

OCCURRENCE OF *PORPHYRA VIETNAMENSIS* (BANGIALES, RHODOPHYTA) ALONG THE GOA COAST

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ABSTRACT

The occurrence of a red alga, *Porphyra vietnamensis* has been studied along the Goa coast (west coast of India). The growth period was observed during the monsoon (July-October) and optimum growth was recorded during August, when temperature, salinity and light intensity were low and nutrients were high.

Porphyra vietnamensis Tanaka *et* Ho was recorded along the east coast of India by Boergesen (1937), Sreeramulu (1952), Umamaheswararao and Sreeramulu (1963). Its *Conchocelis*-phase has been studied by Prakasa Rao (1964) and the chemical composition of the alga was reported by Tewari, Rao and Krishnamurthy (1968) from the Visakhapatnam coast. This genus has not been reported earlier from the west coast of India. The present note relates to the occurrence of *P. vietnamensis* along the Goa coast.

P. vietnamensis was noticed at Dona Paula, during the monsoon period, first in 1977 and again in 1978. It was also found growing scattered at places along the Goa coast (Fig. 1). The alga started appearing in small patches, in the midlittoral zone, during early July, which is the early part of monsoon in Goa.

Detailed observations were made at Dona Paula (Fig. 1) facing the mouth of the Zuari river. *P. vietnamensis* grew on laterite rocks on the exposed seaward side, which were also covered with oyster shells (*Crassostrea gryphoides*). Weekly observations were made during July-October 1979, on temperature (air and water), pH, salinity, dissolved oxygen, phosphate,

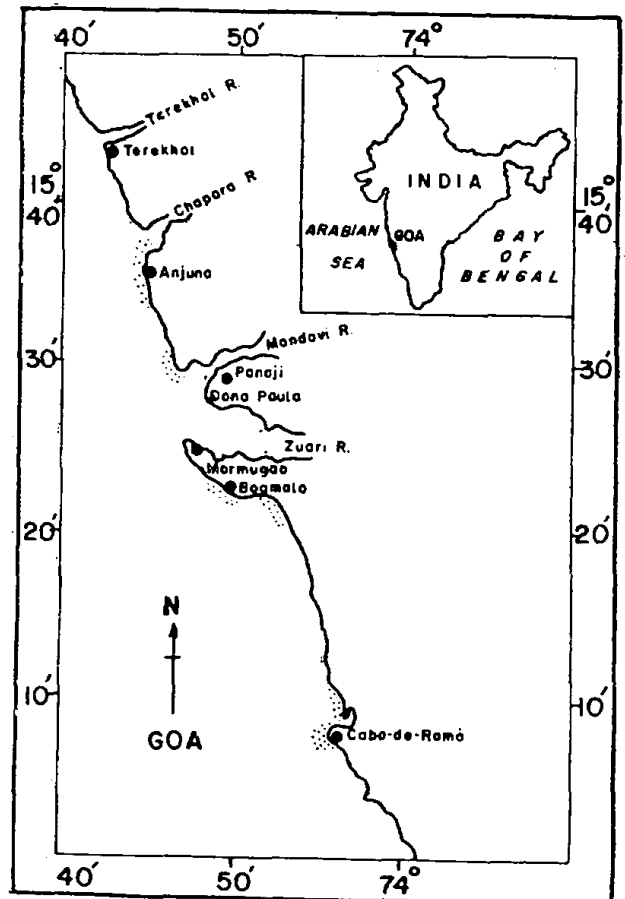


Fig. 1. Map of Goa showing sites of collection of *Porphyra vietnamensis*.

