



TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 193

December 2019

Deadline for next issue:
Friday 24 January 2020

SUBMIT AN ARTICLE TO THE NEWSLETTER

Contributions are welcome to the newsletter at any time. The closing date for articles for each issue is approximately the 15th of each month.

Articles may be edited and used in the newsletter and/or on the website news page.

The Network will publish almost any article about plants and plant conservation with a particular focus on the plant life of New Zealand and Oceania.

Please send news items or event information to events@nzpcn.org.nz

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Wilton
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NEW ZEALAND

PLANT OF THE MONTH, p. 2



Triglochin striata. Photo: Rowan Hindmarsh-Walls.



The team at the New Zealand Plant Conservation Network wish all members a safe and enjoyable Christmas and all the very best for the coming year. May your botanising outings turn up all you could wish for and more! Please do share your more interesting discoveries with us, so that we in turn can share them with others. Send details via email to info@nzpcn.org.nz.

NZPCN favourite native plant vote 2019

Alex Fergus

The official victor of our 16th favourite plant vote is taurepo, *Rhabdothamnus solandri*. Unlike many past winners, taurepo is not a total oddity. It does not have any urgent conservation issues, and it is not what we would consider an iconic New Zealand species. But it is indeed a lovely thing! Almost all of us who have encountered this North Island shrub are immediately drawn to it. It's round, hairy, toothed leaves sit somewhere between a lacebark and a papery version of silver beech, it's tangled mass of stems invoke *Coprosma*, but it's flowers are like nothing else and should be like nothing else as *Rhabdothamnus* is an endemic monotypic genus, and the only representative of the Gesneriaceae family in New Zealand. The solitary bell-like flowers, which can almost always be encountered as it flowers throughout the year, range from orange, through yellow, sometimes to purple or pink, and are striped lengthwise with red or dark orange veins making taurepo instantly recognisable. Congratulations to all of those who voted for this little beauty, well-deserved of its place amid New Zealand's most beloved plant species



Taurepo, *Rhabdothamnus solandri*, 2019 Favourite Native Plant. Photo: John Smith-Dodsworth.

PLANT OF THE MONTH – *TRIGLOCHIN STRIATA*

Rowan Hindmarsh-Walls

The plant of the month for December is streaked arrow-grass, *Triglochin striata*, one of two *Triglochin* species native to New Zealand. It has a very widespread distribution, and is found throughout the main islands of New Zealand, as well as on Stewart and the Chatham Islands.



Triglochin striata, Pencarrow Lakes, Wellington, 27 November 2019. Photos: Rowan Hindmarsh-Walls.

The species is a perennial herb which inhabits very damp places in the lowlands, often in muddy ground, around estuary margins, and in seepages along the coastal fringe, but can be found inland around lake margins. It is generally difficult to see due to its tiny size and its tendency to grow in amongst other species. The species is able to be fully submerged by water for short periods of time. The small rosettes have leaves that are fleshy and grass like with a membranous basal sheath. The tiny white fleshy flowers can be seen from September to January and are borne on a single erect raceme that arises from the centre of the leafy rosettes.

The species is somewhat similar to the only other *Triglochin* species found in New Zealand, *Triglochin palustris* but this species is generally much larger (up to 800mm tall) and is bulbous, with distinctly narrow-linear fruits, unlike *T. striata* which is small, non-bulbous and has round to oval shaped fruit.

Triglochin striata is native to New Zealand, with a current threat ranking of Not Threatened, as it is found across most of the country and is relatively common in the right habitat types. The species is also present in South America, North America, Africa, Australia and south Portugal. In New Zealand the species is threatened by land development such as housing developments along the coastal fringe, and the draining of the wetland areas where it is found. Weed competition may not be so much of a problem for *T. striata* as it is able to co-exist with a wide variety of species across its worldly range.

The genus name *Triglochin* means 'three pointed' from Latin *tri* 'three' and Greek *glōchis* 'projecting point'. This is in reference to the three pronged configuration of the fruit. The species epithet 'striata' means 'striated', referring to parallel lines on the plants narrow leaves.

You can view the NZPCN website factsheet for *Triglochin striata* at: http://www.nzpcn.org.nz/flora_details.aspx?ID=2277

2019 ASBS–NZPCN Joint Conference, Taxonomy for Conservation

Feedback from a sponsor

Thank you, and congratulations on your very friendly and efficient organisation of a most interesting and rewarding conference. There were some wonderful talks (in the sessions and in the field trip that we attended)—these were an absolute privilege to hear and see. It was also great to meet some of the botanists face to face that we've been engaged with.

