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Characterization of phenols in Salvia elegans and Salvia greggii

OR Pereira [1, 2], AF Afonso [1, 3], J de A e Silva [4], AJFN Sobral [4], SM Cardoso [2]

- [1]Department of Diagnostic and Therapeutic Technologies, School of Health Sciences, Polytechnic Institute of Bragança, Bragança, Portugal
- [2]CERNAS, School of Agriculture, Polytechnic Institute of Coimbra, Bencanta, Coimbra, Portugal
- [3]Public Health Laboratory of Bragança, Local Health Unit, Bragança, Portugal
- [4]Chemistry Department of the University of Coimbra, Coimbra, Portugal

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Although *Salvia elegans* and *Salvia greggii* are commonly used in traditional medicine in North America [1] their main bioactive components remain unknown. The present study aims to identify the main phenolic components of these two plants. Aqueous extracts of both species were prepared according to the procedure described by Ferreira et al [2] and the total phenolic content of the extracts was evaluated through an adaptation of the Folin-Ciocalteu method [3]. Identification of the phenolic compounds was accomplished by reversed-phase HPLC with DAD and ESI-MSn analysis in negative mode. The aqueous extracts of *S. elegans* and *S. greggii* contained 201 ± 46 and 136 ± 1 µg GAE/mg of extract, respectively. The two extracts were mainly composed of rosmarinic acid, which is typically found in *Salvia* plants [4]. This phenolic acid shows typical UV spectra maxima at 290 and 328nm and mass spectrometry fragmentation

pattern of *m/z* 359→223, 197, 179, 161. In addition, the extract of *S. elegans* also contained significant amounts of other caffeic acid derivatives, in particular lithospermic acid B *m/z* 717→537, 519, 475, 339, 243 and lithospermic acid (538MW), as well as the flavone luteolin-*O*-glucuronide ([M-H]- at *m/z* 461→285). In contrast to *S. elegans*, in *S. greggii* extract, along with rosmarinic acid, the major phenolics involved flavonoids, in particular luteolin-7-*O*-glucoside, luteolin-8-*C*-glucoside and apigenin-*C*-hexoside with respective characteristic mass spectrometry fragmentation pattern *m/z* at 447→285, *m/z* 447→357, 327 and *m/z* 431→341, 311. The main phenolic constituents of *S. elegans* and *S. greggii* are here described for the first time. This knowledge may help further understanding of the claimed health-benefits for these two plants.

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Keywords: Phenolic compounds, Salvia elegans, Salvia greggii, chemical characterization

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