NOTE ON THE OCCURRENCE OF *BALANTIDIUM ROTUNDUM* BEZZENBERGER (PROTOZOA, CILIATA) IN *RANA TIGRINA* DAUDIN FROM WEST BENGAL, INDIA

WHILE examining the rectal contents of a common frog *Rana tigrina* Daudin collected from Behala, Dist. 24 Parganas, West Bengal, India, three examples of a ciliate were encountered. On closer examination the specimens were found to belong to the species *Balantidium rotundum* Bezzenberger. No other species of Protozoa were observed along with these specimens.

The following observations are based partly on the study of the living forms and partly on the study of the fixed and stained examples. For fixing, Schaudinn's fluid was used and followed by staining in Heidenhain's iron-hæmatoxylin and counterstained in eosin.

Body of the ciliate is more or less round measuring 48 × 39 μ in size (56 × 44 μ by Bezzenberger[1]) with a distinct thicker zone in the anterior region. The peristome extends 22 μ in length. The macronucleus is roughly kidney-shaped measuring 14 × 8 μ with a small oval micronucleus embedded in its notch. The contractile vacuole is just above the posterior end and lies on the half opposite to that having the macronucleus in the same level.

A review of the literature reveals that this species is a rare one and the only known record is by the original author of the species from the host *Rana esculenta* var. *chinensis* Osbeck from Asia without citing any specific locality (Bhatia[2]). Boulenger[3] gives the area of the distribution of this host as Amoor Province of Siberia, Saghalien Island, Japan, Korea, Mongolia, China. It seems that this particular host is not recorded from the Indian subcontinent. This note is to place on record the proven occurrence of this species *Balantidium rotundum* Bezzenberger from the Indian subcontinent and from a new host *Rana tigrina* Daudin.

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1. Bezzenberger, E., *Arch. Protistenk.*, Jena, 1904, 3, 153.
2. Bhatia, B. L., *Fauna of British India*, Protozoa: Ciliophora, Taylor & Francis, London, 1936.
3. Boulenger, G. A., *Res. Indian Mus.*, Delhi, 1920, p. 88.

OCCURRENCE OF THE TADPOLE SHRIMP *TRIOPS LONGICAUDATUS* (BRANCHIOPODA : NOTOSTRACA) IN SOUTHERN INDIA

AMONG the Branchiopod crustaceans the Order Notostraca has only two genera, *Triops* (*Apus*) and *Lepidurus* which show world-wide distribution and inhabit temporary fresh or brackish-water pools. Tiwari (1952), while reviewing the Indian species under the genus *Apus*, gave a detailed account of all then known species including two new species. Earlier Chacko (1950) recorded the occurrence of a single male of *Apus* in South India which was given the name *Apus* sp. *prox sudanicus* by Tiwari (1952) because of its close resemblance to *Apus sudanicus* Brauer. The present record of *Triops* is from two seasonal tanks located in Sawyerpuram near Tuticorin (lat. 8° 48′ N., long. 78° 10′ E.) on the Southeastern part of India. Sawyerpuram is at a distance of only 6 miles across the land from the Eastern seacoast of India. In one of these ponds 24 animals belonging to both sexes were collected for the first time when water was drying up. In both the ponds three days after the next rains these organisms appeared and these were observed almost daily by making collections. These populations remained in very low densities and for only a brief period of 14 days, within which they reached a maximum size of 17·5 mm. in carapace length. A total of 48 animals of different sizes and various developmental stages were studied in detail.

Tiwari (1952), among several of other characters, used mainly the shape of carapace and nuchal organ, number of apodous segments and the total number of movable segments for the specific diagnosis of *Triops*. Longhurst (1955) assigned all known species of *Triops* into four groups each with a geographical basis. His detailed work based on the study and development of various species of *Triops* led him to conclude that "the valid characters appear to be the armature of the telson, the presence or absence of second maxilla and the arrangement of the eyes and dorsal organ. Of these, the most important is the armature of the telson which is diagnostic of each group". Using these criteria all the other Indian species have been put under *Triops granarius* (Lucas) retaining only *Triops cancriformis* as the only other valid species (Longhurst, 1955).

All the adults in the present collections (15·0 mm. to 17·5 mm. carapace length) have the large post-marginal spines in the telson set