

## ALKALOIDS OF *Arundo donax*

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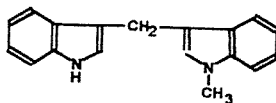
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We have investigated the alkaloids of the plant *Arundo donax* (fam. Gramineae) from two growth sites. From an *Arundo donax* plant introduced into the Botanical Garden of the Academy of Sciences of the Republic of Uzbekistan we have isolated five substances of known structure (donaxine, donaxaridine, N-phenylnaphthylamine, arundine, deoxyvasicinone) [1] and a new alkaloid, which we have called ardine (1).

Donaxine, donaxarine, and donaxaridine have been isolated previously from *Arundo donax* growing in the Shaartuz region of Tadzhikistan [1]. We have investigated a plant from the same growth site. From the chloroform fraction we again isolated the new alkaloid ardine (1), in the form of a white amorphous substance with the composition  $C_{18}H_{16}N_2$ .  $R_f$  0.1 in chloroform-methanol (9:1).

The UV spectrum of (1) [224, 268, 303, 315 nm ( $\log \epsilon$  4.96, 4.51, 4.34, 4.39)] was characteristic for substituted indoles. IR spectrum of (1): 3200 (NH), 1600, 1440, 1345, 1250, 755 (aromatic ring)  $cm^{-1}$ . The PMR spectrum of (1) [ $CD_3OD$ ] contained a signal in the form of a three-proton singlet at 2.90 ppm from an aromatic  $NCH_3$  group. At 4.75 ppm a broadened singlet was observed with an intensity of two proton units from a  $CH_2$  group bound to an aromatic ring. Aromatic protons gave signals in the interval from 6.80 to 7.75 ppm. The mass spectrum revealed peaks of ions with  $m/z$  130 (130,0656), 246 (246,1156), and 260 (260,1313) with the elementary compositions  $C_9H_8N$ ,  $C_{17}H_{14}N_2$ , and  $C_{18}H_{16}N_2$ , respectively, determined on a high-resolution mass spectrometer.

The spectral characteristics of ardine and the results of a comparative study with those of the alkaloid arundine showed the dimeric nature of the new alkaloid and made it possible to propose the following structure for it:



## REFERENCES

1. V. U. Khuzhaev, S. F. Aripova, and R. Sh. Shakirov, *Khim. Prir. Soedin.*, 685 (1994).
2. K. A. Ubaidullaev and R. Sh. Shakirov, *Khim. Prir. Soedin.*, 553 (1976).