

SUPPLEMENTARY MATERIAL

Identification of phenolic compounds from the leaf part of *Teucrium pseudo-scorodonia* Desf. collected from Algeria

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Abstract

In the present paper, we reported for the first time the identification of the phenolic compounds in butanolic fraction obtained from the leaf part of *Teucrium pseudo-scorodonia* Desf. collected from Algeria using RP-HPLC-PDA (Reversed Phase High Performance Liquid Chromatography/PhotoDiode Array) technique. A series of standards were used for this purpose. The analysis led to the identification of six phenolic acids (ferulic, sinapic, rosmarinic, syringique, caffeic, p-coumaric acids) and one flavonoid (rutin), the last one, has interesting pharmacological properties.

Keywords

Teucrium pseudo-Scorodonia Desf, RP-HPLC-PDA, Phenolic acids, flavonoids.

Experimental

Plant materials

Teucrium pseudo-Scorodonia Desf was collected from Honaine (Tlemcen, west of Algeria) during the flowering period, and identified by Pr. Benabadji Nouredine from the department of Ecology and Environment, University of Tlemcen, Algeria. A voucher specimen (N° L. 2297) was deposited at the laboratory of natural products. Preparation of butanolic leaf extract
The powdered leaves of *T. pseudo-Scorodonia* were extracted with 70% methanol under reflux for 3 h. The methanol extract was then filtered and evaporated to dryness. The residue obtained was treated with 10 ml of boiling water to dissolve flavonoids and then successively partitioned with 10 ml of ethyl acetate and 10 ml of 1-butanol. After separation and evaporation, the butanolic phase was weighed and stored before use (Bekkara et al. 1998).

Chemicals and standards

The standards chemicals of phenolic acids and flavonoids (syringic, chlorogenic, sinapic, rosmarinic, caffeic, gallic, ferulic and p-coumaric acids; resorcinol, hydroquinone, pyrocatechol, vanillin, catechin, catechin hydrate, quercetin, rutin and naringenin) were purchased from Sigma-Aldrich Chemie (Germany). Methanol, ethyl acetate, 1-butanol and acetic acid were purchased from Merck (Darmstadt, Germany).

RP-HPLC-PDA analysis of phenolic acids and flavonoids

RP-HPLC-PDA analysis of phenolic acids and flavonoids in butanolic fraction obtained from the leaves of *Teucrium pseudo-Scorodonia* was performed on a Perkin Elmar Flexar system equipped with a binary pump delivery system, an internal degasser, photo diode array detector (PDA) and an Eclipse ODS Hypersil C18 column (150 mm × 4.6 µm) was used. The mobile phase consisted in solvent A- Water/Acetic acid (98/2) and B- Methanol. The gradient elution system was: 5 min with 5 % of B; 15 min with 10 % of B and 26 min of linear gradient from 10 % to 100% of B, after that, 20 min were consisted for equilibration. Flow rate was 0.8 ml/min. The chromatograms were monitored at 280 and 340 nm. The compounds identification

and peak assignments were done based on their retention times, UV-VIS spectra and also comparing with standards.

References

Bekkara F. Jay M. Viricel MR. Rome S. 1998. Distribution of phenolic compounds within seed and seedlings of two *Vicia faba* cvs differing in their seed tannin content, and study of their seed and root phenolic exudations. Plant Soil. 203: 27–36.

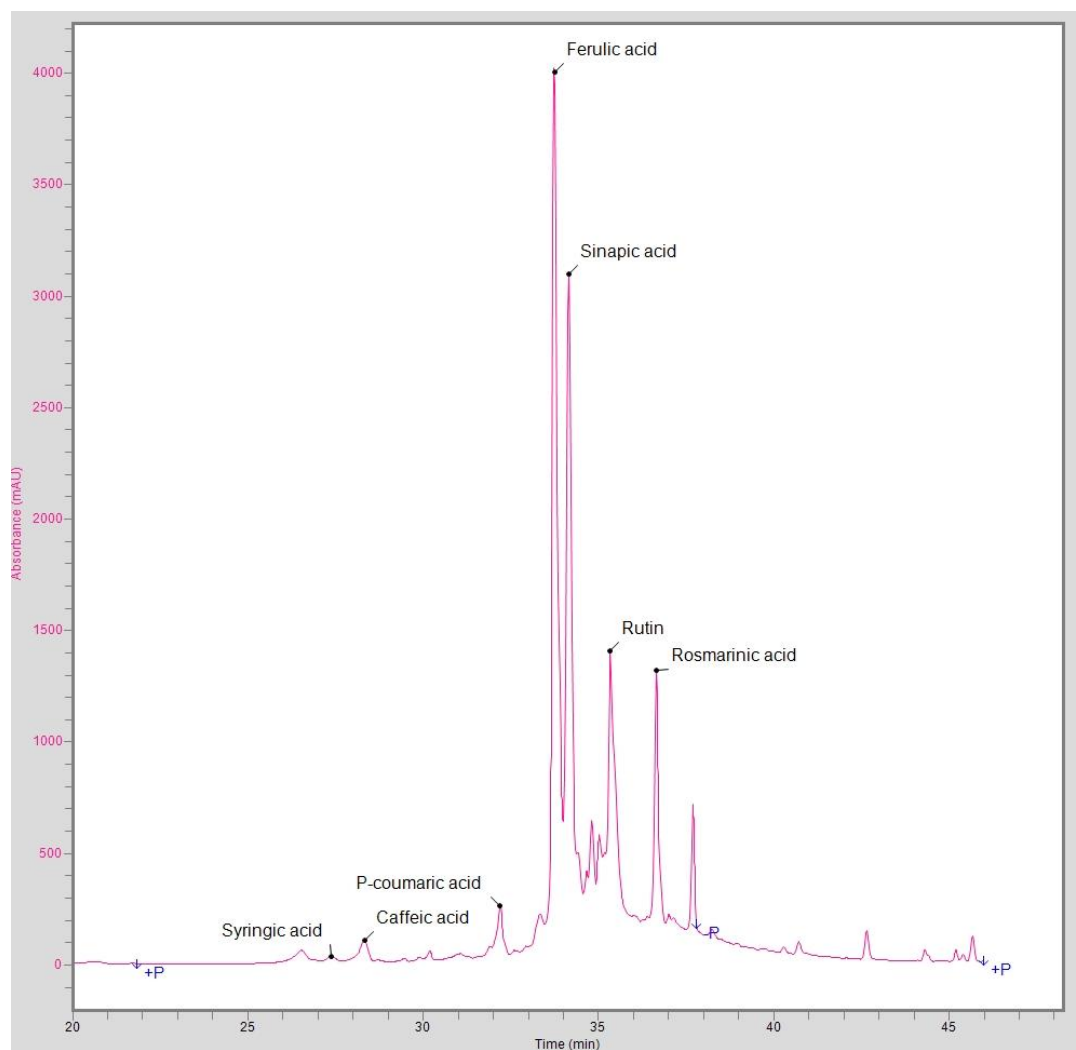


Figure S1. RP-HPLC chromatogram of butanolic fraction of *Teucrium pseudo-Scorodonia* (leaves part) obtained at 280 nm