

PP-442 [Bee Biology]

Antibacterial and antioxidant activities of honey samples of stingless bee, *Tetragonula pagdeni* Schwarz and Asiatic hive honey bee, *Apis cerana* Fabricius

Sanchai Naree¹, Alexis Beaurepaire², Guntima Suwannapong³

¹Pharmacology And Biopharmaceutical Department, Faculty Of Pharmaceutical Sciences, Burapha University, Chon Buri, Thailand 20131

²Institute Of Bee Health, Vetsuisse Faculty, University Of Bern, Bern, Switzerland

³Department of Biology, Faculty of Science, Burapha University, Chon Buri, Thailand 20131

Stingless bees and honey bees are crucial pollinators worldwide, they also provide high-value products, especially honey containing medicinal properties collected from medicinal plant sources. This study aimed to investigate the antibacterial and antioxidant activities of honey samples of stingless bees, *Tetragolula pagdeni* compared to those of *Apis cerana* honey collected from five different regions of Thailand. For the antioxidant activity, we used the 2,2 diphenyl-1-picrylhydrazyl (DPPH) assay. The disc diffusion method was used to determine the size of the inhibition zone, and the broth microdilution method was used to find the minimum inhibitory concentration (mic) and the minimum bactericidal concentration (mbc). The finding revealed that the percent of antioxidant activity ranged from 40.34-76-21%, and the EC50 value raged from 0.005-0.66 (g/ml). Honey samples of *A. cerana* exhibited antibacterial properties on three isolated bacteria. The inhibition zone of honey samples of *A. cerana* was smaller than that of stingless bee, *T. pagdeni*. The results indicate that both honey samples of *A. cerana* and *T. pagdeni* provided antibacterial properties on foodborne pathogenic bacteria. It can potentially be developed as a natural preservative for food spoilage caused by certain bacteria.