(ii) Stems.—The light petroleum extract of the stems (6 kg), examined in the usual manner, gave taraxerone (0.67 g), m.p. 241–243°, [α]D +4° (oxime m.p. 293–296°); taraxerol (0.24 g), m.p. 283–285°, [α]D +0°; and β-sitosterol (0·12 g), m.p. 138–140°, [α]D −35·0°.

The ethanol extract afforded ellagic acid (5·0 g), m.p. >360°, as that of the leaves.

(d) Phyllanthus emblica L.

(i) Stems.—The light petroleum extract of the stems (13 kg) was chromatographed on alumina (3 kg). Elution with light petroleum—benzene (4 : 1) afforded large hexagonal prisms (2.1 g), which after two recrystallizations from acetone gave lupenone, m.p. 171–173°, [α]D +60°, \( \nu_{\text{max}} \) 1720 (\( \text{C}=\text{CH} \)), 3080, 1680, 875 cm\(^{-1}\) (\( \text{C}=\text{C} \)).

Fractions from light petroleum—benzene (2 : 3) gave a crystalline solid (16·7 g), which after several recrystallizations had m.p. 207–217°, \( \nu_{\text{max}} \) 3300 (\( \text{OH} \)), 3080, 1650, 880 cm\(^{-1}\) (\( \text{C}=\text{CH} \)). It was acetylated to yield lupenyl acetate, m.p. 215–218°, [α]D +44·8°, \( \nu_{\text{max}} \) 1750, 1250 cm\(^{-1}\) (\( \text{OAc} \)), and benzoylated to give lupenyl benzoate, 264–267°, [α]D +64·1°.

Elution with light petroleum—benzene afforded β-sitosterol (1·0 g), m.p. 140–142°.

Further extraction of the leaves with ethanol gave ellagic acid (17 g), m.p. >360° as described for \( S. \) discolor.

(ii) Leaves.—The leaves (7 kg) were investigated in the usual manner. The light petroleum extract yielded lupeol (0·3 g), m.p. 210–214°, [α]D +26·2°, and β-sitosterol (1·1 g), m.p. 135–140°, while the ethanol extract afforded ellagic acid (11 g), m.p. >360°.

Acknowledgments

The authors thank Dr J. S. Mills, National Gallery, London, for an authentic sample of dammaradienyl acetate, Dr A. M. Hogg, Alberta University, Canada, for the mass spectrum of ellagic acid, Mr H. C. Tang, Government Herbarium, Hong Kong, for identification of plant material, and the Committee on Higher Degrees and Research Grants, University of Hong Kong, for financial assistance. One of us (M. L. S.) is indebted to the Government of Hong Kong for the award of a postgraduate studentship.

Corrigenda


(a) In equation (3) the leading term on the right-hand side should be (\( qh - g_0(\alpha) \))\( x_1 \).

(b) In lines 1 and 2 of p. 1345, read \( n_1 \) for \( n_2 \) and \( n_2(1 - q) \) for \( n_2(1 - \gamma) \).

(c) p. 1345, line 10: For "solute" read "solvent".

(d) In equation (11) there is a sign error: the equation should be

\[ L - L_0 = -AV_1\phi_1 + qh \]

This carries through to subsequent equations (12 and 18 in particular). Since \( A \) is a parameter determined from the data, this sign error does not affect the fit of equation (12) to the data, provided that the signs of \( A \) in Table 1 are reversed. The values for \( \lambda \), the enthalpy of formation of the hydrogen bond, are unaffected. However, the conclusion of the final paragraph, that the Flory–Huggins statistics give more physically satisfactory values of \( A \), is no longer valid. The author is indebted to Mr R. P. Tomlins for detecting these errors.

Page 815, line 11: For benzylie read benzilic.