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IN THIS ISSUE

Tayloria tasmanica new to the flora of New Zealand and deleted from the flora of Macquarie Island

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In late January 2013 Landcare Research botanist Colin Meurk led a group of plant ecologists on a study tour at Freshwater Flats, Stewart Island. A conspicuous but unrecognised *Tayloria* attracted Colin's attention and the plant was duly photographed (Figure 1) and collected. A few days later AJF recognised the collection as *Tayloria tasmanica*, a rare species previously considered to be a Tasmanian endemic. This note records the first well-documented record of *T. tasmanica* (Hampe) Broth. from New Zealand, speculates as to its substrate preferences, and provides evidence that an earlier report of it from Macquarie Island is incorrect.

The Stewart Island collection was made from a boggy trackside with *Campylopus acuminatus* var. *kirkii* at c. 2 m elevation. The location was c. 500 m from the Freshwater River swing bridge on the track to Fred's Camp, c. 46° 52.07′ S, 167° 55.42′ E, C.D. Meurk, s.n., 29 Jan 2013, CHR 625004, HO.

Given the interest of the find, AJF sent an email and a copy of CDM's photograph to several bryologists. A flurry of emails followed from this informal announcement of the range extension. Lyn Cave, indicating that *T. tasmanica* grows primarily but not exclusively on wombat dung in Tasmania, wondered whether *Eucalyptus* (Myrtaceae) foliage in the diet of wombats might restrict the occurrence of the species there, and wondered, by extension, about the substrate of the Stewart lsland collection.

Figure 1. Tayloria tasmanica, collected at Freshwater Flats, Stewart Island. (Photo by C.D. Meurk.)

CDM replied that the Stewart Island material was a 'serendipitous find … along a rough track on the edge of a fen swamp. The actual substrate of the moss would have been quite leached sandy material on a dune or levee adjacent to the swamps. There are Myrtaceae in the immediate vicinity — common *Leptospermum scoparium*, but no mammals eating it.' CDM removed the collection from 'an established turf — not from a clearly remembered dung heap… It wouldn't have been on a particularly fertile substrate as far as I can recall. But it was gathered on the run.'

Also in the email flurry, several workers focused on accuracy of an historical record (Goffinet 2006) of *T. tasmanica* from Macquarie Island, based on an interpretation of an 1893 collection by L. Rodway. Within a few hours the combined expertise of several workers in New Zealand, Tasmania, and the United States led to the indubitable conclusion that the provenance of the Rodway collection (in the Te Papa herbarium (WELT) in Wellington), had been incorrectly interpreted. The critical observations were Rod Seppelt's assertion that Rodway never visited Macquarie Island and Patrick Brownsey's provision of a scan of the original label (Figure 2) of L. Rodway 200, April 1893 (WELT M032030) showing it to be from Macquarie Harbour in western Tasmania, and not, as reported, from Macquarie Island. This very rapid clarification of the range of *T. tasmanica*, while incidental to the New Zealand occurrence recorded here, involved collections, databases, and bryologists at institutions in three countries and provided a good example of the value of sharing of collections data to clarify plant distributions.

Acknowledgements. We thank all who contributed to the email discussion about *T. tasmanica*, especially Patrick Brownsey, Lyn Cave, Bernard Goffinet, and Rod Seppelt. Sue Gibb helped with the curation of the collection.

Reference

Goffinet, B. 2006. Splachnaceae. *Fl. Australia* **51**: 173–181.

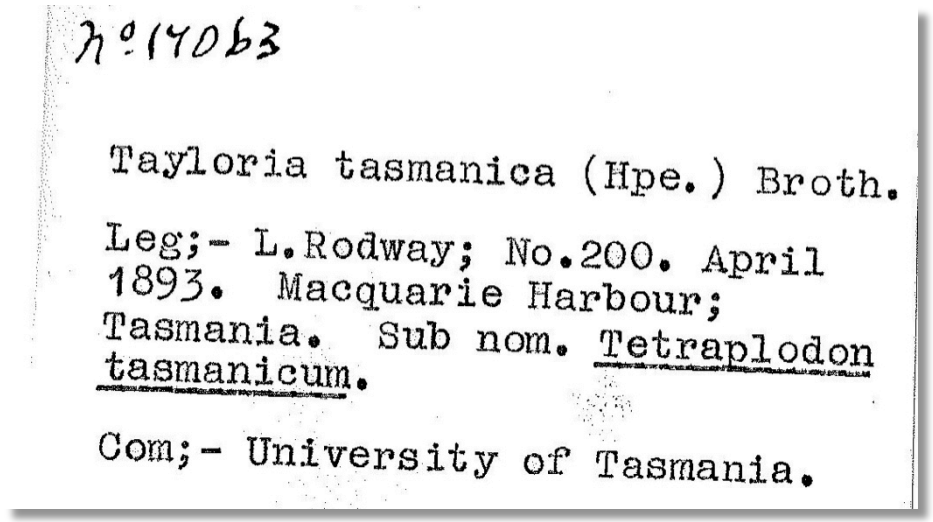

Figure 2. Scan of collection data of WELT M032030. (Scan by P.J. Brownsey.)

Embracing new technology for field records

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Principal Ecologist and Manager, O2 Ecology

Back in 1998 I undertook a study of epiphytic bryophytes on Antarctic Beech (*Nothofagus moorei*) along the higher peaks of the Queensland – New South Wales border. Recently I returned and sampled some more habitats within the beech forest. Fifteen years ago I was scrawling on damp paper packets, trying to record as much information as I could, working out coordinates from topographic maps and entering data on my return to the lab. This time I was entering data on my smart phone via a free app called EpiCollect (Figure 1) straight into a Google Cloud document. Of course I still required paper collecting envelopes, on which I jotted my collecting number, but otherwise everything was entered into my phone and then into a central repository. If someone were to say to me 15 years ago as I stood in the misty forest that I would return to the same spot in the future and use my phone for data entry, I probably would have been a bit sceptical. But here we are living in the future perfect.

Developed by the Imperial College London, EpiCollect is basically a data collection app originally designed for recoding epidemiological data, but which has been utilised for other fields (see Aanensen et al. 2009). The main drawing power is that it allows you to design a unique database and entry form for a specific project with data entered from multiple mobile phones in multiple locations as either text, single-select or multiple select options of drop down menus. The true beauty is that anyone with an Android or iPhone can download and install the EpiCollect app, install the specific project, enter data and sync the data into a Google Cloud document that is freely available to be viewed through the internet: multiple users in multiple locations all entering data simultaneously into a central repository.

