

and extends up to anterior border. The medial dark band of elytra also unique.

*Remarks* : The species comes close to the other Indian species, *G. pustulipennis* Walker, 1871, described from Bombay, in having black spots on elytra but differs strongly from all known species of the genus for having the frontal ridge extended up to clypeus, dark band on the lateral lobe and the unique longitudinal colour band on medial area of elytra and posterior femora.

#### SUMMARY

The genus *Gerania* Stal, 1878, was represented in oriental fauna by four species. Now a fifth one is described, *G. bengalensis* sp. nov., from the foothill of the eastern Himalaya, West Bengal, India.

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## STUDIES ON THE AQUATIC CRUSTACEA OF REWA

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### INTRODUCTION

(With 1 Map)

Rewa district lies on the eastern boundary of Madhya Pradesh State in India. Ponds and rivers are much abundant in this region. A systematic study of aquatic fauna of this region was started in July 1976, but the identification of collections and re-examination of specimens collected during periodic collections led to considerable delay. Still several interesting specimens could not be determined due to paucity of the material.

### SITUATION AND PHYSIO-GEOGRAPHY

Rewa district is bounded on North by Banda and Allahabad districts and on North-East by Mirzapur district of Uttar Pradesh. On its south lies Sidhi and in South-West Satna district of Madhya Pradesh. It covers about an area of 6287 square kilometers of mountainous country and includes Huzur, Sirmour, Mauganj and Teonthar tahsils. Geographical limits of Rewa are 24°-28' and 25°-12' North and 81°-2' and 88°-18' East. It is situated 318.7 meter above the sea level.

### CLIMATE

The climate of Rewa is moderate and this is attributed to the greater elevation and to the Western winds. Average temperature during 1976-77 was 24.9°C. May was the hottest month with the maximum temperature of 33.9°C. and January was the coldest with the minimum temperature of 15.2°C. The highest humidity of 93% was recorded in the month of August and the lowest 74% in the month of June. Monsoon usually spreads over this area during June and July and the annual rainfall is 84.9 centimeter.

### MATERIAL AND METHOD

Zoologically Rewa district has been an unexplored area. During these explorations fresh water system has been studied. It consists of

flowing water and standing water provinces and both ponds and rivers were considered. During these studies trips were made to various tahsils for collections, at Teonthar tahsil specimens were collected from river Tamas near Chakghat, at Sirmour from Semaria pond, at Mauganj from Mauganj pond, at Huzoor tahsil from river Behar near Rewa Bus stand and Lalpa, Lakhoriabag, Bahurian ponds.

The exploration of various ponds and rivers under the plan of study was begun in July 1976 and continued upto December 1977, systematics and quantitative investigations of crustaceans was made, material collected during these years was brought to laboratory for examination.

Both macroscopic and microscopic fauna were collected from lotic and the lentic habitats. These collections were made by using a 20 liter trap. The details of the survey work have been summarised and are presented below.

#### SYSTEMATICS

This paper deals with the crustacean fauna. Further details will be communicated in a series of papers.

Order : CLADOCERA

Family : DAPHNIDAE

##### (1) *Scapholeberis mucronata* (O. F. Müller)

Body and feet covered by bivalve shell, five pair of feet, intestine with two hepatic caeca. Valves arched dorsally, posterior and ventral margins straight ; at their junction a spine. Antennules very small. Post-abdomen short and broad rounded at the posterior end ; five anal teeth.

*Measurements* : Length of female 0.8 mm ; male 0.5 mm.

*Locality* : These specimens were collected from river Behar, Tamas and Lakhauribag, Semaria, Mauganj ponds.

##### (2) *Simocephalus vetulus* (O. F. Müller)

Body and feet covered by bivalve shell, five pair of feet, intestine with two hepatic caeca. Vertex rounded ocellus elongated, valves with a blunt posterior angle, post abdomen very large. Anal spines about ten, decreasing from the claws. Claws long, slender, little curved denticulate.

