

*d,l*-VINCADIFFORMINE, 11-METHOXYVINCADIFFORMINE, AND ERVINE  
FROM THE HERB *Vinca herbacea*

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In the present paper we give the results of an investigation of the alkaloids of the herb *Vinca herbacea* Waldst. et Kit., (family Apocynaceae), cultivated in the A. N. Dzhorbenadze Center for Medicinal Plants of the Institute of Pharmacochemistry of the GSSR. The total material was obtained in the usual way [1]. On separation by means of citrate-phosphate buffers, from the fraction with pH 8.6-3.0 by chromatography on a column of neutral alumina with elution by benzene and benzene-ethyl ether in ratios of 8:2, 6:4, and so on with increasing concentrations of ether, we isolated three compounds: (I),  $C_{21}H_{26}N_2O_6$ , amorphous,  $[\alpha]_D^{20}$ ,  $M^+$  338; (II),  $C_{22}H_{28}N_2O_3$ , amorphous,  $[\alpha]_D^{20}$   $-440^\circ$ ,  $M^+$  368; and (III),  $C_{21}H_{24}N_2O_3$ , mp 220-222°C (methanol),  $[\alpha]_D^{20}$   $-57.2^\circ$ .

On the basis of physicochemical constants and spectral characteristics, compounds (I), (II), and (III) were identified as *d,l*-vincadifformine, 11-methoxyvincadifformine, and ervine, respectively [2-4].

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COMPONENTS OF *Haplophyllum acutifolium*

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We have previously [1, 2] reported the isolation of the alkaloids acutine and skimmine, the lignan eudesmin, and acetamide from the epigeal part of *Haplophyllum acutifolium* collected in the fruit-bearing period in regions of the Turkmen SSR (Kara-Kara and Kizyl-Arvat). The aim of the present work was to study the changes in the chemical composition of the epigeal part of this plant according to the vegetation period and growth site.

By extraction with methanol of the epigeal part of *H. acutifolium* collected by S. A. Khamidkhodzhaev in the early vegetation period (see below) from the southern slopes of the Kopet-Dagh range along the road from Kizyl-Arvat to Kara-Kala, and separation of the evaporated extract into basic, acidic, and neutral fractions, followed by the chromatography of each of them on alumina, we obtained, in addition to substances detected previously [1, 2], evoxine [3], haplamine [3], and  $\beta$ -sitosterol [4], and also crystals with mp 110°C, which, judging from their NMR and mass spectrum, were a mixture of acutine ( $M^+$  241), dihydroacutine ( $M^+$  243), 2-n-nonadienyl-4-quinolone ( $M^+$  267), and 2-n-nonyl-4-quinolone ( $M^+$  271).

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