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Variation in total phenolic and flavonoid content in leaves of *Clinacanthus nutans*

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Clinacanthus nutans (Burm f.) Lindau is a popular medicinal plant in Southeast Asia with reported bioactivities, but the effects of collection site, post-harvest processing and extraction methods on the total phenolic and flavonoid content are unknown. 11 accessions were collected from different regions of Malaysia, Thailand and Vietnam, and the effects of drying temperatures (40-100°C) and extraction methods on the total phenolic and flavonoid content were examined using Follin-Ciocalteu and aluminium chloride colorimetric methods, respectively. Country of collection affected phenolic and flavonoid content with the highest mean total phenolic content from Malaysian samples and the highest mean total flavonoid content from Thai samples. Significant correlations were found between the total phenolic and flavonoid content and elevation as well as the mean annual temperature ($p < 0.01$). Higher temperatures used post-harvest to dry fresh leaves increased the total phenolic and flavonoid contents ($p < 0.01$), with the highest total phenolic and flavonoid content in leaves dried at 100 and 80°C, respectively. Extraction methods affected total phenolic and flavonoid content, with cold water extract producing the highest total phenolic and flavonoid content. The effects of collection site, post-harvest processing and extraction methods will be important for improving the efficacy of *C. nutans* and conservation of highly bioactive varieties.

Biography

Siat Yee received BScin Biotechnology from Monash University, Australia in 2005 and a MAppSc in Molecular Biotechnology from the University of Sydney, Australia in 2007. She is currently pursuing her PhD in Applied Biology and Biotechnology at RMIT University, Australia. Her recent work experience includes positions as a business development executive at Hewo Sdn. Bhd., Selangor and a lecturer at Universiti Malaysia Sabah. Her research interest is in the field of natural products for medicine and health, particularly investigating the biological activities and phytochemicals in medicinal plants.

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