- 7. M. N. Galbraith and D. H. S. Horn, Aust. J. Chem., 22, (1969).
- 8. U. Baltaev, M. B. Gorovits, S. A. Khamidkhozhaev, and N. K. Abubakirov, Khim. Prirodn. Soedin., 406 (1974).
- 9. Ya. K. Yatsyuk and G. M. Segal', Khim. Prirodn. Soedin., 281 (1970).

STEROID SAPONINS AND SAPOGENINS FROM Allium rubellum AND A. albanum

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On investigating Allium rubellium M. B. and A. albanum A. Grossh., growing in Azerbaidzhan we detected the presence of steroid saponins in them. It was established that considerable amounts of saponins accumulate in the flowers, and therefore the species of plants studied were collected in the full-flowering period.

After defatting with dichloroethane, the saponins were extracted completely from the dried flowers with 60% ethanol. To study the qualitative composition of the steroid saponins an ethanolic extract was subjected to chromatographic analysis on "Silufol" plates.

In the 1-butanol-ethanol-concentrated ammonia (5:3:2) system, four individual saponins were found in the flowers of A. rubellum ($R_{\rm f}$ 0.13, 0.20, 0.33, and 0.40, respectively), and five saponins in the flowers of A. albanum ($R_{\rm f}$ 0.22, 0.31, 0.39, 0.43, and 0.54).

To study the nature of the genins, the combined saponins were dissolved in an 8% solution of sulfuric acid and were hydrolyzed at 90°C for 6 h. The genins were extracted from the hydrolyzate with chloroform. Chromatographic analysis of the combined material ("Silufol," benzene—ethyl acetate (5:1) system) showed the presence of two genins (R_f 0.28 and 0.86). By chromatography on a column of SiO₂ we isolated from this mixture a sapogenin which, according to its melting point (202-204°C),[α] $_{\rm D}^{\rm 20}$ -67° (c 1.0; methanol), and IR spectrum was identical with tigogenin [1, 2]. The structure of the second genin is being determined.

LITERATURE CITED

- O. S. Madaeva et al., Trudy VILAR, No. 11, 229 (1959).
- 2. A. I. Ismailov and A. M. Aliev, Farmatsiya, No. 1, 92 (1974).

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