

قسم : الطفيليات .
كلية : الطب - جامعة أسيوط .
رئيس القسم : أ. د. / أحمد مندور .

نوعين جد يد بين من النيماتودا التي تصيب

العصفور المصرى بأسرد ومستيكا

أحمد مندور ، محمد النفار* ، ليلي عمران

تمكن الباحثون اثناء فحص ١٦٠ عصفور مصرى من تشخيص نوعين جد يد بين من النيماتودا التي تصيب منطقة " أمام القانصه " وهذه النوعين هما :

- أكوبريا ايجبتكا : وتوجد مقدمة هذا الطفيل مغموره في الطبقة المخاطيه لامام القانصه ، ويتكون المرىء من جزئين اسطوانى وغدى . ويتميز الذكر بوجود ٤ خيوط (كوردن) تمتد من الجزء الامامى للذوده حتى منتصف المرىء الاسطوانى ثم تنحني هذه الخيوط متجهة للامام وللداخل ، ونهاية كل خيط مستديره كما يتميز الذكر ايضا بوجود شويكتا سفاد غير متساويتان ، وبوجود أربعة أزواج من الحلقات امام المجمع وخمسة أزواج خلف المجمع ، وتتميز الانثى بوجود أربعة خيوط (كوردن) تمتد من الجزء الامامى حتى نهاية المرىء الاسطوانى ثم تنحني هذه الخيوط متجهة الى الامام وللناحية الداخلية وتنتهي بالقرب من اتصال التجويف الفمى بالمرىء الاسطوانى ونهاية كل خيط مدبب .

- ميكروتيراميرز باسيري : ويوجد الذكر في تجويف امام القانصه وتتميز بوجود شويكتا سفاد غير متساويتان كما توجد ست حلقات امام المجمع وستة أخرى خلف المجمع . وتوجد الانثى مغمورة في امام القانصة وهي ملتفه ، والجزء الوسطى منتفخ بينما نهايتي الذوده الامامى والخلفى مدببتان . هذا وقد قدم الباحثون وصفا كاملا لهذين النوعين الجديان وقورنا بالانواع الأخرى التي سبق وصفها .

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**TWO NEW PARASITIC NEMATODES INFECTING THE EGYPTIAN
DOMESTIC SPARROW, PASSER DOMESTICUS**
(With 2 Tables and 5 Figures)

By
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(Received at 22/5/1985)

SUMMARY

Two new species of nematode parasites were collected from 160 sparrows, Passer domesticus captured from Assiut Province. The two new species are : Acuaria aegyptica sp. nov. and Microtetrameres Passeri sp. nov.

INTRODUCTION

Parasites from passerines have rarely been reported from different localities of the world. However, little attention is given to the parasites of sparrows in this country. For this reason, the present work has been conducted in Assiut province.

MATERIAL and METHODS

One hundred and sixty sparrows, Passer domesticus were captured from different localities in Assiut province. They were killed 5 - 10 daily to be autopsied. The alimentary canal was cut opened beginning with the crop till the cloaca. The present nematodes were found in the proventriculus. Some were found deeply embedded in the mucosa while some were found partially attached to the mucosa of the proventriculus. The worms were collected in glycerine alcohol and they were transferred to lactophenol to be examined microscopically. Portions of the infected proventriculus with the embedded worms were fixed in 10 % formal saline and paraffin sections were prepared to be stained with Haematoxyline and eosin. All drawings were made by camera lucida with haematoxyline and eosin. Camera lucida drawings as well as photomicrographs were made.

Order Spiruroidea

Family Acuaridae

Acuaria (Dispharynx) aegyptica sp. nov.

This parasite is commonly found in proventriculus of the domestic sparrow in Assiut Province. About 20% were found infected with this parasite. The anterior portions of the worms were embedded in the mucosa, thus they were only extracted with the aid of a forceps. Usually both males and females were found.

