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Spectroscopic Analysis of Medicinal Plants Adopted by Tribes of Andaman and Nicobar Islands.

Traditional knowledge of medicinal plants and their use by the indigenous healers and drug development in the present are not only useful for conservation of cultural tradition and biodiversity but also for community health care and drug development in the local people. The indigenous knowledge on medicinal plants appears when humans started and learned how to use the traditional knowledge on medicinal plants.

The investigation on the medicinal plants is increasing progressively all over the world and more stress is being placed on herbal drugs. It is the urgent need to exploit the available knowledge with tribal people for the other people.

The Nicobari tribe resides in the Nicobar district of Andaman and Nicobar Islands. The area is covered with natural evergreen type of vegetation.

The present work deals with the systematic survey and reporting of medicinal potential of some plants from tribal area of Andaman & Nicobar Islands

FTIR spectroscopy is used to develop a rapid and effective analysis method for studying integrally the main constituents in the medicinal plants of Banaraabaa, ChaahiFicus and Inyaang. The chemical constituents in the leaves of these plants will be identified and monitored for the qualities of medicinal properties. FTIR will be applied and IR spectrum in mid infrared would be used for discriminating and to identify various functional groups present in the medicinal plants. The findings would expected to indicate the presence of a high concentration of lignin and polysaccharides in these medicinal plants. The studies would show clearly the differences of categories of chemical constituents among the taxa investigated.

The study would reveal clearly the differences of categories of chemical constituents from the spectral profiles in the leaves of the medicinal plants. Spectral differences would be the objective reflection of componential differences. The present investigation would show the presence of carbohydrates, amino acids, amides, starch, calotropin, calotropogenin, phosphates, lipids, glycogen and cellulose besides a high concentration of lignin and polysaccharides in leaf samples of the plants investigated. Polysaccharides are one of the main effective constituents which have the obvious functions on enhancing body immunity, antitumor and resisting radiation damage.

So, FTIR spectrum reflecting objectively the panorama of chemical constituents in a complex system is a most credible method to validate and identify the mix-substance systems such as traditional medicine and herbal medicine.

spectroscopy has emerged as one of the major tools for biomedical applications and has made significant progress in the field of clinical evaluation. Research have to be carried out on a number of natural tissues using spectroscopic techniques, including FTIR spectroscopy. These vibrational spectroscopic techniques are relatively simple, reproducible, nondestructive to the tissue, and only a small amount of material with a minimum sample preparation are required.

These techniques also provide molecular-level information allowing investigation of functional groups, bonding types, and molecular conformations. Spectral bands in vibrational spectra are molecule specific and

provide direct information about the biochemical composition. These bands are relatively narrow, easy to resolve, and sensitive to molecular structure,

It is strongly believed that in studies related to spectroscopic techniques, both the reliable experimental procedure and characterization of spectral peak position and their assignment along with accurate peak detection. Some of the medicinal plants shown below are being used by the Tribes of Andaman and Nicobar Islands would be taken for the analysis.

S.No.	Local name of Medicinal Plants	Latin name	Family Part used	Disease Indications	Mode of preparation/ Uses	Dose & Duration
1	Banaraabaa	Jusoninuon sp.	. Leaf	Fever and Body ache	Prepared decoction (Kwath) of the leaves boiled with 4 part of water.	50-100 ml once a day 2
2.	Chaahi Ficus	microcarpa L.f.	Stem & leaf Fracture	Joint pain	Prepared oil with some other drugs and Applied externally then covered with clothes	Once a day for 1 month 3
3	Inyaang	Calophyllum L.	Leaf	Pain in the eye and Stye	Eye wash by the leaves juice and water	Twice a day for 5-7 days