

Fungi from Edible Fruits as a Source of Bioactive Compounds

D.M.D.M. Dissanayake^a, M.V.K. Munasinghe^a, M.M. Qader^a,
G.R.N. Rathnayake^a, T. Sritharan^a, D. Thanabalasingam^a,
K.G.E. Padmathilake^a, H.M.S.K.H. Bandara^a, N.K.B. Adikaram^a,
N.S. Kumar^a, L. Jayasinghe^{a*}, H. Araya^b and Y. Fujimoto^{a,b}

^aNational Institute of Fundamental Studies, Kandy, Sri Lanka; ²School of

^bAgriculture, Meiji University, Kawasaki, Kanagawa 214-8571, Japan.

(ulbj2003@yahoo.com)

Fruits play a prominent role in the human diet and are known to be rich in essential vitamins, simple sugars, fibres, minerals and micronutrients which are important for the maintenance of good health. Apart from their traditional uses, many fruits have useful medicinal properties for curing diseases and disorders including cancer, diabetes and coronary heart diseases, but most of the work on them have been limited to studying their nutritional properties. Edible fruits should not have toxicological issues as they have been consumed for thousands of years. Therefore fruits are a promising source for identifying environmentally friendly bioactive compounds.

In a continuation of our studies on environmentally friendly bioactive compounds from Sri Lankan flora, we investigated the secondary metabolites produced by the endophytic/epiphytic fungi isolated from some popular edible fruits such as *Artocarpus altilis*, *Averrhoa carambola*, *Carica papaya*, *Elaeocarpus serratus*, *Flacourtia inermis*, *Garcinia mangostana*, *Manilkara zapota*, *Momordica charantia*, *Solanum insanum*, *Musa sp.*, *Phyllanthus acidus* and *Pouteria campechiana*. Pure cultures of fungi isolated from fruits were fermented in potato dextrose broth (PDB). After 3-4 weeks, fermented media were extracted into EtOAc and screened for bioactivities such as antifungal and antioxidant effects, brine shrimp toxicity, phytotoxicity and enzyme inhibitory assays. Chromatographic separation of EtOAc extracts furnished several bioactive compounds with diverse chemical structures. Some of the more interesting results will be presented in the poster.

Financial support from the NRC research grant 12-032 & NSF research grant RG/2014/BS/02 are gratefully acknowledged.