Berberis ALKALOIDS. XLI. ALKALOIDS FROM LEAVES OF CULTIVATED *Berberis oblonga*

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Various organs of *Berberis oblonga* Scheid growing under natural conditions in Central Asia [1, 2] and young shoots cultivated in Karaganda Botanical Garden (KBG) of the Academy of Sciences of the Republic of Kazakhstan (AS RK) [3] have been studied.

In order to compare the alkaloid composition and the content of principal alkaloid in the cultivated and wild species, we investigated the alkaloid composition of leaves of *B. oblonga* introduced into KBG of the AS RK.

Leaves of *B. oblonga* collected at the start of fruiting were extracted with $CHCl_3$ to afford total alkaloids (0.15%), the main component of which was thalicmidine (Table 1). Chromatographic separation of the resulting total alkaloids over a silica-gel column isolated the principal alkaloid, glaucine, hydroxyacanthin, berbamine, and berberin, in addition to a base with mp 183-184°C and R_f 0.73 on TLC (Al_2O_3) using benzene:ethanol (9:1). The mass spectrum of the alkaloid gave peaks with *m*/*z* 341 (0.70%) $[M]^+$, 340 (35), 326 (100), 324, 310, and 256. This was similar to the mass spectrum of the aporphine alkaloid isocoridin [4]. Spectral data of the isolated base mixed with an authentic sample of isocoridin showed that they were identical.

The quantitative alkaloid composition of *B. oblonga* cultivated in KBG of the RK differed from that of the wild species growing in Central Asia. The berberin content in young shoots was less than in the wild plants. The principal alkaloid in the leaves was thalicmidine and not glaucine, like in the wild plants.

TABLE 1. Comparison of Cultivated and Wild Species of *B. oblonga*

Cultivated species		*B. oblonga*	Wild species [1, 2]	
Principal alkaloids, %	Σ alkaloids, %		Principal alkaloids, %	Σ alkaloids, %
Berberin 0.11 [3]	0.40	Young shoots [3]	Berberin 0.22	1.3
Thalicmidine 0.05	0.15	Leaves	Glaucine 0.13	0.29

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