

FUNGICIDE ACTIVITIES OF *Ficus Septica* Burm. F
AGAINST *Candida albicans* AND *Colletotrichum* sp.

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ABSTRACT

FUNGICIDE ACTIVITIES OF *Ficus septica* Burm. F. AGAINST *Candida albicans* AND *Colletotrichum* sp.

Ficus septica Burm. F. is a type of plant that is widely distributed within Malesia region and traditionally used to treat fever, bacterial and fungal infections. With the increasing problem in fungal infection towards human and local fruits as well as the growing usage of synthetic fungicide that leads to pathogen resistance, this study focuses on *Ficus septica* Burm. F as alternative to solve these problems by achieving several objectives including detecting the phytochemical constituent of plant extract, followed by evaluating the antifungal activity of plant extract and lastly determining the minimum inhibitory concentration (MIC) and minimum fungicidal concentration (MFC) of plant extract against *Candida albicans* and *Colletotrichum* sp. The methods involve 80% methanolic extraction of plant samples, followed by phytochemical screening to detect compounds that has the potential as antifungal agents, isolation and identification of fungi from *Mangifera indica* L., evaluating antifungal activity of extract against fungal pathogens and lastly determination of MIC and MFC of plant extract against fungal pathogens. The results show that dried and fresh *Ficus septica* leaves and fruits has alkaloid compound that was known to act as the main antifungal agent. It was then further evaluated that the dried and fresh *Ficus septica* leaf extract exhibit moderate antifungal properties against *Candida albicans* at 13.17 ± 1.04 mm and 10.68 ± 0.58 mm diameter of inhibition respectively. Furthermore, the MIC for dried and fresh *Ficus septica* leaf methanol extract against *Candida albicans* was $\geq 12,500$ $\mu\text{g/mL}$ and $\geq 50,000$ $\mu\text{g/mL}$ respectively and the MFC was $\geq 25,000$ $\mu\text{g/mL}$ and $\geq 50,000$ $\mu\text{g/mL}$ respectively. There was negative antifungal activity of fresh and dried *Ficus septica* fruit and leaves methanol extract against fungal pathogen *Colletotrichum* sp. Overall, *Ficus septica* leaves extract possess antifungal properties against clinical fungal but not in agricultural fungal. Recommendations for future study includes increasing the evaluation of antifungal activity against various fungal strain, diversify usage of solvent, use effective antifungal agent positive control and perform quantification of major compound in sample plant.

kepelbagaian spesies kulat, penguasaan pelarut, menggunakan agen antifungi yang berkesan untuk kawalan penyakit peris menjalarkan kuantifikasi bagi sebatian utama yang terdapat dalam ekstrak tumbuhan.