

# PP9

## **Phytochemical and potential pharmacological properties of *Munronia Pinnata* (Binkohomba): A Systematic review**

Wijekumar. P. J<sup>1</sup>, Samaranada. V.A<sup>2</sup>, Samarakoon. D.N.A.W<sup>1</sup>, Perera.P. K<sup>3</sup>

1. Department of Biomedical Science, Faculty of Health Sciences, KIU, Battaramulla
2. Department of Medical Science in Acupuncture, Faculty of Health Sciences, KIU, Battaramulla
3. Department of Ayurveda pharmacology and pharmaceuticals, Institute of Indigenous Medicine, University of Colombo, Rajagiriya

## Introduction

- *Munronia pinnata* is a rare perennial medicinal herb widely used in Sri Lanka, China and India.
- It belongs to the family Meliaceae, which has many ecotypes in leaflets such as 3,5,7,9 and 11.
- *M. pinnata* is widely used throughout traditional medicine to treat various diseases like fever, general pain, haemorrhoids, dysentery, eczema, cough, asthma, oedema, circulatory diseases, malaria, and vomiting.



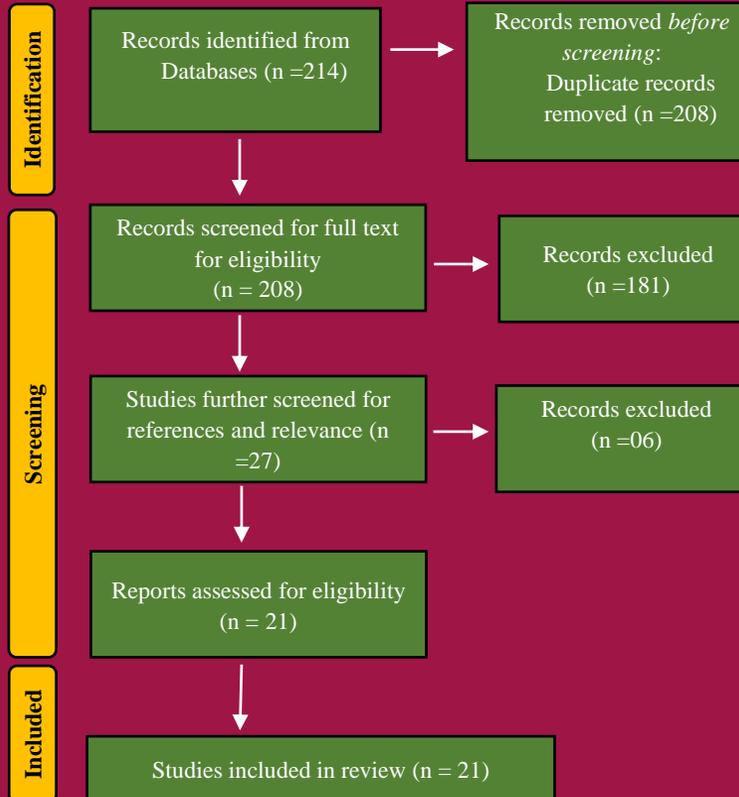
## Objectives

This systematic review aims to discuss the phytochemical and potential pharmacological properties of the plant.

## Methods

- A comprehensive systematic review was conducted using PRISMA guidelines.
- Following databases were searched; PubMed Central (n=7), Ovid (n=10), Science Direct (n=15), Springer Link (n=11), Cochrane Library (n=1), and Google Scholar (n=170) using “*Munronia pinnata*” as the keyword.
- Manually screened for the following inclusion criteria: phytochemical properties and pharmacological properties of *M. pinnata*.

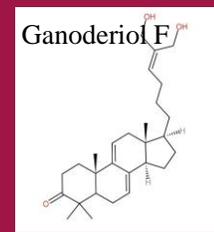
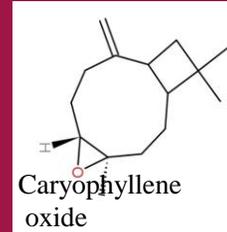
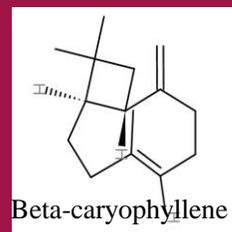
## Identification of studies via databases and registers



## Results and Discussion

Six Of 21 studies reported regarding the phytochemical properties of *M. pinnata*.

The most active phytochemical compounds found in the plant were beta-caryophyllene, caryophyllene oxide and ganoderiol F.



The scientific studies showed following potential pharmacological properties;

- hypoglycemic (n=7),
- antioxidant (n=3),
- anti-inflammatory (n=2),
- antibacterial (n=2) against *E. coli*, *S. aureus* and *Bacillus subtilis*,
- antifungal (n=1) against *Cladosporium cladosporioides*,
- antimalarial (n=2),
- hepatoprotective (n=1),
- anti-venom (n=3) properties against Cobra (*Naja Naja*), Russell's viper (*Daboia russelii*), Krait (*Bungarus ceylonicus*) and Hump Nosed Viper (*Hypnale hypnale*).

The toxicological studies showed no toxicity or biochemical and behavioural changes in the experimental models (n=3).

## Conclusion

The available literature suggests that *M. pinnata* may have effective pharmacological properties. However, an extensive study is necessary to identify the mechanisms of the properties exhibited by the plant and its wide range of medicinal properties.

## References

- Kaliyadasa PE, Karunarathne MK, Jayasinghe L, Marasinghe P. Screening of Different Eco-Types of *Munronia Pinnata* [Wall] Theob.for Important Phytochemical Properties. Int J Pharm Sci Res. 2020;11(4):1602–9.
- Hapuarachchi SD, Suresh TS, Senerath WTPSK. Effect of the different extracts of *Munronia pinata* on blood glucose levels of alloxan induced diabetic rats. 4th Int Conf Med Plants Herb Prod Sess. 2012;1–64.