

A NOTE ON THE SIGNIFICANCE OF THE DISCOVERY OF GONDWANA PALYNOMORPHS IN ROCKS OF ASSAM, NAGALAND AND MEGHALAYA

No Gondwana exposures have been found so far in any of the states of Assam, Nagaland and Meghalaya except in Singrimari (89° 53' 30" E : 25° 38' 35" N) in Meghalaya, where besides *Vertebraria indica* (Fox, 1935) other macrofossils have recently (BAROOAH *et al.*, 1975) been discovered. Fortunately, in a recent study recycled Gondwana palynomorphs have been found at some places either on surface or sub-surface in all the above north-eastern states, in rocks of much younger age.

In Meghalaya, a conglomerate, presumably belonging to the Jadukata Formation exposed in the road-cutting near Punktung, close to Dawki, contains a fine carbonaceous shale, which has yielded palynological taxa of Permian age. The following Lower Gondwana forms have been identified viz., *Cannanoropollis obscurus*, *Parasaccites korbaensis*, *Striatites communis*, *Strotersporites magnificus*, *Striatopiceites varius*. At Nichuguard, in Nagaland, the upper part of the Bhuban Formation of Miocene age has yielded the Lower Gondwana elements, such as, *Vesicaspora* sp., *Platysaccus* sp., *Striatopodocarpites* sp. and *Parasaccites* sp., etc.

The study of the palynotaxa of Miocene, Surma Group, of the Tipangpani area of north-east Assam proved the presence of the following Lower Gondwana taxa, viz., *Vesicaspora* sp., *Alisporites* sp. and *Striatopodocarpites* sp. etc.

BANERJEE *et al.* (1973) have reported the occurrence of such prominent Gondwana taxa as *Scheuringipollenites* sp., *Verticypollenites* sp. and *Alisporites* sp., etc. from the Bokabil and Tipam Formations respectively of Miocene and Mio-Pliocene age from different oil wells in the Sibsagar District.

Except for the Dawki occurrence, the source area of the Gondwana palynological elements in the Tertiary sediments must be the Lower Gondwana rocks now exposed at the foot-hills of the Himalayas in Bhutan and Arunachal States or in earlier sediments which were derived from these areas and later became themselves source areas for the Surma and Tipam sediments. For the Dawki occurrence, the source area was the Singrimari exposure. Detailed mapping (BUZARBARUA *et al.*, 1975) has shown that the Upper Barails (Oligocene) of both Naharkatiya and Moran Oil field of Upper Assam are made up of a number of sand bodies, each of which were deposited by river channels flowing approximately from north-west to south-east. So far no Gondwana palynological elements have been found in these sands. In other words, although the drainage was from the north or north-west in Oligocene times the Himalayas were not sufficiently heaved up for them to form source areas for the Barail sediments.

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