We were delighted to have a presence and to contribute to the success of your event. We were very happy with the prominent position you gave us with our table and display—and also with your mention of us in your social media postings. The one thing we were disappointed in was that so few people came and tried the perfumes ... Noticeably absent were the men ... !!

Is it such a novel idea, or simply beyond the pale for adventurous Australasian male botanists ... ? In our conversations with those who were courageous enough to take an interest in them, and with fellow delegates on the field trip, we picked up considerable interest and appreciation.

We were particularly interested in the two behind-the-scenes tours of Te Papa and our afternoon at Otari-Wilton's Bush. What a wonderful resource you're creating there. We intend to be regular visitors and broadcast the destination among our networks.


Also we're thrilled in the contacts we've made with a number of botanists, and look forward to progressing these with further perfume developments. We value highly our association with the New Zealand Plant Conservation Network/Australasian Systematic Botany Society, yourselves and your members.

Best regards

Serena Jones

Queenstown Natural Perfumiers
queenstownperfumiers.nz



Lichens of New Zealand:	
	2019 reprint, with updated names (over 20% of the names have changed!) Still only NZ\$20.00 per copy.
An Introductory Illustrated Guide <i>Allison Knight</i> A5, 56 pp, full colour, laminated cover. NZ\$20	To order email John Knight: johnknight.otago@icloud.com Pay by Internet banking: ANZ Account No: 06-0942-0123071-00. Account name: JG&A Knight Code: <i>LichenG</i> Reference: <i>Your name</i>
This introductory guide celebrates the extraordinary diversity of New Zealand lichens with full colour images of over 250 common lichen species, plus a glossary illustrating over 60 useful identifying features. Species are divided into 4 colour-coded ecosystems and displayed in order of the three main growth forms.	Postage and packing: 1–2 copies @ \$3; 3–6 copies @ \$5; 7–12 copies @ \$7
New Zealand is exceptionally rich in lichens and harbours around 10% of the world's lichen species. They are an important, yet often overlooked, component of every ecosystem from the seashore to the mountaintops and contribute over 2000 taxa to New Zealand's biodiversity—nearly as many species as seed plants.	Be sure to include your delivery address For overseas orders email the University Book Shop at Otago: enquiries@unibooks.co.nz Proceeds will support John Child Bryophyte and Lichen Workshops and grants.

The type locality

Ian St George

First published in the *New Zealand Native Orchid Group Journal* November 2010; 118: 16. Reproduced with permission.

Whangaroa and *Acianthus rivularis* A. Cunn.

Allan Cunningham's account

Corybas rivularis was described by Allan Cunningham in 1837 as *Acianthus rivularis*[1]. After his Latin description he wrote,

“New Zealand (Northern Island). Discovered growing among moss upon rocks in the bed of a briskly running rivulet, flowing through a deep shaded ravine near Wangaroa, Nov. 1826.—A. Cunningham.—1833, R. Cunningham.”

In 1826 he had written in his diary (in a well-nigh illegible hand),

“Monday 6 Nov. Rain having set in abt. the middle part of yesterday, fell in continuous heavy showers throughout the aftn. during the night and in the earlier parts of the forenoon of this Day.—Engaged within doors.—About noon the Clouds broke, rain ceased, and the weather appearing disposed to take up, invited me to take a short walk to the forests in the neighbd.—It may be recollected that His Maj. Ship Dromedary, after visiting sevl. parts of New Zealand for timber in 1820? finally obtained her cargo of spars for First rations of the Royal Navy, from Wangaroa, which has been favoured for the vast bulk and length of the Cowdie, the only timber adapted by reason of its strength for the above purpose. Before however spars of the great dimensions required, could be convey'd from their native grounds to the ship in the Harbour of W. ___ miles distant, it became absolutely necessary to construct a road formn. for this timber carriage; the line of which being still at this date in existence altho' in many parts partially overgrown with plants, clearly shews, the labour that was *** in this preparatory work, in which bridges of ___ length were thrown over the deep creeks, thus conveyg. the mountain pines into the River—This road I traced this aftn. to the wood where these spars were cut, which led me over a ridge whose opposite declivity was densely clothed with Timber.