*Measurements* : Length of female 3.0 mm ; male 1.0 mm.

*Locality* : These specimens were collected from Mauganj, Semaria, Lakhauribag and Bahurian ponds.

Family : SIDIDAE

(3) **Diaphanosoma sarsi** (Richard)

With six pairs of foliaceous legs. Antennae of female biramous and flattened without lateral expansion, dorsal ramus two segmented. Without spines on post abdomen. Ocellus absent.

*Measurements* : Length of female 0.6 mm ; male 0.5 mm.

*Locality* : These specimens were collected from Lakhauribag, Bahurian and Lalpa ponds of Hazur Tahsil.

Family : BOSMINIDAE

(4) **Bosmina longirostris** (O. F. Mullar)

Body and feet covered by bivalve shell, antennules of female lying backwards, six pair of feet, intestine simple no caeca. Two series of spinules on claws. Antennules not united at base, parallel, bear small sensory hair near the centre of the space between the eye and the base of the antennule.

*Measurements* : Length of female 0.3 mm ; male 0.25 mm.

*Locality* : These specimens were collected from Lakhauribag, Lalpa, Semaria and Mauganj ponds.

Order : COPEPODA

Family : DIAPTOMIDAE

(5) **Heliodyptomus viduus** (Gurney)

Cephalothorax and abdomen separate, antennules uniramous, longer than body, antepenultimate segment bears no comb. Endopodite of the first leg two segmented. Fifth feet of male terminate in a hook. Right and left feet of male nearly equal in length, terminal hook of right foot symmetrical.

*Measurements* : Length of female 1.5 mm ; Male 1.4 mm.

*Locality* : These specimens were collected from Lakhauribag and Lalpa ponds.

Family : CYCLOPIDAE

(6) **Cyclopes serrulatus** (Fischer)

Cephalothorax and abdomen separate fifth feet rudimentary with three setae, swimming feet three segmented. Furcae armed externally with a row of fine spines. Antennae twelve segmented, furcal rami serrate.

*Measurements* : Length of Female 0.8 to 1.25 mm.

*Locality* : These specimens were collected from river Behar, Tamas and Lakhauribag, Bahurian ponds.

Family : MESOCYCLOPS

(7) **Mesocyclops leuckarti** (Claus)

Second antennae small without a large apical claw. Rami of fourth leg three segmented. Fifth leg composed of two segments, last segment with two setae of equal length and a spine, with a hyaline membrane on each of the last two segments of first antennae. Caudal rami without hairs on inner margins.

*Measurements* : Length of female 0.2 to 0.3 mm.

*Locality* : These specimens were collected from river Behar, Tamas and Lakhauribag, Bahurian, Semaria, Mauganj ponds.

Order : OSTRACODA

Family : CYPRINIDAE

(8) **Spirocypris tuberculata** (Sharpe)

Shell purplish brown, with four purple patches and reticulate patterns, tuberculate, Eyes fused.

Testis originate in the anterior part of the shell, in form of concentric circles.

Second antenna subpediform, clawed, notatory seta equal to the length of the terminal claws. Terminal segment bears a large and a small claw. The larger claw bears a seta at its base and is five times the length of the terminal segment.

Two dissimilar pair of legs. Second leg backwardly bent. Terminal segment with a beak like end segment.

Furca Band like, slightly broadened at the base, about thirty two times long as wide and faintly striated throughout its length. Subterminal claw and the terminal seta are equal in length.

