AN IRIDOID GLYCOSIDE FROM *WENDLANDIA BICUSPIDATA*

L.B. DE SILVA, W.H.M.W. HERATH, K. MALANGANI NAVARATNE,

Department of Natural Products, Medical Research Institute, Colombo - 08, Sri Lanka

V.U. AHMAD, and K.A. ALVI

H.E.J. Research Institute of Chemistry, University of Karachi, Karachi 32, Pakistan

We are presently engaged in the screening of Sri Lanka plants belonging to the family Rubiaceae for iridoid glycosides. *Wendlandia bicuspidata* Wight and Arn is a small tree or large shrub found in the hilly regions of Sri Lanka that has medicinal application in indigenous medicine. The presence of the iridoid glycosides methyl deacetylasperulosidate, gardenoside, tarennoside, and geniposidic acid has been reported from the leaves of *Wendlandia formosana* by Y. Takeda *et al.* (1). We now report the isolation of scandoside methyl ester from the wood of *W. bicuspidata*. This structure has been confirmed by the preparation of the crystalline scandoside methyl ester hexaacetate. Scandoside methyl ester has previously been isolated from *Gardenia jasminoides* fruits (2) and *Feretia apondanthera* (3).

EXPERIMENTAL

PLANT MATERIAL.—*W. bicuspidata* was collected in Gampola in Central Sri Lanka in September 1986. The plant was identified by Professor B.A. Abeywickrema, Professor of Botany, University of Colombo, Sri Lanka. A voucher specimen is deposited at the Natural Products Department of the Medical Research Institute, Colombo - 08, Sri Lanka.

EXTRACTION AND ISOLATION.—Air-dried, powdered wood (1 kg) was extracted with cold MeOH during 7 days. The extract was evaporated under diminished pressure, and the residue was extracted with warm H_2O. The aqueous extract was washed with EtOAc and then chromatographed through a charcoal column (285×7 cm) and eluted with H_2O/MeOH with increasing MeOH concentrations reaching 50%. The 50% aqueous MeOH eluate was evaporated to dryness to give a semi-solid.

A portion of the semi-solid (500 mg) was chromatographed on Si gel prepared in CH_2Cl_2 and eluted with increasing concentrations of MeOH. Fractions containing CH_2Cl_2-MeOH (4:1) were evaporated and further purified by repeated preparative tlc on Merck Si gel $60PF_{254+366}$ ($CHCl_3$-MeOH, 4:1) to give chromatographically pure scandoside methyl ester (250 mg). The ir and ^{1}H-nmr values are in conformity with those reported for scandoside methyl ester in the literature (2).

The bulk of the semi-solid was acetylated with Ac_2O-pyridine. The product was chromatographed on Si gel with CH_2Cl_2/MeOH as eluent. Fractions eluted with CH_2Cl_2-MeOH (96:4) gave an acetate (1.30 g) mp 133-134°, $[\alpha]^{24}D$ −70° ($CHCl_3$, c=0.2) (lit. $[\alpha]^{20}D$ −78°, MeOH, c=0.8). The acetate had identical mp, ir, ^{1}H-nmr, and ^{13}C-nmr data with those of scandoside methyl ester hexaacetate isolated from *Gardenia jasminoides* (3,4) except that the ^{13}C-nmr data differ by 0.3 ppm due to the use of different reference standards.

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LITERATURE CITED

1. Y. Takeda, H. Nishimura, and H. Inouye, *Phytochemistry*, **16**, 1300 (1977).
2. H. Inouye, Y. Takeda, and H. Nishimura, *Phytochemistry*, **13**, 2219, (1974).
3. F. Bailleul, P. Delaveau, A. Rabaron, M. Plat, and M. Koch, *Phytochemistry*, **16**, 723 (1977).
4. B. Koudogbo, F. Bailleul, Q. Bognounou, and E. Randrianjohany, *C.R. Acad. Sci. Paris*, 279, 613 (1974).

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