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School of Science, Chemistry Department

University of Minho, Campus of Gualtar

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***Pseudofistulina radicata* (Schwein) Burds: the first study focused on its antioxidant activity and bioactive compounds**

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Natural products with antioxidant activity are very useful in helping the organism to maintain health and be protected from several diseases originated by the excessive production of free radicals, being also used as nutraceuticals. Accordingly, the antioxidants intake from our daily diet, particularly in mushrooms, is of great importance, acting as protective agents against oxidative damage [1]. *Pseudofistulina radicata* (Schwein) Burds is a wild native mushroom from El Salvador, of which to the best of our knowledge no studies have been published identifying bioactive molecules or evaluating its antioxidant properties. The present work aims to study the antioxidant activity and to identify the bioactive compounds present in the dichloromethane extract obtained from this mushroom. *P. radicata* was purchase from street vendors in the municipality of Concepción de Ataco (Ahuachapán, El Salvador). An increasing polarity extraction from powdered dry mushroom, with five solvents at room temperature from hexane to water, was performed. The antioxidant activity of the dichloromethane extract (the second one after using hexane) was evaluated through the reducing power and β -carotene bleaching inhibition assays; the results were 1.43 ± 0.01 mg/mL responsible for 0.5 absorbance in the reducing power assay and 2.50 ± 0.08 mg/mL responsible for 50% of β -carotene bleaching inhibition. The fraction was chemically characterized by gas chromatography coupled to a mass spectrometer detector (GC-MS) and proton nuclear magnetic resonance (¹H NMR). Palmitic acid, linoleic acid and friedelin were the main molecules identified. Linoleic acid is an essential fatty acid, presenting anti-inflammatory activity and that prevents coronary diseases [2]. Friedelin is a terpene which possesses analgesic, anti-inflammatory and antipyretic activities [3]. Overall, these results indicate and strong potential of *P. radicata* to be used as a source of bioactive molecules, which could be included in diets as nutraceuticals and/or as functional foods maintaining and promoting health, longevity and life quality.

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