Biodiversity Project Report: American Alligator, Nitrospirae, Forams, Morel Mushroom, Saguaro Cactus, Cheetah, African Elephant, Red Fox, Giant Panda

American Alligator

- Range: American alligators live in the wild in the southeastern United States. They can be found as far west as texas, and as far east as north Carolina.
- Habitat: American alligators live in rivers, lakes, ponds, swamps, bayous, and marshes
- Size:
    - Length: 9.8-15 ft.
    - Height: N/A height not measured
    - Weight: 500 lbs.
- Characteristics: Long, armored body, 4 short legs, spends most of the time in swamps, has a round snout, thick scales or bony plates called osteoderms or scutes
- Taxonomic Classification:
    - Kingdom: Animalia
    - Phylum: Chordata
    - Class: Reptilia
    - Genus: Alligator
    - Species: Alligator mississippiensis
    - Scientific Name: Alligator mississippiensis

Sources

1. https://kids.nationalgeographic.com/animals/reptiles/american-alligator/.
2. https://nationalzoo.si.edu/animals/american-alligatoras
3. https://itis.gov/

Nitrospirae

- Range: Nitrospirae have been found in freshwater, soils, groundwater, geothermal springs, and wastewater treatment plants
- Habitat: Nitrospirae can live in marine or non-marine habitats. It has been isolated from ocean water, freshwater, aquarium water, deltaic sediment, deep-sea sediments, soils, and an iron pipe of a heating system
- Size:
    - Length: 0.9–2.2 Micrometers
    - Width: 0.2–0.4 Micrometers
- Characteristics: on-planktonic organisms that reside as clumps, known as aggregates, in biofilms
- Taxonomic Classification:
    - Kingdom: Eubacteria
    - Phylum: Nitrospirae
    - Class: Nitrospira

    - Species: Nitrospirae
    - Scientific Name: Nitrospirae

Sources

1. https://www.cell.com/trends/microbiology/fulltext/S0966-842X(18)30024-6
2. https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=956118#null
3. https://www.sciencedirect.com/science/article/abs/pii/S0966842X18300246

Forams

- Range: Forams are either benthic; meaning that they live on the sea bottom, or they are planktonic; they float in the upper water column
- Habitat: Forams live in the open ocean, along the coasts and in estuaries; or rivers that lead into oceans
- Size:
    - Diameter: typically 0.05mm to 0.5mm, some tropical species can be up to 18 centimeters
    - Weight: Between 13 ?m and 1/2 a pound
- Characteristics: single-celled organisms, can have one or many nuclei, threadlike structures often contain particles of various materials
- Taxonomic Classification:
    - Kingdom: Protists
    - Phylum: Arthropoda
    - Class: Arachnida
    - Genus: Edilemma
    - Species: Edilemma foraminifera
    - Scientific Name: Edilemma foraminifera

Sources

1. https://www.cell.com/trends/microbiology/fulltext/S0966-842X(18)30024-6
2. https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=956118#null
3. http://research.bpcrc.osu.edu/geo/projects/foram/whatarefor.htm
4. https://microbewiki.kenyon.edu/index.php/Foraminifera

Morel mushroom

- Range: Morel mushrooms are Common in many parts of east and north America
- Habitat: Morel mushrooms live in and on the edge of forested areas
- Size:
    - Length: Largest one ever found was 12 inches
    - Circumference: Largest one ever found had a circumference of 13 inches
    - Weight: The weight for the largest one ever found could not be determined because it was soaking in water overnight. 7 pounds of morel mushrooms are used to make 1 pound of dried morel mushrooms

- Characteristics: Morel Mushrooms have a honey cone pattern, making up the cap of the mushroom. Their stem is attached to the base of the cap and is a light cream color. The insides of the mushrooms are hollow from the bottom of the stem to the tip of the cap. Most of the species have a creamy, light brown color. Also, they are very expensive due to their quality taste
- Taxonomic Classification:
    - Kingdom: Fungi
    - Phylum: Sac fungi
    - Class: Pezizomycetes
    - Genus: Morchella
    - Species: esculenta
    - Scientific Name: Morchella esculenta

Sources:

1. https://www.fieldandstream.com/articles/hunting/2013/04/finding-cooking-morel-mushrooms/
2. https://www.wideopenspaces.com/record-breaking-missouri-morel-mushroom/
3. https://www.mushroom-appreciation.com/morchella.html#sthash.juqJfMoP.dpbs

Saguaro cactus

- Range: Saguaro cacti only grow in the Sonoran Desert. The range of where Saguaros grow is limited by freezing temperatures in the winter. Saguaro cacti are also limited on where they can grow by elevation; they are generally found growing from sea level to approximately 4,000 feet in elevation
- Habitat: The Sonoran Desert has a subtropical, rocky climate and receives 3 to 15 inches of rain per year; Saguaros require very little water to survive
- Size:
    - Height: can grow to be over 40 feet tall
    - Circumference: At maximum size, they can be up to 10 feet in circumference
    - Weight: When rain is plentiful and the saguaro is fully hydrated it can weigh between 3200-4800 pounds.
- Characteristics: Saguaro cacti are large and tree- like, they are green and have needles surrounding their tough skin develop branches as they age, although some never grow them. The saguaro cactus is the stereotypical cactus that you think of when you think of a desert
- Taxonomic Classification:
    - Kingdom: Plantae
    - Phylum: Tracheophyta.
    - Class: Magnoliopsida
    - Genus: Carnegiea
    - Species: gigantea
    - Scientific Name: Carnegiea gigantea

