FIFTH INTERNATIONAL CONFERENCE OF IGCP 42: NORTH GONDWANA MID-PALAEOZOIC BIOEVENT/BIOGEOGRAPHY PATTERNS IN RELATION TO CRUSTAL DYANAMICS AND FIRST PAKISTAN PALAEONTOLOGICAL CONVENTION AT PESHAWAR UNIVERSITY, 18TH -26TH SEPTEMBER, 1999

The conference and convention were convened by Dr.Fazl-i-Rabbi Khan and hosted by the National Centre of Excellence in Geology, University of Peshawar under the auspices of the International Geological Correlation Programme (UNESCO), Macquarie University, Australia, and International Palaeontological Association. The conference was divided into three parts, viz. (i) Pre-session excursions to Chitral, Gilgit, Hunza valley and Kashi (Xinjian), (ii) Paper presentation and (iii) Post-session excursions (Fig.) to Cherrat Range (Nowshera), Taxila Geoscience Laboratories of Geological Survey of Pakistan (near Islamabad), Salt Range, Kohat and Landi Kotal area of Khyber Range. The Governor of NWFP, who is also Chancellor of the Peshawar University, inaugurated the conference. A total of 37 papers were presented at the conference out of 51 papers received.

CONFERENCE

Among the important papers presented are the following:

J.A. Talent and O.N. Bhargava described the Silurian sequences of Afghanistan, Pakistan as well as India (Kashmir, Spiti-Zanskar and Kinnaur-Kumaon) with emphasis on typical fossils like conodonts, trilobites and graptolites. A. Hussain and coworkers discussed the Paleozoic stratigraphic correlation in the Peshawar basin of northern Pakistan. M. Aslam and coworkers presented a revised stratigraphy of the Khyber Agency, NWFP. S.R. Khan and A.N. Fatmi reported the discovery of Mesozoic fauna like *Halobia*, *Arcestes*, *Belimnopsis* etc. from Waziristan in sediments tectonically interleaved with ophiolite melange, and associated closely with Siwalik rocks. R.H. Siddiqui and others reported middle Jurassic radiolarians from Raskoh arc, Balochistan (Pakistan). They also reported the first ammonite fauna, provisionally identified as *Perisphinctis* and *Blandfordiceras* from the melange zone. A. Sarwar and others recorded eight species representing six genera of Eocene gastropods from central Salt Range, Pakistan. N. Iqbal, N. Elahi and coworkers described the well known Eocene lamellibranches from this area. I.A. Khan and R.W. Dennell described three distinct facies associations of sandstone, siltstone and mudstone from the upper Siwalik Group of Pakistan. M.R. Shah and others presented the lithostratigraphy of K-T boundary marked by laterite, bauxite and ferruginous pisolite in north Pakistan. M. Feist and B.N. Tewari described charophyte flora indicating Paleogene-Neogene transition from the Kangra valley of India. A.D. Ahluwalia dealt with fossil discoveries from the Tandi Group, Shali-Simla Groups and Tal-Bijni sequences and explained how they have altered the structural interpretation in these areas. M. Boston and coworkers described some Dasycladales genera from algal wackestone/packstone of Sahisar Limestone Formation in Salt Range.

The poster presentations included the new record of annelids from Salt Range, Early Carboniferous conodonts from Sardinia, transition from diagenesis to metamorphism in the Paleozoic sequences of NE Australia, late Devonian conodonts from France, evolution of hydrothermal metamorphism from Carnic Alps and Late Campanian microforaminifera from Balochistan.

EXCURSIONS

The Pre- and Post- Conference excursions covered a wide tract of NW Himalaya (*see* Fig.1). The Pre-Conference excursion covered Chitral -Gilgit and Hunza valley-Kashi (Xinjian) regions.

