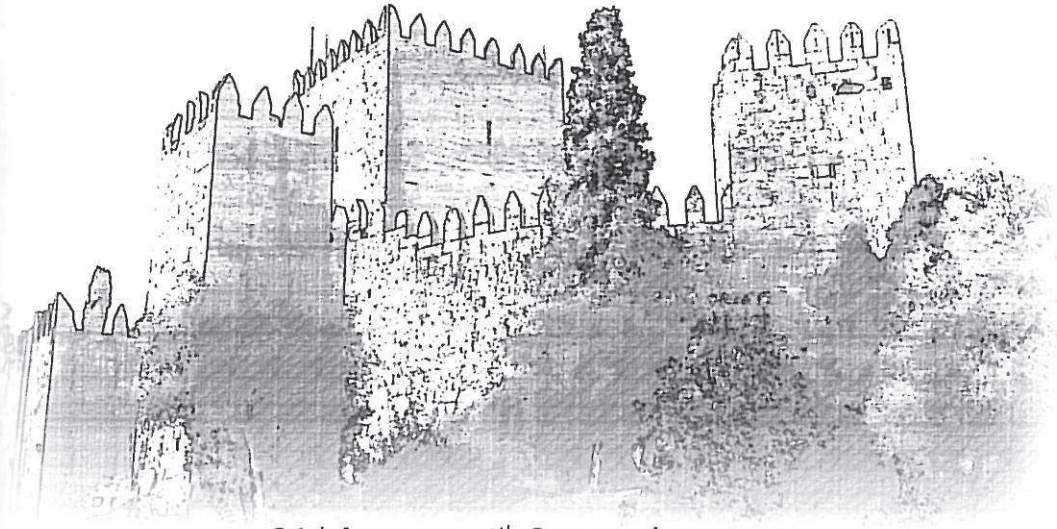
62nd International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research - GA2014

Book of Abstracts



31st August - 4th September 2014

University of Minho, Campus of Azurém
Guimarães, Portugal

62nd International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research - GA2014

31st August - 4th September 2014

University of Minho, Campus of Azurém
Guimarães, Portugal

Book of Abstracts

Table of Contents

P2P22 *Thymus zygis* and *Thymus pulegioides* as a source of phenolic compounds

Olívia R. Pereira[1,2], Andrea F. Afonso[1,3], Vasco Domingues[2], Susana M. 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*

Thymus is an important genus in the West Mediterranean region, where many species are cultivated for confection of several dishes, including salads, soups, stews and sauces. Many *Thymus*, including *T. zygis* and *T. pulegioides* are also commonly used in traditional medicine [1]. Whist phenolic compounds are commonly associated to health-beneficial properties of *Thymus*, the specific phenolic composition of *T. zygis* and *T. pulegioides* is presently unknown [2]. The extracts of the aerial parts of *T. zygis* and *T. pulegioides* species were prepared with hot water as previously described [3]. Total phenolic contents were determined according to the adapted Folin-Ciocalteu colorimetric method [4] and the identification of the phenolic compounds was performed by high performance liquid chromatography (HPLC-DAD). The extracts of *T. zygis* and *T. pulegioides* contained 319±44 and 391±3 μg GAE/mg, respectively. Likewise other *Thymus* species [2], both extracts were enriched in caffeic acid derivatives, showing characteristic UV spectra maxima at 290 and 328 nm. The latter included rosmarinic acid (MW 360) and 3′-*O*-(8″-*Z*-caffeoyl)rosmarinic acid (MW 538) [2]. The two extracts also contained moderate amounts of the flavone luteolin-7-*O*-glucoside (MW 448) that has been previously described in others *Thymus* species [2]. Yet, *T. zygis* and *T. pulegioides* phenolic profiles could be clearly distinguished: while the first had high levels of the phenolic acid salvianolic acid K (MW 556; UV spectra maxima at 288, 322), the extract of *T. pulegioides* was enriched in eriodictyol-*O*-hexoside and derivatives, with typical UV spectra maxima at 283 nm. Note that salvianolic acid K has been previously described in *T. vulgaris* while eriodictyol-*O*-hexoside derivatives were previously found in *T. vulgaris* and *T. serpyllum* [2]. The phenolic compounds of T. *zygis* and *T. pulegioides* are here described for the first time.

Acknowledgements: Financial support of FCT to CERNAS (PEst-OE/AGR/UI0681/2014).

Keywords: *Thymus zygis, Thymus pulegioides, phenolic compounds, phytochemical characterization*

References:

[1] Zarzuelo, A. and Crespo, E. 2002, The medicinal and non-medicinal uses of Thyme. In: Stahl-Biskup, E. and Sáez, F., editors. Thyme, the genus Thymus, London: Taylor and Francis.
[2] Pereira, O.R. and Cardoso, S.M. (2013) Cur Anal Chem 9:382-396.
[3] Ferreira, F.M. et al. (2012) Cyta-J Food 10:92-102.
[4] Guyot, S. et al. (1998) J Agric Food Chem 46:1698-1705.