

ART. XL.—*On a Non-flowering New Zealand Species of Rubus.*

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IN the summer of 1898 the late Mr. S. D. Barker, of Christchurch, discovered one plant of a species of *Rubus* growing on the floor of the taxad forest at Inchbonny, near Lake Brunner, Westland. He brought away some rooted pieces, which, planted in his garden, soon became well established. One piece also he very kindly gave me. This latter I managed to grow, and was soon able to distribute plants amongst certain of my friends; while one example was planted, in 1903, in the rock-garden attached to Dr. Chilton's laboratory, Canterbury College, where it is now growing luxuriantly.

The species appeared to me amply distinct from any other New Zealand form of the genus, so I gave it the provisional name of *Rubus Barkeri*, intending to describe it as soon as it should flower. For this event I have waited year by year, but up to the present time no blooms have appeared, although the original specimens were evidently taken from an adult plant. Thinking that perhaps the shady station under which it was growing at Canterbury College might affect its blooming-capability, I cultivated several examples under different conditions of dryness and exposure, but without changing its habit; also, a shoot was tied to a support, so as to imitate the liane form, but this likewise did not flower. As it is now nearly twelve years since the plant was brought into cultivation, I have come to the conclusion that it may never flower, and that the parent will be also flowerless.

Rubus Barkeri is non-climbing, and closely related to *R. parvus*, Buch., so far as habit and leaf-form go, the latter species also being abundant in the same neighbourhood. Possibly the species under consideration is a recent break from *R. parvus*, the new characters having originated by mutation. Equally possible is the chance of its being a hybrid between one or other of the species of *Rubus*, especially *R. australis* and *R. parvus*, though this view is somewhat discounted by the non-climbing habit. Both suppositions are supported by the fact of the one plant alone having been found, while its rapid vegetative increase favours the belief in its incapacity to bloom.

Whether the non-flowering depends upon the environments hitherto provided being unsuitable, as is the case with certain non-flowering plants in Europe* and elsewhere, or whether the species is actually unable to bloom, the future alone will determine. In any case, the behaviour of the plant up to the present is of interest, and seems worthy of record. The rooted pieces, as stated above, were taken from an adult plant, and should have bloomed readily and quickly had the parent been of a normal flowering habit.

Other species of *Rubus* indigenous to New Zealand behave abnormally in their blooming. *R. schmidelioides*, as I have shown,† has a juvenile

* See Kerner, "Pflanzenleben" (English translation), vol. ii, pp. 453-63.

† "Report on a Botanical Survey of the Waipoua Kauri Forest," p. 28, 1908.

form distinct from the adult; the former, though attaining great dimensions, never flowering, and being chiefly a plant of the forest-floor; but the latter, as a liane, having gained a more advantageous position with regard to the illumination, flowers abundantly. Here, then, the hygrophytic form is the non-flowering, thus resembling *R. Barkeri*. In the case of *Rubus cissoides*, var. *pauperatus*, the opposite occurs. This plant, when growing as a shrub in the open, its leaves reduced to midribs, rarely, or probably never, flowers; but where sheltered, or when a liane in the forest, its leafy shoots blossom abundantly. That the leafy and leafless forms of this species are one and the same my culture experiments have fully proved.* *Rubus subpauperatus*, which has an identical growth-form with the xerophytic form of the last-named species, and grows in its company, flowers more or less freely. From the above examples it may be seen that there is no general rule as to the causes favouring flowering, or the contrary, in the New Zealand *Rubi*.

Rubus Barkeri, sp. nov.

Fruticulus prostratus ramosissimus, ramis inermibus v. paulum aculeatis gracilibus elongatis radicanibus, foliis 3- raro 1-foliatis circ. 14 cm. longis, foliolis lanceolatis circ. 3-8 cm. longis basi truncatis v. inaequalibus serratis membranaceis, petiolis costisque parce aculeatis pilosisque.

South Island: Westland—near Lake Brunner, on the forest-floor: S. D. Barker!

The species is closely allied to *Rubus parvus*, Buch., but differs in the trifoliate leaves with lanceolate leaflets and not simple linear leaves, serrate rather than dentate leaf-margins, non-blooming habit, and greater size in all its parts.

The terminal leaflet is the largest, measuring about 7.6 cm. by 2.8 cm., the size of the smaller lateral ones being about 6 cm. by 2.1 cm. The leaves are pale green on the undersurface, but above vary much in colour according to the season of the year and the exposure to light. This is most marked in autumn and winter, when the colour is bronzy with a lustrous sheen, or various shades of purple. Even in summer the coloration of the upper surface is striking. Where the light is dim the leaves remain green.

This beautiful leaf-coloration, the habit of the plant, and the ease with which it can be cultivated, make Barker's *Rubus* a quite important decorative plant, especially for rock-gardens, where in the future it will doubtless become a universal favourite.

Rubus parvus exhibits a similar coloration, but to a much lesser degree.

* Trans. N.Z. Inst., vol. xxxiii, p. 293, 1900.