Chemical characterization of three *Thymus* species: *T. herba-barona, T. pseudolanuginosus and T. caespititius*

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Introduction

Many species of *Thymus* are used for culinary confection and for medicinal applications. *Thymus* plants are rich in phenolic compounds, particularly in phenolic acids and flavonoids [1,2]. Albeit that, the specific phenolic composition of *Thymus herba-barona, Thymus pseudolanuginosus* and *Thymus caespititius* remains unknown up to the present.

Aim: Identify and quantified the main phenolic components of three tyme species: *T. herba-barona, T. pseudolanuginosus* and *T. caespititius* by HPLC-DAD-ESI-MS^n.

Methods

✓ Successive extractions of *Thymus* species aerial parts [3];

✓Phenolic compounds analyzed by HPLC-DAD-ESI-MS^n.

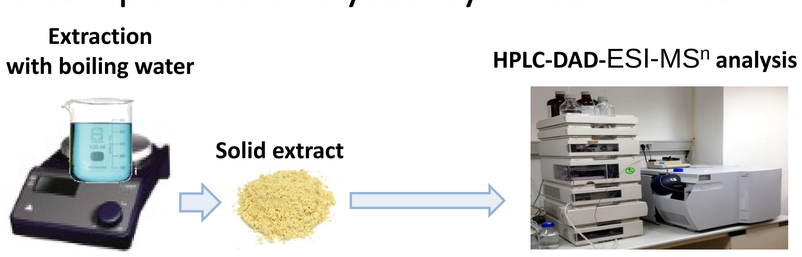

Figure 1 – Extraction and HPLC-DAD-ESI-MS^n analysis *of T. herba-barona, T. pseudolanuginosus* and *T. caespititius* samples

Results

Aqueous extracts of the three *Thymus* extracts had high amounts of caffeic acid derivatives, mainly rosmarinic acid (MW 359) and its structural isomers (Table 1). *T. pseudolanuginosus* stands out by its clear richness in the flavone luteolin-*O*-glucuronide. In addition some compounds were differently distributed in these three plant extracts (Table 1), similarly to other *Thymus* species [1,2].

Table 1. Identification and quantification of main UHPLC eluting fractions of *T. herba-barona, T. pseudolanuginosus* and *T. caespititius* extracts

Fig.1 Number	Compound	λ_{max} (nm)	[M-H]$^-$	*T. herba-barona*	*T. pseudolanuginosus*	*T. caespititius*
1	Rosmarinic acid	287, 325	359	55.8 ± 2.8	40.2 ± 0.9	43.2 ± 3.2
2	Luteolin-*O*-glucuronide	281, 331	461	10.5 ± 0.2*	54.1 ± 0.6	17.3 ± 1.1
3	Dedihydro-salvianolic Acid B	289, 318	715	10.8 ± 0.1	-	-
4	Salvianolic Acid B	288, 326	717	-	-	6.9 ± 0.5
5	Salvianolic Acid K	287, 324	555	D	10.5 ± 0.1	-
6	Caffeoyl Rosmarinic acid	288, 322	537	10.5± 0.06	D	D

*Structural isomer; D: detected

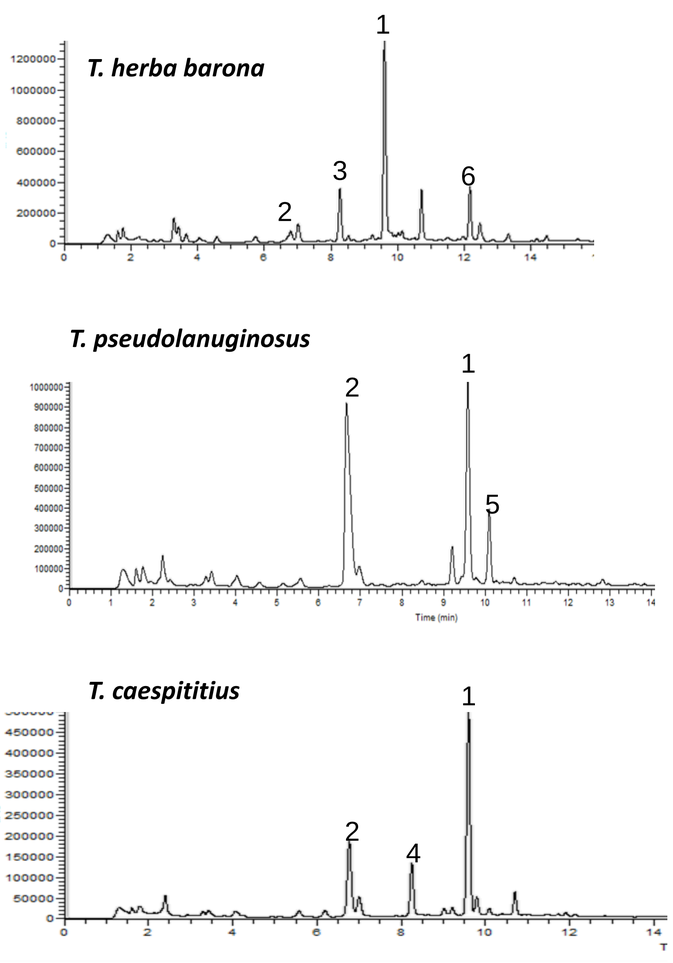

Figure 1- Chromatographic profile of *T. herba barona , T. pseudolanuginosus* and *T. caespititius* extracts species at 280 nm

Conclusions

T. herba-barona, T. pseudolanuginosus and *T. caespititius* share the major phenolic constituents, although these three species can be distinguished by specific phenolic constituents in their composition. This knowledge may help further understanding of the claimed health-benefits for these three plants.

References

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