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Male : Is whitish in colour measuring about 4.24 - 4.78 mm in length by 0.25 - 0.36 mm in breadth. The posterior end of the male is coiled (Fig. 1 b). At its anterior margin there are 4 pairs of papillae (Fig. 1 a), two of which being the largest measuring about 6 - 8 u. The buccal capsule is elongated measuring from 80 - 90 u in its length. Four characteristic sinuous cordons extend from the anterior end and pass posteriorly till half the length of the cylindrical oesophagus then cordon recur anteriorly and medially but not communicate with their origin (Fig. 1 a). Each cordon is 0.88 - 0.72 mm long by 13.2 - 15.2 u wide. The terminal end of each cordon is blunt.

The oesophagus consists of two portions, a cylindrical anterior part measuring 0.52 - 0.69 mm. by 0.072 - 0.080 mm. while the posterior part is glandular measuring 1.49 - 1.54 mm. One testis is present at the posterior portion of the anterior half. A cloaca lies near the posterior part of the body at a distance of 292 - 306 u from the posterior end of the body. The unequal copulatory spicules are present (Fig. 1 b), the long one measures 0.39 - 0.45 mm in length and it is provided with 8 - 9 spines on the dorsal side. The other spicule is short and thick " boot like " measuring 0.180 - 0.200 mm and it is provided with 5 - 6 spines on the dorsal side. The terminal end of the short spicule is spatula-like.

There are five pairs of postcloacal papillae each measuring 16.5 - 2.7 u long, and four pairs of precloacal papillae of the same measurements.

Female : Is whitish in colour. It is longer and broader than the male, measuring about 7.2 - 8.2 mm in length and 0.410 - 0.624 mm. in width. There are 4 pairs of lips at the anterior end of the body (Fig. 2 a, b), two of which being large measuring 12 - 14 u.

The buccal capsule is elongated measuring 100 - 112 u in length by 18 - 22 u in width. It leads to the oesophagus. At junction between the buccal capsule and the oesophagus 6 - 7 teeth-like processes are found articulating with each other (Fig. 2 b). The oesophagus consists of two portions, the anterior part is cylindrical, measuring 0.83 - 0.88 mm wide. The posterior part of the oesophagus is glandular partially obscured by the uterus, and it measures 0.17 - 0.18 mm in width. There are four sinuous cordons extending from the anterior end passing posteriorly till the posterior border of the cylindrical oesophagus (Fig. 2 a). The cordons recur anteriorly and medially to stop near the junction between buccal capsule and the cylindrical oesophagus. Each cordon measures about 1.23 - 1.36 mm in length by 14 - 16 u in width (i.e., 1/2 length in male). The terminal end of the cordon is pointed. Each cordon is tube like with transverse striations (Fig. 2 b). A single ovary is situated at the anterior part of the body. It leads to the uterus which extends from the glandular oesophagus till the anus and the uterus is packed with ova (Fig. 2). The fully ambryonated ova are elliptical in shape with a thick shell (Fig. 2 b), each measuring 38 - 41 u. by 23 - 25 u.

The vulva is situated at a distance of 0.98 - 1.32 mm. from the posterior end of the body. The tail is about 0.118 - 0.132 mm in length. It is worthy to mention that the number of females are more than males.

DISCUSSION

The morphological characters of the present parasite coincides with the general characters of family Acuaridae SEURAT, 1913, Genus Acuaria Bremser, 1811.

PARASITIC NEMATODES

YAMAGUTI (1958) mentioned that fifty species of Acuaria and 20 species of Dispharynx are reported in different birds all over the world, although it is rarely recorded in sparrows and no reports in Egypt.

When the present nematode has been compared with other species of Dispharynx especially those recovered in sparrows it is found to be more or less identical with A. (Dispharynx) spiralis MOLIN, 1828. However, it differs from the latter species in many respects (Table 1).

From the above table, it is quite clear that Acuaria (Dispharynx) spiralis differs in many respects from the present material.

When the cordons of the present parasite is compared with that of Dispharynx nasutus RUDOLPHI, 1819, a spirurid recovered from sparrows, it was found that the cordons are recurrent laterally while that in the present material are recurrent ventrally. This difference has been found of taxonomic importance by CHABAUD *et al.* (1959). For this reason the present parasite is not comparable with D. Nasutus GOBLE and KUTZ (1945), DUJARDIN (1845), from English sparrows respectively.

