

A Review: *Cyanthillium cinereum* (L) H. Rob.

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ABSTRACT

Cyanthillium cinereum (L) H. Rob (family Asteraceae) is also known as Poovamkurunnila in Malayalam. It is commonly found as a weed throughout in India. *Cyanthillium cinereum* is an annual herb with hairy stem, up to 12-75 cm height. The leaves are simple, alternate, ovate-elliptic or acute, irregularly dentate or crenate-serrate and hairy.

Cyanthillium cinereum is an annual herb, contains various phytochemicals like cardiac glycosides, phenols, flavonoids, steroids, tannins, saponins and phlobatannins etc. Due to the presence of these phytochemicals *Cyanthillium cinereum* exhibits various activities like analgesic, antibacterial, antioxidant, anticancer, antispasmodic, antimalarial and antifungal etc.

Keywords - *Cyanthillium cinereum* (L) H. Rob, Pharmacological activities, Therapeutic use.

1.0 INTRODUCTION

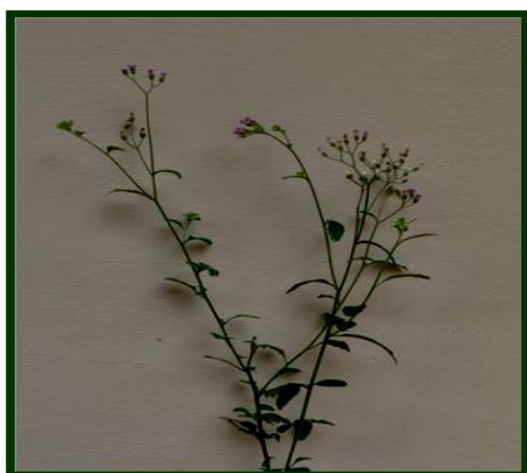


Fig 1: *Cyanthillium cinereum* whole plant

Cyanthillium cinereum (L) H. Rob.
[1] (family Asteraceae) is also known as

Poovamkurunnila in Malayalam. It is commonly found as a weed throughout in India. *Cyanthillium cinereum* is an annual herb with hairy stem, up to 12-75 cm height.^[2] The leaves are simple, alternate, ovate-elliptic or acute, irregularly dentate or crenate-serrate and hairy. The whole plant of *Cyanthillium cinereum* is shown in Fig 1.

Phytochemical screening of *Cyanthillium cinereum* revealed the presence of cardiac glycosides, phenols, flavonoids, steroids, tannins, saponins and phlobatannins^[2].

Leaves of *Cyanthillium cinereum* (L) H. Rob have various medicinal properties such as analgesic^[3], antipyretic^[4], anti bacterial^[5] and antifungal effect^[6]. Fresh leaves of *Cyanthillium cinereum* were extracted with various solvents like petroleum ether, ethanol and distilled water for analyzing the phytoconstituents. Phytochemical screening revealed that more active principles like phenol, tannins, saponins, alkaloids, terpenoids etc. were found in ethanolic extract of *Cyanthillium cinereum*.^[7]

2.0 Pharmacological Activities of *Cyanthillium cinereum* (L) H. Rob.

Cyanthillium cinereum have antibacterial, antioxidant, anticancer, antispasmodic and antimalarial activities.

2.1 Antibacterial activity^[8,9]

Crude methanolic extract of *Cyanthillium cinereum* exhibits antibacterial activities against *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa* and *Bacillus subtilis*.

The *Cyanthillium cinereum* plant extract showed significant antibacterial activity. The strong anti bacterial activity of *Cyanthillium cinereum* plant extract is due to the presence of phytochemical compounds such as flavonoids, phenols, tannins and saponins.

2.2 Antioxidant activity ^[10, 11]

Hexane, chloroform, methanolic and aqueous crude extracts of *Cyanthillium cinereum* exhibited potent antioxidant property. Phytochemical constituents scavenge different free radicals and provide a protective action against oxidative damage to biological macromolecules. The antioxidant activity exhibited by *Cyanthillium cinereum* could be due to presence of flavonoids, polyphenolic compounds and tannins.

2.3 Anticancer activity ^[8]

Crude ethanolic extract of *Cyanthillium cinereum* were tested for anticancer activity in MCF-7 breast cancer cell lines. The leaf extract of *Cyanthillium cinereum* exhibited high anticancer activity.

Cell Apoptosis Assay

Cyanthillium cinereum plant extract induced cell death by apoptosis in MCF-7 breast cancer cells.

MTT (3-(4, 5-dimethylthiazolyl-2) 2, 5-diphenyltetrazolium bromide) Assay

Cyanthillium cinereum plant extract exhibited significant reduction in cell viability.

2.4 Antispasmodic activity ^[12]

Ethanolic extract of leaves of *Cyanthillium cinereum* possess high degree of antispasmodic activity by blocking cholinergic receptors. *Cyanthillium cinereum* exhibits comparable antispasmodic activity of standard antispasmodic agent (Atropine). *Cyanthillium cinereum* being a herbal origin drug with high degree of safety and efficacy

could be used as a suitable alternative for existing drugs.

