TRYPANORHYNCHID CESTODES FROM FISHES OF KHOR – ABDULLAH, ARABIAN GULF.

Majid A.A.Bannai
Department of Marine Vertebrate ,Marine Science Center ,University of Basrah,Basrah, Iraq.
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ABSTRACT

Results of the present investigation on infection of Trypanorhychid cestode infestation of marine fishes of Khor –Abdulla North west Arabian Gulf throws June 2006 to May 2007 . revealed to presence of four different species Trypanorhychid cestodes:-. :***Callitrahynchus gracilis* , *Dasyrhynchus pacificus* from *Scomberoides cammmersoniaus* ; *Nybelinia lamonteae* from *Saurida undosquamis* ; *Otobothrium penetratus* from *Synaptura orientalis* ;*Pterobthrium hira* from *Illisha elongata.*** which all represented as a new locality recorded parasite.

INTRODUCTION

Trypanorhynchid cestodes, which mature in elasmobranches fishes , are frequent and species –rich fish parasites in the tropics .As they use telost fishes as intermediate or transport host, they also may have negative impact on fishing and the fish processing industry (1).

Palm (2) suggested new classification of Trypanorhynchid cestodes including 5 super families, 15 families and 66 genera.

The knowledge of marine fish parasite in the Arabian Gulf has been still poorly documented and cestodes of fishes of the Arabian Gulf had received only little attention ..(3) reported ***Grillotia*** sp in the Gulf fishes , (4) reported ***Oncodiscus*** sp. from ***Saurida undosquamis*** from Kuwait . (5) identified ***Oncodiscus sauridea*** from the same above-named fishes from Kuwait coastal water..(6) observed some unidentified cestodes in 33 species of Qatari fishes . (7) described ***Macrobothrium*** as a new genus and ***M.rhynchobati*** as a new species from the elasmobranches ***Rhynchobatus granulatus*** and (8) described 3 species , ***Onchodiscus sauridea*** from ***Sauridae undosquamis*** ,***Nybelinia karachii*** from ***Johnius sina*** and ***Nybelinia*** **sp** from ***Illish elongata*** in Khor Al-Zubiar lagon.

(9) described ***Paramecstobothrium*** sp. from ***Synptura orientalis***, ***Petrobothrium*** sp. from ***Illisha elongata*** and redescribed ***Oncodiscus sauridae*** from ***Saurida undosquamis*** from Khor – Abdulla North-West Arabian Gulf. The purpose of the present study is to present further records of Trypanorhyncha from the Arabian Gulf fishes.

MATERIAL AND METHODS

Monthly fish samples were collected from Khor Abdulla, north west the Arabian Gulf, from June 2006 to May 2007. A Total of 250 fish specimens belonging to 11 fish species were collected by using two different fishing gears and methods

The fish were examined microscopically for the presence of cestodes in the body cavity, intestine, and musculature.The cestodes were placed in the physiological saline to which distilled water was gradually added. Initially the worm was relaxed before fixation in A.F.A. solution and specimens were stained in acetiocarmine (10).

All measurements are given in micrometers. Fish were identified according to (11). The parasites were identified according to (12,13,14) . and drawing was prepared by camera Lucida .

RESULT AND DISCUSSION

Class: Cestoda
Order: Trypanorhyncha
Family: Callitrahynchidae
Callitrahynchus gracilis (Rudolphi 1819) (Fig -1)
Host: *Scomberoides cammmersoniaus*
Site of infection :intestine
Locality : Khor –Abdulla
Prevalence :7.4%
Mean intensity :1

Two of 27 specimens of ***Scomberoides cammmersoniaus*** with total body length 50-70 cm were infected with 2 plerocerecoids of ***Callitrahynchus gracilis*** .The cyst or post larva is located in the wall of intestine. Post larva has elongate scolex, long tail and two short, heart-shaped botheridia. The tentacle sheaths are coiled.

The tentacle bulbs reach the end of the scolex, do not occupy the entire width of the scolex, and are about 3 time longer than width. Tentacles have differ in shape and size .

