



TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 202

September 2020

Deadline for next issue:
Friday 16 October 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



Cyrtostylis rotundifolia.
Photo: Jeremy Rolfe.

Outstanding systematic scientist receives Australasian award

The Botany team at Te Papa

The Australasian Systematic Botany Society has [awarded](#) botanist Wendy Nelson its highest honour, the Nancy Burbidge Medal. Wendy has made invaluable contributions to the classification and conservation of marine macro-algae (“seaweeds”) for over 35 years.

Wendy has had a long and productive association with Te Papa. During her 15 years as Curator of Botany (1987–2002), she doubled the size of the algal herbarium, adding over 10,000 new collections. The entire collection is now well identified and almost completely databased, providing unrivalled knowledge of New Zealand’s marine algal flora.

She is currently Programme Leader at NIWA, and continues to add seaweed specimens to Te Papa’s collection, being one of very few people employed in New Zealand with the detailed knowledge and ability to identify marine algae. She is also a Professor at the University of Auckland.

She advocates tirelessly for the science sector to highlight critical issues around taxonomic collections, research, training, and staff, including leading a [Royal Society review](#) in 2015 and contributing to the ongoing development of [Species Aotearoa](#). She has held a number of key science positions nationally and internationally, and has won several other prestigious awards for her research and science activism.

We congratulate Wendy, an outstanding scientist in systematics, for this well-deserved award.

Turakirae Head and *Dendrobium lessonii* Col.

Ian St George

Updated from a paper first published in the NZ Native Orchid Journal, February 2008: No.107.

In 1882 William Colenso described *Dendrobium lessonii* [1], a plant he had regarded as different from *D. cunninghamii* since 1848. The chief difference between this and *D. cunninghamii*, he claimed, was the 4-crested labellum (compared with 5 for *D. cunninghamii*), along with smaller and fewer flowers, usually only 2 on a peduncle (not a panicle), different colouring and dwarf terrestrial habit.

In 1906 Thomas Cheeseman wrote, “I cannot separate Mr. Colenso’s *D. lessonii* from the ordinary state of the plant, even as a variety” [2]. Thus *Dendrobium lessonii* Col. is presently regarded as a synonym for *Dendrobium cunninghamii* Lindl.

Colenso’s description

Dendrobium lessonii, sp. nov.

Plant epiphytal and terrestrial; an erect and pendulous, diffuse slender shrub, often much branched; *branches* 6 inches to 4 feet long, wiry, terete, hard, and brittle; main

cont. p. 3

PLANT OF THE MONTH – *CYRTOSTYLIS ROTUNDIFOLIA*

Rowan Hindmarsh-Walls (rowan.hindwalls@gmail.com)

The plant of the month for September is *Cyrtostylis rotundifolia*, one of two *Cyrtostylis* species endemic to the New Zealand region. It can be found in the lower two thirds of the North Island and the upper portion of the South Island down to northern Marlborough and north Westland. Plants are most visible when in flower from late winter to early spring. The species prefers sunny to semi-shaded habitats in scrub or open rocky areas where it can often be found as large colonies in shallow leaf litter on moderately dry clay banks. It is also occasionally found in rock crevices. Each plant consists of one fairly round, slightly oval leaf, overtopped by a flower stem with up to four flowers. The flowers are very small and narrow with green to maroon colouring and don't last for many days, although a large colony can have a portion of flowering plants over a much longer period.



Cyrtostylis rotundifolia, Attempt Hill, D'Urville Island, 21 October 2019: (left) flowering plant, (right) leaf detail. Photos: Rowan Hindmarsh-Walls.

The two New Zealand *Cyrtostylis* species are very similar in form, but the other species, *C. oblonga* generally has more oblong leaves and is found only in the northern part of the North Island. The species could also be mistaken for a spider orchid in the genus *Corybas*, as species in this genus also have similar shaped single leaves, but the flowers of *Corybas* are always single, and are generally larger.

C. rotundifolia has a current conservation threat status of 'Not Threatened', as the species is fairly common within its range. In some lowland locations it is potentially threatened by land development and competition with exotic weeds, especially grasses. The distinction between the two New Zealand species is not clear cut and there have been many taxonomic discussions around where they sit within the genus, and whether they are separate, or distinct from Australian entities within the genus.

