

residue. The hydrobromide was recrystallized from acetone, m.p. 175–190° (decomp.). (Found: Br 40.4; N 7.22. Calc. for $C_9H_{14}BrNO$: Br 40.8; N 7.14).

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Studies on Orchidaceae Alkaloids

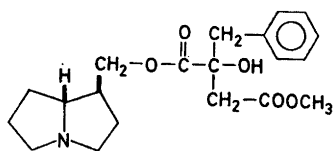
XVIII.* Isolation of Phalaenopsin La from *Kingiella taenialis* (Lindl.) Rolfe

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Phalaenopsin La, previously found in *Phalaenopsis manni* Rehb.f.² has been isolated from *Kingiella taenialis* (Lindl.) Rolfe, a species closely related to those of the genus *Phalaenopsis*. The yield of alkaloid from the plant is 0.1% based on the fresh weight. By using chloroform stabilized with 1% ethanol in extractions and in chromatography on alumina, 60% of the total alkaloid fraction is obtained

* For number XVII in this series, see Ref. 1.



as the ethyl ester (MS, NMR). In order to establish whether the ethyl ester is a naturally occurring alkaloid or is a product of transesterification, the plant was extracted with water at pH 3. The aqueous solution was made slightly alkaline and extracted with ethanol-free chloroform. The alkaloid was dissolved in dilute hydrochloric acid, the solution filtered and made alkaline, and the base again extracted with chloroform. The base so obtained is a colourless oil which, according to its mass spectrum, consists of the pure methyl ester. It was not possible to obtain the base or the hydrochloride in crystalline form. However, the use of ethanol as solvent in the crystallization of a hydrochloride produced from the chromatographically purified alkaloid, results in a product, m.p. 155–7°, which to 75% extent consists of the ethyl ester hydrochloride (NMR). An NMR investigation of the hydrochloride of phalaenopsin La, m.p. 131–133°, isolated from *Phalaenopsis manni*² showed the presence of 40% of ethyl ester. The easy transesterification of this alkaloid consequently demands great care in its isolation.

Methanolysis of the alkaloid from *Kingiella taenialis* produced (–)-dimethyl 2-benzylmalate $[\alpha]_D^{25} -8.5^\circ$ (c 9.0, ethanol) and laburnine (cf. Ref. 2). The latter was transformed into its acetate, which was indistinguishable from an authentic sample of laburnine acetate³ (retention time on GLC, SE-52, optical rotation and m.p. of the picrate).

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