According to (15), the diagnosis of the genus ***Callitrahynchus*** are: the tentacles emerging from anterior margin of bothridia .Pars vaginalis long ,glandular ; tentacles sheaths sinuous .Bulbs about three times longer than wide .Botheridia two ,nearly round ,with strong notch in posterior margin chainette, hooks lacking lateral wings .The type species is ***C. lepidum*** Chandler 1942 (syn ***Tentacularria lepida*** Chandler ,1935) in ***Bargre marina*** ,***Galeichthys felis***; from Texas fishes.The present specimens well agree with ***C. gracilis*** in the characters.It represents its first record in fishes of the Arabian Gulf and ***Scomberoides cammmersoniaus*** represent as a new host record of this parasite.

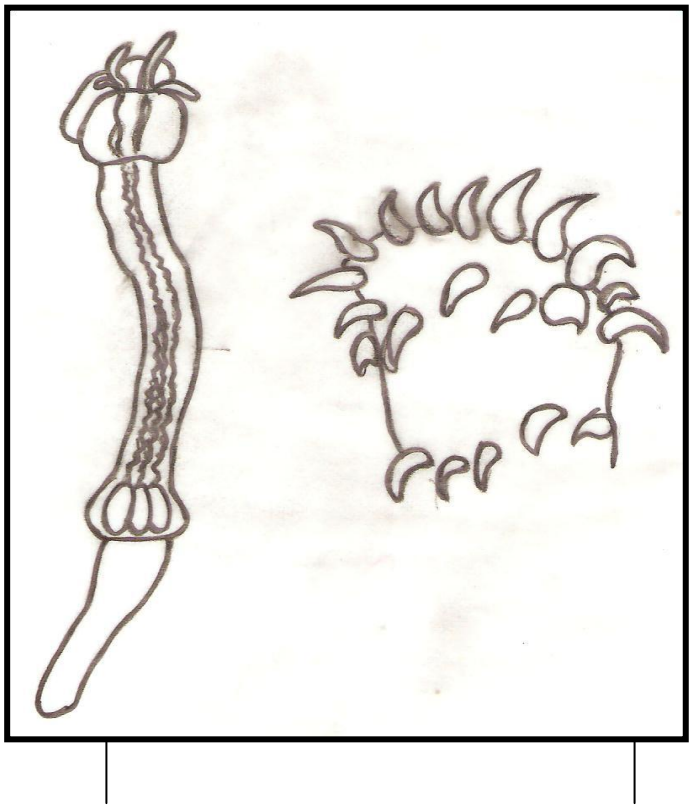

Fig 1 *Callitrahynchus gracilis* **A.** scolex scale 1 mm and B. tentacle scale 0.05 mm

Family: Dasyrhynchidae

Dasyrhynchus pacificus Robinson (1965)(Fig- 2)
Host: *Scomberoides cammmersoniaus*
Site of infection : intestine ,musculature
Locality : Khor –Abdulla
Prevalence :25.9%
Mean intensity :2.14

Seven of 27 specimens of ***Scomberoides cammmersoniaus*** with total body length 50-70 cm were infected with fifteen plerocerecoids of ***Dasyrhynchus. Pacificus.***

The cyst or post larva is located in the intestine and musculature .Post larva has an oblong anterior and long tail .Scolex have two bothiridia. .Tentacle sheaths are long and tightly coiled .Tentacle bulbs (Fig-2A) are long and narrow .Tentacles have 10 dissimilar hooks (5 large and 5 distinctly smaller) (Fig-2B).

According to (15) and (14) the diagnosis of the genus ***Dasyrhynchus*** are : The scolex long ,slender ,tentacles long ,slender emerging near tip of the scolex armed with one or two chainettes and intercalary rows of small hooks as well as varying size and shapes of the other hooks .Tentacular sheaths coiled or spiral ,bulbs long and slender .

