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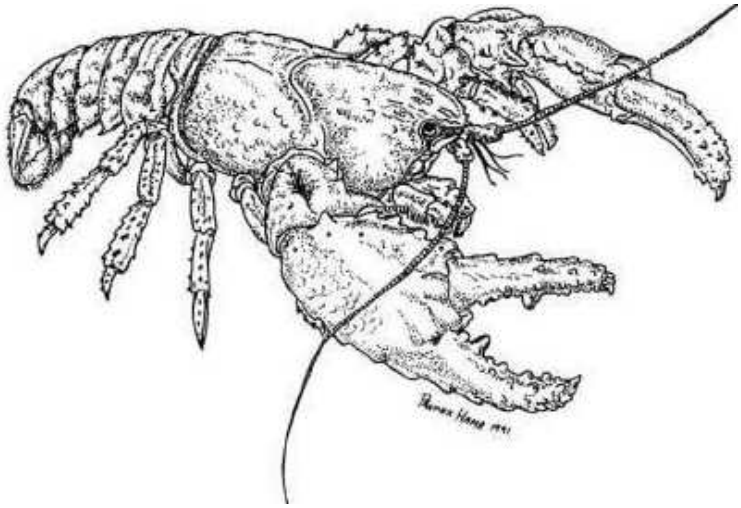


Notes on an epiphyllous liverwort

by **T. Thekathyil** - 2010/02/19

Lejeunea c.f. *epiphylla* Colenso (non Mitt.) growing on the hard water fern *Blechnum wattsii*

In *A field guide to the mosses & allied plants of Southern Australia* Meagher and Fuhrer (2003) omitted epyphyllous liverworts on the grounds of their 'rarity and cryptic nature'. Given their minute size, the chances of finding them would be about as remote as that of finding the proverbial needle in the haystack.

Over the months I had made half-hearted attempts to look closely at *Blechnum wattsii* leaves (a preferred host) but given the sheer numbers of hard water ferns growing on the Blue Tier, this was more perfunctory than done with any great hopes of ever sighting the liverworts.

In December of 2009 I accompanied the Water Watch samplers to a roadside stream and upon crossing to the other side was rewarded with the sight of my first epiphyllous liverwort on the foremost fern leaf blocking my path. At this time the CNFN compound microscope was being repaired so I had to leave without taking samples. Just by coincidence I had visited this very site a fortnight earlier looking for this subject but had not crossed the stream and so missed it.

In mid February I visited the site again and collected samples to photograph and tried to identify the liverwort which was enmeshed with an unidentified moss (subsequently identified as *Papillaria flavo-limbata*). I checked through Jarman & Fuhrer 1995 as well as the UTAS key, and excluded several of the recognized epiphylls for various reasons:

- not *Chiloscyphus muricatcus*; although the specimen has some hair-like projections on the older leaves (Fig 5) they are nowhere as prominent as depicted in Meagher & Fuhrer (which lack lobules) and the underleaf has a different shape; the few *Chiloscyphus* examined so far have leaves opposite, not alternate as in this case
- not *Cololejeunea laevigata* which lacks underleaves; however the presence of a 'tooth' on the lobule (pix below, right) seems to point to this genus
- not *Colura saccophylla* which has inflated leaves (sac-like - check the University of Auckland link below for images)

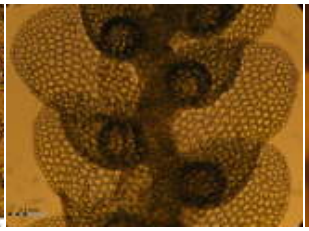
Following is a brief description of the specimen:
leaves entire, rounded without lobes (fig. 4), folded over at bottom to form lobules with 'teeth' (right), leaf arrangement alternate and incubous; wide attachment to stem i.e. not just by a few cells; one underleaf per pair of regular leaves, divided to form two lobes(Fig. 2)


Lobule 'tooth'

Leaf shape and arrangement and presence of underleaves together with cell structure (Fig. 3) resemble those identified earlier in the Lejeuneaceae family (31 genera at last count!). This is about as far as I am prepared to stick my neck out for the present.


2. Underleaf


3. Cells


4. Leaves


5. Leaf 'hair'

Updated 2010/03/05: I posted a link to this page to the Bryonet listserver asking for help and received the following response from Matt Renner of New Zealand the next day:

> "Your plant is a Lejeunea species.
>
> There are not many Lejeunea with two-celled first lobule teeth. Possibilities I am aware of include:
>
> - *Lejeunea helmsiana* Steph.
> - *Lejeunea epiphylla* Colenso (non. Mitten).
> - *Lejeunea* c.f. *tumida*
>
> There are difficulties with *L. epiphylla*, apart from being an illegitimate homonym of a Mitten name, the type is a mixture of two

species, which the protologue does not discriminate.

There are two entities within *L*. c.f. *tumida* in New Zealand. I don't think either occurs in Australia.

I don't think that *L. helmsiana* occurs in Australia.

So your best bet is to confer the plant to ***L*. c.f. *epiphylla* Colenso (non Mitt.)**. Both species occur in Tasmania, and should occur in NSW in suitably cool habitats along the GDR.

Bear in mind that *Lejeunea* is a shambles. There has not been comprehensive regional treatment for Australia."

Literature

- Meagher, D. & Fuhrer, B.A., *A Field Guide to the mosses & allied plants of Southern Australia*, Australian Biological Resources Study, Canberra, 2003; ISBN 0 642 56828 6
- Jarman, S.J. & Fuhrer, B.A., *Mosses and Liverworts of rainforest in Tasmania*, CSIRO Publications, 1995; ISBN 0 643 05685 8

Web

- University of Tasmania provides a key to Tasmanian liverworts
- Image of the *Lejeunea epiphylla* Colenso holotype is available from the New Zealand collection
- Pocs, T., 'Epiphyllous liverwort diversity at worldwide level and its threat and conservation'

Page URL: https://www.disjunctnaturalists.com/articles1/epiphyllous-liverwort.htm

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