

Herpetology Answer Key

Organism #1:

Rat snake (Grey)

Elaphe

Divided

Cloaca

Mitochondrial DNA – molecular-level of study – protein sequencing

Organism #2:

Sea turtles

Cheloniidae

Six

Reside completely in open waters.

25 years or greater

Up to 5 clutches in a season

Organism #3:

Tree frog (water-holding frog)

Hylidae

Lack of toe pads used for climbing

1. Skeletal structure 2. Physical resemblance of the tadpoles

Arid/dry, long periods without water.

Organism #4:

Amphiumidae

Eastern North America

Paedomorphic: Retaining the larval features of no eyelids or tongue, open spiracle, a lateral line system, and four internal gill arches which aid them in their completely aquatic and nocturnal lifestyle.

Habitat loss

Number of toes (1, 2, or 3)

Organism #5:

Rattlesnake

Viperidae and Crotalus

Keratin

Molting (shedding its skin)

Crotoxin

1. Blood 2. Muscles

Slide #6:

1 (Frog)

| FROG | TOAD |
|--|--|
| Long legs. Frogs lay eggs in clusters. Skin moist and smooth. Live in or around water. Prefer moist environments. Vomerine teeth in upper jaw. Eyes bulge. Eat insects, snails, spiders, worms, and even small fish. | Shorter legs. Toads lay eggs in long chains. Skin dry and bumpy. Live mostly on land. Prefer drier environment. No teeth. Prominent poison gland behind eyes. Insects, grubs, slugs, worms, and other invertebrates. |

Eggs "A" belong to 2 (toad)

Eggs "B" belong to 1 (frog)

Ecosystem role: Very effective herbivores and scavengers in small bodies of water. When they transform into frogs and toads, they transport that material out of the pond, back into the terrestrial part of the ecosystem.

Slide #7:

Skull A: Elapidae

Skull B: Viperidae

Skull C: Colubridae

Europe

Nostrils: Located dorsally with no internasal scales.

Pit = refers to the heat-sensing pits are thermoreceptors to detect differences in temperature. Viper = part of the Viperidae family of snakes.

Organism #8:

Anoles

Polychridae

Anolis

Male because dewlap is red/orange – bright in color

Male through extension of dewlap and a series of head-bobs

Female green anoles have a structure in their reproductive tract that allows them to store sperm for up to 7 months.

This allows her to reproduce when environmental conditions are favorable. She can produce 1-2 eggs every 2-3 weeks until a total of 10-12 have been produced.

Slide #9:

Picture C

Crocodylidae

Caiman

TSD = temperature-dependent sex determination

Male

Organism #10:

Testudines

Kinosternidae

Releasing a very smelly musk from musk glands

Stinkpot or Stinking Jim

Scute

Jacobson's organ

Organism #11:

Scincidae

Eumeces

Testosterone

Can voluntarily release their tail when it is seized by a predator and regenerate a new tail later

Viviparous: bringing forth live young that have developed inside the body of the parent

Slide #12:

Acris

Southern: A

Mating call of males sounds like the chirp of a cricket

Warts

Mouth is a sucker or scraper – in adults it is jawed, with a sticky tongue for catching insects

Organism #13:

Caudata

Sirenidae

Three chambered heart

No hind limbs

Terrestrial ancestor that still had an aquatic larval stage.

Organism #14:

Deirochelys

Plastron

Female

Males court females by vibrating their foreclaws against the female's face

Burrows into the soil

Ectothermic

Slide #15:

A: Urosaurus

B: Sceloporus

C: Uma

D: Cophosaurus and Holbrookia

Low desert areas with fine, loose sand.

Camouflage coloring

Slide #16:

1,700 genes

HCG is a hormone produced by a pregnant woman. The frogs gained popularity as a low-cost pregnancy test. Doctors would inject a frog with a woman's urine and if she was pregnant, the frog would ovulate and produce eggs in 8-10 hours.