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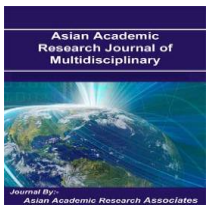

A NEW RECORD OF DEROPRISTIS INFLATA (DIGENEA, MOLIN, 1858) ISOLATED FROM FRESH WATER TURTLES IN BASRAH CITY/ SOUTHERN IRAQ

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Abstract

The turtles Glemmys caspica could be infected with different parasites at the world like; trematoda, cestoda and nematode and may be some genus as the first time host record or first time at region, Deropristis inflata related to the family Deropristidae was isolated from the intestine of the fresh water turtles Glemmys caspica which was record as a new host record in Iraq especially in Basrah city/ southern Iraq.

Key Word: turtles, Glemmys caspica , Deropristis inflata, Digenia, Trematoda, Basrah City.

Introduction:

The family Acanthocolpidae and the genus *Deropristis,*was reviewed by Ward (1938) who was supplementing a previous descriptions of the two known species under this family, *D. inflata* (Molin) and *D. hispida* (Albildgaard). The first attempt to group the trematodes at present allocated to the family Acanthocolpidae was made by Lűhe (1906) who proposed the subfamily to contain the genera *Acanthocolpus, Stephanochasinus (syn. Stephanostonium), and Deropristis,* and the species *Distoniumsemiarniatuni* (Molin). Later, Lűhe (1909) established the family Acanthocolpidae, apparently to contain all these forms although he mentioned only *Deropristis inflata, D. hispida*, and *Distoniunisemiarnustum*; these species occur in migratory fishes and Lűhe was concerned with only freshwater forms.

Vaes, (1979) found a species of *D. inflate* in brackish water habitat and record that the first intermediate host is *Hydrobia gnorum* and the metacercaria found in *Nereisdiversicolor* as a second intermediate host and *Poldora ciliate* as a new host record for this trematoda.

Few have studied movement of parasites after host capture and death. Cable and Hunninen (1942) note that eels *(Anguilla rostrata)* held for several weeks lost natural infections of the fluke *Deropristis inflata,* and Moller (1976) studied the rate of loss of five helminth species from four fish hosts held in aquaria.

Outeiral *et al.*, (2001) record nine different species of digeneans in 956 European eels captured in the estuaries of Arousa and Ferrol (NW Spain), one of them was *D. inflata* with more host-specific that restricted to eels.

Taxonomically, *D. inflata* related to:

Kingdom: Animalia

Phylum: Platyhelminthes

Class: Trematoda

Subclass: Digenea

Order: Plagiorchiida

Suborder: Lepocreadiata

Superfamily: Lepocreadioidea

Family: Deropristidae

Genus: *Deropristis* (Odhner,1902)

Species: *Deropristis inflata* (Molin, 1859)

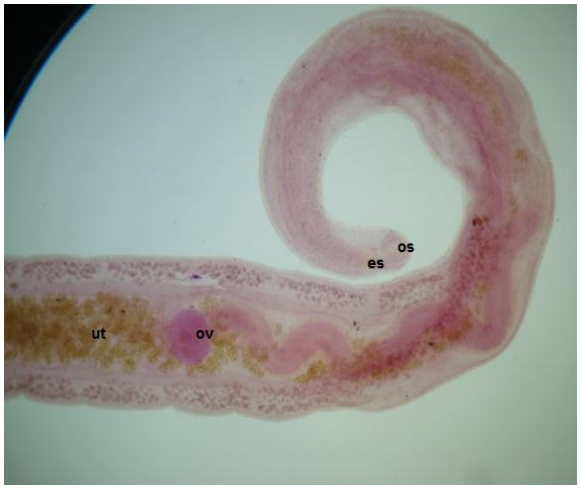
This study record that the trematoda *Deropristis inflata* was the first record in Iraq especially in Basrah city that found and isolated from fresh water turtles *Glemmys caspica* which was record as a new host record.

Materials and Methods:

A total of five turtles were collected from Shatt Alarab River at Basrah city southern Iraq by hand captured, the full taxonomy for each one were recorded as *Glemmys caspica* by Marine Science Center at Basrah University as in (Mustafa, 2014). Later, each sample were bring a live to the laboratory of parasitic research at Department of Biology in College of Education of Pure Science in Basrah University, then euthanized by formaldehyde and after that necropsy, the alimentary tract were removed for examined the parasites that be found according to the method of (Gonzalez and Hamann, 2010). All isolated parasites which were (20) bringing to the labrotary of Parasitology at Veterinary Medicine College in Basrah University for staining some of them and make a full taxonomy. The method of Garcia and Ash (1979) using to staining the isolated trematoda by Alum Carmine Stain. Then, the slides take to the Marine Science Center at Basrah University for drawing by camera lucida.

