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PRELIMINARY NOTES ON THE ETHNO-BOTANY OF THE GUGADJA ABORIGINES AT BALGO, WESTERN AUSTRALIA.

By Anthony R. Peile

Balgo Mission, via Halls Creek, W.A. 6770

ABSTRACT

Much can be learned from the Aborigines about flora. To gain this knowledge, we should inquire about a plant's habitat and about how it is used for fabrication, food, traditional medicine and animal diet, etc. The knowledge the Aborigines have of botany and the difficulties involved in gaining knowledge is illustrated by material from the Gugadja Aborigines at Balgo in Western Australia.

In February, 1979, when some Aboriginal women and children were swimming in a lagoon south of Billiluna in the East Kimberley, one woman told me as she was picking flowers of *Nymphaea gigantea* Hook.[1] and *Nymphoides hydrocharoides* (F. Muell.) Kuntze that the two plants were "sisters" (*tjuṯurarra* in Gugadja (see Appendix 1), the language she was speaking). This remark illustrates the close knowledge of plants the Aborigines have, as these are both water-plants that share the same habitat, billabongs and lagoons. Much can be learned in the field of botanical research from tribally-oriented Aborigines because they live very close to their environment and very close to nature.

I am engaged in a study of the Gugadja language at Balgo Mission, which is situated 270 km south of Halls Creek in the East Kimberley. As part of this study, I am researching their knowledge of botany. Besides generic terms for tree or shrub (*waṯa*), grass (*yipiri*), spinifex (*maṉkalpa*) and prickly plants like *Tribulus* spp. (*tjilka-tjilka*), they have specific names for very many trees, shrubs, grasses and even fungi. Besides these names, the Gugadja Aborigines have many terms that have reference to plants. The following are just a few of these terms chosen at random from my files.

kirrkinpa - a tree with low branches
kumpunytungu - name given to mounds of seeds heaped up by ants

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1. The superscript letters after the taxonomic terms refer to the Herbaria where voucher specimens of the plants cited are held.

a - Arid Zone Research Institutde, Alice Springs, N.T.

b - Herbarium Australiense, Canberra, A.C.T.

c - Western Australian Herbarium, South Perth, W.A.

lumurrtu - a closed bud
miyirirrriwa - refers to much sugary secretion from the nectary in a flower
ngilanpa - brown pulp inside the gall of the coccid bug, *Apiomorpha*, on *Eucalyptus terminalis* F. Muell. This gall is frequently parasitized by the *Cameronella* wasp and is tunnelled by the larvae of *Palaeotoma styphelana* Meyr. (CSIRO, 1973 921, 800).
ngunyarrma - three-pointed thorn, as on *Tribulus terrestris*
pulkunpa - a large, shady tree
tjunmilyi-milyi - refers to the presence of a large quantity of yams, edible bulbs, etc. in a certain area.

Full details of these botanical terms together with the Gugadja terms for the flora in the Gugadja tribal country with European scientific equivalents will be published later.

Not only am I endeavouring to research the Gugadja terms for Flora, but also to learn from the Aborigines something about each plant. To obtain such inflormation, I try to obtain answers to a number of questions. Obviously each question is not applicable to every plant. The following texts give examples of the answers and comments about a number of plants - these are given in Gugadja with a literal translation in order to express Aboriginal botany in their own words.

Question 1: Where is the plant found?

Hibiscus sturtii Hook.[b] - *putju-putjulyulyu*
Yanga *mankal - pani - ngka.*
that spinifex-not-in
- That is growing where there is no spinifex.

Panicum australiense Domin[a] - *yitakatji, warupunyu* -
- Found in burnt country.

Question 2: Is the plant eaten? If so, what part is eaten? Are the seeds, etc., eaten as they are? Or, are they ground up and eaten? Are they ground up and made into a damper?

Clerodendrum floribundum R.Br.[a] - *witipi* - drought food, roots roasted in a fire. The burnt endodermis is peeled off and the cooked phloem and xylem is eaten, but not the pith.

