

ACANTHOCEPHALA FROM INDIA.

DESCRIPTION OF THE MALE OF *Eosentis rigidus* VAN CLEAVE OCCURRING IN THE INTESTINE OF *Scizothorax zarudnyi* FROM SEISTAN.

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Van Cleave¹ erected the genus *Eosentis* from a single female specimen and no male of *E. rigidus* has ever been described so far. Recently, however, I found both males and females of this species in the intestine of *Scizothorax zarudnyi* collected by Dr. N. Annandale from Seistan. Thirty five specimens, of which twelve are males, were taken out of the small intestine of one fish. As the specimens were rather stiff owing to the action of preservatives for many years, they were softened in a mixture of alcohol and glycerine, spread out and pressed between two slides, stained and mounted in balsam. The identification was confirmed by examination of the holotype in the collections of the Indian Museum.

According to Van Cleave *Eosentis* is distinguished from the other closely related genera by the difference in the number of cuticular nuclei, though the exact number is not mentioned by him. The nuclei are quite distinctly seen in the holotype; there are 8-9 cuticular nuclei in the mid-dorsal and 1-2 in the mid-ventral lines. This number is found constant in a large series of specimens and may, therefore, be taken as the distinguishing character of the genus *Eosentis*. In this respect *Eosentis* differs from the closely related *Neoechinorhynchus*, in which there are only 4-5 cuticular nuclei in the mid-dorsal and 1-2 in the mid-ventral lines. Another point in which this genus differs from *Neoechinorhynchus* is the number of the nuclei in the lemnisci; in *Eosentis* there are always 3 in both, while in *Neoechinorhynchus* there are 2 in one and 1 in the other. On the basis of these characters I have placed two of my recent species *devdevi* and *yalei*² in *Eosentis*. There are 6-8 nuclei in the prostatic gland in *Eosentis*.

The proboscis is short and globular with 3 circlets of 6 hooks each. The hooks of the anterior circlet are nearly twice the length of those of the middle and basal circlets. The proboscis sheath is single-walled, thick and muscular, with the nerve gland situated near its base. The two lemnisci are filamentous structures and some times reach up to the anterior end of the posterior testis. Each lemnisci has 3 nuclei.

The male genitalia consists of two oval testes, situated one behind the other and closely apposed. The vasa efferentia from the testes join each other near the prostatic gland and form the vas deferens, which ends in a muscular cone-shaped penis. Prostatic gland is a

¹ Van Cleave, H. J.—Two New Genera and Species of Acanthocephala from fishes of India. *Rec. Ind. Mus.*, XXX, pp. 147-149 (1928).

² Datta, M. N.—Scientific results of the Yale North India Expedition. *Biological Report No. 20*. Helminth parasites of Fishes from North India, with special reference to Acanthocephalans. *Rec. Ind. Mus.*, XXXVIII, pp. 211-229 (1936).

single syncytial mass having 6-8 nuclei in it. It leads into a prostatic reservoir which gives out a prostatic duct leading to the base of the penis. There is a balloon-shaped, thin-walled seminal vesicle and an eversible bursa.

The female genitalia agrees with the description of *E. devdevi* of the author (1936).

Measurements.—Males 2.4—7.5 mm. \times 0.65—0.92 mm.; females 4.8—12.0 mm. \times 0.7—1.5 mm.; proboscis 1.21 \times 1.10 mm.; proboscis sheath 0.35 \times 0.22 mm.; lemnisci (i) 4.31 \times 0.24 mm., (ii) 3.92 \times 0.24 mm.; testis anterior 1.12 \times 0.65 mm., posterior 1.10 \times 0.70 mm.; prostatic gland 0.79 \times 0.40 mm.; prostatic reservoir 0.24 \times 0.15 mm.; seminal vesicle 0.62 \times 0.22 mm.; bursa 0.88 \times 0.40 mm.; hooks anterior 0.130 mm., middle 0.050 mm., basal 0.045 mm.

Allotype.—In the collections of the Zoological Survey of India, Indian Museum, Calcutta.

Host.—*Scizothorax zarudnyi* (Nikolsky).

Location.—Intestine.

Locality.—Hamun-i-Helmand near Labi.

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