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ON THE MECANISM OF RED TIDE OF TRICHODESMIUM [1] IN RECIFE NORTHEASTERN BRAZIL, WITH SOME CONSIDERATIONS OF THE RELATION TO THE HUMAN DISEASE, "TAMANDARÉ FEVER"

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1. *Trichodesmium* Ehrenber = Skujaella J. de Toni.
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3. *Trichodesmium erythraeum* = Skujaella erythraea (Ehrenb.) De Toni, J.

INTRODUCTION

It is known that the colour of suspended larger particles, if present in great abundance, can give colour to the sea. In this case, the colour is not determined by the optical properties of the water or by dissolved matter, but by the colours of the suspended inorganic particles, and the water is appropriately called "discoloured".

The discolourations of the water by plankton have been called "red water", "white water", "green water", "pink water" and other names by the natures of those appearance. The terms "red water" and "red tide" have been used inclusively for the red discolourations and for those of other coloures.

After the first scientific observations of the discoloured sea water by Scoresby (1820), Charles Darwin (1839) reported the red water of **Trichodesmium sp.** in the waters off Chile during his cruise in 1832. After these reports, the discoloured water had become one of the most interesting problems of the marine biologists. Actually, the red water (often more brown than red), which is quite frequently observed in many areas and after which the Red Sea and Vermilion Sea (Gulf of California) have been named, is well known to be due to abundance of certain algae (in the Red Sea, **Trichodesmium erythraeum**) or dinoflagellates.

However, this field has not yet been fully explored, as the phenomena are usually of eratic ocurrence. Then, most of the published reports on the red tides are of the annual occurrences in relation to influences upon fishing.

One of the notable examples in the open sea is "Yakumizu", off the west coast of the northwest district in Japan. During the "Yakumizu", there were no good fisheries, perhaps, by the avoiding movement of fishes, and it has been written with the Japanese symbols of the meaning of disease water. But after is disappeared, there were generally very good fisheries, and therefore it, "Yakumizu" of the same pronunciation, is also written with other Japanese symbols of the meanings of useful or medical water.

The discolouration was brown-green of colour of coffee and was derived from chaetoplankton bloom.

Another famous example is the "baccy juice ("striking water" of "weedy water") off the north parts of the English Channel in the North Sea, which is constituted of **Phaeocystis** of **Rhizosolenia**. The baccy juice was reported to have exclusive effect through which herring showed avoiding reactions from England to the Dutch coast or encontrarily.

Besides the exclusion effect in the open sea areas, explosive phytoplankton blooms of the red tide in the inlets,