

PLANKTONIC ROTIFERA OF NORTHEAST INDIA

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INTRODUCTION

In his previous paper, Patil (1976) recorded some cladocerans fauna of Northeast India. From the same samples collected during 1975-76, Patil (1978) recorded some rotifers from this region which appear merely in list of rotifers. In the present paper, 27 species are briefly commented alongwith distributions in India. The measurements provided are given in micron (μ).

MATERIAL AND METHODS

Plankton samples were collected with the help of a bolting silk (200 meshes/cm) conical net. Samples were collected especially from the comparatively undisturbed part of waterbodies. Only qualitative plankton samples were obtained and preserved in 10% formalin. Some live samples were isolated and studied in living condition for perfect identification. Fixation, preservation and preparation of microscopic slide were made as given by Arora (1962).

SYSTEMATIC ACCOUNT

Phylum : ROTIFERA

Class : BDELLOIDEA

Order : BDELLOIDA

Family : PHILODINIDAE

Rotaria neptunia (Ehrenberg, 1832)

This is a large rotifer, recorded for the first time from Indian subcontinent.

Distribution : Meghalaya (present record)

Measurements : Length tip of carona to the tip of foot 600 ; maximum body width 60.

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Class : MONOGONOTA
 Order : FLOSCULARIDAE
 Family : HEXARTHRIIDAE

Hexarthra mira (Hudson, 1871)

The forms agree with description and measurements given by Voigt (1957). However, present specimen are bigger than Green's (1972) specimens recorded from lake Kotto, West Cameroon.

Distribution : Meghalaya & Manipur (present record)

Measurements : Length of body 170-210 ; Maximum width of body 120.

Family TESTUDINELLIDAE

Filinia longiseta (Ehrenberg, 1834)

Agree with the description of Nagpur specimen (Arora, 1962).

Distribution : Nagpur (Arora, 1962), Baroda (Wulfert, 1966), Chandigarh (Varisht & Gupta, 1967), Bihar (Nasar, 1973), Rajasthan (Nayar, 1968), West Bengal (Sharma, 1978 b), Orissa (Shaama, 1980) and Meghalaya (present record).

Measurements : Length of body 140 ; Maximum width of body 60 ; length of each lateral spine 240 ; length of the posterior spine 165.

Order : PLOIMA

Family : ASPLANCHNIDAE

Asplanchna priodonta Gosse, 1850

The specimens found in the present collection, are smaller than earlier described specimen.

Distribution : Baroda (Wulfert, 1966) and Bihar (Nasar, 1973), Meghalaya (present record).

Measurements : Length of the body 1100 ; Maximum width 440.

Family : BRACHIONIDAE

Anuraeopsis fissa Gosse, 1851

These forms agree with the length range as given by Green, (1972).

Distribution : Baroda (Wulfert, 1966) and Meghalaya (present record).

Measurements : Length of body 80 ; Maximum width 60.

Brachionus angularis Gosse, 1851

Identical with the specimen of Nagpur (Arora, 1963 a).

Distribution : Madras (Ahlstorm, 1940), Punjab and Kashmir (Edmondson & Hutchinson, 1934), Rajasthan (Nayar, 1968), Kerala (Nayar & Nair, 1969) N. W. India (Vasisht & Battish, 1971 a and Sharma, 1976), Bihar (Nasar, 1973), Andhra Pradesh (Dhanapathi, 1974 and Chandra Mohan & Rao, 1976) West Bengal (Sharma, 1979a), Maharashtra Nagpur (Arora, 1963) Orissa (Sharma, 1980), Meghalaya, Manipur (present record).

Measurements : Length of the body 95-110, Maximum width 90-100.

Brachionus caudatus Barrois and Daday, 1894

Identical with the specimen from Nagpur (Arora, 1963a).

Distribution : Madras (Ahlstorm, 1940), Pilani (Nayar, 1968), Chandigarh (Vasisht & Battish, 1971a), Nagpur (Arora, 1963a), Bihar (Nasar, 1973), Orissa (Sharma, 1980), Meghalaya (present record).

Measurements : Length of the body 160 ; width of body 140.

Brachionus calyciflorus Pallas, 1776

Cosmopolitan species and has been recorded from many continents.

Distribution : Punjab & Kashmir (Edmondson and Hutchinson, 1934), Delhi (George, 1961), Nagpur (Arora, 1963a), Rajasthan (Nayar, 1965a), Bihar (Nasar, 1973), Chandigarh (Vasisht & Gupta, 1965), Orissa (Sharma, 1980), N. W. India (Sharma, 1976) and Meghalaya, Assam & Manipur (present record).

