

ABSTRACT

District Lahore was selected as study area to collect algal samples for identification and determination of the antioxidant potential. Three different species (*Cladophora aegagropila*, *Pithophora kewensis*, and *Microspora crassior*) were identified. Extracts were prepared using three different solvents (Methanol, Chloroform, and n-Hexane). The antioxidant potential was examined using different techniques, such as 2, 2-Diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activity, Total Phenolic Content using Folin-Ciocalteu reagent, Metal Chelating Activity, and the measurement of scavenging capacity against the 2,2'-azino-bis-3-ethylbenzothiazoline-6-sulphonic acid (ABTS) radical cation. The higher DPPH activity observed in *Cladophora* was 97%. Higher TPC was observed 31microgram GAE in *Pithophora*. Higher %age inhibition was observed in *Pithophora* about 25%. ABTS activity is 96% in n-hexane extracts. *Mougeotiopsis* showed ABTS scavenging activity about 91% in chloroform extract. Hence freshwater algae collected from the wild source were the potential source for bioactive compounds production.