

A REVIEW OF THE USE OF *EREMOPHILA* (MYOPORACEAE) BY AUSTRALIAN ABORIGINES

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Abstract

Traditional uses of the desert shrub *Eremophila* by Aborigines have been documented. Historically, this desert genus has been valued for medicinal and cultural purposes by Aboriginal people in both coastal and central Australia, with *E. alternifolia* and *E. longifolia* the most significant species. Seventeen species have been used for a range of medical purposes. These ranged from fever, headaches, rheumatism, general well-being, scabies, to the initiation of mothers' milk after childbirth. *Eremophila* species were also utilised during ceremonial rites, initiations, as a form of display after battle and as a shroud during the burial ceremony. Some species were also used as a minor source of food. In Australia today, *Eremophila* species are regarded as either an invasive woody weed or as a shrub with horticultural potential.

Introduction

Much has been written in the past on traditional uses by Aborigines of the flora and fauna of Australia (Meggitt 1962). Early accounts of the first explorers and settlers penetrating the hinterland offer an understanding, not only of Aborigine culture but also European man's attitudes and conceptions of Aboriginal tribal life (Chewings 1936, Gillen 1968, D.F. & L.D. Satterthwait 1983). Many of these accounts are compilations of uses for a range of flora and fauna. However, in terms of plant uses, much of the original detail has been omitted or forgotten. For instance, little detailed information has been compiled on the desert shrub and small tree, known as *Eremophila*, even though it is one of the most widely distributed and diverse genera within Australia. Chinnock (*pers. comm.*) has recognised 210 species, of which 76 species are still to be described. Recent attention has focused on these shrubs because they are decorative and suitable for growing in low rainfall areas. Many are characterised by their spectacularly coloured flowers and calyx, and for this reason many are now used horticulturally (Chinnock 1982, Elliot and Jones 1984). Furthermore, these species offer an opportunity for revegetation programs. However, in the pastoral context some species are regarded as an invasive woody weed such as *E. sturtii* (Kerosene Bush) in New South Wales (Condon 1972) or as poisonous plants e.g. *E. maculata* (Emu Bush), which should be controlled (Everist 1981).

Eremophila species are locally dominant in the semi-arid and arid zones of Australia, and are characterised by their drought, fire, frost and grazing tolerances (Frazier 1965, Latz 1982, Mitchell and Wilcox 1988). Indeed, in many harsh environments where few shrubs prosper, these shrubs are often found flourishing. Many occur on impoverished soils or are indicative of degraded rangelands. As a consequence they are often collectively termed Poverty Bush in Western Australia, though Emu Bush is a common name used in the other states and territories of Australia. This aforementioned name is due to emus favouring the fruits as a food source (Davies 1978). Because they are widespread, many Aboriginal tribes have utilised them, primarily for their medicinal properties, as well as for cultural rites. They were also used as a minor food source by tribal Aborigines throughout arid Australia. This paper outlines in detail these traditional, cultural and food uses of *Eremophila* species.

Traditional medicinal uses of *Eremophila* species

Of all the *Eremophila* species throughout Australia *E. alternifolia* (Native Honeysuckle) appears to be the most important and is still considered by the old Aboriginal people as the "number one medicine" (Barr 1988). It is used both internally and externally, as a decongestant,

expectorant and analgesic, and for inducing general well-being. Because this shrub was considered as a general remedy, it was one of the few plants which the Aborigines often dried and stored, carrying the leaves with them in case of need (Low 1990). It is highly aromatic (Latz 1982), fenchone being the major constituent of its essential oil fraction (Barr 1988, Low 1990). The ailments reportedly cured by this shrub ranged from colds, influenza, headaches and fever, to relieving internal pain, cleansing septic wounds and encouraging deep sleep and pleasant dreams (Bowen 1975, Smith 1991, Tindale 1937). A detailed summary of medicinal uses of *Eremophila* species is shown in Table 1.