There are 4 species of the genus ***Dasyrhynchus*** ,differing in the chained ,rows and irregular external tentacle surface : ***D. pilleresi*** Southwell,1929; ***D.magnus*** Bilqees and Khurshid,1985 ; ***D. indicus*** Chandra *et* Hanumantha Rqo,1985 ,(13) ***D. pacificus***

(13) described ***D.thomasi*** **as** a new species. The present specimens agree well with (16) specimens and represent its first record in the Arabian Gulf fishes.

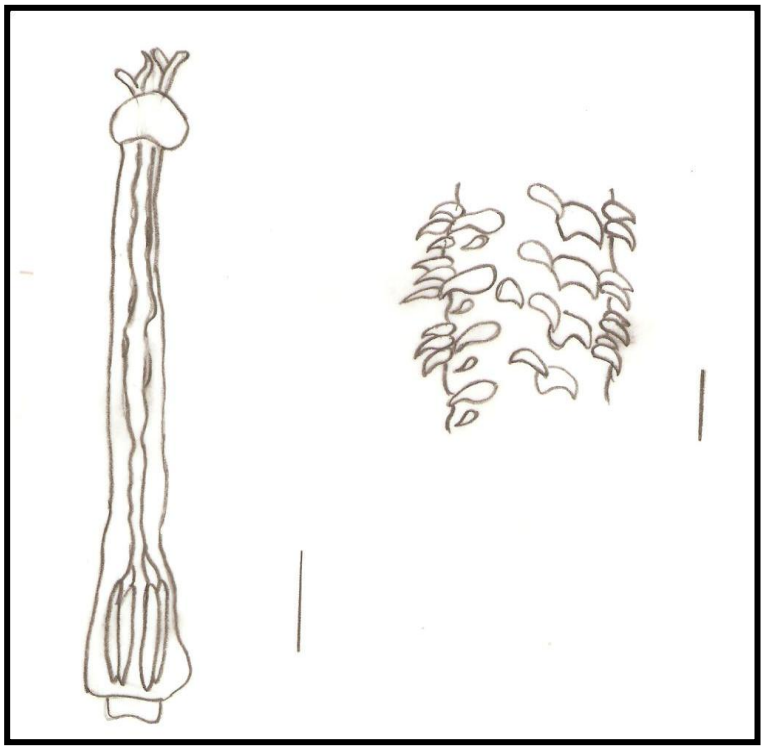

Fig 2 ***Dasyrhynchus pacificus*** A. scolex scale 1 mm , B. tentacle scale 0.05 mm

Family: Tentaculariidae

Nybelinia lemonteae Williams and William (1996) (Fig -1)

Host: *Saurida undosquamis*

Site of infection : intestine and stomach

Locality : Khor –Abdulla

Prevalence :13.4%

Mean intensity:0.6

Nine of 67 specimens of ***Saurida undosquamis*** with total body length 15-26 cm were infected with plerocerecoids of ***Nybelinia lemonteae.***

The cyst or postlarva is located in the wall of the fish intestine and the stomach. The postlarva has a short scolex and short a invaginated tail .

Four elongate botheridia are about ½ the length of scolex .Tentacle sheaths are longer than the tentacles. Tentacle bulbs extends posterior to the end of the botheridia .The hooks diminish in size towards the basal part of the tentacle ,the hookes form differ from compact and shaped . ***Nybelinia*** Poche, 1926 is cosmopolitan genus which comprises 39 species (15). Adults are know to parasitize elasmobranches and postlarva in both telost and cephalopod (12). According to (15), seven ***Nybelinia*** spp. are know from the Indian ocean and adjacent regions. (7) reported ***N. karachii*** from ***Johnius sina*** and ***Nybelinia*** sp. from ***Illisha elongata*** . The present specimens well agree with the description of (14) .The present study represents its first record in the fishes of the Arabian Gulf

A **B**

Fig 3 ***Nybelinia lemonteae*** A scolex scale 1 mm , B tentacle scale 0.5 mm

Family: Otobothriidae

***Otobothrium penetratus*.** Linton 1905 (Fig -3)

Host: *Synaptura orientalis*

Site of infection : intestine

Locality : Khor –Abdulla

Prevalence :19.7%

Mean intensity :0.8

Fifteen of 76 specimens of ***Synaptura orientalis*** with total body length 10-36 cm were infected with plerocerecoids of ***Otobothrium*** **sp.**

The cyst or post larva is located in the wall of the fish intestine. The scolex has a short botheridia, short tail and a long striated body .The tentacle sheaths are spiral ,tentacles bulbs are long and reach the posterior margin of the body .The tentacle have 8 ring hooks different in size and shape .

