

Nutrient Composition, Antioxidant Activity and Qualitative Phytochemicals Screening of *Acrostichum aureum* (Kerenkoku) Extracts

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Hundreds of wild edible species, which are capable of contributing to improve healthy dietary patterns are available in Sri Lanka. Although *Acrostichum aureum* (Kerenkoku) is an important wild edible species, its nutritional properties are still unexplored. This study was carried out to determine the nutrient composition, antioxidant activity and to screen the phytochemicals in different crude extracts of *A. aureum*. Different organic solvents including hexane, ethanol and chloroform were used to prepare crude extracts. Different crude extracts were tested to determine the antioxidant activity using DPPH assay. The proximate nutritional composition including, ash, moisture, crude protein, crude fat and crude fiber were determined using AOAC standards. In DPPH assay, IC 50 values of crude extracts varied between 1.53 mgmL⁻¹ to 4.3 mgmL⁻¹. According to the results, the highest antioxidant activity was found in chloroform extract followed by ethanol and hexane extracts. Qualitative In vitro phytochemicals screening for all crude extracts had shown the presence of alkaloid, phenol, flavonoid and quinine compounds. Moreover, ethanol extract contained tannin and saponin compounds. On the other hand, all the crude extracts did not show positive results for coumarin and steroids. Moisture and ash contents were 86.90% and 0.03% of fresh weight, respectively. The corresponding values for crude fat, crude fiber and crude protein were 2.80%, 7.53% and 3.53% respectively in dry weight basis. Nutritional compositions of *A. aureum* showed similar values to most leafy vegetables in Sri Lanka, while the identified crude fiber level was higher than the other common leafy vegetables. In conclusion, most of the screened phytochemicals in *A. aureum* are potent antioxidants and have corresponded to free radical scavenging activity. *A. aureum* has a good potential to be used as a food source due to its significant nutritional values. Accordingly, these underutilized plants can play an important role in improving human dietary patterns as well as to fight against food insecurity in future.

Keywords: *Acrostichum aureum*; Antioxidant activity; Proximate composition; Phytochemicals