

CHEMICAL STUDIES OF THE MYRTACEAE*

V. CONSTITUENTS OF THE WOOD OF SYNCARPIA GLOMULIFERA (SM.) NIEDENZU (SYN. *S. LAURIFOLIA* TENN.)

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When describing the isolation of β -sitosterol, betulinic acid, ursolic acid, and syncarpic acid (Hodgson, Ritchie, and Taylor 1960) from the bark of *Syncarpia glomulifera* (Sm.) Niedenzu (syn. *S. laurifolia* Tenn.) it was noted that a precursor of the latter substance was present. However, its isolation was not attempted because of the uninviting and complex nature of the extracts. In a search for a better source of the precursor, the wood has now been examined. Neither the precursor, syncarpic acid, nor the triterpene acids could be detected, but instead β -sitosterol and ellagic acid were isolated. The high yield of ellagic acid (2.1%) is noteworthy.

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Experimental

(a) *Extraction of the Wood.*—The milled wood (8 kg) was extracted at room temperature in turn with light petroleum (2×15 l.), ether (2×15 l.), and acetone (3×15 l.) and then exhausted with methanol.

The light petroleum and ether extracts, which contained no acidic material, gave brown fat-like residues (8.7 and 8.9 g respectively) on evaporation. The combined material was saponified and the reaction mixture worked up as usual. The neutral fraction after chromatography on alumina afforded β -sitosterol (1.2 g), m.p. and mixed m.p. 138°C , further identified by its i.r. spectrum. The acidic fraction, a brown gum, gave a negative Liebermann-Burchard test and apparently consisted of fatty acids.

The acetone extract on evaporation gave a dark reddish brown semi-solid mass, which was triturated with warm ethanol (1000 ml) and the insoluble portion collected. On purification it yielded ellagic acid (14.5 g), m.p. above 360°C , which was identified as usual (Ritchie and Taylor 1961) by conversion to its tetra-acetyl derivative which had m.p. and mixed m.p. above 340°C (depending on rate of heating) and the correct i.r. spectrum. The dark alcoholic filtrate after concentrating and shaking with ether and water deposited more ellagic acid (3.2 g). Nothing further could be isolated from the aqueous or ethereal layer either before or after hydrolyses with either acid or alkali.

The methanol extract on concentration to about 1500 ml yielded successive crops of crystalline ellagic acid (147.1 g) which were washed with warm methanol. The combined filtrates were concentrated to a thick dark syrup which was shaken with water and ether when crude ellagic acid (6.3 g) separated. Attempts to isolate other substances from the aqueous and ethereal layers were fruitless.

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References

- HODGSON, D., RITCHIE, E., and TAYLOR, W. C. (1960).—*Aust. J. Chem.* **13**: 385.
RITCHIE, E., and TAYLOR, W. C. (1961).—*Aust. J. Chem.* **14**: 473.