Species	Plant part	Preparation	Purpose	References
<i>E. alternifolia</i>	Leaves	Infusion/Ingested	Deep sleep	Tindale 1937
	Leaves	Decoction	Colds, influenza, headaches	Smith 1991
	Leaves	External	Internal pain	Barr 1988
	Leaves	External	Septic wounds	Bowen 1975
<i>E. bigoniiflora</i>	Leaves	Body wash	Fever	Smith 1991
	Fruits	Decoction	Laxative	Bowen 1975
<i>E. cuneifolia</i>	Leaves	Ingested	Purgative	Bowen 1975
<i>E. dalyana</i>	Leaves	Decoction	Colds	Lassak & McCarthy 1983
<i>E. dalyana</i>	Leaves	Body rub	Relieve chest pains	Latz 1982
	Leaves	Decoction	Body wash for scabies	O'Connell 1983
<i>E. duttonii</i>	Plant	Unknown	Unknown	Hale 1975; Meggitt 1962
	Leaves	Antiseptic wash	Sores, cuts, influenza, eye/ear	Smith 1991
	Leaves	Decoction	Sore throat	Barr 1988
<i>E. elderi</i>	Plant	Unknown	Unknown	Latz 1982
	Leaves	External	Bedding/head rest/colds	O'Connell 1983
<i>E. fraseri</i>	Leaves	Unknown	Unknown	Reid & Betts 1979
	Leaves	Decoction	Colds	Lassak & McCarthy 1983
	Plant	Unknown	Toothache and rheumatism	Lassak & McCarthy 1983
<i>E. freelingii</i>	Leaves	Decoction	Headaches and chest pains	Cleland & Tindale 1959
	Leaves	Decoction	Antiseptic wash for sores	Smith 1991
	Leaves	Infusion	Colds	Latz 1982
	Leaves	Decoction	Aches and pains	Low 1990
	Leaves	Decoction	Antidiarrhoea	Barr 1988
	Leaves	Infusion	Headache and rest	Lassak & McCarthy 1983
	Leaves	External	Pillow to promote rest	Meggitt 1962
<i>E. gilesii</i>	Leaves	Infusion	General well-being	Latz 1982
	Leaves	Decoction	Headaches and chest pains	Cleland & Tindale 1959
	Leaves	Body wash	Sores	Tynan 1979
	Leaves	Infusion	Colds	Latz 1982
	Leaves	Pillow	Promote rest	Latz 1982
<i>E. goodwinii</i>	Leaves	Infusion	General well-being	Latz 1982
<i>E. goodwinii</i>	Leaves	Decoction	Purgative	Latz 1982
<i>E. latrobei</i>	Leaves	Decoction	Body wash for scabies	Cleland & Tindale 1959
	Leaves	Infusion	Used to "smoke babies"	Meggitt 1962
	Leaves	Decoction	Colds	Smith 1991
	Leaves	External	Colds & influenza	Smith 1991

<i>E. longifolia</i>	Leaves	Decoction	Skin/body/wash	Silberbauer 1971
	Leaves	Infusion	"Smoke"	Cleland & Johnston 1933, 1937a
	Leaves	Decoction	mothers/new born babies	O'Connell 1983
	Leaves	Infusion	Eye wash	Spencer & Gillen 1969
<i>E. maculata</i>	Leaves	Decoction	Colds	Tynan 1979
	Leaves/twigs/bark	Infusion	Counter-irritant	Spencer & Gillen 1969
<i>E. mitchellii</i>	Twigs	Smoke	Headache	Cunningham et al. 1982
<i>E. neglecta</i>	Leaves	Poultice	Colds	Low 1990
<i>E. paisleyi</i>	Leaves/twigs	Decoction	General medicinal purposes	Latz 1982
<i>E. sturtii</i>	Branches	Infusion	General well-being	Latz 1982
<i>E. dalyana</i>	Shrub	Burnt ashes	Wash for scabies	Latz 1982
	Leaves	Decoction	Backaches	Silberbauer 1971
	Leaves	Infusion	Backaches	Bowen 1975
	Leaves	Decoction	Sores and cuts	Smith 1991
	Leaves	Infusion	Head colds and sore eyes	Barr 1988
<i>E. duttonii</i>	Leaves	Decoction	Antidiarrhoea	Barr 1988

