



LECTURE 9

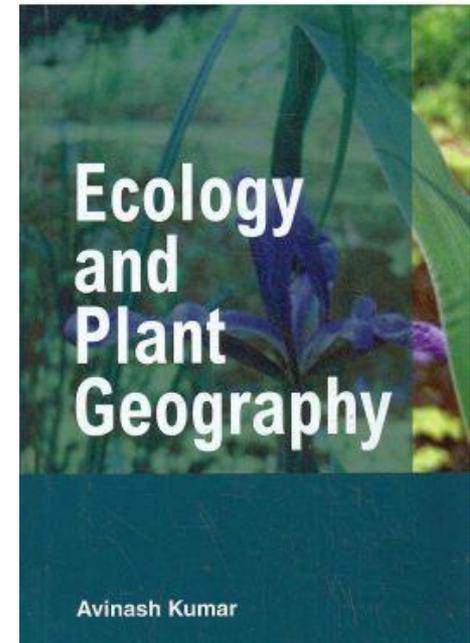
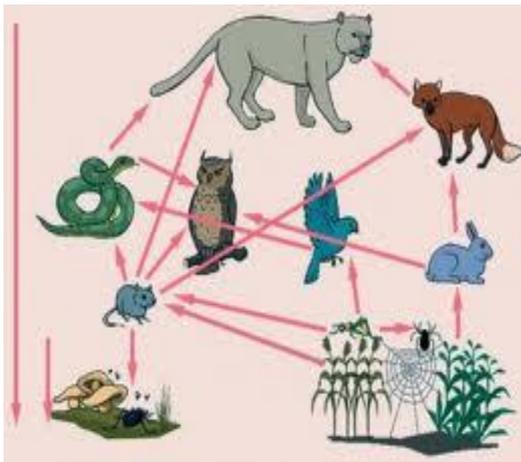
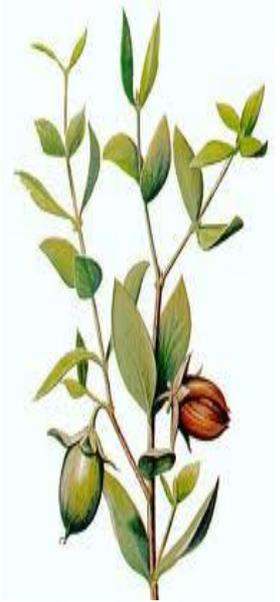
The basics of the Plant Geography

The concept of the range

Endems and cosmopolitans

The concept of the flora

Earth's floral regions



What is the plant geography?

A major division of botany. The study of the spatial distributions of plants and vegetation and of the environmental relationships which may influence these distributions. Plant geography (or certain aspects of it) is also known as phytogeography, phytochorology, geobotany, geographical botany, or vegetation science.

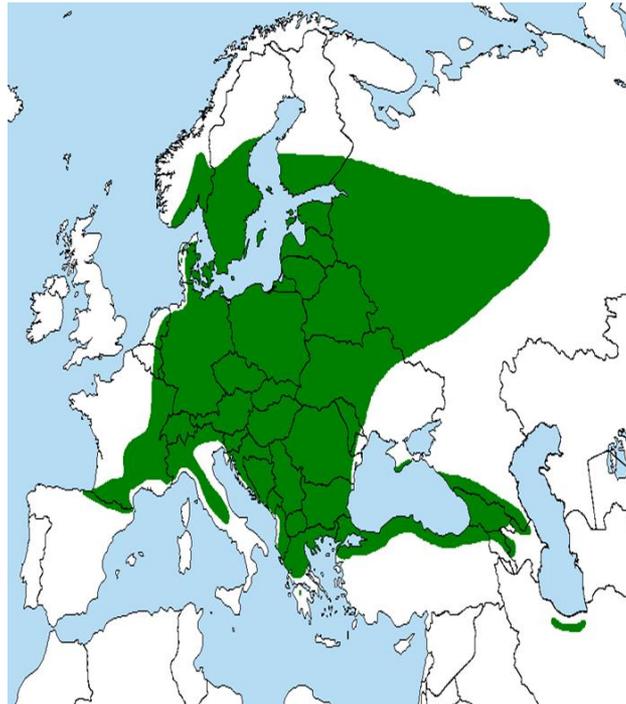


The main chapters of plant geography

- **chorology** (the study of the spatial distribution of plants, (from Greek χῶρος, *khōros*, "place, space"; and -λογία, -logia))
- **floristics** (concerned with the types, numbers, and distribution of plant species in a particular area)
- **historical plant geography** (the study of the historical processes that may be responsible for the contemporary geographic distributions of individuals. This is accomplished by considering the geographic distribution of individuals in light of the patterns associated with a gene genealogy)

What is area(range)?

