

# Biogeography. Lecture 24

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# Outline

## Biogeography of the World

### Biogeography of South America, or Neotropics



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## Biogeography of South America, or Neotropics





# South America: 13 biogeographical regions

1. Tropical Central America
2. West Indies
3. Venezuela and Guiana Shield
4. Amazonian Basin
5. Brazilian Northeast
6. Brazilian Plateau
7. Gran Chaco
8. North and Central Andes (Columbia, Ecuador and Peru)
9. Pampas
10. Atacama desert
11. *Galapagos Islands*
12. Patagonia and Juan Fernandez
13. *South American Antarctic Islands*



# Regions 1 and 2: Tropical Central America and West Indies

- ▶ Puerto Rico!!! (and also South Florida) belong to Region 2
- ▶ Central America is similar to West Indies. The most pronounced difference is the richer fauna and especially flora: many endemic species, genera (like *Haptanthus*) and even families.
- ▶ Central America served as a bridge for the American flora and fauna. Many temperate groups migrated through Central American mountains to the north or south.



## Regions 3 and 4: Venezuela, Guiana Shield and Amazonia

- ▶ Llanos are northern grasslands in South America; they cover the big part of Venezuela
- ▶ Guiana Shield is the famous “lost world” with a high level of endemism in both plant and animal groups
- ▶ **Amazonia** is a geologically new region, speciation processes are just starting there. Nevertheless, the diversity is overwhelming.
- ▶ The most famous plant and animal representatives are:
  - ▶ Victoria regia giant waterlily, chocolate tree (Theobroma cacao) and Brazil nut (Bertholletia excelsa), papaya (Carica papaya) and guarana (Paulinia cupana)
  - ▶ Morpho butterfly, Theraphosa blondi giant birdeater spider, and leafcutter ants (Atta colombica)
  - ▶ Four-eyed (Anableps) and piranha (Hydrolycus) fish
  - ▶ Trumpeter (Psophia) and toucans (Ramphastos) birds
  - ▶ Anteaters like tamandua, tree anteater (Tamandua tetradactyla), American tapir (Tapirus terrestris), giant capybara (Hydrochoerus), specific Platyrrhini monkeys, Desmodus vampire bats and Bradypus sloths.



## Regions 5 and 6: Brazilian Northeast and Brazilian Plateau

- ▶ Drier, sometimes semi-desert regions. Brazilian Northeast is extremely species-poor comparing with Amazonia (somehow, analogous to Dekkan Plateau in India).
- ▶ Unusual dry spiny forest, caatinga with domination of cactuses and legumes. One of native plants, cashew (*Anacardium occidentale*) is widely cultivated.
- ▶ One of the most splendid natural attractions on Earth—Iguazu waterfall.
- ▶ The home of many agricultural plants like peanuts (*Arachis hypogaea*) and bromeliad pineapples (*Ananas comosus*).



## Regions 7 and 9: Gran Chaco and Pampas

- ▶ The west of region—Bolivian yungas, Andes foothills rich of plantations, homeland of quinine tree, Cinchona
- ▶ To the east, in Grand Chaco, there are contrasted dry and wet periods: wetlands in rain season and semi-deserts otherwise, dominated with “palo borracho”, “drunken tree” Ceiba speciosa
- ▶ Rich fauna (e.g., most species of armadillos including the giant tatu carreta Priodontes maximus) and maned wolf Chrysocyon brachyurus; and the second center of Cactaceae distribution
- ▶ Famous Gondwana lungfishes have one representative in South America, Lepidosiren. Two other genera live in Africa and Eastern Australia. Another Gondwana group, ratite birds, have representative in Pampas: American nandu (Rhea americana)
- ▶ Pampas, like llanos is another grassland region of South America



## Region 8: North and Central Andes

- ▶ Unusual, rich alpine regions with the domination of specific plant groups like *Aragoa*, *Puya raimondii*, balsa (*Ochroma lagopus*), the tree with a lightest wood
- ▶ **Paramo**—specific alpine wetlands dominated with *Espeletia*, the amazing life form from aster family
- ▶ Puna—alpine grasslands, supported with large camelid herbivores like guanaco (*Lama guanicoe*) and alpaca (*Vicugna pacos*)
- ▶ One of highest diversity hotspots of birds (1,500 species versus 700 for **all** North America)
- ▶ The homeland of great South American civilizations



# Summary for South America

- ▶ Low and narrow continent: the wettest of tropical regions
- ▶ Part of Gondwana: many groups which are also distributed in Australia, New Zealand and Africa
- ▶ Isolated for most of Cenozoic: unique groups of plants and animals (e.g., Xenarthra)



# For Further Reading



A. Shipunov.

*Biogeography* [Electronic resource].

2014—onwards.

Mode of access:

[http://ashipunov.info/shipunov/school/biol\\_330](http://ashipunov.info/shipunov/school/biol_330)



North America.

[http://en.wikipedia.org/wiki/North\\_America](http://en.wikipedia.org/wiki/North_America)