“I employed a few Hours of the aftn. beneath its sombre shades,—and altho' the timbers were of the prevailing kinds I was much struck with their Bulk and stature. Cowdie—Kiakaitea in the bottoms. Demm. Totarra—Laurus 2 sp.-- of the Rewa Rewa (Knightia) I at length gathered rich flowg. spns. the ornament of these woods & only sp. of Proteaceæ known to exist—I believe in New Z.—I observed the Cowdie season's capsules still on the branches of the old wood, & from circumstances I conclude this then depends on wingd seeds, in the autumn of this year (April & May) when the Cowdie cones are fully matured. A Dianella frequent on the margins of these woods furnished me with flowg. spns. and the Fuchsia in like spots ripe fruit, named ---- eaten by the Natives, who devour it with relish (altho to me insipid) because I apprehend as New Zeal. produces no fruit of real good flavour (to an European) the Natives have yet to learn what constitutes flavour or taste in fruit.— These woods were heavy with Ripogonium of which vine I gathered duplicate seeds.— I ranged long in these dark parts at the cost of much fatigue, without however advantage as no one of the Trees whose upper branches I have so often survey'd, yet presenting fructn.—in tracing however the purling rill that rapidly fell thro' the forest over a declining gravelly bed, I was exceedingly gratified by a Discovery I did not expect—it was another subject of the Orchideæ, which grew abundantly in the damp moss on the banks, which are usually in heavy rain covd. with water— It appears to be a new *Lyperanthus* and might be thus characterized. *Ad. filamentosus. folio profundicordato mucronato punctato, labio inferiora periantha. tetraphyllo. foliolis fili formibus longiforme acuminatis. labelli disco papilloso, marginale lanciforme erosocrenulatis.*” [2]

On the next page he related a further discovery: “In these moist woods I observed a few plants of the new *Pterostylis*, and also of an *Acianthus*, whose stalks bore the remains of two or three flowers—it may be one of the sp. described by Mr. B. as that of Port Jackson, but its condition was such as afforded me no char. sufft. to determine its sp. the aristo of the perianthium simply showing me its genus.” This must have been *Acianthus sinclairii*, well past flowering by November, for years confused with Robert Brown’s *Acianthus fornicatus* (Type locality Port Jackson).

Unsure where to place his new plant, Cunningham at first thought it a *Lyperanthus*—presumably from his familiarity with the Australian *Lyperanthus nigricans* R.Br. Some time later he must have decided it too was an *Acianthus*.

Certainly Allan Cunningham must also have found it at the Rainbow Falls at Kerikeri, for he wrote to Colenso after his April to September 1838 visit, asking if the latter had found, “my little darling, the subaqueous *Acianthus* of the cavern of the great falls of Keri Keri and Wangaroa.” [3]

Richard Cunningham

Seven years later his brother Richard Cunningham spent the 1833–4 orchid season in the Whangaroa region, and after Richard’s death in 1835 in Australia WJ Hooker wrote, “Cunningham commenced his botanical labours on the hills, around the harbour and valley of Whangaroa.... In those secluded dells, which are never warmed by a genial solar ray, he found several beautiful *Epilobia*, and in the rocky beds of small brooks, and growing below the surface of those rapid gurgling streams, was observed that charming little plant of *Orchideæ*, an *Acianthus*, first seen by his brother in 1826, bearing its remarkable flowers.” [4]

Captain Cruise

Where then purls the rill, or gurgles the stream, or briskly runs the rivulet that is the type locality for Cunningham’s *Acianthus rivularis*?

Richard Alexander Cruise was Captain of HMS *Dromedary*, and he left a detailed account of the ship’s 1820 visit [5]:

“March 28th.... To any one acquainted with New Zealand, the name of Wangarooa must be familiar, as being the scene of the destruction of the Boyd. This ill-fated ship sailed from Port Jackson for England in 1809, with the intention of calling at New Zealand for a cargo of spars. She had seventy persons on board exclusive of some New Zealanders, who were passengers to their own country, and amongst whom was the son of one of the chiefs of Wangarooa; he was called Tarra, but during his intercourse with the English he had laid aside his native title and taken the name of George, by which he is now universally known....

“June 21st.... Light winds and variable. In the morning the ship was towed to the heads, and afterwards warped into the harbour, and at seven P.M. anchored off the native fort, or pah.

“22d, Thursday.... At daylight the anchor was weighed, and the ship was warped to the southern side of the pah, where she was moored.

“The harbour of Wangarooa and a considerable part of the surrounding country belongs to the chief, Teperree, while George’s residence is about eight miles to the southward of where the Dromedary anchored, and on the banks of a river called the Kameemy.

