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OBSERVATIONS ON *RAJOTAENIA GERBILLI* WERTHEIM, 1954, AN ANOPLOCEPHALID CESTODE FROM GERBILS

R. J. ORTLEPP, Onderstepoort Laboratory.

In a previous communication (Ortlepp, 1962) the above species was assigned to the genus *Catenotaenia*, with the remark " which but for a few described differences, conforms to the requirements of the genus *Catenotaenia* ". Upon request Prof. G. Witenberg* of the Hebrew University, Jerusalem, kindly sent five unmounted, and two stained and mounted (one a paratype) specimens of the material studied by Miss Wertheim. The mounted specimens are larger than the unmounted, possibly due to the fact that they had apparently been subjected to some pressure. For further examination all five of the unmounted specimens, which had been fixed in Bouin and preserved in alcohol, were stained in weak haematoxylin and studied as toto preparations. The study of this material confirmed the author's opinion that it belonged to the genus *Catenotaenia* as revealed by the following findings.

Miss Wertheim stated that a cirrus sac was absent. In the above specimens mounted by the author a cirrus sac is definitely present; it is a thin-walled oblong or curved sac varying in length from 0·22 to 0·29 mm. with a diameter of about 0·06 mm. in its middle and becoming thinner inwards where it is only about 0·036 mm. in diameter. In the mounted specimens received, however, this structure is not at first apparent, but by careful examination under high magnification and proper lighting the thin wall of the sac becomes evident and can by focusing be followed for its whole length.

The structure of the uterus can also be resolved in the specimens prepared by the author. It consists of a central portion towards the anterior margin of the segment, from which two or three lateral branches on each side take their origin; these branches become much elongated, enlarged and sacculated or branched; they are responsible for the inverted V-shaped hindmost segment. These sacculations and secondary branches are distinct entities and are not interconnected with those from the other main branches or with those adjacent to them; there is thus no question of the uterus forming a tubular network, but it is seen to be a modification of the dendritic nature of the uterus found in most species of the genus *Catenotaenia*. In one specimen the central portion also gives origin to a few short branches from its posterior end; these have a few small secondary branches.

This study also confirms Miss Wertheim's observation on the branched nature of the excretory system. The presence of 20 narrow longitudinal canals, however, was not distinguished; the canals branch in all directions and it is thus not possible to distinguish between longitudinal and transverse vessels.

* The author is greatly indebted to Prof. Witenberg for placing this material at his disposal for restudy.

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In four of the specimens studied eggs were present in the uterus; these have a shape similar to those figured in Fig. 3 by Miss Wertheim, except that each is enclosed in a thin rounded to oval membrane similar to that shown in her Fig. 2.

The unmounted specimens were respectively 2·5, 3·2, 3·5, 3·5 and 4·0 mm. long, measured from the tip of the scolex to the tip of the longest limb of the last segment; the maximum breadth varied from 2·3 to 3·0 mm., depending on whether the two limbs of the last segment were spread out or not. Each of all the specimens carried only three definite segments, plus what might be regarded as an incipient fourth segment just behind the scolex which is indicated by a darker, transversely elongated, stained mass of cells representing the beginnings of the genital organs. The genital pores alternate regularly in all the specimens. No indication of an apical sucker was present and there is no definite neck.

In 1956 Wolfgang described under the name *Catenotaenia aegyptica* sp. nov. a tape-worm from the gerbil and from rats in Egypt. His description tallies to such an extent with Miss Wertheim's description as emended in this communication that the author has no hesitation in considering his species to be the same as Miss Wertheim's. The only marked differences between the two descriptions are the larger number of testes, the unbranched excretory system and the fact that genital pores do not always alternate regularly in Wolfgang's material. In members of this genus the number of testes varies considerably; added to this irregularity is the fact that it is not easy to count the testes in so far as they are often packed close together, one on top of the other. The branched nature of the excretory system is not visible in all mounted specimens, also it is quite possible that some specimens may have this system less reticulate than do others. As to the position of the genital pores it is just possible that if all Miss Wertheim's material were examined some individuals might be found where irregularity is present. Wolfgang does not state how many of his specimens showed this irregularity.

Lastly Wolfgang's material carried up to six segments. As the last segments easily become detached and as the majority of Wolfgang's specimens carried only four segments, this characteristic of a greater number of segments is not sufficient for considering the two lots of worms as representing different species.

Yamaguti (1959) created the subfamily Rajotaeniinae of the family Anoplocephalidae for the reception of Miss Wertheim's species on the grounds that it possessed a reticulate excretory system and had no cirrus pouch. As a reticulate excretory system is found in several species of the genus *Catenotaenia* it cannot be accepted as of significance. The re-examination of some of the original material shows that a cirrus sac is present. Thus the grounds for the erection of this subfamily are seen to fall away. Also Ortlepp (1961) has shown that *Rajotaenia* is a synonym of *Catenotaenia*. That it is related to members of this latter genus is also shown by Spassky (1955) who placed it in the genus *Skrjabinotaenia* Akhumian (1949) in which genus several species of the genus *Catenotaenia* are placed.

SUMMARY

A restudy of Miss Wertheim's material of her species *Rajotaenia gerbilli* revealed that a cirrus pouch is present and that the uterus does not form an inter-communicating canal system. The branched nature of the excretory system is confirmed. These findings support the view that the genus *Rajotaenia* must be considered a synonym of the genus *Catenotaenia*. Consequently Yamaguti's subfamily Rajotaeniinae cannot be retained.

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