



Under the direction of  
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Research emphasis on biological activities of bioactive compounds from various natural products especially plant extracts on agricultural pest insects and mites.

### Specific Areas of Research

1. Biological activities of various plant extracts on pest insects and mites
2. Isolation bioactive compounds from plant extracts
3. Efficacy of secondary metabolites of plant extracts against pest insects and mites
4. Biological control of plant mites, using entomopathogenic fungi and predatory mites



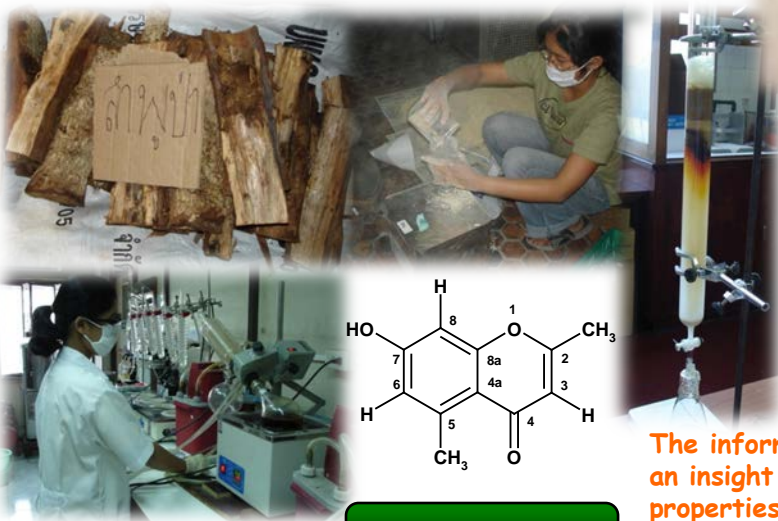
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 Ms. Nawarat Praphuchakang

### Biological activities of plant extracts on insects and mites

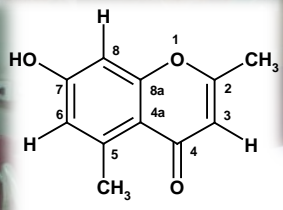
Plant extracts and their secondary metabolites possess several biological activities such as anti-insect and anti-mite, insecticidal, miticidal, growth inhibition, insect growth regulators, anti-oviposition, anti-feedant, repellency, attractants, chemosterilant, anti-tick.



### Isolation bioactive compounds from plant extracts



The bioactive compounds were isolated by column chromatography over silica gel which was eluted with mixtures of various organic solvents. Column fractions were collected and combined according to the TLC profiles. Structure of the isolated compounds were elucidated by various spectroscopic techniques.



### Benefits of the Research

The information from these studies not only provides an insight into phytochemical and biopesticidal properties of the selected plant species, but also exploits an alternative way to control such pests for safe and environmental friendly insecticides

### Publications

Auamcharoen, W., A. Chandrapatya, A. Kijjoo, A.M.S. Silva and W. Herz. 2009. Chemical constituents of *Duabanga grandiflora* (Lythraceae). *Biochemical Systematics and Ecology* 37: 535-537.

Auamcharoen, W., A. Kijjoo, A. Chandrapatya, M.M. Pinto, A.M.S. Silva, W. Naengchomnong and W. Herz. 2009. A new tetralone from *Diospyros cauliflora*. *Biochemical Systematics and Ecology* 37: 690-692.

Auamcharoen, W., A. Chandrapatya, A. Kijjoo and Y. Kainoh. 2012. Toxicity and repellency effects of the crude methanol extract of *Duabanga grandiflora* (Lythraceae) against *Sitophilus oryzae* (Coleoptera: Curculionidae). *Pakistan Journal of Zoology* 44(1): 227-232.