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SHORT COMMUNICATION

ROOT-BARK CONSTITUENTS OF *HYPERICUM ELATUM* AND *H. ANDROSAEMUM*

K. R. HARGREAVES

Chemistry Department, College of Technology, Dundee

J. CARNDUFF and A. NECHVATAL

Chemistry Department, University of Dundee, Dundee

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THE lipid constituents of *Hypericum elatum* Ait. and *H. androsaemum* L. have already been reported.[1] We have now examined other root-bark constituents of these plants.

H. elatum *Ait.*

The dried root bark, after extraction with boiling petrol (b.p. 60–80°), was extracted with ether and a portion of the solid extract was vacuum sublimed to furnish a colourless sublimate, m.p. 305°. The mass spectrum of this revealed a molecular ion peak at m/e 456 (456·3595); $C_{30}H_{48}O_3$ requires formula mass 456·3603. The cracking pattern, having intense peaks at m/e 189, m/e 207 and m/e 175, was similar to that[2] of methyl betulinate. Methylation of the extract (using diazomethane) and purification gave a methyl ester, m.p. 223–224°, which was compared (TLC, NMR and mixed m.p.) and found identical with an authentic sample of methyl betulinate. Acetylation of the purified methylated extract furnished the acetate, m.p. 289–291°, which was compared (TLC, i.r. and mixed m.p.) and found identical with an authentic sample of methyl acetyl betulinate. The ether extract therefore contained betulinic acid.

The residue from the ether extraction was further extracted with boiling methanol. Chromatography (paper and TLC) of this extract showed the presence of glucose, fructose and galactose.

H. androsaemum *L.*

Similar extraction and sublimation (as above), furnished betulinic acid which was compared (i.r., m.s. and mixed m.p.) with that found in *H. elatum* Ait.

Glucose was identified in the methanolic extract.

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