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Editor Opinion on Plants and Ecosystem

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Plants are indispensable components of the ecosystem in which human beings have been living since their origin in the wild. For thousand years, human beings' understanding of plants and usage of plant resources are mainly based on their knowledge of morphological and anatomical features of plants. Managing the knowledge pool of these features and thus organizing plants in a hierarchical system are a major task for plant systematics. However, achieving such a goal is never easy. Like all other organisms, plants and the groups to which they belong to are dynamic and rarely static, and they have their own origins and have been undergoing continuous evolution. The same can be said of their features. To understand plants correctly, the morphological and anatomical features have to be appreciated in certain evolutionary context. At least sometimes correct context has significant influence on feature interpretating. Botanists actually have been reiterating a cycle of research, namely, studying features of plants - using these features to construct the system - re-evaluating the features again in the refined system. This is how the current status of plant morphology, anatomy, and systematics is reached.

Plants of the current world are a snapshot of their long evolutionary history. They represent neither their past nor their future. Land plants have a history at least dated back to 400 million years ago. Fossils preserved with both morphological and anatomic details enable us to learn of the ancestors of the living plants. Such information of ancient plants is of crucial importance for plant systematics in that they provide realistic insight on the polarities of characters in living plants, which are frequently arbitrarily interpreted by various authorities. Therefore fossil plants are important components of the context in which the morphology and anatomy of living plants can be correctly appreciated. In this term, understanding the past of plants is as important as their present.

Plant morphology, anatomy, and systematics cannot become bona fide branches of science until they have theories and these theories are tested true by data from independent studies on various taxa. The internet age now makes such testing possible and much easier. Author wish we could update morphology, anatomy, and systematics in the current context.

Author research interest lies in the evolution of reproductive organs in land plants, especially the origin and early evolution of flowers. The major challenge that author faces is to establish the homology of the basic units of gynoecium in angiosperms (frequently termed as "carpels"), to correlate them with parts in gymnosperms. Another interest of author is cytoplasm fossil, which is a relative novel object in palaeobotany. Although in slow progress, related studies do shed a new light on subcellular structures in fossil plants.

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