The genus name *Cyrtostylis* means 'curved column', which is a trait of the flowers of all members of the genus. It is derived from the Greek words *cyrtos*, 'curved' and *stylos*, 'pertaining to the style'. The species epithet *rotundifolia* means 'round leaf', from the latin words *rotundus*, 'round', and *folium*, 'leaf'.

You can view the NZPCN website factsheet for *Cyrtostylis rotundifolia* at: <https://www.nzpcn.org.nz/flora/species/cyrtostylis-rotundifolia/>

stems $\frac{1}{3}$ of an inch in diameter; colour of stems and branches, some darkish-umber-brown, and some bright yellow, glossy and horny, ringed with dark scar-like joints, $\frac{1}{2}$ -1 inch apart, under the dry scarious sheathing leaf-bracts, which long remain. *Leaves*, alternate, $\frac{3}{4}$ -1 $\frac{1}{4}$ inch long, 1-2 lines broad, 3-6 lines apart, sub-linear lanceolate, or sub-ovate-acuminate, broadest near base, sessile, spreading, often falcate and twisted, coriaceous, semi-rigid, smooth not glossy, pale or yellowish green, margins entire, obscurely 10-nerved, midrib sunk and obsolete, somewhat concave, suddenly slightly thickened on the under side 1-3 lines from apex, with a slight corresponding notch in each side, tip obtuse, vaginant, sheaths truncate, longitudinally and regularly striated, and finely corrugated transversely. *Flowers*, white, membranaceous, few, scattered, usually 2 (sometimes only 1, very rarely 3) in a short loose raceme on a stoutish erect peduncle shorter than the leaves, always bursting at a right angle from the internode in the branchlet, and generally alternating with the leaves, never axillary nor opposite to a leaf; peduncle glabrous, shining, with 2-3 rather distant sheathing bracts, truncate and obtuse; pedicels, 2-3 lines long, bracteoles sheathing, acute; *perianth* nearly 1 inch in diameter, open, expanding, segments of equal lengths; *sepals*, ovate-acuminate, 5-nerved, margins entire, upper one the smallest, the 2 lateral ones with a very small round spur at their base; *petals* recurved, oblong-ovate, obtuse, with a minute point, margins also entire; *labellum* 3-lobed, the 2 lateral lobes small, oblong, obtuse, conniving, margins finely notched; middle lobe large, longer than broad, veined, sub-rotund (or subpanduriform or broadly obovate), apiculate, margin sub-crenulate with a slight notch on each side, sides conniving, and 4 longitudinal elevated and shining green (or yellow-green), lamellæ near the base, which are bluntly toothed or crested; *column* slightly winged near apex, light green; *pollen masses* yellow. *Ovary*, 2-3 lines long, green, shining, obscurely striate.

Hab. In forests, Norsewood, Hawke's Bay district, North Island, high up in the forks of pine trees (*Podocarpus spicata*), and sometimes on the ground in dry stony hills under *Fagus* trees, flowering in November; 1879-1882; also among rocks near the sea at Cape Turakirae (the south head of Palliser Bay), 1845-6: W.C.

Obs. I.—The main branches of this plant are often very regular and spread out flat, bearing a bi-tri-pinnate frond-like appearance, from the side branchlets of equal length springing at about equal distances from the main stem; a few leaves on stout and strong young shoots are 1 $\frac{3}{4}$ inch long and 2 $\frac{1}{4}$ lines broad; the branchlets and peduncles shoot alike erumpent at right-angles with the stem. Although I have (rarely) seen a raceme bearing 3 flower-buds, I have never seen one with all three open, the upper one seemed to be abortive; which is also often the case when there are but 2. In some flowers (on the same plant) the 2 lateral lobes and the extreme base of the middle lobe of the labellum, the throat and column, are dark pink; in a few others the same parts are slightly speckled with pink.

