

Biogeography. Lecture 25

Alexey Shipunov

Minot State University

April 7, 2014

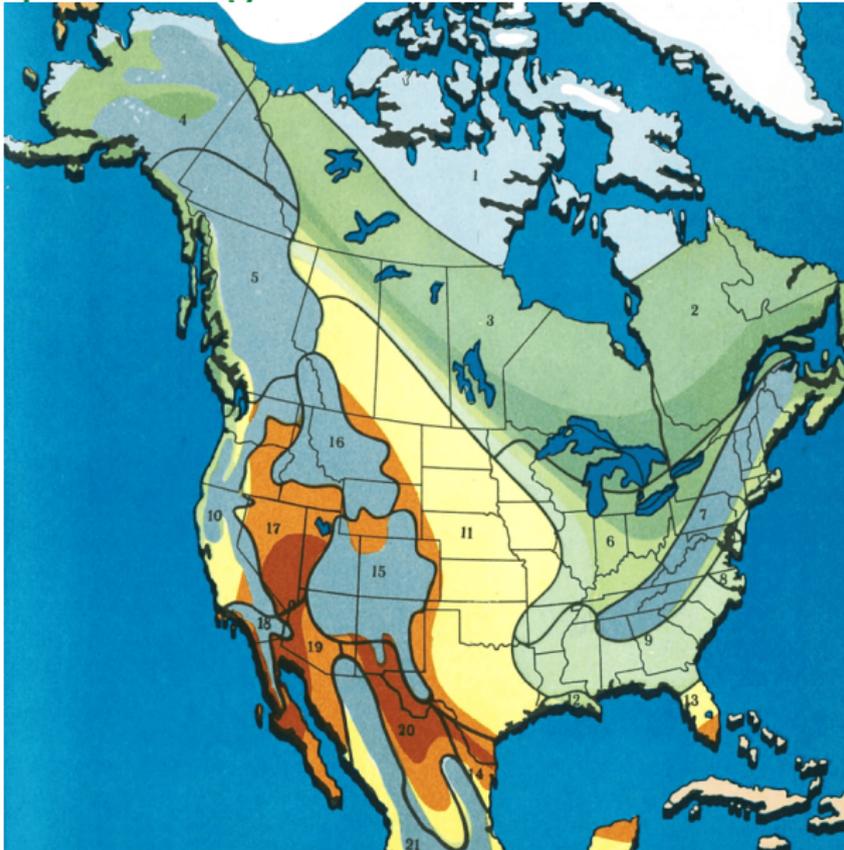


Biogeography of the World

Biogeography of North America



Biogeographical regions of North America



North America: 21 biogeographical region

1. Arctic Islands and Greenland
2. Labrador, Sr. Lawrence Valley
3. Canadian Northwest
4. Alaska
5. Yukon and British Columbia
6. Great Lakes and Central Lowlands
7. Appalachians
8. East Coast
9. Coastal Lowlands
10. Central Pacific Coast Ranges
11. Great Plains
12. Mississippi delta
13. South Florida
14. South Texas
15. South Montane region
16. North Montane region
17. Great Basin
18. Southern California
19. Sonora
20. Chihuahua
21. Mexican Sierras



Regions 6, 7 and 8: eastern states

- ▶ Eastern USA forests are much closer to Neogene than most of Eurasian forests: much richer and also contain the dominant level (tulip tree, *Liriodendron*; sweet gum, *Liquidambar*; black tupelo, *Nyssa* (a bit smaller)) which disappeared in Europe
- ▶ Striking diversity of autumn colors
- ▶ Hot spots of animal diversity in Appalachians (crayfish, salamanders, tree frogs, butterflies and many others)
- ▶ Appalachians are “destroyed” mountains, consequently they have many caves and rich underground life
- ▶ One piece of Appalachians is going west to Great Plains: Ozark plateau
- ▶ Many Neotropical elements (opossum, tanager birds, tropic birds like red-winged blackbird, hummingbirds and others)
- ▶ China/Japan — East coast disjunctions for many plant genera (like *Magnolia* or *Trillium*, shrubby blueberry *Vaccinium*, the latter occurs also in westernmost Europe and Caucasus) and even species
- ▶ Swampy/sandy Atlantic shore hosts unusual things: swamp false cypress (*Chamaecyparis*) forests; and nesting places for living fossil **horseshoe crab** (*Limulus polyphemus*), marine invertebrate closest to extinct trilobites



Red-winged blackbird, *Agelaius phoeniceus*



Regions 9 and 12: Southern “pine belt”

- ▶ The “African” piece embedded in North American continental plate (**Piedmont** and coastal planes) consists of extremely hard minerals so it is almost impossible to make a proper river bed here. As a result, rivers becoming swamps, mostly swamp pine forests with *Pinus palustris* as a dominant species.
- ▶ These warm, shallow swamps on poor soils have many unusual plant and animal species: Venus fly-trap (*Dionaea*), Spanish moss (*Tillandsia*), bald cypress (*Taxodium*) with azaleas (*Rhododendron* spp.), water tortoises, alligators and many species of rodents.
- ▶ Again, even more elements are Neotropical like Xyris (yellow-eyed grass; with South American center of distribution on the Guiana shield).



Yellow-eyed grass, *Xyris*



Region 13: South Florida

- ▶ Everything from lake Okeechobee to the south is a part of Neotropics
- ▶ Lowland of different origin: basement is a part of Antilles microcontinent together with Cuba, Hispaniola and Puerto-Rico, plus materials washed out of Appalachians
- ▶ Humid region rich of wetlands like Everglades rich of Araceae family representatives and mangrove forests of black (*Avicennia germinans*), white (*Laguncularia racemosa*) and red (*Rhizophora mangle*) mangroves. All these mangroves have seeds germinated on the mother plant.
- ▶ Hammocks are “islands” in the “sea” of wetlands, usually covered with threes and shrubs, mostly of tropical origin (Guanica dry forest is similar to well-developed Florida hammock)
- ▶ Rich freshwater animal life: flamingos, alligators, freshwater fish from Poeciliidae family (like mosquito larvae-eating *Gambusia*) and many others.
- ▶ Florida coast is one of few places supporting big population of sea cows, manatees



For Further Reading



A. Shipunov.

Biogeography [Electronic resource].

2014—onwards.

Mode of access:

http://ashipunov.info/shipunov/school/biol_330



I. Sanderson.

The Continent We Live On.

1961.

Mode of access: <http://www.biodiversitylibrary.org/item/71734#page/7/mode/1up>



North America.

http://en.wikipedia.org/wiki/North_America

