

evergreen forest on coastal sand sites. The inflorescence consists of an umbel of 20-60 flowers borne on a peduncle about 300 mm long. The tubular, pendulous flowers are dark orange with green tips, but vary from pinkish yellow to dark red. *Clivia mirabilis* Rourke, only described in 2002, is unusual in that it is found on dry sites. *Clivia caulescens* R.A.Dyer is one of the rarer species. The other two species are swamp clivia or Pondoland clivia (*Clivia robusta* B.G.Murray, et al) described in 2004, and it's smaller cousin, Major Garden's clivia (*Clivia gardenii* Hook.), which is the subject of this article.



Fig 1. *Clivia gardenii*, Kawau Island, 31 May 2005

Clivia gardenii is cultivated in Auckland by *Clivia* enthusiasts, and it is represented in the Auckland Botanic Gardens. Keith Hammett has made a hybrid, 'Winter Glory' by crossing *C. miniata* x *C. gardenii*, flowering June-July. The flowers of *Clivia gardenii* appear in late autumn/early winter and are pendulous, orange in colour, the petals tipped with green, and stigma and stamens strongly exserted. The bright red fleshy berries follow the flowers and are eaten by birds.



Fig 2. *Clivia gardenii*, Kawau Island, 31 May 2005

On 31 May 2005 I found *Clivia gardenii* at Mansion House Bay, Kawau Island. It was growing in colonies under pines, not far from the Mansion House, but far enough to suggest the plants were wild (AK 294269).



Fig 3. *Clivia gardenii* fruit, Auckland Botanic Gardens, 4 June 2005

The genus *Furcraea* (Agavaceae) in the Auckland region

Mike Wilcox

This article was prompted by observations of *Furcraea* growing wild on Kawau Island and in Scandrett Regional Park, Rodney District. Flora of New Zealand Vol III (Healy and Edgar 1980) mentions the wild populations of Mauritius hemp (*Furcraea foetida* (L.) Haw.) on Kawau Island, and so does Gardner (1993), pointing out that both smooth-leaved and spiny-leaved plants are found. Buchanan (1876) mentions that Sir George Grey introduced *Furcraea* to Kawau Island, probably to trial as a source of commercial fibre. Interestingly, Buchanan mentions two species on

Kawau – *Fourcroyia gigantea* (now *Furcraea foetida*), and *Fourcroyia flavavirides* (now *Furcraea selloa* K.Koch). It is my contention that there are two species on Kawau – *Furcraea foetida* and *F. selloa*, and that *F. selloa* also grows wild quite extensively on the headland at Scandrett Regional Park.

The genus *Furcraea* is in the family Agavaceae (order Asparagales), which also includes *Agave*, *Arthropodium*, *Beschornea*, *Chlorophyton*, *Herpolirion*, *Hosta*, *Yucca*, and several other genera. *Furcraea*

comprises c. 20 species, distributed from southern Mexico to northern South America. They are large monocots with sword-shaped pliable (rather than succulent as in *Agave*) leaves and often huge inflorescences with pendant flowers, and commonly reproduce by vegetative bulbils which arise on the inflorescence.

Three species of *Furcraea* are generally seen in the Auckland region, either wild or as cultivated plants.

Furcraea parmentieri (Roezl ex Ortgies) García-Mendoza
(syn. *Furcraea bedinghausii* Koch, *Fourcroya roezlii* André, *Yucca parmentieri* Roezl ex Ortgies)

A native of Mexico. There are several specimens at the Auckland Botanic Gardens, and a spectacular clump in Riverside Road, Orewa. It is not uncommon in Auckland for landscaping of succulent gardens. John Pettit has it in his garden at North Cove, Kawau Island, where it flowers. The leaves are usually blue-grey, 60-120 cm x 5-10 cm, in a dense rosette, sword shaped, rigid, out curving, flat, acuminate, sand-papery beneath, and unarmed with thorns but having finely scabrid leaf margins. Eventually a trunk may be formed up to 1.8 m high. The flower head can reach 5 – 8 m. Forms with tall trunks have been known as *Furcraea roezlii*, and those with shorter trunks as *F. bedinghausii*. *Furcraea parmentieri* has not been recorded wild in New Zealand, but there is a patch of it at Eastwoodhill Arboretum, Ngatapa, near Gisborne, that has maintained itself by regeneration from bulbils.



