THE PRESENT STUDY

Malaria remains as a major public health concern in the developing countries and among the vector born infections the malaria remains as one of the top three diseases in the world. Traditional medicines using plants have been used to treat several ailments for thousands of years which stands as natural medication. In the malaria medication two major groups, artemisinin and quinine derivatives of modern antimalarial drugs were followed for several years among ethnic population. With the emergence of increasing levels of drug resistance among the malaria parasite a thirst of novel medicines are in urgent need, which would overcome the parasite resistance and support in the eradication.

The present drive deals with the preliminary evaluation of four medicinal plants *Solanum trilobatum, Spathodea campanulata, Syzygium jambos* and *Tylophora indica* from the Western Ghats, Coimbatore in the antiplasmodial activity. As a maiden investigation the plant extracts were subjected to the *in vitro* and *in vivo* assays such as phytochemical screening, antioxidant potential, antimicrobial activity, cytotoxicity and *in vivo* antiplasmodial assay with the following objectives:

1. Collect and authenticate the medicinal plants based on the ethnic usage in pyrexia.
2. Evaluate the qualitative and quantitative phytochemical analysis of the selected medicinal plant extracts and its *in vitro* antioxidant activity using DPPH free radicals.
3. Evaluate the cytotoxicity/anticancer activity of the medicinal plants on Human Mammary Cancer Cell lines (MCF-7) by Microculture Tetrazolium Assay (MTT) assay.
4. Evaluate the antibacterial and antifungal activity of the medicinal plant extracts by well diffusion and broth dilution method respectively.
5. Evaluate the *in vivo* antiplasmodial activity of the medicinal plant extracts by Peter’s four days test, Rane’s Curative assay and Prophylactic assay using *Plasmodium berghei* infected Swiss Albino mice model.