

5'-OH groups are free and the 7-OH group is substituted by a methyl, and the only possible position of substitution of an acetyl group is position 8.

On the basis of the facts obtained, we correct the structure of glycoside isolated previously and propose for glycoside (I) the structure of 8-acetylmethylgossypetin 3-O- α -L-rhamnopyranoside, for its aglycone 8-acetyl-7-methylgossypetin, and for glycoside (II) 7-methylgossypetin 3-O- α -L-rhamnopyranoside. They are new natural compounds and we propose to call them pyrifolin, pyrifolidin, and pyrifolinin, respectively. It must be mentioned that the aglycone 7-methylgossypetin which we obtained by the acid hydrolysis of glycoside (II) has a different melting point from the 7-methylgossypetin isolated from the flowers of Lothus corniculatus [3, 4].

LITERATURE CITED

1. T. K. Chumbalov, M. M. Mukhamed'yarova, V. B. Omurkamzinova, and I. S. Chanysheva, *Khim. Prirodn. Soedin.*, 136 (1975).
2. L. P. Smirnova, G. G. Zapesochaya, V. I. Sheichenko, and A. I. Ban'kovskii, *Khim. Prirodn. Soedin.*, 313 (1974).
3. J. B. Harborne, *Phytochemistry*, **4**, 647 (1965).
4. J. B. Harborne, *Phytochemistry*, **8**, 177 (1969).

THE FLAVONOIDS OF *Hieracium umbellatum*

V. L. Shelyuto, N. T. Bubon,
V. N. Al'khimovich, and L. P. Smirnova

UDC 547.972

We collected the plant Hieracium umbellatum L. (narrowleaf hawkweed) in the stage of full flowering in the environs of Vitebsk.

To isolate individual flavonoids, the epigeal part was extracted with ethanol in the boiling-water bath. The combined extracts were concentrated under vacuum to small volume, the residue was treated with carbon tetrachloride, and chromatography was carried out on a column of polyamide sorbent. Elution of the column with a mixture of ethanol and chloroform gave apigenin, luteolin, and a substance (III) with mp 266-268°C, $[\alpha]_D^{25} -54.7^\circ$ (c 0.6; formamide), λ_{\max} 255, 268, 350 nm. The product of the acid hydrolysis of (III) was an aglycone with mp 328-330°C giving an acetate with mp 224-226°C. A mixture of the aglycone of substance (III) with luteolin gave no depression of the melting point. The acid mother liquor was found by paper chromatography to contain glucose. On the basis of the results of UV, IR, and NMR spectroscopy it may be considered that the compound isolated was luteolin 7- β -D-glucopyranoside.

Vitebsk Medical Institute. All-Union Scientific-Research Institute of Medicinal Plants, Moscow. Translated from *Khimiya Prirodnikh Soedinenii*, No. 5, p. 660, September-October, 1976. Original article submitted February 16, 1976.

This material is protected by copyright registered in the name of Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission of the publisher. A copy of this article is available from the publisher for \$7.50.