

July Meeting: Botany of the Bay of Plenty

Graeme Jane, botanist with zeal, came down from Tauranga to tempt us with all that is interesting in the Bay of Plenty, site of this summer's Wellington Botanical Society field trip. Defining the Bay of Plenty is not easy, depending whether the boundaries are political, geographical or ecological. In the broadest sense it stretches in a broad triangle from the base of Coromandel peninsula in the north to the base of East Cape in the south, and inland as far as Lake Taupo. Potential sites of interest for the summer include the fog forests of the Kaimai ranges, where red and silver beech reach their northern limit and kauri its southern; the thermal communities of Rotorua, the fringes of the Urewera forests, the coastal wetlands, dunelands and mangroves.

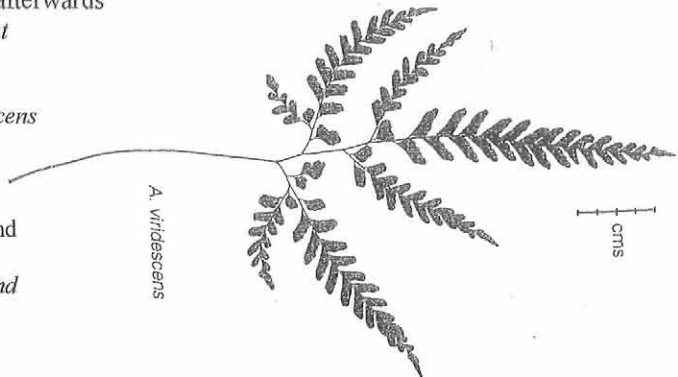
Factors determining the current landscape and flora, such as geology, climate, volcanic, human, and animal disturbance, were vividly described and illustrated. Repeated volcanic eruptions in the surrounding area have overlain greywacke with layers of lava, ash, and pumice of varying fertility. The longshore tropical current has carried volcanic sands to form sandy shores, shallow bays and coastal wetlands and approaches its southern limit here, as do the mangroves. The Bay also often marks the limits of both warm tropical cyclones and the cold southerly snowstorms, forming a rich transition area as northern plant communities replace southern.

Massive volcanic activity in the Taupo area around 2000 years ago largely wiped out beeches from the Ureweras. They were replaced by richly fruiting podocarps, attracting birds, which in turn attracted many Maori. Fortified pa sites remain a feature of the landscape and there are 4000 archaeological sites in Tauranga alone. Europeans cleared the forests and drained the swamps for farmland. They milled kauri for houses, building log dams to flood the logs down the streams. Tramways (now tramping tracks) were constructed to extract kahikatea for butter boxes and tawa for flooring. Much forest was cleared for goldmining, then for pasture and for exotic forest planting.

Wild goats, deer and possums have all impacted on the flora. Recently 50,000 ha in the northern Urewera (Waimana) has been set up as a 'mainland island' and Tauranga city is active in restoring coastal estuaries. Thank you, Graeme, for giving us such a comprehensive overview of your home patch, and for giving us the excuse to go out to a convivial banquet afterwards

Allison Knight

Fig. *Adiantum viridescens*



From: PJ Brownsey and
JC Smith-Dodsworth,
*New Zealand Ferns and
Allied Plants* 2000.

Some plant species of interest in the Bay of Plenty - Graeme Jane 2002

(excerpted from Graeme's Kaimai and Rotorua district lists of over 500 taxa)

