THE ISOLATION OF *SCHELHAMMERA* ALKALOIDS E AND B FROM *SCHELHAMMERA UNDULATA* (LILIACEAE)

By A. A. Sioumis*

[Manuscript received June 23, 1971]

The small Australian genus *Schelhammera* of the family Liliaceae consists of only three species. The alkaloids of this genus are of special interest and detailed studies of the homerythrina alkaloids from *S. pedunculata* F. Muell. have been reported.[1,2] Investigation of *S. multiflora* R. Br. has shown that alkaloid E, one of the *S. pedunculata* alkaloids, is the major constituent.[2] Alkaloids have now been isolated from the remaining species *S. undulata* R. Br. in 0·05% yield, and the major alkaloids have been identified as the previously known *Schelhammera* alkaloids E and B.

Experimental

S. undulata (herbarium voucher number SN 8761) was collected at Bateman's Bay, New South Wales. Dried whole plants (350 g) were macerated in ethanol in a Waring Blendor, and the crude alkaloids (175 mg) extracted by the method previously described.[1]

The crude alkaloids were chromatographed on a small column of alumina (Spence type H). Elution with benzene–chloroform (1 : 1) and chloroform gave fractions totalling 117 mg. Further elution with chloroform–methanol (1 : 1) and methanol gave fractions (45 mg) which from spectroscopic and t.l.c. examinations did not appear to contain any major constituents. The first fractions (117 mg) were combined and chromatographed on a column of alumina which had been neutralized with ethyl acetate. The first two fractions (59 mg) eluted by benzene consisted mainly of alkaloid E and the next fractions (48 mg) eluted by benzene and mixtures of benzene and chloroform consisted essentially of alkaloid B. Addition of ethanolic picric acid to the first two fractions afforded a crystalline picrate which on recrystallization from methanol gave yellow crystals melting at 169–172°. There was no m.p. depression on mixing with the picrate of alkaloid E from *S. pedunculata*, and the recovered alkaloid, a colourless gum, $[\alpha]_D$ +125° (*c*, 0·22 in $CHCl_3$), had i.r. and n.m.r. spectra identical with those of alkaloid E.

The fractions composed of alkaloid B were combined and crystallized from acetone to give alkaloid B as colourless crystals, m.p. 152–153°, $[\alpha]_D$ +112° (*c*, 0·10 in $CHCl_3$). Its identity with alkaloid B from *S. pedunculata* was established by comparison of i.r. and n.m.r. spectra, and by a mixed m.p. determination.

Acknowledgments

The author is indebted to Dr J. A. Lamberton for helpful discussions and to the late Mr W. T. Jones for the collection and identification of *S. undulata*.

* Division of Applied Chemistry, CSIRO, P.O. Box 4331, Melbourne, Vic. 3001.

[1] Fitzgerald, J. S., Johns, S. R., Lamberton, J. A., and Sioumis, A. A., *Aust. J. Chem.*, 1969, **22**, 2187.

[2] Johns, S. R., Lamberton, J. A., and Sioumis, A. A., *Aust. J. Chem.*, 1969, **22**, 2219.