

SOON after the first rains, early in winter, rocky areas throughout the Hills and Avon Valley are bedecked with a scramble of yellow flowers. The tiny blossoms on wiry twining stems stand out clearly against the dark grey of dolerite rocks like a necklace of golden beads. Later in the year the yellow-green, arrow-head-shaped leaves are more obvious, then, as summer's heat cranks up, everything dies back, leaving only the biscuit-brown winged fruits guarding their papery winged seeds. This is Warrine, the native yam.

The Yam Family, Dioscoreaceae, has six genera and around 600 species, mostly in the tropical areas of Asia, Africa and America. Some are extremely important as human food. Several species of *Dioscorea* have been cultivated for thousands of years and, with cassava, provide the main starchy food for millions of people; in the West Indies, tropical South America, the Pacific islands, wet tropical parts of Africa and the Asiatic tropics. All are twining plants with large storage roots (the one I grew in West Africa developed tubers two feet long and six inches thick). They all have the advantage of easy cultivation, easy vegetative propagation, freedom from pests and diseases and easy storage without deterioration.

In Australia there are five yams, two are endemic while three are introduced, probably by Maccassan fishermen. All but one are found in the tropical north.

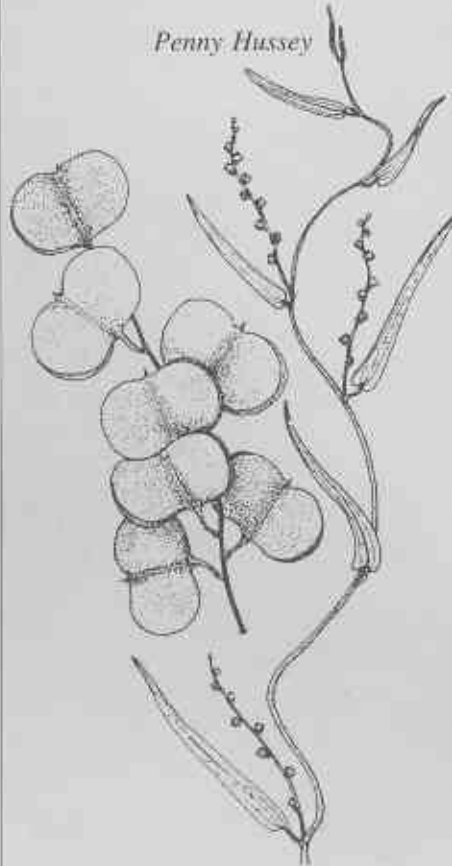
As they still do today, fishing boats from the north make long voyages to Australia, carrying a store of yams as food. Perhaps the crew deliberately planted sections of tuber for use when they returned, or maybe the plants grew from scraps, but it seems very likely that, for example, *D. bulbilifera* which grows in disturbed rainforests and coastal vine thickets all around the north coast was carried here by them. It produces both potato-like tubers and bulbils on the stem, and the Bardi people have learnt to eat it, both the tuber and the bulbils, roasted in hot ashes.

Warrine (*D. hastifolia*) however, is an endemic, found only from the

## FLORA

### WARRINE - THE LOCAL YAM

Penny Hussey



Murchison River to the Darling Range south of Perth, on rocky soil, among forest, woodland or thicket, not penetrating much further inland than the western edge of the wheatbelt. It, too, grows from underground tubers and these were gathered in considerable numbers by Noongyar people.

The tuber grows about 30cm underground, all you have to do is dig it up. Sound easy? Well, try it some day! Not only is it hard to dig on rocky ground (imagine doing it with a digging stick) but you have to follow the stem down from the surface, which is easier said than done as it is thinner than string and may bend a lot. Is it any wonder that the women, whose job this was, returned year after year to the same sites, where digging was relatively easy! They chose places where dolerite outcropped at the surface, and had eroded into numerous small boulders. By simply pulling the

boulders away, and rolling them downslope, they could easily get at the buried tubers, and just as easily replant ones which were too small to eat at that time. Over thousands - perhaps tens of thousands - of years, these actions have created a scree of dolerite boulders with Warrine growing thickly all over them. These are 'yamming grounds' and you can find them all through the northern jarrah forest, Darling Range and Avon Valley. These actions prompted the eminent botanist, Baron Ferdinand von Mueller, to note of *D. hastifolia* "The tubers are largely consumed by the local aborigines for food; it is the only plant on which they bestow any kind of cultivation, crude as it is".

There is a very famous yamming ground in Walyunga National Park, where annually there would be a big gathering of people alongside the pools in the river. The men would go hunting, or sit around talking politics, while the women did the hard work of digging the yams. But, like any community event, there would have been a lot of fun too!

It is important to cook yams, as the tubers of some species contain poisonous alkaloids which leave an unpleasant effect in the mouth and throat if eaten raw. (Some of these may have economic value - *D. villosa* from North America is the richest known source of phytoestrogen and was used by the Native Americans to treat female health disorders. In the 1930s scientists extracted steroid hormones from these wild yams which were eventually used in the making of birth control pills.) Whereas in the edible cultivated yams the toxins have mostly been bred out and the small amount remaining is easily destroyed by boiling, Aboriginal people in eastern Australia used complex preparation techniques of soaking and mashing to extract the unpleasant principle from the yams found in their area. Warrines should be roasted or boiled before eating.

So, when you see Warrine flowers shimmering in the sunlight this winter, think about how they fitted into the Australian picture of Man in the landscape!