Obs. II.—I have long known this plant, and, though I early obtained specimens with a few unopened immature flowers from the rocks at Palliser Bay in 1845, and subsequently assiduously sought for good flowering specimens, I never detected any such until 1881, when my long previous suspicions of its proving to be distinct from the northern form (*D. cunninghamii*) were fully confirmed—I having well known and very often admired and gathered that elegant species in its native forests, where it is often to be met with. There is much however at first sight, and with only immature flowering specimens, to confound this species with that plant; indeed, it is only by careful examination of several fresh specimens, dissection and comparison, that their specific differences are perceived, which are chiefly in the labellum, its form and the number and size of its lamellæ (which in *D. cunninghamii* are always 5); the colour, too, of its flowers is widely different, these are also smaller and much fewer in number, usually only 2 on a peduncle, and never assume the panicle form; and also its dwarf terrestrial habit.

Obs. III.—I believe this plant to be identical with the *D. biflorum* of A. Richard, which was originally discovered by Lesson, the naturalist of the French expedition under D'Urville, in Tasman's Bay, Cook Straits, in 1827, and published by Lesson and Richard, with a very full description and a folio plate, in 1832; and, therefore, I have great pleasure in naming it after its original discoverer. That New Zealand species, however, was confounded by them with *D. biflorum* of Swartz, (then a very little known species,

discovered by G. Forster when with Captain Cook in the Society Islands), which species, though very nearly allied, bears only two lamellæ on its labellum. On R. Cunningham re-discovering the Northern New Zealand plant, (which now bears his name,) it was described by Lindley with a plate, as being quite distinct from the *D. biflorum* of Swartz. Lindley, however, believed Richard's New Zealand South Island plant to be identical with Cunningham's North Island one, *D. cunninghamii*. And I think that Sir J. D. Hooker, subsequently adopting Dr. Lindley's opinion, also believed Richard's South Island plant to be the same as our Northern one; which it certainly closely resembles at first sight in many particulars, although Richard's life-size plate with dissections shows a difference, particularly in its 4-crested labellum.

Lindley's description of *D. cunninghamii* accompanied a description and a plate of *D. pierardi*. He wrote "basi 5-lamellato".

Several specimens (many from Norsewood) are in Herb. Colenso at WELT [3], among them Colenso's earliest collection, from Cape Turakirae, sent to Hooker in July 1848, and probably collected when he was at the Cape in October 1845 on his biannual walk from Hawke's Bay to Wellington [4].

Colenso rounded Turakirae Head 19–20 April and 27 October 1847 and 28–30 April 1848. Of those the plant would have been flowering only in late October 1847, so that seems the likely collection. His diary entries:

26–27 Oct Uawa. (Village W. side Palliser Bay) (Fig.1)

27 Oct ... at Waimarara, a small stream, we halted... resuming our journey... over the heavy sands and craggy rocks, through the sea and over the cliffs and heights until nearly 9, p.m., when we reached Pitoone (Petone).

