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OBSERVATIONS ON THE MORPHOLOGY OF *PORPHYRA VIETNAMENSIS* TANAKA & P.H. HO (BANGIALES, RHODOPHYTA) AT VISAKHAPATNAM COAST, INDIA

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ABSTRACT

Porphyra vietnamensis Tanaka & P.H. Ho was collected from the east coast (various parts of Visakhapatnam) of India during a low tide status. Detailed morphology of the taxon was studied. The present specimens are smaller than the type material originally described but slightly bigger than the material described from Visakhapatnam coast.

Keywords : *Porphyra vietnamensis*, morphology, Visakhapatnam coast, India.

INTRODUCTION

Porphyra vietnamensis Tanaka & P.H. Ho (Bangiales, Rhodophyta) is an edible red alga (Subha Rao & al. 2007) first described from Viet-Nam (Tanaka & Pham-Hoang Ho, 1962). The particular species of interest is not so frequently found [Viet-Nam (Tanaka & Ho 1962, Ho 1969, Tsutsui & al. 2005)]; Hawaiian Islands (Abbott 1999, McDermid & al. 2005); China (Tseng, 1984); Pakistan (Silva & al.1996)]. Børgesen (1937) reported *P. vietnamensis* as *P. tenera* Kjellman from harbour area of Madras. Sreeramulu (1952) defined the plants as *P. naidum* Anderson from Visakhapatnam (Waltair) coast. Ultimately it was confirmed as *P. vietnamensis* by Umameheswara Rao & Sreeramulu (1963). They collected the same specimens from the Visakhapatnam coast in the year 1964 and 1970. Subsequently various other workers also reported this taxon from the west coast, especially from the coastal area of Goa, [Dhargalkar & al. (1981), Sahoo & al. (2006)]. According to Sahoo & al. (2001) *Porphyra vietnamensis* is the most abundant among the all other *Porphyra* species reported from India. During an algal excursion to Visakhapatnam coast the authors recorded the above mentioned taxon and studied its detailed morphology.

MATERIALS AND METHODS

Algal specimens were collected from intertidal zone of various localities of Visakhapatnam coast (Collection No.V-14, V-33, V-38, and V-105) during a low tide state. Field photographs with proper measurements were made by Nikon SLR camera. The collected samples were preserved in 5% formalin solution made with marine water. The collected materials were kept in plastic bags and also in hard plastic transparent containers with detailed field notes. The thalli were observed under a stereo binocular microscope. Digital photographs by Leica DMLB system were made from preserved specimens. Identifications were made following Desikachary & al. (1990). The collected preserved materials along with the slide preparations are stored in Phycology laboratory, The University of Burdwan for future study and reference purpose.

RESULTS AND DISCUSSION

Porphyra vietnamensis Tanaka & P.H. Ho.

(Tanaka & Ho 1962, p.34, f.10-11; Desikachary & al. 1990, p.36, pl.2, f.4)

The plants are membranous, attached to the rocky substratum with the help of slightly circular disc shaped holdfast like attachment organ. The specimens are mostly found along with some other algae like *Enteromorpha flexuosa*, *E. intestinalis*, and *Chaetomorpha aerea*. Sometimes tiny filaments of *Lyngbya cinerescens* were found lodged on the marginal part of the specimen.