Scientific name (synonyms); common names	Scientific name (synonyms); common names
<p>Dicotyledonous trees and shrubs <i>Beilschmiedia tarairi</i>; Taraire <i>Brachyglottis kirkii</i> (Senecio kirkii, Urostemon); Kirks daisy <i>Coprosma arborea</i>; Mamangi, tree-coprosma <i>Coprosma dodonaeifolia</i> <i>Coprosma spathulata</i> <i>Corokia buddleioides</i>; Korokio-taranga <i>Dracophyllum latifolium</i> agg. (D. mathewsii); Needle-leaved neinei <i>Dracophyllum lessonianum</i> <i>Dracophyllum sinclairii</i> agg. (D. viride, D. adamsii) <i>Dracophyllum strictum</i>; Totorwhiti; grass tree <i>Epacris pauciflora</i>; Tamingi, bog epacris <i>Gaultheria oppositifolia</i>; Niniwa <i>Hebe macrocarpa</i> var. (H. corriganii) *Ixerba brexioides; Tawari <i>Leionema nudum</i> (Phebalium); Mairehau <i>Litsea calicaris</i>; Mangeo <i>Mida salicifolia</i>; Willow-leaved maire <i>Pimelea tomentosa</i>; Taranga; <i>Pittosporum kirkii</i>; Thick-leaved kohuhu <i>Pittosporum umbellatum</i>; Haekaro <i>Pseudopanax discolor</i>; <i>Rhabdothamnus solandri</i>; Taurepo; <i>Syzygium maire</i> (Eugenia); Swamp maire, maire tawake <i>Toronia toru</i> (Persoonia); Toru <i>Vitex lucens</i>; Pururi, kauere</p>	<p>Psilopsids, Lycopods & Quillworts <i>Psilotum nudum</i> (P. heterocarpom) <i>Tmesipteris lanceolata</i> (T. tannensis)</p> <p>Ferns <i>Adiantum fulvum</i> <i>Adiantum hispidulum</i> (A. pubescens); Rosy maidenhair fern *Adiantum viridescens (A. fulvum) <i>Arthropteris tenella</i>; Jointed fern <i>Asplenium lamprophyllum</i> <i>Blechnum nigrum</i>; Black fern <i>Cyclosorus interruptus</i> <i>Hymenophyllum pulcherrimum</i> (Mecodium) <i>Hypolepis dicksonioides</i> <i>Lindsaea viridis</i> <i>Lygodium articulatum</i>; Mangemange <i>Nephrolepis "thermal"</i> (N. cordifolia, N. "Kernadec") <i>Microsorium novae-zelandiae</i> (Phymatorus); Fragrant fern <i>Thelypteris confluenta</i></p> <p>Orchids <i>Pterostylis micromega</i> <i>Pterostylis</i> aff. <i>montana</i></p> <p>Sedges <i>Baumea arthropphylla</i> (Cladium) <i>Carex spinirostris</i> <i>Carex subdola</i> <i>Morelotia affinis</i></p> <p>Remaining herbs <i>Astelia "nervosa North"</i> (A. kauri) <i>Elatostema rugosum</i>; Parataniwha <i>Gentiana spenceri</i> <i>Hydrocotyle pterocarpa</i> <i>Jovellana sinclairii</i>; Maori calceolaria <i>Nertera dichondrifolia</i> (Coprosma); Hairy nertera <i>Rorippa divaricata</i> (R. gigantea, G. stylosa)</p> <p>*Illustrated this issue</p>
<p>Gymnosperm trees and shrubs <i>Agathis australis</i>; Kauri <i>Phyllocladus toatoa</i> (P. glauca); Toatoa</p>	
<p>Monocotyledonous trees and shrubs <i>Cordyline pumilio</i>; Ti rauriki, dwarf cabbage tree</p>	
<p>Dicotyledonous lianes and related trailing plants <i>Clematis cunninghamii</i> (C. parviflora); Scented clematis, pokopoko <i>Metrosideros carminea</i>; Crimson rata</p>	

Rare and threatened plants in the Bay of Plenty – Graeme Jane

Taxon (Current CMS status) and (Most recent recorded sighting).

Pterostylis micromega

Christella "dentata": thermal"

Dicranopteris linearis,

Pterostylis puberula (E) 1955 (Hynes and Knowlton)

Euphorbia glauca (V) 1992 (A. Wright pers. comm.)

Lepidium oleraceum (V) 1955 (Hynes and Knowlton)

Pimelea tomentosa (V)

Marattia salicina (R) 1926 (Allan and Dalrymple)

Nephrolepis "cf. cordifolia"

Ranunculus macropus (V) 1926 (Sladden)

Rorippa divaricata (V)

Hibiscus trionum "NZ" (V)

Pisonia brunonina (R)

Sicyos australis (L) 1955 (AK herbarium voucher)

Corybas cryptanthus (I) 1930 (Lucy Moore record, B. Irwin)

Key: CMS, Conservation Management Strategy; E, endangered; V, vulnerable; R, rare; L, local; I, indeterminate.

Reference: D Given, *Rare and endangered plants of New Zealand*. Reed, 1981.



Fig. *Christella dentata*

(From: PJ Brownsey and JC Smith-Dodsworth, *New Zealand Ferns and Allied Plants* 2000.)

Fungus Workshop, 20 July 2002

On a sunny Saturday afternoon sixteen keen would-be mycologists gathered in the downstairs Botany laboratory to learn from David Orlovich how to identify fungi to herbarium standard. First, David explained the importance of a line drawing or photograph of fresh specimens showing several fruiting bodies of representative ages, including the base of the stalk and with a transverse section and a size scale. He highlighted the need to collect at least 3 of each species and to process them fresh before dehydrating them to preserve them. David also warned us not to handle any specimens by the stalk, except at the very base, so as not to obliterate fragile features.

Next, using a video attached to a dissecting microscope he pointed out relevant macroscopic features to note:- colour (using a standard soil colour chart), texture and shape of the cap (**pileus**), stalk (**stipe**), gills and spores (from a spore-print). A generous handout with a comprehensive glossary of descriptive terms used internationally greatly increased our mycological vocabulary and the precision of our descriptions.

Then David went on to show us how to use the high power microscopes to look at relevant features of gills and gill squashes, revealing the sterile **cystidia**, the **basidia** to which spores are attached, and the spores themselves. Again, the video camera attached to the microscope gave us a good idea of what to look for.