

The Taste and Smell of Plants

E. Williams, Wellington

If anybody should have a smell, it is I.

— Samuel Beckett

Quot homines, tot sententiae
(Many men have a lot of tastes)

— Terence

I have often been subjected to mild ridicule for my habit of tasting and smelling plants. My usual reply is that our senses are not confined to sight, and that taste and scent (and sometimes feel) are just as much qualities as form and colour. Sometimes they will provide a clue to, or even definitive evidence of, family, genus or species. But in any case they often give us interest and pleasure in themselves.

This is not to say that all plants have a readily detected and distinctive flavour or scent. Quite a few have little to communicate to our (probably blunted) senses in this area. And of course there are great variations between us in the degree of sensitivity of our noses and palates. It is a curiosity in this field that there are certain odours and tastes which are strong to some people and undetectable by others. One known to me is the scent of boronia. Some members of my family literally cannot smell this except faintly when holding a flower under their nose. I understand, though I cannot trace my source, that this is a well known phenomenon in the Rutaceae.

One must be a little cautious in tasting and not go nibbling tutu berries or green poroporo fruit or karaka kernels — though the fruit of the karaka when ripe has a deliciously fruity smell and the pulp can be eaten. Nevertheless the kernel is so dangerous that the whole thing is better left alone. I should, in fairness to the poroporo too, state that the fruit when ripe and cooked is quite edible in the form of jam or pies as our early colonist ancestors well knew. Even the tutu as I shall later mention was used fairly commonly by the Maori, but with some hazard. So far as leaves are concerned there are a number of trees and shrubs in the flora which are known to be poisonous to stock but I do not know any of our own plants virulent enough to give much trouble from a quick taste. We really have nothing like the hemlock or the oleander. However, *Pseudowintera* leaves of either species are a bit rough on the mouth though this does give an immediate answer to the question — *Pseudowintera colorata* or *Alseuosmia pusilla*?

It might be mentioned at this point that some of our natives quite possibly have hallucinogenic properties. Some of the South American species of *Coriaria*, *Sophora*, *Pernettya* and *Ipomoea* are mentioned in the literature. The family Solanaceae has many mentions. My thought would be that all these things might well have dangerous potentiality since the matter of dosage seems the critical factor. The description quoted in Laing & Blackwell of the effects on Bishop

Harper and Canon Stack of absorbing tutu seeds along with their pleasant Maori drink sounds a bit indicative of "tripping".

Some of our bush fruits are rather horrible to taste. I cannot recommend supplejack nor puriri fruits — these are harsh and bitter. Hinau berries are not very attractive to us. The Maori prized the fruit, but for the kernel rather than the pulp. Like tawa (and karaka) kernels they went through the steaming and steeping processes. But the hinau kernel was crushed and made into a cake reputed to have aphrodisiac qualities. (See Best's *Forest Lore of the Maori*). Personally, I rather like the taste of miro though some people don't like the turpentiney flavour. Matai is not very wonderful; rimu and totara are edible and the kahikatea fruit is very pleasant and in some districts formed a much appreciated food item for the Maori. Indeed hinau and kahikatea trees of size because of this food value often received individual names as valuable community resources. The yellow fruit of the kawakawa is quite acceptable, but mind the hot, black seeds. The thick, juicy, white, enlarged tepals surrounding the fruit of the various species of *Muehlenbeckia* have, rather faintly, the acid flavour of so many members of the Polygonaceae, but quite a lot of work is needed to get enough to be aware of it in one's mouth.

Going on with fruits I would think the kiekie bracts overrated and would not appreciate *astelia* and *collospERMUM* (wharawhara) berries. Some coprosma berries are not too bad. Bob Chinnock, as I recall, used to favour *C. rhamnoides* for eating. I have found *C. propinqua* sweeter if they are fully ripe, but I hasten to say that I haven't tried all species. Nectar comes copiously from flax, rata and pohutukawa but this is perhaps a little indirect for my theme. Snowberries are, frankly, always disappointing. They often look so luscious as to make one hope against experience that they will have some flavour and real substance but they never do. Pity Colenso trying to stay his hunger with these false fruits!

I must get back to diagnostic qualities. We all know, for example, that members of the Labiatae tend to have an aromatic taste and smell and our *Mentha cunninghamii* is no exception, though I cannot speak for *Scutellaria novae-zelandiae*. Species of the Rutaceae are often strongly scented (and flavoured) and again the two *Melicope* species and *Phebalium nudum* follow the trend. This is handy in the case of *M. simplex*, which is thus very readily distinguishable from the other small-leaved shrubs. This, in my view, is the best smelling of our Rutaceae though the hybrid *Melicope* is nearly as good. *Phebalium nudum* is at least much better than the Australian *P. billardieri* (syn. *P. squameum*) so much in use here for hedges. The Myrtaceae also tend to have a pronounced smell or taste, though not all as unique as the *Eucalyptus* species. Nevertheless kanuka is very suggestive of eucalyptus in scent if you hold the crushed leaves under your nose. Manuka in the sun is delicious and one gets this particularly in North Auckland at times. *Lophomyrtus* and *Neomyrtus* certainly have the distinctive taste as do the various *Metrosideros* species and to a lesser extent *Eugenia*. *Hebe* species all have a pronounced (I suppose

“generic” is right) flavour, even in the whipcords. It always seems a bit willowy to me, though this is an insulting epithet for any of our plants let alone a noble and distinguished group like our *Hebe*.

