

Genus *Mitragyna*: Ethnomedicinal uses and pharmacological studies

Fang Gong, Hai-peng Gu, Qi-tai Xu, Wen-yi Kang*

Institute of Chinese Materia Medica, Henan University, Kaifeng, Henan, 475004, P. R. China;

*Corresponding Author: kangweny@hotmail.com; Tel.: (+86)-378-3880680; Fax: (+86)-378-3880680

Received: 26 May 2012, **Revised:** 10 June 2012, **Accepted:** 10 June 2012

Abstract

Mitragyna genus, belongs to Rubiaceae family, distributed in Africa and Asia. Many species in *Mitragyna* genus have a history of use as a medicinal plant. Traditionally, it has been used to treat fever, malaria, diarrhea, muscle pain, inflammation and hypertension. Phytochemical research has showed that alkaloids, triterpenoids and flavonoids were main compounds in *Mitragyna* genus. Pharmacology investigation demonstrated that plant of *Mitragyna* possess wide pharmacological effects, in antitumor, cardiovascular disease and antibacterial activity. This review aims to update information on its pharmacological effects.

Keywords: Genus *Mitragyna*; ethnomedicinal; Mitragynine

Introduction

The genus *Mitragyna* belongs to Rubiaceae family and is found in swampy territory in the tropical and subtropical regions of Asia and Africa (Shellard et al., 1978). Six species, *M. speciosa* (Korth.) Havil., *M. tubulosa* (Arn.) Havil., *M. parvifolia* (Roxb.) Korth., *M. hirsuta* Havil., *M. diversifolia* (Wall. ex G. Don) Havil. and *M. rotundifolia* (Roxb.) O. Kuntze, widely grow in India and Asia (Puff C et al., 2005). Other four species, *M. ciliate*, *M. inermis*, *M. stipulosa* and *M. africanus*, widely grow in West African.

Traditional (ethnomedicinal) uses

The genus *Mitragyna* have been used in local folklore medicine for a wide variety of diseases such as fever, malaria, diarrhea, cough, muscular pains and used for the expulsion of worms (Shellard and Phillipson, 1964; Shellard et al., 1971). *M. speciosa* (Korth.) Havil, a species of particular medicinal importance, is known as “Kratom” in Thailand and “Biak-Biak” in Malaysia, and the leaves have been traditionally used by natives for their opium-like effect and coca-like stimulant ability to combat fatigue and enhance tolerance to hard work under the scorching sun. It has been used also as a substitute for opium and for weaning addicts off morphine (Sangun Suwanlert, 1975). However, the use of this plant has been banned in those countries because of its narcotic effect. Other African species, *M. ciliate*, *M. inermis*-