

ALKALOIDS OF *ACTINODAPHNE NITIDA* (LAURACEAE)

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Actinodaphne nitida Teschn. is a large rain-forest tree found in New Guinea. The leaf and bark alkaloids, isolated in 0.15 and 0.33% yield respectively, consist essentially of the aporphine alkaloids boldine and laurilitsine. In the leaf boldine is predominant and in the bark laurilitsine. Actinodaphnine,¹ previously isolated from *Actinodaphne hookeri* Meissn., has not been detected.

Experimental

Leaf and bark samples were collected from a tree (herbarium voucher number TGH 9971) growing in rain forest 15 miles west of Lae, and from a tree (TGH 10728) growing near the Laloki River, 3 miles east of Sogeri. The leaf alkaloids (0.15%) and bark alkaloids (0.33%) were extracted by the method previously described² and separated by chromatography on neutralized alumina.

The leaf alkaloids (0.4 g) afforded a series of fractions (0.3 g), eluted by chloroform, that consisted of essentially a single component. Crystallization from chloroform gave boldine as colourless needles, m.p. 161–163°, $[\alpha]_D +119^\circ$ (c, 0.14 in methanol). There was no depression of m.p. in a mixed m.p. determination with authentic boldine, and the i.r. and n.m.r. spectra of the two specimens were identical. The bark alkaloids on chromatography gave a series of fractions, eluted by chloroform–methanol, that comprised more than 80% of the total alkaloids. Spectroscopic characterization indicated that this material was laurilitsine, and it was characterized as *N*-acetylaurilitsine, m.p. 256–260°, $[\alpha]_D +398^\circ$ (c, 0.13 in chloroform). The identity of the *N*-acetyl compound was established by a mixed m.p. determination and spectroscopic comparison with authentic *N*-acetylaurilitsine.³

Examination by thin-layer chromatography indicated the presence of a small proportion of boldine in the bark alkaloids and of a small amount of laurilitsine in the leaf alkaloids. These minor constituents were not isolated in sufficient quantity for accurate determination of physical constants.

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¹ Krishna, S., and Ghose, T. P., *J. Indian. chem. Soc.*, 1932, **9**, 429.

² Johns, S. R., Lamberton, J. A., and Sioumis, A. A., *Aust. J. Chem.*, 1966, **19**, 2331.

³ Johns, S. R., Lamberton, J. A., and Sioumis, A. A., *Aust. J. Chem.*, 1968, **21**, 1383.