

**ENTOBDELLA AEGYPTIACUS AS A NEW SPECIES OF  
MONOGENEAN GILL TREMATODE OF MARINE  
FISH IN EGYPT**

BY

O.H. AMER

Dept. of Parasitology, Fac. Vet. Med.  
Zagazig University, Egypt.

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**INTRODUCTION**

Until recently little attention has been paid to monogenea living in African fishes. The majority of the species have been described from Ghana and Uganda (Paperna, 1965, 1968, 1969, 1979). Studies on fish monogeneans in Egypt have been carried out by Fiscthal and Kuntz (1963), Ergens (1973 a, 1973b, 1981) and Eid and Negm (1987) on fresh water fish. References on Monogenean parasites of marine fishes were scanty and not recent. Kearn (1963) reported *Entobdella soleae*, as a skin parasite of the common sole. Also the same species was described from Great Britain by Lyons (1970).

**MATERIALS AND METHODS**

Sixty marine fish (28 *Epinephalus gigas* and 32 *Morone labrax*) were collected from the Mediterranean sea at Port Said area, during the period extending from March, 1989 till February, 1990. Monogenean specimens were collected from the gills after its exposure and cutting of arches into small pieces. The parasites were washed and preserved as a slide preparation in ammonium picrate solution under

*Entobdella aegyptiacus* as a new species of ...

slip. Some monogenean parasites were fixed in 96% alcohol then decolorized in acid alcohol, stained in acetic acid alum carmine, dehydration in alcohol then clearing in clove oil and xylol, and lastly mounted in Canada balsam (Paperna, 1963).

## RESULTS

Table (1) clarify that, the monogenean parasite was mainly found during the period from March to June, with a peak at the last month (spring and the beginning of the summer).

### Morphological description of the recorded morogenean parasite:

The parasite was roughly leaf shape the total body length was 6.8 - 9.4 mm and 3.6 - 4.5mm in width at the middle of the body. The anterior end has two adhesive area which measured 0.2 - 0.5mm in length and 0.9 - 1.5mm in width. Behind the adhesive area, there were two pairs of the eye spots. The pharynx was measured 0.06 - 0.1mm in length and 0.02 - 0.03mm in width and characterized by the presence of the pharyngeal glands. The intestinal caeca were branched and not clear as they covered by the vitelline follicles and anastomosed at the middle of the body. The tetes were two in number, horzonital in position and ovoid in shape, the right one was measured 0.8-1.2 mm X 0.64 - 0.7 mm and the left one was measured 0.96 - 1.4 mm X 0.87 - 1.0 mm. The vesicula seminalis with its internal and external reservoirs was lied behind the bifurcation of the intestine, which lead to ejaculatory duct and end by the penis.

The ovary was oval in shape, situated anterior to tests medially and measured 0.39 - 0.48mm X 0.28 - 0.32mm. Anterior to the ovary, the vitelline

Table [1]: Seasonal incidence

Month	No. of worms
March	
April	2
May	3
June	1
July	4
August	0
September	0
October	0
November	0
December	0
January	0
February	0

