YOUNG AXIS OF *CYCLANTHODENDRON* FROM THE DECCAN INTERTRAPPEAN BEDS OF INDIA

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REMAINS of *Cyclanthodendron* are of common occurrence in the Deccan Intertrappean beds and are known by their roots, rhizomes, aerial stems, leaf-sheaths, leaves, peduncle and fruits[1-7]. They are found either in organic connection or dispersed.

The material was collected from the Deccan Intertrappean series of Mohgaon Kalan (22°1′ N; 79°11′ E) in Chhindwara district, MP, India.

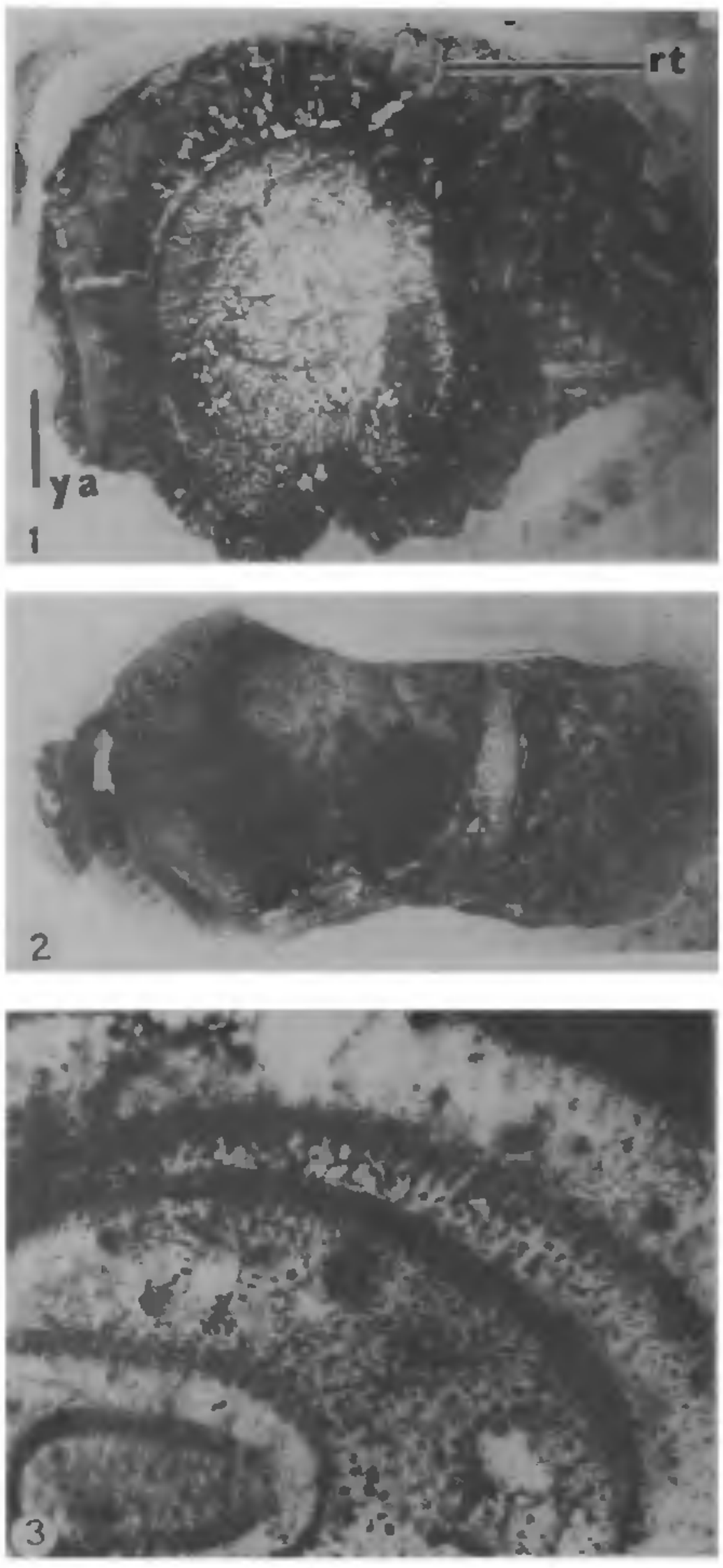
A large chert block reveals basal portion of *Cyclanthodendron*. It consists of two rhizomes, numerous roots and young shoots (figures 1–2). Axes were about 20 cm long. Serial sections have been prepared to study the structure of the young shoots. Surrounding the rhizomes, there are numerous roots, some of them are seen originating from rhizomes (figures 4 and 5). The structure of rhizome, roots and leaf-sheaths is the same as described earlier[5, 7].

