

by the waves, but they nevertheless have large woody fungi growing upon them, sometimes attached so low down that they are frequently immersed in salt water. The overhanging branches are loaded with a thick growth of epiphytes; and it was necessary to wade up to the middle in order to collect specimens of orchids and ferns which hung often only a couple of feet above the water.

In other places the shore is swampy, and is either covered with mangroves or with a dense growth of high trees with tall straight trunks, so closely set that it was very sensibly dark beneath them. In such a grove near Pigeon Island, a small outlier near the anchorage, whilst the ground beneath is bare and muddy and beset with bare roots, the trunks of the trees and fallen logs are covered with a most luxuriant growth of feathery mosses and *Jungermannias*.

On one of these trunks was found a very curious and rare Fern (*Trichomanes peltatum*), known before only from Samoa and New Caledonia, the fronds of which are circular in form, and, connected by a slender rhizome, adhere in rows to the bark. They are pressed absolutely flat against the bark, so as to look like an adherent crust, and have all the appearance of a *Riccia* or some such liverwort, for which indeed they were mistaken, when gathered by shaving off the bark. A species of Adder's-tongue Fern (*Ophioglossum pendulum*), unlike the humble little English form, grows in abundance attached to tree stems with long pendulous fronds a yard in length.

Before the visit of the Challenger the botany of the Admiralty group was entirely unknown. Amongst the plants collected was a new tree-fern, and an orchid forming a new section of the genus *Dendrobium*.<sup>1</sup>

The morning after the Expedition arrived trade went on briskly, the canoes crowding round the ship, and the natives handing their weapons and ornaments through the main deck ports. The barter given in exchange was principally ordinary hoop iron broken up into pieces about 6 inches in length; but a great quantity of so-called "trade-gear" was also disposed of.

Trade-gear is regularly manufactured for Polynesian trading, and sold by merchants in Sydney and elsewhere. A stock of about £300 worth had been bought for the ship's use. It consisted of a cask of small axes, rather worthless articles with soft iron blades, butcher's knives of all sizes, some with blades 12 to 14 inches in length, Turkey red and navy blue cotton cloth, beads, trade tobacco and pipes, and other similar articles.

The islanders had possibly traded with Europeans shortly before the Challenger's visit, for they brought off their tortoiseshell ready done up in bundles, and knew the relative value of various qualities. The chief had a large European axe, apparently not procured from the ship, and many natives had hoop iron adzes. Nevertheless they must have had very little experience indeed, otherwise they would not have taken old German

<sup>1</sup> Bot. Chall. Exp., part iii., 1885.