

Pseudomazzia macrolabiata n.gen.,n.sp. (Nematoda: Spiruridae: Mazziinae) from the fish *Pomadasys olivaceus* of Karachi coast

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SUMMARY: A nematode *Pseudomazzia macrolabiata* of a new genus and a new species is described here from the intestine of the fish *Pomadasys olivaceus* of Karachi coast. The new genus is characterized by having an enlarged head region with three large prominent lips protruding externally from the head, a prominent buccal cavity and with a proboscis. The esophagus is not clearly divided into muscular and glandular parts and the intestine is simple. The male has very unequal spicules, dissimilar in shape. The caudal alae are prominent supported by several pedunculate papillae including 5 pre anal pairs and two pairs including one pro-anal and one post-anal. The female vulva is near the middle of the body. The tail is elongate, bluntly pointed and is provided with a terminal forked spike. The eggs are thin shelled and oval in shape.

Key words: *Pseudomazzia macrolabiata* n.gen.n.sp. *Pomadasys olivaceus*, intestine, Karachi coast.

Karaçi Kıyısında *Pomadasys olivaceus* Balığından Elde Edilen Yeni Cins ve Yeni Tür olan *Pseudomazzia macrolabiata*, (Nematoda: Spiruridae: Mazziinae)

ÖZET: : *Pseudomazzia macrolabiata* adı verilen yeni bir Nematoda cins ve türü, Karaçi kıyısında yaşayan *Pomadasys olivaceus* adlı balıkta saptanmıştır. Bu yeni cinsin özellikleri arasında, dışa doğru uzanan üç büyük belirgin dudağı olan genişlenmiş bir baş, belirgin bir ağız boşluğu ve bir probosis. Yemek borusu belirgin bir şekilde kas ve glandüler bölgelere ayrılmamıştır ve barsak basittir. Erkeklerde farklı yapısı olan ve eşit boyda olmayan spiküller vardır. Kaudal kanatları belirgin olup birkaç sapımsı papila tarafından desteklenir. Bunlar arasında anüs önünde 5 çift ve ayrıca biri anüs önünde biri anüs arkasında olmak üzere 2 çift vardır. Dişinin vulvası vücudun ortasına yakındır. Kuyruk uzun, sivrilmiş ve ucu çatallaşmış sivri çubuklardan oluşmuştur. Yumurtalar ince kabuklu ve ovaldir.

Anahtar sözcükler: *Pseudomazzia macrolabiata* n.gen.n.sp. *Pomadasys olivaceus*, bağırsak, Karachi kıyısı

INTRODUCTION

Fairly good numbers of species of marine fish nematodes have been reported in Pakistan till now. In the present study, a new genus and a new species *Pseudomazzia macrolabiata* from a marine fish *Pomadasys olivaceus* of Karachi coast is described. This is the first and new record of the genus and the species from a marine fish, while the genus *Mazzia* Khalil&Vogelsang, 1932 is represented by two species only from mammalian hosts.

MATERIALS AND METHODS

Thirty one fish *Pomadasys olivaceus* were purchased from the

local fish market at random intervals to examine helminth parasite infection. One out of thirty one fishes examined revealed nematode infection in the lumen of the small intestine. The nematodes were first gently picked up with the help of fine brushes into distilled water later fixed in 70% ethanol and stored in a solution of 1 part glycerine and 95 parts 70% alcohol. Measurements are given length by width in millimeters; drawings were prepared with the help of a camera lucida. Specimens are deposited in the senior author's collection.

Order : Spiruridea Diesing, 1861

Family : Spiruridae Oerley, 1885

Sub-family : Mazziinae

Genus : *Pseudomazzia*. n.gen.

Geliş tarihi/Submission date: 07 Şubat/07 February 2005

Kabul tarihi/Accepted date: 12 Ağustos/12 August 2005

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Order : Spiruridea Diesing, 1861:

They are more or less filiform worms and their mouths usually have two lips, but sometimes four or six lips are visible, or rarely the lips inconspicuous or absent. Chitinous buccal cavity or vestibule is present. The oesophagus is usually long cylindrical and divided into two parts, a shorter anterior muscular portion and a longer glandular posterior portion. The oesophagus is rarely undivided, sometimes enlarged anteriorly or posteriorly. Intestine is usually simple and without diverticula.

