

HELMINTH PARASITES OF FISHES FROM THE ARABIAN GULF
3—ON *PSEUDOPLAGIOPORUS MICRORCHIS*, YAMAGUTI, 1942
(DIGENEA: OPECOELIDAE)

By

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ABSTRACT

The trematode genus *Pseudoplagioporus* Yamaguti, 1938 is briefly reviewed. *P. microrchis* Yamaguti, 1942 is redescribed from *Lethrinus lentjan* and *L. nebulosus* caught from Qatari waters in the Arabian Gulf. This is the first record of *P. microrchis* from the Arabian Gulf. *Lethrinus lentjan* represents a new host record for that trematode.

INTRODUCTION

Yamaguti (1938) established the genus *Pseudoplagioporus* for those allocreadiid trematodes having a submedian ovary between the two testes, occasionally opposite to anterior testes; with well developed oral sucker and pharynx; genital pore sinistral to pharynx or oesophagus and the vitellaria extending in lateral fields in the bifurco-acetabular zone and coalescing behind the posterior testes. *Pseudoplagioporus lethrini* Yamaguti, 1938 in *Lethrinus haematopterus* from the Pacific Coast of Japan and Naha, Ryukyu Island, represented the type species of the genus.

Yamaguti (1942) described another species, *P. microrchis*, in *Lethrinus haematopterus* from Naha, Ryukyu Island. Nagaty and Abdel Aal (1962) redescribed the same species from Egypt in *Lethrinus mahsena* from the Red Sea. Later, they added *P. lethrini* Yamaguti, 1938 from *Lethrinus nebulosus* from the same locality (Nagaty and Abdel Aal, 1969).

Pseudoplagioporos brevivitellus Siddiqi and Cable, 1960 was described from *Malcanthus plumieri* from Puerto Rico. Yamaguti (1971) synonymized *Apodocotyle oscitanus* (Linton, 1910) Pritchard, 1966 with *P. brevivitellus*.

Durio and Manter (1968) redescribed *P. lethrini* Yamaguti, 1938 from *Lethrinus* sp. and *Plectorhynchus* sp. from New Caledonia, Australia. The same authors also described *Pseudoplagioporos interruptus* Durio and Manter, 1968 from *Lethrinus* sp. and *L. glyphodon*, *Plectorhynchus* sp., *Epinephelus merra* and *Choerodon albigena* from the same locality.

Pseudoplagioporos nebulosae Nagaty and Abdel Aal, 1969 was reported from *Lethrinus nebulosus* from the Red Sea. Saoud and Ramadan (1984) proposed that *P. nebulosae*, Nagaty and Abdel Aal 1969 should be considered as a synonym of *P. interruptus* Durio and Manter, 1968. The description of *P. nebulosae* was based on a single specimen which was poorly fixed as evident from the distorted position of the ventral sucker and the dislocation of the cirrus pouch. The same authors redescribed *Pseudoplagioporos microrchis* Yamaguti, 1942 from the Red Sea in *Lethrinus nebulosus*, *Anampses caeruleopunctatus*, *L. mahsena* and *L. mahsenoides* (Saoud and Ramadan, 1984).

During a survey of the helminth parasites of fishes from the Arabian Gulf, the present authors discovered four trematodes which were identified as *Pseudoplagioporos microrchis*

MATERIALS AND METHODS

Methods used for the collection, identification and examination of fish are described elsewhere (Saoud, Ramadan and Al Kawari, 1986). Techniques used for the relaxation, fixation and staining of trematodes are basically those described by Saoud and Ramadan (1983). All measurements are in millimetres unless stated otherwise.

PSEUDOPLAGIOPORUS MICRORCHIS YAMAGUTI, 1942

DESCRIPTION

The following description is based on 4 specimens collected from *Lethrinus lentjan* and *L. nebulosus*.

The body is elongated with rounded extremities, tegument smooth without tegumental spines. The body measures 3.14 – 5.7 long and 1.71 – 2.1 wide. The length/width ratio varies from 2.63 – 2.71 : 1.