Eragrostis leptocarpa Benth.[a] - *waryal-waryalpa* - seeds made into damper.

Eucalyptus gamophylla F. Muell. - *waranpa* - nectar sucked from the flower, edible seed with a nutty taste.

Grevillea wickhamii Meisn.[a] - *yintinga, yinnginga* - exudate eaten.

Pisolithus tinctorius -- *matjati, matjaputi, puti-puti, tututu.* Younger specimens with white and brown appearance inside are eaten, raw or cooked, not the older ones with the dirty brown powder inside.

Question 3: Is the plant used as a traditional remedy, as a bush-medicine? Does it cause any ill-effects?

Euphorbia drummondii Boissier[a] - *yipi-yipi, yipikuyu-kuyu.* Mothers rub their breasts with wet *Euphorbia* leaves to promote the flow of milk. It is also rubbed on itchy sores. The *Euphorbia* spp. have milky latex which contains lacton euphorbon, a strong local stimulant (Schoenfelder-Fischer, 1974: 130).

Melothria maderaspantana (L.) Cogn.[a] - *wanta-kapi-kapi* - This vine is wrapped around the head as a remedy against headaches.
Nymphaea gigantea Hook. - *mangka-nyungu, pinanyi* - Leaves are rubbed all over the body to prevent leech-bites.

Question 4: Is the plant used for fabricating instruments?
Acacia aneura F. Muell. ex Benth.[a] - *pakuta* - wood used for making boomerangs and other implements.
Ventilago viminalis Hook.[a] - *walakari* - wood used for making boomerangs.

Question 5: Has the plant other uses?
Dicrastylis exsuccosa (F. Muell.) Druce[a] - *tilpa* - used for making fire and for decorative purposes.
Didymotheca tepperi F. Muell. (*Gyrostemon tepperi*)[a] - *kungkungu* used for poisoning water where emus drink.
Erythrina vespertilio Benth.[c] - *kumpupanu* -Beads are strung together as a necklace, sometimes alternately with *nyitu* seeds (from *Stylobasium spathulatum* Desf.[a]) and worn by men or women during ceremonies. At other times women might wear this necklace so that they will become pregnant.

Question 6: Is the plant eaten by animals or birds: Which?
Acacia ancistrocarpa Maiden & Blakely - *watarurru* - eaten by turkeys (*Eupodotis australis*).
Acacia victoriae Benth.[a] - *pukulpi* - eaten by goannas.
Cassia oligophylla F. Muell.[a] - *punti* - eaten by caterpillars.
Keraudrenia nephrosperma (F. Muell.) F. Muell. ex J.M. Black - *puti-puti* - eaten by birds.
Trianthema oxycalyptra F. Muell.[a] - *warrkati* - eaten by kangaroos.

Question 7: Have animals any other relationship to the plant? Depending on the type of tree, one might ask such questions as:- Do certain animals specially rest in its shade? Are caterpillars found in its roots?
Acacia kempeana F. Muell.[a] - *karrukura, ngalkuri, yilkawara* - Witchetty grubs (*Cnemoplates edulis* Newman) are found in its roots.
Capparus umbonata Lindl.[a] - *tjukurru, yitirringki* - "emu-camp", "kangaroo-camp".
Erythrina vespertilio Benth.[c] - *kumpupanu* - The frog, *Limnodynastes spenceri* Parker is found near its roots. (Peile, 1978b: 11).

Question 8: Is the plant sacred? Has it any dreamtime significance?
The dreamtime heroes (*tingari*) used both the *Acacia murrayana* F. Muell. ex Benth. and *A. lysiphloia* F. Muell. in their journeys around the desert country. *Acacia ancistrocarpa* Maiden & Blakely[a] is considered secret and sacred (*taruku*) when it is used during sacred ceremonies. The newly-initiated young man (*malulu*) wears a bunch of this *Acacia* species in front of his private parts - it is held in place by a hair-belt around the waist. In laboratory experiments Dr. W. Griffen of the Pharmacy Department of Brisbane University has found *A. ancistrocarpa* leaves have a positive reaction to Staphylococcus (1978: pers. comm.). The newly-circumcised penis would be very tender and prone to infection - *Acacia* might have a role in its prevention, though the Aborigines certainly would not have known this.

