

CHAPTER – III

AIM AND OBJECTIVES

The review of literature shows that *alocasia sanderiana* plant has not been studied for the phytochemical analysis and isolation of secondary metabolites. Plant extracts of *Alocasia sanderiana* W.Bull are used in nanosilver particles to fight and prevent bacteria *in vitro*¹, *Alocasia sanderiana* W.Bull is available in Tamilnadu²⁻⁵, Bangalore⁶ and Varanasi district in Uttar Pradesh state of india⁷. Therefore, the present study investigates the effects of ethanolic extract of leaves, stem and root tubers of *Alocasia sanderiana* to ascertain the scientific basis for the use of this plant.

Likewise, this species has not been comprehensively tested so far for its antimicrobial activity of its parts namely the leaf, bark and root tubers. The antimicrobial activity of *alocasia* will also be analysed by using disc diffusion method. The antioxidant activity has been undertaken for the leaf, stem and root tubers using ethanolic extract. The antioxidant property of the species will enhance its pharmaceutical value. So this thesis aims at the isolation and identification of phytochemical components by elemental analysis, FT-IR, ¹H-NMR, ¹³C- NMR and MS-EI techniques.

3.1. RESEARCH OBJECTIVES

- ❖ To study the preliminary phytochemical screening of ethanolic extracts of leaf, stem and root tubers of *A. sanderiana*.
- ❖ To study the antimicrobial activity of ethanolic extracts of leaf, stem and root tubers of *A. sanderiana*.

- ❖ To study the antioxidant potential of ethanolic extracts of leaf, stem and root tubers of *A. sanderiana*.
- ❖ To study the anti-inflammatory activity of ethanolic extracts of leaf, stem and root tubers of *A. sanderiana*.
- ❖ To study the antidiabetic activity of ethanolic extracts of leaf, stem and root tubers of *A.sanderiana*.
- ❖ Isolation of fractions from *A.Sanderiana* plant leaf, stem and root tubers ethanolic extracts by Column / Thin Layer Chromatography.
- ❖ To characterize the compounds using spectral techniques such as elemental analysis, IR, ^1H -NMR, ^{13}C - NMR and MS-EI techniques.

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