

## Flavonoid constituents in some of *Endemic salvia L. (lamiaceae)* species in Iran

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**Background and Aims:** *Salvia* Linnaeus (L.) genus is considered one of the most important medicinal genera of Lamiaceae. This study is concerned the flavonoid compounds in five endemic *Salvia* species from Iran namely as *S. macrosiphon* Boissier (Boiss.), *S. spinosa* L., *S. reuterana* Boiss., *S. sharifii* Rechinger and Esfandiari (Rech. & Esfand.) and *S. mirzayanii* Rech. & Esfand. which were collected from natural habitats of Iran and analyzed for their flavonoid constituents.

**Methods:** The flavonoid solution was extracted from air-dried leaves using crude 85% MeOH at 60°C. The extract was analyzed by two-dimensional maps on silica gel thin layer chromatography. Spots' detection with natural product identifiers (5% H<sub>2</sub>SO<sub>4</sub> in MeOH) was performed under UV-366 nm. The purification of flavonoid compounds of each species was carried out using column chromatography with sephadex LH20. The fractions were subjected to one dimensional map on silica gel plates. Identification of purified compounds was performed on the basis of their UV spectra (366 nm), MeOH solution and shift reagents.

**Results:** Based on the findings, total numbers of spots obtained for each species were 22-34. The yellow and blue spots were common in *Salvia* species. The patterns of flavonoid variations in *Salvia* species displayed more diversity. The highest flavonoid variations are related to hydroxylation (70%) and methoxylation (50%). 60 flavonoid compounds were identified namely as flavones, flavonols, isoflavones, flavanones and chalcones. Moreover, the highest flavonoid classes among five *Salvia* species were flavones (88%) and the lowest were chalcones (8.1%). Some of the flavonoid compounds in *Salvia* species studied were first reported for Iran such as sakuranin, pseudobaptigenin, tectorigenin and tectorigenin-7-o-glucoside.

**Conclusions:** It can be concluded that hydroxylation, methoxylation and glucosylation patterns may be considered to be specific to the *Salvia* species. Their presence could be significant in chemotaxonomy and pharmaceutical researches.

**Keywords:** Endemic; Flavonoid; *Salvia*; Iran