



***DEREPLICATION AND ISOLATION OF POLYKETIDES FROM WESTERDYKELLA
DISPERSA (Sporormiaceae)***

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Fungi represent promising sources for the discovery of new bioactive compounds due to their ability to produce secondary metabolites with diverse biological activities. In this study, the fungus *W. dispersa* was selected for its largely unexplored chemical potential. Cultivation was carried out in a wheat-based medium, which demonstrated high efficiency in fungal biomass production in preliminary analyses. The extraction of metabolites was conducted with ethyl acetate, followed by analyses using ¹H NMR (500 MHz) and HPLC (C18 column) with a water/methanol gradient. The results revealed significant differences between the fungal extract and the control: new signals in the NMR spectra and additional peaks in the chromatograms indicated the production of secondary metabolites. Due to the complexity of the extract, fractionation by molecular exclusion was performed using Sephadex LH-20 with PA-grade methanol as the eluent, yielding eight distinct fractions. HPLC analysis of these fractions showed chromatographic profiles with well-resolved peaks, suggesting the presence of isolable compounds. Concurrently, high-resolution LC-MS/MS analysis was performed, and the data were processed on platforms such as MZmine and GNPS2. Two major compounds were identified: sulochrin and asteric acid. The suggestion of these compounds was made by the GNPS2 library and was validated by correlating the data with the signals observed in the NMR spectra of the corresponding fractions. This is the first time these substances have been identified in the genus *Westerdykella*. The next steps of this research include: (1) continuing the isolation of the major compounds, (2) complete structural elucidation through spectrometric and spectroscopic techniques, and (3) evaluation of the potential biological activities of the identified metabolites. The combination of chromatographic and spectroscopic techniques proved effective in the preliminary characterization of the secondary metabolites produced by this microorganism. This study highlights the potential of the fungus *W. dispersa* as a source of bioactive compounds, contributing to the knowledge of fungal chemical diversity and opening perspectives for future pharmacological investigations.

Keywords: Polyketides, secondary metabolites, fungi, *Westerdykella*, chromatography, mass spectrometry

