Phenolic content and antioxidant activity of four edible green algae from Loei province
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Abstract: Four edible green algae, *Spirogyra* sp., *Cladophora* sp., *Nostoc* sp. and *Wolffia globosa*, were harvested from Tha Li district, Loei province and were extracted with 70% methanol or absolute ethanol for compound analysis and antioxidant analysis, respectively. Total phenolic and total flavonoid contents were analysis by spectrophotometric method. Type and content of phenolic acid were analysed by high performance liquid chromatography technique (HPLC). Antioxidant activity was determined by DPPH and ABTS assays. The extract from *Cladophora* sp. showed the maximum total phenolic contents (594.10 ± 6.04 mg GAE/100 g dry weight), whereas the maximum total flavonoids contents were found in *Spirogyra* sp. (317.42 ± 1.12 mg QE/100 g dry weight). Phenolic acid, gallic acid, vanillic acid and ferulic acid were found in all edible green algae. The highest quercetin contents were found in *Cladophora* sp. (498.63 ± 5.07 µg/100 g dry weight). The extract from *Nostoc* sp. displayed the strongest antioxidant activity in both DPPH (IC$_{50}$ = 68.71 ± 1.11 µg/mL) and ABTS (IC$_{50}$ = 19.69 ± 1.19 µg/mL) assays. These findings suggest that some edible green algae from Tha Li district, Loei province may be a good source of natural bioactive compounds.

Keywords: Edible green algae; Phenolic content; Antioxidant activity