Antifungal Potential in Crude Extracts of Five Selected Brown Seaweeds Collected From the Western Libya Coast. Journal of Microscopical Creatures, 1(1): 103-111

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Abstract:

In vitro antifungal screening of six organic extracts of five seaweeds belong to Phaeophyta (Sargassum vulgare, Cystoseira barbata, Dictyopteris membranacea, Dictyota dichotoma, and Colpomenia sinuosa) against eight fungal species (Alternaria alternata, Cladosporium cladosporioides, Fusarium oxysporum, Epicoccum nigrum, Aspergillus niger, Aspergillus ochraceus, Aspergillus flavus, and Penicillium citrinum. Cyclohexanic extracts were almost the most active exhibiting a broad spectrum inhibitory action irrespective to the experimented algal extract or fungal species whereas both acetone and ethyl acetate extracts exhibited the lowest antifungal activity. Some algal extracts did not show recognizable inhibitory actions, and some others enhanced some fungal species. The experimented fungal species exhibited variable responses to the tested algal extracts depending upon the experimented fungal and algal species as well as the applied extract. Interestingly, some algal extracts exerted higher antifungal potential in comparable with the patented antifungal medicine (Nystatin and Clotrimazole). Generally, Alternaria alternata was relatively more resistant to most of the tested seaweed extracts whereas Fusarium oxysporum was more sensitive. The present study confirms the potential use of seaweed extracts as a source of antifungal compound and may constitute a basis for promising future applied research that could investigate the use of seaweeds. We conclude that the Libyan coast is a source of bioactive compounds with potential applications in controlling undesired microorganisms in the fields of medicine, pharmacy and agriculture, as well as food additives and food preservation. This may encourage the use of natural products for substituting chemical preservations in food systems.

Keywords:

NULLSeaweeds - Organic extracts - Fungi.

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