

Theme: Life Sciences & Agricultural Sciences

Antimicrobial activities of solvent extracts of Fungal endophytes associated with *Wattakaka volubilis* (L.fil) Stapf from Telangana, India

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ABSTRACT

The Apocynaceae Family plants like *Wattakaka volubilis* (L.fil) Stapf is a rare and threatened species, woody climber, commonly known as Kotippalai and cotton milk. It is a folk medicinal, herbal medicinal and anti oxidantal plant, grows wild in all areas of Telangana State, India. Traditionally, *Wattakaka* is used alone or in combination with other medicinal plants to treat common diseases such as Hepatotoxicity, Snakebites, Headache, Emetic, Eye diseases, Abscesses, Rheumatic pain, Cough, Severe cold, Piles, Leucoderma, Asthma and Urinary discharge. Virtually, every parts of the plant was proved to possess medicinal properties.

Fungal endophytes are appears to have direct and indirect effects on plant responses to biotic agents. They are recognized as a rich sources of bioactive metabolites of multifold importance in medicinal industries and agriculture. Endophytes may be among the most important group of eukaryotic organism and they produce many novel metabolites which are directly used as drugs or function as lead structures for synthetic modifications. Endophytes are group of organisms forming great biodiversity. They play essential role in provides many eco-physiological benefits to the host plant. There role of endophytes in host plants indicate that they can stimulate plant growth, increase diseases resistance, improve plants ability to with stand environmental stresses and recycle nutrients, they produce anti fungal, anti viral, anti bacterial, anti tumor and anti inflammatory activities. Phytochemical screening and antimicrobial activities of solvent extract of fungal endophytes have been studied for the presence of secondary metabolites and to find out their activity against microbes.

The result revealed that the aqueous Chloroform, Hexane and Methanolic solvent crude extract of fungal endophytes *Diplodia andamanensis*, and *Rhizoctonia bataticola* of *Wattakaka volubilis*. The antimicrobial activity of solvent crude extracts were tested against gram positive and gram negative bacteria through disc diffusion method. Among the chloroform solvent extract of *Rhizoctonia bataticola* were highest sensitivity for gram negative *E.coli* bacteria, The moderate sensitivity is found in methanol solvent extract of both fungi in gram positive *Staphylococcus aureus* bacteria, less activity was found in hexane solvent extract of

these two fungus in both gram positive and negative bacteria. The results provided evidence that the fungal endophytes can be used as a potential source of antimicrobial agent

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