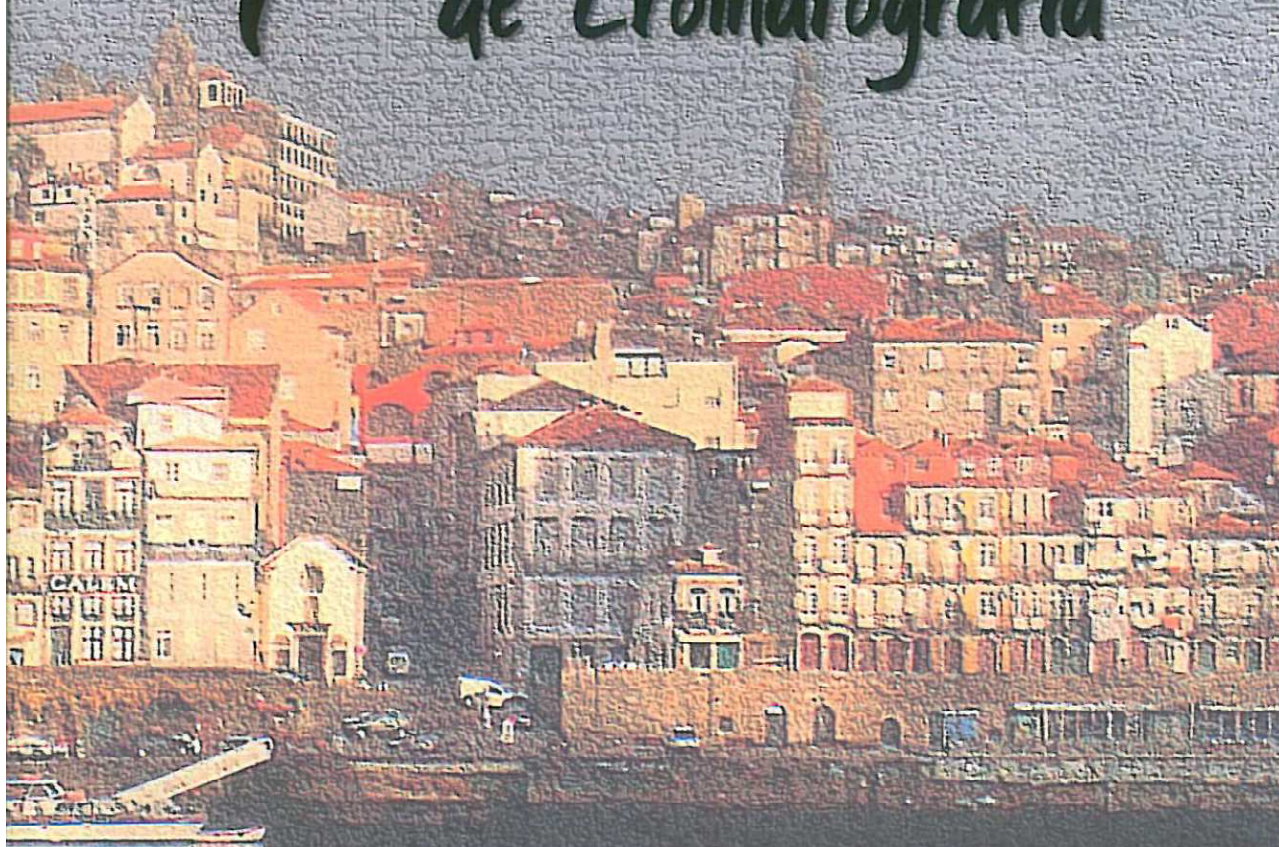


9 a 11 de Janeiro de 2012
Porto, Portugal

70 Encontro Nacional de Cromatografia



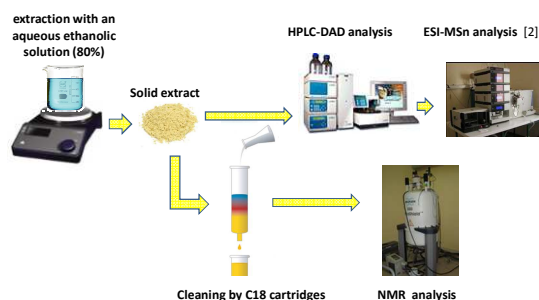
INTRODUCTION



Cytisus multiflorus is a well known Mediterranean plant presenting diuretic, anti-inflammatory, anti-hypertension and antidiabetic properties [1].