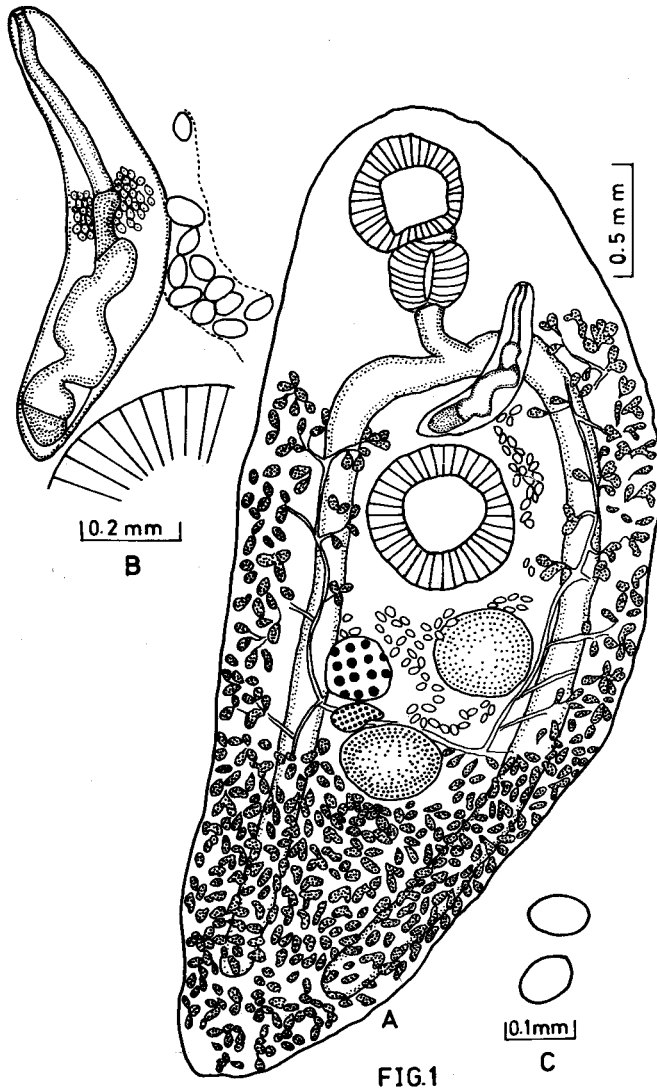


Fig. 1: *Pseudoplagioporus microrchis* Yamaguti, 1942
a. Ventral view b. Cirrus pouch c. Eggs

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The oral sucker is fairly round, subterminal, measuring 0.45 – 0.57 long and 0.50 – 0.64 wide. The ventral sucker is almost round but it is slightly wider than long; it measures 0.62 – 0.78 long and 0.65 – 0.78 wide. It lies about 1.17 – 1.85 from the anterior end of the body. The ratio of oral to ventral suckers is 0.72 – 0.73 : 1.

The pharynx is well developed, fairly round or slightly long oval; it measures 0.30 – 0.35 long and 0.28 – 0.32 wide. The prepharynx is seen only in two specimens; it measures 0.04 in length. The oesophagus length varies from 0.24 – 0.35. The intestinal bifurcation has distinct shoulders, then the two intestinal caeca pass laterally to end very close to the posterior extremity of the body.

There are two large testes which are nearly round or oval in shape, obliquely situated; they may be smooth or have small curved buds on their surfaces. The anterior testis measures 0.35 – 0.47 long and 0.40 – 0.52 wide and the posterior testis measures 0.37 – 0.52 long and 0.47 – 0.58 wide.

The cirrus pouch is pear-shaped or elongated, diagonally lying between the ventral sucker and the intestinal bifurcation at the pharyngeal level. It measures 0.85 – 0.88 long and 0.14 – 0.21 wide. It includes a posteriorly located and winding vesicula seminalis, in front of which there is a pars prostatica surrounded by prostatic cells. The cirrus is elongated and opens on the genital pore which lies towards either the left or right sides of the body.

The ovary is almost round in shape; lies towards the right side or left side in the inter-testicular area. The ovary has a smooth outline and is smaller than either of the testes. It measures 0.35 – 0.38 long and 0.38 – 0.44 wide. The receptaculum seminis is oval in shape, found posterior to the ovary; it measures 0.6 long and 0.31 wide.

The vitelline glands are composed of numerous small follicles which are both extra-caecal and inter-caecal, commencing nearly at the level of the intestinal bifurcation, overlapping the posterior testis and become confluent behind it.

The uterus varies according to the maturity of the worm; it is inter-caecal, coiled and extends from the posterior border of the cirrus sac to about the anterior border of the posterior testis. The metraterm is sinuous and runs forward along the cirrus pouch and opens on a common genital atrium. The eggs are elongated oval, measuring 85–92 μm by 46–53 μm .

DISCUSSION

Pseudoplagioporus microrchis Yamaguti, 1942 was originally described in *Lethrinus haematopterus* from Japan. Nagaty and Abdel Aal (1962) redescribed that trematode from *Lethrinus mahsena* at Al Ghardaga, Red Sea with some additional morphological notes.

