

Poonyaras Klahan 2014: Efficacy of Herbal Oil Extracts for Control of *Anopheles dirus* Larvae. Master of Science (Biology), Major Field: Biology, Department of Zoology.
Thesis Advisor: Assistant Professor Smarn Kaewviyudth, Ph.D. 81 pages.

The study on the toxicity of the oil extracts from 10 herbal plant species including Sweet basils *Ocimum basilicum*, Holy basils *O. sanctum*, Hairy basils *O. americanum*, Kaffir limes *Citrus hystrix*, Cinnamon *Cinnamomum zeylanicum*, Cardamoms *Amomum krevanh*, Dwarf Ylang-Ylang *Cananga fruticosa*, Cloves *Syzygium aromaticum*, Guavas *Psidium guajava* and Limes *C. aurantifolia* for the control of the third stage larvae of *Anopheles dirus*. The oil extract of *C. zeylanicum* showed the highest toxicity with LC_{50} 9.1780 ppm and followed by the oil extract leaves of *S. aromaticum*, *O. americanum*, *P. guajava*, *C. aurantifolia*, *A. krevanh*, *O. basilicum*, *O. sanctum*, *C. hystrix* and *C. fruticosa*, with the LC_{50} of 9.1864, 12.4538, 15.7850, 17.7747, 18.727, 25.6535, 26.9366, 29.8252 and 38.3389 ppm, respectively. The test of the toxicity of the oil extracts from 10 herbal plant species on the *A. dirus* larvae in laboratory for 24 hours revealed that the oil extracts of all plant species destroyed the *A. dirus* larvae vary as the increased concentration of the each oil extract.

Histopathological study on digestive tissue of the third stage larvae of *A. dirus* were exposed by oil extract from leaves of cinnamon showed that the alimentary canal was damaged by cell deformation and breakage.

The studied herbal oil extracts from 10 plant species could be used as an alternative way for producing and developing in order to control and eliminate the mosquito vectors, in particular the breeding place of *A. dirus* as they are the principal vectors of malarial disease.

Student's signature

Thesis Advisor's signature