Table 1. Medicinal uses of *Eremophila* species by Aborigines

O'Connell *et al.* (1983) comments that the Alyawarra people of Central Australia used *E. dalyana*, *E. duttonii* (Red Poverty Bush), *E. elderi*, *E. freelingii* (Native Fuchsia), *E. gilesii* (Green Turkey Bush), *E. latrobei* (Warty Leafed Eremophila) and *E. longifolia* (Berrigan) for their medicinal properties. Of these, *E. longifolia* appears to be the most important. It is widespread throughout continental Australia except for the extreme north. It is a tall and erect shrub or small tree (up to six metres high) typified by drooping branches and globular dark coloured fruits. Indeed, it is known as Native Plum or Weeping Emu Bush for the aforementioned reasons (Cribb and Cribb 1981, 1982). *E. longifolia* played an important role during the very early life of an Aboriginal infant. Some days after the child's birth, the child is placed in a wooden trough made from the Stuarts' Bean tree i.e. *Bauhinia carronii* (Irvine 1957) on a bed of finely powdered bark of the former. Dry kindling is placed in the bottom of a freshly dug trench and green twigs of *E. longifolia* are spread. The mother and child sit in the trench where these twigs are being burnt. The fumes of the burning wood are inhaled (Chewings 1936), and this is considered to strengthen the baby and stop the mother's bleeding (Latz 1982). Similar uses have also been recorded for *E. latrobei* (Meggitt 1962). Chewings (1936) also notes that the grandmother of the infant takes a burning twig in her hand and passes it over the face and upper part of her daughter-in-law's body, to increase the mother's milk-supply. The leaves, twigs and bark were used as a decoction to cure headaches and an infusion of leaves was applied to sore eyes, boils and for insomnia (Low 1990). A decoction was applied to sores and also drunk for colds (Lassak and McCarthy 1983) and used by the Walbiri tribe as a counter-irritant (Tynan 1979). The leaves and bark contain tannins, whilst the leaves contain an essential oil rich in safrole and methyleugenol (Della and Jefferies 1961).

The leaves of *E. freelingii* were utilised primarily as an antiseptic wash though aches and pains, headaches, diarrhoea, sores and chest pains were also treated (Barr 1988; Cleland and Tindale 1959; Lassak and McCarthy 1983; Low 1990; Smith 1991). Meggitt (1962) states that the leaves of *E. freelingii* were used as a pillow, whilst an infusion of leaves was taken for general well-being (Latz 1982). It is also one of the few Aboriginal remedies adopted by whites who brewed medicinal tea from the fragrant leaves which contain mostly alphapinene (Barr 1988; Low 1990).

E. dalyana, *E. duttonii*, *E. gilesii* and *E. latrobei* were all utilised primarily as a body rub, to alleviate chest pains and scabies (Tindale 1959, Tynan 1979; Cleland and Latz 1982;). One use of *E. duttonii*, was as a fly repellent (Smith 1991) and has resulted in the Aranda tribe naming it

Kangaroo Rolling because of the frequent incidences of kangaroos rolling around in this shrub, supposedly to reduce the intensity of insect attack. Silberbauer (1971) comments that because *E. sturtii* has fly-repellent qualities, its branches were used by early European man to thatch meat-houses. Tynan (1979) details the preparation of *E. gilesii* (by the Walbiri people of Alice Springs) which consisted of drying the fine leaves and then mixing them with fat or alternatively making a solution by soaking the leaves in water for a day. It is then used to rub on sores though when it is "made like tea" it may also be drunk for a cold. Of interest are the uses of *E. bignoniiflora* (Gooramurra) and *E. goodwinii* (Purple Fuchsia Bush) as purgatives. In the case of *E. goodwinii* the leaves were prepared as a decoction (Latz 1982) whilst for *E. bignoniiflora* the fruits were eaten. Bowen (1975) states that this remedy was only utilised in drastic cases of sickness. Of minor importance were species such as *E. mitchellii* (False Sandalwood) whose twigs were burnt to promote a feeling of general well-being, while *E. elderi* provided bedding material respectively (Table 1).

