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Colouration of water was noticed during September 2002 from Kozhikode south beach towards Kannur for a stretch of 25 km along the coastal area. Analysis of water and plankton samples revealed that this was due to algal bloom. Three algal blooms were found during this month. Mass mortality of fishes and mussels occurred due to the algal bloom.

The first algal bloom was noticed off Kozhikode on 3rd and 4th September 2002 and mass mortality of fishes was reported from Kozhikode to Kannur from

Mass mortality of green mussel (*Perna viridis*) along Kozhikode coast during algal bloom.

Dead fish washed ashore along Kozhikode coast due to algal bloom.

5th of September. Several species of fishes were washed along the coast, while eels were found floating in the Puthiappa Fishing Harbour at Kozhikode. The water in the region was red coloured, slimy in nature with foul smell. Fishes came to the surface gasping for oxygen. This colouration of sea water was due to the presence of large concentration of *Noctiluca* spp. The oxygen deficiency which results during the swarming of *Noctiuca* spp. led to the mortality of marine fauna. Water became slimy by decaying *Noctiluca* spp. causing mechanical obstruction to the movement of fish. Due to water currents these algal blooms moved towards the shore and away from the coast.

The second algal bloom occurred on 14th and 15th of September along south Kozhikode coast upto Puthiappa Harbour, 8 km along the coast. Mass mortality of small fishes to fish weighing upto 10 kg was noticed along the coast. It was found that water turned green due to the presence of micro algae *Hornellia marina*. Mortality of fishes like *Epinephellis malabaricus, Otolithes argenteus, Kowala coval, Anchovila heterobus, Nemipterus japonicus* and *Mugil speilleri* were observed.

The third bloom occurred on 21st and 22nd of September and subsequently massive death of green mussel (*Perna viridis*) was found from Kozhikode beach upto Puthiappa Harbour for two days. This bloom was also due to *Hornellia marina*.

Though algal blooms of low intensity were common in this region, after south-west monsoon, heavy bloom and mass mortality of large quantity of fishes and mussels were not noticed. The successive three blooms reported during Sep. 2002 may be attributed to the delayed south-west monsoon and intermittent showers followed by bright sunshine. Additional factors which assist the bloom are upwelling which continues till November and enrichment of coastal waters by nutrients due to flushing of monsoonal rain. Massive blooming results in sudden depletion of oxygen which caused the death of fishes and mussels.

The dissolved oxygen content of water during the month ranged between 0.96 to 1.67 ml/L which was much below the normal level of 4 to 5ml/L. Water temperature was 22.4 to 26°c which is much below the normal level (28 to 30°c). This low temperature of water was the indication of upwelling water reaching surface during the algal bloom period. pH ranged from 7.21 to 7.57. Salinity did not show any apparent change. Nutrient values of nitrate, nitrite and phosphate also recorded high during this period.

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