Young shoot has not been reported so far. Young shoot consists of 2 or 3 concentric leaf-sheaths and the central portion (figure 3). Leaf-sheaths have vascular bundles and large air spaces. Large lobed bundles typical of *Cyclanthodendron* are frequent in the leaf-sheaths as well as in the central region. Vascular bundles have variable number of metaxylem and a few protoxylem, dorsal and ventral sclerenchymatous sheath, separated by parenchyma cells.

Young shoot has been compared with pseudostem of members of Scitamineae (Musaceae, Zingiberaceae and Cannaceae)[8-10]. Young shoot consists of irregularly arranged vascular bundles, lobed compound bundles and large air chambers. Due to these characters affinity of fossil young shoot to this group is ruled out. It has also been compared with Cyclanthaceae and shows some resemblance in general with young axis of *Cyclanthus*[11].

Chert block has two mature rhizomatous axes and one young shoot, which arises from the base of one of the rhizomes. Roots, rhizome and young shoot are found in definite organic connection, therefore, a reconstruction of the basal portion of *Cyclanthodendron* is provided (figure 6).

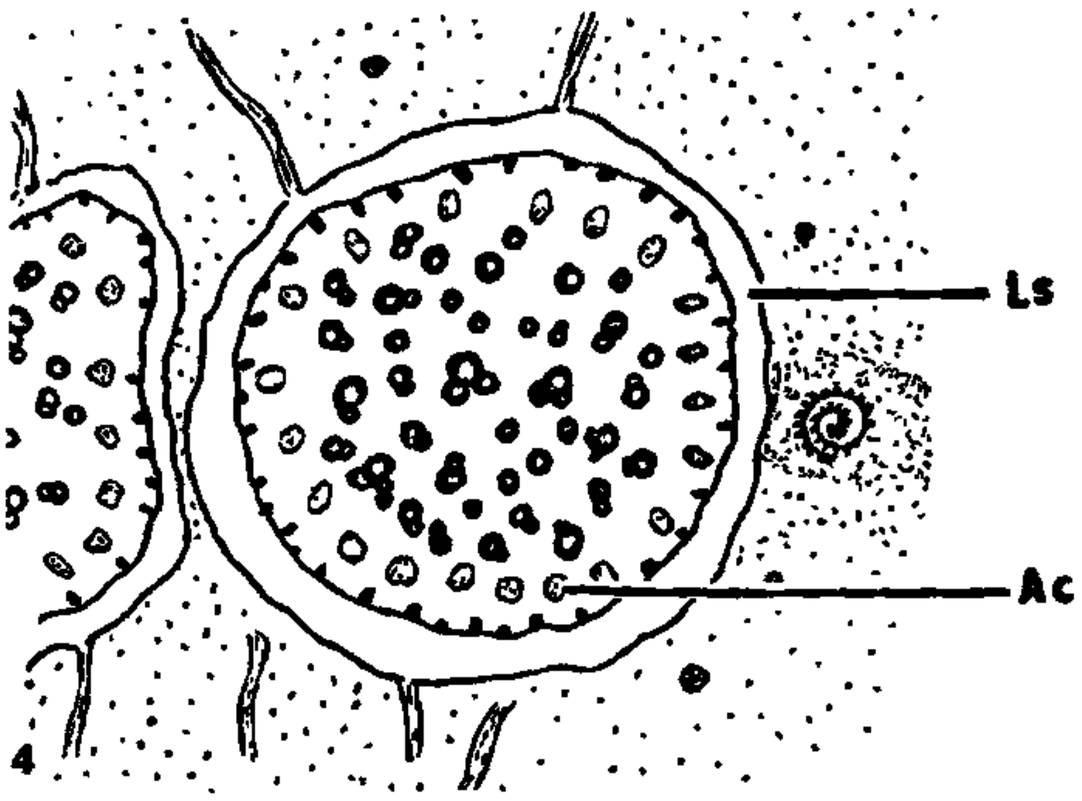
Type specimen: No M/632, in Palaeobotany Unit, Botany Department, Lucknow University, Lucknow.

