

TRANSACTIONS
OF THE
NEW ZEALAND INSTITUTE.

New Zealand Angiosperms.

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[Read before the Wellington Philosophical Society, 24th September, 1924; received by Editor, 31st December, 1924; issued separately, 6th March, 1926.]

Plate 1.

Xeronema Callistemon sp. nov. (Plate 1.)

Folia disticha, ensiformia, equitantes, 60–105 cm. long., 3·5–4·4 cm. lat., acuta, multinervata, margine interiore ad basin concava. Scapus 70–120 cm. long., folius pluribus reductis. Racemus 15–30 cm. long., secundus, densiflorus. Bracteae scariosae, acutae, 1 cm. long. Pedicelli patentes, 2 cm. long. Perianthium segmentis, uninervatis, 10–15 mm. long. Filamenta rubra, 20–25 mm. long. Ovarium trigonum, stipitatum; stylus rubrus, 2 cm. long.; stigma obscure tricuspido. Capsula membranacea, base expansa, loculicide trivalvis, style, staminis et perianthiis segmentis persistentibus. Semina extus papillose, testa nigra.

Xeronema Callistemon forms large tussocks or clusters 1–2 m. in diameter, seated on huge masses consisting of the rhizomes, roots, and dead leaf-bases. The whole plant may thus be nearly 2 m. tall from the rock-surface on which it grows.

Roots filamentous with a tough woody stele and a spongy cortex, 2 mm. diam.

Leaves distichous, equitant, ensiform, acute, multinerved, almost coriaceous in texture. Base of sheath completely overlaps bases of inner leaves; inner edge concave where outer edge of the succeeding inside leaf emerges. Measurements of largest leaf collected: Length, 105 cm.; breadth above sinus, 4·4 cm.; thickness at base, 2·7 cm.

Stem, including raceme, may reach a height of 120 cm. Leaves resemble the radical leaves, but have sheaths very long and apical portion very short. Length of sheath, 25 cm.; of lamina, 9 cm. Of these 3 or 4 are present. From just below raceme to tip the bracts are simple and membranous, without sheaths, the lower of these being about 3 cm. in length. Top of stem, including raceme, dark red.

Racemes 15–30 cm. long, secund, 5 cm. diam. Bracts scarios, acute, 1-nerved, 1 cm. long. Pedicels erect, dark red, 2 cm. long. Perianth-leaves, 6, free, alternately wide (3 mm.) and narrow (1·5 mm.), 1-nerved,

10-15 mm. long, red, paler towards the tip. In the unopened flower perianth-leaves are joined along margins, but as stamens grow they are burst apart and then turn back and hang down the pedicel withered but persistent. (Fig. 1.) Stamens 6, filaments bright red, 20-25 mm. long; anthers versatile, filament attached about centre of connective, introrse, splitting along whole length of lobes, orange with a brown margin. Ovary trigonous, shortly pedicellate, green with angles dark purplish-red, lower

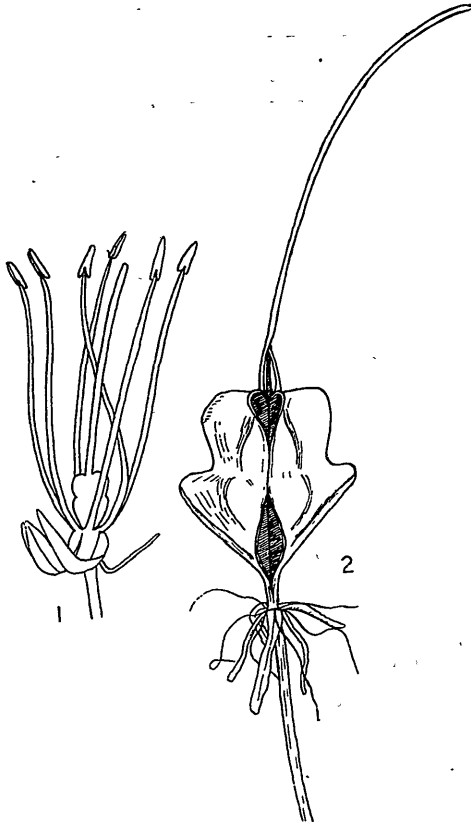


FIG. 1.—Flower of *Xeronema Callistemon* Oliver.
 FIG. 2.—Fruit of *Xeronema Callistemon* Oliver.

lobes projecting beyond upper. As fruit ripens, ovary becomes entirely of a deep purplish-red colour. Ovules many, inserted on an axile pink disc in each cell. Style red, grooved at base, grooves corresponding with the 3 sutures at angles of ovary, upper portion with 3 grooves.

Capsule splitting loculicidally above and below. Base of style also splits into 3 for a short distance. Style persistent, erect; stamens and perianth-leaves withered, persistent.

Seeds numerous, trigonous, black, inner faces smooth, outer face roughened with minute papillae.



