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BIOLOGICAL ACTIVITIES OF MURDANNIA SPECIES

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Abstract:

Numerous studies have recently revealed that the genus *Murdannia* is well-known for its biological activities that gives them the potential use as cure for certain diseases. Biological activities of the genus *Murdannia* is evaluated through the contributing factor of bioactive compound that exist in the genus itself. A review and comparison study of the related literature to the biological activities of *Murdannia* species has been conducted in this study. The papers were gathered using online database search (Science Direct, Springer, ResearchGate, Scopus, Wiley, Taylor & Francis and others) and classified by their publication year, author, published journal, parameters, and methods. In vitro study of *M. Bracteata* crude extract revealed to have anti-oxidant, cytotoxic, hepatoprotective and α -glucosidase activity. Roots extract of *M. Lanuginosa* has been identified to possess anti-microbial, anti-inflammatory and anti-proliferative activity. *M. Simplex* roots extract revealed fungicidal activity due to the presence of protamine. Crude extract of *M. Nudiflora* demonstrated analgesic, anti-inflammatory, anti-oxidant, and cytotoxic activity due to the presence of major phenolic compounds. *M. Loriformis* possess anti-inflammatory, anti-oxidant antimutagenicity, anti-ulcerogenic analgesic, DT-diaphrose and antipyretic activity which influenced by chemical constituents such as alkaloids, amino acids, flavonoids, and polyphenols that exist in the plant extract.

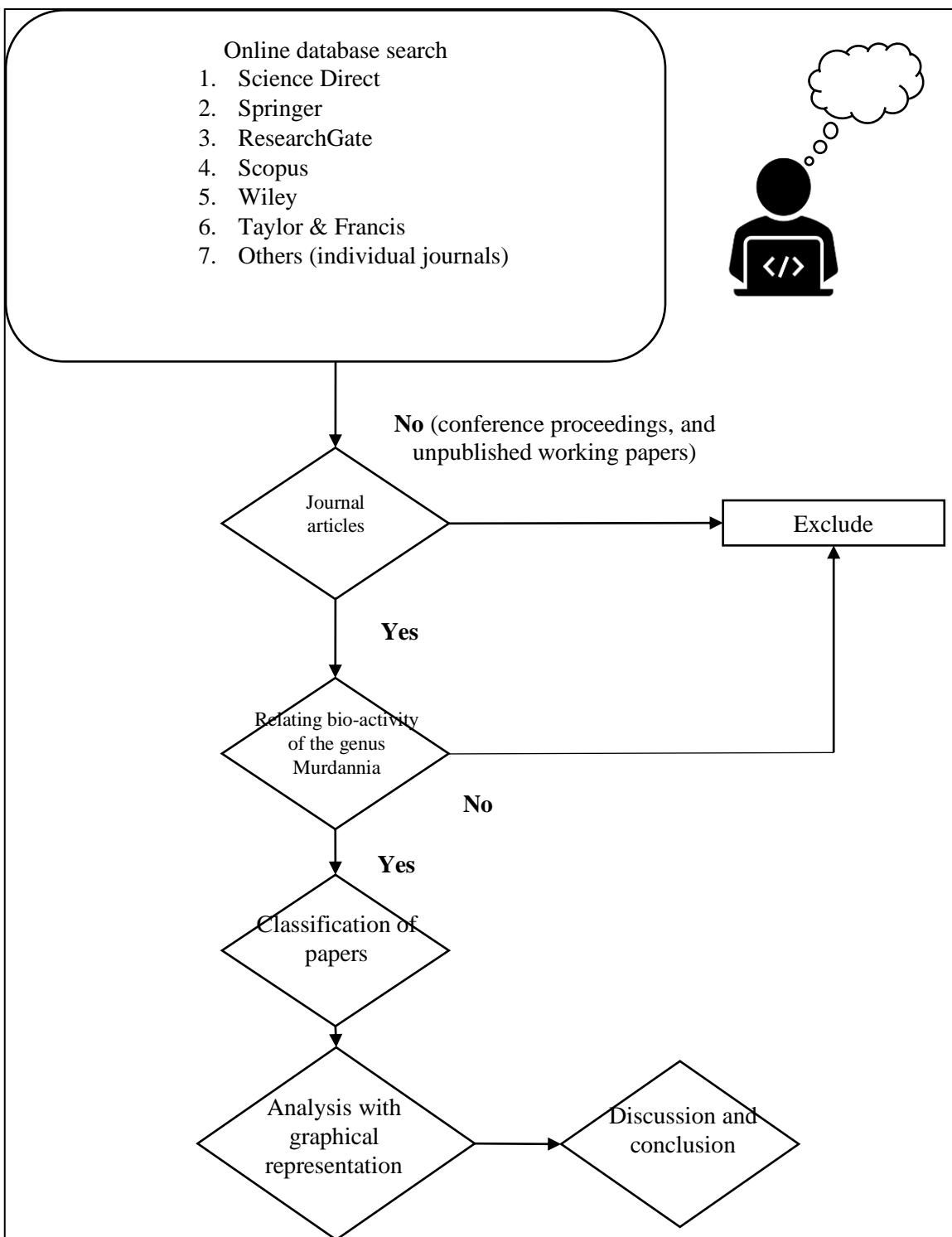
Keywords:

Murdannia, biological activity, Commelinaceae, bioactive compound, literature review.

