

upwelling of water some hundreds of years old (as proved by carbon dating), and very rich in nutrient material.

But what of the dinoflagellates? Less abundant on the whole than diatoms in New Zealand waters, they too can suddenly bloom, giving rise to what fisherman know (and dread in some parts of the world) as red tides. Their cell walls are made up on plates fitted together to form a mosaic. Each organism has two flagella, one encircling the main part of the cell in a deep groove, the other trailing behind out of a small groove. The two commonest genera are Ceratium, with three long horns, rather like an anchor, and Peridinium, with two projections, often conical in shape, at the base. The dinoflagellates, especially a globular, animal-like form called Noctiluca, may produce a brilliant luminescence at night.

Very little is known yet about the tiniest flagellates, most of which require oil immersion to be seen at all. But there is no doubt that herein lies a profitable field of research, and one which of necessity must be followed up in the near future. Dr. Richard Norris, a Fulbright scholar from Minnesota, U.S.A., has already begun valuable work in this field here at the N.Z. Oceanographic Institute, Department of Scientific and Industrial Research.

A word about collecting phytoplankton - you will need a very fine-meshed conical net, with about 200 meshes to the inch, made of bolting silk or nylon. A jar can be tied in at the base of the narrow end to avoid the expense of a special plankton bucket. Material is best examined fresh, but if some time is going to elapse between collecting and examining under the microscope, it is as well to add 3-5% neutral formalin. Preservative helps to concentrate the organisms present, otherwise centrifuging may be necessary.

If any further information is required, I cannot recommend too strongly the excellent book by Professor A. Hardy: "The Open Sea - The World of Plankton", published in the New Naturalist Series.

---

(Members who are able to acquire Professor Hardy's delightful book are indeed fortunate. Apart altogether from the value and interest of the letter press, the volume is illustrated by fine photographs and also by very fine colour reproductions of Professor Hardy's exquisite water colours of the strange and often extremely beautiful creatures he has collected from "the vasty deep". If you can't buy this book, borrow it! Ed.)

---

We are indeed glad to receive a communication from our good friend, Mr. Ross McKenzie of Clevedon, and as usual it is an interesting one. Mr. McKenzie is concerned about the distribution of our two native species of Weinmannia, which are both endemic.