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CONSTITUENTS OF *ACANTHOPANAX TRIFOLIATUS*

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In continuation of our earlier work on the leaves of *Acanthopanax trifoliatum*,¹ we have examined the stems, isolating KNO₃, fatty acids, *n*-pentadecanoic, palmitic, margaric, stearic, and arachidic acids, a mixture of *n*-alkanes between C₂₉ and C₃₁ containing nonacosane as the major component, stigmasterol, sitosterol, and glucosides of the above two sterols, and three unidentified compounds.

EXPERIMENTAL*

The air dried and ground stems of *Acanthopanax trifoliatum* were extracted with benzene and then with MeOH. The MeOH extract was concentrated yielding KNO₃. The benzene extract was treated with *n*-hexane. The *n*-hexane soluble and insoluble fractions were chromatographed on SiO₂ gave fractions I–III, and IV–V respectively.

Fraction I. Colourless plates, m.p. 58–64° (CHCl₃), *m/e* 436 (M⁺), ν_{\max} (KBr) 2915, 2840, 1475, 1465, 728, 715 cm⁻¹. GLC indicated *n*-C₂₉H₆₀ 69%, *n*-C₃₀H₆₂ 0.3%, and *n*-C₃₁H₆₄ 30.7%.

Fraction II. Colourless plates, m.p. 162–164° (acetone), Liebermann–Burchard test positive, ν_{\max} (KBr), 3409 (OH), 2960, 2870, 1460, 1380, 1372 (–CH(CH₃)₂), 1630, 835, 800 cm⁻¹ (=C=C–H), 1660, 965 (H=C=C–H). *Acetate*, m.p. 138–140°. GLC showed a mixture of stigmasterol (97.2%) and sitosterol (2.8%).

Fraction III. Colourless plates, m.p. 54–59° (acetone), ν_{\max} (KBr), 3000–2700, 1700 (–COOH), seven bands in 1350–1180, 720 cm⁻¹ (–(CH₂)_n). Esterification with CH₂N₂, and analysis by GLC showed *n*-C₁₄H₂₉–COOH 0.5, *n*-C₁₅H₃₁COOH 71, *n*-C₁₆H₃₃COOH 1.5, *n*-C₁₇H₃₅COOH 15, and *n*-C₁₉H₃₉COOH 10%.

Fraction IV. Colourless plates, m.p. 151–154° (acetone), Liebermann–Burchard test positive. Analysed by GLC shown to be the mixture of sitosterol (52%) and stigmasterol (48%). *Acetate*, m.p. 125–127°.

Fraction V. Colourless powder, m.p. 278–280° (benzene–MeOH, 1:1), ν_{\max} (KBr), 3450 br., 2870, 1460, 1380, 1050 br. cm⁻¹. *Acetate*, m.p. 271–273°. Hydrolysis of fraction V with 10% H₂SO₄–MeOH (1:1) gave glucose (identified by co-chromatography) and an aglycone mixture identical with fraction IV by IR and GLC.

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* GLC was carried out with Varian Aerograph Model 600D; Column, 2 m, 3% SE-30 on Chromosorb W. Column temp., 240° for alkane and methylester of fatty acid, 250° for sterols. Carrier gas: N₂, flow rate: 25 ml/min.

¹ F. C. CHEN, Y. M. LIN and S. LIN, *Phytochem.* **11**, 1486 (1972).