Cultural uses of *Eremophila* species

Eremophila species have played a role in the ceremonial life of Aboriginal people (Table 2). Of all the species utilised, *E. longifolia* appears to be of special significance for Central Australian Aborigines, and is considered to be the most sacred and mystical of all Central Australian plants (Latz 1982). The leaves and branches were used in elaborate circumcision rites where small sprigs were placed in headbands and armbands of the novices. Dances were performed, such as one known as the Quabara Akakia (Plum Tree), which occurred at Iliakilia in the Waterhouse Range in Central Australia. Quabara was the name applied generally to the sacred ceremonies which only initiated men may witness and take part in (Spencer and Gillen 1969). This event would be followed by singing for several hours and then the young men allotted for initiation were decorated with twigs and leaves which were placed in their headbands. This material was known as wetta, and would be worn until the end of the ceremony. According to Spencer and Gillen (1969) this plant played an important role in the Engwura ceremony, which was a series of ceremonies attendant upon the last rites concerned with initiation. In other ceremonies, the foliage was heated to produce acrid smoke. Leaves were also used to brush sacred objects and bodies of men during rituals, whilst the branches were used to line graves and shroud bodies (Meggitt 1962; Spencer and Gillen 1969; Strehlow 1968). The Northern Aranda people of Central Australia permitted water to be collected from sacred waterholes only if fresh *E. longifolia* branches were held upon approaching the site and laid down near the water's edge. This was done to please the totemic ancestor Karora (Strehlow 1968, 1971), who was lying in eternal sleep at the bottom of the Iibalintja Soak. During the Spencer and Gillen Expedition to Central Australia during 1901 - 1902, the use of *E. longifolia* branches by Aranda people was documented during an Atninga (war party) in Central Australia. In this instance Gillen (1968) notes that a murder was committed by an Aborigine who had come to a locality in the form of a Kurdaitcha, the name applied to a man who has gone out on his own initiative, wearing emu-feather shoes to kill an individual accused of having injured someone by magic (Spencer and Gillen 1969).

This person pointed a bone at the wife of a tribal member, causing her great suffering and death. As a consequence a war party was gathered, and when unable to find the man who had committed the crime, killed his father (an old man) because he was aware of his son's malicious intentions but did nothing to stop him. Twigs of *E. longifolia* adorned the armbands, forehead bands and the nose septum of the returning war party to signify the death of an enemy. On returning to their camp members of the war party danced fully armed up the bed of a river, with a characteristic high knee action, whilst they displayed the foliage of the shrub. Other uses of *E. longifolia* involved tanning water bag skins with extracts from the bark (Bowen 1975).

Species	Plant part	Preparation	Purpose	References
<i>E. fraseri</i>	Leaves	Decoction	Resinous extract for cementing	Cribb & Cribb 1982
<i>E. freelingii</i>	Flowers	External	Ceremonial purposes	Cleland & Johnston 1937a
<i>E. longifolia</i>	Leaves	Infusion	Ceremonial rites	Gillen 1968
	Branches	Infusion	Blacken artefacts/bodies in rituals	Hale 1975
	Twigs	Funeral rites	Line graves & shrouding bodies	Meggitt 1962
	Branches	Ceremonial	Placed in headbands	Latz 1982; Strehlow 1968, 1971
	Leaves Bark	Ceremonial Extract	Initiation Tanning water bags	Meggitt 1962 Bowen 1975
<i>E. mitchellii</i>	Wood	Raw	Carvings	Cribb & Cribb 1982
<i>E. oppositifolia</i>	Bark	Extract	Tanning water bottles	Cribb & Cribb 1982; Bowen 1975

