CHAPTER I

INTRODUCTION

Artocarpus gomezianus Wall. ex Trec. is a medicinal tree locally known in Thai as Haat nun. The genus *Artocarpus* belongs to the tribe Artocarpeae of the family Moraceae. This genus consists of about 50 species distributed in Ceylon, India and South China to the Solamon Islands, absent from Australia and New Caledonia (Dassanayake and Fosberg, 1981). The species found in Thailand (Smithinand, 1980) are listed as followed.

Artocarpus altilis Fosberg (*A. communis* J.R. & G. Forst., *A. incisa* Linn. f.)	ขนุนสำปะลอ Khanun sampalo (Central); สาเก Saake (Central for Seedless variety); Bread Fruit Tree, Bread Nut Tree
A. altissimus J.J. Smith	ไสน Sanai (Surat Thani)
A. chaplasha Roxb.	หาดส้าน Haat saan (Chiang Rai)
A. dadah Miq.	ทังคัน Thang khan, ม่วงกวาง Muang kwaang (Yala); หาดรุม Haat rum, หาดลูกใหญ่ Haat luuk yai (Trang)
A. elasticus Reinw. ex Bl.	กะออก Kaok, กะเอาะ Kaoh (Peninsular); ตือกะ Tue-ka (Malay-Yala); เอาะ Oh (Trang, Ranong)
A. gomezianus Wall. ex Trec.	ตะปัง Tapang, ตำปัง Tam-pang (Malay-Peninsular); หาดหนุน Haat nun (Northern)
A. heterophyllus Lamk. (*A. integrifolius* Linn.f.)	ขนุน Khanun (General); ขะนู Kha-nuu (Chong-Chanthaburi); ขะเนย Kha-noe (Khmer); ซีคีย See-khuey, ปะหน่อย Pa-noi (Karen-Mae Hong Son); นะยวยซะ Nayuai-sa (Karen-Kanchanaburi); นากอ Naa-ko (Malay-Pattani); เนน Nen (Chaobon-Nakhon Ratchasima); มะหนุน

	Manun (Northern, Peninsular); ล้าง Laang (Shan-Northern); หมักหมี่ Makmee (Northeastern); หมากลาง Maak-laang (Shan-Mae Hong Son); Jack Fruit Tree.
Artocarpus integer Merr.	จำปาดะ Champaada (General); จำปา–เดาะ Champadoh (Peninsular); Champedak.
A. lakoocha Roxb.	กาแย Kaa-yae, ตาแป Taa-pae, ตาแปง Taa-paeng (Malay-Narathiwat); มะหาด Mahaat (Peninsular); มะหาดใบใหญ่ Mahaat baiyai (Trang); หาด Haat (General)
A. lanceifolius Roxb.	ขนุนป่า Khanun paa (Peninsular); หนัง–กาปีโต Nangkaa pee-to, หนังกาปีปิ๊ต Nang-kaa pee-pit (Malay-Peninsular); นั่งกาปีแป๊ะ Nang-Kaa pee-pae (Malay-Narathiwat)
A. nitidus Trec. *subsp.* lingnanensis Jarrett (*A. parva* Gagnep.)	มะหาดข่อย Mahaat Khoi (Surat Thani)
A. rigidus Bl.	ขนุนป่า Khanun paa (Peninsular)
A. rigidus Bl. *subsp.* asperulus Jarrett (*A. calophyllus* Kurz.)	ขนุนปาน Khanun paan (Surat Thani)

Artocarpus gomezianus Wall. ex Trec. is a tree, 20 meters high; bark grey, somewhat scaly. Twigs 2-4 mm thick, the leaves distichous, pubescent when young. Stipule small, bearing a short scar on either side of the petiole. Lamina 11-25 x 7-16 cm, elliptic, varying ovate to oblong, apex acuminate, base widely cuneate to subcordate, shiny, the sides upcurved, smooth; lateral vein 10-13 pairs, withish beneath; petiole 1-3 cm long. Inflorescences axillary, mostly solitary; bracteoles peltate. Male heads 8-11 mm wide, globose; peduncles 5-18 mm long; perianth with 3-4 nearly free tepals; stamen 0.5 mm long. Female head stouter; stigmata bifid, exserted

to 0.3 mm Syncarp 2-3 cm wide, subglobose, green then yellow to orange-buff, pulpy; peduncle 13-20 mm long (Dassanayake and Fosberg, 1981).

Utilization of this genus has been reported in many countries. The seeds of *A. altilis* are supposed to aid parturition, and also are used to treat typhoid or other fevers. The bark of the seedless form is one of the constituents of medicine administered postpartum. The ashes of the leaves, with coconut oil and *Curcuma*, are applied to a skin disease with creeps like herpes. A poultice of the roasted and crushed leaves with water is applied to enlarged spleen; and heated flowers, after cooling, are rubbed on the gums to ease toothache. The fruit meat is used to treat cough, the root bark to treat diarrhea and dysentery, and the seeds as an aphrodisiac. A decoction of the bark is employed as a vulnerary, and also to treat stomachache. The latex is a medicine taken to cure dysentery. The inner bark of *A. elasticus* is utilized for native bandages and to poultice ulcers. A strip of it pounded is applied as a bandage to treat lumbago. The bark is eaten, as well as bound on the abdomen by woman who wish to be spared from childbirth. The leaves mixed with rice are ingested for tuberculosis and the latex to treat dysentery. The sap or the bark of *A. heterophyllus* Lamk. is used to treat ulcers and abscesses. The pulp and seeds of the fruit are regarded as cooling, tonic and pectoral. The roots are used to treat diarrhea, and in a compound extract to treat fever. The boiled leaves are given to both animals and women to activate the secretion of milk. The juice and seeds of *A. lakoocha* Roxb. are purgative. The bark is astringent. The root is tonic and deobstruent. The leaves are used in treating dropsy. Sap from the wounded bark of *A. dadah* Miq. is employed to clean foul leg-wounds. Dried, ground roots of *A. horridus* Jarrett. are utilized to stop dysentery. The latex of *A. rigidus* is applied to wounds of domestic animals. A decoction of the bark of *A. blancoi* (Elm.) Merr. with the root of *Laportea interrupta* (L.) Chew (*Fleurya interrupta*) is ingested to treat defective urinary secretion. The sap from this tree is rubbed on parts of the body having any type of skin disease. The boiled bark of *A. ovatus* Blco. is used to treat stomachache. A decoction of the bark and fresh leaves of *A. rubrovenius* Warb. is administered for fevers (Perry, 1980).

Artocarpus gomezianus is used as medicinal plant in Thailand. The bark of this plant is claimed function the treatment of burns (กองวิจัยและพัฒนาสมุนไพร กรมวิทยาศาสตร์การแพทย์ กระทรวงสาธารณสุข, 2533).

The previous phytochemical studies of *Artocarpus gomezianus* were concerned with the wood phenolics contained in this species. The phenolics isolated

from heartwood were morin, norartocarpetin, artocarpesin, artocarpin and cycloartocarpin. Mesoerythritol has been isolated from the heartwood of this species (Venkataraman, 1972). It interests the author to investigate the chemical compound in this plant for more information on chemistry and chemotaxonomy. This investigation deals with the isolation of chemical compounds from the leaves of *A. gomezianus* and the structural analyses by means of spectroscopy.