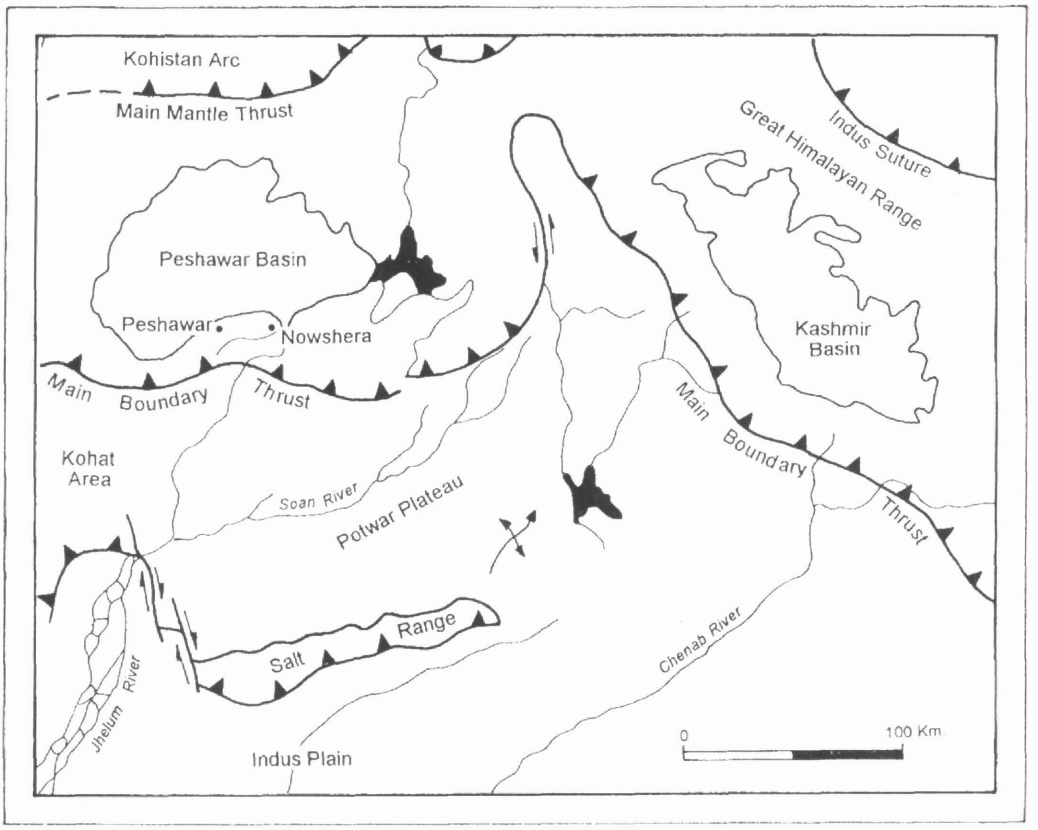

Fig.1. Map showing location of different basins and localities visited during various excursions.

Karakoram Axial Batholith, made of Mid-Cretaceous calc-alkaline granite and other younger plutons, was examined along with Paleozoic cover. The older Paleozoic rocks near Chitral enclose Gondwanic fossils which suggest rifting, drifting and accretion to Eurasia during Permian. The Shyok suture zone includes serpentinites, sandstones, volcanics and limestone conglomerates in a graphitic shale matrix. The suture zone marks the northern limit of Kohistan arc microplate to the south and Karakoram plate to the north, and is exposed in Hunza and Gilgit. Along the Karakoram-Chinese Highway, Proterozoic crystalline basement, marine Meso-Cenozoic sediments, alkali granite and basic volcanics as well as the tectonic unit of Carboniferous-Jurassic (Gondwanic) sediments are exposed. The Paleogene sequence near Oytag bridge is comparable to the one exposed in the Indus valley.

The Post-Conference excursion covered the Cherrat range and Peshawar basin. The Cherrat range exposes Precambrian slates, phyllites and carbonates. The folded Khairabad Fault, considered as an extension of Panjal Thrust (=MCT), separates the Precambrian from Cretaceous carbonates. Strong evidences of neotectonics were noted in the form of deformed lacustrine and fanglomerate deposits in Mankivilai *nala*. In the Peshawar basin, Ordovician to Carboniferous sediments of dolomites, argillites, quartzites and conglomerates were examined.

The Permian-Triassic and Tertiary successions of western Salt Range, Palaeocene to Miocene sequences of Shakardarra and Kohat and Paleozoic sequence of Khyber Agency were also examined. The excursions ended at the historic Khyber Pass.

During the excursion, the Taxila Museum and the Geoscience Laboratories of the Geological Survey of Pakistan built with Japanese aid in 1991-92 were visited. The Taxila Museum houses mainly the stone implements, relics of Mohen-jo-Daro and Buddhist statues. The modern Geoscience Laboratories include among other things the rock magnetic and palaeomagnetic laboratories and an excellent cartographic unit.

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INTERNATIONAL SYMPOSIUM ON MULTIFACETED ASPECTS OF TREE RING ANALYSIS

Tree rings are recorded in trees growing in diversified geographical regions due to seasonal activity of cambium. Dating and analyses of tree rings in varied applications are categorised under specialised branch of science – *Dendrochronology.* An International Symposium on "Multifaceted Aspect of Tree Ring Analysis" was held at the Birbal Sahni Institute of Palaeobotany (BSIP), Lucknow during 15-19 November, 1999 which provided a platform to discuss the recent trends and developments in this emerging discipline. A large number of delegates including 13 from Germany, USA, Estonia, Japan, Switzerland, Brazil, Thailand and Republic of Korea attended the symposium. Highlights of this symposium are summarised here:

The papers were presented under 6 technical sessions, besides poster presentations. These include: Tree Rings and Monsoon Dynamics, Tropical Dendrochronology, Palaeoecology, Tree Rings in Natural Hazards, General Dendrochronology, and one special session on invited papers of broader interest.

The first lecture in the special session was of Prof. Dieter Eckstein, Director, Department of Wood Biology, University of Hamburg, Germany. He pointed out the problem of dating tree rings of tropical trees and emphasised special strategies for the development of climatically sensitive tropical tree ring chronologies from these trees. The other two lectures in this session were delivered respectively by Prof. J.S. Singh, Benaras Hindu University, on the Ecology of Central Himalaya and Prof. Ashok Sahni, Punjab University, on the palaeoecology scenario during the collision of India and Asia.

In the second session on Tree Ring and Monsoon Dynamics, Dr. Brenden Buckley, USA in his keynote lecture explained the potentiality of tree ring analysis in the long climatic reconstruction from *Pinus Kesiya* and *P. merkusii* of northeastern Thailand . On the basis of teleconnections recorded in tree ring indices and the sea surface temperature (SST) of the Bay of Bengal and Indian Ocean he felt that further study would provide clues to the synoptic scale monsoon variation. Dr. G.B. Pant, Director of Indian Institute of Tropical Meteorology, Pune stressed on the significance of tree ring data in developing high resolution climate on annual to inter-annual