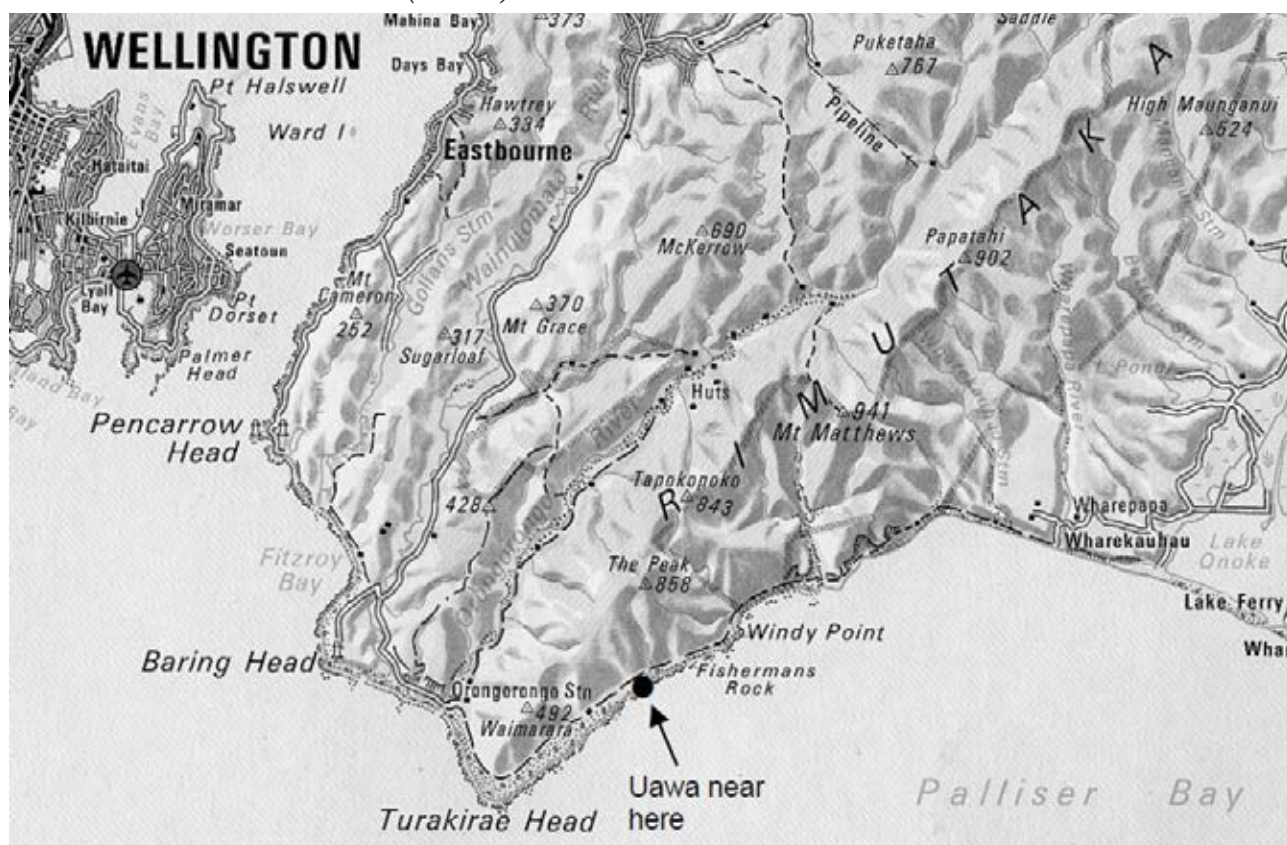


Fig.1: Map, Uawa and Cape Palliser

The Turakirae specimen is WELT no. 22584, labelled "1808 *D. saxosum*"; No.1808 is listed in Colenso's letter to Kew of July to September 1848, with the note, "*Dendrobium saxosum*, W.C., rocks at Turakirae. I had long passed this, believing it to be *D. Cunningham.*, but now I think it to be very distinct". Colenso must have wanted Hooker to accept the name *Dendrobium saxosum* Col., and was disappointed.

It was his second attempt to get Hooker to recognise the plant—# 1740 in the same letter is annotated, “*Dendrobium*, ditto (ie, clayey hills, Tararua); Epiphytical, on large trees. A sp. apparently near *D. biflorum*, certainly distinct from *D cunninghamii*: – *D. Tararuensis*, W.C.”

He must have gone on a bit about it, for there is an entry in Augustus Hamilton’s diary of 1 Jan 1883, “At two I called on Colenso.... Of the *Dendrobium* I heard the whole history. He describes it this time in the Transactions. It differs from the southern? form by only having four ridges on the lip. There is a similar species in the North, pink and having five ridges [5].

Hooker’s omissions gave Colenso the later opportunity of naming the plant for Lesson.

WELT No 24262 is also annotated by Colenso, “*Dendrobium* – Smaller plant. Leaves few – not striated, sessile, distant, blunt obscurely – 5-7?-nerved; flower never axillary 1- or 2, peduncle long, bract long, subulate; see Lindley - ?. c. spn. in bottle from North”.

WELT No 52419a has been chosen as the lectotype by Clements et al. No locality is given.

Dumont d’Urville found the plant at Astrolabe Harbour, “parasitic on trees, in NZ woods”. If that is the place we now know as the Astrolabe roadstead, it is 15km north of Motueka, between Adele Is and the coast.

Achille Richard and René-Primavère Lesson’s description of the labellum includes the words, “*in medio 4-cristatum*” (4-crested in the centre) [6]. Hooker’s description of *Dendrobium cunninghamii*, on the other hand, states “disc with five lamellae”, as did Lindley’s. Colenso was right so far.

Pierre-Adolphe Lesson’s watercolour is shown as Fig. 2 (it must be his: he was the brother who accompanied d’Urville to the South Island). D’Urville recorded the find in his 16 January 1827 diary entry:

“Among the parasitic plants, I noticed some fine *Epidendrum* or *Dendrobium*”.

