

ORCHIDEÆ.

As an instance of what may be effected by the agency of the sea, Moseley (Notes by a Naturalist, p. 368) says: "On the shores of Little Ki Island I found on the beach, above the ordinary reach of the waves, a large mass of the pseudo-bulbs of an epiphytic orchid with its roots complete. It was partly buried at the foot of a tree, and seemed quite lively. It had evidently been washed up in a storm."

PALMÆ.

Cocos nucifera, Linn.

Notwithstanding the fact that the cocoa-nut palm is essentially a littoral tree, is now almost cosmopolitan in the tropics, and the further fact that its seeds or fruit will bear long immersion in sea-water without detriment, it is doubtful whether oceanic currents have played an active part in its diffusion. It is possible, and indeed very probable, that its present wide area is partly due to this agency. For example, the Keeling or Cocos Islands, in the Indian Ocean, do not appear to have been inhabited before 1827, when some Europeans settled there for the express purpose of exporting the products of the cocoa-nut palm, which abounded there. Darwin (Journal of Researches, ed. 1884, pp. 453, 454) states that at first sight the cocoa-nut tree seems to compose the whole wood, and the whole prosperity of the place depends upon it. He also mentions that young and full-grown cocoa-nut trees grew intermingled; so that there can be no doubt of its capability of reproducing itself abundantly unassisted in favourable situations. Another instance may be Cocos Island, off the coast of Central America, in the Pacific; yet it is strange that the cocoa-nut does not exist in the not far distant Galapagos, which lie in the course of currents running from America, and where, according to Collnett, as cited by Darwin (*loc. cit.*, p. 392), various seeds and seed-vessels are washed ashore. Moseley (Notes by a Naturalist) mentions in several places the paucity, or absence, of the cocoa-nut in certain uninhabited islands of the Molucca Sea. And Jouan (Mém. Soc. Sci. Nat. Cherbourg, xi. 1865, p. 127) has the following observations on the distribution of the cocoa-nut in connection with the vegetation of the Marquesas Islands. "Too much has been made, I think, of the influence of oceanic currents in the dispersion of the cocoa-nut, or at least to their unaided influence. The waves may well, as Forster says, and as may be seen every day, have washed ashore cocoa-nuts, which may have germinated, as any kind of soil suits it; but, as I have explained elsewhere, the cocoa-nut tree produces itself with difficulty unassisted. The nuts fall to the ground, where the greater part of them perish without germinating. It is necessary to bury them, or at least to fix them to the soil." He further states, that, according to current traditions, the cocoa-nut was planted in certain islands in the Pacific by the hand of man, while in others it is known to be of recent introduc-