marine Monocotyledon, growing abundantly in the shallow sea between the islands of Irumuti and Uchibanari. Many specimens bearing ripe fruit at the apex of the spirally-wound peduncle, were secured. These proved on examination to be *Enhalus acoroides*, Steud. (*E. Koenigii*, Rich.), a peculiar genus of Hydrocharideae, found in Malayan seas, and extending to Africa in the west, the Pacific Ocean in the east, and to Australia in the south. The linear dark-green leaves of this plant, which attain the size of more than 60 cm. by 1-1½ cm., afford sufficient food to the Dugongs (*Halicorne Dugong*), which frequent the shallow sea of the Luchuan Islands. Some of the specimens of *Enhalus* in my collection have the leaves partly bitten off by the herbivorous mammal, the skulls and teeth of which I brought home for identification, and the flesh of which I tasted and found delicious. The Luchuan name of *Enhalus* is 'Sūsanuha.'

In the same sea, growing together with *Enhalus*, I also found *Halophila ovata*, Gaudich. (*H. ovalis*, Hook. f.), in abundance. This plant is now known to extend to the Pacific coasts of the principal island (Hondō) of Japan; and I collected it myself in 1896 at a depth of between eight and eighteen fathoms in the Bay of Kagoshima, in Kiusiu in Southern Japan.

There is a specimen, collected by me in the sea of Miyako-jima, of another marine Monocotyledon, which, I think, might possibly be referred to *Thalassia stipulacea*, Koen.

TOKUTARO ITO, Tokyo.

RHIZOPHOREAE IN JAPAN.—Having paid attention to this subject for the last six years, I think it well to put on record three species of Mangroves now ascertained to be indigenous to Japan. They are *Kandelia Rheedii*, Wight et Arn., *Bruguiera gymnorrhiza*, Lam., and *Rhizophora mucronata*, Lam. In the island of Kiusiu in Southern Japan, only the first of these species is to be found; in Amami Ōshima, we have the first two species; while, in Uchinā (Okinawa or Great Luchu) and in the Yayeyama Archipelago, all the three species are to be found together in luxuriance. Thus the northern limit of Mangroves in Japan might be attributed to the coast of Kiiré in the Bay of Kagoshima in Kiusiu, and extending through Amami Ōshima and Uchinā to the Yayeyama Archipelago, where I found them as flourishing as those on the Malayan coasts.

The Mangrove-forests of Satsuma, being situated in $31^{\circ}20'$ N. lat., might be considered at least as the northern limit of Rhizophoreae in Asia. I may here state in passing, that the specimen of Mangrove collected by Döderlein in Kagoshima and determined by Professor Engler (Bot. Jahrbücher, vi, 1885, p. 63) as '*Rhizophora mucronata*' should be *Kandelia Rheedii*, on the grounds that the former does not extend beyond the Luchu proper in the north, and that in the Kagoshima Prefecture the only species to be found there is the latter species.

TOKUTARO ITO, Tokyo.

FLOATING-APPARATUS OF THE LEAVES OF PISTIA STRATIOTES, L.—This curious aquatic Aroid, commonly growing in ponds, ditches, and other stagnant waters of tropical and sub-tropical countries, has fleshy, cuneate or obovate leaves arranged in a rosette. These leaves are provided on the underside with a large swollen body, about the size of a pigeon's egg. In *Trapa natans*, L., the swimming-organ is developed on the long petiole; but in the case of *Pistia Stratiotes*, L., the leaves being sessile, the part a little above the base becomes swollen into an obovate form, and serves as a floating-apparatus. On making a longitudinal section of the leaves, this organ is found to be composed of spongy parenchymatous tissue, containing air. The upper and lower surfaces of the leaves are densely covered with minute depressed hairs, which protect the leaves from being wetted. By these means, the leaves of *Pistia Stratiotes*, L., are enabled to maintain their position above the surface of the water, the upper side is kept dry, and thus the transpiration and respiration are constantly carried on. The above observations were made on the plant growing luxuriantly in a pond in Shui in the Lūchū Islands.

TOKUTARO ITO, Tokyo.

Ito, Tokutaro. 1899. "Rhizophoreae in Japan." *Annals of botany* 13, 465–466.
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