CHEMICAL PROFILING OF LEAVES OF DIFFERENT SPECIES OF THE GENUS *SALIX* L.

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INTRODUCTION

Willow bark (*Salix* L., Salicaceae) is traditionally used to relieve pain, treat fever and inflammatory conditions. In contrast, leaves of *Salix* species are usually considered as waste after bark collection and are mainly not studied. Nowadays, waste products from plant processing are gaining increasing interest as promising sources of bioactive compounds. Therefore, the aim of this study was to characterize the chemical composition of leaves of five different willow species, namely *S. alba, S. amplexicaulis, S. babylonica, S. eleagnos, S. triandra*.

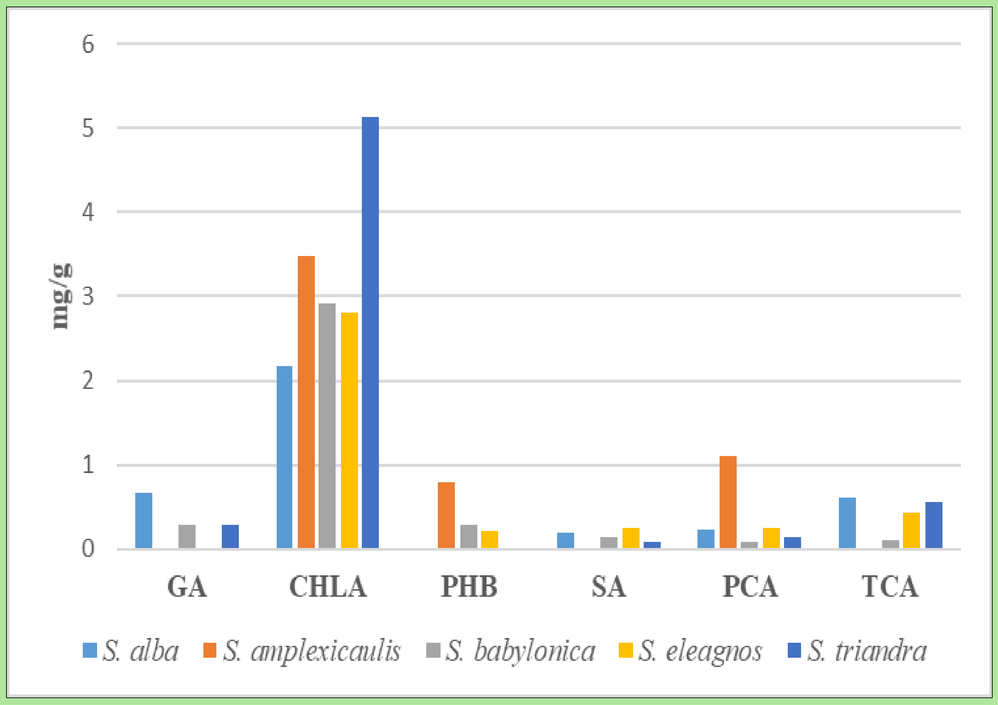
MATERIAL AND METHODS

Microwave-assisted extraction (solvent: water; duration: 5 min)

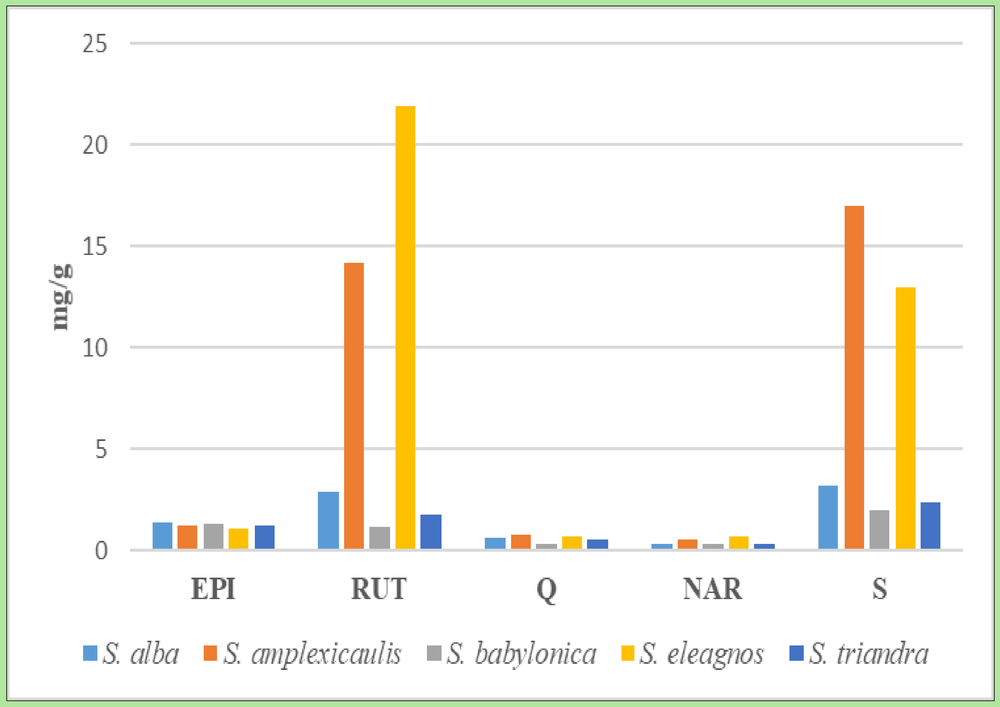
	Phenolic acids and flavonoids	Salicin
Column	Zorbax CB-C18 (4.6 × 150 mm, 5 µm)	
Mobile phase	0.1% acetic acid in deionized water, 0.1% acetic acid in acetonitrile (gradient elution)	d. water, tetrahydrofuran and *ortho*-phosphoric acid (97.7:1.8:0.5) (v/v/v) (isocratic mode)
Flow rate	1 mL/min	1 mL/min
Run time	30 min	15 min
UV detection	280 nm	270 nm

RESULTS

Phenolic acids



Flavonoids and salycilic glycoside



GA – gallic acid; CHLA – chlorogenic acid; PHB - *p*-hydroxybenzoic acid; SA – syringic acid; PCA - *p*-coumaric acid; TCA - *trans*-cinnamic acid; EPI – epicatechin; RUT – rutin; Q – quercetin; N – naringenin; S - salicin

CONCLUSION

The obtained results indicate that leaves of *Salix* species contain significant amounts of health beneficial phenolic compounds and have potential to be utilized as sources of these important phytochemicals.