

البحث السادس

Allelopathic effects of the perennial herb *Achillia santolina* (Yarrow) on growth of selected species of soil algae in laboratory culture

بحث مشترك ومستمد من رسائل علمية

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ABSTRACT

Al allopathic effects of the water extract of the perennial herb *Achillia santolina* on growth and distribution in its rooting area of two selected soil I algae namely *Chlorella la vulgaris* (Chlorophyta) and *Lyngbya contorta* (Cyanophyta) were investigated under controlled laboratory conditions. The algal flora inhabiting the soil I under and away of *Achillia santolina* rooting zone were also identified. Chlorophyta species were dominated only in soil is faraway of *A. santolina*, while Cyanophyta and Diatoms species were identified in both types of soil. *Chlorella la vulgaris* and *Lyngbya contorta* ta; were chosen because both organisms flourish al I the year in their sites. The results cleared remarkable negative al allopathic effect of the water extract of *A. santolina* shoot on growth of the blue green alga *L. contorta* and a detrimental positive effect of it on growth of *C. vulgaris*. Also, growth of the green alga *C. vulgaris* was significantly ($P \leq 0.01$) inhibited specially at the higher extract concentration. Growth promotion ($p \leq 0.05$) of the blue green alga *L. contorta* was extract dependent. The phytochemical screening of *A. santolina* plant showed that it contains essential oils, flavonoids, glocosides, phenolic compounds, sterols, triterpenese and tannins. The allelopathic effect, especially inhibitory one of *A. santolina* may be due to the high concentrations of the flavonoids and the total phenolics attained in values of about 7.985 and 29.725 mg/g dm, respectively in the plant extract.