PREFACE

Out of numerous plants, at present man have used some 3000 species of which 150 or so have been commercially cultivated. With the present increase in population we must depend increasingly on more plants for their various potentialities. To help feed, cloth, supply of medicine etc. to rapidly increasing population, it is high time to consider the neglected or little known species. Phytochemical investigations are now an important branch of research for identifying the compounds derived from plant kingdom that are used in indigenous medicine. The ancient Ayurvedic and Siddha medical system depended basically upon the plant based materia medica. Indigenous system employed complex formulation with more than one plant ingredient and also prescribed a specific mode of application. These systems have stood the test of time for centuries. Similar experience have been recorded with Greek, Chinese and Arabian system of medicine. It is well known that Plant Kingdom has supplied some excellent drugs like morphine, codeine, thebaine, quinine, digitoxin, ergotamine etc. In addition, the natural plant drugs have served as useful prototypes for even better medicines.

In spite of the considerable research activities in the identification of the natural products from plants, the potential hasn’t been fully exploited. The tribals all over the country by virtue of living in the vicinity of the forests gained an unparallel knowledge of using wild flora and fauna for various purposes in their life including the use of the same plants as medicine as well as food. It requires no mention that because of a lot of socio-economic and environmental changes, the system and wisdom of using forest products as food in many respects have been fast disappearing. But in the matter of preservation of identity and traditional heritage of the tribal communities, the art and culture of consuming forest produces, is no less important. Moreover, the rich knowledge, art and system, if studied scientifically, may render unique benefit not only of medicinal prevention and cure, but also to throw light on the nutritional importance of the wild products.

Taking into account all these interests, the aim of this work was settled down to search therapeutic potency and phytochemical interest of edible parts of certain wild plants used by the Tribal people of Tripura, a North-Eastern state of India.
In search of phytochemical and therapeutic properties, total 10 plants were considered for investigation, identified by an expert associated with the Tribal Research Institute (Govt. of Tripura) and studied accordingly. With regard to this thesis, the whole work were carried out in Deptt. of Life Science, Assam University, Silchar, Assam. The spectral and elemental analysis were carried out in RSIC, NEHU, Shillong; CIF, IIT, Guwahati and Quest Research and Training Institute, Bangalore.

This thesis contains the details of research work, entitled – “Phytochemical and Therapeutic Evaluation of Some Ethno-Botanical Plants of Tripura, India”, divided into different chapters dealing with the details about Tripura, plants & literature (Phytochemical, antimicrobial & therapeutic efficacy) so far reported, extraction (in methanol), physicochemical (pH, Colour, Density, Specific gravity, presence of Chemical entities- qualitative, Thin Layer Chromatography- Rf values, melting point of active compound) studies, isolation (by Column chromatography) of active compound & structure (by IR, NMR, MS - studies) elucidation, therapeutic investigation (analgesic, hypnotic, CNS – depressant) and toxicological (Acute toxicity – LD50) studies.

Related to this thesis three papers are published, one paper is accepted, one paper is communicated in reputed standard journal (bearing ISSN) and one paper was presented in a national seminar.

I believe that this new approach / addition through the thesis surely shall carry its important role in the field of research in Life Science and Chemistry-especially the phytochemistry.

For attaining the degree of Doctor of Philosophy from Assam University, the entitled work – “Phytochemical and Therapeutic Evaluation of Some Ethno-Botanical Plants of Tripura, India”, was carried out. Keeping in mind the importance of Ethno-Botanical sources in therapeutic applications in the sphere of ‘cure from natural sources’, an extensive literature survey helped in undertaking the work on the edible parts of the wild edible plants used by the tribal people of Tripura, India.

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