Sources:

1. https://www.nps.gov/sagu/learn/nature/location.htm

2. https://www.nps.gov/sagu/planyourvisit/upload/The%20Saguaro%20Cactus.pdf
3. https://www.fs.fed.us/wildflowers/plant-of-the-week/carnegiea_gigantea.shtml

Cheetah

- Range: Cheetahs are commonly found only in sub-Saharan Africa, but there is a small population of Cheetahs in the country of Iran
- Habitat: cheetahs can be found in dry forests, grasslands, open plains and desert regions
- Size:
    - Length: 3.6 – 4.9 ft.
    - Height: 2.3 – 3 ft.
    - Weight: 46 – 160 lbs.
- Characteristics: Cheetahs have light, cream colored fur similar to that of a pure lab. They have black dots of fur around their body, except for on their face they have black lines of fur running from their eyes, and curling around their mouth and nose. Cheetahs also have long, slim, muscular legs, a small, rounded head set on a long neck, a flexible spine, a deep chest, non retractable claws, special pads on its feet for traction and a long tail for balance
- Taxonomic Classification:
    - Kingdom: Animalia
    - Phylum: Chordata
    - Class: Mammalia
    - Genus: Acinonyx
    - Species: jubatus
    - Scientific Name: Acinonyx jubatus

Sources:

1. https://www.livescience.com/27319-cheetahs.html
2. http://www.outtoafrica.nl/animals/engcheetah.html?zenden=2&subsoort_id=2&bestemming_id=1
3. https://seaworld.org/animals/all-about/cheetah/characteristics/

African Elephant

- Range: African Elephants range throughout sub-Saharan Africa and the rain forests of central and West Africa
- Habitat: African Elephants are found most often in savannas, grasslands, and forests but occupy a wide range of habitats, including deserts, swamps, and highlands in tropical and subtropical regions of Africa and Asia
- Size:
    - Length: 16.4 - 24.6 ft.
    - Height: 8.2 and 13 ft.
    - Weight: 5,000 to 14,000 lbs.
- Characteristics: Elephants are grayish to brown in color, and their body hair is sparse and coarse. Elephants are the largest living land animal, characterized by their long trunk, columnar legs, and huge head and wide, flat ears

- Taxonomic Classification:
    - Kingdom: Animalia
    - Phylum: Chordata
    - Class: Mammalia
    - Genus: Loxodonta
    - Species: africana
    - Scientific Name: Loxodonta africana

Sources:

1. https://www.nationalgeographic.com/animals/mammals/a/african-elephant/
2. https://www.worldwildlife.org/species/african-elephant
3. https://www.livescience.com/27320-elephants.html

Red Fox

- Range: Red Foxes are distributed across the entire Northern Hemisphere from the Arctic Circle to North Africa, Central America, and Asia
- Habitat: the habitat of a Red Fox includes forests, grasslands, mountains, and deserts. The red fox lives in human environments well too, because it adapts well. The Red fox lives in areas such as farms, suburban areas, and even large communities
- Size:
    - Length: 18 – 35 in.
    - Height: 14 – 20 in.
    - Weight: 14 – 20 in.
- Characteristics: The red fox has a coat of long hairs and soft fine underfur that is typically reddish brown in color. Its tail and is often white-tipped, and its belly and cheeks are white. It also has black ears and legs
- Taxonomic Classification:
    - Kingdom: Animalia
    - Phylum: Chordata
    - Class: Mammalia
    - Genus: Vulpes
    - Species: Vulpes
    - Scientific Name: Vulpes vulpes

Sources:

1. https://www.britannica.com/animal/red-fox-mammal
2. https://www.nationalgeographic.com/animals/mammals/r/red-fox/
3. https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/Red-Fox

Giant Panda

- Range: Giant pandas live in a few mountain ranges in south central China, in Sichuan, Shaanxi and Gansu provinces.
- Habitat: Giant pandas live in large bamboo forests on high mountains about 4,000 to 10,000 feet above sea level; these areas are very humid. Pandas like these high

bamboo forests, because they are cool and wet, just as pandas like it

- Size:
    - Length: 3.9 – 6.2 ft.
    - Height: 2 – 3 ft.
    - Weight: 150 – 220 lbs.
- Characteristics: Giant Pandas have thick black and white fur with black patches around the eyes and ears, black legs, and a black band around the shoulders. And white tails. They have five fingers and claws on each one, they also have very strong jaws and eat mainly bamboo
- Taxonomic Classification:
    - Kingdom: Animalia
    - Phylum: Chordata
    - Class: Mammalia
    - Genus: Ailuropoda
    - Species: melanoleuca
    - Scientific Name: Ailuropoda melanoleuca

Sources:

1. https://www.chinahighlights.com/giant-panda/habitat.htm
2. https://nationalzoo.si.edu/animals/giant-panda
3. https://www.chinahighlights.com/giant-panda/characteristics.htm