P.O. Box 144345 Austin, TX 78714-4345 ▪ 512.926.4900 ▪ Fax: 512.926.2345 ▪ www.herbalgram.org

HerbClip™

FILE: ▪ Cryptolepis (*Cryptolepis sanguinolenta*)
▪ Malaria
▪ African Medicine

HC 030143-260

Date: July 15, 2004

RE: Review of Cryptolepis

Addy M. Cryptolepis: An African traditional medicine that provides hope for malaria victims. *HerbalGram* 2003;60:54–59.

In traditional African medicine, the root cryptolepis (*Cryptolepis sanguinolenta*) is used to treat a host of diseases, including malaria, jaundice, and hepatitis. Compounds isolated from this plant have been shown to have antibacterial, antihyperglycemic, antiinflammatory, and antimalarial activities. The focus of this review is on the antimalarial potential of cryptolepsis, with emphasis on the safety and efficacy of a recently formulated tea derived from the root.

Cryptolepis—also known as *nibima*, *kadze*, and *gangamau* in the tribal languages of Ghana—is a thin-stemmed shrub indigenous to Africa that grows wild but can also be cultivated. The major alkaloid of this herb is cryptolepine; minor alkaloids include hydrochloride, cryptoheptine, and quindoline. Aqueous extracts of the plant, which are usually used in herbal medicines, have been shown to be less effective than ethanolic extracts in some studies. Cryptolepis has received increasing attention in recent years from the Phytomedicine Division of Phyto-Riker Pharmaceuticals (Accra, Ghana), which has developed an herbal tea (Phyto-laria®) from the root of cryptolepis for the treatment of malaria.

Malaria kills more than one million persons annually worldwide, primarily young children. Because of the increasing prevalence of drug resistance to antibiotics, many bacterial infections are not as easily and effectively treated as they once were. For example, quinine was once the drug of choice for treating malaria, but is currently used only in areas where resistance to chloroquine has developed. Because malaria is most prevalent in developing countries which cannot afford costly new patented drugs, pharmaceutical companies have little commercial incentive to concentrate research funds on new treatments for malaria. Thus, affordable and effective antimalarial drugs are needed. Phyto-laria has shown promise in clinical trials as an affordable and efficacious treatment for malaria. This herbal tea is a "true herbal remedy containing the naturally occurring complex mixture of phytochemicals in a traditional dosage form, with a long-established history of use."

The efficacy of Phyto-laria was assessed in an unpublished, open-label, uncontrolled clinical trial conducted in Ghana. Forty-six adult patients with uncomplicated malaria were provided one tea bag (containing 2.5 g of cryptolepis root powder and flavorings) for consumption three times per day for five days. The tea was prepared by steeping the tea bag in approximately 2.5 g of boiling water for 5-10 minutes. (It is unclear exactly how many total tea bags were provided to the subjects.) A mean parasitic (*Plasmodium falciparum*) clearance time of 82.3 hours and a mean fever clearance time of 25.4 hours were observed. These values are comparable to those obtained with chloroquine, the standard antimalarial drug. A previous study of an aqueous extract of crytolepis supported this finding.

Because safety is paramount for any agent used to treat disease, the safety of Phyto-laria was assessed in vivo by administering it orally to rabbits, mice, and rats. The tea bag formulation was shown to be safe; the LD_{50} (the dose of a chemical that kills 50% of a sample population) was greater than 2,000 mg/kg, "more than two orders of magnitude higher than the effective dose."

The safety and efficacy of Phyto-laria as a treatment for malaria was demonstrated in a clinical trial conducted by the pharmaceutical company that developed this herbal remedy. The author of this article suggests that additional studies of the quality, safety, and efficacy of extracts from cryptolepis be conducted "so that standardized remedies of plant materials can be produced without requiring processes that would make the remedy extremely expensive and unaffordable to a large number of people."

—Brenda Milot, ELS