

## Chapter- VII

### S u m m a r y

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1) Present work was undertaken mainly to study the functional morphology of mouth parts and setae, gastric mill, food and feeding habit of Paratelphusa jacquemonti.

At the beginning the external morphology including the description of mouth parts was given.

The work on the above topics presented in this dissertation is summarised here.

During feeding it was observed, the chelae of the animal help in holding and tearing the food, the third maxillipede present on the ventral side of the body enclosing the mouth opening function like a pair of door. Second maxillipede and maxillae in pushing in the food, and the mandibles in grinding the food particles. Thus feeding may be divided into two phases to study the functions of mouth parts.

2) Principally food collection is performed by the pereopods and the third maxillipede. Macrophagus food collected by second and first maxillipede, maxillae, maxillules and mandibles. The general pattern of feeding activity with the help of the mouth parts is the similar with all brachyurans.

3) Fourteen types of setae were distinguished on the mouth parts and compared with previously available work on

Clibenarius taeniatus, Clibenarius virescens, Paguristes squamousus, Dardanus setifer by Roberts (1968), Farmer (1974) recognised twelve setae in Nephros norvegicus (Decapoda, Nephropidae). The relationship between the three systems is shown in the table.

The new types of the setae identified in the present study are the following :

- i) Simple and long type, of the setae were found on the mandibular palp of the mandibles.
- ii) Simple, long blunt type, of the setae are present on the scaphognathite of the maxilla.
- iii) Comb blunt type, of the setae are found on the carpus of the second and third maxillipede.
- iv) Anteriorly comb setae, are found on the maxillary palp of the mandibles.
- v) Plumose pointed type, of the setae were found on the coxa of the second maxillipede.
- vi) Plumose middle setuloid type, of the setae are found on the maxilla.

Thus six new setae were distinguished.

- 4) It is interesting to note that the presence of highly complicated gastric mill is accompanied with relatively less efficient mandibles.

5) The different types of the ossicles of the gastric mill were studied and the difference in the denticles present on the zygo-cardiac and uro-cardiac ossicles were noted. The median tooth edge bears five denticles and sixteen ridges arranged in two rows. It was found that the structure of the gastric mill is essentially the same as in Cancer (Pearson 1908) Partelphusa guirini (Patwardhan 1934). But it differs from these in shape, size, deposition and calcification of the ossicles, the nature and the number of denticles.

6) It was not possible to study the actual mechanism of the gastric mill of Paratelphusa jacquemonti, since the animal stops all activities after dissection. Therefore, it was assumed that the mechanism of gastric mill is the same as found in Paratelphusa guirini (Patwardhan 1934).

7) The presence of the complex masticatory mechanism in the cardiac stomach and filtering apparatus in the pyloric stomach also has been explained, with reference to nature of the food, swallowing of food and reducing the food to the fine particles.

8) P. jacquemonti is omnivorous. Vegetable matters are more 43.5 per cent in contrast to animal matters which is only 31 per cent.

That crabs fed on detritus, vegetable and animal matters and decomposing materials suggesting the non-

selective omnivorous feeding habit.

9) Cannibalism is practised by crabs, when they are starved.

10) Crabs are scavengers, filter feeders, feeding by the current of water produced by the setae on the filter feeding mouth parts.

11) Chelae help in holding and tearing the food, maxillae in pushing the food into the mouth and the mandibles in grinding the food particles.