Emerald Cypress *(Callitris glaucophylla)* medicinal properties

Composition of the CO2 extract of *Callitris glaucophylla*

substance	$\%Area_{FID}$
guaiol	18,33
columellarine	15,38
P- + a-eudesmol	12,04
callitrisin isomer + dihydrodehydrocostus lactone	9,99
bulnesol	8,86
dihydrocolumellarine	6,24
callitrin isomer	3,25
Y-eudesmol	2,55
methyl eugenol	2,04
cryptomeridiol	1,52
dihydrodiplophylline	1,44
dihydrocallitrisin	1,37
methyl citronellate	1,16
geranial	0,95

Liquid CO2 extract looks like bown-yellow resinous liquid.
Aroma is fresh worm woody. Skin keeps Cypress aroma for 4-5 hours.
Skin absorbed extract easy in minutes.
CO2 extract of Cypress can be added to cosmetics in 0,01 - 0,2% w/w.

The Emerald Cypress, Murray or Western Pine, *Callitris glaucophylla* (syns *Callitris columellaris* var. *campestris, C glauca)* Proprties

Australian Sandarac

The *Callitris* Pines (Cupressaceae) were as valued a timber resource as the Araucariaceae. However, the Sandarac resin they yielded was a less familiar product that pharmacists were more likely to appreciate. Sandarac was useful in for the preparation of ointments, pills and plasters - and, commercially, for the production of varnish or incense.
Callitris pine timber had attractive aromatic qualities and Australian pioneer settlers inhaled the fragrant fumes of the burning timber for pain relief and to alleviate chills. These fragrant qualities were highly appreciated, as Joseph Maiden commented: 'There is nothing more delightful in the approach, on a winter evening, to a township where Cypress Pine is used as a fuel. Its delicious perfume is borne on the air for miles, and is often the first intimation that the weary traveller experiences that he is approaching a human habitation, and his long journey is drawing to a close.

In a 1960 review of the natural plant products industry of Australia, Professor H.H. McKern mentioned a Callitris-derived 'Australian Sandarac' that was considered to be very similar to the conventional Sandarac:
In the case of the Australian product this should strictly be called *Callitris* resin, since it is collected from several species of this genus which is closely related to *Tetraclinis* of North Africa,[11] the normal commercial source of sandarac. However, recent shortages in supply have caused overseas consumers to turn to Australia for a substitute. It has long been known that *Callitris* resins are similar to African sandarac, that from *Callitris columellaris* being indistinguishable. Commercial supplies are, however, drawn from *Callitris hugelii,* the white cypress pine. Although the living tree exudes a certain amount of resin from the trunk, the greatest yield is found from the stumps left after timber-getting operations

Callitris Pines were of considerable practical medicinal value to Aboriginal people. A decoction made from White Cypress *{Callitris glaucophylla[15])* leaves (sometimes with the twigs added) provided a wash for treating sores, rashes and scabies. In Central Australia the aromatic leaves were used as a decongestant for treating chest colds. In addition, they were used as a form of fumigation treatment. A hole dug in the ground was filled with the leafy branches, which smoked profusely when lit. The patient, who would stand over the site, became enveloped in a fragrant smoky haze. This heat had a diaphoretic effect and induced a great deal of sweating. The ritual was said to greatly improve the symptoms. The resin was also made into an ointment with animal fat, which was rubbed on locally to ease body aches and pains.
European settlers used the same process for making plasters (Barr 1988, 1993; Isaacs 1994; Latz 1996). In addition, the Black Cypress Pine *{Callitris endlicheri)* had a reputation for possessing vermifugal properties. The twigs were used, mixed with fodder, to rid horses of worms (Lassak & McCarthy 1992). The other species in the *Callitris* genus appear to have an insignificant level of antibacterial activity. The essential oil of *Callitris glaucophylla* demonstrated activity only at a high concentration, as did that of *C. intratropica.* The latter had a minor level of activity against *Staphylococcus aureus* (Wilkinson 2005). Egyptian studies of extracts of *Callitris glaucophylla* have shown insecticidal activity against mosquito larvae, albeit less potent than conventional insecticides. Guaiol and citronellic acid were among the major components of the oil - although it is interesting to note that the effect of these constituents was less than that of the oil itself (Essam Abdel 2006).

Anticancer studies

CSIRO investigations of the Australian *Callitris* genus established that a number of species had positive anticancer activity: *C columellaris, C. drummondii, C. preissii, C rhomboidea* (syn. *C tasmanicd), C robusta* and *C. verrucosa.*
active constituent of *Callitris columellaris* was found to be desoxypodophyllotoxin (Collins 1990). The related compound podophyllotoxin, originally isolated from the *Podophyllum* genus of herbs (family: Berberidaceae), is an established anti-tumour agent with antimitotic, cathartic and antiviral actions that has been in common use as an external treatment for genital warts.[17] Importantly, podophyllotox-

in is used as the starting point for the chemical synthesis of etoposide (VP-16-213) and teniposide (VM-26) -drugs that are used for treating lung cancer, leukaemia and some other types of tumours.
The Aborigines use the *Callitris* tree in many different ways: as an adhesive, as firewood, as implements, as medicine, and it has an importance in their mythological world.
A book by an Aboriginal woman belonging to the Arrernte people, describes all the traditional medicines and healing methods her aboriginal tribe uses. They use different parts of the tree to heal their patients. The leaves of *Callitris glaucophylla*, called *Irlweke*, were hackled and put into boiling water, then they are used to wash an itchy body or mixed with fat to be rubbed on the chest of a patient suffering from flu. The inner bark of the *Irlweke* was peeled off the tree and the patient got enwrapped with it to heal stomach-ache. An important part of Aboriginal medicine treatments are sweating treatments – *Antyeye itnyetyeke mpwareme*. This is to cure bad influenza, including fever, pain all over the body and hot or cold flushes. The fresh sticky bark builds a "bed" where the patient is laid on, then he gets enwrapped with the bark, so that he can sweat out the illness [11].

Cheryll Williams. Medicinal Plants in Australia