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DULCITOL, AUCUBIN, AND MELAMPYROSIDE FROM *Melampyrum chlorostachium*

L. S. Arutyunyan and V. A. Mnatsakanyan

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Species of *Melampyrum* L. (cow-wheat, fam. Scrophulariaceae) are widely used in folk medicine [1]. Of the four species of this genus found on the territory of Armenia [2] we have studied the most widely distributed one — *Melampyrum chlorostachium* Beauv. — which has not previously been investigated chemically.

The dried epigeal part of the plant gathered in the flowering phase (Ankavan, Razdanskii region, Republic of Armenia) (0.4 kg) was exhaustively extracted with methanol. The extract was evaporated to a volume of 115 ml and was diluted with an equal volume of water, washed with benzene and chloroform, and passed through a column of moist alumina (neutral). The column was washed with water. When the eluate was concentrated to 1/20 of its initial volume in a rotary evaporator, it deposited acicular crystals of substance (**1**) [mp 188°C from methanol–water (5:1)]. Substance (**1**) (yield 0.75%) was identified as dulcitol [3] from its melting point and IR, PMR, and mass spectra and those of its peracetate.

The aqueous mother solution remaining after the separation of the (**1**) was evaporated to dryness, and the residue was chromatographed three times on a column of silica gel (eluents: mixtures of chloroform and methanol; fractions monitored by TLC on Silufol-254 plates in the ethyl acetate–methanol–chloroform–water (7:2:1:1) system; spots revealed in UV light and with the benzidine reagent). Crystalline substances (**2**) (mp 182-184°C) and (**3**) (mp 102°C) were isolated with yields of 0.75 and 0.03%, respectively, and on the basis of their physicochemical properties, their IR, ^{1}H and ^{13}C NMR, and mass spectra, and the results of comparison with authentic specimens, they were identified as the iridoid glycosides aucubin (**2**) and melampyroside (**3**). The presence of the latter in other cow-wheat species — *Melampyrum laxum* and *M. silvaticum* — has been established previously [4, 5].

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A. N. Mndzhoyan Institute of Fine Organic Chemistry, National Academy of Sciences of the Republic of Armenia, 375014, Erevan, pr. Azatutyan, 26. Translated from Khimiya Prirodnykh Soedinenii, No. 1, pp. 101-102, January-February, 1996. Original article submitted November 1, 1995.

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