

## ***Coprosma* and its fruity colours: be a part of a survey this autumn!**

Have you ever been walking through a beautiful stretch of snow tussock grassland and noticed that there are an awful lot of colourful, rich, ripe, juicy drupes on the *Coprosma*s? And have you ever noticed that what appears to be an otherwise ordinary population of *Coprosma cheesemanii* or *Coprosma ciliata* is producing a veritable rainbow of different coloured fruit? Have you noticed that different individual plants of what you swear is the same one species are producing pink, yellow, white, orange or red berries?

I have, and this has become part of my PhD on the evolution of fruit colour in *Coprosma*! This phenomenon of different morphologies within a species population, known as a **colour polymorphism**, may give me some insight into what is happening in the genus as a whole. So, here is a request to all dedicated Bot. Soc. members who may be heading out to the field over the next few months. As part of my PhD, I am interested in observations on the fruit colour of *Coprosma*s, particularly of two montane-alpine species, *Coprosma ciliata* and *C. cheesemanii*. Most species of New Zealand *Coprosma* (Rubiaceae) produce fruit of only one colour. This suggests that there are either environmental or genetic constraints on the production of alternative colour phenotypes. Seven species are the exception to this, and exhibit varying levels of fruit colour polymorphism. Two closely related species, *Coprosma cheesemanii* and *C. ciliata* display the most extreme levels of this variability, with up to five general colour categories, ranging from red, pink, and orange to yellow and white, all intermingled within the same population. Both species produce a copious annual fruit crop, so the colourful fruit display is truly spectacular! From my studies I can say that an individual will only produce ripe fruit of only a single colour over a season, from one season to the next. Therefore, fruit colour is a constant character with a genetic basis whose expression does not appear to be overly influenced by environment.

Because I cannot travel the far reaches of New Zealand, I need to contact outdoor enthusiasts with a botanical bent and full colour vision who can identify these two species of *Coprosma* and note the colours of fruit occurring within a population. I thoroughly recommend Wilson and Galloways' (1993) book, *Small Leaved Shrubs of New Zealand* for species identification. *Coprosma cheesemanii* is a low, semi-prostrate, divaricate subshrub and grows in alpine-subalpine tussock grasslands. *Coprosma ciliata* is a taller, divaricate shrub, which occurs in montane shrublands and mountain beech forest understorey at treeline. If you are planning to head to alpine-montane areas and would like to be a part of this survey, please contact me so that I can rush to you a "fruit colour information survey package". Your time in the field would be limited to an hour or so, and makes for a pleasant afternoon's wander through alpine meadows.

If you have fruit colour polymorphism observations for any other *Coprosma* species, these are also welcome!

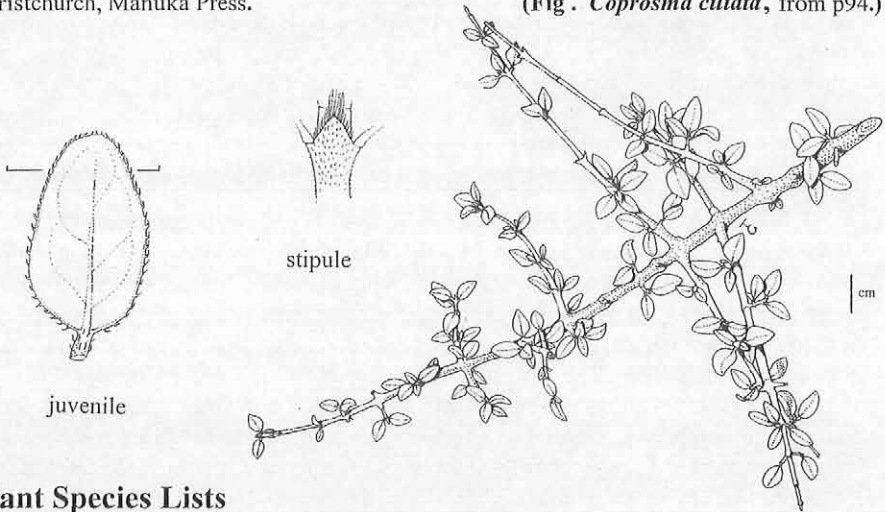
*Adrienne Markey*

Botany Department, Otago University, PO Box 56, Dunedin, NZ

Ph: 03 479 9061, Email: [adrienne@planta.otago.ac.nz](mailto:adrienne@planta.otago.ac.nz)

**Reference:** Wilson, H.D and T. Galloway (1993). *Small-leaved shrubs of New Zealand*.  
Christchurch, Manuka Press.

(Fig . *Coprosma ciliata*, from p94.)



## Plant Species Lists

### - comments from an itinerant field tripper

Wonderful news that Graeme Jane is making his species lists available through the Otago Bot. Soc. (Newsletter #30, Feb-Mar. 2002). I first encountered Graeme's lists a few years ago in the Lewis Pass region. Since then I've continued to use his lists to the point where they have higher priority than even the makings for a brew of tea! What's behind this priority for a mere dabbler in plants? Use of the lists has evolved in a way that has surprised even me and added much more value to the short time I spend in the field. I hope my comments appeal to other Bot. Soc. members and encourage greater use of and support for Graeme's work.

Graeme can produce lists that are grouped under headings (trees & shrubs, lianes, ferns, orchids, etc) or in alphabetical order (genus, then species). Most of my experience has been with the grouped lists. However, the alphabetical format is a boon when I hear an unfamiliar name (eg "*Huperzia australe*") and sense that I've used up my quota of newbie questions to the experts present. Not having any idea of even the plant group, a quick scan down the alphabetical list shows me the name plus any previous names, including common names and whether the plant is introduced or native. These new names for old are a big plus for me in both forms of the lists.

At first I used the plant lists as checklists. As I wandered, plants were ticked off and I generally felt fulfilled at gaining a better understanding of a particular locality. How limited this was in hindsight. Subsequent talks or reading about a locality or region, would make me realise my ignorance and the lost opportunities to learn - plants I'd missed or even wrongly identified. It took me a while to realise that neither Graeme nor his lists can be telepathic and highlight what is of most interest to me. While this may be blindingly obvious to everyone else, it took me some time to understand that I would have to initiate interaction with the lists BEFORE a field trip.