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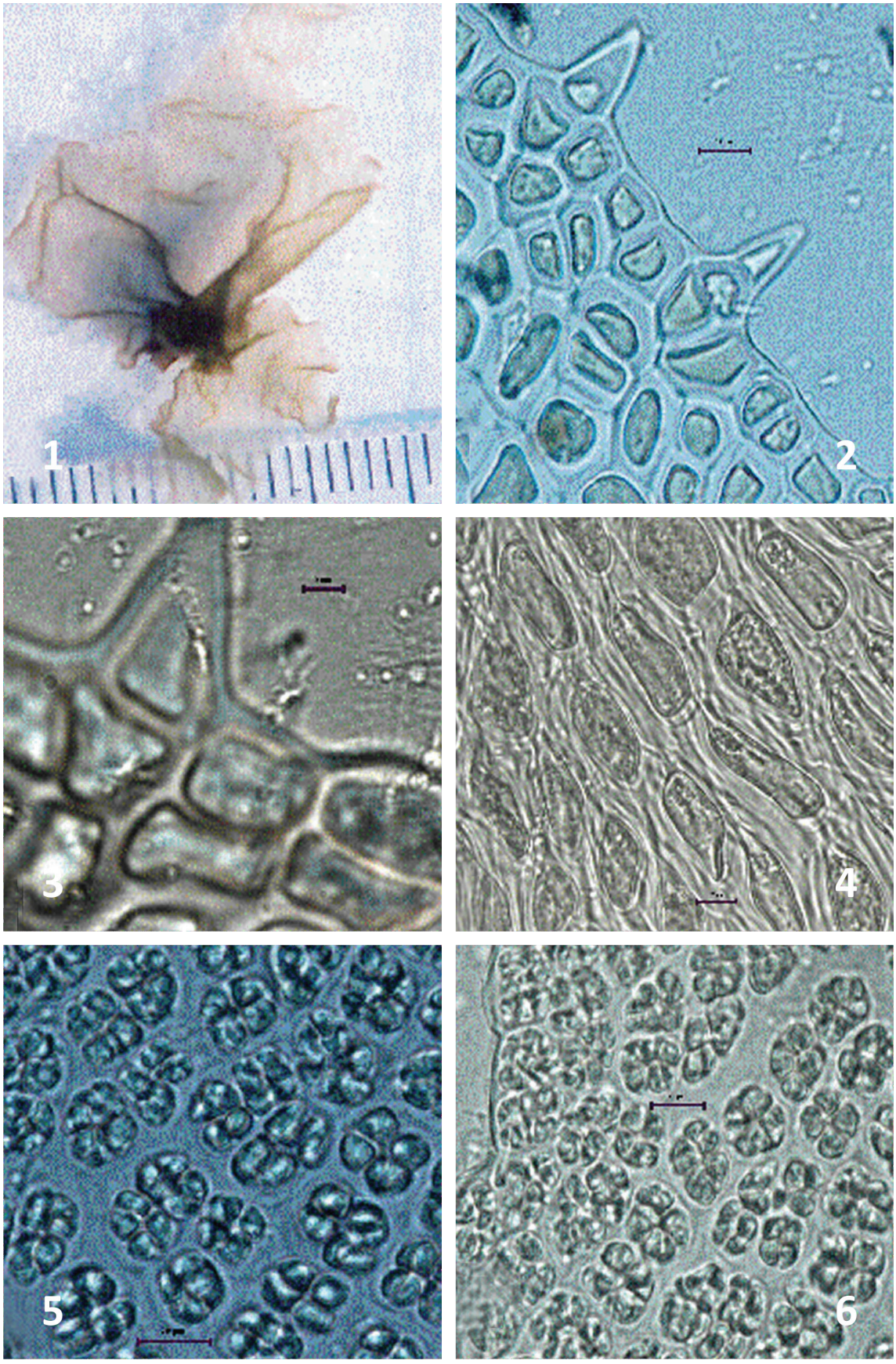


Fig. 1-6. *Porphyra vietnamensis* Tanaka & P.H. Ho: Thallus morphology: 1. Mature thallus
2. Thallus margine showing spines; 3. Enlarged view of marginal spines;
4. Pear shaped cells at the basal part of the thallus and 5 & 6. Part of cystocarpic thallus in surface view.

The plant species of interest is monostromatic, 1.8-3.2 cm in length and 0.7-1.5 cm broad; monoecious, prominent male gametangial portions along with zygotosporangial patches appear on the same thallus; reproductive patches are observed along the marginal sides. Vegetative and reproductive portions are of almost same thickness; margin wavy and serrated with spinous projections, The tip portions of the spinous projections are slightly pointed to obtuse rounded in nature; vegetative cells in surface view 9.2-11.3 µm in length and 4.5-8.5 µm in breadth; there is a mucilage layer which is 4-5.2 µm thick; each cell is slightly globular to angular in shape, with a single chromatophore, somewhat stellate and covers the whole cell partly; carpogonia are of pinkish patches found in marginal as well as apical part and spermatangia showing its identity as slightly pale patched region at the marginal side; here 64 spermatia arranged in four tiers of four each in a spermatangium and the number of carpospores within a carposporangium is eight; the thallus expanding above into soft blade of varying degrees with carpogonium simple with long trichogyne formed by vegetative cells; carpogonium 19.5-33.7 µm in length and 9.6-11.63 µm in breadth, trichogyne 0.4-1.1µm in thickness, carpogonia are found on marginal to slight inward portions of the thallus.

After comparing with descriptions provided by Tanaka & Ho (1962) for the type species it is concluded that the observed specimens are smaller than the type material but slightly bigger than the specimens described by Umamaheswara Rao & Sreeramulu (1964) from Vishakhapatnam coast.

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विशाखापतनम सागर तट, भारत में *पोर्फिया विएतनेमेंसिस* तनाका एवं फाम-होआंग हो (बेंगिएल्स, रोडोफाइटा) की आकारिकी पर प्रेक्षण

शुभव्रत घोष एवं जय प्रकाश केशरी

सार संक्षेप

ऊँचे ज्वार की स्थिति में भारत के पूर्वी सागर तट (विशाखापतनम के विभिन्न भागों से *पोर्फिया विएतनेमेंसिस* तनाका एट फाम-होआंगा हो का संग्रह किया गया। टैक्सोन की आकारिकी का विस्तृत अध्ययन किया गया। वर्णन किए गए मूल प्ररूप सामग्री से वर्तमान नमूने छोटे हैं लेकिन विशाखापतनम सागर तट से वर्णित सामग्री से कुछ बड़े हैं।