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UNDER-UTILISED EDIBLE FRUITS: BEYOND THE NUTRITIONAL VALUE

R.M.W.C.K. Karunarathna[1], D. Niyangoda[1,2], N.S. Kumar[1] and L. Jayasinghe[1]*

[1]Institute of Fundamental Studies, Kandy, Sri Lanka
[2]Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka
**ulbj2003@yahoo.com*

Edible fruits are a promising source for the identification of environmental friendly bioactive compounds, particularly since safety and toxicological issues are less**.** However, most of the studies on edible fruits are limited only to their nutrition value. *Anacardium occidentale* (Anacardiaceae), *Averrhoa bilimbi* (Oxalidaceae) and *Passiflora edulis* (Passifloraceae) are popular edible fruits in Sri Lanka. Despite of their high harvest throughout the island, these fruits are only consumed locally, and fruit crops are wasted and underutilized. Recently we screened ethyl acetate (EtOAc) extracts of well ripened fruits obtained from disease free plants of *A. occidentale*, *A. bilimbi* and *P. edulis* for pancreatic α-amylase inhibitory activity, antifungal activity using TLC bioautography against *Cladosporium cladosporioides*, antioxidant activity against 1,1-diphenyl-2 picrylhydrazyl radical scavenging activity, brine shrimp lethality against *Artemia salina* and phytotoxic activity against the inhibition of *Lactuca sativa* seed germination.

All three fruits investigated showed α-amylase inhibitory activity. The presence of inhibitors of carbohydrate hydrolyzing enzymes, eg: α-amylase, in plant derived foods is of immense importance in the control of blood glucose level in patients with type II diabetes. In addition, all the fruit extracts displayed antioxidant activity. Antioxidants help to prevent free radical induced oxidative stress and help to either prevent or delay diseases related with aging. Information regarding the nutritional benefits gained by consumption of these fruits will improve their marketability, their value as cash crops and contribute to the national economy. Extracts of *A. occidentale* and *A. bilimbi* showed high cytotoxicity in the brine shrimp lethality assay and inhibited the germination of *L. sativa* seeds. EtOAc extract of filtrate of *A. bilimbi* was positive against antifungal activity. Further studies of these extracts could lead to the isolation and identification of environmental friendly pesticides and antifungal agents. These results suggest that all three fruits contain bioactive compounds. Hence, these extracts were selected for activity guided fractionation in order to isolate bioactive pure compounds.

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