Table 2. Cultural uses of *Eremophila* species by Aborigines

Many *Eremophila* species, such as *E. fraseri* (Turpentine Bush) of Western Australia, in common with other desert-adapted species such as *Acacia* (Mulga), *Triodia* (Spinifex) and *Xanthorrhoea* (Grass Tree), produce copious quantities of a resinous exudate which accumulates on the leaves and branchlets. These resins were collected by the Aboriginal people and used as sealants and adhesive materials (Cribb & Cribb 1982). In Queensland *E. mitchellii* was used for carvings (Cribb & Cribb 1982) whilst on a more practical basis Bowen (1975) notes that a bark extract of *E. oppositifolia* (Weeooka) was used in tanning water bottles. Of minor importance was the use of flowers, such as *E. freelingii* for ceremonial purposes (Cleland & Johnston 1937a). The flowers are tubular, whitish, lilac, lavender to pale blue (Elliot & Jones 1984) and adorned the headbands (Cleland & Johnston 1937a).

Eremophila species as sources of food

Few *Eremophila* species were considered important as food. The flowers and leaves of *E. freelingii* and *E. latrobei* (Table 3) were utilised by the Walbirri tribe of the Northern Territory, and, it is known that the nectar of the flowers was drunk and regarded as a delicacy. Irvine (1957) regards these nectars primarily as famine foods. Little is known of the actual preparation of the leaves of the aforementioned shrubs (Meggitt 1962). Indeed, Meggitt (1957) comments that edible leaves form but a minute part of Aboriginal diets. Nevertheless, leaves of *E. longifolia* were used in the cooking process, to surround emu flesh thus giving it an aromatic flavour (Smith 1991), presumably produced by the fenchone which is abundant in the essential oil. Fruits are also reputedly food for emus (Cleland & Tindale 1954). Of secondary importance were green caterpillars, known as Tnurujatja by the Aranda people of Central Australia, which were collected from the twigs of this shrub and eaten (Strehlow 1968). Though *Eremophila* fruits were not eaten, fruits of another member of the Myoporaceae, *Myoporum damperi* (= *M. montanum*) (Spencer 1896) were consumed.

Species	Plant part	Preparation	Purpose	References
<i>E. freelingii</i>	Leaves	Decoction infused	Tea substitute	Silberbauer 1971
	Leaves	Infused	Sugar substitute	Silberbauer 1971
	Flowers/leaves	Unknown	Unknown	Meggitt 1962
<i>E. latrobei</i>	Flower	Raw	Nectar as food delicacy	Cleland & Johnston 1933, 1937b
	Flowers/leaves	Unknown	Unknown	Meggitt 1962

<i>E longifolia</i>	Leaves	Raw	Flavour emu fat when cooking	Smith 1991
	Twigs	Unknown	Green caterpillar found on leaves	Cribb & Cribb 1982

Table 3. Food uses of *Eremophila* species by Aborigines

Conclusions

Eremophila is an important desert genus which is widely utilised by Aborigines in Australia. Early into the life of an Aborigine, *Eremophila* plant parts were utilised, as illustrated by the use of cleansing a new born child with the infusion of leaves (*E. longifolia*) to strengthen it for life's struggles ahead. Throughout an Aborigines' life, *Eremophila* shrubs would be sought for their medicinal qualities. During tribal movements, dried foliage of *E. alternifolia* may be found amongst the few possessions carried in case of emergencies. They were incorporated in cultural rites, as well as for the worship of their feared and loved totemic ancestors, whom they were propitiating and whose goodwill they were drawing upon themselves by carrying out these traditional rites (Strehlow 1971). For the young Aboriginal male, *Eremophila* species were used in the elaborate and complex ceremonies which took him from boyhood to manhood. Finally in death, *Eremophila* species were involved in ceremonial rites, with branches lining the graves and shrouding the bodies during the burial ceremony.

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