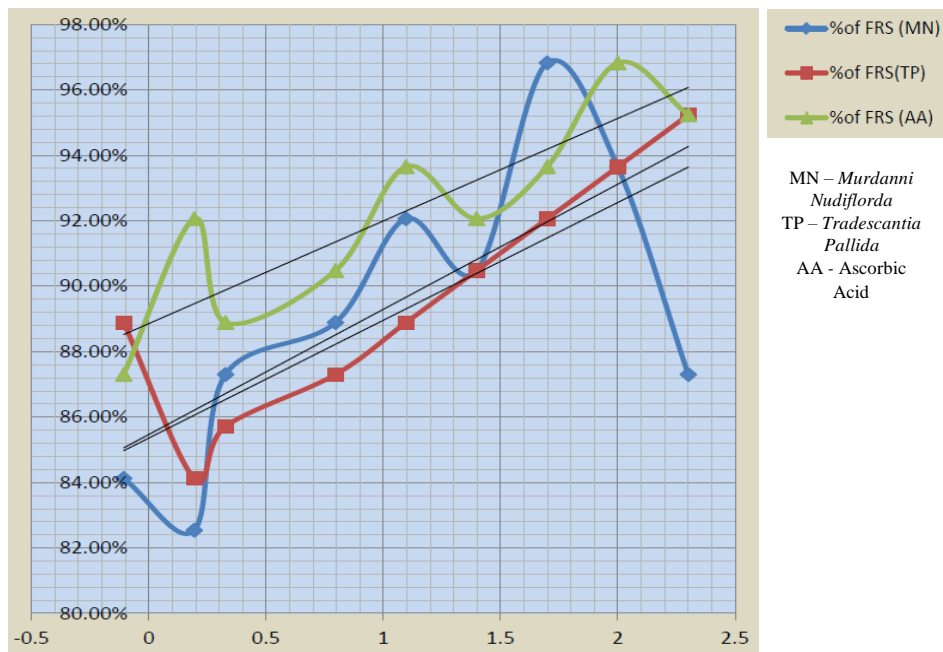
Objectives:

- Review the literature related to the biological activities of *Murdannia* species.
- To compare the biological activities in the species of the genus *Murdannia*.

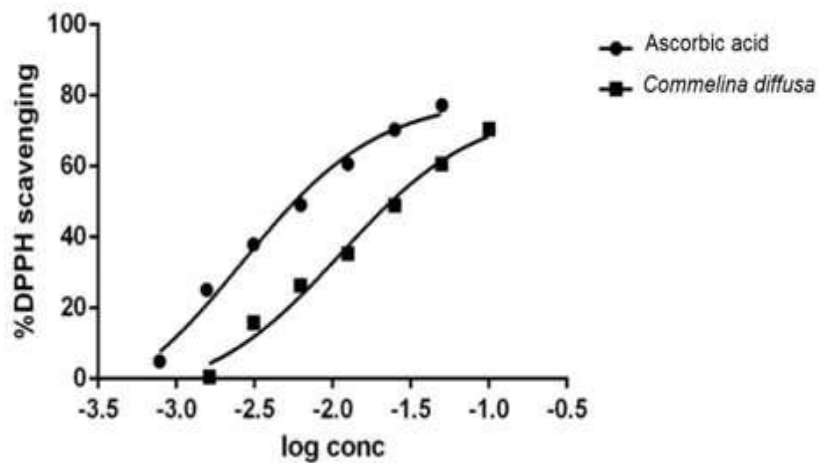
Methodology:



Results:



(a)



(b)

DPPH Radical scavenging activity of the extract (a) *M. nudiflora* and *T. pallida* (b) *C. diffusa*

Conclusion:

Among the species all in the genus, 5 species were identified and evaluated for its bio-activity in different reviewed papers. Studies conducted on the species in the genus shown its extensive biological activity with high medicinal value. It has been found in the past investigation that parts of the plant in the genus mainly roots and the whole plant contain many different active and non-active chemical compounds that possess a wide scope of bio-activity values. Different bio-active compounds isolated from the extracts of the species in the genus showed different pharmacological properties and have been widely utilized as traditional folk medicine for centuries. The crude extract of plant species in the genus *Murdannia* showed significant biological activities including analgesic, anti-inflammatory, anti-oxidant, anti-mutagenicity, anti-ulcerogenic, anti-pyretic, anti-microbial, α -glucosidase, fungicidal and hepatoprotective properties.