The high phenolic content of *C. multiflorus* is frequently associated to its health beneficial properties, however its phenolic composition remains unclear. In this work, the phenolic profile of an extract of *C. multiflorus* flowers was elucidated.

METHODS



RESULTS AND DISCUSSION

The phenolic characterization of the *Cytisus multiflorus* ethanolic extract was carried out by reversed-phase HPLC-DAD and further analysis by ESI-MSⁿ. NMR analysis allowed to confirm the structure of the major compound (Chrysin-7-*O*- β -D-glycopyranoside, in fraction 9).

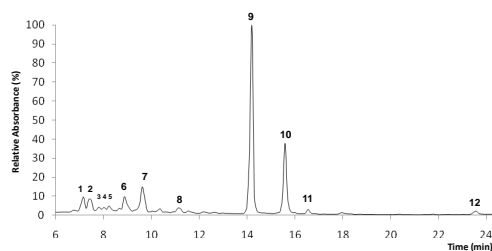


Fig. 1 - Chromatographic profile of ethanolic fractions of *C. multiflorus* at 280 nm. The numbers on the figure correspond to the fractions that were collected for by ESI-MS analysis

Table 1- Identification and quantification of HPLC eluting fractions by HPLC-DAD and ESI-MSⁿ in *C. multiflorus* ethanolic extract

Number Fraction	RT (min)	λ_{max}	MW	Compound	mg/g extract
1	7.2	256, 266, 347	580	2''- <i>O</i> -pentosyl-6- <i>C</i> -hexosyl-luteolin	10.2±1.2
2	7.5	257, 266, 346	580	2''- <i>O</i> -pentosyl-8- <i>C</i> -hexosyl-luteolin	10.7±0.8
3	7.9	256, 266, 345	448	Orientin	2.5±0.4
4	8.1	267, 338	564	2''- <i>O</i> -pentosyl-8- <i>C</i> -hexosyl-apigenin	1.7±0.4
5	8.3	267, 338	564	2''- <i>O</i> -pentosyl-6- <i>C</i> -hexosyl-apigenin	2.9±0.2
6	9.3	255, 352	610	Rutin	14.1±1.7
7	9.7	266, 342	708	6''- <i>O</i> -(3-hydroxy-3-methylglutaroyl)-2''- <i>O</i> -pentosyl- <i>C</i> -hexosyl-apigenin	11.2±2.1
8	11.3	266, 342	432	Apigenin-7- <i>O</i> -glucoside	2.5±0.3
9	14.3	267, 303	462	Chrysin-7- <i>O</i> - β -D-glycopyranoside	49.4±7.3
10	15.7	267, 303	254	Dihydroxyflavone isomer of chrysin	21.8±3.8
11	16.7	ND	270	Apigenin	1.7±0.3
12	23.7	267, 313	254	Chrysin	1.6±0.2

Total 130.0±7.2

CONCLUSIONS

- ⇒ *Cytisus multiflorus* is mostly rich in chrysin-7-*O*- β -D-glycopyranoside;
- ⇒ It contains moderate amounts of uncommon phenolic compounds for Fabaceae such 2''-*O*-pentosyl-6-*C*-hexosyl-apigenin, 2''-*O*-pentosyl-8-*C*-hexosyl-apigenin, 6''-*O*-(3-hydroxy-3-methylglutaroyl)-2''-*O*-pentosyl-*C*-hexosyl-luteolin;
- ⇒ Unique compounds enclose derivatives of common flavonoids luteolin, quercetin and apigenin.

REFERENCES

- [1] M S Gião, et al, J Sci Food Agric, 2007, 87, 2638-2647
- [2] S Falcão, et al, Anal Bioanal Chem, 2010, 396, 887-897

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