

## The New Zealand Forms of *Acianthus* R. Br.

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THIS is the second of a series of papers reviewing the New Zealand orchid genera. The numbers quoted in the distribution refer to Cockayne's Botanical Districts. The descriptions are from living material collected by the writer.

### *ACIANTHUS* R. Br. (including *Cyrtostylis* R. Br.)

Very slender, glabrous, terrestrial herbs, with small globular tubers. Leaf solitary, cauline or toward the base, ovate, cordate or reniform. Floral bracts minute or foliaceous. Flowers small, few or many in a terminal raceme, rarely solitary. Sepals linear, spreading, obtuse, mucronate or filiform-caudate. Dorsal sepal erect or incurved, often cucullate. Petals similar to, or shorter than the lateral sepals. Labellum concave or flat, ovate-lanceolate to linear-oblong, with 2 prominent, nectar secreting, basal calli. Column slender, incurved, often winged. Stigma orbicular-concave, high up beneath the anther. Rostellum small, with 2 triangular points, sandwiched between stigma and anther. Anther terminal, broad, erect, 2-celled, valvate. Pollinia 2-4. Pollen granular or mealy. Caudicle absent.

A genus of 20 species, 13 in New Caledonia, 7 in Australia. Varieties of 2 common Australian species extend to New Zealand. *Acianthus* appears to have originated in Australia and been wind-borne eastward from there to the islands.

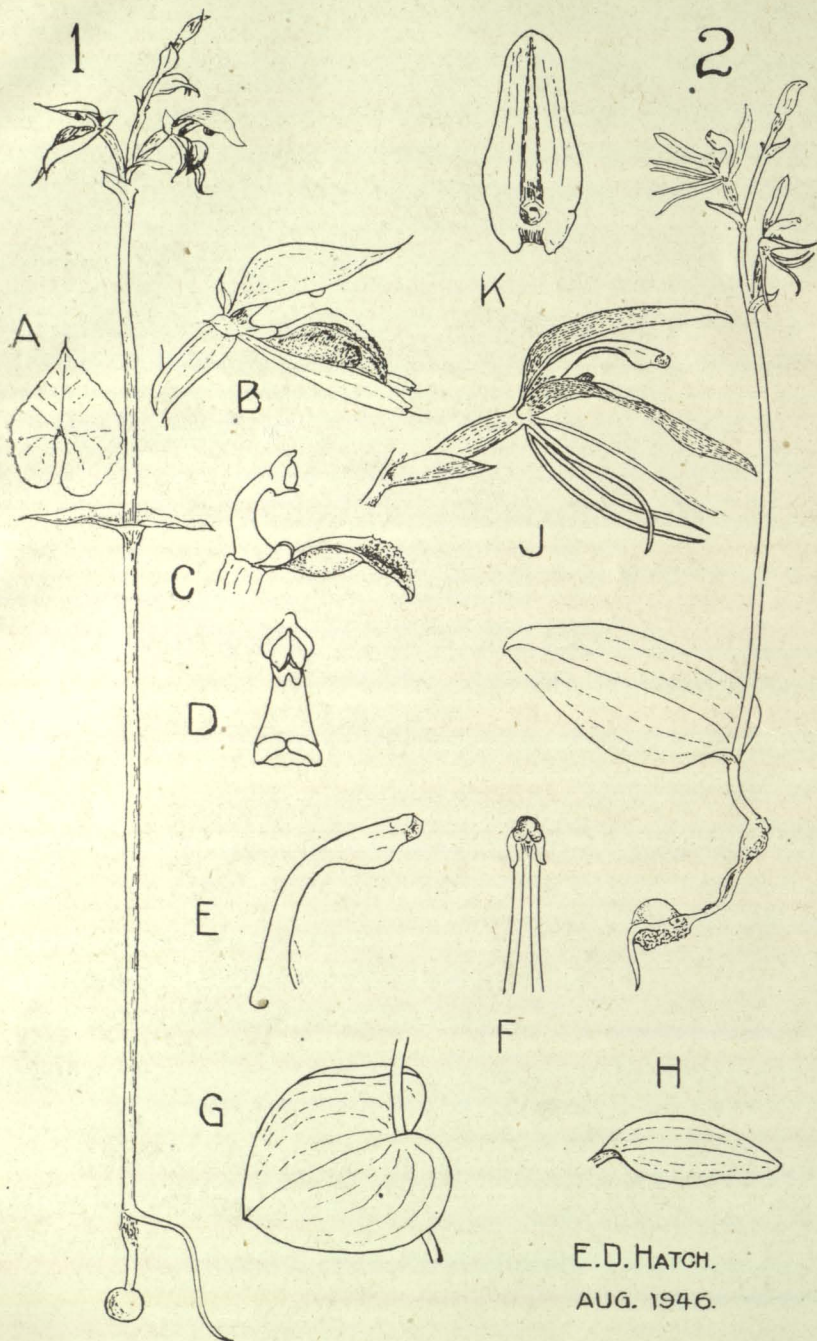
Pollination in this genus was first described by Cheeseman (*Trans. N.Z. Inst.*, 7, 1874, 349). The anther dehisces before the flower opens. the pollinia develops basal filaments which attach themselves to the rostellum. The column is incurved so as to bring the rostellum more or less over the labellar glands, which secrete nectar. In *A. fornicatus* the labellum is concave and the nectar accumulates in the depression. In *A. reniformis* the labellum is flat and the nectar is allowed to trickle down the channels on each side of the midrib. In either case the nectar attracts insects (usually *Diptera*), which crawl into the flower to suck at the basal glands of the labellum. In doing so they touch the rostellum with their heads, rupture the delicate covering membrane, and carry away the viscidia with their attached pollinium.