The phone's GPS capability assigns the coordinates, date and elevation to the data that is recorded. For example, you may have a project covering a large area that is going to be sampled by numerous field bryologists. You can log on to the EpiCollect website, set up a new project and design a specific database and form to be used in the field. Each field bryologist with either an Android or iPhone installs the app and loads the specific project. Data can then be collected using multiple mobile phones from multiple sites with all data synchronised from the phones and viewed centrally (using Google Maps or Google Earth) via the Project website or directly on the phones. You don't even need to be in mobile coverage as the GPS functionality works no matter where you are. It's just a matter of syncing your saved field data once you get back into mobile network coverage. Did I mention that you can also take a photo of your sample and have it linked to a specific record? I have also worked out that if I hold my hand lens over the phone camera lens that I can have a make shift macro photograph (Figure 7).

Recently I created a project called QBry for recording site data for collecting bryophytes. I defined 20 fields ranging from collector(s) name and collecting number to substrate the bryophyte was growing on, rock and soil type, vegetation type, etc. The original idea was to use QBry as part of a large-scale project documenting the bryophyte diversity of Queensland (Figure 3). The app could be downloaded by national parks rangers, land managers, consultants, natural historians, etc. across the state, with data entered and samples sent to me via the Queensland Herbarium. The Google Cloud document could then be updated with a species name once I made an identification and freely available to be viewed by anyone with internet access (Figure 4). Although I am not the most computer-savvy person, I could easily design the forms and the type of data that would be entered. I'm still trialling the QBry forms, but so far so good.

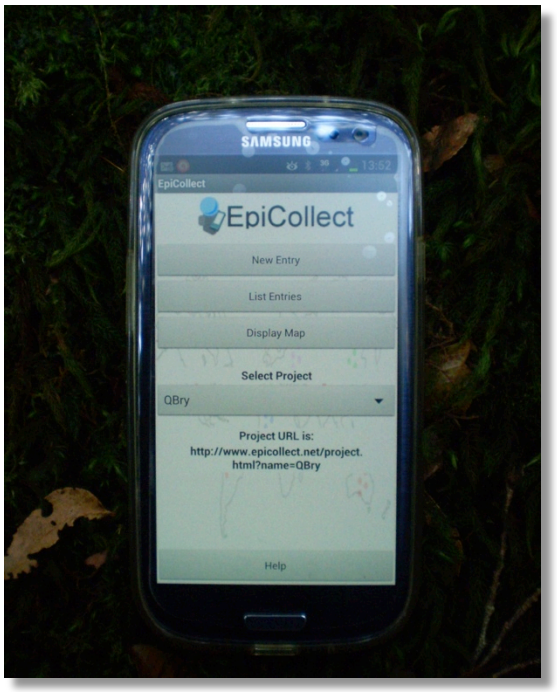

Figure 1 The EpiCollect app up and running in the field on an Android based phone.

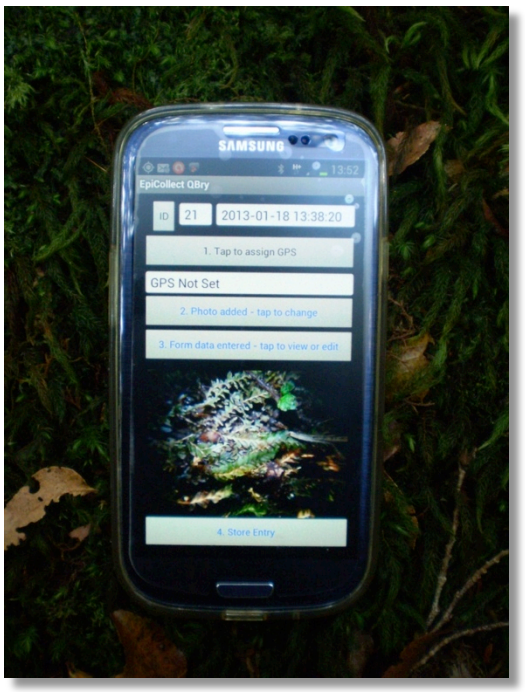

Figure 2 Action shot of EpiCollect including stored image.

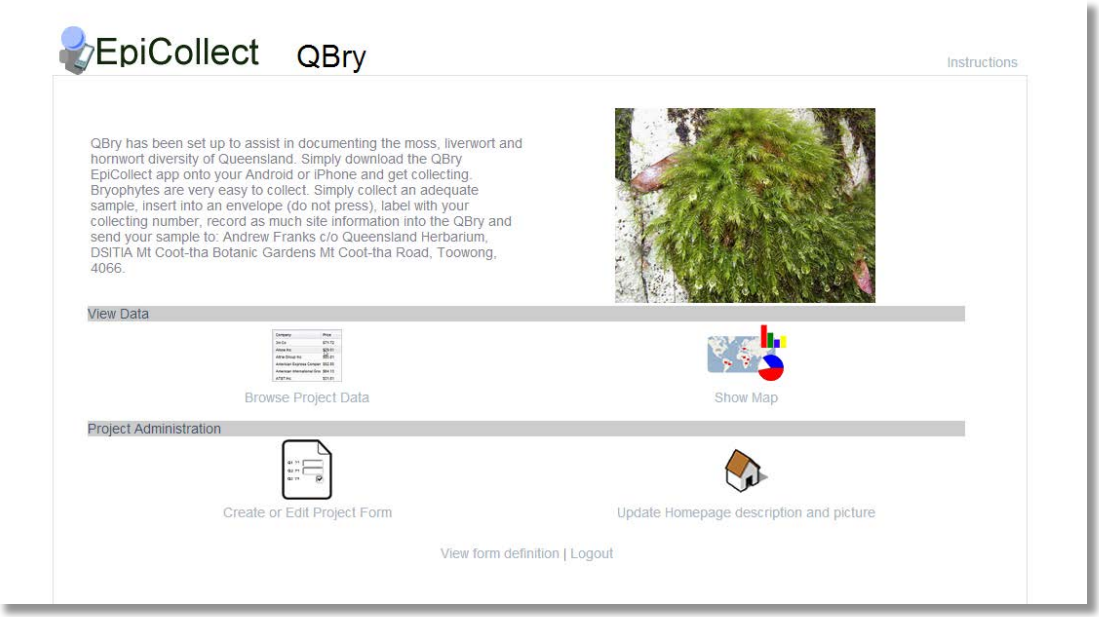

Figure 3 Screen grab of the QBry project home page.

