

but the degree of infestation has been observed to be dependent on environment. Yellow mite appears in the field during the 1st week of June and continues to damage the apical part of the jute plants. Many workers earlier reported the attack of yellow mite in citrus², cotton¹, tea^{6,7}, coffee⁸, potato⁵, chilli³ and black gram⁴. Through continuous efforts one weed, *Physalis minima*, was found growing wildly by the side of the jute fields of Jute Agricultural Research Institute, Barrackpore during off season. So the weed has been looked upon as an alternate host of yellow mite. The mode of attacking the weed and the damage symptoms thereby are more or less as for jute crop. During heavy infestation, the weed leaves curl downwards, but these do not look coppery brown as has been observed in jute *Physalis minima* is a new addition to the list of already recorded other alternate host plants of yellow mite.

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Mass mortality of fishes due to the bloom of *Trichodesmium thiebauttii* Gomont on the Gulf of Mannar Coast

Mass mortality of a variety of fishes due to the bloom of blue green alga *Trichodesmium thiebauttii* Gomont was observed on the surface waters close to the shore of Mandapam area in the Gulf of Mannar on the 13th of June 1977. The bloom extended for a period of eight days from 7th to 14th June 1977. The oxygen levels of the sea water was found to be low in the bloom period. Enormous quantity of dead fishes were washed ashore during the peak of the bloom.

Phytoplankton of the seas have a high rate of reproduction when the conditions are congenial. If the nutrients are sufficient, light conditions optimum for photosynthesis and oxygen available in sufficient quantities, the multiplication of these cells is so extensive that large numbers emerge covering the surface of waters. As the density of the population increases the available nutrients decrease. Due to lack of nutrients they begin to disintegrate faster than the rate at which they multiplied. The multitude of the plankton organisms discolours the water very often to the virtual exclusion of other organisms. Abnormally high concentrations of phytoplankton per unit volume of water are called a bloom. These blooms have shades between red, brown, yellow and green. They may cause great destruction to invertebrate animals and fishes. There have been reports of occurrence of the bloom both in the east and west coasts of peninsular India.

Mortality of marine fauna due to the bloom of blue green alga *Trichodesmium* in the Gulf of Mannar coast was reported by many earlier workers. The occurrence of bloom of the blue green alga *Trichodesmium erythraeum* Ehrenberg is common in tropical seas. Chacko¹ reported the mortality of marine fauna due to the swarming of *T. erythraeum* on the southern side of Krusadai Island in the Gulf of Mannar in May 1942. Chidambaram and Unny² recorded mortality of marine fauna following a bloom of *T. erythraeum* on the southern coast of Pamban in May 1944 and attributed it to asphyxiation and clogging of gills of fishes by patches of the blue green alga. Prasad⁴ recorded high numbers of *T. erythraeum*

in plankton collected from Gulf of Mannar at a distance of 3.2 km. from Mandapam in March to April 1950. Mortality of marine fishes and crustaceans reared in the aquarium of Central Marine Fisheries Research Institute, Mandapam Camp in May 1968 caused by a bloom of *T. thiebauttii* was reported by James³. Qasim⁵ has expressed the view that the bloom is an effect rather than a cause of low nitrate content of sea water.

The species-wise mortality of fishes on 13.6.77 near Mandapam Camp due to the bloom of *T. thiebauttii* surrounded with decomposed sea grasses of the species *Cymodocea* are given here. Because of the heavy aquatic pollution causing oxygen depletion (0.330 mg/litre) and thereby mortality occurred.

The percentage of mortalities of the various species of fishes was estimated on the basis of visual observation and only representative samples were collected.

Species-wise mortality of fishes;

Lutianus johni (Bloch)*; *Therapon puta* (Cuvier); *Therapon quadrilineatus* (Bloch); *Callyodon blochi* (Valenciennes); *Callyodon dussumieri* (Valenciennes); *Epinephelus tauvina* (Forsk.); *Ephinephelus meera* (Bloch); *Lutianus rivulatus* (Cuvier); *Lutianus fulviflamma* (Forsk.); *Lutianus russelli* (Bleeker); *Abudefduf sexatilis* (Vaigiensis); *Acentrogobius ornatus* (Ruppell); *Holocentrus rubrum* (Forsk.); *Charybdis cruciata* (Herbst); *Tetrodon leopardus* (Day); *Tetrodon immaculatus* (Bloch); *Allanetta forskali* (Ruppell); *Tylosurus crocodilus* (Le Sueur); *Gerres oyena* (Forsk.)*; *Gerres oblongus* (Cuvier)*; *Siganus oramin* (Bloch and Schneider)**; *Siganus javus* (Linnaeus)*; *Acanthurus gahn* (Forsk.); *Pleuronectes triocellatus* (Bloch and Schneider); *Caranx leptolepis* (Cuvier and Valenciennes); *Plotosus angularis* (Bloch); *Mugil cephalus* (Linnaeus); *Mugil parsia* (Hamilton-Buchanan).

The effects of *Trichodesmium* bloom on eggs and larvae of pelagic fishes, have not been assessed at present. Observations made on the bloom of *T. thiebauttii* which was noticed in the inshore surface waters in the

*25% mortality ; **50% mortality.

area for a period of 7 days between 8th and 14th June 1977. In the shore, the blooms occurred in a stretch of about 5 to 25 metres in width of Mandapam Camp and extended upto 50 km. distance at Kilakarai in the Gulf on Mannar Coast. During the period of *Trichodesmium* bloom, the salinity of the surface sea water varied between 31 to 33‰, temperature between 31.5°C to 32.8°C and oxygen 0.301—1.697 ml/litre.

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Coprinus lagopus as potent saprophytic Colonizer of pigeon pea in soil

Saprophytic colonization of any substrate by the basidiomycetous forms in the beginning of decomposition is a rare phenomenon. During the course of investigation on the effect of temperature on competitive saprophytic ability of *Fusarium udum* Butler, using pigeon pea root and stem bits as substrate, we observed *C. lagopus* as potent and frequent saprophytic colonizer of the substrates along with the test organism. This association is noteworthy for future studies on mode of their mutual survival and interaction. *C. lagopus* also produced fruiting bodies under the laboratory conditions.

The following experiments were set up for the present investigation. To study the competitive saprophytic ability of *F. udum*