

## A NOTE ON THE PRAWN FISHERY OF KUTCH

The estimated annual average marine fish production in Kutch for the last four years is about 1250 m. tons, of which nearly 60% is constituted by the prawns.\* There is no information available on the prawn fisheries of Kutch. The account given by Srivatsa (1953) relates mainly to a general survey of the prawn fisheries with particular reference to the Saurashtra coast of the Gulf of Kutch. Lacumb (1960) has dealt with the prawn fishing industry of Kutch from the economic point of view. Hence investigations on the biological aspects of the prawn fisheries of Kutch with reference to the annual fluctuations, composition of the catch, growth, migration, maturity and food of the commercial species are in progress at the Central Marine Fisheries Research Unit, Kandla, since May 1959.

The present note deals with the composition of the catch along the Kutch coast. The following centres, commencing from the inner to the outer regions of the Gulf of Kutch have been chosen for observation :— Cherowari, Kandla, Tuna-

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Sangadh, Lunei (Mundhra) and Modhwa (Mandvi). The areas of fishing in Kutch are restricted to the foreshore waters taking advantage of the strong tidal flow. The prawns that are caught are chiefly members of the Penaeidea and the species that occur are listed below :

<i>Metapenaeus monoceros.</i>	<i>Penaeus canaliculatus.</i>
<i>Metapenaeus brevicornis.</i>	<i>Parapenaeopsis sculptilis.</i>
<i>Metapenaeus sp.</i>	<i>Parapenaeopsis stylifera.</i>
<i>Penaeus indicus.</i>	<i>Acetes sp.</i>
<i>Penaeus carinatus.</i>	

Of these *M. monoceros*, *M. brevicornis*, *P. indicus* and *P. sculptilis* are of importance in the catches. Among the caridean prawns are *Leander* spp., *Hippolysmata* sp. and *Palaeomon* spp.

One of the interesting results of a preliminary study of the composition of the prawn fishery at the different centres along the Kutch coastline is that the different species have definite areas of occurrence as will be evident from the species composition of the annual catch given in the Table.

TABLE  
Prawn fishery season, composition of the catch along the Kutch coast  
and nature of the bottom

Place	Season	Nature of the bottom	Composition
Cherowari ..	August-October	Muddy	<i>M. monoceros</i> 93.0% ; <i>P. sculptilis</i> , <i>Leander</i> sp. and <i>Palaeomon</i> sp. 7.0%.
Kandla ..	May-February	Muddy	<i>M. monoceros</i> 64.7% ; <i>P. indicus</i> 20.8% ; <i>Leander</i> sp. 8.3% ; <i>M. brevicornis</i> 4.2% ; <i>P. sculptilis</i> , <i>P. stylifera</i> and <i>Palaeomon</i> sp. 2.0%.
Tuna-Sangadh.	September-February	Muddy	<i>M. monoceros</i> 47.5% ; <i>P. indicus</i> 15.6% ; <i>M. brevicornis</i> 15.3% ; <i>Leander</i> sp. 14.5% ; <i>P. sculptilis</i> 5.8% ; <i>P. canaliculatus</i> , <i>P. stylifera</i> and <i>Palaeomon</i> sp. 1.3%.
Lunei ..	July-December	Mixed (Sandy and muddy)	<i>P. indicus</i> 48.8% ; <i>M. monoceros</i> 23.0% ; <i>M. brevicornis</i> 13.7% ; <i>P. canaliculatus</i> 5.8% ; <i>P. sculptilis</i> 3.0% ; <i>Metapenaeus</i> sp. 2.5% ; <i>P. carinatus</i> and <i>Leander</i> sp. 3.2%.
Modhwa ..	September-January	Sandy	<i>M. brevicornis</i> 27.4% ; <i>P. sculptilis</i> 18.8% ; <i>P. indicus</i> 15.5% ; <i>M. monoceros</i> 8.7% ; <i>Acetes</i> sp. 7.5% ; <i>P. stylifera</i> 7.3% ; <i>Leander</i> spp. 6.2% ; <i>Hippolysmata</i> sp. 5.4% ; <i>Metapenaeus</i> sp. 3.2%.

*M. monoceros* which constitutes the single largest species in magnitude in the prawn fishery as a whole is found to abound in the inner parts of the Kutch coast

i.e. from Tuna-Sangadh to Cherowari. This species gradually fades in importance in the outer half of the Kutch coast and yields place to *P. indicus* at Lunei and *M. brevicornis* at Modhwa. The differences in the species composition of the catch at the different centres is probably in association with the nature of the sea bottom. The bottom is muddy between Tuna-Sangadh and Cherowari where *M. monoceros* abounds. It is mixed, being sandy and muddy at Lunei where *P. indicus* constitutes the prawn fishery while at Modhwa the bottom is sandy and associated with this, *M. brevicornis* is the most important species of prawn occurring there. This observation supports Williams (1958) who has experimentally shown the importance of the substrate as a factor in the penaeidean shrimps distribution.

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