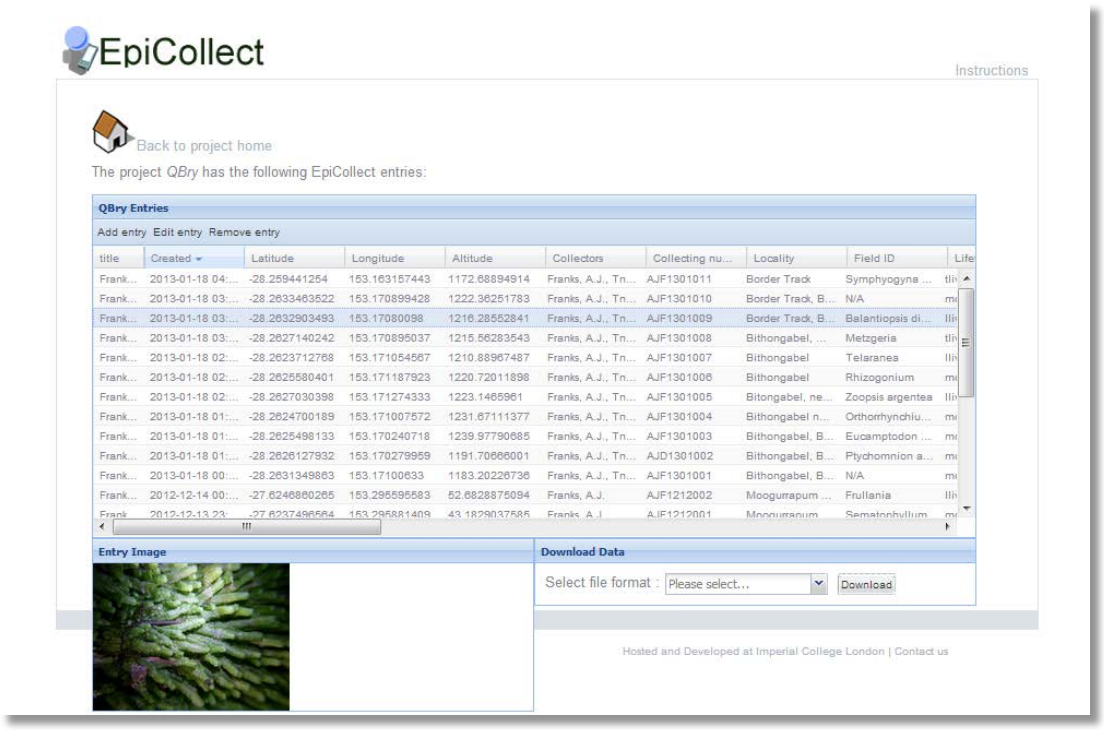

Figure 4 Screen grab of the QBry project database.

Is it perfect? Well, no. As with all technology, the main issue will be the battery life of your device. Entered data should be secure as it is saved on the phone before syncing. But your phone's battery may run out and you're left in the field with no GPS. I have heard that there are problems with some iPhone models and the menu options not corresponding correctly. I haven't had this problem on an Android phone. Elevation readings need to be interpreted with caution but GPS readings are amazingly accurate (down to 6m in accuracy under a closed canopy). Will it replace writing information on a packet? Probably not as it is time consuming entering data (there presently is no facility to duplicate previous record so each specimen collected at a site requires the data to be re-entered). However, it does simplify the traditional approach of writing notes into a field notebook to later transcribe into a database or spreadsheet by entering directly into a database that can be almost instantaneously be updated. Data can be defined to be graphically represented as either pie or bar charts (see the right-hand side of Figure 5). Clicking on a specific point either on Google Maps or Google Earth reveals all the data fields of that point in addition to any photograph linked to the record (Figure 6).

EpiCollect was developed in 2009 and since this time we have seen tablets on the rise and the many iterations of iPhones. I feel sure that some other app will appear on the horizon and have greater capabilities than EpiCollect. However, at the moment I am enjoying that novelty of being able to enter my field data while on site directly into a collection database. Now all I need to do is work on a macro to produce herbarium packets straight from the Google Cloud document. If you're interested in looking at some data I have collected using EpiCollect then please head to the QBry project website (http://epicollectserver.appspot.com/project.html?name=QBry) and have a play.