- The range (from Lat. area: region) - the area of distribution of the plant taxon of any species. The description of areas is the subject of areography, while chorology studies their development. Regardless of their size, the ranges in their outlines have different configurations and different types of structure: **continuous** and **disjunct**, .



In the geography of plants, two ways of imaging the ranges are taken – point (Fig. 1) and contour (Fig. 2).

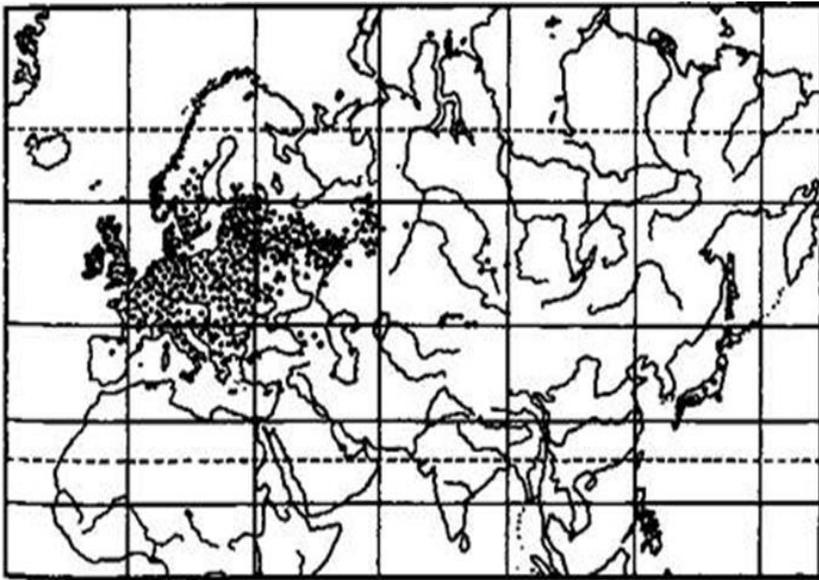
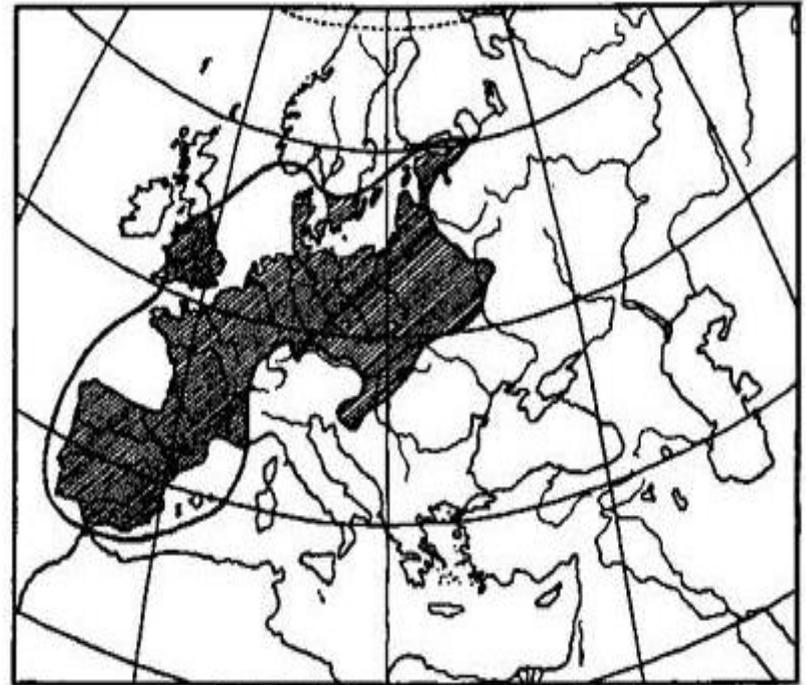


Рис. 1. Точечное изображение ареала душистого ясенника *Asperula odorata* (по Meusel, 1943).



Cosmopolite -plant that occurs in most parts of the world. For example dandelion (*Taraxacum officinale*), nettle(*Urtica dioica*)



Endemic – plant that present within a localized area .For example for Azerbaijan endemic plant is, *Parrotia persica* *Pinus eldarica*

Parrotia persica



Pinus eldarica



Closely related plants that are mutually exclusive are said to be **vicarious** (areas containing such plants are also called vicarious).



- *Convallaria majalis*

- *Convallaria transcaucasica*

Convallaria manjurica



If the area of some species is small, which has not yet had time to settle - this is neoendemic plants, or has not yet managed to die out - this is paleoendemic plants.

