THE FLOWER OF *RADERMACHERA IGNEA* (KURZ) STEENIS, A NEW SOURCE OF ZEAXANTHIN

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Abstract

The flower of *Radermachera ignea* (Kurz) Steenis or "Peep Thong", the emblem of Suranaree University of Technology, was selected for the study as a potential new source of antioxidant. The main antioxidant component was isolated from the ethyl acetate extract of the flower and its chemical structure was determined by spectroscopic data as zeaxanthin (β, β-carotene-3,3'-diol), one of the two significant carotenoids present in the marcula lutea of the retina of human eyes. The antioxidant study confirmed the activity of the isolated compound with the IC_{50} of 1.13 mol antioxidant/mol DPPH. This is the first report to identify the bioactive constituent in this plant.

Keywords: ***Radermachera ignea*** **(Kurz) Steenis, Peep Thong, antioxidant, carotenoids**

Introduction

Oxidative damage process has been indicated as a major cause of several degenerative diseases including cancer, cardiovascular disease, diabetes, Alzheimer's disease, and Parkinson's disease (Ames *et al*., 1993; Banerjee *et al*., 2005). Antioxidants have been found to play an important role to prevent and inhibit such process (Ames *et al*., 1993).

In the search for a new source of antioxidants, the flower of *Radermachera ignea* (Kurz) Steenis or commonly known as "Peep Thong", the emblem of Suranaree University of Technology, was selected to be the subject of interest because of its bright orange color, which normally suggests the presence of natural substances with antioxidant activity. *R. ignea* (Kurz) Steenis belongs to the family Bignoniaceae. The tree is evergreen or partly deciduous with 6-15 m high and typically scattered in several areas of Southeast Asian region.

Neither the data about the chemical constituent nor the antioxidant activity of this plant has been previously reported in the literature. Therefore, this is the first paper to describe the isolation and characterization of the bioactive compound from the flower of *R. ignea* (Kurz) Steenis.

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