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Enzyme inhibitory, antioxidant and phytotoxic properties of *Pilea microphylla* (Urticaceae)

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Pilea is the largest genus of the family Urticaceae with over 600 species, and one of the largest genera within the Order Urticales. The plant is mostly distributed throughout the tropics, subtropics, and warm temperate regions. The majority of species are succulent herbs, epiphytes, or small shrubs that could be found growing in heavy shade. In June 2017, during the study of the alien urban flora of Palermo, a remarkable Pilea microphylla was discovered. P. microphylla is generally known as Angelwood, Joypowder plant, Artillery plant, and/or Brihantina. The present study was carried out to evaluate the bioactivity of P. microphylla. The methanolic extract obtained from the plant was screened for antifungal (against *Cladosporium cladosporioides*), antioxidant (against DPPH), cytotoxic (against Artemia salina), phytotoxic properties (against root and shoot inhibition of *Lactuca sativa*) and enzyme inhibitory activities on α -amylase (from the porcine pancreas), acetylcholinesterase (from *Electrophorus electricus*) and lipase (from the porcine pancreas). The results showed that the MeOH extract does not exhibit antifungal properties, cytotoxicity, or α-amylase inhibitory activities. IC₅₀ values for antioxidant, acetylchlolinesterase inhibitory, and lipase inhibitory assays were 46.69 mg 1^{-1} , 132.53 mg 1^{-1} and 25.15 mg 1^{-1} respectively. Chemical investigations on the active compounds are in progress.

Keywords: Acetylchlolinesterase, lipase, P. microphylla