people are involved in its protection. The risk of destruction by collector's remains, however slight, and the precise location of any Auckland population located in the future will be kept secret to minimise this risk.

Why We Need to Know

Although at times surveying for dactylanthus does feel like looking for a needle in a haystack (and on a rainy day this is especially depressing) if we are not able to locate any remaining plants in the region and protect them from browse in the short-term any potentially remaining populations on the mainland of Auckland will disappear for good. People who knew dactylanthus in Auckland and hid the location believed they were acting in the best interests of the plant (which they probably were at the time) but they have unwittingly jeopardised its survival.

The recovery plan (La Cock *et al*. 2005), and Recovery Plan review (Holzapfel 2005), recommend surveys in Auckland at Mt Hobson (Great Barrier Island), Warkworth and near the Huia Dam (Waitakere) as a national priority. In the past decade DoC and ARC have conducted six surveys at Great Barrier, and Waiatarua and Huia in the Waitakere Ranges and plan to keep looking. With any luck the next article in this journal will be proclaiming its re-discovery on the Auckland mainland!

Acknowledgements

I'd like to thank Alan Esler for a discussion we had on Katie Wood. Alan was a friend of hers and discussing her approach to field work was useful to me in planning to follow up the Huia Dam location. I had secretly hoped Alan would tell me she never strayed far from the track. Alas this was not to be - Alan told me she was a very energetic person who would have left no area of Huia un-surveyed as she was allocated Huia as her "square" by Bot Soc in the preparation of the "Botany of Auckland" book! In any case this is very useful information to know.

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A gallery of secretive plants from the Far North

Maureen Young
Photographs by Kevin Matthews & Andrew Townsend

Casual travellers on a pilgrimage to Cape Reinga could be forgiven for being rather nonplussed about the state of the natural vegetation on the Aupouri Peninsula. That of the southern portion seems to have been taken over by aliens, and the northern tip appears to be covered only in dismal tea-tree scrub. This latter is relieved by swathes of the yellow/green tresses of the parasitic *Cassytha paniculata* and, in season, by the pink flowers of manuka (*Leptospermum scoparium*) and the soft yellow flowers of kumarahou (*Pomaderris kumeraho*). However, to the diligent botanist prepared to explore in out-of-the-way places, the Far North is a treasure trove with many secretive plants waiting to be found, several of them only growing in this northern district. These photographs show a few of them.

Phylloglossum drummondii Kunze
(Threatened/Nationally critical) (Fig. 1)

This tiny, winter-green plant is a member of the Lycopodiaceae. It grows on open, damp areas among low scrub, where there is a hard pan that restricts drainage. It used to be found as far south as the Waikato, and in Auckland was known from Waikumete Cemetery and also at Silverdale, but now is only found in Northland. It grows in colonies, often of many plants, and the fertile spike matures in late August, early September.

Anzybas rotundifolius (Hook.f.) D.L.Jones & M.A.Clem. (Naturally uncommon) (Fig. 2)

This helmet orchid has been found from Warkworth northwards, but recently discovered sites include Opuatia (Rangiriri), Great Barrier Island and Chatham Island. It grows in a variety of habitats, quite often in litter under kanuka scrub, but also in sphagnum wetlands, and on at least one dry kauri ridge. New sites are being regularly found in the Far North.

Colensoa physaloides (A.Cunn.) Hook.f.
(At risk/Relict) (Fig. 3)

This member of the Lobeliaceae was first included in *Lobelia* before being placed in its own genus, which commemorates William Colenso. It has also been placed in Pratia. The appearance of this softly herbaceous plant is unlike any other in the New Zealand flora. The specific name suggests that it looks similar to *Physalis* (Cape gooseberry), but it is equally likely to be mistaken for *Hydrangea*. When present, the long blue flowers and large brilliant purple/blue fruit ensure that there is no misidentification. It often grows on stream sides or on half-shaded slopes.

