2. RESEARCH ENVISAGED

Inflammation is a body response to various allergic or chemical irritation, injury and/or infections that causes the release of various chemical mediators such as prostaglandins, histamine, bradykinin etc. This further leads to various acute and chronic inflammatory disorders like heart diseases, diabetes, Alzheimer’s, arthritis etc. The preferred therapy for the treatment of underlying inflammatory diseases is various selective and non-selective COX inhibitors. But the problem associated with non-selective COX inhibitors is gastric bleeding and that of selective COX inhibitors is risk of myocardial infarction and renal failure. Screening and development of safer anti-inflammatory drugs is going on globally and there is much hope of finding suitable anti-inflammatory drugs from indigenous medicinal plants as many valuable drugs of today have come from traditional knowledge of folklore medicine. With this background, the present project was initiated to look into some safe anti-inflammatory drugs from plants which can be further taken up for development. A market survey of anti-inflammatory drug formulations of Indian System of Medicine manufactured by herbal drug industry in India was done by our laboratory.\[176\] The survey recorded the number of plants and their frequency in these formulations. In this survey, a close look was also given to different plants mentioned in Ayurveda for various inflammatory diseases and their usage in herbal formulations. Based on this report, Barleria was selected, and literature survey also revealed that this plant offers a considerable scope for the study of bioactive constituents as potential anti-inflammatory drugs.

The genus Barleria of family Acanthaceae finds mention in ancient scriptures for various ailments like anaemia, rheumatism, pneumonia, fever, pain, diuretic, cough, antiseptic, anti-inflammatory, in the treatment of whooping cough and in toothache.\[80,87,88\] Although it is an important plant of Ayurveda, no detailed chemical, analytical and biological comparative studies have been done on closely related species/varieties.

Hence, in the present study, five different varieties/species of genus Barleria, viz., B. prionitis Linn., B. cristata Linn. var. dichotoma, B. cristata (Pink flower variety),
Research Envisaged

*B. cristata* (Blue flower variety) and *B. lupulina* Lindl. were selected. Further, *Barleria* is reported to contain iridoids which are biologically active compounds. Therefore, it was considered as a rational approach to target the iridoidal compounds for carrying out the planned chemical, phytochemical, analytical and biological studies on the selected species/varieties of genus *Barleria*. The study is expected to be of significance to the chemotaxonomists, herbal industry and in drug discovery programmes and the data generated will be of both scientific and commercial value.