



Antifungal activity of *Polyalthia longifolia* leaf extracts in different solvents against three pathogenic fungi isolated from *Solanum melongena*

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Abstract: *Solanum melongena* L. (brinjal) is a popular vegetable worldwide and fungal diseases of the plant and fruits of *S. melongena* in Gampaha District are of research interest. *Lasiodiplodia theobromae*, *Pseudopezalotiopsis theae*, and *Diaporthe eugeniae* were identified recently as fungal pathogens that cause leaf necrosis, yellowing and blight, respectively in *S. melongena* fields in the District. Improper and frequent application of synthetic fungicides for controlling fungal diseases by farmers, cause harm to the fields, human health and environment. In this study, the efficacy of acetone, chloroform and methanol leaf extracts of *Polyalthia longifolia* in controlling the growth of the above fungal pathogens of *S. melongena* was investigated *in vitro*, as an environmental-friendly disease management alternative. Dried *P. longifolia* leaf powder was extracted to each of the three solvents and 1000 ppm of each extract was used in poisoned food technique against the growth of three fungal pathogens in potato dextrose agar medium. Captan and sterilized distilled water served as positive and negative controls with three replicates for each treatment. Each solvent extract showed significant mycelial growth inhibition ($p < 0.05$) of the three fungal pathogens *in vitro*. The acetone extract was more effective with 52–56% inhibition whereas methanol and chloroform extracts were less effective with 37–54% inhibition of mycelial growth of the three pathogens. The highest inhibition, 56%, was by acetone extract against *D. eugeniae* and the lowest growth inhibition, 37%, was against *L. theobromae* by methanol extract. Current findings revealed that leaf extracts of *P. longifolia* have a potential to inhibit the growth of plant pathogenic fungal species.

Keywords: Antifungal activity, *Diaporthe eugeniae*, Fungal pathogens, *Lasiodiplodia theobromae*