

Article

Biochemical Profile and *In Vitro* Therapeutic Properties of Two Euhalophytes, *Halocnemum strobilaceum* Pall. And *Suaeda fruticosa* (L.) Forske., Grown in the Sabkha Ecosystem in the Algerian Sahara

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Table S1. Determination of phenolic compounds of some plants of the *Chenopodiaceae* family using HPLC analysis

Plant species	Phenolic compounds	Amount (µg/100 mg ED)	Reference
<i>Suaeda fruticosa</i>	Gallic acid	0.449±0.02	[12]
	Catechin	166.7±8	
	Chlorogenic acid	126.8±9	
	Caffeic acid	383±1	
	Quercetin	0.247±1	
	Kaempferol	176±1	
<i>Halocnemum strobilaceum</i>	Chlorogenic acid	288	[34]
	Caffeic acid	47	
	p-Coumaric acid	133	
	Gallic acid	51	
	Rutin	32	
	Vanillin	17	
	Vanillic acid	288	

<i>Beta vulgaris L. (root)</i>	Gallic acid	11.01	[35]
	Catechol	7.38	
	<i>p</i> -Comuaric acid	0.74	
	Ferulic acid	0.68	
	<i>o</i> -Coumaric acid	1.31	
	Cinnamic acid	0.60	
	Myricetin	19.25	
	Neringenin	19.92	
	Kaempferol	3.02	
	Apigenin	2.65	
<i>Beta vulgaris L. (root)</i>	Coumarin acid	325.0395	(ppm) [36]
	Resorcinol	0.0562	
	Quercetin	136.0987	
	Kaempferol	43.2809	
	Naphthaline	0.1974	

References

12. Qasim, M., et al., *Antioxidant properties, phenolic composition, bioactive compounds and nutritive value of medicinal halophytes commonly used as herbal teas*. South African Journal of Botany, 2017. **110**: p. 240-250.
34. Gheraissa, N., et al., *Phenolic compound profile, and evaluation of biological properties of Bassia muricata (L.) Asch. aerial part*. International Journal of Secondary Metabolite, 2022. **Vol. 9, No. 3**: p. 335-347.
35. El-Beltagi, H., et al., *Evaluation of some chemical constituents, antioxidant, antibacterial and anticancer activities of beta Vulgaris L. Root*. Fresenius Environmental Bulletin, 2018. **27**: p. 6369-6378.
36. Shalaby, H. and A. Hassenin, *Effects of Fortification Stirred Yoghurt with Red Beet Powder (RBP) on Hypercholesterolemia Rats*. European Journal of Agriculture and Food Sciences, 2020. **2**.