

**HISTOCHEMICAL DETECTION OF VALEPOTRIATES
IN THE STORAGE ROOT OF THE VALERIAN
(*VALERIANA OFFICINALIS*)**

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The valepotriates, the compounds producing the sedative effect of valerian extracts, are formed in the underground organs of *Valeriana officinalis* (roots, rhisome). Their distribution within the root is debated. Valepotriate accumulation was experienced in the intercellular of the primary cortex and in pith parenchyma by BERNÁTH et al. (1973) and in the surface cells of the cortex by VERZÁR-PETRI (1971) and VIOLON and VERCRUYSE (1982) respectively.

In our studies the valepotriates were demonstrated in cross sections prepared from the storage roots of the *Valeriana officinalis* ssp. *sambucifolia*, using DNPH acetic acid-hydrochloric acid reagent (VERZÁR-PETRI 1979). The roots were collected from two growing places (Szeged and Budakalász) in October. The sections were prepared directly following collection from the central part of the primary roots of shoot origin. The studies were repeated throughout three successive years (1983-1985).

Intensive blue staining was experienced in the subhypodermal layer of the cortex (2-5 cell rows), (Fig. 1 A). Valepotriates could not be demonstrated in the central cylinder and intercellulars, respectively. It is noteworthy that the cortex of the developing lateral root contained a considerable amount of valepotriates even at the area within the primary root (Fig. 2 A), at the same time there was also an increase of the effective compounds in the cortex cells located beside the young lateral roots far from the surface (Fig. 2 B).

As the valepotriates are situated within the roots, can be supposed that the content of effective compounds is more proportionate to the root surface, and in slighter degree to the root mass. On this basis the structural base of the greater valepotriate production is the rankly branching root system with large surface.

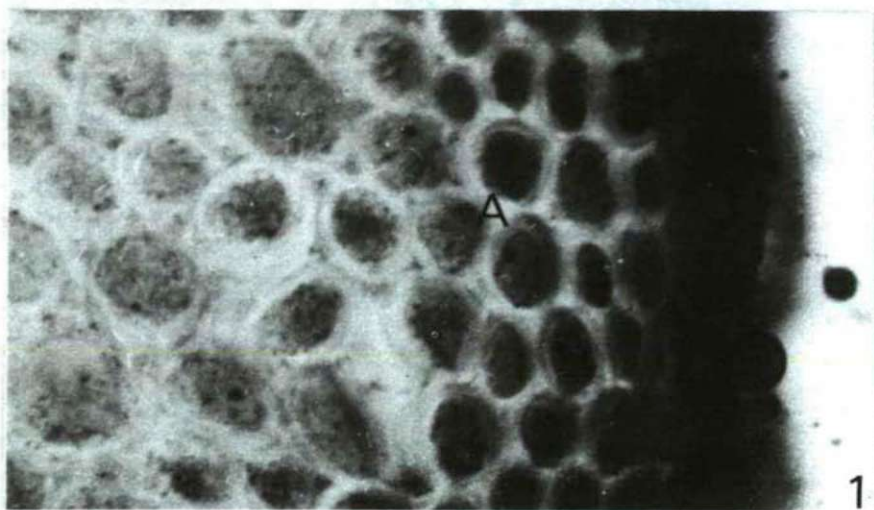


Fig. 1. The cortex of the storage root of *Valeriana officinalis*.
A = The valepotriate-containing subhypodermal layer

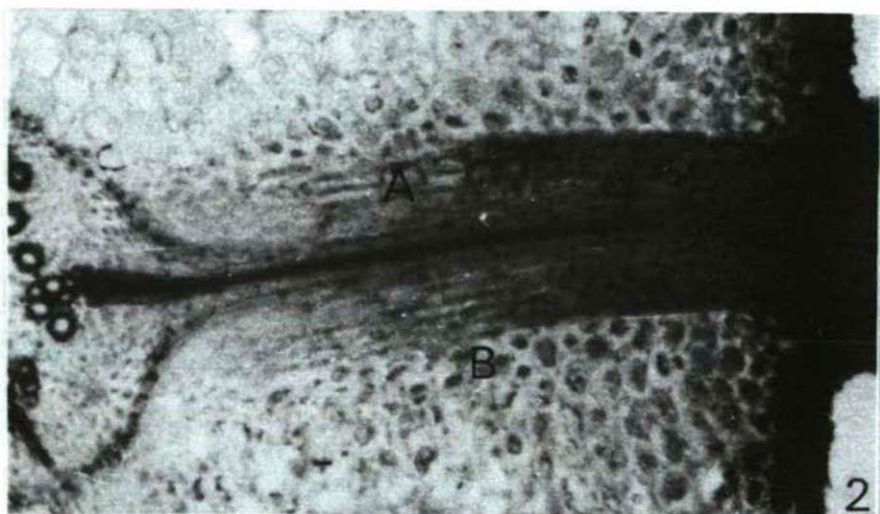


Fig. 2. Young lateral root.
A = cortex of the lateral root. B = valepotriate containing cortex cells of the primary root.

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