P. microrchis differs from *P. lethrini* Yamaguti, 1938 mainly in having pre-acetabular cirrus pouch and the extension of vitellaria to near the intestinal bifurcation. *P. microrchis* can be differentiated from *P. interruptus* Durio and Manter, 1968 mainly by the extension of vitellaria, oesophageal length and suckers ratio.

In Table (1) a comparison is given between the descriptions of *P. microrchis* Yamaguti, 1942 from Red Sea fishes by Nagaty and Abdel Aal (1962) and Saoud and Ramadan (1984) as well as the present material from the Arabian Gulf. The present material of *P. microrchis* is fairly similar to the descriptions of both Nagaty and Abdel Aal, 1962 and Saoud and Ramadan, 1984 from the Red Sea. However, there are some differences in body and cirrus pouch shapes and minor variations in some body measurements.

In the present work, *P. microrchis* is recorded for the first time from *Lethrinus lentjan* and this also represents the first record of this species from the Arabian Gulf.

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Table 1
Comparison between descriptions of *Pseudoplagiopus microrchis* Yamaguti, 1942

Characters	References		
	Nagaty and Aal (1962)	Saoud and Ramadan (1984)	Present material
Body shape	Elongated, flat posteriorly	Elongate with rounded extremities	Elongate with rounded extremities
Body length	4.24	1.88 - 4.00	3.14 - 5.7
Body width	1.34	0.63 - 1.50	1.71 - 2.1
Length/Width	3.16 : 1	2.00 - 5.31 : 1	2.63 - 2.71 : 1
Oral sucker	0.45 X 0.48	0.16 - 0.41	0.45 - 0.57 X 0.50 - 0.64
Ventral sucker	0.59 X 0.65	0.28 - 0.56 X 0.29 - 0.71	0.62 - 0.78 X 0.65 - 0.78
Oral sucker/Ventral sucker	0.81 : 1	0.53 - 0.88 : 1	0.72 - 0.73 : 1
Prepharynx	0.05 long	0.03 - 0.05 long	0.04 long
Pharynx	0.27 long	0.08 - 0.31 X 0.08 - 0.33	0.30 - 0.35 X 0.28 - 0.32
Oesophagus	0.26 long	0.08 - 0.31	0.24 - 0.35 long
Testes	0.127 X 0.30 & 0.27 X 0.32	0.10 - 0.41 X 0.12 - 0.35 & 0.13 - 0.41 X 0.12 - 0.35	0.35 - 0.47 X 0.40 - 0.52 & 0.37 - 0.52 X 0.47 - 0.58
Cirrus pouch	0.63 X 0.20	0.33 - 0.61 long and 0.09 - 0.24 wide	0.85 - 0.88 X 0.14 - 0.21
Genital pore	Towards the left side of body, at midlevel of the oesophagus	Towards the left side, lateral to the oesophagus	Towards the left or right sides
Ovary	Round, 0.24 in diameter	Round, on the right side 0.09 - 0.20 X 0.09 - 0.36	Round, on the right or left side 0.35 - 0.38 X 0.38 - 0.44
Receptaculum seminis	Not distinct	Posterior to ovary, 0.05 - 0.15 X 0.10 - 0.33	Posterior to ovary, 0.6 X 0.31
Vitellaria	Numerous small follicles, extend from level of intestinal bifurcation to posterior end of the body	Numerous small follicles, extend from level of intestinal bifurcation to posterior end	Numerous, small follicles extend from intestinal bifurcation, overlapping posterior testis and confluent behind it.
Eggs	80 X 50 um	52 - 67 X 39 - 46 um	85 - 92 X 46 - 53 um

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الديدان الطفيلية في أسماك الخليج العربي

(٣) عن التريماتودا ثنائية العائل

سيدوبلاجيوبورس ميكوروكيس ياما جوتي ١٩٤٢

محمد فتحي عبد الفتاح سعود ، مصطفى محمود رمضان و كلثم سالم الكواري

قام المؤلفون بتقديم عرض تصنيفي تحليلي للتريماتودات من جنس سيدوبلاجيوبورس ، وتم إعادة وصف سيدوبلاجيوبورس ميكوروكيس - الذي يسجل لأول مرة في الخليج العربي - من نوعين من أسماك الشعري التي جمعت من المياه القطرية ، ويعتبر سمك الشعري من نوع لثرينس لتجان عائلًا جديدًا لذلك النوع من الديدان الطفيلية .