FLORA

NARDOO - THE CLOVER-LEAVED FERN

WHILE on a *LFW* visit inspecting the old Seabrook Battery site near Northam, Shire staff were surprised to find that an artificially dug hollow contained the odd little fern, nardoo. "It looks like a four-leafed clover!" someone said, and indeed it does.

Nardoo's scientific name is *Marsilea,* and there are probably six species in WA, two in the southwest and four more in the Kimberley. The most widespread species is *M. drummondii* (yes, named after our James Drummond, who would certainly have found it growing along Toodyay Brook, for example) and it is found right across mainland Australia. It is still common and widespread; look for it in still pools and clay-based wetlands, often on shady banks. It has little tolerance to salt, however, and will disappear as salinity increases.

Nardoo develops from a rhizome which runs over, or just below, the muddy surface of the wetland, from which its clover-like leaves arise. The leaflets appear silky because they are covered with dense, water-repellant hairs, and when the plant is totally submerged they float on the surface. As the water recedes, the plant continues to grow on the damp mud to form a green lawn. At this stage it forms spores – not on the backs of the fronds (leaves) as most ferns do, but in little packets called sporocarps at the junction of rhizome and leaf. As the wetland continues to dry, the leaves brown and shrivel and the sporocarps become detached. When the rains come again, the dried sporocarps can begin development within an hour.

It is these sporocarps that have propelled nardoo into Australian folklore. They are the things Burke and Wills starved to death on.

The sporocarps contain starch, and Aboriginal people from central Australia ground them between two flat stones, using a little water to help the process, to make a form of porridge which could be eaten as it is, or baked in the ashes of a camp-fire. The husks contain a lot of tannin, and unless they were removed at some point in the process, would have contributed an astringent taste.

The illustration (by Helen Aston) is M. mutica, *a Kimberley species, but very similar to* M. drummondii.

At Cooper's Creek in 1861, Wills wrote in his journal: "I cannot understand this nardoo at all; it certainly will not agree with me in any form. We are now reduced to it alone, and we manage to get between four and five pounds a day between us. It seems to give us no nutriment. Starvation on nardoo is by no means very unpleasant, but for the weakness one feels and the utter inability to move oneself, for, as far as appetite is concerned, it gives me the greatest satisfaction."

Nowadays we all have 'healthy eating' dinned into us, and would be well aware that anyone consuming nothing except starch and tannin would have probems. Indeed, the 'calming' effect of a regimen of bread and water has long been known to prison authorities; even the most recalcitrant prisoner could be reduced to a shambling waif of their former selves after a few weeks of such a diet. The Aboriginal people, of course, had a wide variety of food sources, which provided the carbohydrates, protein, vitamins and minerals they required.

If you have a clay-based freshwater wetland, even way out in the mulga zone, look for nardoo. If you are developing a wetland, part of a stock dam for wildlife habitat, for example, it would be a great plant to include, not only from its curiosity value, but because its leaves and sporocarps provide food for aquatic animals, and even stock will eat them. Spores probably move around in blown dust, or mud on birds' feet, but growing rhizomes can, with care, be transplanted, and specialist wetland nurseries may have plants for sale.

Penny Hussey