CHEMICAL INVESTIGATIONS OF THE VOLATILE OILS FROM KEKUNA RESIN (*CANARIUM ZEYLANICUM* THW.) AND *BIM-DUMMALA*

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The application of oil distilled from *Bim-dummala* (fossil resin) in the preservation of ancient paintings and wooden structures has been known for a long time. More recently the technique has been extended to the preservation of Ola-leaf manuscripts in the Museum.

Comparative analysis of the volatile oils from these two resins by gas chromatography showed interesting similarities. This evidence supports the view that Bim-dummala originates from Kekuna resin by fossilization.

The oil from fresh kekuna resin contains a large proportion of mono-terpene hydrocarbons such as Pinenes, Camphene, Terpinenes limonene p-Cymene and α-Phellandrene. The sesquiterpene and oxygenated mono-terpene compounds are present only in small amounts. The presence of 30% α-Phellandrene in this volatile oil has been reported(1). However no other compounds had been identified.

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The fossilized resin oil showed only traces of the mono-terpene hydrocarbon components and proportionately larger amounts of sesquiterpene and oxyterpene compounds.

The glc pattern of these compounds could be easily superimposed upon the sesquiterpene pattern seen in the oil from the fresh resin and among the sesquiterpenes identified were β-caryophyllene, α-humulene, farnesene and δ-elemene. Camphor and α-Terpineol were among the oxy-terpene compounds identified.

References

1. Chandrasena, J. P. C., *and* Hansbourenz, *J. Soc. Chem. Industry*, 362 (Nov. 10, 1933).