



## *In vitro* anti fungal activity of the siddha drug Gandhaga Mathirai

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### Abstract

The siddha system of medicine is a traditional medicine originating in ancient south India, Tamilnadu. This study was carried out to evaluate the antifungal activity of the siddha medicine, Gandhaga Mathirai (GM). The antifungal effects of the GM were studied by disc diffusion assay. The obtained results showed that GM has a significant fungicidal effect against *Aspergillus flavus*, *Aspergillus niger* and *Pencillium sp*.

**Keywords:** Siddha medicine, Kanthaga Mathirai, antifungal activity.

### Introduction

The incidence of fungal infections has drastically increased over the past three decades and has become a major cause of morbidity and mortality. This has stimulated the author to search for more potent and safe antifungal products. In this sense the siddha system of medicine has been an important source of large number of natural drugs over the years, such as GM. There are few reports of antifungal activity of GM against fungal species. However, the literature on the evaluation of various preparations from this drug. This work aimed to determine the *in vitro* activity of GM and compared it with that of fluconazole by far the most common antifungal used in clinical practice.

### Materials and Methods

47 g of Sabouraud dextrose agar medium (Hi Media) was suspended in 1000 ml of distilled water. The medium was dissolved completely by boiling and was then autoclaved at 15 lbs pressure (121°C, pH 5.6 ± 0.2) for 15 min. Antibiotic susceptibility tests were determined by agar disc diffusion (Kirby–Bauer) method. About 20 ml of sterile molten Sabouraud Dextrose Agar (HiMedia Laboratories Pvt. Limited, Mumbai, India) was poured into sterile petriplates. The plates were swabbed with the overnight culture (10<sup>8</sup> cells/mL) of pathogenic fungi *viz.* *A. niger*, *A.flavus*, *Pencillium sps*.

Finally, The sample or Sample loaded Disc was then placed on the surface of Sabouraud dextrose agar and the plates were kept for incubation at 22°C for 48 hours. At the end of incubation, inhibition zones were examined around the disc and measured with transparent ruler in millimeters. The size of the zone of inhibition

(including disc) was measured in millimeters. The absence of zone inhibition was interpreted as the absence of activity (Kohner et al., 1994; Mathabe et al., 2006). The activities are expressed as resistant, if the zone of inhibition was less than 7 mm, intermediate (8-10 mm) and sensitive if more than 11 mm (Assam et al., 2010).

**Results**

S.No	Organisms	Extract (mm)	Positive control Flucanazole(mm)
1.	<i>Aspergillus flavus</i>	11	17
2.	<i>Aspergillus niger</i>	9	19
3.	<i>Pencillium sp</i>	-	27



## Conclusion

From the available siddha literature it is concluded that the Gandhagamaathirai is useful in treating Ecema, urticaria, skin eruptions and all types of skin diseases. Antifungal sensitivity screening of the maathirai reveals that this drug is effective against Asergillus sps. This is only the preliminary study and more work has to be carried out to explore the remarkable properties of the drug.

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