

**Ethnobotanical note, total phenolic content, total flavonoid content, and
antioxidative activities of wild edible vegetable, crassocephalum crepidioides from
Kota Belud, Sabah**

ABSTRACT

Crassocephalum crepidioides or locally known as “tanduk manggarang” (Bajau) or “gipun” (Dusun) is an underutilized weed that has been consumed as wild edible vegetable by Sama Bajau people in Kota Belud, Sabah. The villagers obtained the plant from local traders at fresh market or foraging the plant from forest. Correlation between TPC and TFC with IC₅₀ of DPPH and ABTS scavenging activities were analysed by using Pearson’s correlation. The ethanolic extract exhibited the highest TPC ($175.06 \pm 0.574 \mu\text{g/ml}$) and TFC ($139.72 \pm 0.923 \mu\text{g/ml}$), followed by hot water extract with TPC of $54.45 \pm 0.818 \mu\text{g/ml}$ and TFC of $25.07 \pm 0.156 \mu\text{g/ml}$. The distilled water extract showed the lowest TPC ($29.98 \pm 0.918 \mu\text{g/ml}$) and TFC ($19.96 \pm 0.538 \mu\text{g/ml}$). Antioxidant activities also demonstrated the same trend, ethanolic extract displayed the highest percentage of antioxidant activity of DPPH ($85.4 \pm 1.64 \%$) and ABTS ($85.2 \pm 0.57 \%$), followed by hot water extract with $65.4 \pm 3.87 \%$ for DPPH and $79.4 \pm 3.2 \%$ for ABTS. Distilled water extract had the lowest antioxidant activities for both DPPH ($55.0 \pm 0.72 \%$) and ABTS ($71.35 \pm 2.61 \%$). The IC₅₀ of DPPH assay were decreasing in the subsequent order; distilled water>hot water>ethanolic. Meanwhile, the IC₅₀ of ABTS were decreasing in the following order; hot water>distilled water>ethanolic. There was negative high correlation between TPC in C. crepidioides leaves extracts with their IC₅₀ of DPPH and ABTS assays. Following the same trend, there was also negative high correlation between TFC in C. crepidioides leaves extracts with their IC₅₀ of DPPH and ABTS assays. As a conclusion, this readily available wild edible vegetable could be a potent resource of natural antioxidant for rural populace in Sabah, Malaysian Borneo.