CHAPTER I

INTRODUCTION

Cyclea barbata (Wall.) Miers (Menispermaceae), locally known in Thai as "Krung Kha Mao", is a folkloric medicine referred to the herbaceous or woody climber with yellow to brown thick root, a plant growing in South-east Asia and used in Thailand for the treatment of fevers associated with malaria. This plant has previously been studied to afford a number of alkaloids; (+)-tetrandrine , (-)-limacine, (+)-thalrugosine, (+)-homoaromoline, (-)-cycleapeltine, (-)-2'-norlimacine, (+)-cycleabarbatine, (+)-tetrandrine-2'-β-N-oxide, (+)-berbamine, (-)-repandine, (+)-cycleanorine, (+)-daphnandrine, (-)-curine, (+)-coclaurine, (-)-n-methylcoclaurine. (Lin *et al.*, 1993; Guinaudeau *et al.*, 1993)

In the current investigation, an alkaloid extract of this plant, (+)-tetrandrine, (-)-limacine, (+)-thalrugosine, (+)-homoaromoline, (-)-cycleapeltine, (-)-2'-norlimacine, (+)-cycleabarbatine, and (+)-tetrandrine-2'-β-N-oxide, has been showed *in vitro* cytotoxic and antimalarial activities. (Lin *et al.*, 1993; Angerhofer *et al.*, 1999).

Tetrandrine (6,6',7,12-tetramethoxy-2,2'-dimethyl-berbaman; TET), a bisbenzylisoquinoline alkaloid, was isolated from the root of *Stephania tetrandra* S. Moore. It is used as traditional drug in oriental countries. TET has various biological activities; vasodilator, anti-inflammatory, calcium antagonistic, antiarrhythmic, platelet-aggregation inhibitor, histamine release inhibition activity, antiphagocytic, immunosuppressive activity and antitumor. These activities are related to its calcium antagonist property and have been studied in previous papers (Kwan *et al.*, 2001).

This investigation was aimed to characterize this plant species, which will be examined for its macroscopic, microscopic characters of root, the thin-layer chromatographic pattern of the root extract, loss on drying, ash contents, moisture content and extractive values represent the specification of this particular species. The quality controls and quantitative controls of crude drugs, which were purchased from

traditional drugstores throughout Thailand, were investigated. The result of this study should provide valuable information for identification of "Krung Kha Mao".