The most important paleoendemic plant as exemplified by *Ginkgo biloba*

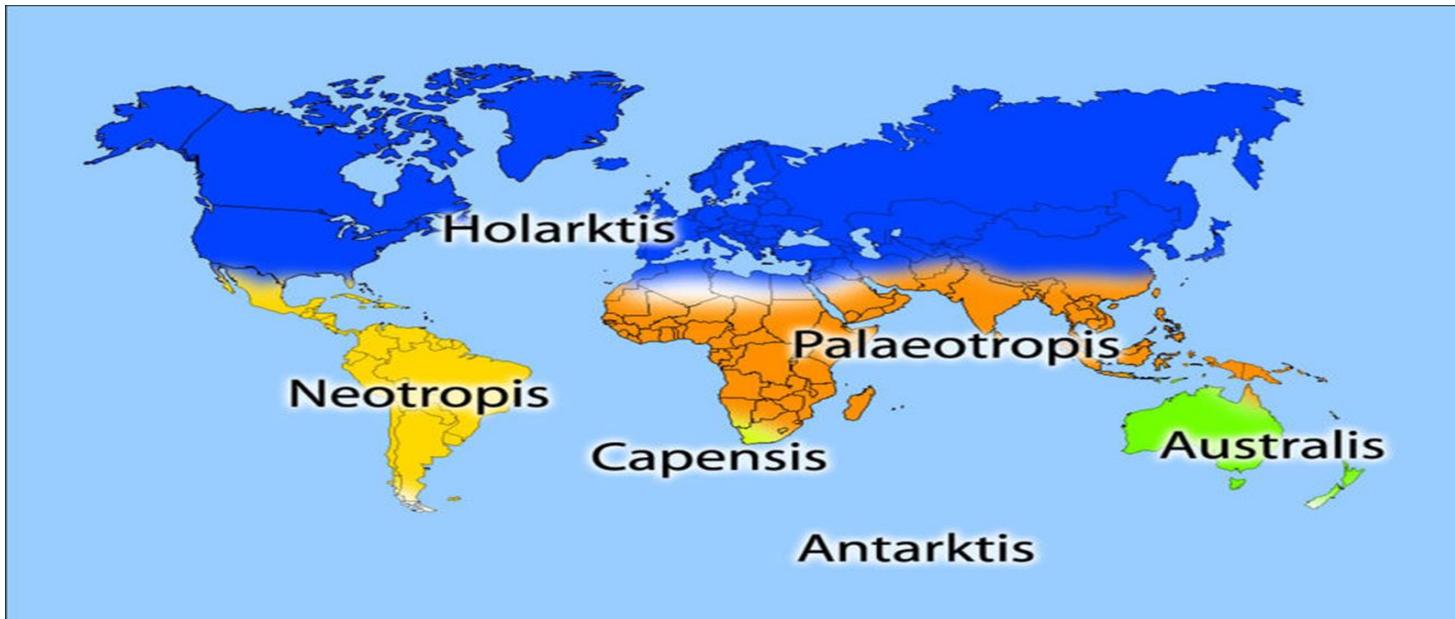


What is flora?

- All the plants of a particular area or period of time
- A flora is the collection of all plant species in an area, or in a period of time, independent of their relative abundances and relationships to one another. The species can be grouped and regrouped into various kinds of floral elements based on some common feature. For example, a genetic element is a group of species with a common evolutionary origin; a migration element has a common route of entry into the territory; a historical element is distinct in terms of some past event; and an ecological element is related to an environmental preference. An endemic species is restricted to a particular area, which is usually small and of some special interest. The collection of all interacting individuals of a given species, in an area, is called a population.

Earth's floral regions

Botanist Ronald Good identified six floristic kingdoms (Boreal or Holarctic, Neotropical, Paleotropical, South African, Australian, and Antarctic), the largest natural units he determined for flowering plants. Good's six kingdoms are subdivided into smaller units, called provinces. The Paleotropical kingdom is divided into three subkingdoms, which are each subdivided into floristic provinces. Each of the other five kingdoms are subdivided directly into provinces. There is a total of 37 floristic provinces. Almost all provinces are further subdivided into floristic regions



The Cape Floristic Region is a floristic region located near the southern tip of South Africa. It is the only floristic region of the Cape (South African) Floristic Kingdom, and includes only one floristic province, known as the Cape Floristic Province.

The Cape Floristic Region, the smallest of the six recognised floral kingdoms of the world, is an area of extraordinarily high diversity and endemism, and is home to over 9,000 vascular plant species, of which 69 percent are endemic.



Thank you for attention!