

COUMARINS OF SOME SPECIES OF THE GENERA

Sempervivum AND *Sedum*

L. A. Gumenyuk, N. F. Komissarenko,
V. S. Batyuk, and P. A. Gnedkov

UDC 547.972

As reported previously, from an extract of *Sempervivum ruthenicum* purified with chloroform we have isolated a series of flavonoid compounds [1].

On investigating the chloroform solutions obtained in the purification of the extract, chromatograms in the petroleum ether-formamide system after treatment with methanolic alkali showed in UV light a bluish-green spot with R_f 0.16. After the complete elimination of the solvent, the residue had the odor characteristic for a coumarin.

When the chloroform solution was purified on alumina with subsequent separation on the same solvent, the substance was eluted first with petroleum ether and then with petroleum ether containing 20% of benzene. The latter eluate yielded a substance $C_9H_6O_2$ with mp 65–67°C possessing the odor of a coumarin. It readily sublimed in a residual vacuum of 60 mm Hg at 40°C, and was soluble in benzene, chloroform, ethanol, and petroleum ether. It was not cleaved by hydriodic acid in liquid phenol and acetic anhydride [2].

No bathochromic shift was found in an alkaline medium, which shows the absence of OH groups from the material under study [3].

From its physicochemical properties, IR and UV spectra, and R_f values in various systems, and by a mixed melting point, the substance was identified as coumarin. This compound has been found in the *Sedum* species, purple stonecrops, goldmoss stonecrop, great sedum, and *S. elegans* (*S. rupestre*). This is the first time that coumarins have been found in the family Crassulaceae.

LITERATURE CITED

1. L. A. Gumenyuk, P. A. Gnedkov, and V. S. Batyuk, *Khim. Prirodn. Soedin.*, **6**, 630 (1970).
2. E. D. Giorgobiani and N. F. Komissarenko, *Soobshch. Akad. Nauk Gruz SSR*, **53**, No. 2, 365 (1963).
3. V. S. Batyuk, N. V. Chernobrovaya, and N. F. Komissarenko, 2nd Symposium on Coumarins [in Russian], Leningrad (1970), p.9.

Zaporozhe State Medical Institute. Translated from *Khimiya Prirodnykh Soedinenii*, No. 3, p. 369, May–June, 1971. Original article submitted February 3, 1971.

© 1973 Consultants Bureau, a division of Plenum Publishing Corporation, 227 West 17th Street, New York, N. Y. 10011. All rights reserved. This article cannot be reproduced for any purpose whatsoever without permission of the publisher. A copy of this article is available from the publisher for \$15.00.