From this interpretation it is suggested that the present nematode is a new one to which we propose to name it Acuaria (Dispharynx) aegyptica since it has for the first time been reported in Egypt.

Host, Passer domesticus

Locality : Assiut, Egypt.

Type : Deposited at the Department of Parasitology, Faculty of Medicine, Assiut, University, and the department of Zoology, Faculty of Science, Assiut University.

Order Spiruroidea

Family Microtetrameridae

Microtetrameres Passeri sp. nov.

This parasite is not uncommonly found in the proventriculus of the domestic sparrow in Assiut province. About 8 % were found infected with this parasite.

Male : Is whitish in colour measuring about 2.12 - 2.34 mm in length and 0.08 - 0.086 mm in breadth. The male is usually found free in the lumen of the proventriculus.

The anterior end is broader than that of the female; and is provided with 6 papillae (Fig. 3 a), each measures 2 - 3 u. The buccal capsule is 12 - 15 u in length. The oesophagus consists of a cylindrical part measuring 90 - 100 u. in length by 15 - 17 u in breadth, and glandular lying posteriorly. One testis is situated at a distance of 0.50 - 0.54 mm. from the anterior end.

There are two unequal copulatory spicules (Fig. 3 b), the larger is nearly half the total length of the worm being 1.12 - 1.14 mm but the short one is about 0.106 - 0.109 mm. Six post-cloacal papillae and 6 pre-cloacal papillae were also detected. The tail measures 0.146 - 0.142 mm long by 32 - 35 u wide.

Female : Is swollen, deeply embedded in the proventriculus. From the outer surface of the proventriculus, the female looks like a haematoma. It is reddish brown in colour that it resembles a particle of red brick when dissected out. Generally, the female worm is coiled (Fig. 4 a), the middle part swollen while the anterior and posterior ends are pointed. These

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coils were decorated with dark transvers bands. The total length of the body is about 3.6 - 4.3 mm. At the anterior border minute spines (8 - 10 on each side) could be detected on high magnifications (Fig. 4 b). Also at the anterior end there are six small papillae. The buccal capsule is about 35 - 42 μ in length, it leads to the oesophagus which consists of a cylindrical portion measuring 0.20 - 0.24 mm long by 0.24 - 0.27 mm wide. The glandular portion measures about 0.69 - 0.76 mm long by 0.080 - 0.092 mm wide. Posterior to the buccal capsule there are 3 pairs of large papillae on the lateral sides (Fig. 4 c), measuring 14 - 18 μ long. The cervical alae were observed on the anterior portion of the body (Fig. 4 c). The single tubular ovary leads to a coiled uterus which is filled with ova (Fig. 5 a). Usually some ova are fully embryonated.

The ova (Fig. 5 b) were mostly elliptical with one side slightly flattened. The fully embryonated ova possess differentiated plug-like structures at either poles which were not observed in immature ova. At the junction between the plug and the shell, there is a slight thickening. The vulva lies at 0.18 - 0.19 mm from the posterior end of the body. The anal opening lies just anterior to the vulva. The tail is about 0.19 - 0.20 mm long.

DISCUSSION

The morphological characters of the present parasite coincides with general characters of the family Tetrameridae, Genus Microtetrameres described by YAMAGUTI (1958). ELLIS (1969) mentioned that 14 species of Microtetrameres are reported in the Western Hemisphere Ellis (1969) concluded that the characters and measurements of the buccal capsule, and eggs are less subject to changes at the time of fixation and they are reliable criteria than other characters. On these basis he (1969) created a key to different species of female Microtetrameres from Western Hemisphere. When the present material was compared with the key of ELLIS (1969), it was found to be superficially identical with M. aquilla described by SCHELL (1953). However, the present material was found to be quite different from M. aquilla in many respects (as shown in Table 2).

From this table it is clear that the parasite recovered from the golden eagle from North America is quite different from the parasite under discussion. For this reason, it is proposed to name the present parasite. Microtetrameres Passeri spp. nov.