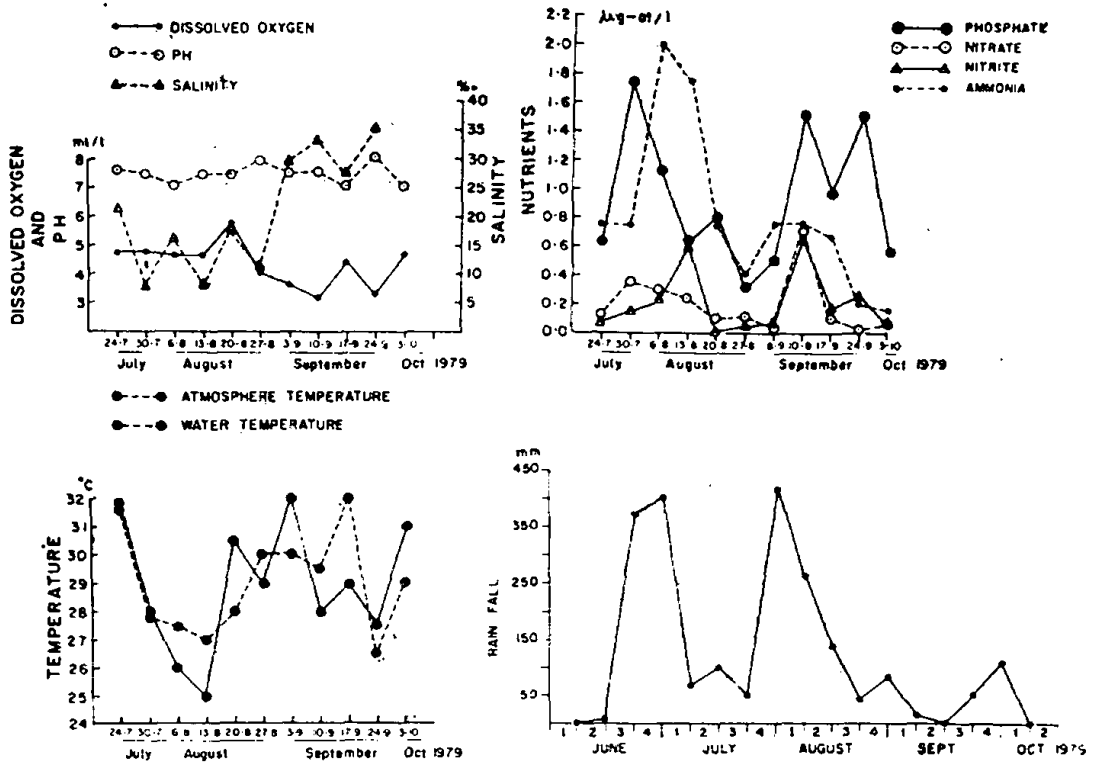


Fig. 2. Weekly variations in the environmental parameters and the rainfall.

nitrate, nitrite and ammonia, using standard methods (Fig. 2). The biomass of the alga was calculated by a quadrat measuring 1 m². Rainfall data were obtained from the Panaji observatory of the Indian Meteorology Department (See Fig. 2).

The alga grew profusely, in magenta coloured mats of thalli over the entire surfaces of rocky boulders and jetty walls, facing the waves. The thalli were linear and 0.5–1.5 cm in breadth. Although *P. vietnamensis* was also found in rock pools, the alga in this habitat grew in moderate quantities with broader thalli of 5–12 cm (Plate 1).

The biomass values of *P. vietnamensis* (Fig. 3) showed that its luxuriant growth was during late July to August. A peak in biomass of 1.58 kg/m² was recorded during the second week of August, when many other algae were not flourishing in the intertidal area.

Thus the optimum growth conditions for this alga appear to be at low light intensities, lower water temperature (25–32°C), low salinities (8–15‰) and high nutrients (Fig. 2) as are found during the monsoons. As the light intensity, temperature and salinity gradually increased, from late September onwards, the alga started bleaching and subsequently died. At some places, plants were observed till the end of October.

Chaetomorpha media and *Enteromorpha flexuosa* were sometimes found associated with

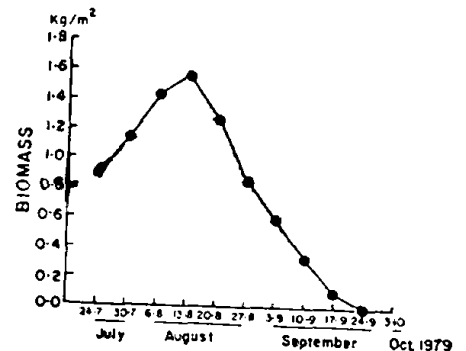


Fig. 3. Weekly variations in the biomass of *Porphyra vietnamensis*.

P. vietnamensis, although it generally grew as separate mats. An epiphytic red alga *Rhodochorton* sp. was also seen growing on the older thalli.

In the earlier reports (Umamaheswararao and Sreeramulu, 1963) from the east coast, *P. vietnamensis* was observed during the summer season (February-June) in 1961 along the Visakhapatnam coast, where the tidal influence was low, temperature was high and the exposure period in the intertidal area was large. However, in Goa, the present observations indicate some difference in the ecological features where *P. vietnamensis* grows. Probably the alga seems to have adapted itself to varying ecological conditions.



Plate 1. *Porphyra vietnamensis*. Habit of broad thalli.

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