

Antibacterial and Antifungal Activity of *Dombeya torrida* (J.F. Gmel) and *Hydnora abyssinica* (A. Braun)

Stanley N. ^{a,*}, Beatrice K. Amugune ^a, Grace N. Thoithi ^a, Julius W. Mwangi ^b, Hannington N. Mugo ^a and Isaac O. Kibwage ^a

^a Department of Pharmaceutical Chemistry, School of Pharmacy, University of Nairobi, Kenya

^b Department of Pharmacology & Pharmacognosy, School of Pharmacy, University of Nairobi, Kenya

* **Correspondent author:** Department of Pharmaceutical Chemistry, School of Pharmacy, University of Nairobi, P.O. Box 19676-00202 KNH, Nairobi, Kenya; **Tel:** +254-20-716962; **Email:** snndwigah@uonbi.ac.ke

Background:

The decoction of *Dombeya torrida* bark is used to treat indigestion while its roots are used for treatment of chest pains and colds. *Hydnora abyssinica* decoction is used as a cure for throat complaints, as an astringent in dysentery, for treatment of typhoid, anthrax and East Coast Fever.

Objectives:

The present study was aimed at investigating the antibacterial and antifungal activities of *D. torrida* and *H. abyssinica*.

Methodology:

The *D.torrida* stem-bark and leaves and *H. Abyssinica* whole plant were collected from Kiambu County and Embu County, respectively. Extraction of the plants was carried out using chloroform, methanol and water. The extracts were screened for activity against *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Bacillus pumilus*, *Escherichia coli*, *Saccromyces cerevisiae* and *Candida albicans* using agar diffusion assay and autobioassay.

Results:

Dombeya torrida bark decoction had the highest activity against *S. aureus* with an inhibition zone diameter of 16.91 mm. *Hydnora abyssinica* macerate had least activity against *S. aureus* with a zone diameter of 8.86 mm. *Dombeya torrida* bark decoction had the highest activity against *S. Epidermidis* with a diameter of 17.05 mm with *Hydnora abyssinica* having the least activity. Activity against *E.coli* was highest for *D. torrida* bark decoction with zone diameter of 16.56 mm. *Hydnora abyssinica* chloroform extract had the highest activity against *B. pumilus* with a zone diameter of 17.04 mm. the highest activity observed against *S. cerevisiae* was with *D.torrida* chloroform extract with a zone

diameter of 17.69 mm with *H. abyssinica* macerate having the least activity (7.70 mm). *Dombeya torrida* chloroform extract was the most active extract against *C. albicans* with a zone diameter of 20.09 mm.

Conclusion:

The plants under study, *D. torrida* and *H. torrida* were chosen on the basis of folklore. Above results support the folklore that *H. abyssinica* is used as a cure for throat complaints, as an astringent in dysentery, treatment of diarrhea and amoeba dysentery. Results of *D. torrida* extracts also support its folklore use to treat chest pains and colds as many of these conditions are usually caused by bacteria infections.

Keywords: antibacterial, antifungal, *Dombeya torrida*, *Hydnora abyssinica*, autbioassay

Receives: February, 2014

Published: March, 2014