

The other, to making observations upon life, history, and structure in the case of plants where special knowledge is concerned.

In the first of these the botanist must necessarily be largely helped by the assistance to be obtained on board ship from the officers and crew, working under his guidance and close supervision. When time and opportunity are wanting for making complete collections, preference should be given to the phanerogamic vegetation.

In the second he will have to depend upon his own resources, and will therefore require that the mere process of collection does not make too great demands upon his time, although in itself exceedingly important, and by no means to be neglected.

The general directions for travellers, printed in the Admiralty Manual of Scientific Inquiry, will of course be kept in view.

Especial stress must, however, be laid upon the necessity of obtaining information about the vegetation of oceanic islands. These are, in many cases, the last positions held by floras of great antiquity; and, as in the case of St. Helena, they are liable to speedily become exterminated, and therefore to pass into irremediable oblivion when the islands become occupied.

Of many that lie not far from the usual tracks of ships, absolutely nothing is known, whilst of the flora of a vast majority we possess most imperfect materials. The following are especially worth exploring; and to the list is added an indication of the least explored coast lines of the great continents. As far as possible complete dried collections should be made, not only of each group, but of each islet of the group; for it is usually the case that the floras of contiguous oceanic islets are wonderfully different. Of those in italics the vegetation is absolutely unknown, or all but so.

1. ATLANTIC OCEAN. Cape Verde Islands, Tristan da Cunha, *Fernando Noronha*, *Trinidad*, and *Martin Vaz* (off the Brazil coast), *Diego Ramirez*, S. Georgia. The African coast between Morocco and Senegal, the Gaboon, and Damara Land offer the most novel fields. On the American coast, Cayenne, Bahia to Cape Frio, Patagonia.

2. WEST INDIES. The Bahamas and St. Domingo and the Antilles have been very imperfectly explored, except Dominica, Trinidad, and Martinique. On the mainland, Honduras, Nicaragua, and the coast region of Mexico, the Mosquito shores and Guatemala offer rich fields for botanical research.

3. INDIAN OCEAN. The Seychelles, *Amirantes*, Madagascar, Bourbon, *Socotra*, St. Paul's, and Amsterdam Islands, *Prince Edward* and *Marion* and *Crozet* groups. Of the E. African coast to the north of Natal no part is well explored, and the greater part is utterly unknown botanically.

4. PACIFIC OCEAN. 1. N. TEMPERATE. Collections are wanted from N. Japan and the Kuriles and Aleutian Islands. 2. TROPICAL. Considerable collections have been made only in the Sandwich Islands, Fiji Islands, Tahiti, and New Caledonia; from all of which more are much wanted. The Marquesas, New Hebrides, *Marshall's*, Solomon's, and *Caroline's*, together with all the smaller groups, are still less known. Of the American Continent, the Californian Peninsula, Mexico, and the whole coast from Lima to Valparaiso, are but imperfectly known. Of the small islands off the coast, Juan Fernandez and the Galapagos alone have been partially botanized. 3. S. TEMPERATE. Juan Fernandez, *Masafuera*, St. Felix, and St. Ambrose, *Pitcairn*, *Bounty*, *Antipodes*, *Emerald*, *Macquarie* Islands.

5. INDIAN ARCHIPELAGO. Java alone is explored, and the Philippines very partially; collections are especially wanted from all the islands east of Java to the Louisiade and Solomon Archipelagos, especially Lombok and New Guinea. Siam, Cochin China, and the whole Chinese sea-board want exploration.

6. AUSTRALIA. All the tropical coasts are very partially explored.

Photographs or careful drawings of tropical vegetation often convey interesting information, and should contain some reference to a scale of dimensions.

An inquiry of much importance, for which the present Expedition affords a favourable opportunity, is that into the vitality of seeds exposed to the action of sea water.