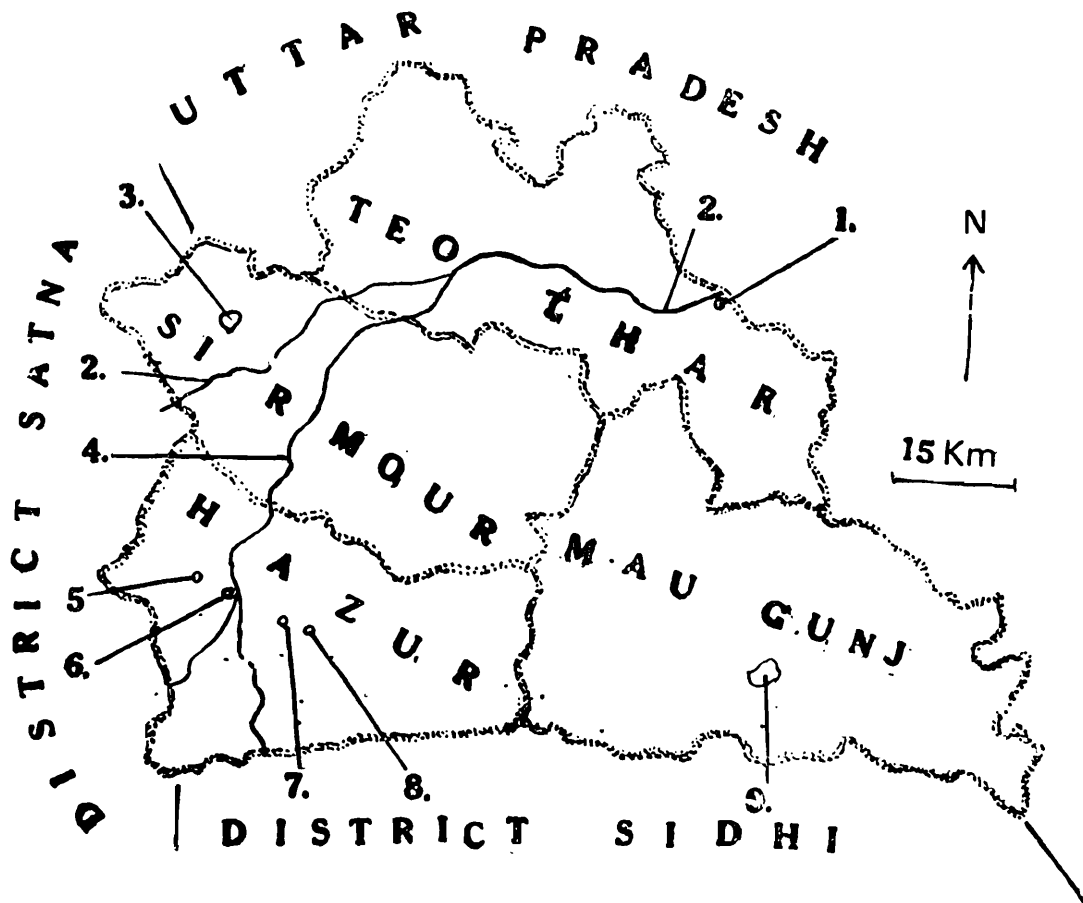
*Measurements* : Length 0.8 mm ; height 0.53 mm ; width 0.7 mm.

*Locality* : These were collected from Lakhauribag, Bahurian and Lalpa ponds.

(9) **Spirocypris passaica** (Sharpe)

Shell greenish with reticulate patterns. Eyes fused. Testis originate in anterior part of the shell in form of concentric rings.

Second antenna subpediform clawed at the apex. Notatory seta reach slightly beyond the tips of the terminal claws. Terminal segment bears a large and a small claw. The larger claw bears a seta at its base and is three times the length of terminal segment.



Map of Rewa District

1. Chakghat, 2. River Tamas, 3. Semaria pond, 4. River Behar,
5. Lakhauribag pond, 6. River Behar near Bus stand Rewa,
7. Lalpa pond, 8. Bahurian pond, 9. Mauganj pond.

Second leg backwardly bent. Terminal segment with a beak like end segment and a coma shaped claw.