Fig 1 *Furcraea parmentieri*, Orewa

Furcraea foetida (L.) Haw.
(syn. *Agave foetida* Linnaeus, *Furcraea gigantea* Vent., *F. gigantea* var. *wilmiettiana* Roemer, *Furcraea gigantea* var. *watsoniana* (Hort. Sander) Drummond)

Mauritius hemp, green aloe, giant lily. Central America. Colombia, Venezuela. Widely cultivated for fibre. Naturalised on Kawau Island, in the pines around Mansion House and at Two-House Bay, New Zealand. "Bankside", Silverdale (cult.), Auckland Zoo (cult.). In

Auckland City there are numerous plants on Mt Hobson, bordering Remuera Road. Generally without a trunk, or with a short stem to 50 cm. Leaves 40-50, broadly oblanceolate, 1.2-2.5 m long, 13-20 cm wide, rigid, flat or channelled, glossy green, with a spineless, acute tip, marginal spines absent or with just a few or very small (triangular hooked), distinct narrowing in the lower third. Flower head 8-10 m. No seed is formed, reproduction and dispersal being by bulbils which are formed on the old flower heads. On Kawau the plants flower in winter (May-July). The plants on Kawau and Mt Hobson are seemingly completely smooth, without spines on the leaf margins. The leaves of the bulbils are also completely smooth. However, John Pettit has plants sourced from Kawau that do have some leaves that have a few marginal, hooked spines in the lower part. A variety in cultivation is cv. 'Medio-picta', which has yellow striped leaves.



Fig. 2 *Furcraea foetida*, Two-House Bay, Kawau Island

Furcraea selloa K.Koch
Colombia. The most widespread *Furcraea* in cultivation. Trunk absent or short. Brown, hooked teeth, leaves 30-40 in dense rosettes, 120 x 10 -15 cm, lanceolate, rigid, bright green. Mature leaves narrowly lanceolate, margin toothed over entire edge. Stem to 1m, leaves 90-130 cm x 7-15 cm, glossy dark green (yellow margins in variegated variety), teeth antrorsely hooked, reddish brown. Axillary bulbils. Trunk to 1.5 m, leaves 30-40, 90-120 cm x 7.5-10 cm, very rigid, concave or pleated, rough underneath, marginal spines brown, 3-4 cm apart.



