

Paper ID: IT-09**Phenolic compounds from *Cotinus coggygia* Scop.****Invited Talk**

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Abstract

Cotinus coggygia Scop, a species of the family Anacardiaceae, is widespread from southeastern Europe, the Mediterranean and the Caucasus, to central China and the Himalayas. It is a frequent species in Serbia, especially on limestone and sedimentary rocks and in the forests of black hornbeam and black pine. This species with longstanding medicinal history has been traditionally employed in Asian ethnomedicine for the management of hepatic disorders and gastrointestinal ailments. In Serbian folk medicine it is used against ovarian, kidney and prostate problems. All parts of the plant are used in folk preparations, leaves, heartwood and bark. Hitherto, over 300 constituents containing 75 purified compounds from *C. coggygia* have been characterized. Phenolic derivatives dominated among the isolated compounds, while terpenoid-rich volatile oils constituted the majority of leaf components. From the Serbian *C. coggygia* 28 compounds (37% of the total isolates) were isolated and chemically characterized, mostly flavonoids, comprising two auronolignans, a new class of flavonolignans, six biflavones and three flavonoid tetramers. Structural characteristic of the flavonoids isolated from the Serbian *C. coggygia* was 7,3',4'-hydroxylation pattern. Bioactivity assessments of *C. coggygia* revealed broad therapeutic potential, including hepatoprotective, antioxidant, cytotoxic, anti-inflammatory, antimicrobial, and anticoagulant effects. Among the phenolic compounds, flavonoids are considered as the most representative and characteristic components in *C. coggygia*. Phytochemical research revealed that various types of flavonoids isolated from *C. coggygia*, such as flavones, flavonols and their glycosides, dihydroflavones, dihydroflavonols, flavanes, chalcones, aurones, anthocyanidins, biflavones and auronolignans. Flavonoid constituents emerged as the primary compounds contributing to bioactivities, supported by mechanistic studies.

Keywords: *Cotinus coggygia* Scop., Auronolignans, Biflavones, Isolation, Structure elucidation, Biological activity