Male: Spicules are usually very unequal and dissimilar. Female: Vulva is usually near to the middle of the body, sometimes in posterior and rarely in oesophageal region. The members belonging to this order are parasites of alimentary canal, respiratory systems, orbital, nasal or oral cavities of vertebrates.

Family: Spiruridae Oerley, 1885:

The lateral flanges are present or absent. Mouth is usually with trilobed lips, occasionally small dorsal and ventral lips may also be present or definite lips absent. Behind the mouth cavity bounded by the lips, there is usually more or less cylindrical, chitinized capsule, esophagus long, cylindrical, divided into a short anterior muscular portion and a longer glandular portion.

Male: Caudal alae are well developed, supported by pedunculate papillae, of which there are almost always four preanal pairs. Spicules were usually unequal and dissimilar. Female: Vulva is usually near to the middle of the body and oviparous. They are the parasites of digestive tract of vertebrates.

Subfamily: Mazziinae:

Spiruridae: The anterior region of the body is with six longitudinal flanges, which are broad and semicircular in outline in the cephalic region. Mouth has two trilobed lateral lips. Buccal capsule is narrow and cylindrical. Caudal alae are supported by pedunculate papillae. Spicules are unequal, dissimilar and gubernaculum is absent. Vulva is pre-equatorial. They are oviparous parasites.

Generic diagnosis: *Pseudomazzia* new genus

Mazziinae: The members of the new genus have enlarged head with three large prominent lips without teeth like structures protruding externally from the head. Buccal cavity is prominent and contains proboscoid. Esophagus is not clearly divided into muscular and glandular parts. Male is prominent and supported by several pedunculate papillae. Female: The vulva is in middle of the body, tail elongate, bluntly pointed and provided with terminal forked spike.

***Pseudomazzia macrolabiata* (Figs. 1-5)**

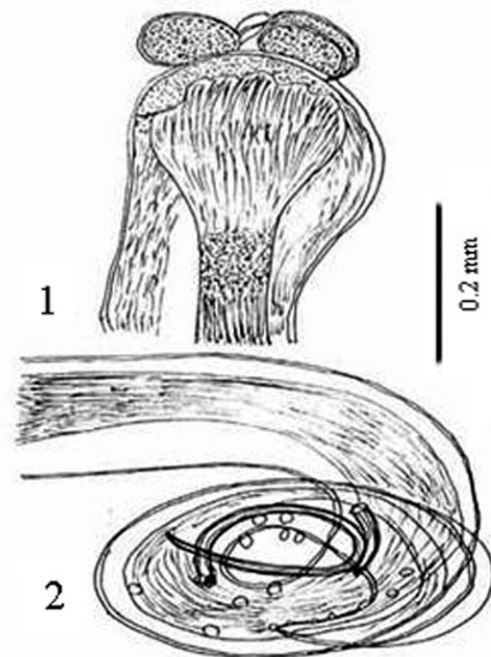
Host : *Pomadasys olivaceus*

Location : Intestine

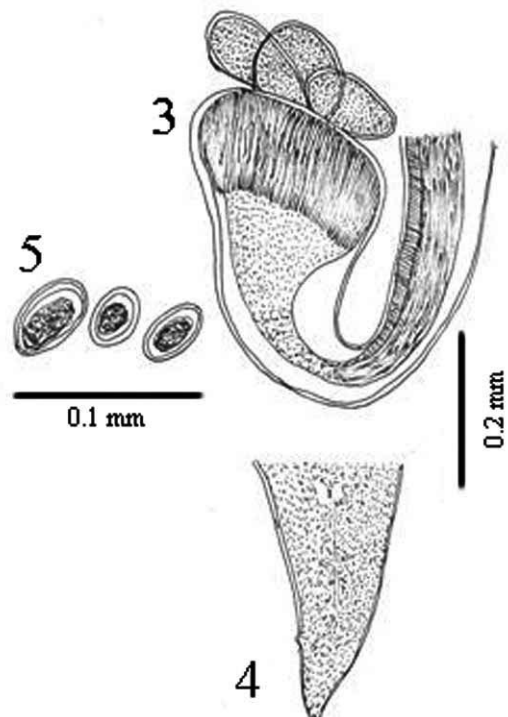
Locality : Karachi Coast

Number of specimens recovered 3 male 7 female from a single host (31 hosts examined).

