

ABSTRACT

Thesis Title : Chemical Constituents of Tubers of *Euphorbia sessiliflora* Roxb. and Some Biological Activities

Student's Name : Miss Monnapa Thapsut

Degree Sought : Master of Science

Major : Applied Chemistry Academic year 1995

Advisory Committee :

- 1) Assoc. Prof. Dr. Somyote Sutthivaiyakit Chairperson
- 2) Assoc. Prof. Dr. Virapong Prachayasittikul
- 3) Assoc. Prof. Dr. Apichart Suksamram

Study on the chemical constituents of the tuber of *Euphorbia sessiliflora* Roxb. (Euphorbiaceae) has led to the isolation of 13 compounds which were identified as 24-methylene cycloartanol, jolkinolide A, cycloart-23-(Z)-ene-3 β -25-diol, cycloartane-3 β -24,25-triol, jolkinolide B, ent-11- α -hydroxyabieta-8(14),13(15)-dien-16,12-olide, caudicifolin, 3,3',4-tri-O-methylellagic-4'-O- β -D-glucopyranoside, a mixture of β -sitosterol and stigmasterol and a mixture of β -D-glucopyranoside of β -sitosterol and stigmasterol together with two new compounds i.e. cycloart-23-(E)-ene-25-methoxy-3 β -ol and 12 β -hydroxyabieta-8(14),13(15)-dien-16,12-olide.

Bioassay for antimicrobial activity of chloroform extract showed strong action *in vitro* against *Bacillus cereus* and *Micrococcus flavas* at 500 μ g/ml.

However, the same extract at 500 µg/ml produced partial activity against *Neisseria sicca*. The hexane and methanol extracts of tubers failed to show antimicrobial activity at 500 µg/ml concentration.

Compound II, jolkinolide A, showed partial inhibition against *Bacillus catarrhalis* at 50 µg/ml. Compound IX, ent-11- α -hydroxyabieta-8(14),13(15)-dien-16,12-olide, exhibited strong antibacterial effect against *Bacillus cereus*, *Micrococcus flavas* and *Bacillus catarrhalis* at 12.5 µg/ml. The growth of *Bacillus subtilis* ATCC and *Neisseria sicca* were partially inhibited at 12.5 µg/ml. Moreover, compound IX also showed strong antiyeast activity against *Candida albican* CBS 5763 at 12.5 µg/ml.