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CHROMONES FROM *SPATHELIA GLABRESCENS*

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Key Word Index—*Spathelia glabrescens*; Rutaceae; sorbifolin; chromones; (+)-nerolidol.

Plant. Spathelia glabrescens Planch. (UWI Herbarium No. 30516). *Source.* Collected in April near Ewarton, Jamaica. *Previous work.* On sister species.[1-3]

Compounds isolated. Sorbifolin,[1] spatheliabischromene,[3] alloptaeroxylin,[3,4] 6-(3,3-dimethylallyl)-alloptaeroxylin (recently isolated[5] from *S. sorbifolia*) and (+)-nerolidol were isolated from the petrol extract of the roots and identified by direct comparison with authentic material by m.m.p., TLC, and IR and NMR analysis. Sorbifolin could be crystallized directly from the gum obtained on concentrating the petrol solution, while preparative TLC of the mother liquour gave the other compounds.

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FATTY ESTERS AND STEROLS FROM THE BARK OF *AMARORIA SOULAMEOIDES**

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Key Word Index—*Amaroria soulameoides*; Simaroubaceae; fatty esters; sterols.

Amaroria soulameoides A. Gray, a small tree found in the Fiji Islands, is the sole member of a monotypic genus of the Simaroubaceae. The plant has not previously been studied

* Part I in the projected series "The Constituents of *Amaroria Soulameoides*".

chemically, but other genera in the family have afforded triterpenoids,[1-21] alkaloids,[3,21-25] quinones,[17,23,26] flavones,[15,16] coumarins[20,27] and hydrofurans.[20]

RESULTS

The petrol extract of the bark was chromatographed on silica. Elution with mixtures of petrol and Et_2O furnished ester, ketonic, glyceride and sterol fractions. Hydrolysis of the ester fraction gave a mixture of acids, which was shown, by GLC analysis of the methyl esters, to consist of palmitic (42%), stearic (19%), oleic (11%), behenic (12%), arachidic (4%), lauric (2%), myristic (4%) and pentadecylic (2%) acids and a mixture of alcohols which contained 1-octadecanol (4·2%), 1-eicosanol (7·3%), 1-docosanol (7·1%), 1-tetracosanol (19·5%), 1-hexacosanol (12·7%) and 1-octacosanol (25·6%), as shown by GLC and MS.

IR and NMR analysis of the ketonic fraction suggested that it was 24-methylenecycloartanone, but MS and GLC indicated the presence of a small quantity of C_{30} homologue. Separation of the mixture on argentized alumina afforded cycloartenone and 24-methylenecycloartanone.

GLC analysis of the methyl esters of the fatty acid derived from the glyceride fraction by hydrolysis indicated the presence of myristic (2·6%), palmitic (29·8%), stearic (63·8%) and oleic (5·5%) acids. GLC analysis of the sterol fraction showed that it was comprised of stigmasterol and sitosterol in the ratio 1·8:1.

EXPERIMENTAL

GLC analyses were performed isothermally at 185° on a Varian 2100 (methyl esters of fatty acids) using 1·8 m × 3 mm columns of 20% DEGS on Chromosorb W with N_2 flow rate of 25 ml/min, and on a Pye

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104 (sterols and long chain alcohols) isothermally at 250° using 3·3 m × 3 mm columns of 2% O.V. 101 on Chromosorb G with a He flow rate of 80 ml/min. MS were determined on a Perkin–Elmer–Hitachi RMU6 single focussing spectrometer; NMR spectra were measured in $CDCl_3$; and IR spectra as Nujol mulls. M.ps were determined on a Kofler Block and are uncorrected.

Bark. Extd. light petrol. chromatographed kieselgel. *Ester* fraction (0·054% of bark) from light petrol.–Et_2O (97:3), hydrolyzed to *fatty acids* and *alcohols* by KOH. *Triterpene ketones* (0·099%) from light petrol.–Et_2O (24:1), separated by chromatography on argentized alumina into *cycloartenone*, $C_{30}H_{48}O$ (m.p., IR, NMR, MS) and 24-methylenecycloartanone, $C_{31}H_{50}O$ (m.p., IR, NMR, MS). *Glycerides* (0·004%) from light petrol.–Et_2O (9:1; 47:3), hyrdolyzed to *fatty acids* by KOH. *Sterols* (0·012%) from light petrol.–Et_2O (93:7), rechromatographed on alumina. GLC showed stigmasterol and sitosterol (1·8:1).

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