

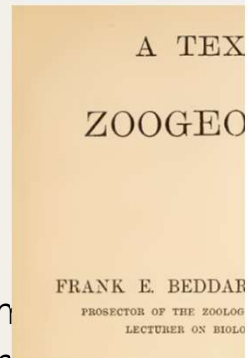


Zoogeography

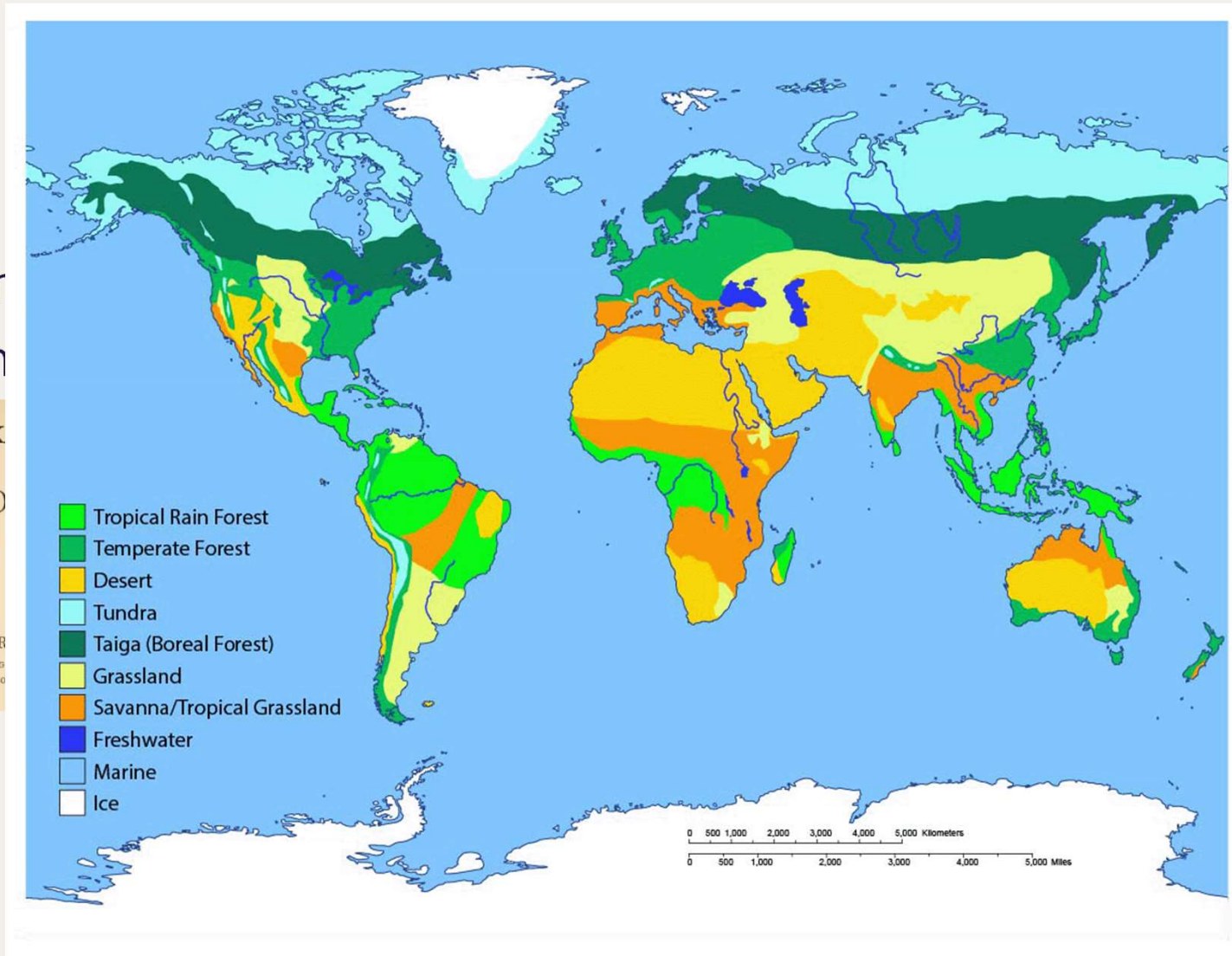
Lesson 9

Biome

+ Def. a large
occupying



Ten
form the niches



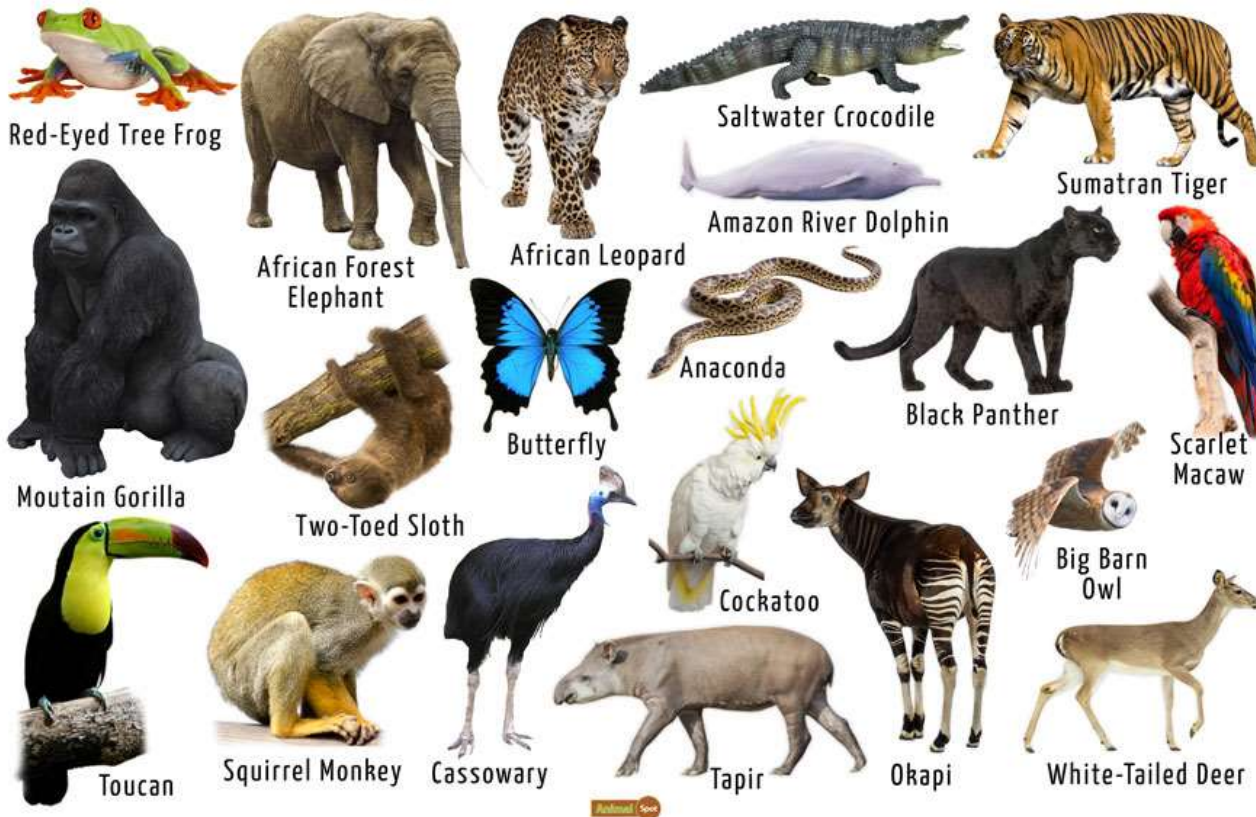
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e and

Tropical and temperate rain forest



Rainforest Animals



Layers of the rainforests

- The **emergent layer** is the uppermost one, consisting of the tallest trees that outgrow the canopy.
- The **canopy** is the next layer, where the biodiversity is the most. Large treetops are predominant in this layer.
- The layer that follows is the **understory**.
- The last layer of the rainforest is the **forest floor**, which gets the least amount of sunlight.



