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Rotifers from a pond in Pune (India), with the record of *Ptygura pedunculata* (Edmondson, 1939) (Rotifera: Monogononta) from the Oriental region

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Abstract: Phylum Rotifera consists of aquatic, microscopic invertebrates inhabiting the freshwaters of the world. We report on some rotifers from the littoral zone of a pond in the University of Pune, Pune (India) (18°33'16"N, 73°49'28"E). A total of 13 rotifers species were found, including 5 new records to the Maharashtra state. *Ptygura pedunculata* (Edmondson, 1939) is reported for the first time from India and the Oriental region.

Key words: Rotifera, *Ptygura pedunculata*, new record, India, Oriental region

The minor phylum Rotifera consists of approximately 2030 described species (Segers, 2007). The freshwater groups Monogononta and Bdelloidea consist of 1570 and 461 species, respectively, whereas the marine group Seisonida contains 3 epizoic species only. Rotifers are primarily freshwater animals and are found everywhere where water is present. Being abundant and highly diverse in nature they are ranked as one of the most abundant freshwater animals after Protozoa. Rotifers are known worldwide as model organisms in biological research due to their diversity, smaller sizes, ease of culture, shorter life spans, transparent bodies, and ecological importance.

Work on rotifers in India is very limited and scattered (Vanjare, 2008). Studies in India are concentrated largely in the North and North-eastern states (Sharma, 2005).

The present study reports on the rotifers from a small pond in University of Pune campus, Pune (India) (18°33'16"N, 73°49'28"E). A few random water samples were collected from the pond along the littoral zone using a nylon plankton net (55µ mesh size) during January 2008-January 2009. Concentrated samples were carried immediately to the laboratory in 300 mL plastic collection bottles. The rotifers were identified instantly under an Olympus binocular microscope (CH 20i) fitted with a digital camera (Sony DSC-W35) using available keys (Edmondson, 1959; Koste, 2000; Stemberger, 1979). Water parameters, such as pH, temperature, conductivity, and salinity, were checked on site using a Multiparameter PCS Testr35 tester (Eutech, Singapore).

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The study revealed 13 rotifers species belonging to 2 orders and 6 families.

PHYLUM: ROTIFERA

Subclass: Monogononta

Order: Ploima

Family: Asplanchnidae

Asplanchna brightwellii (Gosse, 1850)

Asplanchnopus hyalinus (Harring, 1913)

Family: Brachionidae

Brachionus calyciflorus (Pallas, 1766)

Brachionus caudatus (Barrois and Daday, 1894)

Brachionus quadridentatus (Hermann, 1783)

Keratella cochlearis (Gosse, 1851)

Keratella tropica (Apstein, 1907)

Plationus patulus (Müller, 1786)

Family: Epiphanidae

Epiphanes brachionus spinosa (Rousselet, 1901)

Family: Trichotriidae

Trichotria tetractis (Ehrenberg, 1830)

Order Flosculariaceae

Family: Flosculariidae

Limnias melicerta (Weisse, 1848)

Ptygura pedunculata (Edmondson, 1939)

Family: Testudinellidae

Testudinella patina (Hermann, 1783)

Rotifera, especially the sessile ones, have been scarcely studied in India. Of the described 26 species of the genus *Ptygura*, only 5 species have been reported from India.

***Ptygura pedunculata* (Edmondson, 1939)**

Material examined: 3 females, University of Pune Pond, Pune (India), 28.11.2008

Description: Solitary specimens, often with an egg near the base, were found attached to the sediment mud. *Ptygura pedunculata* is characterized by the presence of a very long peduncle and a large, conical lateral antenna terminating into long setae. Corona is



Figure. *Ptygura pedunculata* ×40 (adult female).

elliptical in shape and wider than the body. An obvious notch is present on the ventral side of the corona. A cylindrical foot, shorter than the peduncle, is present. The slender and long peduncle showed a slight swelling toward the distal end. *P. pedunculata* has been described as the most timid Rotifer ever seen (Edmondson, 1939) and this behavior is an important characteristic aiding the identification of the rotifer (Koste, 2000).

Remarks: *P. pedunculata* has been described earlier only from the Palearctic, Nearctic, and Neotropical regions (Segers, 2007). This is the first record of the species from the Oriental region and

subsequently from the Indian subcontinent. It is considered to be an acidophile and a warm stenothermal species.

Dimensions: Max length (expanded specimen): 730 µm, Peduncle: 285 µm, Body length: 445 µm, Corona width: 110 µm

Water parameters: Temperature (24.7 °C), pH (8.7), Conductivity (350 µs/cm), and Salinity (170 ppm).

In addition to *P. pedunculata*, *Asplanchna brightwellii*, *Asplanchnopus hyalinus*, *Epiphanes brachionus spinosa*, and *Limnias melicerta* are also

new records to Maharashtra state; *Ptygura pedunculata* is reported for the first time from the Oriental region. The above results are an effort of arbitrary and limited sampling for a short period. Detailed work in the future is sure to yield new insights into the actual status of rotifer fauna in India.

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