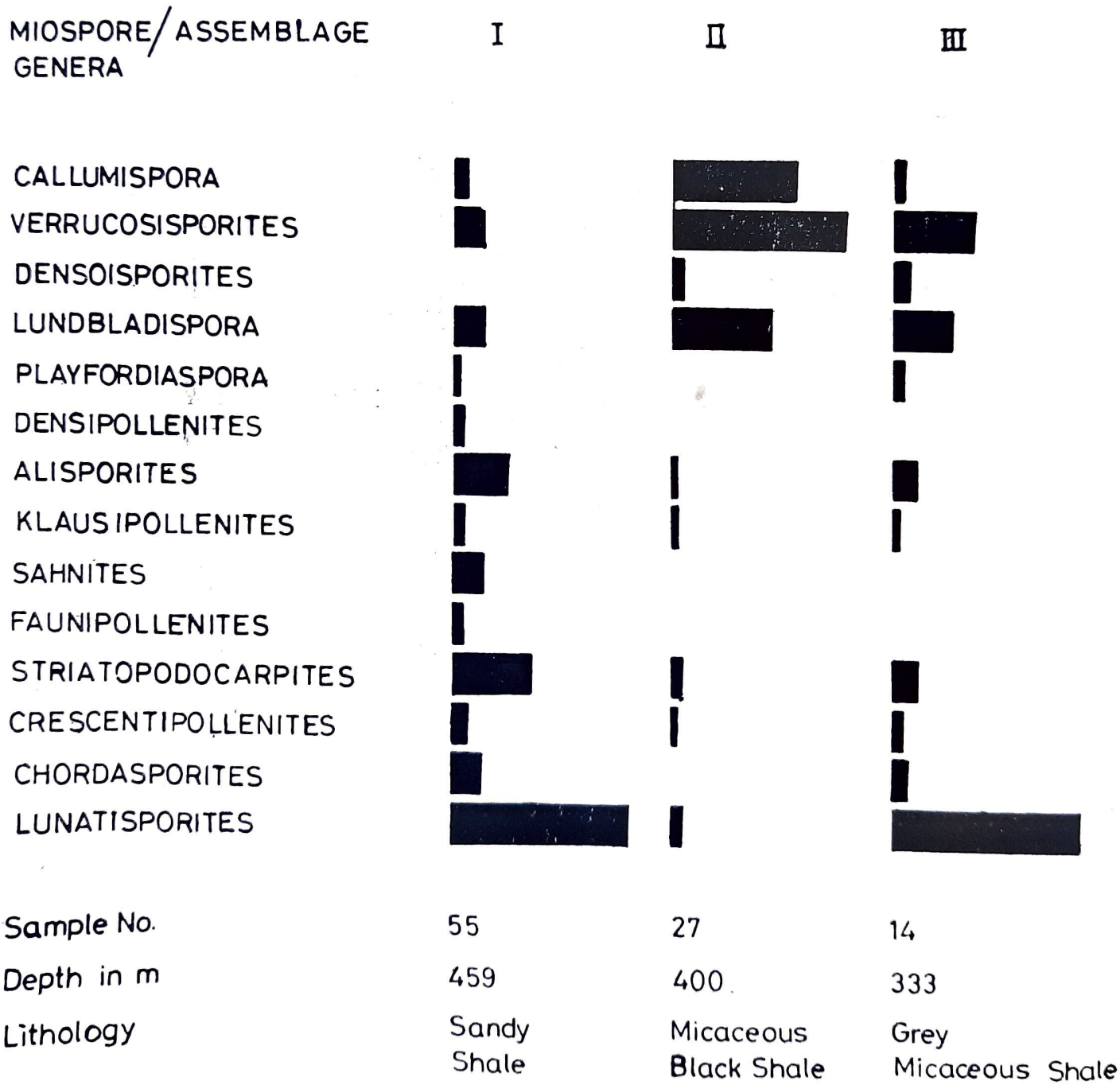
A PANCHET MIOFLORA IN BORE-HOLE RAD-11, EAST RANIGANJ COALFIELD, W. BENGAL, INDIA

Bore-Hole RAD-11 drilled in the eastern most part of Raniganj Coalfield by GSI, penetrates the thickness of 360.00 m of Panchet strata. In all, 56 samples were macerated from these sediments, out of which only 3 yielded rich mioflora and in other 3 samples scanty presence of miospores has been noticed. Lithologically, the strata represents the Panchet Formation comprising khaki-green shale, sand-stone, chocolate shales and micaceous shale with black streaks.