Measurements : Length of body 360 ; width of body 220.

Brachionus falcatus Zacharias, 1898

Slightly bigger in size than those described by Sachse (1912), Kutikowa (1970), Green (1972) and Arora (1963a).

Distribution : Nagpur (Arora, 1963a), Baroda (Wulfert, 1966), Rajasthan (Nayar, 1968), Kerala (Nayar & Nair 1969), N. W. India (Vasisht & Battish, 1971a and Sharma, 1976), Bihar (Nasar, 1973), Andhra Pradesh (Dhanapathi, 1974), W. Bengal (Tiwari & Sharma, 1977 and Sharma, 1979a), Orissa (Sharma, 1980) and Assam (present record).

Measurements : Length of body 190 ; width of body 200.

Brachionus quadridentatus Hermann, 1783

Earlier reported from India from many regions.

Distribution : West Bengal (Anderson, 1889) (Sewell, 1935 ; Sharma 1979a), Nagpur (Arora, 1963a), Rajasthan (Nayar, 1968), Kerala, (Nayar and Nair, 1969), N. W. India (Vasisht & Battish, 1969), Bihar (Nasar, 1973) and (Sharma, 1976), Andhra Pradesh (Dhanapathi, 1974), Orissa (Sharma, 1980), Meghalaya (present record).

Measurements : Length of body 180 ; width of body 140.

Brachionus urceolaris Muller, 1773

Very few individuals were observed.

Distribution : Nagpur (Arora 1963 a), Vijayawada (Naidu, 1967) West Bengal (Sharma, 1979a) and Assam (present record).

Measurements : Length of the body 260 ; width of the body 240.

Brachionus rubens Ehrenberg, 1838

Foot opening is characteristic of this species for its identification from its allied species *B. urceolaris*.

Distribution : West Bengal (Sewell, 1935 ; Tiwari & Sharma, 1977 and Sharma, 1979a), Rajasthan (Nayar, 1968) and North West India (Vasisht & Battish, 1971a and Sharma, 1976), Orissa (Sharma, 1980) and Assam (present record).

Measurements : Length of the body 280 ; width of the body 180.

Epiphanes macrourus (Barrois & Daday, 1894)

The present form agrees with the description of the specimens of Nagpur (Arora, 1965).

Distribution : Nagpur (Arora, 1965) and Meghalaya & Assam (present record).

Measurements : Length of the body 200 ; width of the body 190.

Euchlanis dilatata 1832

This species observed in the littoral sample.

Distribution : Punjab, Kashmir and Ladak (Edmondson & Hutchinson, 1934), West Bengal (Sewell, 1935 and Sharma, 1979a), Baroda

(Wulfert, 1966), North West India (Vasisht and Battish, 1971c, Das & Akhtar, 1976 and Sharma, 1976) and Orissa (Sharma, 1980), Meghalaya and Assam (present record).

Measurements : Length of the body 300 ; width of the body 140 ; toes 95.

***Mytilina ventralis* (Ehrenberg, 1832)**

Lorica anteriorly stippled & narrow at posterior end

Distribution : West Bengal (Anderson, 1889) and Sharma, 1979a), Punjab, Kashmir, Ladak (Edmondson & Hutchinson, 1934), Nagpur (Arora, 1965), Baroda (Wulfert, 1966), Rajasthan (Nayar, 1968), Kerala (Nayar & Nair, 1969 and Nair & Nayar, 1971), North West India (Vasisht and Battish, 1971c) Andhra Pradesh (Dhanapathi, 1974), Orissa (Sharma, 1980) and Assam (present record).

Measurements : Length of body 200 ; width of body 102.

***Trichotria tetractis* (Ehrenberg 1830)**

These forms identical with those from Nagpur (Arora 1966a).

Distribution : Punjab, Kashmir & Nilgiri Hills (Edmondson & Hutchinson, 1934), Nagpur (Arora, 1966a), Baroda (Wulfert, 1966), Kerala (Nayar & Nair, 1969 and Nair & Nayar, 1971), Andhra Pradesh (Dhanapati, 1974), North West India (Das & Akhtar, 1976 and Sharma, 1976), West Bengal (Sharma, 1979b), Orissa (Sharma, 1980), Meghalaya (present record).

Measurements : Length of the body including toes 300 ; width of the body 110.

***Keratella cochlearis* Gosse, 1851**

This species earlier recorded from Nagpur (Arora, 1966a). Agree with description of Nagpur specimen.

Distribution : Kashmir (Edmondson & Hutchinson, 1934), Nagpur (Arora, 1966a), Meghalaya and Manipur (present record).

