

BOTANY



Lowly Giants

MOST of the giants in the plant world belong to the relatively primitive plant groups.

The great forests of pine and fir and spruce, the tremendous big trees of California and the coast redwoods, hugest and oldest of living things, the hoary Tree of Tule in Mexico and its tall cypress kindred elsewhere in the world, are all members of the coniferous group, which botanists rate as evolutionally less advanced than the humble dande-

lions and the brief-lived sweet peas of our lawns and gardens. To the same group also belong the strange araucaria forests of South America and the cedars of Lebanon famed in the Bible, and related to it are the ginkgos cherished by the Japanese and Chinese.

Less primitive, but still in the lower ranks of the more advanced groups of flowering plants, are such trees as magnolia, tulip-tree, oak, walnut, beech, willow and chestnut. These belong to the brotherhoods of plants that include such humbler citizens as buttercups and anemones, hazelbrush and alders. It is not an exaggeration to say that the greater part of the work wood does in the world is carried on by the lower orders of plant society.

But that is not to say that all trees are members of the more primitive plant groups. There are a number that

rank with the more elaborately evolved orders, as can be seen by examining their flowers, which are intricately constructed and often very beautiful. Locust and Kentucky coffee berry trees,



for example, belong to the legume family, along with smaller plants like peas, beans and clover; and this family rates fairly high among plants. Maples and box-elders are also among the more advanced of plant families, even though their flowers are not especially showy. And the gorgeous catalpas, that are ornaments of early summer woods, are away up toward the top of the plant kingdom's social register.

Botanists nowadays are inclined to rate the great group of plants that includes the grasses, lilies and their relatives as the highest of plants. This group has relatively few trees in it, yet it includes the palms, which are exceedingly important both scientifically and economically. It also includes the tree yuccas of the southwestern United States and Mexico, and the great "dragon trees" of the Canary Islands. And since some bamboos (which are grasses) get to be forty feet or more high, they might also be rated as trees.

Yet it is a notable thing that the plant family that is now rated as highest of all by botanists, the orchids, has not a single tree member. Instead, many of the orchids, especially the gorgeous tropical forms, are content to sit on the limbs of other trees, if not as parasites for food and water, at least as "hitch riders" for a place in the sun. Like all true aristocrats, they are contented to let the lower orders work for them and uphold them.

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The term horsepower was originated by James Watt to show the amount of power a horse exerted in drawing water, because Watt was trying to sell his steam engine invention to British mine owners to pump water out of mines and he wanted to explain in some vivid way what the engine would do.

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