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Genus Pterocarpus: A review of ethnopharmacology, phytochemistry, biological activities, and clinical evidence

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Arbain, Dayar[a] ; Saputri, Gita Ayu[a] ; Syahputra, Ghalib Syukrilah[a] ; Widiyastuti, Yuli[b] ; Susanti, Deny[c] ; Taher, Muhammad[d]

Save all to author list

[a] Faculty of Pharmacy, Universitas 17 Agustus 1945, Jakarta, 14350, Indonesia

[b] Medicinal Plant and Traditional Medicine Research and Development Center, Jl. Raya Lawu 11, Tawangmangu, Karanganyar, 57792, Central Java, Indonesia

[c] Department of Chemistry, Kulliyyah of Science, International Islamic University Malaysia, Kuantan, 25200, Malaysia

[d] Department of Pharmaceutical Technology, Kulliyyah of Pharmacy, International Islamic University Malaysia, Kuantan, 25200, Malaysia

Abstract

Ethnopharmacological relevance: The genus Pterocarpus (Fabaceae) has about 46 species that are distributed over Asia, especially Indonesia, Africa, and several countries in America. Particularly, P. indicus and P. santalinus have been recorded as ancestor recipe in the old Indonesian book (Cabe puyang warisan nenek moyang). These plants have found application in traditional medicine, such as in the treatment of inflammatory diseases, gonorrhoea, infection, coughs, mouth ulcers, boils, diarrhoea, as well as in the management of pain (as an analgesic). Aim of the review: The present review aimed to comprehensively summarise the current researches on the traditional and scientific applications of the genus Pterocarpus with regard to the phytochemical content, in vivo and in vitro bioactivities, as well as clinical evidence that may be useful for future drug development. Materials and methods: Information about the Pterocarpus genus were obtained from local classic herbal literature and electronic databases, such as PubMed, Scopus, and Google Scholar. The scientific name of the species and its synonyms were checked with the information of The Plant List. Additionally, clinical trial results were obtained from the Cochrane library. Results: Several phytochemical constituents of the plants, e.g., flavonoids, isoflavonoids, terpenoids, phenolic acids, and fatty acids have been reported. There are about 11 species of Pterocarpus that have been scientifically studied for their biological activities, including anti-inflammatory, anti-microbial, analgesic, and anti-hyperglycemic. Of which, the anti-hyperglycemic activity of the extracts and phytochemicals of P. indicus and P. marsupium is particularly remarkable, allowing them to be further studied under clinical trial. Conclusion: The present review has provided an insight into the traditional applications of the plants and some of them have been validated by scientific evidence, particularly their applications as anti-inflammatory and anti-microbial agents. In addition, the genus has demonstrated notable anti-diabetic activity in various clinical trials. © 2021 Elsevier B.V.

Author keywords

Medicinal values; Phytochemical contents; Scientific evidence; Traditional application

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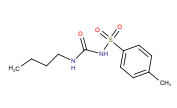

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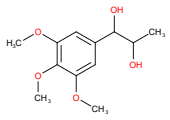

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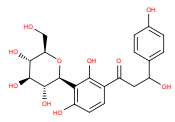

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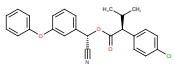

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Taher, M.; Department of Pharmaceutical Technology, Kulliyyah of Pharmacy, International Islamic University Malaysia, Kuantan, Malaysia; email:mtaher@iium.edu.my
Arbain, D.; Faculty of Pharmacy, Universitas 17 Agustus 1945, Jakarta, Indonesia; email:dayararbain@gmail.com
Susanti, D.; Department of Chemistry, Kulliyyah of Science, International Islamic University Malaysia, Kuantan, Malaysia; email:deny@iium.edu.my

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