

HYDROXYCINNAMIC ACIDS OF *Plantago major*
AND *Pl. lanceolata*

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We have studied the leaves of *Plantago major* L. and *Pl. lanceolata* L. (rippleseed and buckhorn plantains) for their content of hydroxycinnamic acids. By two-dimensional paper chromatography [in the systems: 1) 2% acetic acid, and 2) BAW (4:1:2)] of the aqueous extracts from the leaves of these plants freed from polysaccharides, we isolated in the individual state two hydroxycinnamic acids (I and II) common to the two species.

Substances (I) and (II) have similar maxima in their UV spectra (λ_{\max} 275, 326, and 298 nm), possess a blue fluorescence in UV light and a blue-green fluorescence in ammonia vapor, and give positive reactions with ferric chloride solution and with ammoniacal silver nitrate solution. Alkaline hydrolysis with 0.1 N KOH solution (20 min) formed caffeic and D-quinic acids. On two-dimensional chromatography, substance (I) had R_f 0.58 and 0.65 (systems 1 and 2) and substance (II) 0.64 and 0.62, respectively.

On chromatographic comparison, compounds (I) and (II) proved to be identical with chlorogenic and neochlorogenic acids, respectively [1, 2]. The amounts of chlorogenic and neochlorogenic acids are considerably higher in the leaves of rippleseed plantain than in the leaves of buckhorn plantain. In all probability, the high content of chlorogenic and neochlorogenic acids in the leaves of the rippleseed plantain partially explain its anti-inflammatory and antisclerotic properties [3, 4].

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