

New red tide specie detected off Sepanggar

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KOTA KINABALU: Marine scientists at the Borneo Marine Research Institute (BMRI) of Universiti Malaysia Sabah have identified a new specie of red tide in Sepanggar Bay.

Prof. Datin Dr Ann Anton, who heads the harmful algal bloom (HAB) research group at BMRI, disclosed that scientists are studying the recent red tide in order to determine the factors that caused them and eventually to examine the ways and means of preventing the blooming of harmful algal species.

The on-going studies include finding innovative methods of identifying the species for early detection of the blooms, studying the ecology of the red tide species and measuring the ocean currents, which help in dispersing the red tide blooms.

The red tide which began last week caused the water to be reddish in colour due to the presence of *Cochelodinium polikrikoides*, one of the species that causes red tide.

This species does not produce harmful substances (toxins), but kills fishes through asphyxiation or lack of oxygen due to the gills being clogged by the cells.

Consumption of fish that dies as a result of oxygen deprivation caused by *Cochelodinium polikrikoides* does not produce any health hazard for humans.

However, Dr Normawaty Mohammad Nor, a BMRI lecturer, has identified another specie of red tide in Sepanggar Bay, namely *Gymnodinium catenatum*. This species forms chains in which as many as 30 cells per chain were observed. *Gymnodinium catenatum* is known to produce a toxin that causes fish deaths.

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Call to monitor harmful specie

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The toxin, commonly known as Paralytic Shellfish Poison or PSP, are readily accumulated by mussels and oysters and when affected shellfish are consumed by humans they can cause neurological and gastrointestinal problems, and in severe condition may result in death.

PSP toxins are also produced by *Pyrodinium bahamense* var *compressum*, another red tide species commonly found in the west coast of Sabah's coastal waters.

Gymnodinium catenatum blooms have been reported in

North America, Europe, Australia, China, New Zealand, Japan, Singapore, the Philippines and Indonesia.

The symptoms for the PSP include a variety of gastrointestinal and neurological symptoms. Symptoms for a mild case include headache, nausea, vomiting, diarrhoea and a tingling sensation around the lips, gradually spreading to the face and neck.

However, in an extreme case of PSP, the symptoms are much more severe. A person may experience muscle paralysis, respiratory difficulty and death may occur between two

and 24 hours after ingestion.

Meanwhile, BMRI Director Prof. Dr Saleem Mustafa, suggests the relevant agencies need to include monitoring this harmful alga - *G. catenatum* in coastal waters of Sabah and to intensify research on the chemistry of the toxins produced by it.

He said the poison produced by *G. catenatum* could be easily accumulated by suspension feeders like mussels and oysters, and when affected shellfish are consumed by humans, they can cause neurological and gastrointestinal disorders.