Plant and flower of *Xeronema Callistemon* Oliver n. sp.

The present species is referred to *Xeronema*, a genus hitherto known by a single species, *X. Moorei*, from New Caledonia. *X. Callistemon* is distinguished by its much larger size, by the perianth-leaves being alternately wide and narrow, by the leaves being excavated on the inner edge, and especially by the form of the fruit, which is abruptly produced at the angles just below the centre and dehisces above and below (fig. 2). *X. Moorei* is known to me only by descriptions and figures, but I have little hesitation in describing the New Zealand plant as a distinct though closely allied species of the same genus.

Distribution: *Xeronema Callistemon* is known only from the Poor Knights Islets, off the north-east coast of New Zealand. It is there extremely common on exposed rocky faces on the higher portions of the islands. The huge tussocks can easily be seen from the sea. It was not found in the shade of the forest or near the shore.

Time of flowering: At the time of visit a few flowering racemes only were found, unripe fruit was plentiful, and a few heads of ripe capsules were collected.

Relationships: *Xeronema* now consists of two species, one occurring in New Caledonia, the other in New Zealand. The discovery of *X. Callistemon* adds another species to an interesting group which allies the flora and fauna of New Zealand to that of New Caledonia. Other genera belonging to this group are *Meryta*, *Rhabdothamnus*, *Corynocarpus*, *Agathis*, and *Knightsia* among plants, and the land-snail *Placostylus*.

According to Engler's arrangement (*Die nat. Pflanzenf.*, Teil 2, Abt. 5, 1888, p. 38), *Xeronema* is a somewhat isolated member of the Liliaceae, forming with *Herpolirion* the subsection *Xeroneminae* of the subfamily Asphodeloideae. *Herpolirion* is a monotypic genus of small herbs confined to the mountains of New Zealand, Tasmania, and south-east Australia. The characters in which these two genera agree are the free perianth-leaves, numerous seeds, and distichous leaves.

Xeronema Callistemon was collected by the Dominion Museum expedition which visited the Poor Knights Islands in December, 1924. Shortly after the party landed, Mr. H. Hamilton brought a specimen into camp, and the following day I came across a large patch near the summit of the island. Later Mr. W. M. Fraser, Whangarei Harbour Engineer, who joined the expedition during its stay in the group, and who knew of the existence of this unusual species, piloted us to where the plant grew more abundantly, and good specimens and photographs were taken.

For the opportunity of comparing specimens of *Xeronema Callistemon* with Brongniart and Gris's plate of *X. Moorei* I have to thank the Director of the Sydney Botanic Gardens.

Drimys Forst.

The usage of *Wintera* for the New Zealand species hitherto referred to *Drimys* calls for comment. Hutchinson, in the *Kew Bulletin*, 1921, p. 190, has restricted *Wintera* to the New Zealand species, and used *Drimys* for the remaining species of the genus as generally understood. *Drimys* was founded by J. R. and G. Forster in 1776 (*Characteres Genera Plantarum*, p. 84) for the two species *D. Winteri* and *D. axillaris*. The former belongs to South America, the latter to New Zealand, and both are described and figured in the work mentioned. In 1781 Linné fils (*Suppl. plant Syst. veg.*) uses *Drimys* for *D. granatensis* and *D. axillaris*. This is practically the same usage as the Forsters', for *D. granatensis* is synonymous

with *D. Winteri*. In 1784 Murray (*Syst.*, ed. 14, p. 507) founded the genus *Wintera* for *W. aromaticum* and *W. granatensis*. This clearly leaves *D. axillaris* as the type of *Drimys*. Also, it may be noted, both *W. aromaticum* and *W. granatensis* are South American species, and if the New Zealand species are separated from the others of the genus *Drimys* the name *Wintera* cannot be applied to them—it must remain with the South American species; and if the course taken by Hutchinson in selecting *D. Winteri* as the type of *Drimys* be upheld, *Wintera* would fall an absolute synonym to *Drimys*. Hutchinson's action, therefore, appears to be contrary to the principles of nomenclature. Furthermore, *Wintera* cannot be quoted as of Forster 1786 (*Prodr. Fl. Ins. Austr.*, p. 42), for in the work referred to Forster did not found a new genus, but merely listed *Wintera axillaris* among the species collected by the expedition during Cook's second voyage.

Myosurus novae-zelandiae sp. nov.

Myosurus aristatus (not Benth.) Hook. f., *Fl. Nov. Zel.*, vol. 1, 1853, p. 8; Cheeseman, *Man. N.Z. Flora*, 1906, p. 6.

Sepala 5, calcare brevi. Stamina 5. Spica oblonga, acuta, 6–18 mm. longa. Achenia breviora subaristata.

