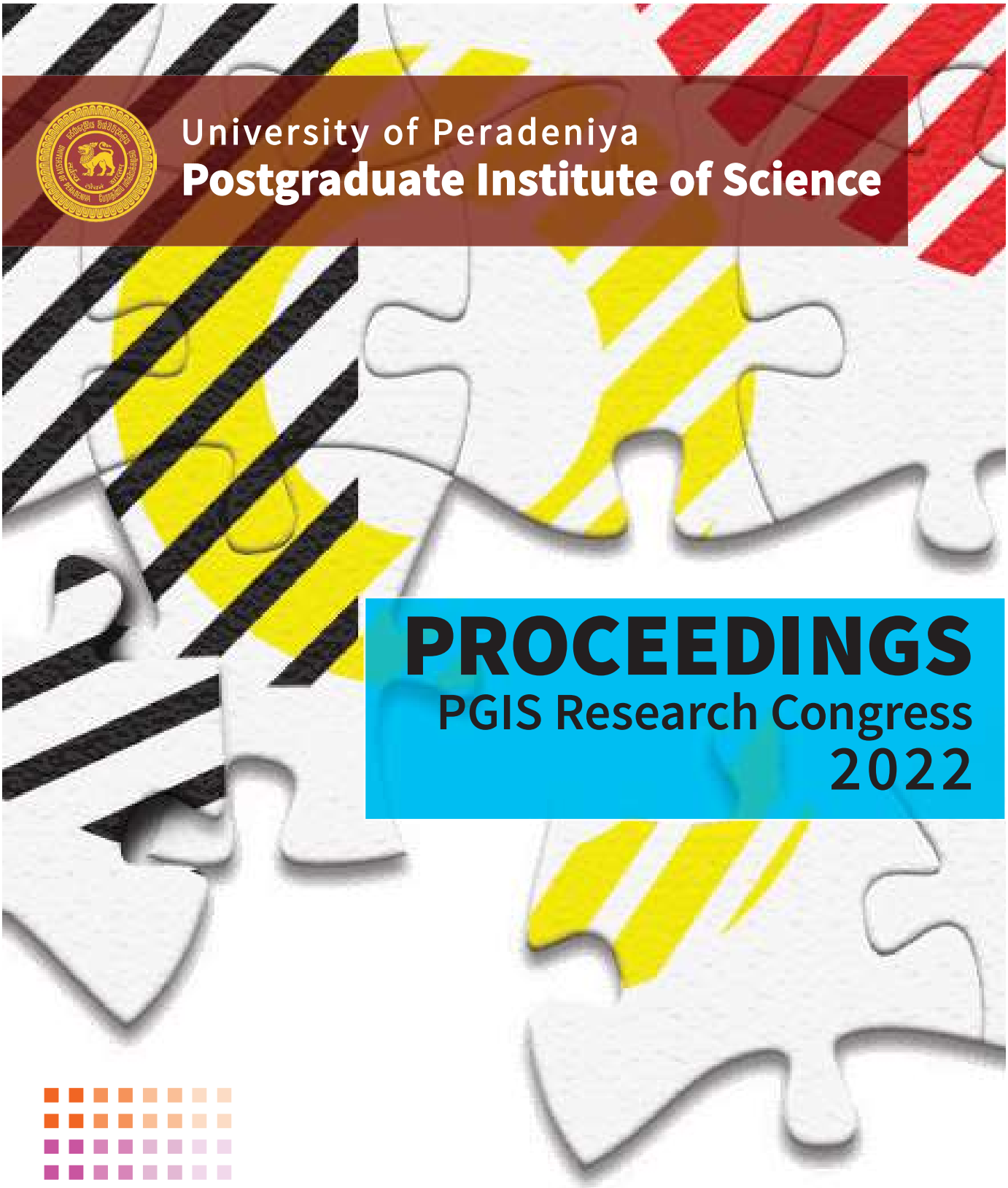

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Abstract No: 153 ***Life Sciences***

SELECTED BIOACTIVITIES OF PLANT EXTRACTS FROM WATER LETTUCE, *PISTIA STRATIOTES*

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Pistia stratiotes is a free-floating aquatic plant commonly known as water lettuce (*Diyaparadel*) of the family Araceae. Benefits derived from *P. stratiotes* include biogas and biofuel production, medicinal properties including wound healing, and treatment for eczema, leprosy, ulcers, piles, stomach disorders, and throat and mouth inflammation. The objective of this study was to determine antifungal activity against *Cladosporium cladosporioides*, antioxidant activity against DPPH (2,2-diphenyl-1-picrylhydrazyl), cytotoxic activity against brine shrimps, phytotoxic activity against lettuce seed germination, α-amylase and lipase inhibitory activity of shoot (SH) and root (RT) crude extracts obtained from *P. stratiotes* plant by using solvents with different polarities. Plants collected from Mahawewa Lake in the Puttalam District, North Western Province of Sri Lanka, were shade dried and ground to a fine powder, extracted to solvents and subjected to bioassays in triplicate per each test. There was a significant antioxidant activity with IC_{50} values for *P. stratiotes* SH extracts 78.04 mg l^{-1}, 251.11 mg l^{-1}, and 24.57 mg l^{-1}. In comparison, RT extracts possess 551.30 mg l^{-1}, 37.41 mg l^{-1}, and 50.96 mg l^{-1} for hexane, ethyl acetate and methanol extracts, respectively, compared to the standard IC_{50} value of ascorbic acid (1.84 mg l^{-1}). Hexane, ethyl acetate, and methanol extracts of *P. stratiotes* SH assessed for cytotoxic properties revealed 93.3, 23.3, and 60.0% cell death, while RT revealed 76.7, 56.7, and 26.7% lethality, respectively. Potassium dichromate was used as the positive control (IC_{50}=24.21 mg l^{-1}). Further, the study revealed the lack of antifungal properties, α-amylase and lipase inhibitory activity in any of the crude extracts tested. Results demonstrate that RT extracts of the plant show better antioxidant, cytotoxic and phytotoxic properties than that of SH. Root extracts of *P. stratiotes* need further studies due to the presence of the aforementioned bioactivities.

Keywords: *α*- Amylase, Antioxidant, Cytotoxicity, Lipase, Phytotoxicity