GAMBIERDISCUS TOXICUS AND CIGUATERA

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In 1977, Yasumoto et al. found ciguatoxin-like and maitotoxin-like toxins in samples of algae containing large amounts of ***Gambierdicus toxicus***. Up to this date this benthic dinoflagellate is considered as the main toxin producer yielding to ciguateric fishes via the marine food chain.

We have conducted a study of *G. toxicus* populations at **Saint Barthélémy** from 1985 to 1987. Because this **Caribbean island** is highly affected by **ciguatera fish poisoning**, it is a good model for studying the link between *G. toxicus* toxicity and poisoning incidence.

We have found that *G. toxicus* was located all around St Barthélémy at low cell densities from 5 to 500 cells per gram of wet macrophytes, with perhaps a maximum of abundance in Spring. Photonic and electronic microscopy showed no difference in regard to **Pacific specimens.**

Using the mouse bioassay (intraperitoneal injection), toxicities of crude methanolic extracts (mostly MTX) were found to be very close (1000 cells of *G. toxicus* are necessary to kill a 20g mouse within 24 h.), whereas after separation on silicagel column, the toxicity of the chloroform-methanol (9:1) fraction (CTX-like) was higher in the caribbean sample (around 1% instead of 0,1%). This difference may be due either to a lost of toxicity of the **Gambier** strain during the culture period or to the presence of different bacterial communities. Research is in progress to elucidate this point.

Our study could be summarized by : **- high incidence of ciguatera in both Gambier islands and St Barthélémy but -large cell density, low CTX-like toxicity in the former, -low cell density, higher CTX-like toxicity in the latter. Therefore both toxicity and abundance of *G. toxicus* should be taken into account for evaluating the role of *G. toxicus* in ciguateric areas.**

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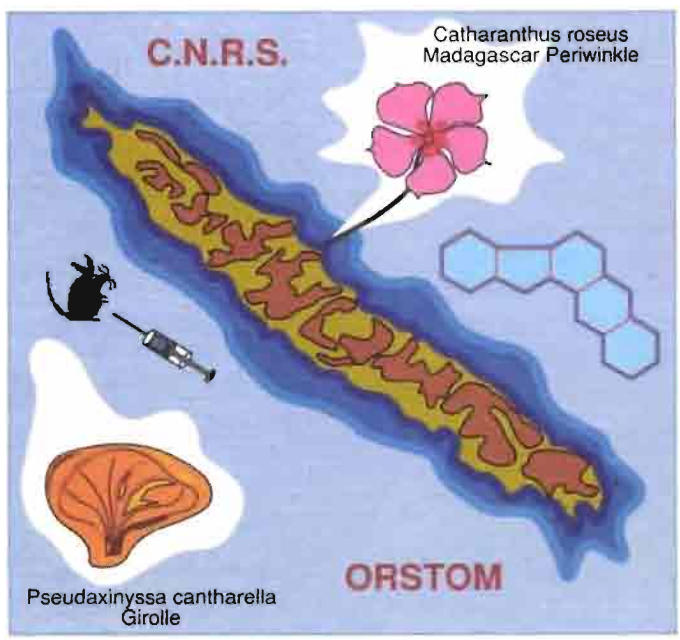

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