



Solvent-dependent *in vitro* antidermatophytic activities of pelagic sargassum extracts collected onshore along the coast of Limbe, Cameroon

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Dermatophytosis, a superficial fungal infection caused by dermatophytes, has become a significant public health concern worldwide, with increasing incidence over the past decades. Conventional drugs such as Griseofulvin and Itraconazole remain effective, but resistance, side effects, and accessibility issues highlight the urgent need for alternative therapies derived from natural sources. Marine macroalgae, particularly holopelagic *Sargassum* species, are rich in secondary metabolites with promising bioactivities. However, the influence of solvent extraction on their antidermatophytic potential has not been thoroughly investigated. This study assessed the solvent-dependent antidermatophytic activities of extracts from *Sargassum natans* I, *Sargassum natans* VIII, and *Sargassum fluitans* III, collected onshore along the coast of Limbe, Cameroon. Extractions were performed using three solvent systems: distilled water, hydroethanol (20:80 v/v), and dichloromethane/methanol (50:50 v/v). The broth microdilution assay was employed to evaluate activity against three dermatophytes: *Microsporum canis*, *Microsporum audouinii*, and *Trichophyton mentagrophytes*. Results demonstrated clear solvent-dependent variations in activity. The dichloromethane/methanol extract of *S. natans* VIII exhibited the strongest inhibition, with a minimum inhibitory concentration (MIC) of 1 µg/ml, comparable to Griseofulvin and Itraconazole (1 µg/ml) against *M. canis* and *M. audouinii*. The hydroethanolic extract of *S. natans* I showed MIC values of 2 µg/ml, equivalent to Itraconazole (2 µg/ml) and superior to Griseofulvin (4 µg/ml) against *M. audouinii*. Similarly, the hydroethanolic extract of *S. fluitans* III and the dichloromethane/methanol extract of *S. natans* I displayed MIC values of 4 µg/ml, comparable to Griseofulvin (4 µg/ml). These findings confirm that solvent choice critically influences the antidermatophytic efficacy of pelagic *Sargassum* extracts. Dichloromethane/methanol and hydroethanol proved to be the most effective systems, underscoring their potential as sources of natural antidermatophytic agents. Further studies using animal models are required to validate these results and explore their therapeutic application in human dermatophytosis.

Keywords: *Sargassum natans*; *Sargassum fluitans*; solvent-dependent extraction; antifungal activity; dermatophytes; Limbe Cameroon.