

# Biogeography. Lecture 28

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# Outline

## Biogeography of the World

Indo-Pacific: biogeographical regions

The basics of island biogeography



# Biogeography of the World

## Indo-Pacific: biogeographical regions



# Indo-Pacific: biogeographical regions and Wallace line



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# Indo-Pacific: 8 biogeographical regions

1. North India
2. Deccan Plateau and South India
3. Indochina
4. Malay archipelago
5. Wallacea
6. New Guinea and Melanesia
7. Coral Pacific Islands
8. Volcanic Pacific Islands



## Indo-Pacific regions: key features

1. **North India:** Asian lions (*Panthera leo persica*) and tigers (*Panthera tigris*)
2. **Deccan Plateau and South India:** the most “African” fauna outside of Africa, e.g., Asian elephant (*Elephas maximus*) (smaller ears and less skinny), Indian rhinoceros (*Rhinoceros unicornis*) and multiple species of antelopes like gazelles (*Gazella gazella*); also, many “true” Asian elements like king cobra (*Ophiophagus hannah*), the largest venomous snake.
3. **Indochina:** domestication center of many animals like cattle (e.g., wild gaur *Bos gaurus*) and chicken, Red Junglefowl (*Gallus gallus*). Terrestrial leeches (Haemadipsidae).
4. **Malay archipelago:** one of the most species-rich regions of the World. Unique animals: orangutans (*Pongo pygmaeus* and *Pongo abelii*), gibbons (family Hylobatidae), flying lemurs (order Dermoptera), flying lizards (*Draco volans*) and even flying frogs (*Rhacophorus*)! Hornbills (family Bucerotidae, substitute of South American toucans) and scaly anteaters (order Pholidota) are common with African biota. Lots of epiphytes (e.g., orchids) but no bromeliads. Pitcher vine *Nepenthes* (some in symbiosis with tree shrews, order Scandentia) is also specific to the region. Famous island Krakatoa exploded in 1883 is located here, between Java and Sumatra.
5. **Wallacea:** islands which have never been connected with Asia (some of them like Sulawesi are disputable) and therefore “stepstones to Australia”. Most famous is Komodo, the island of Komodo dragon (*Varanus komodoensis*), the largest terrestrial reptile (up to 3.1 m)
6. **New Guinea and Melanesia:** have multiple Australian elements like echidna (*Zaglossus*) but also placental mammals (like Muridae, mice) and endemic groups (like birds of paradise, family Paradisaeidae).
7. **Coral Pacific Islands:** very poor soils and consequently poor biota
8. **Volcanic Pacific Islands like Hawaii:** recently radiated flora and ornithofauna (like Hawaiian honeycreepers, Drepanididae) and relatively poor terrestrial fauna.



# Summary for Indo-Pacific

- ▶ Geological “puzzle”, region with extremely complex history
- ▶ Humid and rich
- ▶ Numerous borders (like Wallace line) and connections (like Madagascar / Indonesia disjunctions)



# Biogeography of the World

## The basics of island biogeography

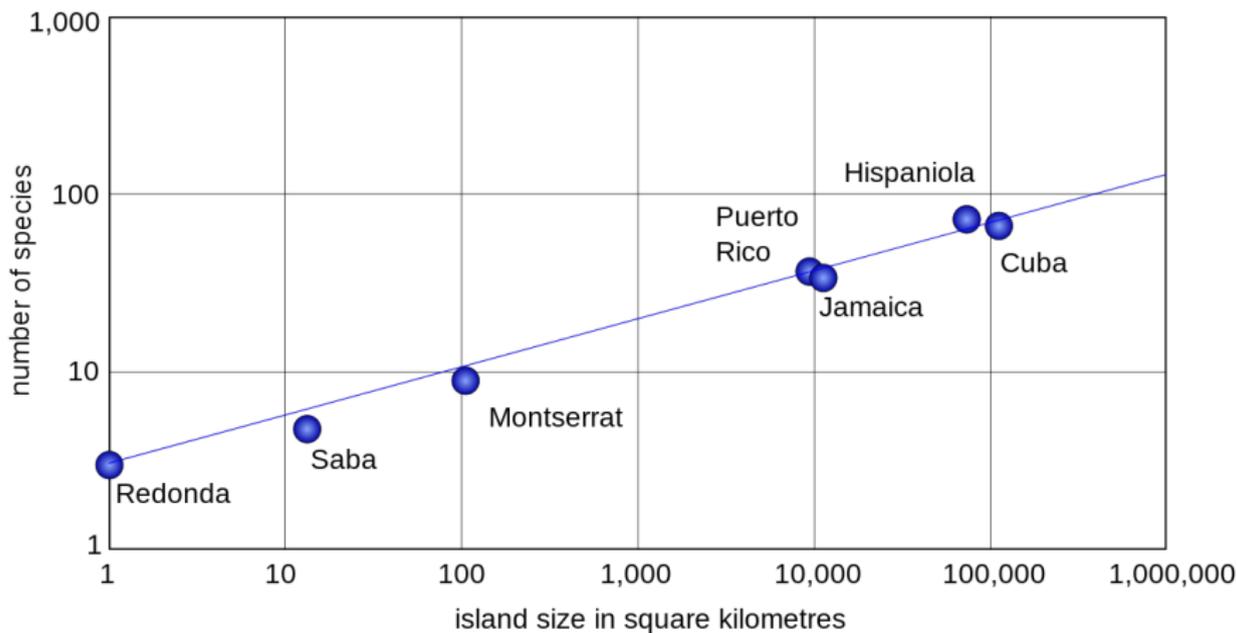


# The basics of island biogeography

- ▶ Immigration and extinction
- ▶ Distance effect
- ▶ Species-area curve and the effect of island size



# Species-logarea line for reptiles and amphibians in Caribbean



# 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)



Oceania.

<http://en.wikipedia.org/wiki/Oceania>



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