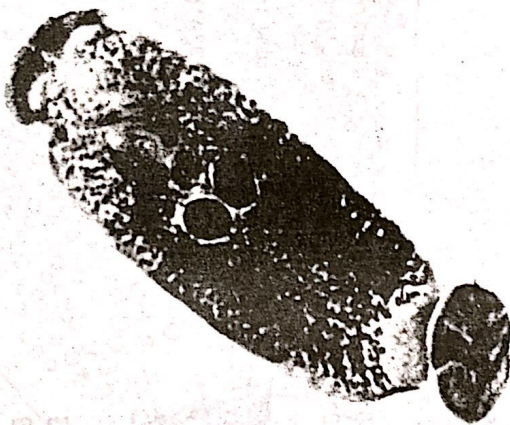
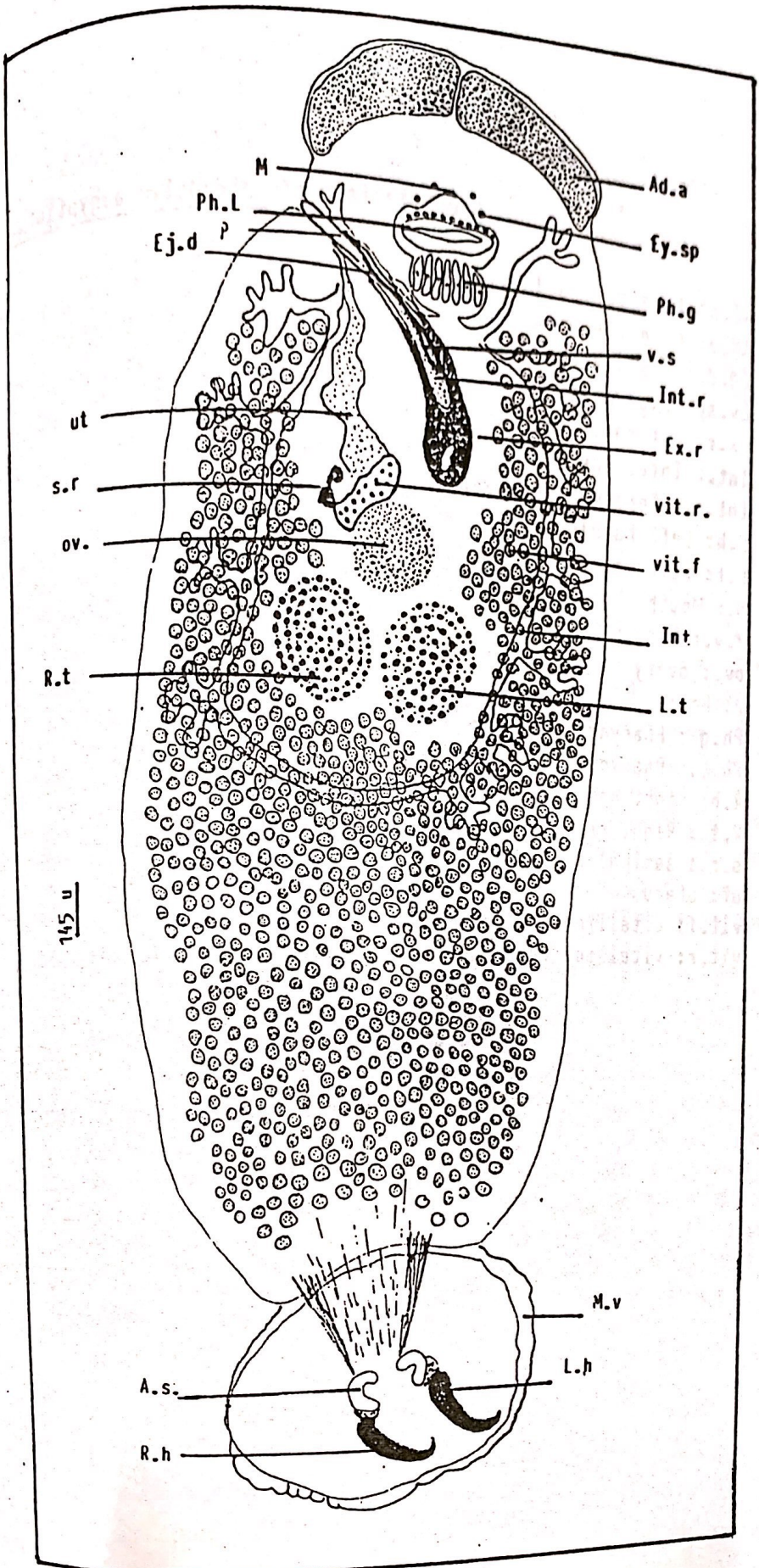


Fig. [1]: Entobdella acgyptiacus X 100

TABLE [2]: Morphological differences between Entobdella soleae and Entobdella aegyptiacus.

Differences	<u>Entobdella soleae</u>	<u>Entobdella aegyptiacus</u>
1. Site	Skin	Gills
2. Host	Solea solea	Epinephalus & Morone
3. Body		
- length	5.2 - 6.4 mm	- 6.8 - 9.4 max.
- width	2.4mm - 3.1 mm	3.6 - 4.5 mm
4. Pharynx	-0.03-0.05mmX0.01-0.02mm	0.06-0.01X0.02-0.03mm
5. Glands of Goto	Present	Absent
6. Ovary	-0.18-0.36mmX0.09-0.1mm	-0.39-0.48mmX0.28-0.32mm
7. Testes:		
- Right testis	-0.4-0.6mm X 0.04-0.075mm	-0.8-1.2mmX0.64-0.75mm
- Left testis	0.06-0.9mm X 0.17-0.8mm	-0.96-1.4mm X 0.87-1.0mm
8. Hamulus		
Right hamulus	- 0.13mm	- 0.029mm
Left hamulus	- 0.26mm	- 0.36mm
9. Marginal hooklets	present	absent