#### Key to *N.Z. Species*.

Leaf cauline, cordate. Labellum ovate-acuminate, concave.	
Petals much shorter than the sepals	<i>A. fornicatus</i>
Leaf basal, oblong. Labellum linear-oblong, flat. Petals	
as long as the sepals	<i>A. reniformis</i>

1. *A. fornicatus* R. Br. *Prodr.* 1810, 321.

A compound species of 2 jordanons, 1 in Eastern Australia and 1 in New Zealand.



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1. *Acianthus fornicatus* var. *sinclairii* (Hook. f.) Hh., plant natural size. A.—Leaf reduced. B.—Flower from side. C.—Column and labellum from side (after Scammel). D.—Column from front (after Scammel). B-D.—Variously enlarged.
2. *Acianthus reniformis* var. *oblongus* (Hook. f.) R. and Hh., plant natural size. E.—Column from side. F.—Column from front. G, H.—Variations in leaf form (natural size). J.—Flower from side. K.—Labellum from above. E, F, J, and K.—Variously enlarged.

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*A. fornicatus* var. *sinclairii* (Hook. f.) Hh. *Trans. R.S.N.Z.*, 75, 1945, 369.

**A. sinclairii** Hook. f. *Fl. Nov. Zel.*, 1, 1853, 245.

Slender, up to 10 cm. high. Leaf more or less midway on the stem, sessile, cordate, acute or acuminate, silvery or reddish beneath, deeply bilobed at the base, entire or constricted. Floral bracts ovate-acute, often foliaceous. Flowers up to 15, usually 2-4. Dorsal sepal ovate-oblong, mucronate, cucullate. Lateral sepals linear, mucronate or acuminate. Petals much shorter, triangular. Labellum ovate-lanceolate, deflexed, concave, with 2 prominent basal calli and the distal portion studded with minute reddish papillae. Column short for the genus, unwinged, incurved. Pollinia deeply bilobed, 2 to each anther-cell.

Endemic—colonies in forest or scrub. Flowers June to August. Sea-level to 2,500 feet.

2, 3, 4, 5, 6, 7, Kermadec and Chatham Islands, abundant; 8, 10, occasional; 16, Pegasus; Wilson Bay, 7, 1946 (E. Willa); 7, 1945 (Mrs. Willa).

2. **A. reniformis** (R. Br.) Schltr. *Engl. Jahrb.*, 39, 1906, 39.

*Cyrtostylis reniformis* R. Br. *Prodr.*, 1810, 322.

*Caladenia reniformis* (R. Br.) Reichb. f. *Beitr. Syst. Pfl.*, 67.

A compound species of 3 jordanons, 1 recorded from all the Australian States, 1 confined to Victoria and South Australia, and 1 in New Zealand.

*A. reniformis* var. **oblongus** (Hook. f.) R. & Hh. *Proc. Linn. Soc. N.S.W.*, 70, 1946, 59.

*Cyrtostylis oblonga* Hook. f. *Fl. Nov. Zel.*, 1, 1853, 246.

*C. oblonga* var. *rotundifolia* (Hook. f.) Cheesmn. *Manual N.Z. Fl.*, 1906, 685.

*C. rotundifolia* Hook. f. *Fl. Nov. Zel.*, 1, 1853, 246.

*C. macrophylla* Hook. f. *l.c.*

Very slender, up to 6 cm. high. Leaf basal, sessile, oblong, orbicular-cordate, or reniform, obtuse or subacute. Floral bracts minute, ovate-acute. Flowers up to 5. Dorsal sepal linear, erect. Lateral sepals narrow-linear, spreading, acute. Petals similar. Labellum linear-oblong, obtuse or rarely emarginate, horizontal, or deflexed. Column slender, winged, incurved. Pollinia falcate, compressed, 2 to each anther-cell.

Endemic—small colonies in open mossy places in scrub or forest. Flowers July to October. Sea level to 2,500 feet.

2, 3, 4, 5, 6, 7 not uncommon; 8, 10, 12b, occasional.

The several variations described by Hooker as separate species have proved to be inconstant and due to epharmony. Cheeseman, dealing with the fertilisation of this species in 1874, suspected that this might be the case, and subsequently reduced *Cyrtostylis rotundifolia* to a variety of *C. oblonga*. Cheeseman's observations were confirmed in detail by the writer. It subsequently became apparent that if the South Australian form of *Acianthus reniformis* was only entitled to varietal rank, then the New Zealand plant could not well masquerade as a species. Rupp and the writer accordingly adjusted the nomenclature.