As seen in Histogram-1, on the basis of changing frequency of miospore genera, three groups of assemblages can be delimited. The Assemblage-I, the oldest in the



Histogram—1 Showing percentage frequency of miospore genera.

sequence, at 459.00 m in Sample No. 55 is dominated by cf. *Lunatisporites, Lunatisporites* and *Striatopodocarpites* in association with *Alisporites, Chordasporites, Verrucosisporites. Sahnites* and *Lundbladispora*. The genera *Crescentipollenites, Densipottenites* and *Faunipollenites* are also present but in less quantity. At the same time, rare but consistent occurrence of *Playfordiaspora. Densoisporites* and *Callumispora* qualifies the assemblage. Next to it, in the Assemblage-II, at 400.00 m depth in Sample No. 27, the prominence of triletes is seen replacing the striate-taeniate phase, i.e. *Verrucosisporites-Callumispora* with *Lundbladispora* come in fore-front. This type of combination of genera is observed here for the first time in a bore-core samples, although comparable assemblage has been reported in out-crop samples (BHARADWAJ *et al.*, 1979). The Assemblage-III in successional order, at 333.00 m, found in Sample No. 14, is dominated by *Lunatisporites-Verrucosisporites* in association with *Lundbladispora, Playfordiaspora*.

A comparison of these three assemblages with the known Indian Gondwanic miofloras reveals that the Assemblage-I (at 459.00 m) compares closely with the *Striatopodocarpites* cf. *Lunatisporites* assemblage, i.e. oldest Panchet mioflora (BHARADWAJ & TIWARI, 1977; TIWARI & SINGH, 1983; 1984: Assemblage P-I B). The Assemblage-II (at 400.00 m depth) is comparable to the *Verrucosisporites-Callumispora* phase described by BHARADWAJ, TIWARI AND ANAND-PRAKASH (1979), and TIWARI AND SINGH (1984: Assemblage P-II A). The youngest mioflora, i.e. Assemblage-III found here in sequence is the taeniate-prominent phase exhibiting resemblance with the upper reaches of Panchets described by BHARADWAJ, TIWARI AND ANAND-PRAKASH (1979), and TIWARI AND SINGH (1984: Assemblage P-IIIA). The red-chocolate facies appears below the Assemblage-III (i.e. at 333.00 m level) and, hence, its late Panchet affinity is supported.

It is concluded that the strata in Bore-hole RAD-II, cutting across 360.00 m of sediments represent most of the Panchet Formation.

The author is thankful to Mr. N. R. Datta, Deputy Director General, G.S.I. Calcutta and other officers of the coal Division II of G.S.I. Calcutta, for the facilities and help in the procurement of this material.

REFERENCES

BHARADWAJ, D. C. & TIWARI, R. S. (1977). Permian-Triassic miofloras from the Raniganj Coalfield, India. *Palaeobotanist*, **24** (1) : 26-49.

BHARADWAJ, D. C., TIWARI, R. S. & ANAND-PRAKASH (1979). Permo-Triassic palynostratigraphy and lithological characteristic in Damodar Basin, India. *Biol. Mem.*, **4** : (1 & 2) : 49-82.

TIWARI, R. S. & SINGH, V. (1983). Miofloral transition at Raniganj-Panchet-boundary in East Raniganj Coalfield and its implication on Permo-Triassic time boundary. *Geophytology*, **13**)(2) : 227 234.

TIWARI, R. S. &SINGH, V. (1984). Palynological evidences for Permo-Triassic boundary in Raniganj Coalfield, Damodar Basin, India. *Abst. XI Indian Colloquium on Micropalaeontology and Stratigraphy Calcutta*. (in press).

VIJAYA SINGH

Birbal Sahni Institute of Palaeobotany, Lucknow