

the cool temperate regions; Labrador, Canada, the Rocky Mountains, Colorado, etc., in America; nearly all European countries, and in the cooler parts of Asia. It is generally distributed through the British Islands, where it ascends to 2,700 feet.

A remarkable fact in the life-history of this species is the great length of time which is required for the development of the frond before it rises above the surface of the soil. On making a longitudinal section of a mature stem the embryo frond for the ensuing year is seen to be sufficiently advanced to allow of the sterile and fertile portions being easily distinguished, the former being already coloured green at the tip, even the pinnules can be recognized notwithstanding their rudimentary condition.

Enclosed in the basal portion of this embryonic frond we find the embryo for the second following year, and this again encloses the embryo for the third year following. The embryo for the second year is differentiated into sterile and fertile parts; but the component parts of the frond for the third year can scarcely be made out. It is only in the fourth year that the fronds appear above ground.

It should be added that the embryo fronds are arranged in an alternating position so that if the frond destined to rise above ground next year has the fertile portion directed to the right, the frond for the second following year will have the panicle directed to the left.

Attention was first directed to the lengthened period required for the development of the fronds rather more than fifty years ago by the late W. Wilson of Warrington, the well-known bryologist.

---

ART. XXX.—*Botanical Notes.\** By T. KIRK, F.L.S

[Read before the Wellington Philosophical Society, 16th November, 1883.]

*The Parapara.*

*Pisonia umbellifera*, Seeman.

(*Ceodes umbellifera*, Forst.)

(*P. sinclairii*, Hook. f.)

THIS plant is found in several localities north of Whangarei, both on the east and west coasts; also on the Taranga Islands, Arid Island, Little Barrier Island, and on the East Cape: in the last-named locality, possibly planted by the Maoris.

It attains its greatest luxuriance on the west coast, north of Hokianga, where it forms a tree; in other localities it forms a shrub, rarely more than 10 feet high,—usually from 4–7 feet. When growing entirely in the

---

\* These notes accompanied specimens in illustration of art. xxviii.

shade, the leaves are often from 14–16 inches long, of a deep glossy green; but in situations of this kind it rarely develops flowers. In exposed situations the leaves are much torn by the wind.

The fruiting pericarp is remarkable for its viscosity, which is usually retained for a considerable period after the fruit is fully matured. This renders it difficult to press fruiting specimens for the herbarium, as they adhere to the drying papers with remarkable tenacity. It can be readily imagined that small birds tempted to feed on the seeds might easily become glued to a cluster of fruits.

*The Puka.*

*Meryta sinclairii*, Seem.

(*Botryodendrum sinclairii*, Hook. f.)

This rare plant was originally discovered by Mr. Colenso, who found a solitary specimen planted by the natives at the head of Whangururu Bay. Mr. William Mair with great trouble procured leaves from this plant, which he sent to the late Dr. Sinclair, who forwarded them to Kew, and the plant was described as *Botryodendrum sinclairii* from these leaves alone. The natives had strictly tapued the tree, and resented the removal of leaves to such an extent that the tree was cut down by them.

The first specimens observed by Europeans in a wild state were found by the writer on the Taranga Islands\* in the early part of 1869. Only eight plants were found, and as it has not been discovered elsewhere it must be considered one of the rarest plants known.

Although at best but a small tree, rarely more than 20 feet high, and frequently much less, it produces by far the largest leaves of any New Zealand plant. Some of the leaves measured from the base of the petiole to the tip of the blade fully 30 inches by 10 in breadth, the petiole being from 8–12 inches in length. Notwithstanding the large size of the leaf, the blade is never torn by the wind, owing to the stout marginal nerve by which it is strengthened.

The plant is not in any way viscid, so that birds could not possibly become adherent either to the leaves or fruit. When the branches are wounded a peculiar resin is exuded, but not in large quantities.

The plant was introduced into Auckland gardens by means of cuttings which required considerable care and attention before they developed roots. Since then ripe seeds have been obtained, so that notwithstanding its extreme rarity the plant is not likely to be lost.

---

\* See Trans. N.Z. Inst., ii., p. 100.