

area as epiphyte on tree trunks or branches. The area harbours about 351 species and 98 genera of orchids.

The ground in this dense tropical rain forest is wet and dark, suitable for growth of moss, pteridophyte, large leaved plant such as elephants ear (*Colocasia gigantean*). The common aspidistra (*Aspidistra loudianensis*), a kind of lily, has very large flower, with fleshy petals. The endangered plants like snake mushroom (*Balanophora harlandii*) and the parasitic flower (*Sapria himalayana*) grow on the root of trees. It has been also observed that various minority communities, residing in this forest are utilizing a large number of plants of medicinal, vegetable, oil, timber, perfumes, dye, resin, fibre, etc. They are of high value for commercial development. Owing to the recent

developmental activities, the tropical forests are being damaged and destroyed. Many tropical flowering plants have disappeared and some are at the verge of extinction. The destruction of natural resources has aroused the attention of Chinese Government. To protect and conserve the natural wealth, the Central Government has set up Man and Biosphere Commission and large number of natural reserves have been established during recent past. Xishuangbanna rain forest is one of them. This time Xishuangbanna tropical rain forest is in the UNESCO's list of World Biosphere Protection Network for their rich species resources and unique ecological environment.

D. C. Saini

SERC School on Concepts in Quaternary Geology

A training program on Quaternary Geology was organized by IIT-Kanpur during March 27 - April 16, 2005. This was the first module of a five year program on "Crustal deformation and tectonic geomorphology" funded by the Department of Science and Technology, New Delhi. The first school started with a basic module on the "Concepts in Quaternary Geology". The subsequent modules will deal with "Techniques for studying Crustal Deformation", "Kinematics and Geometry of Deformation", "Quaternary Tectonics and Paleosiesmology" and "Tectonics-Climate Connection". These courses will be conducted within the next four years by different institutions in the country.

The course structure for the first module was divided into four major sections viz., Quaternary geomorphology and landscape development, Quaternary stratigraphy, Quaternary climate, and special topics in Quaternary geology. Additionally most of the speakers conducted practical sessions and a field trip was arranged in the nearby areas. About 20 participants from various universities and institutions in India participated in this School. The authors represented BSIP as resource persons.

There were thirteen resource persons who delivered lectures on different topics. On the inaugural day Prof V. K. Gaur described how the Earth's thermodynamic engine is driven by plate tectonics. He also explained the role of thermohaline circulation of the oceans in controlling the global climate, what are the forcing

factors that drive the Milankovitch periodicities that in turn bring ice ages on Earth. Prof S. K. Tandon explained the basic principle of Quaternary Stratigraphy and how it is useful in understanding the climate variability through the analysis of fossil records. In a series of lectures Dr R. Sinha of IIT-Kanpur taught Quaternary Geomorphology, Landscape Development and Quaternary Climates and Quaternary Stratigraphy and Climate Reconstruction of the Ganga Basin: a regional synthesis. Dr S. J. Sangode of the Wadia Institute of Himalayan Geology undertook courses on Magneto-stratigraphy and its application in the Quaternary Deposits and then Theory of Rock Magnetism and their Applications to Quaternary Records. Dr S. Chakraborty, BSIP gave courses on the Principle of Isotopic Fractionation and Radiocarbon Geochronology. Dr O. S. Chauhan, NIO, delivered lectures on Sea Level Changes and its Consequences. Dr N. R. Phadtare, WIHG took classes on Palynological Methods of Climate Reconstruction. Dr A. Bhattacharyya, BSIP explained the principles of Dendrochronology and Dendro-climatology. Prof L. S. Chamyal, M. S. University of Baroda discussed different aspects of Quaternary Geology and Geomorphology of Gujarat. Prof S. Krishnaswami of PRL described the use of Cosmogenic Isotopes in determining the sediment flux and uplift rates. Prof V. Rajamani of the Jawaharlal Nehru University, New Delhi gave lucid presentations on the Floodplain Geochemistry: implications for climatic



Participants of SERC School at BSIP Museum

reconstructions and Shallow sub-surface studies. Prof B. C. Raymahashay, IIT-Kanpur delivered lectures on Arsenic in alluvial sediments. Dr J. N. Mallik, IIT-Kanpur taught various aspects of Earthquake geology and paleosiesmology.

A panel discussion was arranged on Earth Science Education in India. The topic of the discussion was to initiate a two-year master course on Earth System Science-at IIT Kanpur. The panelists agreed upon the fact that courses offered in geology/earth science in India lack the excitement and advances made in this field in the last few decades. There is an urgent need to design

a course that will integrate atmosphere, biosphere, hydrosphere, lithosphere and the solid earth. Like other branches of physical science the traditional geology course should be taught as Earth System science- the panelists observed.

On 12th April the participants came to BSIP as part of the School program. They visited various laboratories, museum, etc. They were given practical demonstration on pollen counting, ring chronology, sample processing for C¹⁴ dating, etc. The participants were also introduced to the Director, BSIP Dr N. C. Mehrotra.

S. Chakraborty & A. Bhattacharyya

Summer Training on Electron Microscopy

All India Institute of Medical Sciences, Department of Anatomy, New Delhi organized a Summer Training Programme of Electron Microscopy from 16th May, 2005 to 30th June, 2005. Prof Shashi Wadhwa, Officer-in-Charge was the Convener and Dr T. K. Das was the Organizing Secretary of the course. The course was aimed to develop the manpower in the field of Electron Microscopy, particularly sample preparation and micro-photography techniques.

Participants from Bhabha Atomic Research Centre (BARC), Mumbai, G. B. Pant Agricultural University, Pantnagar and Birbal Sahni Institute of Palaeobotany, Lucknow attended the programme.

The course was divided into two parts: (1) TEM :

sample preparation techniques, viewing micro-photography for Transmission Electron Microscopy, (2) SEM: sample preparation techniques, viewing microphotography for Scanning Electron Microscopy.

TEM—Dr T. C. Nag, Assistant Professor and Course Faculty Member delivered a lecture on "Sample preparation techniques for Transmission Electron Microscopy". The talk covered the protocol used for grid preparation for the TEM viewing in the laboratory and also details techniques used in fixation, washing and dehydration and embedding of the samples. The processes of sample preparation were observed in the