fig. [2]: *Entobdella aegyptiacus*



Abbreviations of Entobdella aegyptiacus

Ac.s: Accessory sclerite  
Ad.a: Adhesine area  
Ej.d.: Ejaculatory duct  
Ey.sp: Eye spots  
Ex.r: External reservoir  
Int.: Intestine  
Int.r.: Internal reservoir  
L.h: Left hamulus  
L.t: Left testis  
M.: Mouth  
M.v.: Marginal valve  
ov.: ovary  
P: Penis  
Ph.g.: Pharyngeal glands  
Ph.L.: Pharyngeal lumen  
R.h: Right hamulus  
R.t.: Right testis  
s.r.: seminal receptacle  
ut: uterus  
vit.f: vitelline follicle  
vit.r: vitelline reservoir.

reservoir, which measured 0.2 - 0.3mm X 0.08 - 0.1mm, and to the right side of it, the seminal receptacle which measured 0.02mm X 0.01mm. The posterior end of the body (Haptor, was measured 0.430mm X 0.290mm and connected from the body by muscular rays. It had marginal value and two hamulus with kidney shaped accessory sclerite, the right one measured 0.29mm as the left one measured 0.36mm in length.

## DISCUSSION

It was clear that, the recorded monogeanetic trematode has the same characters of the genus *Entobdella* but not identical to the species described by Kearn (1963) and Lyons (1970). As the recorded species difference some what in the measurment (Table, 2), site and the host of the parasite. Also the gland of Goto and the marginal hooklets of the hapetor were absent in the recorded species. Therefore the auther suggest, that it is anew species infecting the gills of marine fish in Egypt, creating the name *Entobdella aegyptiacus* for this recovered morogentic trematode.

## SUMMARY

60 marine fish belonging to two species (*Epinephalus gigas* and *Morone labrax*) were collected from the Mediterranean sea at Port Said area. The monogentic trematode from gill was collected, examined and identified. The worker considered the worm in this study as a new species of genus *Entobdella* and named *Entobdella aegyptiacus* as a new specie in Egypt.

*Entobdella aegyptiacus* as a new species of ....

## REFERENCES

1. Eid N. and Negm M. (1987): Some morphological study on a news pecies of endoparasitic monogenetic trematode "Enterogyrus niloticus in the intestine of Tiliapia nilotica". J. Egypt. Vet. Med. Ass. 47 (1 & 2) : 77-80.
2. Ergens R. (1973a): Two species of Gyrodactylus from clarias lazera (vermes, Trematoda, Monogeneoidea ). Rev. Zool. Bot. Afr., 87: 77-80.
3. Ergens R. (1973 b): Characidotrema nursei sp. nov. from the gills of Alestes nurse from River Nile. Rev. Zool. Bot. Afr., 87: 195-197.
4. Ergens R. (1981): Nine species of the cichlido-gyrus Paperna, 1960 Monogenea: An. Syrochephalinae) from Egyptian fishes. Folia parasit. (Praha), 28: 205-214.
5. Fischthal J.H. and Kuntz R.E. (1963): Trematode parasites of fishes from Egypt. Part 2. Diplozoon aegyptensis (Monogenea: Polyopisthocotylea: Helminthol. Soc. Wash., 30, 31-33.
6. Kearn G.C. (1963): The life cycle of the monogenean *Entobdella soleae*, askin parasite of the common sole. Parasit., 53: 253-263.
7. Lyons K.M. (1970): The five structure and function of the adult epidermis of two skin parasitic monogeneans, *Entobdella Soleae* and *Acanthocotyle elegans*. Parasit., 60 39-52.
8. Paperna I. (1965): Monogenetic trematodes collected from fresh water fish in southern Ghana. Bamidgeh, 17: 107-111.



9. Paperna I. (1968): On chobdella n. gen. New Genus of monogenetic trematodes (Dactylogyridae, By Chowski, 1933) from cichild fish from west Africa. Proc. Helminthol. Soc. Wash., 35:300-206.
10. Paperna I. (1969): Monogenetic trematodes of the fish of volta basin and south Ghana, Bull. Inst. Fondam, Afr. Noira (A Sci-Nat.) 31: 840-880.
11. Paperna I. (1979): New species of Monogenea (vermes) from African freshwater fish. Apreliminary report. Rev. Zool. Bot. Afr., 87: 505-518.