INSTRUCTIONS FOR COLLECTING ALGAE

by Maxwell S. Doty

Algal forms of three categories should be sought in particular:

1. Algae that are prospectively important in the structure of reefs, in the filling of lagoons or in contributing to the sand of which the non-volcanic islands are formed;

2. Algae of use to the natives;

3. Soil algae that contribute to the binding of the sand, humus formation, or nitrogen fixation.

Algae of the first category should be sought on the reef, encrusting coelenterates and rocks, or waving free in the water or on lagoon bottoms. Algae of the second group are to be obtained with the aid of local guidance as to names and uses. The algae of the last category appear as strands, scums and crusts that vary from elusive stains to tar-like crusts of various colors or black. They appear on sand, dead wood or in pools, both on dry land and in the water. Labels indicating, in these respects, the roles of the different algae collected will greatly enhance the value of the collection.

There are two methods of preservation recommended. The simplest is drying the algae in the shade in clumps or spread on paper or leaves. Drying will be hastened by the elevated temperatures above a heater (e. g. Coleman lantern). When dry or nearly so, the algae should be wrapped with their labels in bundles and packed so as to prevent crushing. The second and better method for field use is "pickling" in ten per cent formalin in water, ten per cent sea water formalin being used for marine forms. "Alcoholic specimens" are good.

It is feasible to set aside a can of four per cent formalin to which, in the course of other work, the different kinds can be added, as found, until it is felt that a representative collection from the area has been obtained. Most phycologists working in the Central Pacific recently have sealed their specimens in tin cans with a can sealer, as in the process of home canning. This method is greatly superior to older field methods, as it avoids breakage and leakage, and identifying marks painted or scratched on the can are permanent. Algal herbarium specimens mounted on herbarium sheets or mica are, of course, most welcomed.

Preserved algae may be shipped mixed with other preserved materials such as fish or invertebrates, but take measures to prevent the rock-line corallines from crushing the more fragile forms. It is desirable but not essential that the algal collections be kept separate. Again: The value of a collection will be inestimably enhanced if labels will include information relative to the roles outlined in the first paragraph above, or information which will show critical consideration of distribution.