Tropical
45%



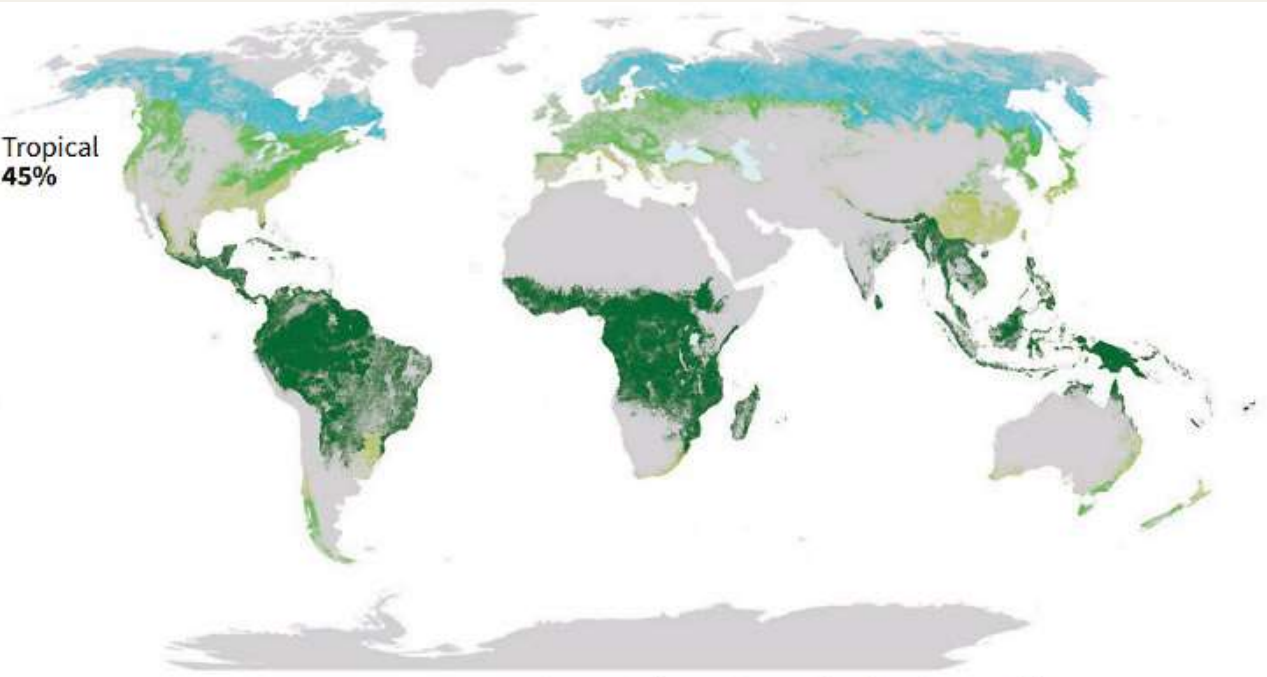
Boreal
27%



Temperate
16%



Subtropical
11%



Source: Adapted from United Nations World map, 2020.

Animals in the rainforest layers



+ Animals of the rainforest emergent layer

Animals that live mostly in the emergent layer of rainforests are harpy eagles, macaws, capuchin monkeys, and sloths.

+ Animals of the canopy layer

Howler monkeys, squirrel monkeys, green iguanas, two-toed sloths, and toco toucans are some of the animals that can be found in the canopy.

+ Animals of the understory

The layer under the canopy is teeming with animals like frogs, toads, snakes, and large mammals including red-eyed tree frogs, golden tree boas, greater bulldog bats, and jaguars.

