

### AMYLOLYTIC ACTIVITY OF THE HEPATOPANCREATIC TISSUE OF *PARATELPHUSA (OZIOTELPHUSA) HYDRODROMUS* HERBST

THE present studies are conducted on *Paratelpusa hydrodromus*, the most common field crab occurring in the paddy fields and low lying areas of Kerala coast. This crab, during its adult stage, measures about 4 cm. carapace width and 3.2 cm. carapace length.

Studies on the amylolytic, proteolytic and lipolytic activities of the hepatopancreas of this crab were conducted by Reddy (1937). The present study is a more detailed investigation of the amylolytic activity under different pH.

Live specimens of *Paratelpusa hydrodromus*, all belonging to the intermolt stage of growth, were collected and dissected alive. A weighed quantity of the hepatopancreatic tissue was ground up in a mortar, extracted with 30% alcohol for 24 hours, filtered and used for the estimations according to the method of Willstatter, Waldschmidt-Leitz and Hesse (1954).

A perusal of the curves (Fig. 1) shows that the maximum amylolytic activity lies in the pH range of 6.75-7.25 for the temperature of 40°C. which is shared by all the specimens examined. It is interesting to note that this region is neither too acidic nor too alkaline in reaction. Another pH region in which there are indications of a definite increase in the amylolytic activity happens to lie in the 5.25-6.25 range. This is a distinctly acidic region. In between these two is found a region of decreased amylolytic activity which is not well defined. An especially noteworthy feature is displayed by curve No. II which shows two peaks in the acidic region along with a deep trough also in the same region. The occurrence of a peak each, in the case of curves Nos. I and III at the pH 5.9 region where exactly occurs the trough of curve No. II is rather interesting. It may be due to some unknown factor which exerts a neutralising influence on the amylolytic activity of this specimen at this particular pH value.

The amylolytic activities of all the four specimens consistently show a decrease beyond the pH value of 7.5. All these suggest that the overall tendency of the amylolytic enzymes present in the hepatopancreas of the animals under study

displays enormous activity-decreases when the pH rises to the distinctly alkaline region.

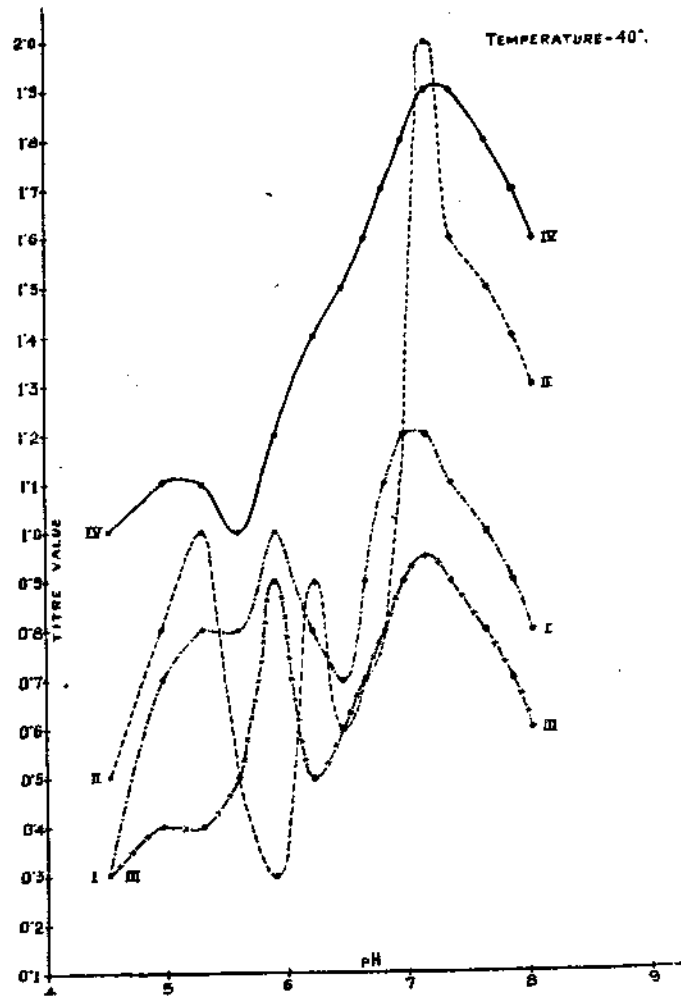


FIG. 1. Amylolytic activity at different pH (4.529 to 8.038)

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