.33-0.48X0.33-0.42(0.39X0.37)	0.34-0.41X0.33-0-0.44(0.38X0.39)
Posterior testis	0.42-0.48X0.47-0.49	0.33-0.44X0.36-0.44(0.38X0.39)	0.34-0.52X0.34-0.48(0.42X0.43)
Intertesticular space	absent	present	absent
Ovary	Lies immediately in front of the anterior testis	lies postero-lateral to the ventral sucker	Lies between the ventral sucker and the anterior testes.
Egg	0.082-0.094X0.053-0.059	0.07-0.08X0.03-0.04 (0.075X (0.075X0.035))	0.084-0.090X0.055-0.062(0.087X0.059)



0.8 mm.