The engraving made from the drawings is shown in Fig. 3. The detail of the flower at lower left shows a central sulcus in the labellar disc with two ridges to either side: 4 ridges.



Fig. 2: Watercolour by René-Primavère Lesson from his manuscript journal in the Bibliothèque Municipale de Rochefort: “Tasman Bay, Cook Strait, 27 January 1827”

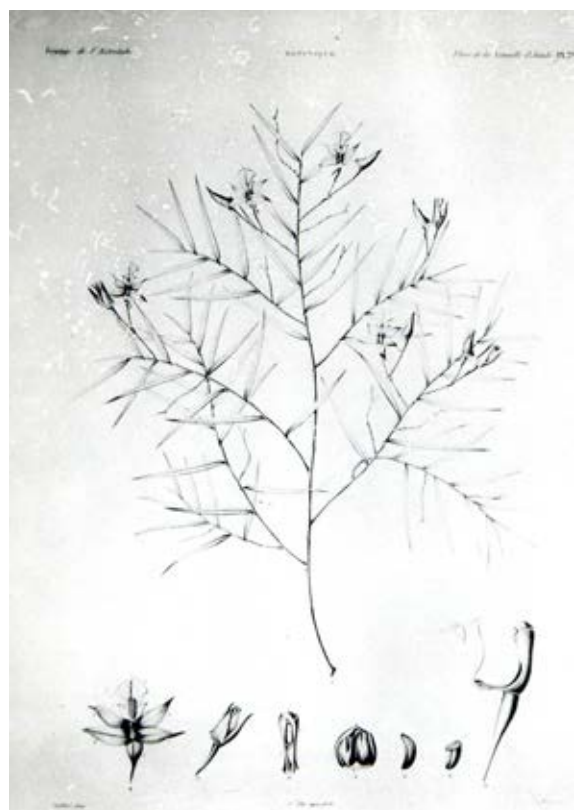


Fig. 3: Lesson’s engraving

What is at the type locality now [2008]?



Fig. 4 (left): Turakirae Head, looking SE from the Orongorongo side. Fig. 5 (right): Entry to the reserve

Turakirae Head is at the west end of Palliser Bay, extending down into the windswept Cook Strait. In the 1840s the track around Cape Turakirae was the main walkway between Wellington and the Wairarapa [7].

Its raised beach levels and massive boulders are witness to the elevation of the land in the great earthquake of 1855 (Colenso's original intended epithet *saxosum* means "of rocky, stony places"). That earthquake effectively ended the use of the track in favour of the Rimutaka Hill route.

The headland is not a hospitable place for orchids. Nonetheless on 19 November 2007 the sun was blazing down and a soft sea-breeze cleared the air. Cray floats and seals bobbed in the calm blue sea, and the snow of the Seaward Kaikouras glistened to the southwest.

Pterostylis banksii in damp spots, stunted *Thelymitra longifolia* and *Microtis unifolia* in hollows in the rocks. A fragrant *Earina mucronata* (I had never smelt it before) was flowering in a crack in one large boulder, and mats of *Ichthyostomum pygmaeum* covered large areas of others.

Then further round toward the Wairarapa I saw it: a rock as big as a house, virtually roofed with *Dendrobium* (Fig. 6). They were short, stunted plants, yellow-green, but in full flower (Fig. 7).



Fig. 6: A house-sized rock at Turakirae Head, thatched with *Dendrobium lessonii*.



Fig. 7 (right): the flower of *Dendrobium lessonii*, the central groove on the labellar disc clearly visible [inset: detail of the labellar disc of a southern plant (above) and a northern (below)]plant.

The flowers are exactly the same size and structure as those I have photographed from the South Island and around Wellington and the Wairarapa: the poor habitat has had no effect on them.

These flowers have a central groove on the labellar disc; they lack the 5th central ridge found in plants from the north, though looking back over my photographs, and others from the collections of Eric Scanlen and the late Bob Goodger, that central ridge is not completely constant in northern plants either, though all the ridges are more robust and conspicuous than in the southern plants.