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Figures 1&2. *Pseudomazzia bilabiata* n.gen and n.sp. (male)
1. Anterior end of Male, lateral view; 2. Posterior end of male, lateral view;



Figures 3&5. *Pseudomazzia macrolabiata* gen. et.sp.n. (Female)
3. Anterior end of Female, lateral view; 4. Posterior end of female, lateral view; 5. Eggs enlarged

Male: These are medium sized worms and have much broader anterior part when compared with the posterior end. Body is 11.45 mm long and 0.230 mm wide. Cuticle is expanded throughout the length of the body and finely striated. Striations are slightly more prominent posteriorly. Two trilobed, well developed, large lips are arranged on the head, without cephalic papillae and there are no teeth-like structures on the lips as described in the genus *Mazzia* Khalil&Vogelsang, 1932. Pseudobuccal capsule is 0.23 mm by 0.16 mm in size, dorsoventrally flattened, and is cylindrical for the remaining part. Oesophagus is not clearly divided into muscular and glandular portion. Intestine is simple. Spicules are dissimilar and unequal. The spicules are hollow and their lengths (i) 1.48 mm and (ii) 0.089 mm. Gubernaculum is absent, 14 pairs of caudal papillae are present 8 pairs are preanal, one is adanal and the rest 5 pairs are postanal in position. Tail is bluntly pointed and is 0.16 mm in length.

Female: They are medium sized worms. Their bodies are 9.526 mm by 0.15 mm and have much broader anterior part than posterior region. Cuticle is expanded throughout the length of the body and is finely striated with 0.003 mm thickness. Two large trilobed lips are present on the head without any cephalic papillae. No teeth-like structures are found on the lips. Pseudobuccal capsule is 0.280 mm by 0.230 mm in size, similar in structure as in male. The oesophagus is not clearly divided into muscular and glandular portions. Intestine is simple. Two pairs of caudal papillae are present, one pair is adanal and the other is just opposite to it. Tail is elongate, conical, bluntly pointed and is provided with terminal forked spike. Eggs are thick shelled, oval in shape and 0.0396 mm by 0.0216 mm in size.

DISCUSSION

Nematodes collected from the intestine of the fish *Pomadasys olivaceus* are included in the family spiruridae Oerley, 1885 and subfamily Mazziinae as a new genus. Because mouth has three large lips, spicules in male are very unequal and dissimilar, several pedunculate papillae are present and in female vulva is near to the middle of the body. Present nematodes are close to the genus *Mazzia* Khalil&Vogelsang, 1932 in having large head with 3 large lips, and very unequal spicules. This genus has been previously reported in armadillos and contains two species *Mazzia mazzia* Khalil&Vogelsang, 1932 from the stomach of armadillo *ChaetophRACTUS vellerosus* and *Euphractus sexcintus* in Cordoba and Corrientes provinces. Later this species was redescribed by Lombasodero Moriena (2) who named the structure in the buccal cavity as proboscoid. Similar structure is present in the present specimens although it is different in shape and more prominent in the male specimens. Other species, *Mazzia bialata* (1) was described from dasypodid mammals *ChaetophRACTUS villosus* at Chascomus, Buenos Aires provinces Argentina. But this species has tuft of spines on the tip of female tail, while *Mazzia mazzia* and the present

species do not have this character. Both *Mazzia mazzia* and *Mazzia bialata* have two flat multilobed pseudolabiae while it is not present in the present species.

The present specimens are from a totally different group of vertebrates i.e. a fish. Therefore, a new genus *Pseudomazzia* is proposed to accommodate mazzia-like nematodes from the fish *Pomadasys olivaceus*. The species name *Pseudomazzia macrolabiata* refers to the presence of three large lips.

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