In ethno-botanical research, there are many difficulties involved. One must be wary of generic names or descriptions that are given to a certain

group of plants. For example, *yutaly-yutalyba* refers to a plant with woolly or hairy stems such as *Corchorus sidoides* F. Muell.[a], *Lachnostachys cliftonii* F. Muell.[a] or *Newcastelia chrysotricha* F. Muell.[a] The Aborigines might also make some comment about a particular plant and this could be taken by somebody not particularly fluent in the particular language to be taken to be the name of the plant. For example, an informant might make the comment, *munkutjatu* - plenty of nectar or *yuwalayi* - small flowers. In my first botanical field-notes I have written *pukarra* as the term for *Calytrix microphylla* A. Cunn.[a] This term refers to a plant which is not used for anything or to a "bad" tree as the Gugadja say in English. The correct term for this woody plant is *kuntili-kuntili*. Thomson (1975: 102) gives *molbu* as the Pintupi term for the truffle, *Elderia* sp. The term, *mulpu*, refers to a plant or fungus breaking through the soil or to a girl's prepubescent breasts. Thomson understood his informants' comments as the name for the fungus. Even the old people who know the bush intimately do not know the name of every plant. They will readily admit this and ask somebody else. In 1976, one man in his early fifties told me that he did not know the name of a certain plant (*Bonamia rosea* (F. Muell.) Hall.[a] - *pilyarr-pilyarrpa*). His friend immediately told him in Gugadja: "You should know that, it is good emu tucker." Some plants do not have specific names, for example, even the common *Salsola kali* L.[a] is just referred to as *tjilka-tjilga*, which means thorny or prickly. On site out in the bush, it would be quite clear as to what plant was being referred to. People will sometimes identify a plant wrongly. It is wise, therefore, to have several agree on the one name or check it with another informant if it is not a common plant. If one does not have the resepct and confidence of the people, they may give the researcher the first word they think of - this is, more often than not, not even the name of any plant at all. In the literature I have sometimes discovered names of plants given in reply to questions the informant has obviously not been able to answer. In this case the Aborigine might have given any answer to satisfy the questioner.

The Gugadja sometimes give the same name to several species. For example, the name, *punyani*, has been given by different informants to *Tephrosia* spp. and to *Atriplex nummularia* Lindl.[a], though further research may reveal that somebody erred. Many species within a genus are sometimes not differentiated, e.g. *Amyema* spp.[a] - *mipurrpa*, *Haloragis* spp.[a] - *yinta-yinta*. Because the Aborigines sometimes differentiate probable undescribed subspecies or even different species, one has to qualify the taxonomic term with a further description. For example, *Acacia ptychophylla* F. Muell.[a] - *nyirrtjatu*, *Acacia* aff. *ptychophylla*[a] - *tjamunpa*; *Cyperus cunninghamii* (C.B. Clarke) C.A. Gardner[a] - *yipi-kuyurr-guyurrpa*, *Cyperus cunninghamii* (small form) - *tjina-purruntjarri*; *Eremophila latrobei* F. Muell. (blue form)[a] - *malupina*, *Eremophila latrobei* (narrow leaf form)[a] - *ngarawara*, *nyinbingka*.

Notes are also made of the names given in an Aboriginal language to "whiteman's tucker". The younger people at Balgo transfer Gugadja terms for traditional fruits to adventitious fruits. The following are some examples of this usage. The words given in inverted commas refer to the traditional plants when they are speaking English. *Capparis mitchellii* (Lindl. ex F. Muell.) Benth.[a] - *yitirringki*, "bush orange" - term applied to the orange. *Ipomoea costata* (F. Muell.) Benth.[a] - *kanti*, "bush-potato" - term applied to the potato. *Pentatropis kempeana* F. Muell.[a] - *kulipi* "bush banana" - term applied to the banana.

