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NEW RECORD SPECIES *COTUGNIA ALII* (SHINDE, 2002) CESTODE IN BASRAH, IRAQ PARASITIZED IN *GALLUS GALLUS DOMESTICUS*

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ABSTRACT : The genus *Cotugnia* was erected by Diamare (1893) with type species *C. diagonopora*, collected from domestic chicken. Twenty-six cestodes were collected from intestine of six domestic fowl *Gallus gallus domesticus* in Basrah, Iraq with incidence (24%) and (4.3) intensity of infection. *Cotugnia alii* was first recorded infected domestic fowl in Iraq, which is characterized withlarge scolex quadrangular measuring 0.94 in length and 1.07 in width, have four suckers measures 0.387 in diameter. The rostellum small, oval, measuring in length 0.21 and 0.23 in width with numerous hooks (100-110). Mature segments rectangular have (80-85) testes situated in the center of segment between two ovaries.

Key words : *Cotugnia, Gallus gallus domesticus,* cestodes.

INTRODUCTION

Birds have very important economical role by using their meat and eggs as a diet and source of protein especially produced by population. Infection of birds by cestodes cause many problem in growth, reproductivity, produce of eggs and cause mortalities (Awad and Abdul Majeed, 1989).

Cestodes are the most important internal parasites infecting poultry causing various damage. The infection is consider as a main health problem in domestic chickens mainly the hematological parameters. More than 4000 species of cestode fauna from 1400 type of birds affiliates to three different families that are Hymenolepidae, Davainidae and Dilepididae (Calnek ***et al***, 1991).

Cotugnia is commonly a cestode parasites that infective avianand poultry some of which have medical importance, causing histopathological and economic problems worldwide (Mahdi ***et al***, 2018).

Diamare erect genus *Cotugnia* in 1893 with the type species *C. digonopora* (Pasquale, 1890) collected from domestics' fowl of Burma, India and Africa. Also few species of Genus *Cotugnia* reported in Pakistan including *C. margareta* (Beddard, 1916), *C. digonopora* (Pasquale, 1890) from *Gallus domesticus*, C. *celebensis* (Yamaguti, 1956), Columba livia, *C. cuneata* (Meggitt, 1924), *C. streptopeli* (Khan and Habibullah, 1967) from *Eurasian collard* dove, *C. fleari* (Meggit, 1927) collected from the intestine of Columba livia from Karachi Pakistan. *C. karachenisis*, *C. margareta* (Beddard 1916) and a new species of genus *Cotugnia* Diamare (Cestoda: Davaineidae (Fuhrmann, 1907) from domestic fowl (*Gallus domesticus*) of district Khairpur, Sindh, Pakistan (Lund ***et al***, 2017).

The aim of this work is isolation and identification helminthe parasitezed in *Gallus gallus domesticus.*

MATERIALS AND METHODS

A total of 25 live domestic chickens *Gallus gallus domesticus* were randomly collected from a local market in Basrahcity, Iraq to be examined immediately for helminthes in the laboratory of parasitology, College of Health and Medical Technology, Southern Technical University from June 2018 to December 2018. The alimentary canals were removed and placed in normal saline (0.9%) for examined.

Cestodes belonging to the *Cotugnia* were obtained from gut relaxed in saline, fixed in alcohol formalin acetic acid (A.F.A.) over night and kept in (70%) alcohol. Those prepared for identification were stained with Semichon's carmine, dehydrated in graded alcohol series, cleared in xylene (Gracia and Ash, 1979). Specimens were permanently mounted in Canada balsam. The drawing was made with camera Lucida and identified according to Khalil ***et al*** (1994). All measurements were recorded in millimeter.

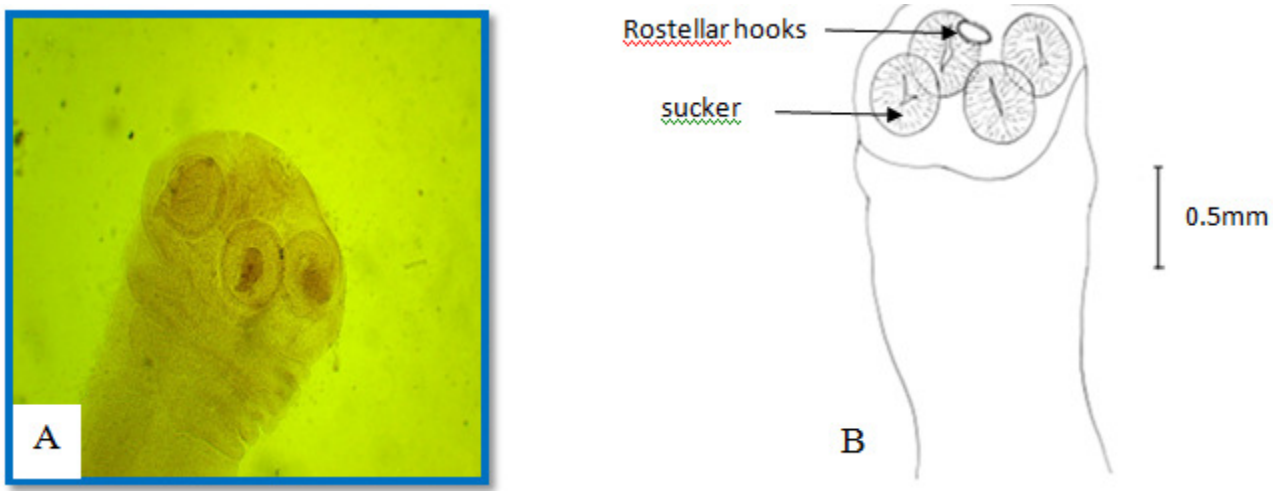

Fig. 1 : Scolex, **A :** Photograph, **B**: Camera Lucida drawing.

