

Neoechinorhynchotaenia sindhensis N. Gen., N. Sp. from the Bird *Acridotheres tristis* of Sindh, Pakistan

FATIMA MUJIB BILQEES, NASIRA KHATOON AND M. FAROOQ HASEEB

Department of Parasitology, Faculty of Health Sciences, Baqai Medical University, Karachi (FMB) and Department of Zoology, University of Karachi (NK, MFH)

Abstract.- A new cestode genus and species, *Neoechinorhynchotaenia sindhensis* n.gen., n.sp. is proposed for the specimens from the intestine of the bird *Acridotheres tristis* which was collected from near about Kalri lake, Sindh. One complete specimen with scolex and one scolex and several strobilia were recovered. Microscopic examination revealed that it is a hymenolepid tapeworm and close to subfamily Echinorhynchotaeninae which contains only one genus *Echinorhynchotaenia* Fuhmann. But the present specimen cannot be accommodated in this genus because of differences in the number of rostellar hooks, testes anterolateral to ovary, absence of external seminal vesicle, multilobed ovary and pre-ovarian vitellarium. Therefore, a new genus *Neoechinorhynchotaenia* is proposed showing its relation to the above genus. The species name *N. sindhensis* indicates the locality of the host.

Key words: Cestode, new genus, new species, *Acridotheres tristis*, Sindh, Pakistan.

INTRODUCTION

Cestode parasites of birds in Pakistan are relatively poorly known specially of wild birds. There are several publications about cestodes of birds. Thirty six species of domestic and wild birds are listed by Bilqees (1985). Other publications are about poultry (Fahimullah, 1965; Khan and Habibullah, 1967; Yousaf and Baig, 1974; Haider *et al.*, 1980; Pal and Ahmed, 1985), a few about cestodes of duck (Bilqees and Rehana, 1977; Khan *et al.*, 1983) and wild birds (Bilqees and Sultana, 1974; Bilqees and Jehan, 1977) including two from *Acridotheres tristis* (Khan and Habibullah, 1967; Khanum *et al.*, 1982). The cestodes previously reported from this bird are *Reticulatea johri* Khanum *et al.* (1982) from Karachi. *Paricterotaenia magnicirrosa* Meggitt, 1926 is described from Lahore (Khan and Habibullah, 1967). The present species is the third cestode in *Acridotheres tristis* from Pakistan. This is included in the family Hymenolepididae and sub-family Echinorhynchotaeninae. This sub-family is known from Africa, Australia and India (Schmidt, 1986) and contains only one genus *Echinorhynchotaenia*. The present specimens are regarded belonging to a new genus *Neoechinorhynchotaenia* which becomes the second genus in the above mentioned sub-family. This is

described here and diagnosis of the new genus is given. The species is named *N. sindhensis* referring to host locality.

MATERIALS AND METHODS

One specimen of *Acridotheres tristis* was shot down near the Kalri lake, Sindh and brought to the Parasitology laboratory for the recovery of intestinal parasites. One complete strobila and several incomplete strobilae and a separate scolex were collected from the intestine. The cestodes were relaxed in warm water for a few minutes then fixed in F.A.A. solution (Formalin + Acetic acid + 70% Alcohol in the ratio of 5:3:92) for twenty four hours under the slight pressure of glass slides. The specimens then washed several times with 70% alcohol and stained with Mayer's Carmalum, dehydrated in graded series of alcohols, cleared in clove oil and xylol and mounted permanently in Canada Balsam. Diagrams were made with the help of a camera lucida and measurements are given length by width in millimeters. Specimens are in the collection of the first author. The syntype is assigned the number C-2040-BFM.