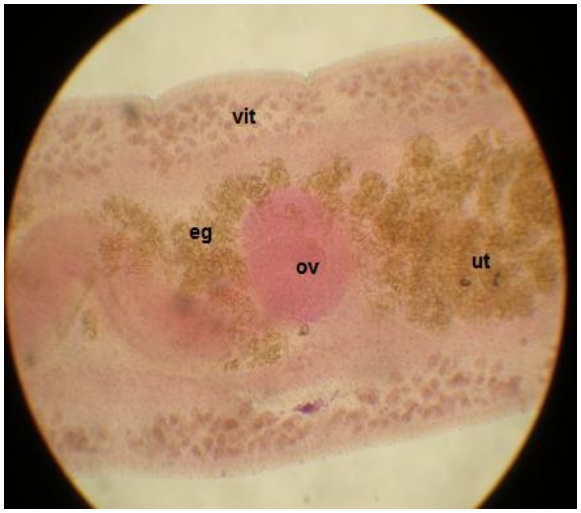
Results:

The isolated trematoda showed an elongation body, a clear oral sucker while, ventral sucker at the anterior third of body. Pharynx well developed with short esophagus and intestinal bifurcation at the anterior half of for body with two intestinal cecae. A clear globular to circular two testes and cirrus sac well developed, and the genital pore median ventral. While, ovary found posteriorly to middle of the body (Plate. 1 and Fig. 1). Aceto carmine stain found to be a good stain for this trematoda.

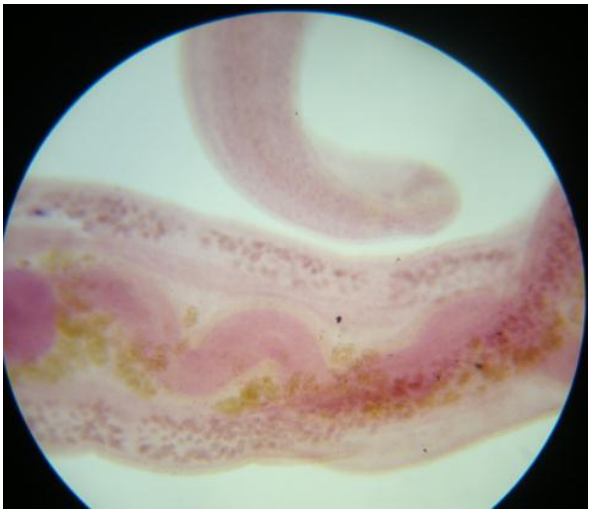


(A)

(B)



(C)



(D)

Plate (1): *Deropristis inflata* (A, B, C, D) stained with aceto carmine stain with clear eggs (Eg.), ovary (Ov.), uterus (Ut), viteillaria (Vit.), testes (Ts.), oral sucker (Os.) under light microscope. 10X.