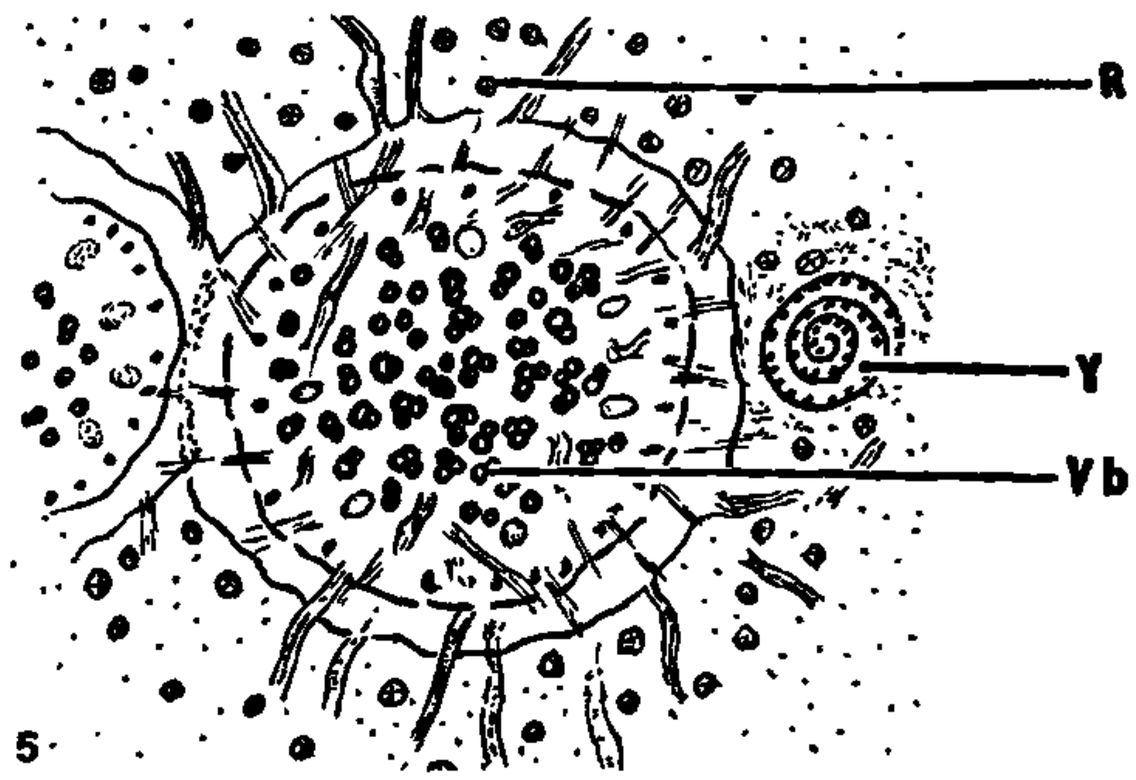


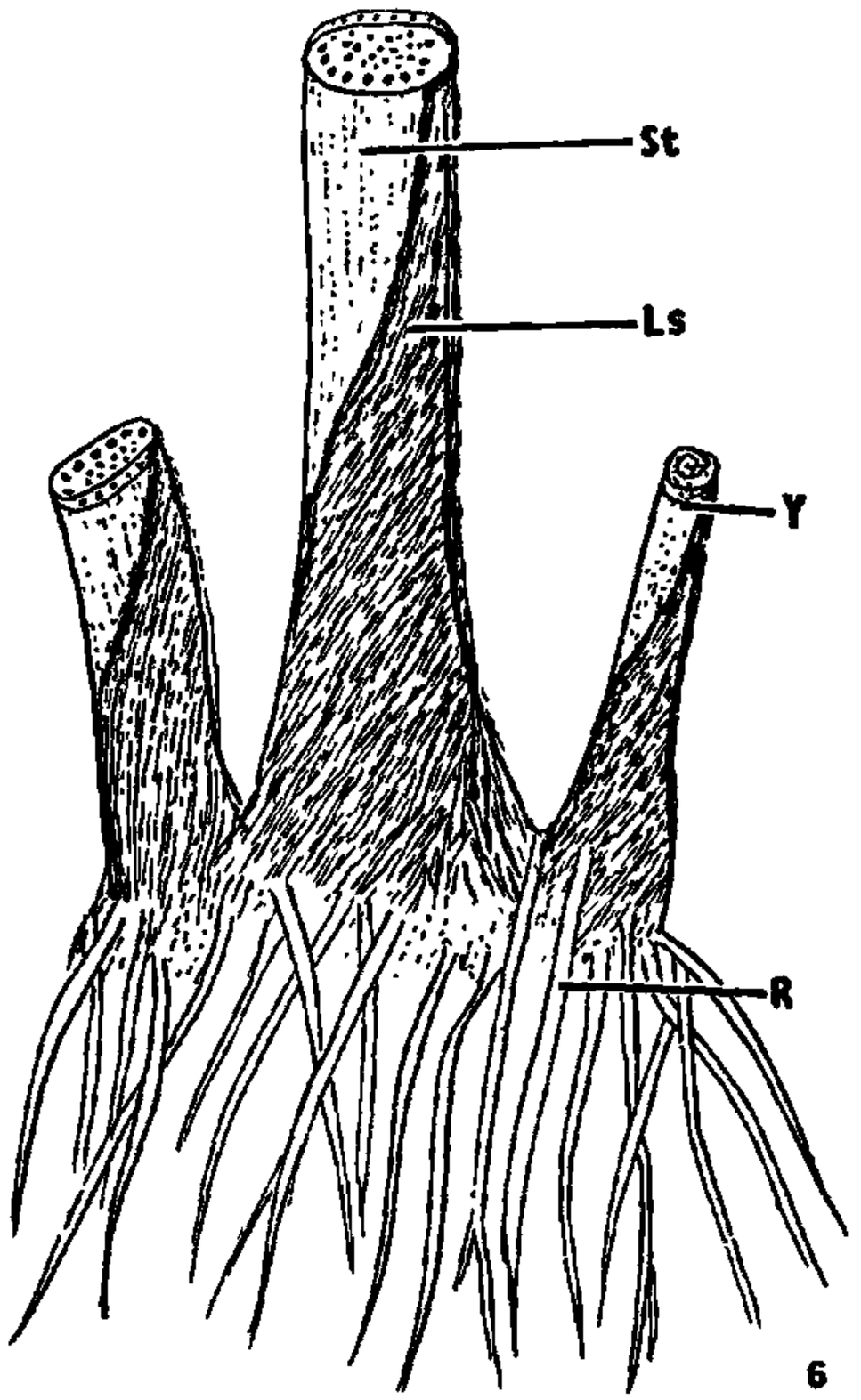
Figures 1–3. 1. Basal portion of rhizome showing roots (rt) and young axis (ya); 2. Aerial axis at the basal region, and 3. Young shoot enlarged showing air spaces and vascular bundles (× 10).

Locality: Mohagaon Kalan (22°1′N; 79°11′ E), a village about 29 km east of Chhindwara, MP, India.

Horizon and age: Basal part of the Deccan Intertrappean series, Tertiary (Eocene).







Figures 4–6. **4.** Aerial axis showing distribution of vascular bundles and surrounded by the leaf-sheath; **5.** Basal portion of rhizomatous axis along with young shoot, and **6.** Reconstruction of the basal portion of *Cyclanthodendron*.

The authors are grateful to Prof. B. S. Trivedi, for helpful suggestions.

16 July 1987; Revised 12 October 1987

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A CASE OF POLYHAPLOIDY IN GUAYULE: *PARTHENIUM ARGENTATUM* GRAY

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THE occurrence of diploid chromosome number in an individual which is otherwise a tetraploid plant