Measurements : Length of body 90 ; width of body 55 ; length of posterior spine 38.

***Keratella tropica* (Apstein, 1907)**

This species has been recorded earlier from India by Edmondson & Hutchinson, (1934), in Indonesia by Hauer (1938a), in Africa by Green (1967).

Distribution : Kashmir (Edmondson & Hutchinson, 1934), Nagpur (Arora, 1966a) and Meghalaya and Manipur (present record).

Measurements : Length of the body, 140, width of the body 75 ; right posterior spine 80 ; left posterior spine 40.

Keratella valga (Ehrenberg, 1834)

Very few individuals were found. Identical with the description of Arora's (1966) specimen recorded from Nagpur.

Distribution : Nagpur (Arora, 1966a) and Manipur (present record).

Measurements : Length of the body 210 ; width of the body 78 ; right posterior spine 82 ; left posterior spine 25.

Family : LECANIDAE

Lecane (M) bulla Gosse, 1951

The forms in my collection are identical in all respects with *bulla* as described by Haring & Myers (1926), Maxvoigt (1957) and Rudescu (1960).

Distribution : West Bengal (Anderson, 1889 and Sharma, 1978 a), Punjab, Kashmir and Ladak (Edmondson, 1934), Nagpur (Arora, 1965), Baroda (Wulfert, 1966), Rajasthan (Nayar, 1968), N. W. India (Vasisht & Gupta, 1967 and Vasisht & Battish, 1971 d) and Andhra Pradesh (Dhanapathi, 1976), Orissa (Sharma, 1980) and Meghalaya (present record).

Measurements : Length of the body 130 ; width of the body 90 ; toes 50 ; claws 24.

Lecane closterocerca (Schmarda, 1839)

Anterior median sinus is found in the present form.

Distribution : Punjab, Ladak and Nilgiri Hills (Edmondson Hutchinson, 1934), Baroda (Wulfert, 1966), Rajasthan (Nayar, 1968), N. W. India (Vasisht & Battish, 1971 b), West Bengal (Sharma, 1978 a), Orissa (Sharma, 1980) and Meghalaya (present record).

Measurements : Length of the body 73 ; width of the body 65 ; length of the toes 36.

Lecane longidactylus Arora, 1965

This species has been recorded by Arora (1965) from Nagpur, India. The present form resembled in most respects with *longidactylus* as described by him.

Distribution : Nagpur (Arora, 1965) and Meghalaya (present record).

Measurements : Length of the dorsal plate 137 ; length of the ventral plate 138 ; width of the dorsal plate 99, width of ventral plate 102. toes 61, claws 10.

Lecane (L) tessellata Arora, 1965

Ventral plate with three transverse ridges but only two are visible. First foot joint as well as second too, is clearly visible in the present specimen.

Distribution : Nagpur (Arora, 1965) Meghalaya (present record).

Measurements : Length of the dorsal plate 124, length of the ventral plate 119 ; width of the dorsal plate 97 ; width of ventral plate 110.

Family : NOTOMMATIDAE

Scaridium longicaudum Muller, 1786

The present form agrees with the description as given by Donner (1943a).

Distribution : Assam (present record), North India (Vasisht & Battish, 1969).

Measurements : Length of the body 150 ; width of the body 120 ; length of the toes 140.

Family : SYNCHAETIDAE

Polyarthra dolichoptera Idelson, 1925

The present form has lateral appendages which protrude well beyond the body.

Distribution : Manipur (present record).

Measurements : Length of the body 150 ; width of the body 120.

Polyarthra vulgaris Carlin, 1943

The occurrence of this species in India has been reported earlier by workers like Michael (1964), George (1966) and Patil (1976) while working on plankton ecology from various states.

Distribution : Delhi (George, 1966), Calcutta (Michael, 1964), Nagpur (Patil, 1976), West Bengal (Sharma, 1979b), Orissa (Sharma, 1980) and Meghalaya (present record).

Measurements : Length of the body 120 ; width of the body 80.

Family : TRICHOCERCIDAE

Trichocerca cylindrica Imhoff 1891

This form agrees with the description of Jennings (1903) but the present specimen is smaller than the species recorded by Chengalath & Mulamoottil (1974).

Distribution : Meghalaya (present record).

Measurements : Length of the body 260 ; width of the body 180.

SUMMARY

In this paper author has recorded 27 species of planktonic rotifera belonging to 15 genera, 9 families, 3 orders and 2 classes, for the first time from Northeast India. All these species dealt here and briefly commented and their distributions in India is also provided alongwith measurements.

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