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PHENOLIC COMPOUNDS FROM *Urtica urens* GROWING IN GEORGIA

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The chemical composition of the aerial part of stinging nettle (*Urtica urens* L.) collected in Adigen region (Georgia) during flowering (June 2002) was investigated.

Compound **1** was isolated from the $CHCl_3$ extract of the aqueous alcohol extract of the aerial part of the plant by chromatography over a silica-gel column with elution by $CHCl_3$:CH_3OH with increasing CH_3OH content.

Compound **1** was a crystalline white solid, mp 203-205°C. UV spectrum (λ_{max}, CH_3OH, nm): 230, 255, 300, 345; (KOH): 245, 390. IR spectrum (ν_{max}, KBr, cm^{-1}): 3340, 3140 (OH), 1740 (α-pyrone), 1615, 1570, 1520 (benzene ring). Monoacetate, mp 176-178°C. Compound **1** gave no melting-point depression when mixed with an authentic sample of scopoletin. The chromatogram contained one inseparable spot characterized as 6-methoxy-7-hydroxycoumarin (scopoletin) [1, 2].

Fractionation over a polyamide sorbent of the aqueous alcohol extract remaining after $CHCl_3$ extraction produced a fraction eluted with ethanol (45%). It was condensed. The amorphous powder was chromatographed over a polyamide column with elution by $CHCl_3$ and $CHCl_3$:ethylacetate with increasing ethylacetate concentration to afford compounds **2** and **3**.

Compound **2** was a white crystalline solid, mp 195-197°C. UV spectrum (λ_{max}, CH_3OH, nm): 240, 300, 325. Caustic fusion with KOH produced protocatechuic acid with R_f 0.80 (*n*-butanol:acetic acid:water, 4:2:1). The diacetyl derivative of **2** had mp 198-200°C.

Compound **3** was a white crystalline solid, mp 203-205°C. UV spectrum (λ_{max}, CH_3OH, nm): 240, 330; (CH_3COONa): 334; (C_2H_5ONa): 380, 260; (H_3BO_3+CH_3COONa): 375, 260; ($AlCl_3$): 360, 320, 245; $[\alpha]_D^{20}$ -32.0° (*c* 1.0, CH_3OH). The pentaacetyl derivative of **3** melts at 185-187°C. Caustic fusion produced protocatechuic acid; acid hydrolysis, quinic and caffeic acids. The fact that a lactone was not formed indicates that the caffeic acid was bonded to quinic acid at the 3-position [3].

The physicochemical properties, UV and IR spectra, and samples mixed with authentic compounds are consistent with **2** and **3** being caffeinic and chlorogenic acids, respectively [4, 5].

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