Fig. 3 *Furcraea foetida*, Swansea Bay, Kawau Island



Fig. 6 *Furcraea selloa*, Sandy Bay, Kawau Island

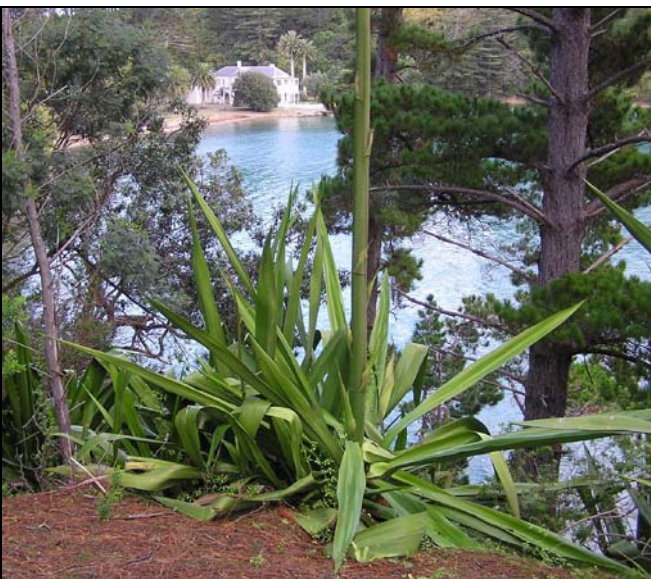


Fig. 4 *Furcraea foetida*, Mansion House Bay, Kawau Island



Fig. 7. *Furcraea selloa* 'Marginata', Western Springs

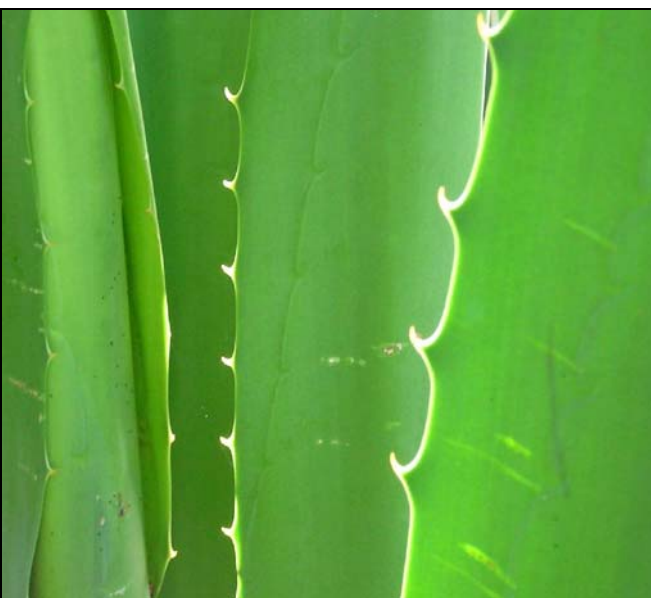


Fig. 5 *Furcraea selloa*, Scandrett Regional Park



Fig. 8. *Furcraea selloa* under pines, Kawau Island

Flower stem to 5 m. cvg. 'Marginata' has yellow leaf margins (Robin Booth, Kerikeri; Western Springs, Auckland Zoo). Leaves lanceolate, to 1.2 m × 10–15 cm, firm, roughened abaxially by small points, margins white with hard, curved teeth ca. 6 mm. Flowers ca. 4 cm; tepals white, 2.5–2.7 cm; ovary 1.4–1.8 cm. 2n =

60. Flowering mid fall-mid winter. This is the spiny-leaved *Furcraea* at Kawau and also at Scandrett Regional Park, Martins Bay, Beehive Island, and at Leigh (Omaha Cove). Cultivated examples at 67 Point Chevalier Road, and in the succulent garden by the Duck Pond in the Auckland Domain (fl. 21 July 2005).

Acknowledgements

Many thanks to Maureen Young for her interest in this investigation, and to Ewen Cameron and John Pettit for some plant records.

References

- Buchanan, J. 1876. On the botany of Kawau Island. Transactions of the New Zealand Institute 9:503-527.
 Gardner, R. O. 1993. Some plants of Kawau Island. Auckland Botanical Society Journal 48(2):23-27.
 Healy, A. J.; Edgar, E. 1980. Flora of New Zealand. Vol. III. Govt. Printer, Wellington.

Further reading on *Furcraea*

- Cave, Y. 2002. Succulents for the contemporary garden. Godwit, Auckland.
 Drummond, J. R. 1907. The literature of *Furcraea* with a synopsis of the known species. Rep. (Annual) Missouri Bot. Gard. 18: 25–75
 García-Mendoza, A.: 2000. Revisión taxonómica de las especies arborescentes de *Furcraea* (Agavaceae) en México y Guatemala.
 Green, P.S. 1994. Agavaceae, Flora of Australia 49 Oceanic Islands 1:522-526. Australian Government Publishing Service, Canberra.
 Irish, M.; Irish, G. 2000. Agaves, yuccas, and related plants. Timber Press, Oregon.
 Jacobsen, H. 1960. A handbook of succulent plants. Vol. II. Blandford Press, Poole, Dorset, UK.
 Kirby, R.H. 1963. Vegetable fibres. World Crop Books. Leonard Hill Book Ltd.

The asphalt lichen, *Xanthoparmelia scabrosa*

Mike Wilcox

It is not hard to find the asphalt lichen, *Xanthoparmelia scabrosa* (Taylor) Hale [Lecanorales:Parmeliaceae]. It grows abundantly on the edges of tar seal roads, on PVC guttering, on corrugated iron roofs, on tombstones, on steel grates, old car bodies, and on glasshouses. This foliose lichen has the thallus closely attached to the substrate, and has a yellowish-green upper surface with frequent isidia and a lower surface coloured pale tan, pinkish, or creamish-white. The margins are black, shining, entire or variously incised, and the rhizines sparse, simple, and pale brown.



Figure 2. *Xanthoparmelia scabrosa* on a road in Mangere Bridge



Figure 1. *Xanthoparmelia scabrosa* on a glasshouse in Mangere



Figure 3. *Xanthoparmelia scabrosa* on a painted corrugated iron roof, Mangere Bridge. Note the abundant, granular isidia