Chemistry of Natural Compounds, Vol. 32, No. 6, 1996

FLAVONOIDS OF THE ROOTS OF *Limonium caspium*

I. S. Movsumov

UDC 547.972

The genus *Limonium* Mill. (*Statice* L. p. p.) (sea-lavender), fam. Limoniaceae, is represented in the flora of Azerbaidzhan by five species [1]; however, all of them have remained practically unstudied in the chemical respect [2]. There are large amounts of *L. caspium* (Killa) Gams. (Caspian sea-lavender) as a raw material resource.

In the present paper we give the results of a study of the flavonoid compositions of Caspian sea-lavender, gathered in the environs of the village of Nabrani in October, 1994.

The dried and comminuted roots (0.8 kg) were extracted three times with methanol—ethyl acetate (1:2) at room temperature. The extracts were combined and evaporated to a dry residue (yield 4.6% of the air-dry raw material). In order to establish the nature of the flavonoids, the dry residue was mixed with water and treated with ether. The ethereal extract yielded substance (**1**). Part of the mother solution was subjected to acid hydrolysis, and a substance identical with (**1**) was obtained as the aglycon. The remainder of the mother solution was evaporated to a dry residue, and substances (**2**) and (**3**) were obtained from this by fractional recrystallization.

Substance (**1**) — $C_{15}H_{10}O_8$, mp 340-342°C (ethanol), R_f 0.62 (BAW (4:1:5); syst. 1) and 0.18 (30% acetic acid, syst. 2).

Substance (**2**) — $C_{21}H_{20}O_{12}$, mp 200-202°C (ethanol), $[\alpha]_D^{20}$ −116°C (*c* 0.5; methanol), R_f 0.72 (syst. 1) and 0.76 (syst. 2). Acid hydrolysis yielded myricetin (yield 67.8%) and *L*-rhamnose, which showed the monoglycosidic nature of the substance.

On the basis of its physicochemical properties and chromatographic mobilities, substance (**1**) was identified as myricetin — 3,3′,4′,5,5′7-hexahydroxyflavone — and substance (**2**) as myricetin 3-O-rhamnoside [2, 3, 5, 6].

Thus, it has been established that the flavonoids of the roots of Caspian sea-lavender are represented by myricetin and its derivatives. The drug Flakumin, possessing a cholagogic and hepatoprotective action, has been created from myricetin as a basis [4].

This is the first time that the flavonoids of the roots of Caspian sea-lavender growing in Azerbaidzhan have been studied.

REFERENCES

1. The Flora of Azerbaidzhan [in Russian], Baku (1957), Vol. 5, p. 53.
2. Plant Resources of the USSR, the Magnoliaceae—Limoniaceae Families [in Russian], Leningrad (1985), p. 293.
3. I. S. Movsumov, Author's abstract of dissertation ... Doctor of Pharmaceutical Sciences [in Russian], Moscow (1992).
4. M. D. Mashkovskii, Drugs [in Russian], Moscow (1985), Part 2, p. 511.
5. Z. P. Pakudina and A. S. Sadykov, The Distribution in Plants of Flavones and Flavonols and their Derivatives, and Their Physicochemical Properties [in Russian], Tashkent (1970).
6. T. A. Geissman, The Chemistry of Flavonoid Compounds, Pergamon Press, New York (1962).

Azerbaidzhan Medical University, Baku. Translated from Khimiya Prirodnykh Soedinenii, No. 6, pp. 948-949, November-December, 1996. Original article submitted April 8, 1996.

0009-3130/96/3206-0922$15.00