Host : Egyptian sparrow Passer domesticus a new host.

Location : Proventriculus.

Type : Deposited in the Department of Parasitology, Faculty of Medicine, Assiut University, and in the Department of Zoology, Faculty of Science, Assiut University.

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Table (1)

Shows the difference between Acuaria (Dispharynx) spiralis and the present material

Characters	<u>A. (Dispharynx) Spiralis</u>	The present material
Male: Length	7-8.3 mm.	4.24-4.78 mm.
spicules	0.4-0.52 mm (long) 0.15-0.20 mm. (short)	0.38-0.45 mm (long) 0.18-0.20 mm. (short)
Cordons	Spines are not described point of recurrence reaches the end of cylindrical part of oecophagus	with spines this point lies at the anterior half of cylindrical oesophagus
Lips	are present	are present.
Knobs	are not described	three pairs surrounding lips.
Female: Length	9-10.2 mm.	7.2-8.2 mm.
Cordons	point of recurrence as in male	This point is the same as the female of <u>A.(D.) S.</u>
Lips	are present	are present.
Knobs	are not described	the same as the male
teeth-like projections	not described	6-7 pairs of teeth-like projections are found lining the opening between buccal capsule and oesoph.
Ova: Size	33-40 u. by 18 - 25 u.	38-41 u by 23-25 u.
Host:	fowl, turkey, pigeon, guinea	sparrow, <u>Passer domesticus</u>
Locality:	cosmopolitan	Assiut, Egypt.

Table (2)

Shows the difference between M. aquilla and M. Passeri, sp. nov.

Microtetrameres aquilla Scheel, 1953	M. Passeri sp. nov. (present material)
Host: Golden eagle	Egyptian sparrow, <u>Passer domesticus</u>
Locality: North America	Assiut, Egypt,
Male: 3.4-4.3 mm. by 0.09-0.10 mm. buccal capsule: 25 u. in length. Muscular pharynx: 324-340 u Left spicule, is longer 1.48-1.8 mm (tip bifid). Right spicule: is shorter 210-234 u. pointed tip. pre and pot cloacal papillae: two and two. Three and three	12-12-2.34 by 80.86 mm. 12-15 u. in length. 90-100 u. by 15-17 u. 1.12-1.14 mm. (tip simple) 106-109 u. (tip pointed)
Tail: 178-193 u. long	135-142 u.
Female: Red, Measuring 1.3-1.5 mm. by mm. in coiled position.	3.6-4.3 mm. by 0.25-0.40
buccal capsule: 27-28 u. in length.	35 to 42 u.
Muscular pharynx: 306-330 u. long	200-240 u. long.
Glandular oesophagus: 1.34-1.39 mm.	690-760 u. long.
Vulva: 82-90 u. anterior to anus	65 u.
Anus: 113-133 u. from tip of tail	200-250 u.
Eggs: 23-26 u. embryonated	47-54 by 33-37 u. and embryonated.

PARASITIC NEMATODES

LEGENDS

Fig. (1): Male of Acuaria (Dispharynx) aegyptica sp. nov.

- a) Anterior portion.
- b) Posterior portion.

Fig. (2): Female of Acuaria (Dispharynx) aegyptica sp. nov.

- a) Anterior portion.
- b) Magnified anterior end.
- c) Posterior portion.
- d) Egg.

Fig. (3): Male of Microtetrameres passeri sp. nov.

- a) Anterior portion.
- b) Posterior portion.

Fig. (4): Female of Microtetrameres passeri sp. nov.

- a) Whole worm.
- b) Magnified anterior end.
- c) Anterior portion.

