

Identification criteria for *Thuja* (species) used in medicine

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This study focuses on the identification of medicinally important properties found in *Thuja* species.

There are four main species of *Thuja* (Fam. Cupressaceae), *occidentalis* (Eastern white cedar), *orientalis* (Chinese arborvitae), *plicata* (Western red cedar) and *standishii* (*Thuja japonica*) (Banthorpe 1971).

Thuja consists of dried young twigs with coniferous pyramidal, flattened branches, the twigs in one plane bearing small scales, each species containing a volatile oil, flavonoids, mucilage and an astringent. The composition of volatile oil shows a great variation within the species and there is seasonal variation of constituent compounds.

Thuja species are traditionally used in medicine and reported to have anti-cancer, anti-haemorrhagic, haemostatic, antimicrobial and antiviral activity (Wren 1988).

Thuja occidentalis has been used in the treatment of verruca pedis (Khan et al 1984) and clinically evaluated in a controlled study of *Thuja* species in the treatment of verruca pedis (Khan 1997).

The plant material from each species was dried, ground and soxhlet extracted with methanol. The crude extracts were evaporated to dryness under reduced pressure at 40°C using a rota-evaporator and the dried extracts dissolved in 70% methanol.

The R_f value of each extract was compared on TLC silica gel 60F₂₅₄ aluminium sheet using toluene and ethyl acetate as the solvent system (Wagner et al 1984).

The results of this study showed a significant difference in the R_f value of each species indicating variation in the chemical constituents of each *Thuja* species (Banthorpe 1971).

It was also found in clinical studies that *Thuja occidentalis* was found to be more effective in the treatment of verruca pedis than *Thuja orientalis*, *Thuja plicata* and *Thuja standishii* (Khan 1997).

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