+ Animals of the forest floor

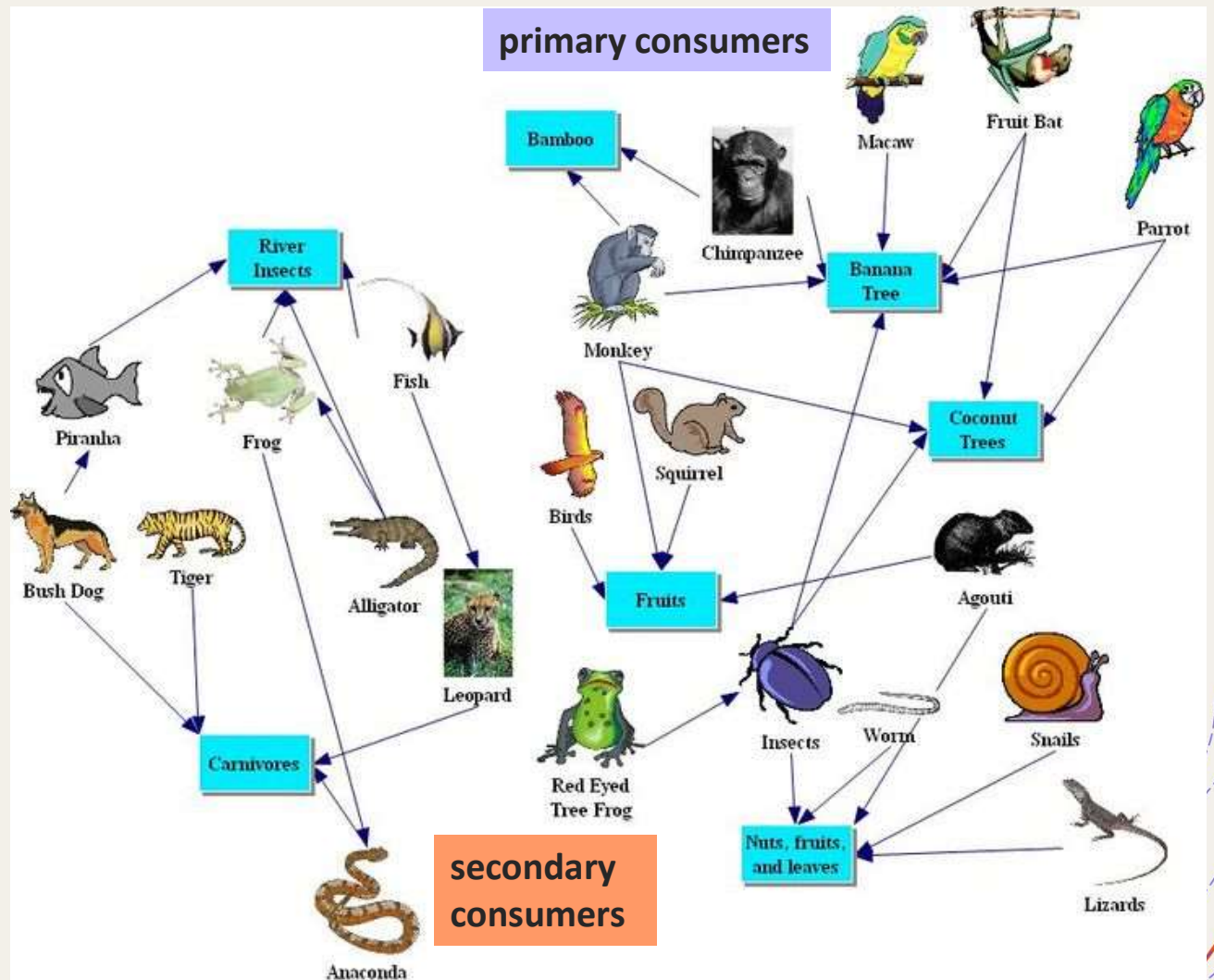
The damp and dark forest floor is home to thousands of insects including a number of spiders and scorpions, while larger inhabitants like the tapir, giant anteaters, agouti, elephants are also there.