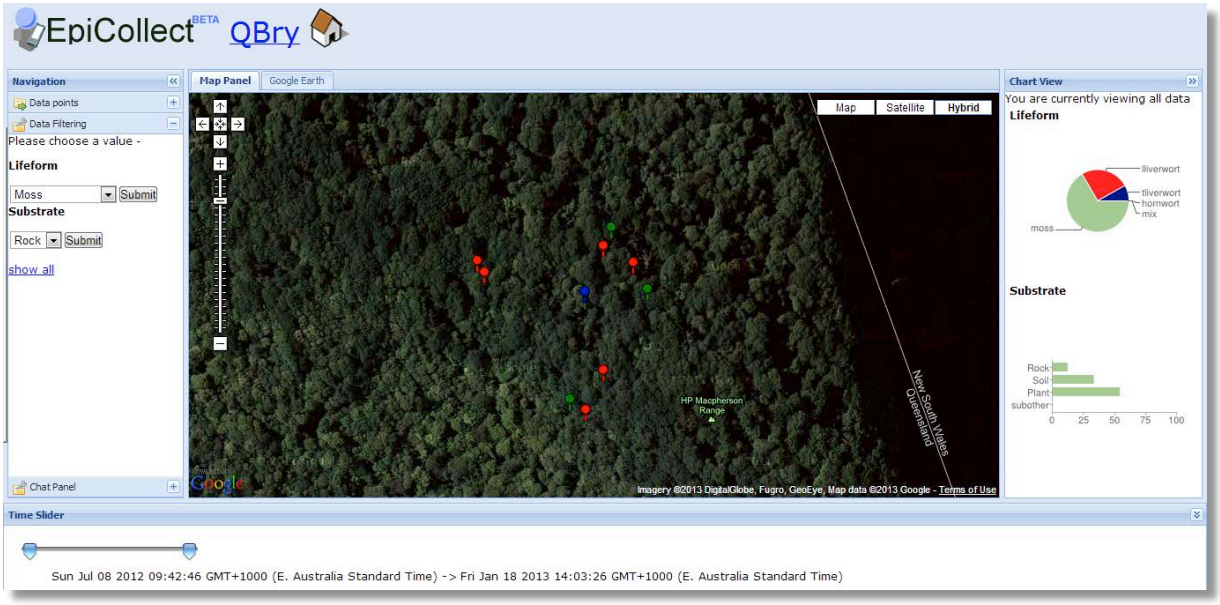

Figure 5 Collecting points from QBry represented in Google Maps (red represent a moss collection, green a leafy liverwort collection and blue a thalloid liverwort collection).

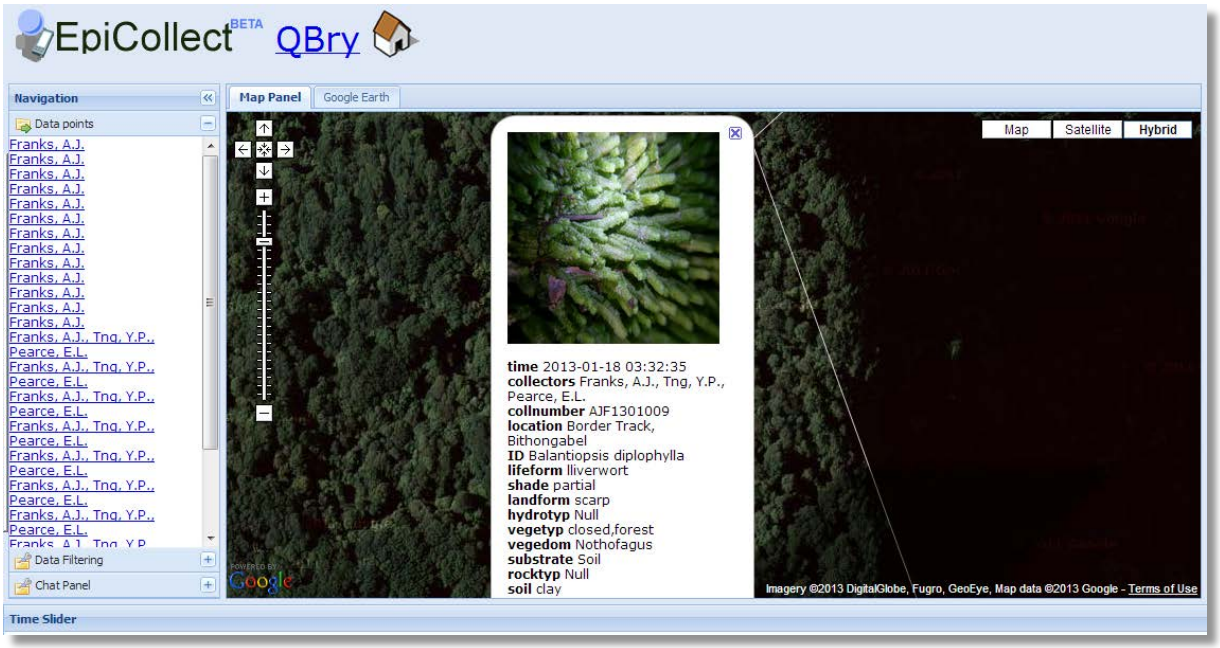

Figure 6 Clicking on a specific collection on Google Maps reveals collection data and an image if one was taken.

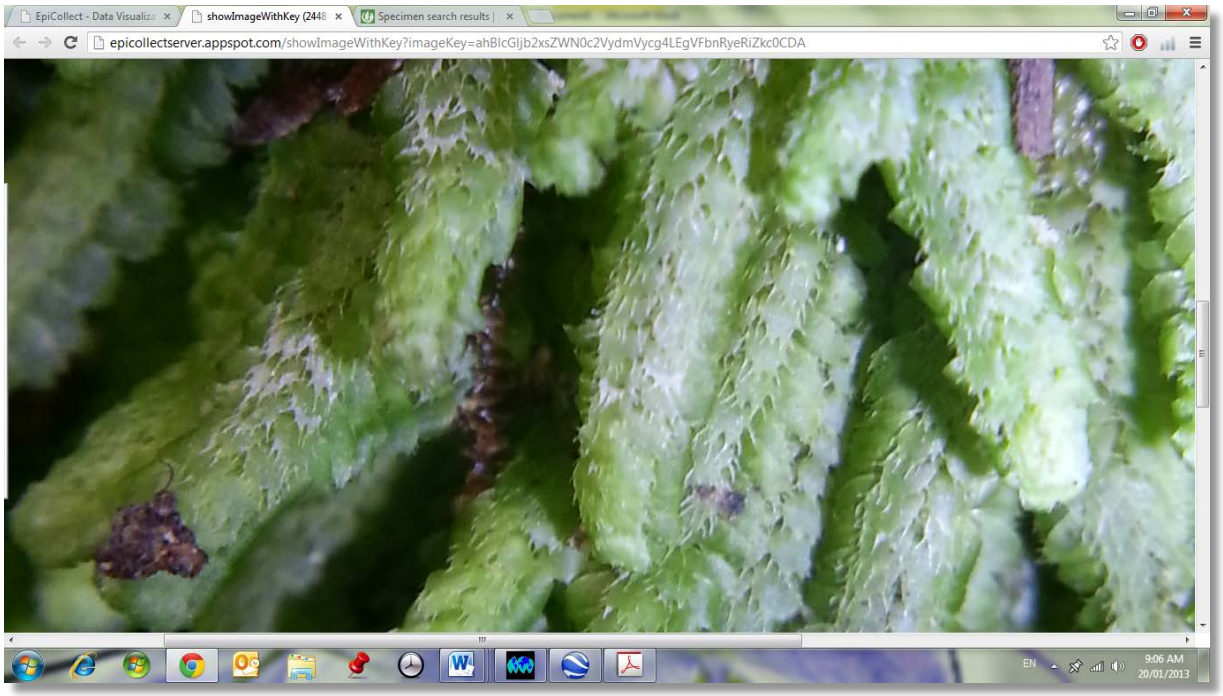

Figure 7 Makeshift macro photo taken by holding a 20× hand lens over my phone's camera lens. Not too shabby!