Of course, nowadays a lot of northern plants end up in southern collections, and vice versa, so for a popularly cultivated plant like *Dendrobium*, only wild populations count. Bruce Irwin's drawings (Fig. 8) show the five ridges quite clearly,

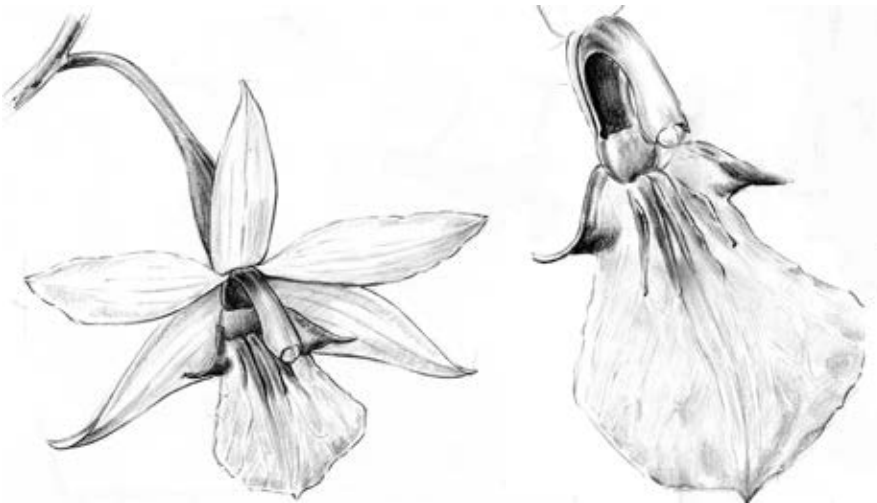


Fig. 8: *Dendrobium cunninghamii* from Bruce Irwin's drawings of New Zealand orchids. NZNOG, Wellington, 2007.

Conclusion

Four ridges or crests or lamellae? or five? A midline groove or a midline crest? Is it a critical point? Was Colenso right, and thus should we be calling the southern form "*Dendrobium lessonii*"? Or was Cheeseman right, and are these all *Dendrobium cunninghamii*?

It's a legitimate question. Some molecular biology might be helpful here.

References

1. Colenso W. Descriptions of a few new Indigenous Plants. *Trans NZ Inst.* 1882; 15: 320.
2. Cheeseman T.F. *Manual of the New Zealand flora*. 1st edition. Wellington, Government Printer, 1906.
3. St George I.M. (Ed.). *Colenso's collections*. NZNOG 2009.
4. St George I.M. (Ed.) *William Colenso: the early journals*. Wellington.
5. O'Rourke R. (ed). *A diary of the late Augustus Hamilton*. Vol III 1 Jan–28 Apr 1883. Te Papa 2005.
6. Richard A. and Lesson A-P. *Essai d'une Flore de la Nouvelle-Zelande*. In Dumont d'Urville. Voyage... De l'Astrolabe. Paris, 1832.
7. Bagnall A.G, Petersen GC. *William Colenso: his life and journeys*. Wellington, AH & AW Reed Ltd. 1948.

University of Canterbury

SUMMER COURSE—PRACTICAL FIELD BOTANY

Venue: Mountain Biological Field Station at Cass, Canterbury

Dates: 19–27 January 2021

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. It is a flipped-classroom course in which traditional lectures are replaced by field-based projects and associated workshops and discussions.

This course will be valuable for students who intend to seek employment in areas such as field ecology, conservation, biodiversity, and taxonomy or biosystematics. It will also be of interest to members of the workforce who need to acquire or upgrade taxonomic skills, e.g., from Crown Research Institutes, Department of Conservation, Local and Regional Councils, Botanic Gardens, horticulture, and teaching.

The course is targeted at participants with various entry levels from students with 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.

Please see the [Course Outline](#) for more detailed information.

Enrolment starts early October 2020

You can enrol online at [What is myUC](#) or by contacting the Contact Centre at 0800 VARSITY (827 748) or enrol@canterbury.ac.nz

For further enquiries and help with enrolling, please contact us:

Pieter Pelser (pieter.pelser@canterbury.ac.nz 03-369-5228)

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UPCOMING EVENTS

If you have events or news that you would like publicised via this newsletter please email the Network (events@nzpcn.org.nz).

