PHYTOECDYSONES OF Ajuga turkestanica. V

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Having continued an investigation of the minor ecdysones of Ajuga turkestanica (Regel) Brig. (family Labiatae), in addition to the cyasterone ecdysterone, turkesterone, and ajugalactone isolated previously [1], we have obtained another compound of low polarity with R_f 0.73 [TLC: SiO_2 + 7% of gypsum; chloroform–ethanol (4 : 1) system]. For its isolation, an ethyl acetate fraction of a methanolic extract of the roots of the plant (3 kg) was subjected to repeated column chromatography on alumina and rechromatography on silica gel by the method described previously [2]. The columns were eluted with mixtures of chloroform and ethanol with gradually increasing concentrations of the latter.

The substance obtained, $C_{29}H_{46}O_7$, had mp 238-240°C (decomp.), $\lambda_{max}^{C_2H_5OH}$ 246 nm (log ε 3.90), ν_{max}^{KBr} 3420 (OH), 1660 cm^{-1} (cyclohexenone). It mass spectrum (MKh-1303, 180°C, 40 eV) contained the peaks of ions with m/e 506 (M^+), 488 ($M - H_2O$), 427, 426, 363, 362, 345, 327, 301, 300, 143, 125, 107,97, and 79.

The facts given above permit the phytoecdysone obtained from A. turkestanica to be identified as ajugasterone-B. The amount of ajugasterone-B in the roots of A. turkestanica is 0.003%. This phytoecdysone was first detected in A. incisa [3].

LITERATURE CITED

1. Z. Saatov, B. Z. Usmanov, and N. K. Abubakirov, Khim. Prirodn. Soedin., 422 (1977).
2. B. Z. Usmanov, M. B. Gorovits, and N. K. Abubakirov, Khim. Prirodn. Soedin., 535 (1971).
3. B. S. Imai, S. Fujioka, E. Murata, K. Otsuka, and K. Nakanishi, Chem. Commun., 82 (1969).

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