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Isolation and Identification of Phenolic Acids in Malaysian Honey with Antibacterial Properties

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Abstract: In this study the non-peroxide antibacterial factors in Malaysian honey were isolated and identified. The phenolic components were extracted from two different local floral honeys and their effects on the growth of selected pathogens were examined. A solid-phase extraction procedure was applied for the first time to recover honey phenolics. Identification was carried out via high performance liquid chromatography and gas chromatography analysis. Antibacterial activity was determined via the disc-diffusion and broth dilution assays. The phenolic fractions of gelam and coconut honeys showed potent antibacterial activities. Both honeys contain gallic, caffeic, and benzoic acids. However, gelam honey contains additional phenolic acids, namely ferulic and cinnamic acids. Since phenolic acids are known to exert an antibacterial effect, their presence in honey explains its antibacterial activity.

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Key Words: Malaysian honey, phenolics, antibacteria

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