It is useful and revealing to analyse terms given to plants by the Aborigines. It is not always possible to do this as many terms apparently have no other meaning other than the name of the respective plant. It is

outside of the scope of the ordinary researcher to go to the depth Garnier (1976) does in his four-dimensional framework to analyse popular plant names. Still it is possible to examine many names and thereby gain a greater insight into the Aboriginal knowledge of botany. The plant terms that may be analysed etymologically refer sometimes to the appearance of the plant, its colour, its use, its intrinsic properties, its association with its habitat or with animals, etc. For example:

- Acanthaceae spp.[a] - *pulitira*. The root of this term is *puli*, meaning stone. The Acanthaceae found in Gugadja tribal country grow in rocky country.
- *Acacia dictyophleba* F. Muell.[a] - long spindly form - *kulatagura*. The root of this term is *kulata*, meaning, spear. The Gugadja term refers to the general appearance of the plant.
- *Cyanostegia cyanocalyx* (F. Muell.) C.A. Gardner[a] - *kuru-munga* (lit. eye-night). This term refers to its disc-like calyx, which has the appearance of an eye. There is no word in Gugadja for the colour, blue. Instead the words, *maru* (lit. black) or *munga* (lit. night) are used. The work, night, is appropriate for the brilliant, dark blue flowers of the *Cyanostegia*, although they are not as dark as the moonlit tropical night sky.
- *Keraudrenia nephrosperma* (F. Muell.) F. Muell. ex J.M. Black[a] - *puti-puti*. This is a reduplicated form of the noun, *puti*, which means mulga scrub, in which *Keraudrenia* frequently grows.
- *Petalostylis labicheoides* R.Br.[a] - *tjarra-laltu* (also known as *minyirr-minyirrpa*). The first term for this plant refers to its many small forked branches.

What has been said in this paper with regard to plants, can, with appropriate changes, be applied to fauna also. The same research should be carried out with regard to reptiles (cf. Peile, 1978a), marsupials, birds and other fauna, including spiders and insects, as the Aborigines know very much about fauna. After all it is their knowledge of the flora and fauna that has enabled them to live happily in their harsh desert environment for many thousands of years. They have, therefore, much to teach us *"katiyas"* (as the Gugadja call white people). We should be anxious to obtain this knowledge, before all is lost in today's rapidly changing conditions, where even tribally-oriented Aborigines living in a desert environment are giving up their traditional way of life and are not passing on, to the younger generation, all their knowledge of flora and fauna.

In conclusion I would like to thank Peter Latz of the Arid Zone Research Institute, Alice Springs, and Alex George, Western Australian Herbarium, Perth for their assistance in identifying most of the plants listed in this paper. An earlier version of this paper was given at the Ethno-Botany Workshop, Australian Institute of Aboriginal Studies, Canberra on 15-16th May, 1976.

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APPENDIX 1

There are over 600 Aboriginal languages and numerous dialects in Australia, many of which are today extinct. This is fortunately not the case with Gugadja. This language belongs to the Western Desert group of languages, which are spoken by Aborigines in the desert areas of Western Australia, northern South Australia and central west of the Northern Territory. The Western Desert languages are agglutinative in that tense and aspect suffixes, bound pronominal subjects, various modifiers, negatives and pluralizers occur as suffixes to the root stem. The Gugadja words in this paper are written in the literacy orthography rather than in the technical orthography for which special type is required. To pronounce the retroflex consonants, t, n, l, the tip of the tongue is turned back to the roof of the mouth. Special note should be made of the frequent nasal sound, "ng" which is pronounced like the "n" in the English words "think" or "finger". I hope that the ethno-botany research I am doing will contribute to a greater knowledge, understanding and appreciation of the Aboriginal languages and culture.

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