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Fossil Genera - Calamites :

Habit of Calamites:

The name Calamites was first proposed by Suckow (1784) and later in 1828, Brongniart established its relationship with Equisetum. Calamites was a tall tree that attained a height of about 33 ft (10 m). The plant had a stout underground rhizome with a number of aerial shoots. The rhizome differentiated into nodes and internodes and had a whorl of adventitious roots at the nodes.

Aerial shoots arose from the upper surface of the rhizome. At a certain distance these aerial shoots also produced adventitious roots indicating that some portion of these aerial shoots grew under the soil surface. Erect shoot became sharply constricted at the point of their attachment to the rhizome. Aerial shoots showed prominent nodes and internodes and had whorls of branches at each node.

Sub-Genera of Calamites:

The pattern of branching was variable. Thus, five sub-genera of Calamites have been recognized, based on their branching pattern.

These include:

(i) Mesocalmites:

Plants are arborescent and some of the primary vascular strands alternate at the node, but most of the strands do not alternate at the node. There is verticels of sterile appendages that branch up to four times. These sterile appendages do not show sign of fusion at their bases and function as leaves (Fig.7.71).

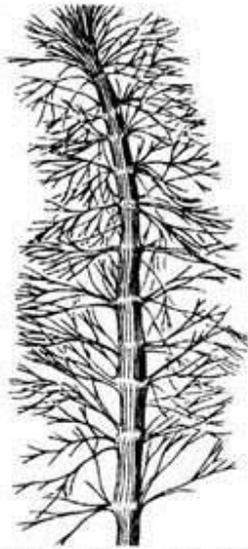


Fig. 71 : *Mesocalamites*

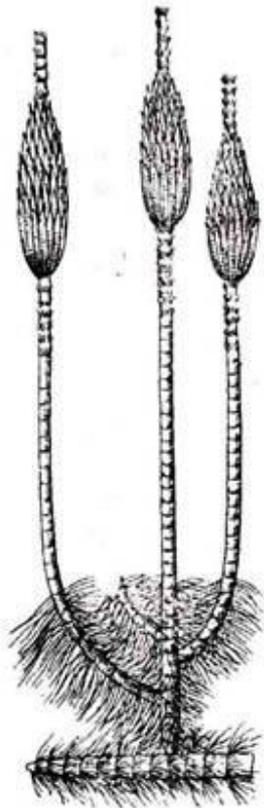


Fig. 7.72 : *Stylocalamites*

(ii) Stylocalamites:

Here the main aerial stem branches at the base giving rise to a few parallel erect branches that do not branch further (Fig: 7.72).

(iii) Crucicalamites:

Here the main aerial stem remain unbranched for a short height and has branches at every node. Thus, the axes form a bushy tree, and their lateral branches with their verticels of leaves look like giant bottle brushes (Fig. 7.73).

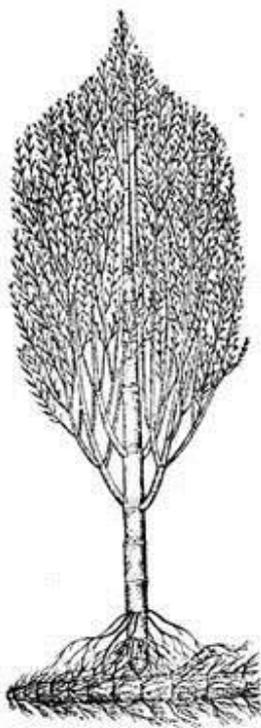


Fig. 7.73 : Crucicalamites

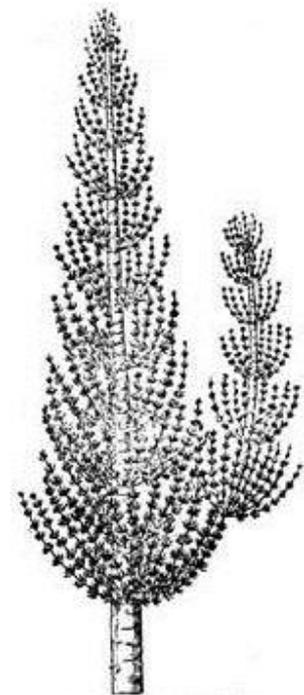


Fig. 7.74 : Calamitina

(iv) Diplocalamites:

There is a main trunk that bears pair of branches at each node in an opposite decussate arrangement.

(v) Calamitina (Fig. 7.74):

Here the branching is regular, but the whorl of branches does not occur at every node, rather, are present only at certain node (Fig. 7.74).

(to be continued in next lecture.....).