

**ROLE OF MANDIBULAR GLAND IN THE DIGESTION OF THE
CRAB, *POTAMON MARTENSI***

THE digestive physiology of crabs has been described by many authors (Mansour-Bek, 1932; Reddy, 1937; and Agrawal, Tyagi and Sharma, 1965). However, no account of the structure and function of the mandibular gland is available. In *Potamon martensi* the mandibular gland is a creamy, lobed structure found on the inner side of the mandible.

The medium is weakly acidic in the gland (pH 6.2). To study the enzymology, the extract of the gland was prepared and it was subjected to experimentation with different substrates. The mixtures were then tested for the presence or absence of enzymes (Agrawal, Tyagi and Sharma 1965). The results have been recorded in Table I. Sign ++ indicates a vigorous reaction; + a positive reaction; ± traces of reaction while — indicates no reaction at all.

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TABLE I

Results with the extract of Mandibular Gland of Crab

S. No.	Substrate (in solution)	Duration of reaction and extent of digestion			Control experiment	
		24 hrs.	48 hrs.	72 hrs.	48 hrs.	72 hrs.
1.	1% starch	±	±	+	—	—
2.	5% sucrose	±	±	±	—	—
3.	2% maltose	+	+	+	—	—
4.	2% lactose	+	+	+	—	—
5.	1% raffinose	—	—	—	—	—
6.	1% inulin	—	—	—	—	—
7.	1% salicin	+	+	++	—	—
8.	glycogen saturated soln.	±	±	±	—	—
9.	gelatine	no liquification			remained solid	
10.	Condensed milk	no change in colour			no change in colour	

Investigations on the enzymology of the mandibular gland indicates that the carbohydrases like maltose, lactose and salicinase are quite active, though weak amylase, invertase and glycogenase are also present. The rest of the carbohydrases, lipases and proteases are altogether absent.

Thus it is evident that the so far neglected mandibular gland of crabs takes an active part in the digestion of carbohydrates and requires immediate attention of the carcinologists.

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