Adaptations of the Rainforest Animals and Birds

- **Camouflage** is an essential tool, and many animals, both predators, and preys use it to blend in with the dense forest backgrounds.
- Due to a high level of competition in these forests, many animals have chosen **a part of the day to be active**, with some being completely sedentary during the daytime becoming busy only during the dark hours (nocturnal). Some may be at rest in the night and be active during the day (diurnal).
- **Nocturnal species** have specially adapted eyes that help them see clearly in the darkness of the night, and also rather dark daytime hours as hardly any sunlight breaks through the upper level of trees to reach the understory and forest floor.
- Many of the smaller animals, including insects, reptiles, and amphibians have **bright colouring** to warn their potential predators, as most often these creatures are poisonous. In the wild, including in rainforests, bright coloration is associated with toxicity.
- Most **primates** living in rainforests have **prehensile tails** to aid them in climbing tall trees and locomote through the branches, especially in the emergent and canopy layers.

Food chain

Vegetation is the primary producer.



Endangered rainforest animals

- + Many animals of the rainforest are considered endangered, with a major percentage having reached a critical stage.



*Panthera tigris
sondaica*



†



†

Endangered rainforest animals



Pongo abelii



Cacatua sulphurea



Ateles hybridus



Anodorhynchus leari



Gorilla beringei beringei

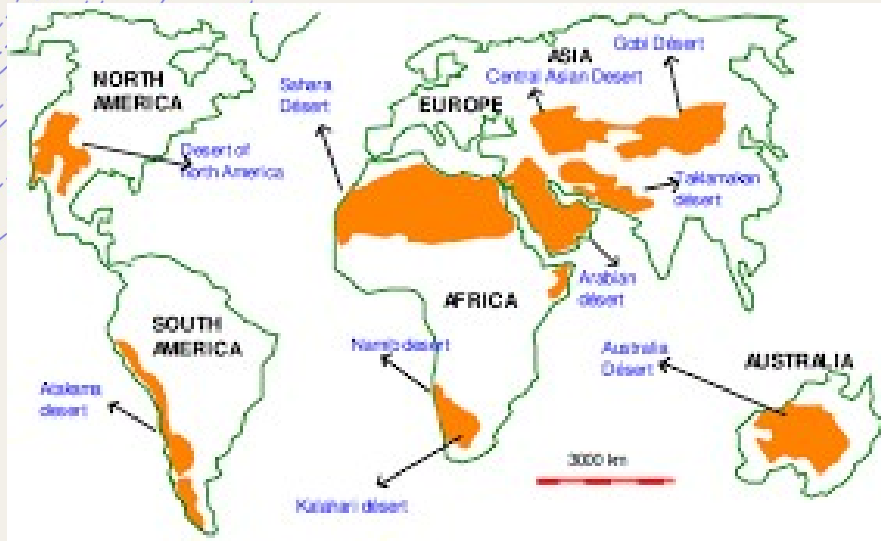


Rhinoceros sondaicus



<https://www.youtube.com/watch?v=JkaxUbICGz0>

Desert



Desert Animals



Bactrian Camel



South African Lion



Pronghorn



Desert Recluse Spider



Barbary Ostrich



Coyote



Sand Cat



Desert Tortoise



Desert Spiny Lizard



Desert Cottontail



Gila Woodpecker



Kit Fox



Tiger Rattlesnake



Golden Eagle



Desert Bighorn Sheep

Xerocole species

Adaptations: How do animals survive in the desert

- + - Burrowing activity during the most hot daytime hours.
- + - Nocturnal or crepuscular activity
- + - for Animals and birds that do not exhibit burrowing activity: choose distinct microclimates
- + - hibernation to survive the hottest months
- + - Migration



Falco mexicanus



Gophers agassizii

Physical adaptations



1. The bodies of the burrowing animals are capable of **absorbing moisture from the ground**, which is why they prefer to dig into relatively moist areas.
2. The inhabitants of the desert have light body colours, helping them to use **camouflage** for avoiding dangers. (i.e. sandy coloured animals include camels, wild asses).
3. Most of these animals have **long limbs and ears**, which act like car radiators, helping their bodies to stay cool.
4. They have **specialized kidneys** which retain water from urine, so excretion occurs in uric acid form.
5. Through **water uptake**: 1- free water, 2- moisture contained in food, and 3- metabolic water during the cellular respiration process. Some animals are able to receive water from all three sources, while others are able to exploit only one or two methods.