Reference

Aanensen DM, Huntley DM, Feil EJ, al-Own F and Spratt BG 2009. *EpiCollect: Linking smartphones to web applications for epidemiology, ecology and community data collection.* PLoS ONE **4**(9): e6968 (DOI: 10.1371/journal.pone.0006968).

A simple storage case for forceps

Superfine forceps for delicate bryological work are not cheap — a good pair might cost AU$50 — and the tips can be damaged easily. A simple way to protect forceps in storage or while travelling is to use a pocket reading glasses case, which can be purchased (with glasses) for about AU$10. You might also find empty ones in second-hand shops. One case can store two pairs of forceps. A wad of tissue paper (lint-free is best) placed in the top and bottom of the case will prevent the forceps rattling in the case. If you have access to pipette tips you can trim one to a suitable length and slip it over the closed tips of a pair of forceps for added protection, as in the upper pair of forceps in the photo.

— Andi Cairns

A note on the genus *Pterobryopsis* in Australia

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The moss genus *Pterobryopsis* (Pterobryaceae) has been known in the Australian flora since 1986, when Akira Noguchi identified a specimen collected by Heinar Streimann in the Herberton Range in northern Queensland in 1983 as *Pterobryopsis alaris* (Streimann 27225, CBG-8303026). However, the genus was not included in the *Catalogue of Australian Mosses* (Klazenga & Streimann 2002) nor in the *Key to the Genera of Australian Mosses* (Buck et al. 2002).

Pterobryopsis alaris was recently syonymised under *P. australinum*, a new combination for *Calyptothecium australinum*, which was known previously only from 'Islands of Moreton Bay' (south of Brisbane) and two localities Papua New Guinea (Yu & Jia 2012).

We recently found another species of *Pterobryopsis* in the Queensland Wet Tropics (Cairns & Meagher WT-211, Babinda Boulders Flora & Fauna Reserve, 18 May 2013, to be accessioned in BRI, CNS, MELU). In habit it resembles an oversized *Muellerobryum whiteleggei* with flagellate shoot tips (Figure 1). It appears to be *Pterobryopsis crassicaulis* (Müll.Hal.) M.Fleisch., but the costa (reaching well into the acumen) is much longer than one would expect (to about 2/3 of the leaf length) in that species (Figure 2). Until the identity is determined with certainty, it should be referred to as *Pterobryopsis* cf. *crassicaulis*.

In the Australian moss key (Buck et al. 2002) *P. australinum* should be considered if a specimen from the tropics or subtropics keys out at couplet 275 or 276. Unfortunately *P.* cf. *crassicaulis* does not key out satisfactorily anywhere, but will come out somewhere between couplets 272 and 310.

Figure 1 *Pterobryopsis* cf. *crassicaulis* (WT-211) showing shoots with and without flagellate shoot tips.

Figure 2 Leaf of *Pterobryopsis* cf. *crassicaulis* (WT-211) showing the dark alar cells, acuminate leaf apex and long costa reaching well into the acumen.

Acknowledgements

We acknowledge the traditional owners of the land on which we collected, and thank the Cairns City Council for permission to collect material at Babinda Boulders Flora and Fauna Reserve.

References

Buck W, Vitt D and Malcolm W 2002. *Key to the Genera of Australian Mosses*. Flora of Australia Supplementary Series No. 14. Australian Biological Resources Study: Canberra.

Klazenga N and Streimann H 2002. *Catalogue of Australian Mosses*. Flora of Australia Supplementary Series No. 17. Australian Biological Resources Study: Canberra.

Yu N–N and Jia Y 2012. The taxonomic status of two species of *Calyptothecium* Mitt. (Pterobryaceae, Bryopsida). *Journal of Bryology* **34**(1): 63–65.

12th Australian Bryological Workshop

Andrew Franks
O2Ecology

The Australian Bryophyte Workshop will once again heads northward and return to Queensland, where three past workshops have been held (Brisbane, Kuranda, Paluma). It will be held from 29 June to 4 July 2014 in the Central Mackay Coast bioregion, encompassing the Mackay and Whitsundays area. This bioregion is characterised by humid btropical coastal ranges and plains, with dominant summer rainfall of 1300–2000 mm per year. Workshop participants will experience habitats ranging from mesophyll and notophyll vine fores to eucalypt and melaleuca open forests and woodlands. Details will be in the next newsletter.

Workshop accommodation

Accommodation will be in shared facilities at Quandong Creek Rainforest Lodge, which borders Eungella National Park, approximately 70 km west of Mackay, Further details will be provided in the next circular.

Field trips and collecting

There will be daily field trips to a variety of ecosystems, including upland and lowland rainforest and wet and dry sclerophyll forest. Proposed collecting sites will include Eungella National Park, Finch Hatton Gorge, Crediton State Forest, Mount Blackwood, Mount Jukes, Conway Ranges, Sarina Ranges among others. A post-workshop trip to Hook Island may also be possible depending on costs and numbers.

Arrival and departure

There are direct flights into Mackay from most capital cities, as well as regular bus services. We can pick up people from Mackay airport for transport to Eungella, but there will be limited seats available. Pick-up will be from Mackay airport on the afternoon of Sunday 29 June, and return on Friday 4 July arriving about 1 pm.

Expressions of Interest

Please contact Andrew Franks (andrew.franks@o2ecology.com.au) to register your interest.

Cost

The cost is yet to be determined but will include all accommodation, meals and minibus transport.

I saw in Louisiana a live-oak growing,
All alone stood it, and the moss hung down from the branches,
Without any companion it grew there, uttering joyous leaves of dark green,
And its look, rude, unbending, lusty, made me think of myself,
But I wondered how it could utter joyous leaves,
standing alone there, without its friend, its lover near—for I knew I could not,
And I broke off a twig with a certain number of leaves upon it, and twined around it a little moss,
And brought it away—and I have placed it in sight in my room…

— Walt Whitman

Publications on Australasian bryology 2012*

Akiyama H 2012. Contributions to the moss flora of Borneo, 2. *Schoenobryum concavifolium* (Cryphaeaceae, Musci), new to Borneo. *Tropical Bryology* **34**: 12–14.