Neoechinorhynchotaenia sindhensis, new genus and new species (Figs. 1-4)

Host	<i>Acridotheres tristis</i>
Location	Intestine

Locality	Sindh
No. of specimens	One complete strobila with scolex, separate scolex and several incomplete strobila from a single host.
Syntype No:	C-2040-BFM

anterior half of the proboscis covered with minute spines, with 8 rose-thorn shaped rostellar hooks, 0.023-0.025 in length. Handle of the hooks more than three times longer, the blade, guard small, bluntly pointed. Rostellar sheath, 0.10-0.12 by 0.090-0.135 in size. Suckers provided with minute spines in the centre. Neck present. Strobila long, craspedote, proglottids numerous, 3 times or more wider than long. Mature segments 0.059-0.91 by 0.80-0.89; gravid 0.23-0.25 by 1.47-1.56 in size. Genital pores unilateral, close to posterior margins of the proglottids. Cirrus sac relatively small 0.10-0.15 by 0.040-0.046, containing an elongate seminal vesicle 0.90-0.11 by 0.031-0.047. External seminal vesicle is absent. Cirrus unarmed. Testes three transversely elongate, smooth to irregular, two at the poral side and one antiporal, situated lateral or anterolateral to ovary, measuring 0.027-0.036 to 0.075-0.089. Ovary also transversely elongate, multilobed to follicular, 0.17-0.19 by 0.031-0.038. Vitellarium central and anterior to ovary, small, 0.015-0.031 by 0.02-0.041. Uterus eccentric, more towards the poral side, containing numerous rounded ova, 0.032 in diameter.

Genus diagnosis

Neoechinorhynchotaenia, new genus sub-family Echinorhynchotaeninae. Rostellum in the form of a long invaginable proboscis with 8 to 9 rostellar hooks and enclosed in a muscular rostellar sheath. Proboscis covered with minute spines. Handle of rostellar hooks much longer than blade, rose-thorne shaped. Suckers armed with minute spines. Strobila craspedote. Proglottids numerous, much wider than long. Genital pores unilateral. Cirrus unarmed. External seminal vesicle absent. Testes three, anterolateral to ovary. Ovary multilobed to follicular, slightly poral. Vitellarium pre-ovarian. Uterus a long tubular sac with numerous small, oval eggs. Parasites of *Acridotheres tristis*, Pakistan.

Type species

Neoechinorhynchotaenia sindhensis Bilqeess, Khatoon and Haseeb.

Figs. 1-4. *N. sindhensis* n.gen., n.sp. Syntype 1., scolex showing rostellum, proboscis, rostellar sheath, suckers and part of neck; 2, rostellar hooks enlarged; 3, mature craspedote proglottids showing reproductive organs; 4, gravid craspedote proglottids showing position of uterus.

Description

Scolex spherical having prominent rostellum with proboscis, rostellar sheath and contains almost circular suckers. Scolex 0.33-0.37 in diameter. Rostellum is in the form of a long invaginable proboscis measuring 0.070 to 0.75 by 0.040-0.45,

DISCUSSION

Bilqeess (1980, 1985) has listed 36 cestodes

from various birds including two above mentioned cestodes from *Acridothores tristis*. The present species is the third species of cestode from this bird. It is included in the family Hymenolepididae because of the specimens having 3 testes which is typical to the family and is placed in the sub-family Echinorhynchotaeninae Spasskii et Spasskaja, 1975 as a the diagnostic characteristics such as rostellum in the form of a long, invaginable proboscis, rostellum covered with minute spines and larger hooks at its apex, genital pore unilateral, strobila craspedote are close to our specimens.

Only one genus *Echinorhynchotaenia* Fuhrman, 1909 is known in this sub-family (Schmidt, 1986). Although the present specimens are close to this genus but cannot be accommodated in it because there are more than ten rostellar hooks in this genus, while the present specimens have less than ten hooks. External seminal vesicle is also absent in the present species while this is present in the genus *Echinorhynchotaenia*. Ovary is bilobate in this genus while it is multilobed or follicular in our specimens. Similarly vitellarium is post ovarian in the above genus and it is preovarian in the present specimens. Testes are latero-anterior in the specimens under consideration but these are posterior and lateral in the genus described by Fuhrmann.

Diagnostic characters like 8 to 9 rostellar hooks, rostellar spines with long handle, suckers armed, no external seminal vesicle, testes anterolateral to ovary, ovary multilobed or follicular and vitellaria anterior to ovary are sufficient to separate the present specimens from the genus *Echinorhynchotaenia*. Therefore, a new genus *Neoechinorhynchotaenia* is proposed to accommodate the present species. The species name *N. sindhensis* refers to the locality of the host. *Acridothores tristis* is a new host record for the cestode sub-family Echinorhynchotaeninae. Sindh is

also a new locality record. *Neoechinorhynchotaenia* is the second genus in the sub-family.

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