FLAVONOIDS OF Scutellaria orientalis AND S. karjagini

V. I. Glyzin, A. I. Ban'kovskii, and D. A. Pakaln

UDC 547.972

Plants of the genus Scutellaria (skullcap) contain flavones, flavonones, and their glucosides and glucuronides [1-4].

From the roots of *Scutellaria orientalis* (oriental skullcap) we have isolated and identified substances (I-VI), and from *S. karjagini* we have isolated substances (III), (VI), and (VII). The substances were identified on the basis of their physicochemical constants and hydrolysis products, and the UV and NMR spectra of their trimethylsilyl ethers.

Substances (I-III) are aglycones; chrysin (I), $C_{15}H_{10}O_4\cdot12H_2O$, with mp 250-255°C; hispidulin (II), $C_{16}H_{12}O_6$, with mp above 260°C; and apigenin (III), $C_{15}H_{10}O_5$, with mp 349-351°C.

Substances (IV-VII) are glucosides and glucuronides: chrysin 7- β -D-glucoside (IV), C₂₁·H₂₀O₉·2H₂O, mp 189-192°C [α]_D -65.7° (c 0.3; formamide), λ_{max} 269, 306 nm; chrysin 7- β -D-glucuronide (V), C₂₁H₁₈O₁₀·3H₂O, mp 194-195°C [α]_D -84.5° (c 0.5; formamide), λ_{max} 270, 307 nm; scutellarein 7- β -D-glucuronide (VI), C₂₁H₁₄O₁₂·H₂O, mp 230-235°C, [α]_D -115.3° (c 0.8; formamide), λ_{max} 284, 334 nm and luteolin 7- β -D-glucuronide (VII), C₁₂H₁₈O₁₂, mp 190-197°C, [α]_D -99.7° (c 0.7; formamide), λ_{max} 254, 268 sh, 350.

The qualitative compositions of the flavonoids of the roots of the plants investigated do not differ from the compositions of the flavonoids of the epigeal part, but there are substantial differences in the amounts of the individual components.

The main component of the flavonoid complex of the epigeal part of the plants investigated is scutellarin.

LITERATURE CITED

- V. A. Bandyukova and A. N. Boiko, Khim. Prirodn. Soedin., 599 (1969).
- M. D. Denikeeva and V. I. Litvinenko, Khim. Prirodn. Soedin., 534 (1970).
- 3. V. I. Litvinenko, A. A. Meshcheryakov, T. P. Popova, and A. S. Ammosov, Izv. Akad. Nauk TurkmSSR, Ser. Biol. Nauk, No. 4, 40 (1970).
- 4. J. B. Harborne, Comparative Biochemistry of the Flavonoids, Academic Press, New York (1967).

All-Union Scientific-Research Institute of Medicinal Plants. Translated from Khimiya Prirodnykh Soedinenii, No. 1, p. 98, January-February, 1975. Original article submitted November 26, 1973.

^{© 1976} 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 \$15.00.