

International Conference on

Molecular Biology and Genetic Engineering

November 07-08, 2019 | Melbourne, Australia



M K Sarma

Assam Agricultural University, India

Biodiversity significance of therapeutically potential plant species indigenous to North East India

The North East region of India which occupies a total geographical area of 262, 179 square kilometer and located between 87° E to 97° E longitude and 21° N to 29° N latitude, comprises an important part of the Indo-Burma hot spot of biodiversity which is also known as the 'Cradle of Flowering Plants'. Northeast India characterizes the transition zone between the Indian, Indo-Malayan and Indo-Chinese biogeographic regions and a meeting place of the Himalayan Mountains and Peninsular India. Northeast India is, therefore, the geographical 'gateway' for much of India's flora and fauna, and as a consequence, the region is one of the richest areas in biological values harboring about 8000 of 15000 species of flowering plants available in India. It includes 40 out of 54 species of gymnosperms, 500 out of 1012 species of pteridophytes, 825 out of 1145 species of orchids, 80 out of 90 species of Rhododendrons, 60 out of 110 species of bamboos and 25 out of 56 species of canes. The region is affluent in medicinal and aromatic plants and many other rare and endangered taxa. Already 51, 95 & 18 number of species of medicinal plant in this region has been listed as Endangered, Rare & Vulnerable, respectively.

About 12.5% of the 4, 22,000 plant species documented throughout the world has been known to possess medicinal properties. More than 200 tribes of North East India possess great traditional knowledge of effective herbal medicine inhabit this region. A significantly large number of the population of this part of the country is still dependent on traditional health care systems and use different indigenous methods and materials to treat their own as well as livestock diseases. It has been reported that 152, 77, 81, 19 and 37 numbers of plants have been used by local people in the treatment of Malaria, Stomach trouble, Diabetes, gynecological disorder and disease related to childcare, respectively. This documentation, is however, not exhaustive

considering the great ethnic diversity, difficult terrains of the region and great eco geographical diversity. It has also been observed that people having access to modern allopathic systems of medicine still prefer herbal medicines for their easy access, lesser side effects and low cost. But very less information is available about diversity, uses and cultivation of these plants. Moreover, conservation and sustainable utilization of medicinal plants are important for better management of valuable resources. Several of these medicinal plant species have slow growth rates, low population densities, and narrow geographic ranges; therefore, they are more prone to extinction. Conversely, because information on the use of plant species for therapeutic purpose has been passed on from generation to generation through oral tradition, this knowledge of therapeutic plants has started to decline and become obsolete through the lack of recognition by younger generations as a result of a shift in attitude and ongoing socioeconomic changes. Through the realization of the continuous erosion in the traditional knowledge of many valuable plants for medicine in the past and the renewal interest currently, the need arises to review the valuable knowledge with the expectation of developing the medicinal plants sector.

Keeping this in background, an attempt was made to focus on the important portion of this diversity that comprises a host of therapeutically important indigenous plant species of this region. So far, two years of our collection effort throughout the area resulted in a collection of medicinal plants which includes 179 shrubs, 177 herbs, 68 creepers and 115 trees. The collected germplasm are being maintained in the field gene bank at BN College of Agriculture, Assam campus. The morphological and taxonomic characterizations of the genotypes are underway. It is believed that these valuable genetic stocks shall be of immense value for the research

Molecular Biology and Genetic Engineering

November 07-08, 2019 | Melbourne, Australia

on drug discovery, validation of traditional healing practices, micropropagation of commercial species and biotechnological studies including genomics, metabolomics & phenomics of medicinal plant. Although, a number of phytochemicals are known worldwide for their use as potential drugs for the treatment of various diseases including cancer, these traditional treasures of medicinal plants are yet to gain the attention of scientific community. They are not only considered as valuable economic resources to the country of India but also as the source of discovery of new drugs and treatments for the ailment of the entire human community of the globe.

Here we would like to draw attention from the scientific community for intensive investigation of the therapeutic

properties of the traditionally known species, their bio molecular characterization and screening of specific therapeutically important compounds based on biomolecular tools as well as attempt for conservation

Speaker Biography

M K Sarma is the Plant Breeding and Genetics Coordinator of the Advanced Level Biotech Hub, and also the Professor in the Assam Agricultural University. He has been performing research in the field of Plant breeding and Genetics for 23 years. He was also the visiting scientist to the Molecular Genetics and Genomics Laboratory, Chungnam National University, South Korea. He has published 65 Research Papers and 10 Chapters.

e: mksbnca@gmail.com