Anon. 2012. Contributions to the moss flora of Borneo, 1. A new species, *Dimorphocladon echinocarpum* (Symphyodontaceae, Musci), with unique multicellular exothecial spines. *Bunrui* **12**(1): 80–81.

Atala C and Alfaro JF 2012. Vascular architecture of the dendroid antipodean moss *Dendroligotrichum dendroides* (Brid. ex Hedw.) Broth. (Polytrichaceae). *Journal of Bryology* **34**(4): 277–280.

Bastos CJP 2012. Synonymy and notes on the occurrence of *Cheilolejeunea intertexta* (Lindenb.) Steph. (Lejeuneaceae, Marchantiophyta) in Neotropics. *Journal of Bryology* **34**(1): 66–67.

Bell N, Newton A and Hyvönen J 2012. New observations on *Pterobryella* (Müll.Hal.) A.Jaeger and *Cyrtopodendron* M.Fleisch. in New Caledonia. *Journal of Bryology* **34**(4): 306–308. [Observations on the ecology and morphology of *Pterobryella* species in New Caledonia.]

Bell N, Newton A and Hyvönen J 2012. Epiphytism and generic endemism in the Hypnodendrales: *Cyrtopodendron*, *Franciella* and macro-morphological plasticity. *Taxon* **61**(3): 498–514.

Bell N and Hyvönen J 2012. Gametophytic simplicity in Laurasian and Gondwanan Polytrichopsida — the phylogeny and taxonomy of the *Oligotrichum* morphology. *Journal of Bryology* **34**(3): 160–172. [New combination *Notoligotrichum tenuirostre* (Hook.) N.E.Bell & Hyvönen made for *O. tenuirostre* (New Zealand). *O. aligerum* and *O. falcifolium* (Philippines) and *O. javanicum* and *O. novae-guineae* (New Guinea) retained in *Oligotrichum*.]

Carter BE 2012. Species delimitation and cryptic diversity in the moss genus *Scleropodium* (Brachytheciaceae). *Molecular Phylogenetics and Evolution* **63**: 891–903. [Confirmed that *Scleropodium australe* belongs to *S. touretii*.]

Cooper ED, Henwood MJ and Brown EA 2012. A molecular phylogeny of the *Lepidozia* generic complex supports re-circumscription of the Lepidoziaceae. *Molecular Phylogenetics and Evolution* **65**(2): 10–22. [Concluded that the Lepidozioideae and two of its components (*Telaranea* and *Kurzia*) are polyphyletic, and provided data supporting a recircumscription of the group.]

Dalton NJ, Kungu EM and Long DG 2012. The misapplication of *Hedwigia integrifolia* P. Beauv. and identity of *Gymnostomum imberbe* Sm. (Hedwigiaceae, Bryopsida)**.** *Journal of Bryology* **34**(1): 59–61. [Synonymised *Hedwigidium* with *Braunia* and introduced *Braunia imberbis* (Sm.) N.Dalton & D.G.Long, to which Australian and NZ records of *H. integrifolium* are now assigned.]

Downing A and Brown E 2012. Bryologists and bryophytes at the ASBS 2012 Perth Conference. *Australasian Bryological Newsletter* **61**: 16–18.

Ellis LT 2012. Typification of *Braithwaitea sulcata* (Hook.) A.Jaeger & Sauerb. (Musci, Braithwaiteaceae). *Journal of Bryology* **34**(1): 61–63.

Ellis LT 2012. Typification of *Dawsonia polytrichoides* R.Br. (Musci, Polytrichaceae). *Journal of Bryology* **34**(4): 296–300.

Engel JJ & Glenny D 2012. Austral Hepaticae 48. *Goebelobryum* Grolle (Acrobolbaceae). *Nova Hedwigia* **94**(3–4): 319–336. [Revised *Goebelobryum* for Australia and New Zealand, with a new species *G. vermiculare* from both countries.]

Fife AJ 2012. New taxa of *Sematophyllum* and *Wijkia* (Musci: Sematophyllaceae), with a key to New Zealand Sematophyllaceae. *New Zealand Journal of Botany* **50**(4): 435–447. [Description of *Sematophyllum fiordlandiae* sp. nov. and *Sematophyllum kirkii* (Beckett) Paris from the far south of New Zealand, and *Wijkia extenuata* (Brid) H.A.Crum var. *caudata* var. nov. from New Zealand and New South Wales, with a revised key to all NZ taxa.]

* This is no doubt an incomplete list. Additions (and notifications of publications in 2013) sent to the editor by 30 November will be published in the next issue.

He X and Christenhusz MJM 2012. The New Guinean liverwort *Cololejeunea morobensis* newly reported from New Caledonia. *Bryobrotherella* **15**: 96–99.

Hedenås L 2012. A mixed occurrence of *Hypnum lacunosum* and *H. cupressiforme* provides evidence that the two are genetically distinct. *Cryptogamie Bryologie* **33**(4): 315–328.

Horton DG 2012. A candle-snuffer moss in the flora of Tasmania: *Encalypta* (Bryopsida: Encalyptaceae). *Kanunnah* **5**: 113–126.

Huttunen S, Bell N, Stech M and Quandt D 2012. Bryophyte Tree of Life: the current state of phylogenetic reconstruction in mosses. J*ournal of Bryology* **34**(3): 157–159.

Jordan D 2012. The 'moss men' of Papua New Guinea. *Field Bryology* 107: 28. [Description of the use of moss for traditional decoration, in this case a complete 'moss suit'.]

Katagari T and Deguchi H 2012. Taxonomic studies of the Trichocoleaceae in Southeast Asia I. The genus *Leiomitra* Lindb. *The Bryologist* **115**(4): 475–492.

Katagari T, Suleiman M and Deguchi H 2012. Taxonomic studies of the Trichocoleaceae in Southeast Asia II. A new species of *Eotrichocolea* from Malaysia. *The Bryologist* **115**(4): 518–522.

Koponen TJ 2012. Sammaltajan päiväkirjasta 4. Wantoap–joki ja Finisterre–vuoret. *Bryobrotherella* **15**: 34–43. [Continuation of extracts from a bryologist's field journal, this part relating to explorations in the Finisterre Range (Huon Peninsula) in Papua New Guinea; in Finnish.]

