

Influence of origins and bee species on physicochemical, antioxidant properties and botanical discrimination of stingless bee honey

ABSTRACT

The physicochemical characteristics, antioxidant properties and botanical discrimination according to the organic acid content in Malaysian stingless bee honey were investigated. The results showed that the botanical origin and bee species significantly influenced the physicochemical characteristics and antioxidant properties of stingless bee honey. Principle component analysis (PCA) revealed that stingless bee honey was differentiable from *Apis mellifera* honey by acetic, citric, D-malic and tartaric. Starfruit could be distinguished from gelam and acacia honeys by lactic. Whereas the gluconic and succinic acids were confirmed as a marker to discriminate honey samples from *Heterotrigona itama* and *Geniotrigona thoracica* species.

Keyword: Physicochemical characteristics; Antioxidant properties; Malaysian stingless bee honey; Botanical origin; Stingless bee species; Principal component analysis (PCA)