

Format: Abstract

Pharm Biol. 2012 Apr;50(4):481-9. doi: 10.3109/13880209.2011.615841. Epub 2011 Dec 2.

Antibacterial activity of some African medicinal plants used traditionally against infectious diseases.

Madureira AM¹, Ramalhete C, Mulhovo S, Duarte A, Ferreira MJ.

Author information

Abstract
CONTEXT: Plants are known to play a crucial role in African traditional medicine for the treatment of infection diseases.
OBJECTIVES: To investigate the claimed antimicrobial properties of plants traditionally used in African countries, providing scientific validation for their use.
MATERIALS AND METHODS: Eighty-three polar and non-polar extracts from 22 medicinal plants were screened for their antibacterial activity against Gram-positive (*Staphylococcus aureus* and *Enterococcus faecalis*) and Gram-negative bacteria (*Escherichia coli*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*) and *Mycobacterium smegmatis* using the broth microdilution method.
RESULTS AND DISCUSSION: In vitro antibacterial activity against one or more tested bacteria was shown by 83% of the extracts. The highest activity was obtained with the methanol extracts of the aerial parts of *Acacia karroo* Hayne (Fabaceae) and *Anacardium occidentale* L. (Anacardiaceae) and the roots of *Bridelia cathartica* G. Bertol (Euphorbiaceae), against *S. aureus* (minimum inhibitory concentration (MIC) = 7.5 µg/mL). The same MIC values were exhibited against *E. faecalis* by the methanol extract of *A. occidentale*, the dichloromethane and methanol extracts of *B. cathartica* and the ethyl acetate extract of *Momordica balsamina* L. (Cucurbitaceae) leaves. Gram-negative bacteria were less sensitive: the growth of *P. aeruginosa* was significantly inhibited (MIC = 31 µg/mL) by the n-hexane and methanol extracts of *Gomphocarpus fruticosus* (L.) Ait. (Asclepiadaceae) fruits and by the dichloromethane extract of *Trichilia emetica* Vahl (Meliaceae) seeds. Most of the active extracts were rich in phenols/flavonoids.
CONCLUSION: This study supports the use of most of the studied plants in traditional medicine, for the treatment of infectious diseases. Some of them are worthy of further investigation.

PMID: 22136524 DOI: 10.3109/13880209.2011.615841
[Indexed for MEDLINE]

Full text links
View full text

Save items
Add to Favorites

Similar articles
Antimycobacterial evaluation and preliminary phytochemical investigi [J Ethnopharmacol. 2011]
Investigations of antimicrobial activity of some Cameroonian medicina [J Ethnopharmacol. 2012]
Antibacterial properties of traditionally used Indian medi [Methods Find Exp Clin Pharmacol...]
Review Ethnomedicinal and phytochemical review of Pakis [Ann Clin Microbiol Antimicrob...]
Review In-vivo and In-vitro activities of medicinal plants on ecto, endo [Curr Clin Pharmacol. 2014]
See reviews...
See all...

Cited by 3 PubMed Central articles
Polarity based characterization of biologically active extra [BMC Complement Altern Med. 2017]
Adverse Effects of Hydroalcoholic Extracts and the Major Cc [Evid Based Complement Alternat...]

11:30 28/08/2018