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Morphology of Medicinal Plants

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ABSTRACT: The growing population in the current era of globalization further increases their need for natural food. To provide the population with high-quality food, further improvement of existing plant species is required, to further improve the condition of plants, first of all, an in-depth study of the morphological structure of plants is required, in this article we will talk about the morphological structure of plants.

KEYWORDS: morphology, botany, ontomorphogenesis, philomorphogenesis, evolution.

Plant morphology (Greek - morpho-form, logos - doctrinal) the science of the external structure of low and high plants, their influence on the external environment studies ontogenesis and phylogeny. [8-9]

Humans benefit from the differences in the structure of plants who knew during the comparison of plants. Plant morphology, too is one of the oldest branches of botany, such as plant taxonomy.

Plant morphology, phytomorphology - a branch of botany; laws of plant structure and form formation the science to be studied. During the historical development of plant morphology plant anatomy, plant embryology, and cytology as independent disciplines separated. The morphological diversity of plants in nature determination; structure, location of organs and organ systems study the laws; general structure of plants and individual organs study of changes in individual development (ontomorphogenesis); plant Explain the emergence of organs in the evolutionary development of the world (phyломorphogenesis); the influence of various external and internal factors on the formation of the form The study is one of the main problems of plant morphology. The main methods of morphological research are description, comparison and are experimental methods. The first is plant organs and organ systems (organography), the material described in the second method is described. The complex of the external environment controlled by the experimental method is an artificial product and the morphological reaction of plants under these conditions, and so on studied. Plant morphology Other branches of botany: plants paleobotany, plant taxonomy and phylogeny, plant physiology, plant ecology, plant geography and geobotany, genetics and closely related to botany.

To the development of an experimental method of plant morphology AN Beketov made a great contribution; it is the physiological functions of plant organs and considered the influence of the external environment to be an important factor in the formation of the form. Russian botanist N.F. Levakovsky in the aquatic environment of terrestrial plant branches German physiologist G. Fyoxting studied the state of plants experimentally. observed the effects of natural conditions experimentally and the polar phenomenon in plants opened. The German botanists G. Klebs and K. Goebel have a clear pattern of organ growth were found experimentally to be metamorphosed. Ecological Plant morphology is the same as plant geography and ecology appeared at the time. E.Warming and K.Raunkier from Denmark, German botanist A.Shimper laid the foundation in this direction. Morphology of closed seeds Russian botanist A.L. Takhtazhyan described its evolution. Ontogenetic and The experimental field developed rapidly with the physiology of plants. The American scientist E. Sinnot gives detailed information about morphogenesis. In higher plants, the rod, which is the main source of organ and histogenesis, and Of particular importance is the study of root growth [6-7] important.

In the field of morphogenesis based on the widespread use of anatomical methods in Uzbekistan did important work; in facilities living in difficult environmental conditions the doctrine of the stages of organogenesis and their dependence on the external environment including. In the field of comparative ecological plant morphology the data only explain the laws of form formation allowed to use in practice. Ontomorphogenesis, ecological and experimental Research in the field of plant morphology is based on forestry and pasture management in creating the biological basis and methods of growing ornamental plants important in development. Introductory work in botanical gardens based on ontogenetic and ecological plant morphology data and at the same time these studies provide material for new

theoretical conclusions. In Uzbekistan The Botanical Research and Production Center also has a variety of plant morphologies research is being conducted in the fields of.

Basics of vegetative organ structure in plant morphology one of the laws is their polarity. The essence of polarity is that the top (tip) of the plant and the base are morphologically and physiologically different from each other differs [1-5] e.g. not with the lower end.

Another important feature of the structure of plant organs is their is symmetrical, that is, in a broad sense, a group of the same parts appropriate location or uniformity of parts.

It can be of any type. Radial symmetry is common. In itself the stem or spherical fruit circle is divided into several degrees, assuming that the planes are transferred, these planes divide them into equal parts.

Otherwise, there are only two mutually perpendicular planes along the plant body can be transferred. These planes divide the organ into symmetrically equal parts. For example, if we bite a walnut or an almond, these symmetrical pieces are formed will be This is called bilateral symmetry. from a plant or its organ only when a single symmetric plane can be drawn, it is called monosymmetry. Some any plane from the body of a plant that divides them into symmetrical parts they are asymmetric.

Because different organs of higher plants have different functions often changes shape, and so does evolution metamorphosed, and sometimes it is very difficult to determine their previous state will be For example, the petals of a flower, the petals of a pea. The current is a twisted rod. The thorns of the barberry are of the leaf, of the dulan formed from a branch. Therefore, some organs of plants are external Although the symptoms are very different from each other, the origin is the same and they are called homologous organs. For example: the petals of a flower, pea pods and barberry thorns are homologous in origin organs.

Some of the organs of plants are similar on the outside and perform the same function, but may have different origins. Such organs are called analogous organs. For example: barberry and hawthorn thorns is an analogous organ because they are externally similar and identical function (protective function), but of different origin (barberry thorns) altered leaf, altered twig of hawthorn). The systematic situation is different in terms of I formed as a result of the close proximity of the plant to each other The phenomenon of external similarity is called convergence. For example, American cacti and African milkweed, which grow in dry climates morphologically similar.

It is also found in the deserts of Central Asia family) and many external signs of the bush (family of shrubs) to each other will be similar.

Plants based on the above data collection is a comprehensive science of morphology and its plant anatomy, sciences such as plant physiology, botany, systematics, mathematics, geography is clearly shown in. For example, in these articles mathematical models of biological processes in the form of differential equations and research on the uniqueness and availability of their solutions visited Some articles also provide an analysis of biological processes.

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