

ABSTRACT

Airel Raffif Rajendra, 24020221140069. **Morphological and Anatomical Characterization of *Teloschistes* sp. and Antifungal Test against *Candida albicans* and Analysis of Bioactive Compounds.** Under the guidance of Arina Tri Lunggani and Lilih Khotimperwati.

Candida albicans is a fungus that causes candidiasis. There are various types of drugs that can treat candidiasis, but *Candida albicans* has shown resistance to these drugs. One potential source of alternative compounds is *Teloschistes* sp. The purpose of this study was to characterize the morphology and anatomy of *Teloschistes* sp. and to test the antifungal activity of its extract against *Candida albicans*, accompanied by analysis of its bioactive compounds. The study began with anatomical characterization, morphology and chemical tests of *Teloschistes* sp. samples. then extraction was carried out with methanol solvent, and antifungal activity tests were carried out with concentration variations of 5, 6, and 7 mg/mL and to analyze the bioactive compounds that act as antifungals in *Teloschistes* sp. extracts with GC-MS. The results showed that the *Teloschistes* sp. samples studied were *Teloschistes flavicans*. Antifungal testing with a concentration of 5 mg/mL; 6 mg/mL and 7 mg/mL were able to inhibit the growth of *Candida albicans* with an average diameter of 1.09; 2.002 and 2.802 mm respectively. Compound analysis with GC-MS identified four bioactive compounds that have antifungal properties, namely hexadecanoic acid, methyl ester (3.09%); n-hexadecanoic acid (7.90%); octadecanoic acid (5.13%) and 11-Octadecenoic acid, methyl ester (13.28%). These findings indicate that *Teloschistes flavicans* has the potential as a source of natural antifungal compounds.

Keywords: Lichen, *Teloschistes flavicans*, Antifungal, Candidiasis, *Candida albicans*