

The morphology of plants

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Abstract: In plant morphology, which is the external structure of plants, it is important in biology to study the external structure of plants, and on the basis of the study of the external structure of plants, we can distinguish them from one another. Plants are also colorful, and they are used for a variety of aesthetic purposes. In this article we will talk about the external structure of plants.

Keywords: Plants, plant morphology, experimental method, morphological research.

I. Introduction

Plant morphology, phytomorphology - a branch of botany, the study of the laws governing the structure and formation of plants. During the historical development of plant morphology, plant anatomy, plant embryology, and cytology emerged as independent disciplines. To determine the morphological diversity of plants in nature; study the laws of structure, interaction of organs and organ systems; study of changes in the general structure of plants and individual development of individual organs (ontomorphogenesis); explain the formation of organs in the evolutionary development of the plant world (phytomorphogenesis); The study of the influence of various external and internal factors on the formation of forms is one of the main problems of plant morphology. The main methods of morphological research are descriptive, comparative and experimental. The first describes plant organs and organ systems (organography), the second describes the material described in the method. In the experimental method, the controlled environmental complex is artificially created, and under this condition, the morphological reactions of plants and others are studied. Plant morphology is closely related to other branches of botany: plant paleobotany, plant taxonomy and phylogeny, plant physiology, plant ecology, plant geography and geobotany, genetics and botany.

II. Main part

The morphology of plants has been studied since ancient times. The first work in the field of theoretical generalization of plant morphology was made in the 17th century (Italian scientists A. Sezalpin, M. Malpighi, German scientist I. Jung). However, plant morphology as a field was formed in the late 18th century. At this time, the book "Experiments on plant metamorphosis" was published, in which I.V. Goethe proposed the introduction of the term "morphology" in science.

In the first half of the 19th century, plant morphology developed significantly. O.P. Decandol (1827) concluded that organs except Goethe and their metamorphosis. The first research on open-seeded semen belongs to the English botanist R. Brown; he identified archegonia and sperm in conifers. The German botanist A. Brown played an important role in the development of the comparative method of plant morphology. In the second half of the 19th century and the beginning of the 20th century, Darwin's theory of evolution had a great influence on the development of plant morphology. The development of other areas in the evolution of plant morphology was largely based on the study of fossil plants. For example, the English botanist F. Bower, the German scientist G. Potonye, and the French O. Linyelar studied the basic organs of higher terrestrial plants. The theory of the origin of the flower is important in explaining the evolution of plant morphology. English botanists N.Arber and J.Parkin and Austrian botanist R.Wetstein and Russian botanist H.Ya.Gobi developed the first evolutionary classification of fruits. Ontogenetic Plant morphology has developed in close connection with phylogenetic and experimental plant morphology. The German botanist A. Eichler studied the history of leaf development (1869) and the laws of flower structure (1878-82), the Russian botanist V.A. Deinega studied leaf ontogenesis of monocotyledonous and dicotyledonous plants.

III. Results and Discussions

Based on the widespread use of anatomical methods in Uzbekistan, he carried out important work in the field of morphogenesis; These include the stages of organogenesis in objects living in difficult ecological conditions and the doctrine of their dependence on the external environment. Data in the field of comparative ecological plant morphology not only explain the laws of form formation, but also allow them to be used in practice. Research in ontomorphogenesis,

ecology, and experimental plant morphology has been instrumental in establishing the biological basis of forestry and pasture management, as well as in developing methods for growing ornamental plants.

IV. Conclusion

Introductory work in botanical gardens is based on ontogenetic and ecological plant morphology, and at the same time provides material for new theoretical conclusions. Research and production center "Botanika" in Uzbekistan also conducts research in various fields of plant morphology

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