Lee GE, Gradstein SR, Damanhuri A and Latiff A 2011. Towards a revision of *Lejeunea* (Lejeuneaceae) in Malaysia. *The Gardens' Bulletin Singapore* **63**(1,2): 163–173.

Liu Y, Budke JM and Goffinet B 2012. Phylogenetic inference rejects sporophyte based classification of the Funariaceae (Bryophyta): Rapid radiation suggests rampant homoplasy in sporophyte evolution. *Molecular Phylogenetics and Evolution* **63**: 130–145. [Includes *Bryobeckettia bartlettii* and various other Australasian species.]

Lovadi I, Cairns A and Congdom R 2012. A comparison of three protocols for sampling epiphytic bryophytes in tropical montane forests. *Tropical Bryology* **34**: 93–98.

Malcolm W and Shevock J 2012. *Niphotrichum elongatum* (Frisvoll) Bednark-Ochyra & Ochyra (Grimmiaceae) new to New Zealand and the Southern Hemisphere. *Australasian Bryological Newsletter* **61**: 13–14.

McCarthy P 2012. Australian Mosses Online. *Australasian Bryological Newsletter* **61**: 15.

McMullan-Fisher SJM 2012. Report on the XIth Australian Bryophyte Workshop, Sapphire Coast, New South Wales, 2–7 September 2012. *Australasian Bryological Newsletter* **61**: 9–12.

Meagher D 2012. Studies on *Bazzania* (Marchantiophyta, Lepidoziaceae). 5. *Bazzania lehmanniana* (Lindenb.) Trevis., from Nova Hollandia but South America, not Australia. *Nova Hedwigia* **94**(1–2): 271–274. [Deleted *B. lehmanniana* from the Australian flora.]

Meagher D 2012. The curious life of Anthony Gapper, honoured by the genus *Southbya*. *Australasian Bryological Newsletter* **60**: 11–12.

Meagher D 2012. The mysterious Alexander Lindig (c. 1815–?1882). *Australasian Bryological Newsletter* **60**: 9–10.

Müller F 2012. New and remarkable moss records from New Caledonia. *Cryptogamie (Bryologie)* **33**(2): 155–158. [Added *Anomodon pseudotristis*, *Calymperes afzelii*, *Mesonodon flavescens* and *Mitthyridium flavum* to the flora, and reported a new locality for *Calomnion iwatsukii*.]

Ochyra R, Bednarek–Ochyra H and Smith VR 2012. New national and regional bryophyte records, 30. 1. *Bryum argenteum* var. *muticum*: Heard Island. *Journal of Bryology* **34**(1): 45.

Ohlsen D, Smith F & Meagher D 2012. Two significant bryophytes records from eastern Victoria. *Australasian Bryological Newsletter* **60**: 8–9. [*Temnoma quadripartitum* new to Australia; *Marsupidium perpusillum* new to the Australian mainland.]

Olsson S, Enroth J, Huttunen S and Quandt D 2012. *Forsstroemia* Lindb. (Neckeraceae) revisited. *Journal of Bryology* **34**(2): 114–122. [New revision of *Forstroemia* based on genetic evidence, recognising nine species; *F. producta* and *F. trichomitria* retained in genus.]

Pokorny L, Ho B-C, Frahm J-P, Quandt D and Shaw AJ 2012. Phylogenetic analyses of morphological evolution in the gametophyte and sporophyte generations of the moss order Hookeriales (Bryopsida). *Molecular Phylogenetics and Evolution* **63**: 351–364. [Includes numerous Australasian species.]

Reiner-Drehwald M and Grolle R 2012. Review of the genus *Rectolejeunea* (Lejeuneaceae, Marchantiophyta). *Nova Hedwigia* **94**(3–4): 451–482. [Redistributed various species of *Rectolejeunea* to four other genera and treated some as doubtful names.]

Renner MAM 2012. Further insight into lobule teeth morphology in Lejeuneaceae subf. Lejeuneoideae from *Cheilolejeunea oscilla*, a new species from Australia. *The Bryologist* **115**(4): 536–556.

Seppelt RD, Cave LH and Tng D 2012. Here today, gone tomorrow: The moss *Gigaspermum repens* in Tasmania. *Kanunnah* **5**: 141–149.

Seppelt RD et al. 2012. 'Excellent, now I can concentrate on the liverworts.' — A testimony to the work of John Braggins. *Australasian Bryological Newsletter* **61**: 2–8.

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STOP PRESS!

Chris Cargill (CANB) would like to receive any live specimens of *Riccia*. Email her to organise where and how to send collections:
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Telaranea cuneifolia (Steph.) Engel & G.L.Merr. new to Australia

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The leafy liverwort *Telaranea cuneifolia* (Steph.) Engel & G.L.Merr. (Lepidoziaceae) has been treated in the past (as *Lepidozia cuneifolia* Steph.) under *Telaranea wallichiana* (Gottsche) R.M.Schust., a species with a very wide reported range in Malesia and Asia, from New Guinea and the Solomon Islands north to Japan and southern China and west to India and Nepal (Engel & Merrill 2004). Piippo (1984), who considered both to belong in *Lepidozia*, noted some differences between the two taxa but considered these inadequate for separation. However, Engel & Merrill (2004) noted distinct differences between *T. wallichiana* and *T. cuneifolia*, and resurrected *T. cuneifolia* as a separate species.

Two populations of *T. cuneifolia* were recently found in Mossman Gorge in the Queensland Wet Tropics. Both specimens were growing in thick mats mixed with *Leucobryum sanctum* (Brid.) Hampe on the roots of trees on the bank of Mossman River, 2–3 km above Rex Creek (Figure 1).

Telaranea cuneifolia differs from *T. wallichiana* in several respects, but most noticeably in having 'more strongly differentiated branch leaves, variable in shape but typically ligulate, asymmetrical, often subfalcate, with a disc up to 10 cells high' (Engel & Merril 2004). Both species may be confused with *Telaranea tridactylis* (Lehm. & Lindenb.) J.J.Engel & G.L.Merr., but in *T. cuneifolia* the leaves are much more straight-sided and the lobes are less spreading, and the branch leaves are much longer (Figure 2; compare Engel & Glenny 2008, page 282).