I suspect we all know the origin of the coprosma name, this character being at its peak in *C. foetidissima* and *C. crenulata*, but it will also show up in some of the others if picked and left for a while. It is also worth remembering that the smell also shows up, if a little more faintly, in *Nertera* species. The larger-leaved *Pittosporum* species all tend to have some of that lemony smell, which we particularly relate to *P. eugenioides* or tarata which is the lemonwood of the early colonists. Their flowers are extremely fragrant as well as their leaves. Strangely enough this same lemony odour is to be found in some of the *Olearia* species, notably in *O. paniculata* leaves. Then since we are in the Compositae we are bound to mention the delectable scent of *Senecio perdicoides* — both leaves and flowers — the raukumara mistakenly stated in the Flora to be confined to Hicks Bay. Botanical Society members know that it is also to be found on the Wairarapa coastal hills north of Castlepoint, even if in a slightly different form. This is to me the best of our plant smells, but it is reproduced in a slightly inferior form in *Traversia baccharoides* which we know from Mount Arthur, and *Senecio cassinioides* which we met on the steep banks of Lake Tennyson. We have too the aromatic leaves of pukatea and of *Ascarina lucida*.

As I was talking not long since of sweet smells I am bound to mention some flowers. *Alseuosmia*, of course — “perfume of the grove”. Our *A. pusilla* is not too bad but not really comparable with *A. macrophylla*. Mahoe at its height is almost sickeningly sweet. Hangehange is delicious, as is pigeonwood. *Earina autumnalis* can signal its presence from quite a distance. *Olearia rani* is quite distinguishable. I personally like the more spicy smells of tauhinu and *Olearia solandri*. There are other *Olearia* species too as indicated by the specific epithets of *odora* and *fragrantissima*. On the mountains we get the musky scent of some of the *celmisias* though I have never found this to be as strong as reported by some writers. Some of the heathy plants also smell well — patotara, *Dracophyllum* and *Gaultheria* species and both of the common shrubby *Cyathodes* species. Then there is the lovely *Pratia macrodon* and *Prasophyllum patens*. I almost forgot one of the champions — the penwiper plant of the screes. A perfume, though not of a flower, which would take a lot of beating is that of the sooty mould on the honey-dew secreted by the scale insect which feeds on the beech bark. I have particular memories of this on black beech in the Abel Tasman Park with honey bees in their thousands carrying off the sweet syrup. The brooms often have a sweet fragrance. The most noteworthy is probably *Carmichaelia odorata*. I never get much from the kowhai or *Clianthus puniceus*. The clematis too must be mentioned — particularly *C. foetida* and perhaps most of all, *C. afoliata*. Our New Zealand jasmine, as both species of *Parsonsia* can fairly be called, is also truly fragrant.

Last of all in the scent field we must remember the old Maori favourites, of which the scent was extracted into titoki or other oil with which bird skins or other suitable material was saturated and enclosed in a sachet worn around the neck. Frequently the sachet was woven of the holy grass *Hierochloa redolens* or karetu, which was itself sweetly scented. Many of the old scents are mentioned in chants and stories and are regarded as great treasures indeed. One of the great scents is that of the taramea or spaniard. The common species would be *A. squarrosa* but the scent can be got from most species. If the leaves are incised, the resinous sap pours out and fairly soon solidifies, and can be collected readily. My wife and I collected some from the majestic *A. scott-thomsonii* around Hakataramea (note the name) where we saw large black weevils drawing the sap from the leaves. Then the Maori talked much of raukawa, or *Pseudopanax edgerleyi*, and tarata and kohuhu (*Pittosporum eugenioides* and *P. tenuifolium*). The pipiriri fern is often mentioned which is, I think in this case, *Hymenophyllum sanguinolentum* though *H. demissum* also seems to go by this name. *Phymatodes scandens* or mokimoki is another famous name although it does not particularly appeal to our noses. The karetu itself abovementioned is also the subject of much praise.

I have probably forgotten some tastes and smells that I know and omitted many that I simply have not yet noticed, but I will keep on trying. I am told that some liverworts have distinctive smells so this is another field for investigation on the ground.

Annual Growth of New Fronds on *Dicksonia fibrosa*

F. C. Duguid, Levin

A tree fern, *Dicksonia fibrosa* (wheki-ponga), has been watched for six successive seasons, from 1972-73 to 1977-78 inclusive, with the object of finding out the average number of new fronds produced annually and any trends in the sequence of their growth.

The fern is growing in a Levin garden, sheltered on the south but exposed on the north side. It has been shifted several times in its early life and 1972-73 was the first season when normal growth of a large number of fronds began. The climate during the observation periods has included many extremes and variations but the eruption of new fronds has followed a remarkably uniform sequence.

During the early winter no dormant coils of young fronds can be felt in the central cavity at the top of the caudex. By early July the cavity is crammed with coils well down under a blanket of loose scales. By mid-August many coils are level with the top of the cavity, and their final emergence depends on sufficiently warm weather. As