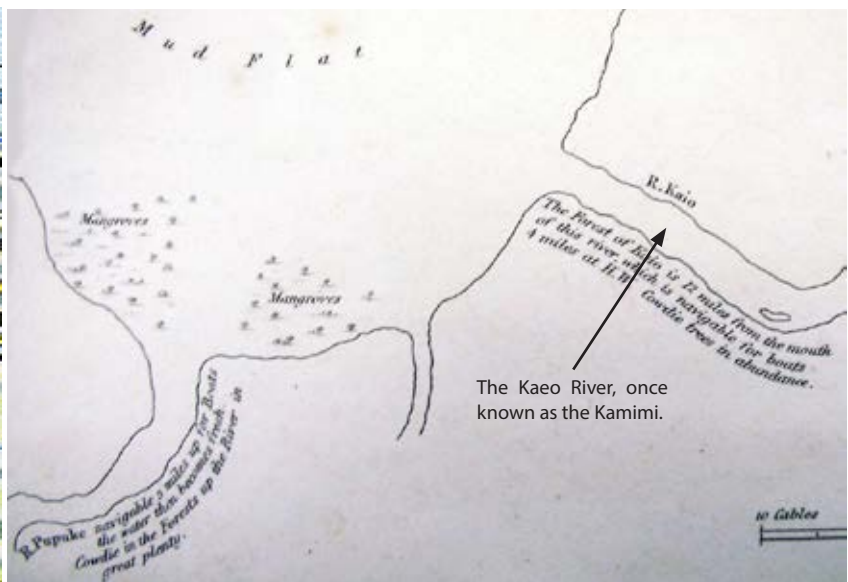
Friday June 23rd. At noon, the tide being about half-flood, we rowed to the mouth of the Kameemy, and meeting some wild-ducks upon it, we continued to pull up the stream until we found ourselves at George’s settlement. The water in many places was so shallow, that, though the boat was small, it was necessary to drag it over the shoals for some distance; nor did the launch arrive for a considerable time after. Many cowry trees grew over the steep banks that overhang the river, but they were too short to form part of the ship’s cargo; and that part of the forest, whence those of proper size were to be obtained, lay in a deep valley, or ravine, a mile and a quarter to the right. The intermediate ground was at first level, but afterwards

undulating and intersected with a swamp and a deep and rapid brook. The hill under which the trees grew thickest was steep; but it was thought that the spars, when cut and lightened by being trimmed, might be hove to the top of it, by means of a capstan, and dragged to the water's edge by the ten bullocks, with the united strength of the natives and the crew. It was therefore proposed to make a road from the wood to the river, to build a bridge over the brook, and to fill up the swamp with fascines."

Where is the Kameemy river?

The Kamimi is no longer on our maps, but an account of the *Boyd* massacre in 1810 tells us, "The Pakehas on the vessel had no idea of what was brewing. Their relationship with the Maori appeared cordial, and after three days Captain Thompson was invited to follow some Maori canoes from the up-harbour Pah (presumably Te Aara's) up the harbour and into the forest to search for some suitable kauri trees to fell. To be useful as spars, they needed to be poles which were perfectly straight, some 80ft long by 20 inches wide, and due to their size and weight, they would need to be close to the water so they could be floated down to the ship and hauled aboard with the windlass. With his chief officer and three men, Captain Thompson set off down the harbour, closely following the Maori canoes to the entrance of the Kamimi River, where it drained out of the Kaeo valley." [6]

Kamimi is thus an old name for the Kaeo river: draining the Kaeo valley, 8 miles south of the harbour entrance.



Left: Whangaroa Harbour and close environs today; the arrow marks the spot where Eric Scanlen found *Corybas rivularis*. Right: Detail of "Wangeroa Bay, New Zealand (North Isle) 1834; T. Woore HMS *Alligator* and FA Cudlip, HMSS *Buffalo*.

The *Dromedary* crew were revisiting the place where the *Boyd* had collected good kauri spars. Capt. Cruise's account of the road says "The intermediate ground was at first level, but afterwards undulating and intersected with a swamp and a deep and rapid brook." That ties in quite well with Waikoura Rd, and 1¼ miles is about right too. Thus Waikoura Rd was probably constructed on the same route as the *Dromedary's* road.

What's there now?