Furca band like slightly broadened at the base, about thirty three times long as wide and toothed on about one half of its dorsal margin. The terminal claw is larger than the subterminal claw. Terminal seta and terminal claw are equal in length. Dorsal seta equal to the half of the length of the subterminal claw.

*Measurements* : Length 2.8. mm ; height 0.8 mm ; width 0.8 mm.

*Locality* : These were collected from Bahurian, Lalpa, Semaria and Mauganj ponds.

## AVERAGE MONTHLY POPULATION NO./LITRE, PERIOD : JULY 1976-DEC. 1977

## TWO YEARS MONTHLY AVERAGE VALUES

Species	JULY.	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY.	JUN.	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
<i>Scapholeberis mucronata.</i>	8	9	10	13	16	9	8	8	19	21	..	3	8	9	9	13	15	9
<i>Simocephalus vetulus.</i>	6	7	7	10	10	9	8	6	11	11	4	4	7	8	8	10	10	8
<i>Bosmina longirostris.</i>	2	2	3	4	5	4	3	3	5	6	—	—	2	3	3	5	5	4
<i>Diaphanosoma sarsi.</i>	3	4	4	5	5	4	4	3	6	7	1	1	2	3	3	5	6	3
<i>Heliodiaptomus viduus.</i>	6	7	7	9	9	8	7	6	11	13	4	3	7	8	7	9	10	7
<i>Cyclops serrulatus.</i>	10	11	12	14	14	9	9	10	21	22	4	4	9	10	10	15	16	9
<i>Mesocyclops luckarti.</i>	6	7	7	9	9	7	6	5	11	14	6	6	6	7	7	10	9	7
<i>Spirocypis tuberculata</i>	3	4	4	5	5	4	4	3	6	8	4	4	3	4	4	6	6	4
<i>Spirocypis rassaica.</i>	2	2	3	4	4	3	3	4	5	5	—	—	2	2	3	4	5	2
<i>Macrobrachium lamarrei.</i>	—	2	2	5	5	3	2	3	7	7	2	2	—	3	3	6	5	2

Order : DECAPODA

Family : PALAEMONIDAE

(10) *Macrobrachium malcomsoni* (H. M. Edwards)

Rostrum with teeth. Mandibular palp and hepatic spine present. Branchio-Stegal spine absent. Second legs much longer than first, chelae without terminal hair tufts.

*Measurements* : Length 50 to 80 cm.

*Locality* : Specimens were collected from river Behar, Tamas and Mauganj, Semaria, Bahurian ponds.

### QUANTITATIVE RESULTS

Results of collections made during different months of the year have been tabulated and are as shown below :

### GENERAL OBSERVATIONS

The interesting feature that emerges from this study is an uneven picture of the aquatic fauna of this part of the country. Considering the continental weather conditions prevailing in this region it was expected that most of the Cladocera, Copepoda and Ostracoda will be well represented. However the Daphnidae predominate and neither Decapoda nor for that matter the Copepoda and Ostracoda are present in large numbers of genera or species.

Rawson and Moore (1944) in saline water, Sewel (1947) in marine water and Ward, Whipple (1945) in fresh water, reported presence of large number of species. It is therefore surprising that Rewa district having enough aquatic habitat to support a rich fauna do not in reality contain an appreciable number of species, when compared with marine and saline water forms. Perhaps further explorations may yeild additional information or more number of species.

It also appears from this study that *Scapholeberis mucronata* and *Cyclops serrulatus* species are present in much abundance, where as *Bosmina longirostris* and *Spirocypris passia* are scare. *Scapholeberis mucronata*, *Cyclops serrulatus* and *Macrobrachium lamarrei* are lotic and lentic, rest of the species being lentic in habitat. Population densities reduce during the period of high turbidity (July-Sept.) caused by silt load due to rains. In less turbid conditions (Oct.-Nov.) there is a rise in population density. Byars (1960) holds that the temperature exercises the greatest influence on the periodicity of rotifers. In the present