1917

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The second of the year was a very busy one

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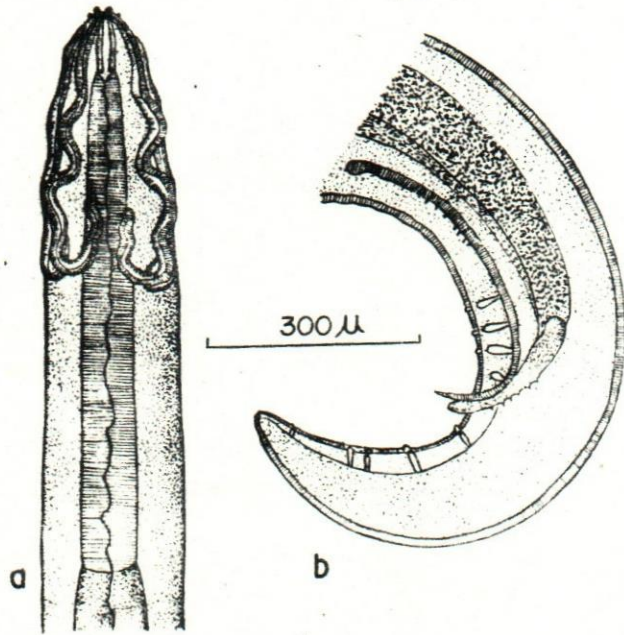


