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Adulticidal activity determinations of *Stemona collinsiae* root extract in blow fly (*Chrysomya megacephala*)

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Chrysomya megacephala (Diptera: Calliphoridae) is a fly promoting wide spreading of pathogenic bacteria, fungi, virus and parasites based on both indirect and direct mechanical transmission. These pathogens produced the vector-borne diseases such as cholera, food poisoning, fungal and parasitic diseases in human and animals. These annoying flies are a sign of unhygienic status and unclean environment. Thus, chemical insecticides have been used for fly controlling. The chemical insecticides promote high persistent bioaccumulation and toxicity in mammals while biopesticides from plants display a fast degradation, short half-life, and low toxicity. Thus, biopesticides are interested and there are many insecticidal plants in Thailand including *Stemona* (*Stemonaceae*). *Stemona* spp. has long been traditionally used as an insecticide in plantation. Recently, the *Stemona collinsiae* root extract was reported a good inhibitory activity against *Spodoptera litura*. *S. collinsiae* contains a high content of didehydrostemofoline alkaloid. Thus, the evaluation of *S. collinsiae* extract against *C. megacephala* was studied using the bait containing 70% ethanol root extract of *S. collinsiae* and glucose in various ratios and then fed to adult stage of *C. megacephala*. The *S. collinsiae* extract possessed adulticidal activity with correct mortality at 24, 48 and 96 days equal to 7.3-11.0, 13.5-49.9 and 75.3-94.4%, respectively. The *S. collinsiae* extract showed LD50 value at a concentration of 0.035 mg/mg insect. The abnormal symptoms of *C. megacephala*, after receiving the bait, showed motionless followed by ataxia, frequently and quickly movement of front legs and probocis, tip over, convulsion, stretching of hind or front legs, and finally died. The glucose-treated group showed no dead fly and no previous symptoms.

Biography

Aurapa Sakulpanich was graduated in Bachelor of Pharmacy degree from Faculty of Pharmacy, Silpakorn University and Master of Pharmacy degree (Pharmacognosy) from Faculty of Pharmacy, Mahidol University. She is interested in pharmacognosy and phytochemistry including the development of phytopharmaceutical products from plant. Recently, she is studying in Doctoral degree (Phytopharmaceutical Sciences) at Faculty of Pharmacy, Mahidol University and has been studying insecticidal activity of Thai plant and attempt to develop the phytopharmaceutical products.

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