The Garlic Tree of Borneo, Scorodocarpus borneensis (Baill.) Becc. (Olacaceae): Potential Utilization in Pharmaceutical, Nutraceutical, and Functional Cosmetic Industries

ABSTRACT

Scorodocarpus borneensis (Baill.) Becc. is attracting increased attention as a potential commercial medicinal plant product in Southeast Asia. This review summarizes the current knowledge on the taxonomy, habitat, distribution, medicinal uses, natural products, pharmacology, toxicology, and potential utilization of S. borneesis in the pharmaceutical/nutraceutical/functional cosmetic industries. All data in this review were compiled from Google Scholar, PubMed, Science Direct, Web of Science, ChemSpider, PubChem, and a library search from 1866 to 2022. A total of 33 natural products have been identified, of which 11 were organosulfur compounds. The main organosulfur compound in the seeds is bis-(methylthiomethyl)disulfide, which inhibited the growth of a broad spectrum of bacteria and fungi, T-lymphoblastic leukemia cells, as well as platelet aggregation. Organic extracts evoked anti-microbial, cytotoxic, anti-free radical, and termiticidal effects. S. borneensis and its natural products have important and potentially patentable pharmacological properties. In particular, the seeds have the potential to be used as a source of food preservatives, antiseptics, or termiticides. However, there is a need to establish acute and chronic toxicity, to examine in vivo pharmacological effects and to perform clinical studies.