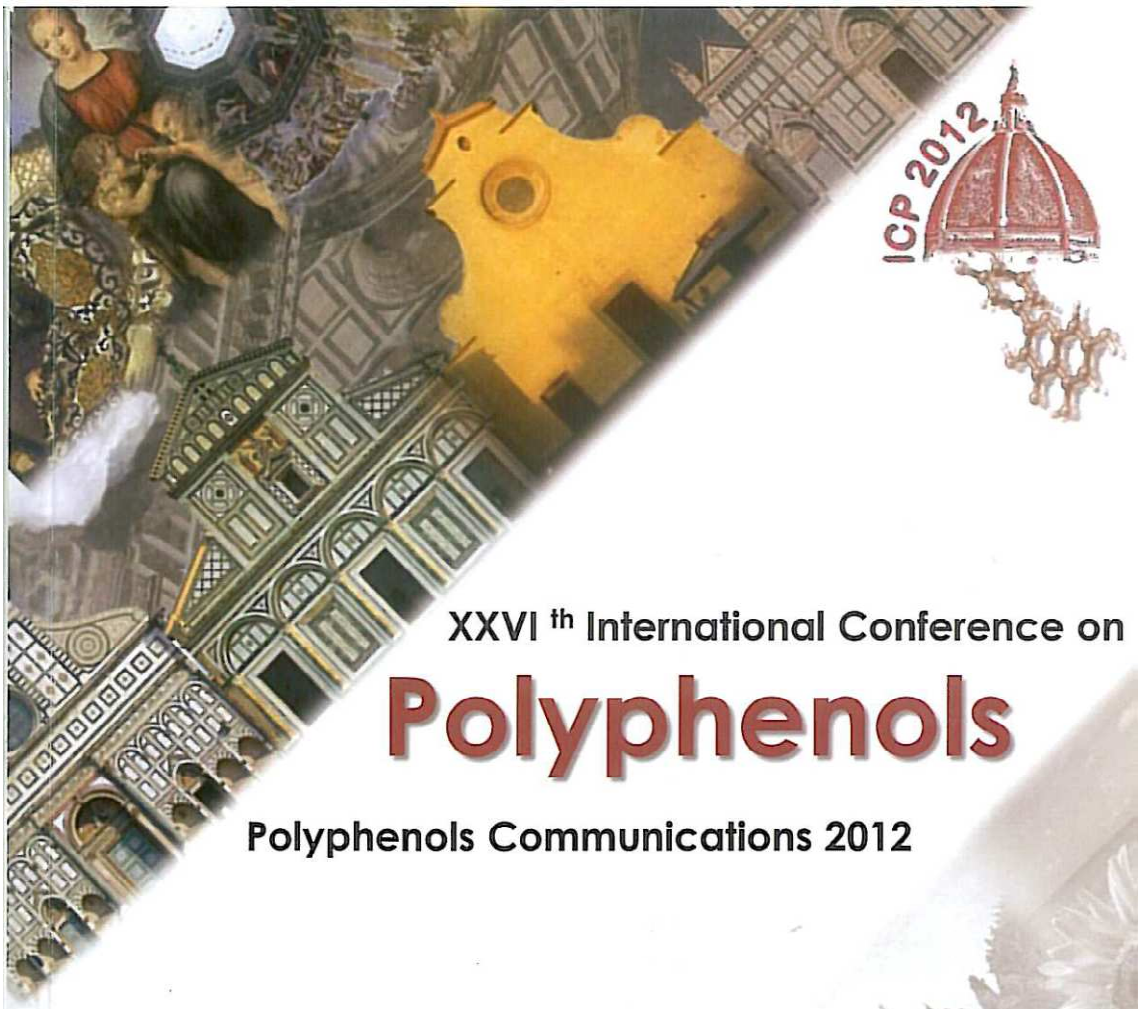

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Phenylethanoids and isoscutellarein derivatives from *Lamium album* L.

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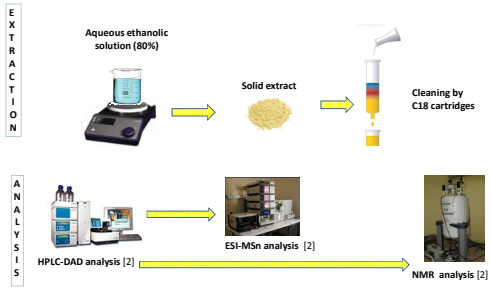
INTRODUCTION

Lamium album L., a plant commonly known as white dead nettle, has been used in folk medicine in the treatment of several ailments as leucorrhoea, wound healing and skin problems because of its haemostatic and anti-inflammatory activities. Some of their benefitial properties are closely related to its phenolic content, however the exact polyphenolic composition is far from being understood [1].

The present work aims to determined the phenolic comosition of na ethanolic extract of *L. album* L. using HPLC-DAD, ESI-MS and NMR methods.

METHODS

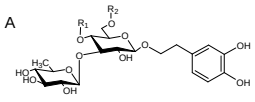


RESULTS AND DISCUSSION

⇨The quantified phenolic compounds in the purified ethanolic extract of aerial parts of *L. album* accounted for 550.7±50.0 mg/g of extract, mainly includes the two phenylethanoids verbascoside (233.7±13.6 mg/g of extract) and isoverbascoside (39.2±5.6 mg/g of extract).

⇨Derivatives of the unusual flavone isoscutellarein represented approximately one third of the total phenolics quantified. The structure of isoscutellarein derivatives detected in this work are represented in Fig.1B.

⇨The main isoscutellarein derivative (37.4±4.4 mg/g of extract) was assigned to isoscutellarein-7-*O*-(6-*O*-acetyl-β-allosyl)(1→2)-β-glucoside and its structure was corroborated by NMR data.



	R_1	R_2
Verbascoside	Caff	H
Isoverbascoside	H	Caff

R_3	R_4	
H	Allo-Glc	Isoscutellarein-7-*O*-allosyl(1→2)glucoside
H	Allo-Glc	Isoscutellarein-7-*O*-allosyl(1→2)glucoside
H	Ac-Allo-Glc	Isoscutellarein-7-*O*-(6-*O*-acetyl allosyl)(1→2)glucoside
Me	Allo-Glc	4'-*O*-Methylisoscutellarein-7-*O*-allosyl(1→2)glucoside
Me	Ac-Allo-Glc	4'-*O*-Methylisoscutellarein-7-*O*-(6-*O*-acetylallosyl)(1→2)glucoside

Caff, Caffeoyl unit; Allo, Allosyl unit; Glc, Glucosyl unit; Ac, Acetyl unit; Me, Methyl unit

Figure 1- Structures of verbascoside and isoverbascoside (A) and isoscutellarein derivatives (B) found in purified extract of Lamium album L..

CONCLUSIONS

Overall, this work is an important contribution for the chemical characterization of *L. album* L., also reporting new compounds in the genus *Lamium*. As the main components of *L. album* ethanolic extract (verbascoside and isoscutellarein derivatives) have been demonstrated to possess important biological activities [3,4], it is possible that they are associated to the health benefits of this plant.

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