Fig. 1. ***Phylloglossum drummondii*****. Photo: K.G.M. (2008).**

Fig. 2. ***Anzybas rotundifolius*****. Photo: K.G.M. (2008).**

Fig. 3. ***Colensoa physaloides*****. Photo: A.J.T. (2009).**

Fig. 4. ***Petalochilus alatus*****. Photo: K.G.M. (2008).**

Fig. 5. ***Linguella puberula*****. Photo: K.G.M. (2008).**

Fig. 6. ***Plumatichilos tasmanicum*****. Photo: K.G.M. (2008).**

Petalochilus alatus (R.Br.) D.L.Jones et M.A.Clem. (At risk/Naturally uncommon) (Fig. 4)
Previously included in the *Caladenia carnea* complex, this species of orchid has only recently been recognised from New Zealand. It seems to be relatively common in the north, growing under a kanuka canopy, or on poor gumland soils. It flowers early, September being a good month to see it, and can be white, pink or mauve in colour, with a cerise striped labellum.

Linguella puberula (Hook.f.) D.L.Jones, M.A.Clem. et Molloy (Threatened/Nationally critical) (Fig. 5)
This greenhood orchid was formerly known as *Pterostylis nana.* The puberulent (clad in very small soft hairs) stem emerges from a rosette of yellow-green leaves. These plants, from a newly found site, were seen growing on poor soils in gaps in gumland vegetation, along with the greenhood, *Plumatichilos tasmanicum* (see next). The young plants of the two species have a similar appearance.

Plumatichilos tasmanicum (D.L.Jones) D.L.Szlach. (Threatened/Nationally endangered) (Fig. 6)
The basal leaves on the bearded (or plumed) greenhood have a less pronounced petiole than those of *L. puberula*, and the deeper green colour helps to distinguish the two before flowering. The distinctive labellum is clad in yellow cilia and is terminated by a brown knob-like callus. As well as in gumland vegetation, this orchid has also been seen growing in shattered rock in the serpentine quarry on the Surville Cliffs, an inhospitable site that no other plants could colonise.

Acknowledgement
Kevin Matthews (K.G.M.) and Andrew Townsend (A.J.T.) for photographs.

The alder forests of the lower Waikato River

Mike Wilcox and Jan Butcher

European alder or black alder (*Alnus glutinosa*) is an abundant tree along the banks of the lower Waikato River. It can be seen in Hamilton, Taupiri, Huntly, Rangiriri, Meremere and Mercer, but the area we are describing here is the Waikato River from the Port Waikato-Tuakau Bridge downstream towards Port Waikato where alder forests occur here on both sides of river. This alluvial forest comprises mostly pure stands of alder in a band up to 500 m wide, in places with some admixture of kahikatea (*Dacrycarpus dacrydioides*). The largest tracts lie north of Te Kohanga and near Tauranganui.

Fig. 1. Alder forest, backed by kahikatea forest, Tauranganui, 24 Feb 2009. Photo: M.D.Wilcox.

The alder canopy varies from 10 m to 20 m in height, and the trees range in diameter from 10 cm to 40 cm. Many are multi-stemmed. The subcanopy or understorey is either absent or sparse, comprising scattered hybrid coprosma (*Coprosma ×cunninghamii*), karamu (*Coprosma robusta*), swamp coprosma (*Coprosma tenuicaulis*), hangehange (*Geniostoma ligustrifolium*), putaputaweta (*Carpodetus serratus*), mahoe (*Melicytus ramiflorus*), kawakawa (*Macropiper excelsum*), woolly nightshade (*Solanum mauritianum*) and Chinese privet (*Ligustrum sinense*). Cabbage trees (*Cordyline australis*), nikau palms (*Rhopalostylis sapida*), kiekie (*Freycinetia banksii*), and tree ferns (*Cyathea medullaris*, *C. dealbata*, *Dicksonia squarrosa*) are frequent and *Parsonsia heterophylla* commonly grows as a vine into the tops of alder trees. Small plants of native broom (*Carmichaelia australis*) can be found around the bases of alder trees.

On the northern bank of the Waikato River, kahikatea occurs in pure stands landward of the alder swamp forests (e.g. at the Piggott Wetland) and these additionally have some pukatea (*Laurelia novae-zelandiae*), *Coprosma propinqua*, *Melicytus micranthus*, *Streblus heterophylla*, *Gahnia xanthocarpa* and abundant Jerusalem cherry (*Solanum pseudocapsicum*). The kahikatea trees carry impressive epiphytic *Collospermum hastatum*.

Fig. 2. Alder forest, Waikato Heads Rd near Tauranganui, 24 Feb 2009. Photo: M.D.Wilcox.