One of the streams running under the Waikoura Rd into the Kaeo River and thence into Whangaroa Harbour is the Pahuhu Creek, and Eric Scanlen, with several of the field trip bound for Te Pahi, found the orchid there on 3 October 2000. He said they had little hope of finding open flowers so early in its season but the first of the colony (**Fig.8**) was open on the rocky banks of the burbling brook. Other specimens were in bud at that time, with filamentous tepals still tightly coiled. Ground water seepage surely keeps the colony wet throughout the year in this steep gully, under the shade of second growth native forest where the sun never shines. The road in was private with a notice banning anyone

from entry unless on quarry business. However, the quarry was unattended this Friday and the owners hadn't replied to an email request for access, so the field party parked their cars at the end and tramped say 200m across the stream, over a spur and straight down to the orchid colony. It would have been hard to miss. In heavy rain, the stream in flood would inundate the colony, much as Allan Cunningham's first find in this vicinity. A second field trip on 2 November 2000, found "plenty of good flower" according to Eric's diary.

After various name changes the orchid is now known as *Corybas rivularis* (A.Cunn.) Hook.f. Fl. Nov.-Zel. 1: 251 (1853).

Acknowledgement

I am grateful to Eric and Gloria Scanlen for help with deciphering Cunningham's handwriting and for helpful discussion.

References

1. Cunningham A 1837. *Florae Insularum Novae-zelandiae Praecursor...* Comp. Bot. Mag. 2: 376.
2. Cunningham A 1826. *Journal in New Zealand*, 28 Aug-25 Nov 1826. Alexander Turnbull Library fMS-059-060, Vol.1.
3. A. Cunningham to W. Colenso 4 December 1838. Alexander Turnbull Library.
4. Hooker WJ 1836. *A Brief Biological Sketch of the late Richard Cunningham*, Colonial botanist in New South Wales. *Comp. Bot Mag.* 2.
5. Cruise RA 1823. *Journal of a ten months' residence in New Zealand*. Longman, Hurst, Rees, Orme and Brown, London.
6. <http://www.myrasplace.net/myra/boyd1.htm>



Corybas rivularis. Illustration: Digby Graham.

University of Canterbury summer course: Practical Field Botany

Practical Field Botany (BIOL305) is an intensive, short, summer course designed to meet the need for training in the collection, preparation, and identification of botanical specimens.

Venue: University of Canterbury - Cass Mountain Research Area, Canterbury

Dates: 21–29 January 2020

This course will be of interest to amateur botanists, members of the workforce (e.g. Crown Research Institutes, Department of Conservation, Local and Regional Councils, Botanic Gardens, horticulturists and teachers) and biology students who need to acquire or upgrade taxonomic skills and are interested in field ecology, conservation, biodiversity and biosystematics. The course is targeted at participants with various entry levels: from students with a limited plant knowledge to experienced career professionals.

Goals of the course

To enable participants to

- become familiar with the plants of the central Canterbury mountains,
- identify and name plants correctly and accurately using online and hard-copy identification keys,
- take and edit scientific-quality plant photos,
- maximise usefulness and minimise environmental impact when collecting specimens,
- prepare high quality voucher specimens of plants,
- use scientific names to access detailed information about New Zealand plants,
- understand the patterns of variation within populations,
- appreciate unique and unusual aspects of the New Zealand flora.

Enrolment from 1 October 2019

More information

Contact Matt Walters (matt.walters@canterbury.ac.nz; 03 369 5211) or Pieter Pelsler (pieter.pelsler@canterbury.ac.nz; 03 369 5228).

UPCOMING EVENTS

If you have important events or news that you would like publicised via this newsletter please e-mail the Network (events@nzpcn.org.nz):

Auckland Botanical Society

Next field trip: Saturday 15 February 2020 to Martins Bay.

Next meeting: Wednesday 4 March 2020 (includes AGM).

Wellington Botanical Society

Field Trip: Saturday 1 February 2020 to 320 Hawkins Hill Road to botanise 12 ha of mixed regenerating forest and shrubland. **Meet:** 9.00am at Brooklyn Wind Turbine car park. Car pool at car park.

Leader: Mick Parsons, email parsonsroad@gmail.com, ph. 027 249 9663.

Meeting: Monday 17 February 2020 with speaker Lara Shepherd, Research Scientist, Te Papa Tongarewa, on Kōwhai—NZ's unofficial national flower.

Venue: Victoria University, W'gton – Lecture Theatre MYLT101, Murphy Building.

Canterbury Botanical Society

Meeting: 7.30 pm, Monday 3 February 2020.

Venue: Upper Riccarton Library community meeting room, 71 Main South Road, Riccarton.

Botanical Society of Otago

Next meeting and field trip: Both in February 2020.
