

Biogeography. Lecture 25

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Outline

Biogeography of the World

Biogeography of South America, or Neotropics



Fresh example of tropical hyperdiversity

<http://www.mapress.com/j/zt/article/view/zootaxa.4402.1.3>



Biogeography of the World

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 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
- ▶ **Páramo**—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



Region 10: Atacama desert

- ▶ The driest place on Earth: zero precipitation level
- ▶ Systematically broken by El Niño when cold Humboldt current is deviating from the coast
- ▶ Frequent earthquakes
- ▶ Dense fogs (fog density in “lomas” is sometimes up to 200–300 mm)
- ▶ Extremely rich marine/coastal (e.g., Humboldt’s penguin *Spheniscus humboldtii*), and very poor terrestrial life



Region 12: Patagonia

- ▶ The southern temperate region with flora similar to Australia and New Zealand (!)
- ▶ Conifer forests (*Araucaria araucana*, *Libocedrus*, *Saxegothaea*) domination
- ▶ In more humid regions, the main dominant is birch-like *Nothofagus* (same genus as in New Zealand)
- ▶ Many giant Patagonian animals (like giant xenarthran *Megatherium* and *Glyptodon*) are now extinct



Summary for South America

- ▶ Low and narrow, wettest continent
- ▶ 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



South America.

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



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Biogeography [Electronic resource].

2014—onwards.

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