

The *Loranthus parasiticus*, *Macrosolen cochinchinensis* and *Viscum album* are Hemiparasitic taxa which are mainly found in South West Bengal in natural forest mainly upon the old trunked trees. So far literature study shows us that, significant research works are not done on these hemiparasitic taxa.

- ❖ So, our present study reveals its ecological distribution as well as its host specificity throughout the South West Bengal to determine the nature on basis of taxonomy with reference to its host specific interaction.
- ❖ In this study, we observed that deviation in distribution pattern of these hemiparasitic plants from region to region. So, the study also deals with the effect of pollution or manmade disturbance on their distribution.
- ❖ The study is conducted to observe their gross morphology, seed dispersal mechanism as well as detailed anatomical structure of stem, leaf by the help of Leica DM1000 compound microscope. The study includes their characterization and nature of stem, leaf as there is no supportive document from Indian literature regarding those.
- ❖ Its micro-morphology including stomatal type and abundance, leaf powder study and its characters.
- ❖ The study extended to determine ash value to characterise the nature of powder.

Apart from the morphology and anatomy, there is no significant work has done for detection of secondary metabolites or components of these hemiparasitic taxa. So there is another objective to determine the secondary metabolites or phytochemicals presence in these taxa which may have medicinal properties.

- ❖ From this point of view, our next objective to study its antimicrobial effect against some pathogen causing human disease to determine its pathogen resistance activity.
- ❖ On other hand, the work is to determine the effect of plant extract on α - amylase inhibition which may helpful to step down in future to use its potentiality to resist diabetes.
- ❖ The study is conducted to determine DNA and protein content of plant extract which may be helpful for their sequencing, profiling and bar-coding in next future.
- ❖ The bio-chemical assay proves the potentiality of presence of carotenoid, flavonoid, and polyphenol.
- ❖ FTIR spectroscopy study helps us to distinguish different bonding pattern of moiety.
- ❖ Our examination also includes their free radical scavenging activity.
- ❖ Our further study has conducted to observe its nano-particles synthesis activity in silver nitrate solution. PSA helps us in measurement of particles size presence within it.

So, the main objectives are clear to determine the structural and functional role of these plants and to evaluate its medicinal property from different aspects.