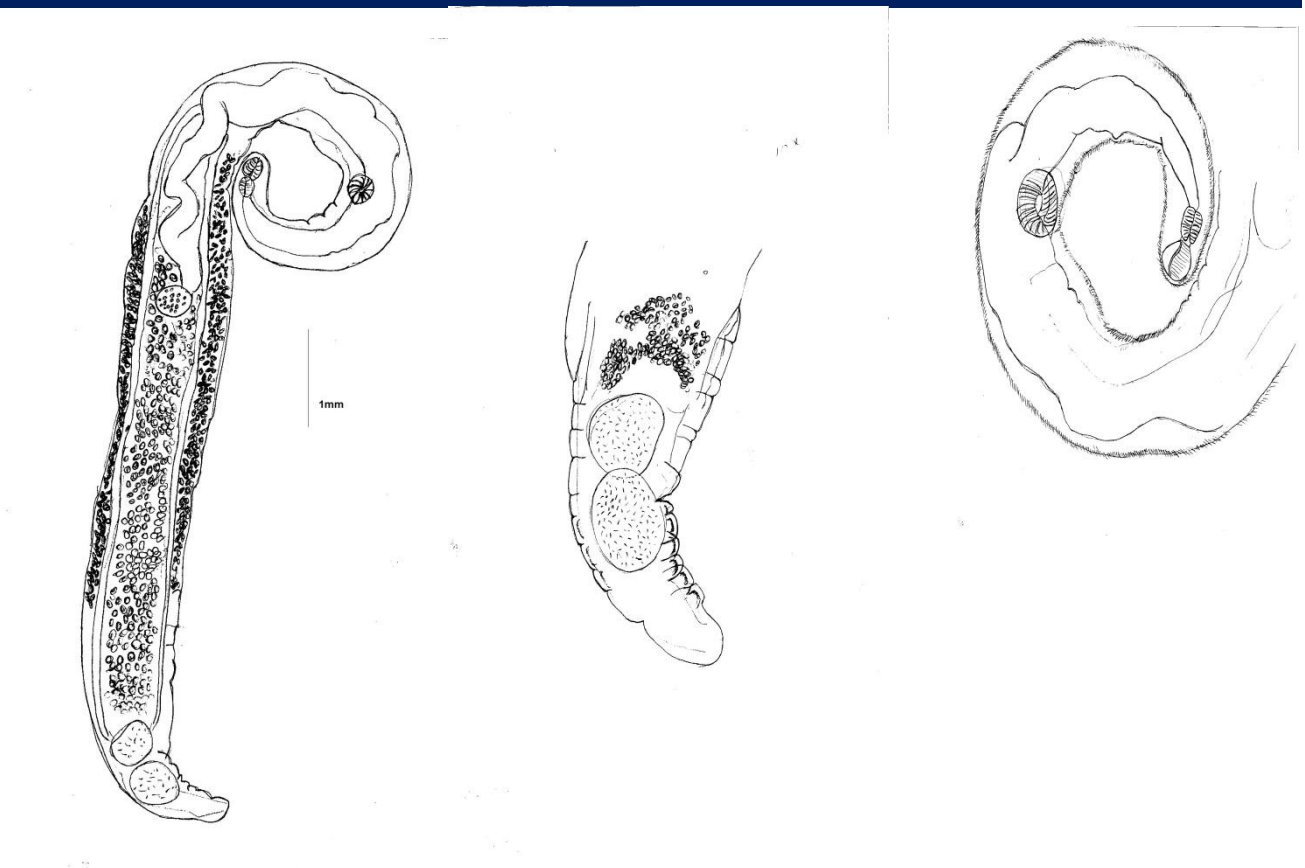


Fig. (1): *Deropristis inflata* drawing by camera lucida with clear internal organs. Scale bar (3).

Discussion:

Turtles and tortoises are mostly wild animals that could be infected with different various types of internal parasites which may be trematoda, cestoda and nematoda, some recognize as normal final host other noticed as a first record host, but as any parasites when it was in heavy infection could be led to death or cause unhealthy situation **.** This study record that turtles *Glemmys caspica* infected naturally with trematoda and after isolated and recognized taxonomically as *D. inflata* a diagenic trematoda.

Mostly this type of trematoda with life cycle; intermediate (snails may be one or two different genus and species) and final (fish with different genus and species), But this study found adult diagenic trematoda in small intestine of wild turtles which could be related as a new host record at least in this region Basrah city/ southern Iraq. It could be this explain that this region surrounding with different rivers, shallow rivers and branches some fresh other

semi salinity other brackish and this type of turtles record as fresh water turtles and found in different rivers in Basrah city, so, contact with different types of snails, fishes that lead *D. inflata* found inside their body.

Hermida *et. al.,* (2008) isolated digeneans *D. inflata* from eels from Ria de Aveiro brackish water lagoon in the Portuguese coast and detected for the first time. While, Saraiva *et al.,* (2005) record that the studies in brackish or saltwater environments indicate that the dominant species was usually the specialist digenetic *D. inflata*. Maillo *et. al.,* (2005) isolated *D. inflata* as parasite fauna of the European eel, *Anguilla anguilla* (L.) in three coastal lagoons of the Ebro delta NE Spain) and noticed that the prevalence range showed overlaps, to a large degree with ranges reported in other studies like; 32.1- 44.7% in the Tyrrhenian (Kennedy *et al.,* 1997) and 19.0- 93.9% in the Adriatic (Di Cave *et al.,* 2001), however, it is much higher than the 1.3% found in Languedoc by Benajiba (1991). Absence of the intermediate host, mollusc *Hydrobia sp.* in Languedoc lagoons could explain differences, since *Hydrobia sp.* prefers unsalted waters (Altunel, 1974).

The first parasitological studies of fish from the Pomeranian Bay and Polish waters of the Oder River estuary were carried out by Kozikowska (1957), in the subsequent years (until 2012) 2453 fishes of 17species from the Pomeranian Bay and the Szczecin Lagoon were examined and parasitological examination focused on: the skin, oral and nasal cavities, eye lens, vitreous humor, gills, heart, gonads, liver, spleen, kidney, gallbladder, gastrointestinal tract, swim bladder, peritoneum and blood and found at gastrointestinal tract the trematoda *D. inflata* (Legierko *et. al.,* 2013).

When talking about turtles a study by Santoro *et.al.,* (2007) record A new species of trematode, *Pleurogonius tortugueroi n. sp.* (Digenea: Pronocephalidae) that described from the lower intestineof green sea turtles(Cheloniamydas) from Tortuguero National Park Costa .Rica

In Iraq there is no studies on parasite's turtles except a study by Mustafa (2014) which isolated nematoda *Chabaudinema americana* (Diaz- Ungria, 1968) from fresh water turtles *Glemmys caspica* and Al-Emarah (2015) found a nematoda *Falcaustra heosemydis* (Kathlanidae) from fresh water turtles *Glemmys caspica* and both study record as a first time in Basrah city.

Conclusion:

The turtles *Glemmys caspica* could be infected with different parasites like; trematoda, cestoda and nematode and may be some genus as the first time host or first time at region, like this study for the first time in Basrah city/ southern Iraq, isolated trematoda *D. inflata* and as this parasites showed that life cycle without any turtle so may be this trematoda infect another organism in the same aquatic habitat, like, fishes or snails. So this research record that the wild turtles in our habitat are infected with diagenic trematoda and in future could be a clear results can other studies done like follow life cycle. Furthermore, the present research showed that turtles in our habitat with different types of internal parasites so it is importance to make another studies to establish the scientific findings and make a full description and confirm a taxonomy for each isolated parasites from turtles found in Basrah city/ Southern Iraq.

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