

SHORT COMMUNICATION

EXTRACTIVES OF LINDEN WOOD (*TILIA VULGARIS* HAYNE)

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Abstract—Very little attention has been paid to the extractives of linden wood¹ (*Tilia vulgaris* Hayne), although the extractives from the bark and the flowers have been extensively investigated.² In connection with a study of extractives from some deciduous trees (aspen³ and birch^{4,5}) we have examined the light petroleum soluble extract of linden wood which constituted 6 per cent of the dry wood.

A HYDROCARBON fraction (0.18 per cent of the dry wood) was obtained from the extract. This fraction contained squalene (95 per cent) and small amounts of straight chain hydrocarbons with 15–35 carbon atoms. Each of these latter compounds was present in about the same concentration, irrespective of the number of carbon atoms in the chain. Still smaller amounts of branched hydrocarbons also appear to be present.

Two further fraction contained fatty acid esters of sterols (0.06 per cent) and triglycerides (5.28 per cent), in which the most abundant acids are linoleic, palmitic, oleic, and linolenic. The acids are present in the ratio of about 5:1:1:1.

A sterol fraction (0.12 per cent) was also obtained, containing mainly β -sitosterol, but also small amounts of stigmastanol and stigmasterol, as shown by gas liquid chromatography and AgNO₃-thin layer chromatography.

A final fraction, containing unidentified compounds (0.06 per cent), was eluted from the silica gel column after the triglycerides but before the sterols.

Sucrose was isolated (0.6 per cent) from an acetone extract of the wood.

EXPERIMENTAL

The light petroleum soluble extractives (6 per cent of the dry wood) were isolated from the wood from branches (6 cm in dia.) of linden trees (cut during the winter season) as described for birch wood.^{4,5} The acetone extraction was carried out in two stages: first, extraction for 1 hr and then, with fresh acetone for 24 hr. When this second solution was cooled over night sucrose (0.6 per cent of the dry wood) precipitated, m.p. 187–190°C; $[\alpha]_D^{25} + 67.5$ (c, 1: H₂O).

The material soluble in light petroleum was analysed mainly as described for the corresponding of extractives from birch and aspen wood.^{3–5}

¹ H. THOMS and H. MICHAELIS, *Ber. Deut. Pharm. Ges.* **26**, 185 (1916).

² J. P. THÉALLET, *Prod. Pharm.* **18**, 12 (1963).

³ B. O. LINDGREN and C. M. SVAHN, *Acta Chem. Scand.* **20**, 1763 (1966).

⁴ B. O. LINDGREN, *Acta Chem. Scand.* **19**, 1317 (1965).

⁵ J. BERGMAN, B. O. LINDGREN and C. M. SVAHN, *Acta Chem. Scand.* **19**, 1661 (1965).