Antibacterial Activity of the Seeds of *Combretum quadrangulare* Kurz (Combretaceae)

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ABSTRACT

Chemicals from seeds of Combretum quadrangulare Kurz (Combretaceae) were extracted with methanol. Purified crude methanolic extracts were done by microcrystalline cellulose column chromatography and microcrystalline cellulose preparative layers 2 times by using MeOH-H_2O (1:1) as the developing solvent.

It was found that crude methanolic extracts of 2 samples (one collected in 1997, the other in 2001), by purified column chromatographic extraction and preparative layer chromatographic residue showed antibacterial activity against gram-positive cocci and non-fermentative gram-negative bacilli better than fermentative gram-negative bacilli. From spectroscopic data and chemical tests, it was found that the isolated residues from preparative layer chromatography were steroids and flavonoid glycosides.

MIC (mininum inhibitory concentration) of four sample groups for sensitive bacteria were nearly of the same level so we can use the seeds of Combretum quadrangulare Kurz directly without purification. The seeds can be used for several years if they are kept in an air-tight and dry condition.

Key words: *Combretum quadrangulare* Kurz., Antibacterial activity

INTRODUCTION

Combretum quadrangulare Kurz. is found throughout Thailand especially in open, wet places. Therapeutic uses of this plant in the country are for anthelmintics (the parts used were seeds, roots and leaves) and curing venereal disease (the parts used are roots and wood) (Pongbunrods, 1979).

Somanapun et al., (1980) studied the chemical constituents of this plant. They found that alcoholic and other extracts from the roots and seeds could kill earthworms. They also found that crude extracts from seeds showed antibacterial activity. The flavonoid compound found in this plant is combretol. They further found new compounds from roots and seeds which were 3 compounds of pentacyclic triterpene carboxylic acid, viz., 3β, 6β, 18β-trilrydroxy-urs-12-en-30-ic acid, 3,6-diketo-olean-12-en-28-oic acid and olean-12-en-28-oic acid. They also found β-sitosterol and β-sitosteryl, 2 compounds of long-chain alcohol and amino compound.