2.5 Anti malarial activity ^[10]

Due to the presence of Sesquiterpene lactones, *Cyanthillium cinereum* possess anti malarial activity.

3.0 Therapeutic uses of *Cyanthillium cinereum* (L) H. Rob

Cyanthillium cinereum has therapeutic potentials against;

- Fever
- Malaria
- Asthma
- Cancer
- Cholera, colic pain, cough, diarrhea
- Leprosy and chronic skin diseases
- Conjunctivitis
- Arthritis
- Rheumatism

4.0 CONCLUSION

Cyanthillium cinereum is an annual herb, contains various phytochemicals like cardiac glycosides, phenols, flavonoids, steroids, tannins, saponins and phlobatannins etc. Due to the presence of these phytochemicals *Cyanthillium cinereum* exhibits various activities like analgesic, antipyretic, antibacterial, anti oxidant and antifungal effect.

Acknowledgement: None

Conflict of Interest: None

Source of Funding: None

5. REFERENCES

1. Botanical name. Available from: <http://www.theplantlist.org/tpl1.1/record/qc-c-149577>.
2. Shruthi Roy, Madhu K P, Jyolsna G Krishna. Pharmacognostical and phytochemical evaluation of the drug sahadevi (*Cyanthillium cinereum* (L.) H. Rob.). International Journal of Ayurveda and Pharma Research; 2019: 7 (9).
3. Thitiya Luetrogon, Rungnapa Pankla Sranujit , Chanai Noysang , Yordhathai Thongsri , Pachuen Potup , Jukarin

- Somboonjun et al., Evaluation of Anti-Inflammatory Effect of *Moringa oleifera* Lam. and *Cyanthillium cinereum* (Less) H. Rob. Lozenges in Volunteer Smokers. *Plants* 2021, 10, 1336. <https://doi.org/10.3390/plants10071336>.
4. Iwalewa, E.O.; Iwalewa, O.J.; Adeboye, J.O. Analgesic, antipyretic, anti-inflammatory effects of methanol, chloroform and ether extracts of *Vernonia cinerea* less leaf. *J. Ethnopharmacol.* 2003, 86, 229–234.
 5. Joshi, T.; Pandey, S.C.; Maiti, P.; Tripathi, M.; Paliwal, A.; Nand, M.; Sharma, P.; Samant, M.; Pande, V.; Chandra, S. Antimicrobial activity of methanolic extracts of *Vernonia cinerea* against *Xanthomonas oryzae* and identification of their compounds using in silico techniques. *PLoS ONE* 2021, 16, e0252759.
 6. Yusoff, S.F.; Haron, F.F.; Tengku Muda Mohamed, M.; Asib, N.; Sakimin, S.Z.; Abu Kassim, F.; Ismail, S.I. Antifungal Activity and Phytochemical Screening of *Vernonia amygdalina* Extract against *Botrytis cinerea* Causing Gray Mold Disease on Tomato Fruits. *Biology* 2020, 9, 286.
 7. Suresh S.N, Varsha.V, Prajeena.V. Phytochemical screening of *Cyanthillium cinereum* leaf extract. *International journal of medicine and pharmaceutical research.* 2015, 3(61):1238-1241.
 8. Suja.S, Iwin .C, Varkey.Medicinal and pharmacological values of *Cyanthillium cinereum* extract : investigate the antibacterial and anticancer activity in MCF-7 Breast cancer cell lines. *International journal of research an analytical reviews* .2012;6(1):2348-1269.
 9. Ourlad A.G.Tantengco, Marlon Lian C. Condes, Hanna Hasmin T. Estadilla, Elena M. Ragrao. Antibacterial activity of *Vitex parviflora* A. juss and *Cyanthillium cinereum* (L.) H. Rob. against human pathogens. *Asian pacific journal of Tropical Diseases.* 2016; 6(12) :1004-1006.
 10. Gunjan Guha, V. Rajkumar, and Lazar Mathew. Therapeutic potential of polar and nonpolar extracts of *Cyanthillium cinereum* In Vitro. Evidence based complementary and alternative medicine.; 2011. doi:10.1093/ecam/nep155.
 11. Nishadh, Selvi V, Mahalakshmi R. In vitro antioxidant and phytochemical screening of various extracts of *vernonia cinerea* leaves. *Int J Drug Dev Res.* 2013;5(3):227-230.
 12. Swetha.B, Prathibha.B. Evaluation of antioxidant activity of ethanolic extract of leaves of *Cyanthillium cinereum* (L) H. Rob. by using isolated frog heart. *IJPPR.* 2018; 12(3).
- How to cite this article: Ramya C., Vishnu AS, Nasila K.. A review: *Cyanthillium cinereum* (L) h. rob.. *International Journal of Research and Review.* 2021; 8(9): 99-101. DOI: <https://doi.org/10.52403/ijrr.20210914>