According to (17) there are 14 valid species of the genus ,and he described a new species ***O. karisi*** from the stomach of shark . (18) described ***O. pentraus*** as a new species . Palm(1993) redescribed ***O. pentraus*** from Philippinine fishes and differ from (18) specimens in the size and measurmentsers of the scolex .

According to Schmidt (12) The diagnosis featuresof the genus ***Otobothrium*** are: the scolex long, tentacle sheaths are spiral. Retractor muscles inserted at or near anterior end of bulb .Pars bulbosa swollen .Botheridia two, often with posterior notch each side with cilia .Tentacles emerging from anterior margins of botheridia.

The present specimens well agree with ***Otobothrium penetratus*** descried by Palm (1993) and differ in the size and shape of hooks . The presence of this species it represents its first record in the fishes of the Arabian Gulf.

A **B**

Fig 4 ***Otobothrium penetrates*** A scolex scale 1 mm ,B tentacle scale 0.05 mm

Order: Trypanorhyncha
Family: Pterobothriidae
Pterobothrium hira Yamaguti, 1952 (Fig -4)
Host: ***Illisha elongata***
Site of infection : intestine and stomach
Locality : Khor –Abdulla
Prevalence :32.2%
Mean intensity :1.8

Ten of 31 specimens of ***Illisha elongata*** with total body length 7-26 cm were infected with fifteen plerocerecoids of ***Pterobothrium heteracanthum*.**

The cyst or post larva isolated from the wall of the fish intestine and the stomach. Post larva has elongated, slender. Scolex with 4 round botheridia, tentacles are long, the tentacle sheaths are longer than the tentacles and the tentacles bulbs, the tentacles bulbs are elongate and fill most of the width of the scolex .Tentacles have 5 hooks in the principal rows and numerous smaller hooks.

According to (13) the diagnosis features of the genus ***Pterobothrium*** are: The scolex long, slender. Tentacles sheaths spiral. Pars bulbosa somewhat swollen .Retractions attached at differing levels ,according to species. Botheridia four each one ,is short .Pars post bulbosa always present .Tentacle hooks poecilacanthous ,each external surface with a band of small hooks .The present specimens agree well with ***P. hira*** Yamaguti, 1952 larva in ***Illisha elongata*** from Japan ,and it represent its first record in fishes of the Arabian Gulf.

A **B**

Fig 5 ***Pterobothrium hira*** A scolex scale 1 mm ,B tentacle scale 0.05 mm

الطفيليات الشريطية في اسماك خور عبد الله – الخليج العربي
Trypanorhynchid

ماجد عبد العزيز بناي
قسم الفقريات البحرية مركز علوم البحار ، جامعة البصرة ،البصرة ،العراق

الخلاصة

نتيجة الفحص الحالي عن الشريطيات عائلة **Trypanorhynchid** في اسماك خور عبد الله شمال غرب الخليج العربي من شهر تموز عام 2006 لغاية شهر ايار 2007 **تبين اصابة الاسماك باربعة انواع مختلفة من الديدان الشريطية من عائلة هي , *Callitrahynchus gracilis* *Dasyrhynchus pacificus*من** سمكةالخباط **;من *Scomberoides cammmersoniaus* ; *Nybelinia lamonteae* *Saurida undosquamis*من** سمكة أبو الهيل **; *Otobothrium***

Synaptura orientalis* من *dipsacum سمكة المزلق ;; ***Scomberoides cammmersoniaus* من ; سمكة الضلعة**
Pterobthrium hira* من.*Illisha elongata واعتبر تسجيل هذه الأنواع هو الأول في منطقة الخليج العربي

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