Inhibition of the development of microalgae by extract of freshwater

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Chemical and physical analysis of water, isolation and purification of some common species of green and blue green algae from this water was done. The green algae were identified as (Scenedesmus acuminatus and Chlorella vulgaris) and the blue green alga was Microcystis aeruginosa.. S. acuminatus and C. vulgaris were selected to study their allelopathic activity.Ethanolic and methanolic crude extracts of S. acuminatus were tested against the bloom-forming cyanobacterium, M. aeruginosa and the results showed that the crude extracts inhibited the growth of the target organism in a concentration-dependent way. The highest percentage of inhibition (PI %) of the concentrations of ethanolic extract (1, 2, 3 and 4mg/L) was (75.3, 81.3, 86.52 and 89.5%) respectively compared with control. PI (%) of the concentrations of the methanolic extract was (74.9, 76.5, 85.1 and 86.7%) respectively compared with control after the 7th day of incubation. On the other hand, ethanolic and methanolic crude extracts of C. vulgaris were tested against M. aeruginosa, the results indicated that methanolic crude extract at concentrations (1, 2, 3and 4 mg/L) inhibited growth of the target organism and the PI (%) was (47.5, 61.7, 75.32 and 81.4%) respectively compared with control after the seventh day of incubation. The allelopathic activity of crude extracts of C. vulgaris against S. acuminatus was tested by the same two bioassays and the results showed that, there was no inhibition zones were detected and the control gave the same results.