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ABNORMAL INFLORESCENCE IN *OBERONIA VERTICILLATA* WT.—ORCHIDACEAE

IN *Flora of British India*[2] Genus Oberonia is classified under Sub-Order Melaxeae of Order ORCHIDEAE. In this are recognised 42 determined species and 3 interminable. 11 species of *Oberonia* are reported in the *Flora of Presidency of Madras*[1]. 15 species of *Oberonia*, one of which is imperfectly known, are reported for Bombay State[3]. A few new species of *Oberonia* are reported[3,4] from South India since the publication of the above works. In all known species of *Oberonia*, the inflorescence has been reported as a terminal receme or spike and in no species a branched inflorescence has been reported.

A thorough study of inflorescence in all species of *Oberonia* represented in Central National Herbarium, Calcutta and in Madras Herbarium, Coimbatore, has also not revealed the presence of branched inflorescence in any specimen.

The present author collected a specimen of *Oberonia* (Fig. 1) which has a branched inflorescence with five

FIG. 1

branches emerging at different levels from the main spike, 2 cm. away from the peduncle. This has been collected from Sacred grove, near Yetcaud lake, Shevaroy Hills under Field No. AVN 47968 dated 9–7–1974 along with *Oberonia verticillata* Wt. This resembles *O. verticillata* Wt. in all respects except in branched nature of the inflorescence. Only one such specimen has been collected and subsequent search for such a specimen in this area and elsewhere have not been found successful. As such, it is felt that this is a teratalogical specimen of *Oberonia verticillata* Wt., having formed branched inflorescence probably due to some natural

damage of growing tip at different points of the inflorescence at its early stage of development. However *in vitro* trials of damaging the tips of *Oberonia verticillata* Wt. in the National Orchidarium at Yercaud is being taken up to find out whether such a condition can be induced by artificial means.

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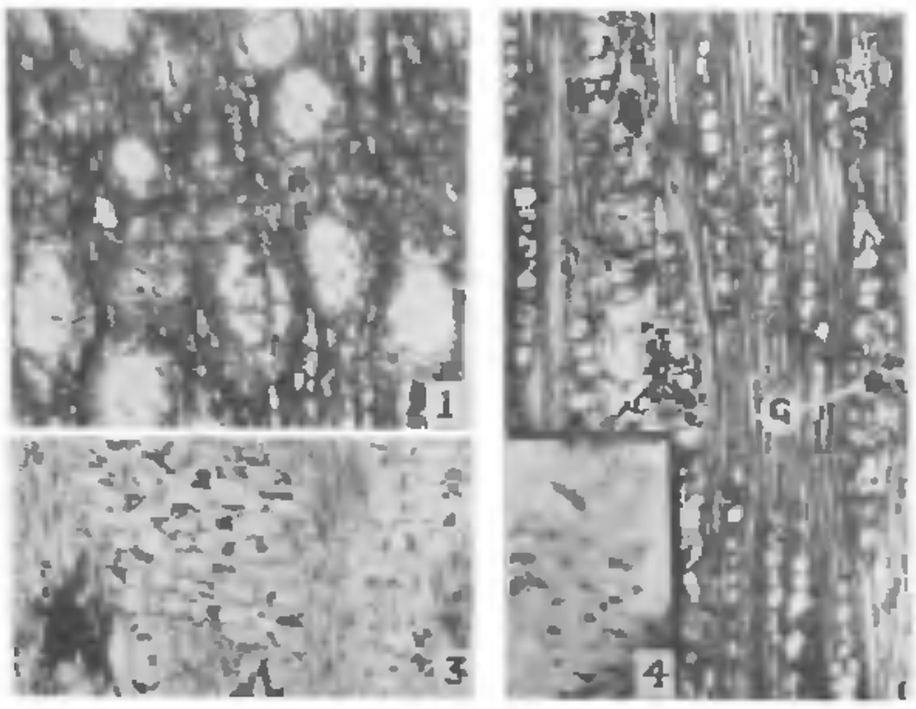
GLUTOXYLON KALAGARHENSE SP. NOV. FROM KALAGARH

LARGE number of silicified woods belonging to various families of angiosperms have been described from the Mio-Pliocene beds near Kalagarh by Trivedi and Misra[4]. Further investigations of silicified woods from this area have yielded many new taxa which show marked similarity with the modern dicotyledons. The fossil wood reported here was collected from near Kalagarh (29° 33' N, 78° 45' E. Distt. Bijnor U.P.) which is situated at the base of the Siwalik range. It resembles *Gluta* of Anacardiaceae and has been referred to *Glutoxylon* Chowdhury[2].

Some important anatomical features exhibited by the fossil are :

Wood diffuse porous. *Growth rings* present. *Vessels* small to large sized (mostly medium to large) r.d. 30–308 μm, t.d. 30–176 μm, solitary as well as in radial multiples of 2–6 with abundant tylosis (Fig. 1), vessels per sq. mm. 5–11, vessel member 176–820 μm long, with truncate or tailed ends. perforation simple, inter-vessel pit pairs alternate, hexagonal, bordered with orbicular to lenticular aperture (Fig. 4). *Parenchyma* paratracheal and apotracheal ; paratracheal parenchyma scanty to vasicentric, apotrachel ; parenchyma diffuse and terminal, parenchyma present in the form of continuous or interrupted bands of 1–4 cells thick. *Xylem rays* simple and fusiform, simple rays (mostly uniseriate) heterocellular, 4–16 cells in height, fusiform rays 3–4 seriate with single radial gum duct in the centre (Figs. 2–3), 12–18 rays per mm *Fibres* radially aligned, non-libriform, non-septate.

The above-mentioned anatomical features indicate its affinity with the wood of *Glutoxylon*. It shows superficial resemblance with the two already known species of *Glutoxylon*, viz., *G. burmense* Chowdhury[3] and *G. cuddalorense* Awasthi[1]. However, both these differ from the present one in having large vessels, more parenchyma and homocellular xylem rays Because of these differences the fossil is assigned to a new sp.. *viz.*, *Glutoxylon kalagarhense*. This is the first report of the occurrence of a new species of *Glutoxylon* from the Siwaliks.



FIGS. 1–4. *Glutoxylon Kalagarhense* n. sp. Fig. 1. Cross section showing the type and distribution of vessels and parenchyma, × 50. Fig. 2, Tangential longitudinal section showing simple rays and fusiform ray with central gum canal (G), × 150. Fig. 3, Radial longitudinal section showing xylem rays with procumbent and upright cells, × 150. Fig. 4. Tangential longitudinal section showing hexagonal orbicular inter-vessel pitting, × 500.

A detailed comparison of the present fossil wood with the woods of the extant genus *Gluta* L. shows its closest resemblance to *G. renghas* L., an Indo-Malayan species, which differs from the fossil in some characters.

That during Mio-Pliocene times *Gluta* was present near Kalagarh but has now completely disappeared, shows that the climate of this region has changed considerably since then.

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