Antioxidant activities of different aerial parts of putat (Barringtonia racemosa L.)

Abstract

The antioxidant activities of methanolic, ethanolic and boiling water extracts of Barringtonia racemosa leaves, sticks, and barks were studied and their contents of total phenolics, flavonoids and carotenoids were measured. Methanolic extracts of aerial parts of the plant contained relatively higher levels of total phenolics than other extracts (leaf: 16.2 ± 0.02 mg gallic acid equivalent/g freeze dried-weight (FDW) tissue, stick: 29.9 ± 0.02 mg gallic acid equivalent/g FDW tissue, bark: 21.78 ± 0.20 mg gallic acid equivalent/g FDW tissue). The ethanolic extracts in aerial parts gave higher levels of total flavonoid (leaf: 38.55 ± 2.75 mg rutin/g FDW tissue, stick: 40.72 ± 5.91 mg rutin/g FDW tissue, bark: 68.29 ± 9.63 mg rutin/g FDW tissue). The amounts of β-carotene and lycopene were found higher in methanolic and ethanolic extracts of the leaf (342.2 ± 8.79 µg β-carotene/g FDW tissue, 77.38 ± 4.61µg lycopene/g freeze dried-weight tissue; 356.9 ± 0.93 µg β-carotene/g FDW tissue, 99.3 ± 5.29 µg lycopene/g FDW tissue,respectively). The methanolic and ethanolic extracts in all aerial parts tested exhibited very strong antioxidant properties when compared to butylated hydroxytoluene (BHT), ascorbic acid and α-tocopherol in the free radical scavenging and reducing power assays.