

algal vegetation. A finding of considerable interest is that it is a continuous breeder in the Andaman waters, with an intensive spell of spawning during or immediately after the warm seasons. This is against the observations of Moorhouse² on the same species in the Great Barrier Reef, where a definite spawning season five months duration, commencing from March, has been noticed. Thus the species is an excellent example of a marine animal that exhibits different types of breeding in different localities. In a general discussion on the problem of breeding in tropical marine animals, Rao evaluates the environmental factors that influence breeding and says that the evidence in support of the view that the tropical marine animals breed continuously tends to gather weight. He adds: 'It does not seem to be clear, however, what, under the uniform biological conditions of tropical seas, constitute the stimulus for inducing marine animals to spawn.' A complete answer to this question is by no means possible in the present state of our knowledge, but it should be admitted that in addition to the factors like temperature, food, and latitude usually considered in connexion with the phenomena of breeding, the effect of monsoon is an important factor that has to be considered in the tropics, as evidenced by the finding of Malpas³ that spawning in the Pearl Oyster *Margaritifera vulgaris* is stimulated by salinity changes in the sea water brought about by the monsoons.

Observations on the length of life of the species and a statistical study of the rate of growth of shells have also been conducted, and the results published⁴ indicate that while there is no slack season for growth

or a period of æstivation in *Trochus niloticus*, the rate of growth during the first two years of its life is particularly rapid, but is more slow and uniform thereafter. The age of *Trochus* in the Andamans is shown to exceed ten years, and the incidence of mortality due to disease or old age is indicated to be low.

The animals associated with *Trochus* shells in the Andamans have also formed the subject of a series of valuable papers. Prashad and Rao have described a new species of *Spuoglyphus* (Family Vermitidae) and two new limpet like Gastropods, *Saptadanta nasika* and *Patella tora*.⁵ Monod⁶ gives a full account of *Panaetes camerata* Stebb, a parasitic (or Commensal?) Copepod almost invariably found in the living state in the buccal cavity or œsophagus of *T. niloticus* and finally Winckworth⁷ records *Acanthochitona penetrans* found living in the holes made on the shells by species of the bivalve *Lithophaga*.

It is hoped that arrangements will be made by the Government of India to continue this interesting and valuable series of researches so well begun by Rao, and that with the present improved financial situation, the question of establishing an up to date research station at Andamans will be taken up without delay.

¹ *Rec Ind Mus*, 1937 **39**, 47-82

² *Sci Rep Great Barrier Reef Exped*, 1932 **3**, 5 145-55

³ *Ceylon Journ Sci, C Fisheries* 1933, **5** 21-48

⁴ Rao *Rec Ind Mus* 1936 **38**, 473-99 Rao and Raja, *ibid* 500-3

⁵ *Rec Ind Mus*, 1933 **35**, 409 12 *ibid* 1934, **36**, 1-4

⁶ *Ibid*, 1934, **36**, 213-18

⁷ *Proc Mal Soc London*, 1933 **20**, 318-19

National Collection of Type Cultures.

THERE are several centres of mycological and bacteriological research in India, each maintaining a substantial collection of type cultures. The time may not be propitious for the establishment of a Central Institute for housing national collection of type cultures on the lines of the Iaster Institute, England, and the Central Bureau for Cultures in Holland.

With a view to take stock of the cultures already available in the country and make

it known to interested workers, the publication of a list of the cultures maintained by various institutes in the country, together with conditions of their sale or exchange is earnestly suggested. This work may be taken up either by the Agricultural Research Council or by another academic body—one of the Academies in India or by *Current Science*—with a grant from the Agricultural Research Council.

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