

BISBENZYLISOQUINOLINE ALKALOIDS OF *LAURELIA SEMPERVIRENS*

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The stem bark of *Laurelia sempervirens* R. et P. (Monimiaceae, subfamily Atherospermoideae) is a rich source of aporphinoids and has also been shown to contain a complex mixture of unidentified bisbenzylisoquinolines (1). The dimeric fraction has now been reexamined and its major components identified as obaberine, thalrugosine, and oxyacanthine. These alkaloids have not been reported previously as constituents of Monimiaceae, but they belong to the same stereochemical-biogenetic series as isotetrandrine, isolated from the leaves of *L. sempervirens* (2) as well as from several other Atherospermoideae, and berbamine, daphnoline, daphnandrine, aromoline, homoaromoline, and more oxidized metabolites of *Atherosperma moschatum* and several *Daphnandra* species (3).

## EXPERIMENTAL

PLANT MATERIAL.—Stem bark of *L. sempervirens* (12 kg) was a donation of Infodema, Valdivia, Chile, from trees felled in that area in 1978-1979.

EXTRACTION AND ISOLATION.—The dried, coarsely milled bark was worked up by standard procedures to yield 32.8 g of nonphenolic and cryptophenolic alkaloids. Chromatography of these on a silica gel column and extensive tlc of the dimeric fractions led to the isolation of obaberine, thalrugosine, and oxyacanthine on a 100-mg scale, identified by mass, <sup>1</sup>H-nmr, and cd spectrometry, and by tlc comparison with reference samples.

Full details of the isolation and identification are available on request.

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## LITERATURE CITED

1. A. Urzúa, B.K. Cassels, E. Sánchez, and J. Comin, *Anales Asoc. Quím. Argentina*, **63**, 259 (1975).
2. E. Bianchi, J.A. Garbarino, and E.F. Giora, *Gazz. Chim. Ital.*, **92**, 818 (1962).
3. A. Urzúa and B.K. Cassels, *Lloydia*, **41**, 98 (1978).

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