Fig. 1

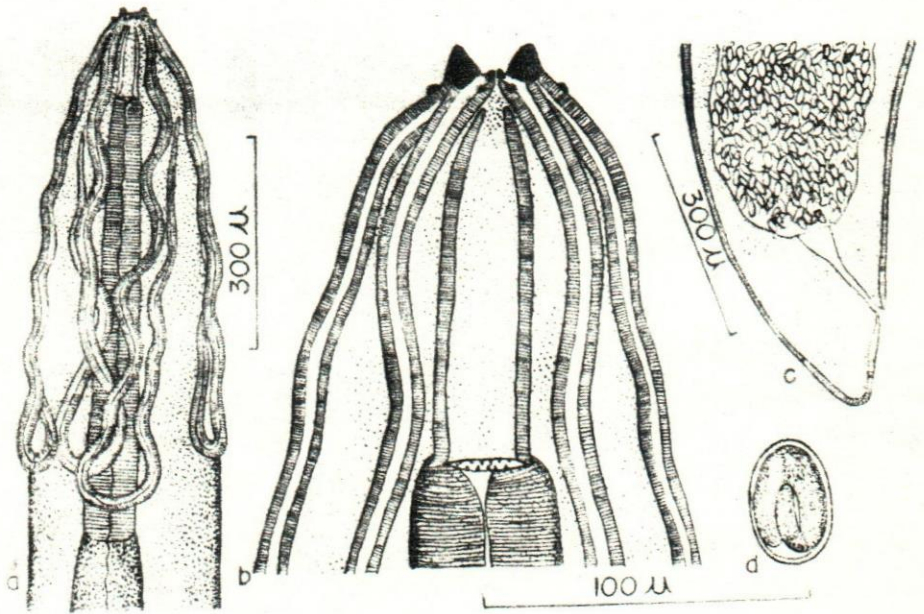


Fig. 2

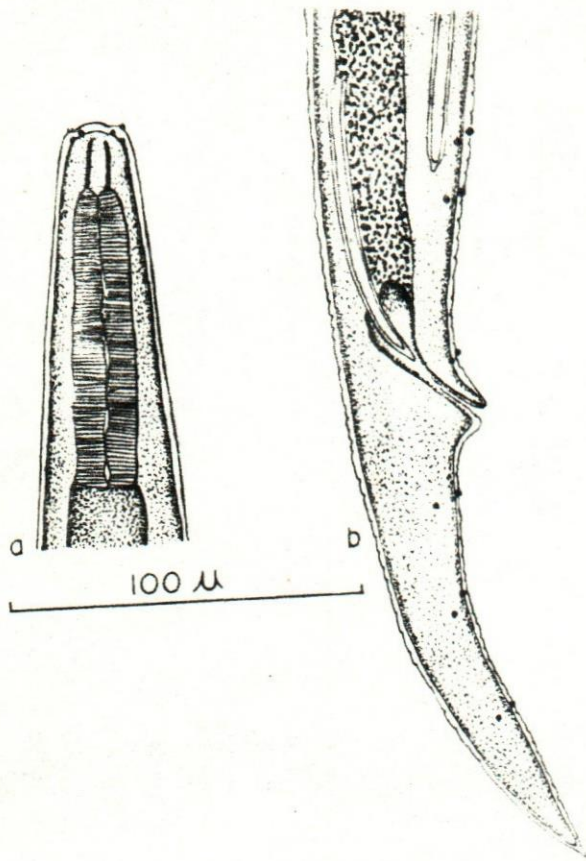


Fig. 3

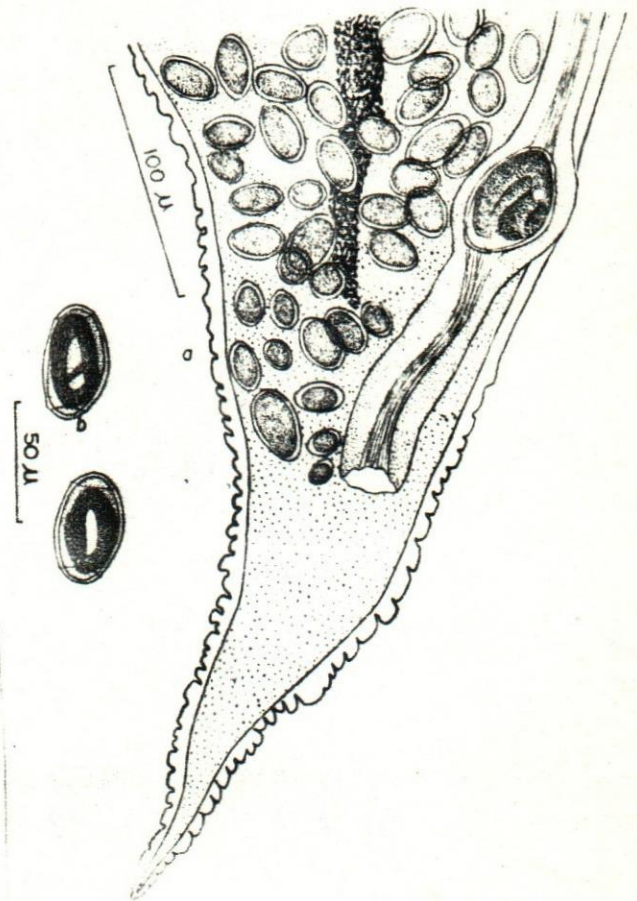


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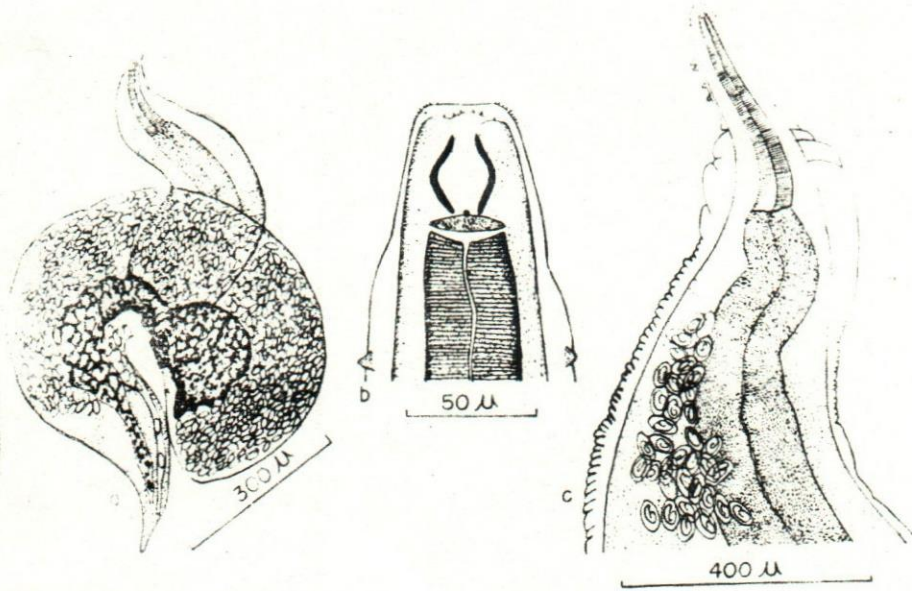


Fig. 4