Combined book launch

5:30pm, Thursday, 22 October. **Max Quinn:** polar filmmaker; **Raymond Huber:** speaking about how trees communicate. **Venue:** Hutton Theatre, Otago Museum.

RSVP: Renee Hollis (renee.hollis@exislepublishing.com) for this free event.

34th Annual Australasian Society of Phycology and Aquatic Botany conference online

Date: 23–24 November.
Registrations & abstract submissions close: 31 October.

Contact: Angela Brandt (brandta@landcareresearch.co.nz) for further details and/or a registration form.

Auckland Botanical Society

Meeting: Wednesday 14 October at 7.30pm at Auckland Museum. **Speaker:** Lara Shepherd. **Topic:** Toropapa (*Alseuosmia*) – New Zealand's most confusing plant genus?

Field Trip: Sunday (not Saturday) 18 October to north Te Henga coast, headlands and an island. **Meet:** Bethell's Beach Surf Club carpark at 10.00am sharp.

Leader: Ewen Cameron, email: ecameron@aucklandmuseum.com, ph. 09 630 2258.

Waikato Botanical Society

Meeting: Monday 19 October at 6.00pm – Speaker Nathan Smith. **Topic:** Australian plants.

Venue: The Link Centre, corner of Te Aroha Road and River Road, Hamilton East.

Rotorua Botanical Society

Field Trip: Sunday 4 October to Matawai and Moanui Conservation Areas. **Meet:** 8.00am at the Opotiki i-site/DOC office. **Grade:** Moderate.

Leader: Mike Butcher, email: mikebutchernz@xtra.co.nz, ph. 027 455 5610 or 07 315 7160.

Field Trip: Saturday 17 October to Okareka Mistletoe Restoration Project – Weed Control/Plant Releasing Work Day. **Meet:** 8.45 a.m. at the corner of Summit and Lake Roads, Okareka (lake end). **Grade:** Medium/Hard.

Leader: Paul Cashmore, email: pcashmore@doc.govt.nz, ph. 07 349 7432 or 027 650 7264.

Field Trips/Camp: Friday 30 October to Sunday 1 November – Based in Whitianga. **Meet:** (Saturday) 9.15am at Whitianga i-Site (corner of Albert and Blacksmith Streets) or 10.00am at the 309 Road Kauri Walk entrance. (Sunday) 9.00am at Whitianga i-Site (corner of Albert and Blacksmith Streets) or 9.30am at the Coroglen Pub. **Grade:** Medium.

Leader: Kerry Jones, email: km8j1s@gmail.com, ph. 07 855 9700 or 027 747 0733.

Nelson Botanical Society

Field Trip: Sunday 18 October to Wairoa for weeding. Please contact Shannel Courtney for further information.

Leader: Shannel Courtney, email scourtney@doc.govt.nz, ph. 03 546 3148.

Canterbury Botanical Society

Field Trip: Saturday 3 October to weedy sites in Christchurch.
Meet: 10.00am to carpool. Malcolm Avenue, on the corner opposite the Z Service Station, 23 Colombo Street, Thornington.
Grade: Easy.

Leaders: William Reinders and Alice Shanks. Please contact Alice, email: alice@caverock.net.nz, ph. 027 366 1246, if you intend to participate.

Field Trip: Saturday 10 October to Culverden kanuka remnants, North Canterbury. **Meet:** 9.00am to carpool. Peg Hotel, Belfast, 899 Main North Road or 9.20am at the Amberley toilets. **Grade:** Easy.

Leader: Miles Giller, ph. 03 313 5315. Please let Miles know if you intend to participate.

Meeting: Monday 2 November at 7.30pm – Speaker Dr. Ines Schoenberger (Allan Herbarium, Manaaki Whenua/Landcare Research). **Topic:** Did the authors of the Flora of New Zealand Vol IV get it wrong? - Changes in the adventive flora of New Zealand documented by herbarium collections.

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

Botanical Society of Otago

Meeting: Wednesday 14 October at 5.20pm – Speaker Dr. Angela Brandt (Ecologist, Manaaki Whenua/Landcare Research). **Topic:** The 'other half' of New Zealand's flora: how distinct are the non-native plants from the native?

Venue: Benham Seminar Room, Room 215, Second Floor, Zoology Benham Building, 346 Great King Street, Dunedin.