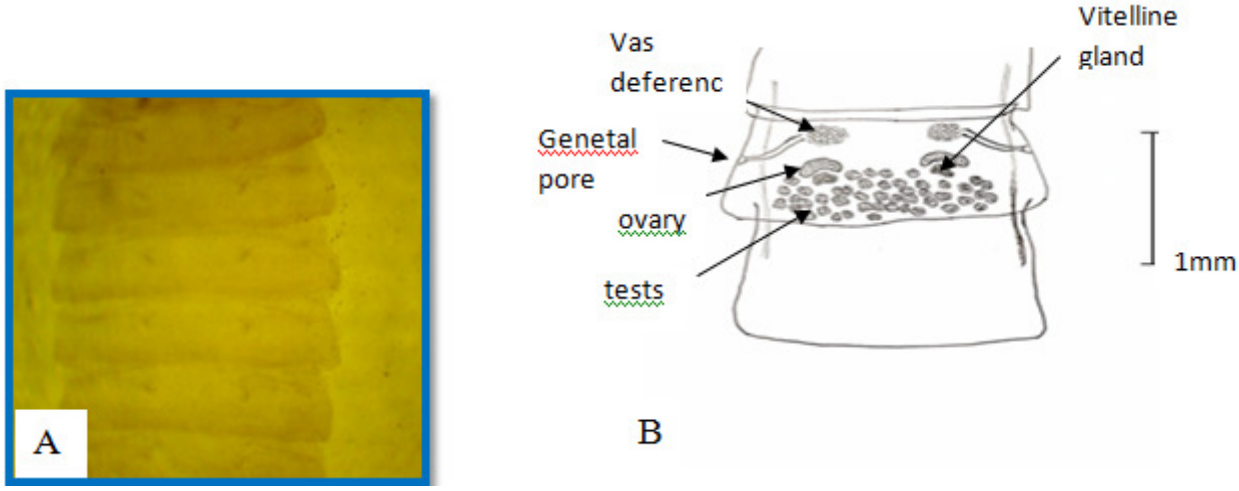

Fig. 2 : Mature segment, **A:** Photograph, **B:** Camera Lucida drawing.

RESULTS

Twenty-six specimens of the cestode parasites were collected from intestine of six *Gallus gallus domesticus* with incidence of infection (24%) and mean intensity of infection (4.3). Morphological description was based on six parasites (Figs. 1 & 2).

These cestodes were flattened, the worm contains scolex quadrangular nearly in shape, large, measuring 0.94 (0.79 – 1.07) in length and 1.07(0.87 – 1.24) in width. The scolex have four suckers often equal in size, rounded, muscular and measures 0.387 (0.315-0.498) in diameter. The rostellum small in size, oval, measuring in length 0.21(0.14-0.29) and 0.23 (0.18-0.41) in width with numerous hooks (100-110).

The mature segments are rectangular, broader than long, measures 1.35 (1.05- 1.63) in length and 2.19 (1.78 – 2.87) in width have double set reproductive organs. The testes are oval to rounded (80- 85) in numbers situated in the center of segment between two ovaries. The cirrus pouch situated in the middle of segment on each side is long, straight, cylindrical, broad and narrow towards vas deference. The cirrus is thin, curved tube within the cirrus pouch.

DISCUSSION

The present study recording *Cotugnia alii* species for the first time in Iraq from the chicken *Gallus gallus dometicus*, whichis closer to all known species of the genus *Cotugnia* Diamare (1893), but differs from many species in some characters and type of the hosts that recorded in Iraq and other countries.

Cotugnia jadhavii and *Cotugnia digonopora* were described from the intestine of domestic fowl in India (Shukla and Bhavare, 2012; Waghmare, 2016).

The genus *Cotugnia* were found in the pigeon and wild birds in Basra, Iraq by Awad and Abdul Majeed (1989), Jebur (2014).

Al-Ghannami (2013) recorded the genus *Cotugnia* sp. In domestic fowl *Gallus gallus domesticus* in Basrah city, Iraq.

The model's description of *C. alii* in the current study is consistent with that described by Shinde *et al* (2002) in the number of hooks (100-110) and testes (80-85). Scolex quadrangular, large in size, which is the most important characteristic that depend on the identification of species belonging to the genus *Cotugnia.*

The current species *C. alii* is different from the species *C. orientalisn.* Sp. (Nanware, Dhondge and Bhure, 2011) recovered from intestine of domestic fowl of Loha, Nanded, India having smallscolex egg-shaped, suckers under sized; rostellum with single crown of countable hooks; larger neck; testes greater in number and larger size.

The present parasite, differs from *C digonopora*, Pasqual (1890), Diamare (1893) in having diameter of scolex 1.56, diameter of rostellum 0.150, number of hooks very numerous, number of testes 100-150, length of cirrus pouch 0.300 and reported from *Gallus gallus domesticus* in Africa, Burma, India. Its differs from *C. cuneata tenuis*, Meggitt (1924), which has scolex rounded, number of hooks 400 and number of testes 30-50.

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