

## ALKALOIDS OF *Vinca minor*

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*Vinca minor* L. (common periwinkle) is an evergreen rhizomous bush of the Apocynaceae (Lindl) family [1, 2]. It is distributed in middle and southern Europe and the Caucasus. It grows in broad-leaf forests of the Baltics, Belorussia, Moldova, and the Ukraine. The plant is often cultivated as a decorative in gardens and parks. Preparations containing alkaloids are prepared from *V. minor* and used as hypotensive treatments for hypertension [2]. More than 45 alkaloids have been isolated from the aerial part of the plant [3].

We investigated alkaloids of the aerial part of *V. minor* cultivated in the Tashkent Botanical Garden during flowering. The aerial part (0.105 kg) was collected in June, 1997, wetted with aqueous ammonia (8%), left for 2 h, and extracted seven times with  $\text{CHCl}_3$ . Alkaloids were extracted from the condensed  $\text{CHCl}_3$  extracts by  $\text{H}_2\text{SO}_4$  (10%). The acid extract was basicified with NaOH (10%) and extracted with  $\text{CHCl}_3$ . Then the alkaline solution was treated with ammonium chloride. The phenolic part was extracted with  $\text{CHCl}_3$ .

The nonphenolic part ( $\text{CHCl}_3$ ) yielded 0.53 g; the phenolic part, 0.12 g. The overall yield was 0.65 g or 0.64% of the dry weight.

Column chromatography on silica gel of the nonphenolic part afforded vincamine [3, 4], akuammicine [3, 5], reserpine [3, 6], majdine [3, 6], reserpinine [3, 6], vinerine [3, 6], ervine [3, 6], vineridine [3, 6], tombozine [3, 6], vincamajine [3, 6], and vincanine [3, 6]. Column chromatography on silica gel of the phenolic part gave vincanidine [3, 6]. All isolated bases were identified by direct comparison of mixed melting points and IR and UV spectra with authentic samples. The last nine alkaloids were isolated for the first time from the examined species.

## REFERENCES

1. *Flora of the USSR* [in Russian], Moscow-Leningrad (1952), Vol. 18, p. 647.
2. *Atlas of Distributions and Abundances of Medicinal Plants of the USSR* [in Russian], Moscow (1976), p. 199.
3. V. M. Malikov and S. Yu. Yunusov, *Khim. Prir. Soedin.*, 597 (1977).
4. Z. V. Robakidze, M. M. Mudzhiri, V. Yu. Vachnadze, and K. S. Mudzhiri, *Soobshch. Akad. Nauk Gruz.*, **80**, No. 2, 337 (1975).
5. Z. V. Robakidze, V. Yu. Vachnadze, and K. S. Mudzhiri, *Soobshch. Akad. Nauk Gruz.*, **89**, No. 1, 117 (1978).
6. V. M. Malikov, in: *Progress in Research on Alkaloid-Bearing Plants*, Kh. N. Aripov, ed., Fan, Tashkent (1993), p. 92.

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