

SCREENING OF ANTIFUNGAL BIOACTIVE COMPOUND AGAINST *Tricophyton mentagrophytes* FROM TRENGGULI SEEDS (*Cassia fistula*)

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ABSTRACT

A research on the isolation and characterization of antifungal bioactive compound against *Tricophyton mentagrophytes* causing human topical ringworm disease from trengguli seeds (*Cassia fistula* L.) had been carried out. The results showed that the compound was pale yellow crystals from aethyl acetat fraction with melting point of 150-151°C. Ultra violet spectra in methanol gave absorbances at λ_{maks} (nm) 226, 267 and 332 nm, while Infra Red spectra showed stretching vibration of O-H at 3510 cm^{-1} , stretching vibration of N-H at 3121 cm^{-1} , stretching vibration of alifatic C-H at 2938 and 2830 cm^{-1} . Bending vibration of aromatic C-H were shown in finger print area 965, 821 and 577 cm^{-1} . Sharp stretching vibration of aromatic C=C were shown at 1606, 1514 and 1447 cm^{-1} . Peaks with wave number between 1300 - 1000 cm^{-1} indicated C-N and C-O functional groups. Based on Phytochemical screening and literature reviews, it can be concluded that trengguli (*Cassia fistula* L.) seed powder which had antifungal activity against *Tricophyton mentagrophytes* was apomorfin alkaloids.

Keywords : *Cassia fistula* L., *Tricophyton mentagrophytes*, antifungal activity

INTRODUCTION

Trengguli or *Cassia fistula* known as the Golden Shower Tree is a flowering plant in the family Fabaceae, Its fruitpulp is used as mild laxative. The root is considered a very strong purgative, The action is probably due to abundant 1,8-dihydroxyanthraquinone. It also used against fevers, arthritis, *vatavyadhi* (nervous system diseases), all kinds of *rakta-pitta* (bleeding, such as hematemesis or hemorrhages), as well as cardiac conditions and stomach problems such as acid reflux. and self-medication (Heyne, 1987: Lemmens, 1996). However, in large doses, the leaves and bark can cause vomiting, nausea, abdominal pain and cramps. Canafistula is also employed as a remedy for tumors of the abdomen, glands, liver, stomach, and throat, for burns, cancer, constipation, convulsions, delirium, diarrhea, dysuria, epilepsy, gravel, hematuria, pimples, and glandular tumors. The leaves are employed there for erysipelas, malaria,

rheumatism, and ulcers. In Brazilian herbal medicine, the seeds are used as a laxative and the leaves and/or bark is used for pain and inflammation (Heyne, 1987).

The seeds contain approximately 2% anthraquinones, 24% crude protein, 4.5% crude fat, 6.5% crude fiber, and 50% carbohydrates. The leaves have been documented with 15.88% crude protein, 6.65% crude fat, 20% crude fiber, and 39.86% carbohydrates (Ghosh, P., Thakur, S., Iton, T., and Matsumoto, 1982: Morimoto, S., Nonaka, G.I., Chen, R.F., Nishioka, 1988). In addition to the anthraquinone glycosides, other compounds documented in the plant include fistulic acid, rhein, rheinglucoside, galactomannan, sennosides A and B, tannin, phlobaphenes, oxyanthraquinone substances, emodin, chrysophanic acid, fistuacacidin, barbaloin, lupeol, beta-sitosterol, and hexacosanol (Gupta, V., Agrawal, A., Singh and Tiwari, H.P., 1989: Vaishnav, M.M., Tripathi, A.K., Gupta, K.R., 1996).