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EVALUATION OF THE ANTIUNGAL AND ANTIDIABETIC ACTIVITIES OF Miconia rubiginosa AND THE ANNOTATION OF COMPOUNDS BY HPLC-ESI-MS/MS.

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M. rubiginosa (Melastomataceae), popularly known as caporoquina, is a plant used in folk medicine to treat throat infections. Although few biological studies have been reported on this species, its antimicrobial activity is notable. Several bioactive compounds have been isolated from *M. rubiginosa*, including phenolic compounds and triterpenes. This study aimed to investigate the antifungal and antidiabetic activities of *M. rubiginosa* and to annotate its compounds using HPLC-ESI-MS/MS. Hexane (HE, 0.34 g) and ethanolic (EE, 3.60 g) extracts were obtained from 22.19 g of *M. rubiginosa* leaves by maceration. The antifungal activity was evaluated against *Candida* strains using the broth microdilution method, with the results expressed as MIC. The EH was inactive against the tested strains (MIC > 3000 µg mL^{-1}). Conversely, EE showed potent activity against *C. albicans*, *C. glabrata,* and *C. tropicalis* (MICs = 2.93, 1.46, and 11.72 µg mL^{-1}, respectively). The inhibitory activity of the α-amylase enzyme was also assessed. The EH showed no inhibition, while EE exhibited strong α-amylase inhibition (92.91%) with an IC_{50} of 0.74 µg mL^{-1}. In the glycation inhibition assays (fructose-BSA over 7 days and MGO-BSA over 28 days), both HE and EE demonstrated significant inhibition of fructose-BSA on day 7 (59.95% and 86.46%, respectively). MGO-BSA inhibition was more pronounced on day 3 (24.52% for HE and 62.06% for EE). Based on these results, the EE was analyzed using HPLC-ESI-MS/MS, leading to the annotation of 30 specialized metabolites. These included: phenolic compounds (such as *p*-coumaric acid hexoside and gallic acid derivatives), hydrolysable tannins (pedunculagin), proanthocyanidins (epi)catechin dimers and pentamers), and various flavonoids (aglycones such as kaempferol and heterosides such as rutin). In conclusion, *M. rubiginosa* has proven to be a rich source of bioactive compounds with significant biological potential. Further studies are needed to fully understand the relationship between its chemical composition and its observed activities.

Keywords: *Miconia rubiginosa, HPLC-ESI-MS/MS, anti-Candida, antidiabetics, phenolic compounds.*