Chapter V

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Thorough studies on ethno-medico-botanical literature, revealed that little knowledge is available on use of the rare, endemic, endangered medicinal plants and on the biological and phytochemical studies, from Nigidi Forest of Andhra Pradesh.

Extensive field trips to the areas under study felicitated intensive study of a good number of medicinal plants used by different tribes viz., Erukulas, Sugalis, Yanadis etc. in Nigidi forest range in Anantapur Dist. The first hand information with regard the tribal folklore medicine is recorded in field note books. 120 species of medicinal plants belonging to 109 general and 55 families are collected. All the representative plant specimens are identified with the help of standard floras. The specimens are compared with the standard floras housed at Sri Krishnadevaraya University & M.H. Coimbatore. The specimens are deposited at the research center in Ethnobotany, Government College, Anantapur.

The medicinal properties of plant species are enumerated systematically. It is noted that some properties hither to unreported are identified certain important medicinal claims of the tribal medicine are substantiated by phytochemical evaluation of the crude plant drugs. The crude drugs are also screened to identify the presence of secondary metabolites like Alkaloids, coumarins, flavonoids, volatile oils, steroids and triterpenoids, and the extent of their distribution. It has been noticed that most of the uses of the crude drugs correlate with the phytochemical properties.
It is felt that valuable contribution to multidisciplinary research can be made by an ethnobotanist by working with an anthropologist having botanical expertise. The scientific identification of the native drug source secured from determinable voucher specimen forms the indispensable hinge between field observation and experimental evaluation. The ultimate aim of ethnobotany is to evaluate the traditional preparations through pharmalogical findings and to identify the lead compound through phytochemical evaluation. The information gathered about indigenous drugs is used as feedback to traditional medicine, knowledge of active constituents of indigenous drugs may lead to substantial improvements in traditional therapy.

In addition to ethno-medico-botanical studies, pharmacological screening is also conducted subjecting certain selected potential medicinal plants to antimicrobial studies. These studies reveal a broad spectrum of antimicrobial activity on different pathogenic microorganisms. The minimum inhibition concentration for the extract is also shown.

The present investigation mainly focuses on the extraction of essential oils from two medicinal plants *Curcuma neilgherensis*, *Vitex negundo* only on the chemical characteristics of these oil. Further, the investigation seeks to have made the following contributions.

1. Recording is good number of endemic plants, *Curcuma neilgherensis*, and endangered plants like, *Corallocarpus epigaeus*, *Dioscorea oppositifolia*, *Hemidesmus indicus* were reported.

2. Identification of rare taxa viz., *Andrographis serpilifolia*, *Ceropegia junccea*, having medicinal properties.


3. Evaluating 13 crude drug-yielding plants for antimicrobial activity along with their minimum inhibition concentration.
4. Antimicrobial activity was compared with that of standard antibiotics viz., Ammoxilin, Tetracyclin and Kanamycin.

5. The medicinal plants exhibited a broad spectrum of activity on the microorganisms tested more or less equal to standard antibiotics.

6. Thoroughly analysed for chemical constituents of essential oils of *Curcuma neilgherensis* (rhizome) and *Vitex negundo* (leaves). Antimicrobial activity of essential oil fractions obtained from hexane extracts were also found to be active on the tested microorganisms.

7. Identifying the difference in the ratio of chemical compounds in *Vitex negundo* and *Curcuma neilgherensis*.

The results of the present investigation are the outcome of multidisciplinary studies like ethnobotany. The results are useful to convert crude drugs into refined medicine convenient for immediate consumption and also as having commercial value. The majority of the objectives as depicted in Chapter I (Introduction) were fulfilled with sufficient data, which was substantiated by the experimental evidences. However the potential crude drugs (as listed above) require further investigations in order to establish the exact molecular basis for the therapeutic properties. This may be helpful to the pharmaceutical industry for manufacturing of safe, easily accessible Biomedicine to cater the needs of the world, especially the developing countries.

The thorough ethnomedicobotanical studies and the knowledge on the indigenous plants provide valuable data for assessment of plant resources. Extensive and intensive ethno-botanical studies of Nigidi forest range, Anantapur district were provide planning strategies on conservation and the sustainable utilization of available plant resources for the benefit of local tribes.