

PLATYPHYLLUM BOKAROENSIS SP. NOV. FROM EAST BOKARO COALFIELD, INDIA

During a field trip in East Bokaro Coalfield one of us (A.G.) collected a rich assemblage of megaplant impressions. The fossil pocket (23°46' & 86°01') is situated about 1 km south-east from the Phusro Railway Station on the southern bank of the Damodar River near Pure Dhorri Colliery. The bed underlies the Karo Seam at a depth 0.5 m below and is exposed in the river section. The specimens are found within a shaly unit of the coal bearing horizon of Barakar Formation (Lower Permian). The shale horizon is sandwiched between a medium grained feldspathic sandstone below and the coal bed (i.e. Karo Seam) above. Thickness of the shale varies from 0.5 to 1m and dipping 10° towards east-south-east. In addition to the species of *Schizoneura*, *Vertebraria*, *Glossopteris*, *Buriadia*, etc., the assemblage comprises alongwith a new species of *Platyphyllum* (Dawson) Hoeg.

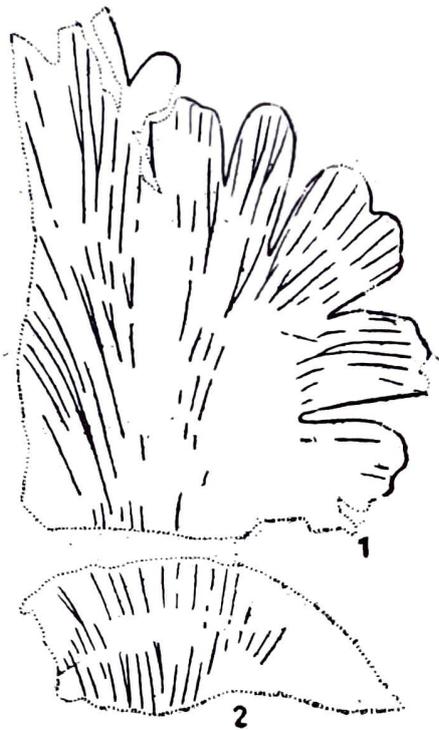
So far, only one species of *Platyphyllum*, *P. densinervis* (Feistmantel) Maithy 1974, was known from India. Feistmantel (1881) described *Rhipidopsis densinervis* from Kamthi beds (Upper Permian) of South Godavari District. Later, Maithy (1974) transferred this to the genus *Platyphyllum* in the absence of any petiole-like structure in the type specimen.

Genus—*PLATYPHYLLUM* (Dawson) Hoeg 1967

Type species—*Platyphyllum brownianum* Dawson 1882

Platyphyllum bokaroensis Pal & Ghosh sp. nov.

Pl. 1, figs. 1, 2; Text-figs. 1, 2



Text-Figures 1, 2—*Platyphyllum bokaroensis* Pal & Ghosh sp. nov. 1, Holotype no. B1, $\times 2$; 2, specimen no. B2, $\times 2$.

Diagnosis—Fronde semi-orbicular, more than 2.5 cm long; deeply incised upto 1/3 of the available length, forming oblong to wedged-shaped lobes; margin sinuous, slightly incised, at places; veins dichotomizing 3-4 times at various levels, gently arching to the margin, 0.5-0.75 mm apart.

Holotype—No. B1, Palaeobotany & Palynology Section, Botany Department, Burdwan University.

Locality—Near Phusro, East Bokaro Coalfield, Bihar.

Horizon & age—Barakar Formation, Lower Permian.

The species is based on two specimens in which the base of the frond is absent and therefore the initial number of vascular strands in the leaf-base could not be ascertained. The present species is distinct from *Platyphyllum densinervis* (Feistmantel) Maithy 1974 in shape, segmentation and venation. In *P. bokaroensis* the depth of incisions are much less than *P. densinervis*. Also veins in *P. densinervis* are more closely spaced and much more forked than those of *P. bokaroensis*. *P. bokaroensis* also differs from *P. brownianum* in its comparatively shallow incisions and well-spaced, less forked veins. *P. willamsonii* (Nathorst) Hoeg (1942) resembles the present form, however, the present species differs in having crenulate apical region and closely spaced veins. *P. majus* (Arber) Hoeg (1942) resembles *P. bokaroensis* in the features of veins but the apical end of *P. majus* has only two lobes with entire margin, moreover, it has a narrow base.



Figure 1—1. *Platyphyllum bokaroensis* Pal & Ghosh, Holotype no. B1 $\times 1$; 2. Same, $\times 2$.

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