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THE FIRST TRULY INDEPENDENT WATCHDOG FOR THOSE  
WORKING WITH NATURAL AROMATIC MATERIALS

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## Notes on Minor Oils

### - Blue Cypress Oil (Further Update).

[*Callitris intratropica* Benth. et Hook f.]

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#### Pre-amble.

In keeping with our follow up investigations on failed get-rich-quick plantation schemes in Australia, I am thankful to Jim Gobert for alerting me to another story, which has, allegedly, lost investors millions. Blue cypress essential oil was initially produced by a special process from the heartwood, wood, and bark of the North Cypress Pine - *Callitris intratropica* Benth. et Hook f - a member of the Southern Conifer group of the Cupressaceae family, and which grows to 45m. having fragrant wood. *C. intratropica* is one of a number of native cypress trees which grow in the aboriginal lands of Australia (e.g. the northerly Bathurst and Melville Islands), but its geographic isolation has prevented its commercial exploitation for a considerable time. Aboriginal uses of the resin from *Callitris intratropica* include employment as glue and for contraceptive uses according to Bowman & Harris (1995), although Native Tiwi & aboriginal uses of *Callitris intratropica* are also known to include functions as an insect repellent (bark), analgesic (ashes) and to heal sores and cuts (infusion of bark).

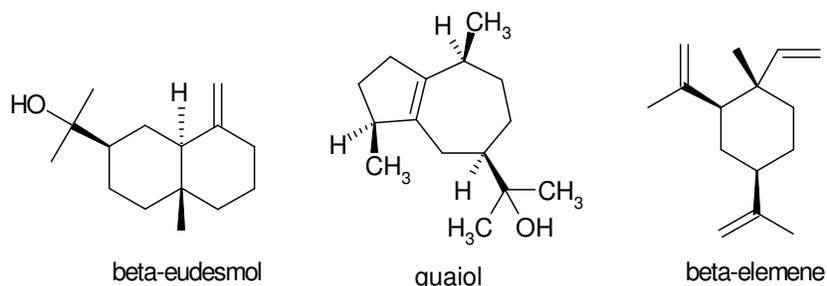
#### Properties.

Cropwatch's opinion is that it is hard to see why the oil should be particularly attractive to perfumers. Burfield (2000) describes the oil as follows: "In colder weather the oil may become semi-, or almost completely, solid (presumably due to the guaiol content). The odour is overwhelmingly woody, and slightly earthy, the top-note being multi-faceted, with the following aspects being discernable: there is a medicinal almost ylang ylang-like note, a minor pine-like quality, a touch of spiciness and a pineapple-like fruitiness. After a few minutes the odour profile becomes piney-resinous, loosing some dryness and becoming sweeter. The dry-out is woody-earthy and celery-like." The material isn't regarded by the author as a particularly interesting perfumery material, but it may have a certain status in some quarters as a novelty ingredient.

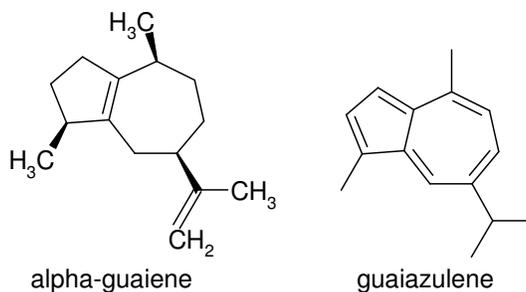
Baker and Smith (1910) reported on the leaf and branchlet oil, obtained in 0.11% yield, which they reported as resembling *Callitris* leaf oils generally and with a lemon aspect; Webb describes leaf oils as turpentine-like with a high limonene

content. Baker and Smith also report on the wood from Port Darwin trees of *C. intratropica* bearing crystals of guaiol when cut, which they also noticed in specimens of *C. glauca*. Domio (2001) notes that the azulenes in Blue Cypress oil are an artefact resulting from the distillation process and suggests that distillers maximize the blue oil production by a secret process. The oil was widely promoted in the essential oils and aromatherapy professions a decade past, and can be steam distilled from the powdered heartwood when a colourless oil is obtained according to Webb (2001)(other sources say pale lemon-green oil), but when this oil is reacted with natural resinous compounds in the bark & cambium, a cobalt blue oil containing guaiazulene is obtained – presumably the secret process referred to by Domio above. Solvent extracted “oil” was also formerly available, appearing as a deep blue-black, highly coloured-mobile liquid.

The composition of the oil is summarized again by Burfield (2000): “The commercial oil contains sesquiterpenes such as  $\beta$ -elemene,  $\alpha$ -guaiene and  $\delta$ -selinene, and sesquiterpene alcohols such as guaiol (26%) and  $\beta$ -eudesmol (6.3%). The blue colouring may be ascribed, at least in part, to the presence of guaiazulene (1.6%) although other complex structures with a resemblance to the azulene moiety are present.



In a (somewhat strange) attempt to compare the oil with other commercial oils, some attention has previously been drawn to an alleged similarity with another guaiol containing oil: guaiacwood oil from *Bulnesia sarmientoi*, although the sweetness of guaiacwood oil is not particularly mirrored in this oil. However the oil has been ‘image marketed’ in the cosmetics trade, based on the fact that it is the only (?) wood oil containing guaiazulene which has alleged anti-bacterial properties (although a more cost-effective and more ecologically sound plant source of guaiazulene is probably found in German chamomile oil from *Matricaria recutita*).



McGilvray (1998) wrote an introductory article on the modern production history of the oil. Bowles (2000) also set out the oil's history & the chemistry too, as well as outlining the uses of the oil, remarking on its anti-inflammatory, anti-irritant and anti-viral effects. McGilvray also contributed to a book on Blue Cypress oil by Olsen (2000). This author's own experience of the oil has been less upbeat than the descriptions by the authors mentioned above, since they center around poor mid to long-term keeping quality and unacceptable batch-to-batch variability.

### **Safety.**

We have little independent data available on safety issues with this essential oil. McGilvray (1977) thro' Webb (1997) indicated that the oil is non-toxic, non-irritant & non-sensitising with an oral LD50 > 2000mg/Kg and dermal LD50 >2000mg/Kg.

### **Legal wrangles**

*The Age*, an Australian newspaper, carried a story ("Bitter Blue") on April 21, 2004, describing a legal wrangle over patents and allegations of deception. The battle is described as being between Mike Collins who claims to have discovered the oil first, and Bill McGilvray, well known essential oil producer, and former president of the Australian Tea-Tree Industry Association. The article describes a decision taken by the Delegate of the Commissioner of Patents in June 2002, ruling that McGilvray should lose the rights to log the trees on Aboriginal and on Crown land for allegedly breaching contracts and failing to pay royalties according to the Government and spokesmen of the Tiwi aboriginal people. It is further reported in the article that seven South African investors lost \$100,000 in the wrangle. You can read the full story at <http://www.theage.com.au/articles/2004/04/20/1082395850945.html>

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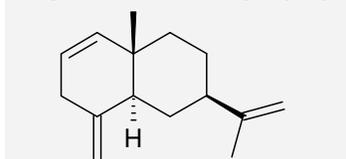
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(-)-Eudesma-1,4(15),11-triene

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