There are apparently several species of *Myosurus* found in North and South America, mainly on the Rocky Mountains and Andes. The nomenclature of the American species is somewhat involved. The species with which the New Zealand plant has hitherto been united was first described by Gay as *Myosurus apetalus*. This name was dismissed by Hooker as unsuitable because his specimens bore petals, though he afterwards referred New Zealand examples without petals to the same species. However, the New Zealand plant differs in other respects from the American species, so we are relieved of the necessity of deciding either the correctness or suitability of the name to be applied to it.

Specimens from Awatere River, New Zealand, were compared in the British Museum with the Chilean examples collected by Bridges and used by Hooker to establish Bentham's name *aristatus*. The Chilean plant was larger, with longer fruiting receptacles and longer beaks to the achenes. In the Kew Herbarium specimens from Lake Tekapo, New Zealand, were compared with specimens from the Rocky Mountains in Missouri and Oregon, collected by Geyer and determined by Hooker as identical with Gay's *M. apetalus* (*Lond. Jour. Bot.*, vol. 6, 1847, p. 498). In this case the American specimens differed in having long fruiting receptacles, and especially in possessing long beaks to the achenes. The New Zealand species has no petals, whereas Hooker states that all his American specimens possessed them. Some examples both from Chile and the Rocky Mountains approach New Zealand specimens in possessing short fruiting-heads, but in all cases the achenes have long beaks.

Nothopanax kermadecensis n. sp.

Panax arboreum (not Forst.) Cheeseman, *Trans. N.Z. Inst.*, vol. 20, 1888, p. 168. *Nothopanax arboreum* (not Seem.) Oliver, *Trans. N.Z. Inst.*, vol. 42, 1910, p. 169.

Affins *N. arboreo* Seem., sed foliis minute sinuato-serratis, petioulis breviora, umbellis minor.

A large forest-tree, 10 m. tall, with a trunk over 1 m. in diameter and a large rounded head of foliage. Leaves with a sheathing base and slender petiole; leaflets normally 7 in number, elliptic to obovate-elliptic, produced into an acute point, base usually cuneate and often unequal-sided,

margin shallowly sinuate-serrate, lower third entire, slightly wavy. Umbels compact, primary rays 3–5 cm. long, secondary rays 1–2 cm. long.

This species is closely allied to *N. arboreum* of New Zealand, and has hitherto been included with that species; but Dr. Cockayne has recently drawn my attention to its distinctive characters. It differs from *N. arboreum* in the nearly entire leaves, which are more membranous in texture, and in the compact habit produced by the shorter rays to the umbels and the shorter petiolules. Unlike the New Zealand species, it grows into a large tree.

Distribution: Sunday Island, Kermadec Group; in the damp forest on the tops of the hills.

Colobanthus mollis n. sp.

Colobanthus quitensis (not Bartl.) Hook. f., *Handb. N.Z. Flora*, 1864, p. 24; Cheeseman, *Man. N.Z. Flora*, 1906, p. 66.

Planta caespitosa; folia angusto-lineares, acuta, molles; flores tetrameres; peduncules foliis longiores.

After comparison of Chilean examples of *Colobanthus quitensis* in the Kew Herbarium with New Zealand specimens, hitherto included with the South American species, I advance the New Zealand plant as a distinct species. It is characterized by its tetramerous flowers, short flaccid acute or mucronate leaves not exceeding 15 mm. in length, usually much shorter, and by the peduncles being very short, not extending beyond the leaves. *Colobanthus quitensis*, which is found along the Andes from Mexico to Chile, and also occurs in Elizabeth Island, is a much larger plant, the leaves being commonly up to 25 mm. in length, while the peduncles are 50 mm. in length, thus far overtopping the leaves.

Carmichaelia arborea (Forster).

Lotus arboreus Forster, *Prodr. Fl. Ins. Aust.*, 1786, p. 52.

Carmichaelia flagelliformis Hook. f., *Fl. Nov. Zel.*, vol. 1, p. 51, 1853.

Forster's drawing is evidently the plant afterwards described by Hooker as *C. flagelliformis*, and, further, the locality of *Lotus arboreus* and the full description of Forster's quoted by Richard (*Voy. Astrol., Bot.*, p. 345, 1832) leave little doubt that Forster's name should be applied to Hooker's species.

Metrosideros perforata (Forst.) A. Rich.

Leptospermum perforatum Forst., *Char. Gen.*, 1776, p. 72.

Melaleuca perforata Forst., *Prodr. Fl. Ins. Aust.*, 1786, p. 37.

Metrosideros perforata (Forst.) A. Rich., *Fl. Nouv. Zel.*, p. 334.

Metrosideros scandens Sol. ex Gaertner, *Fruct.*, vol. 1, 1788, p. 172.

Further references are given in Cheeseman's *Man. N.Z. Flora*, 1906, p. 167.

The types of Forster's *Leptospermum perforatum* are preserved in the British Museum. They belong to the species generally known as *M. scandens*; and as the specific name *perforata* predates all others proposed for this species, and was taken up correctly by Richard, there seems no good reason for disregarding it.