

A first insight into the nutritional value, phenolic content and biological activities of the halophyte *Cladium mariscus* L. Pohl

Marta Oliveira^{1*}, Maria Rodrigues¹, Catarina Pereira¹, Nuno Neng², Setha Ketavong³, Caroline Sprengel Lima⁴, Hervé Hoste³ and Luísa Custódio¹

¹ *Centre of Marine Sciences, Universidade do Algarve, Faro, Portugal*

² *Centro de Química e Bioquímica, Faculdade de Ciências, Universidade de Lisboa, Lisboa, Portugal.*

³ *INRA, UMR 1225 IHAP, Université de Toulouse, Toulouse, France.*

⁴ *Laboratory of Antibiotics and Chemotherapeutics, São Paulo State University, São Paulo, Brazil.*

*E-mail: mmfoliveira11@gmail.com

Cladium mariscus (L.) Pohl, also known as swamp sawgrass, is a halophyte plant common in the Mediterranean area. Swamp sawgrass is traditionally used for the treatment of colds, renal pain and gastrointestinal disorders, has a high polyphenolic contents and displays *in vitro* radical scavenging capacity [1]. In our ongoing studies to identify halophytes species with biotechnological uses, including for veterinarian applications, we explored the proximate composition, phenolic profile and *in vitro* antioxidant, anti-inflammatory and anthelmintic properties of 80% acetone extracts from swamp sawgrass aerial organs collected along the year (spring, summer, autumn and winter). The total phenolics content was appraised by spectrophotometric assays and the detailed phenolic profile was established by HPLC-DAD. The extracts displayed a high antioxidant and anthelmintic activity and moderate anti-inflammatory properties. Biomass has an interesting nutritional profile, and high polyphenolic content, especially condensed tannins. These results encourage further investigations on the potential use of *C. mariscus* as veterinary nutraceutical and/or phytotherapeutical drugs for small ruminants.

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Reference

[1] Lopes A et al. *Ind Crops Prod.* 2016; 94:299-307.