T. disparata Engel & G.L.Merr., endemic to the Wet Tropics, is also outwardly similar but commonly has flagellate, rooting brach tips, the stem leaves are not so distant, and the branch leaves have a disc only 4–5 cells high and lobes with a base of only two cells; in *T. cuneifolia* the disc is 6–10 cells high and at least one lobe has a 3(–4)-celled base in most leaves.

T. verruculosa Engel & G.L.Merr., another outwardly similar Queensland endemic, differs in having an intensely papillose–striolate leaf surface that is 'plainly visible even at lower magnifications of the dissecting microscope' (Engel & Merrill 2004). In *T. cuneifolia* the surface is very weakly if at all papillose–striolate, and the branch leaves are longer and more parallel-sided, with the lobes much shorter than the disc. Furthermore, in *T. verruculosa* the leaves near the branch tips are bifid, whereas in *T. cuneifolia* they are constantly trifid.

Telaranea cuneifolia is thus now known from Papua New Guinea, Vanuatu and northern Queensland. It may be more widespread in tropical Australia, as many unidentified *Lepidozia* and *Telaranea* specimens reside in various herbaria.

Specimens seen

Telaranea cuneifolia Steph. — PAPUA NEW GUINEA: Sepik District, Ambunti Sub-district, Hunstein River, R.D. Hoogland 10741, 29 July 1966, MELU ex LAE s.n. (dupl. CANB not seen). AUSTRALIA: Mossman Gorge, A. Cairns & D.Meagher WT-172 and WT-188, 14 May 2013 (to be accessioned in BRI, CNS, MELU).
Telaranea disparata Engel & G.L.Merr. — AUSTRALIA: Queensland, Noah Creek, 23 July 1991, MELU (holotype).
Telaranea wallichiana (Lindenb. & Gottsche) R.M.Schust. — PAPUA NEW GUINEA: Kairuru Island, Bro. William Borrell, 15 September 1979, DAM private collection.
Telaranea verruculosa Engel & G.L.Merr. — AUSTRALIA: Queensland, track from Wrights Lookout to Surprise Creek, Kuranda, G.A.M. Scott s.n., 9 July 1994, MELU (holotype).

Acknowledgements

I first thank the traditional owners of the land on which we collected and acknowledge and respect their elders, past and present. Many thanks also to Roger Fryer for his support in our expedition into the upper reaches of Mossman Gorge. I finally thank the Queensland Department of Environment and Heritage Protection for permission to collect material at Mossman Gorge.

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Figure 1 *Telaranea cuneifolia*, Mossman Gorge (WT-188).

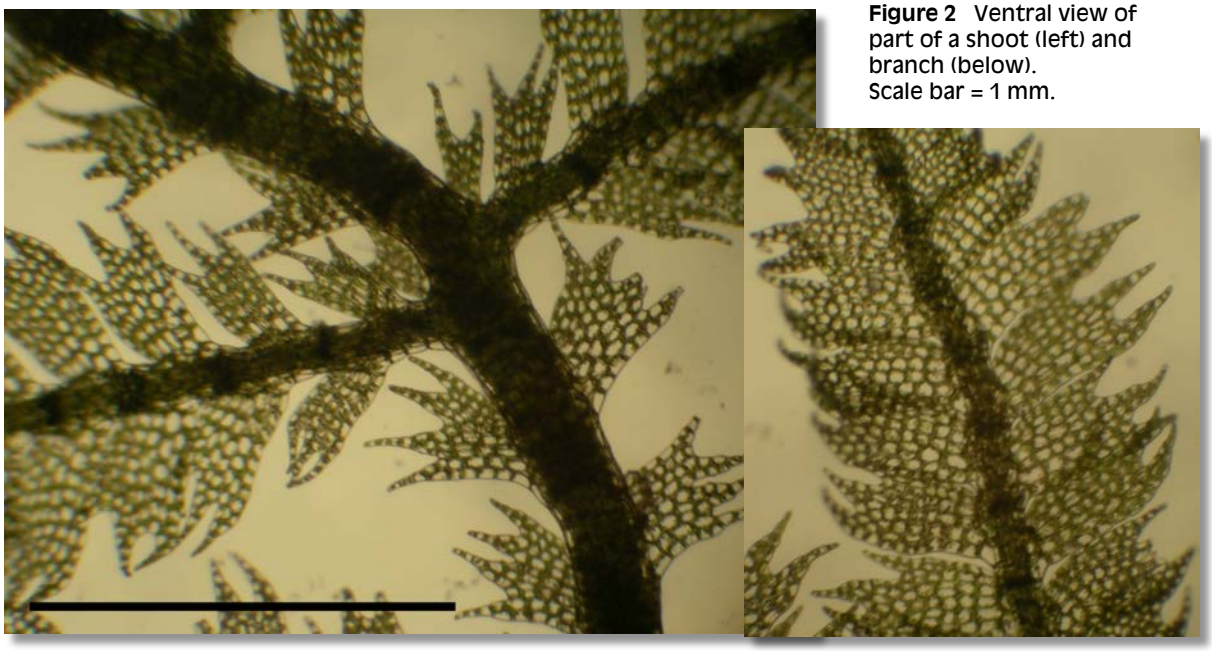

Figure 2 Ventral view of part of a shoot (left) and branch (below). Scale bar = 1 mm.

What's that green stuff?

This large thallose liverwort is almost cosmopolitan throughout the world. Its known distribution includes the British Isles, eastern Africa, mainland USA including Alaska, much of South America and the Caribbean, subcontinental Asia, China, Japan, Malesia, Australia, and Pacific islands including New Zealand, the Hawaiian Islands, Easter Island and the Galapagos. Its specific epithet refers to the hairy thallus, and it has many synonyms.

Three ploidy states (monoploid, diploid and triploid) have been recognised and named at infraspecific rank. A recent study found that there are two genetically and geographically distinct clades that probably warrant recognition as separate species. Considering its temperate distribution in other parts of the world, it is surprising that it has not been found in south-eastern Australia. *Answer at bottom of page*.

— David Meagher

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Cover photo
Trichocolea pluma Dumort. Windmill Creek, Mount Lewis National Park, northern Queensland. (DAM)

What's that green stuff?
Dumortiera hirsuta (Sw.) Nees, showing a female receptacle. Lake Eacham, northern Queensland. (DAM)