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Text written by staff. Photos by Roy Barnes, Emma Olsen and Dr. John Weser.

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GILA TOPMINNOW (*POECILIOPSIS OCCIDENTALIS*)



Species Name: *Poeciliopsis occidentalis*

Range: Currently, populations are found in several localities in the Gila River system of Mexico and Arizona.

Habitat: Occupy headwater springs and vegetated margins and backwater areas of streams and rivers. They can withstand waters from near freezing to 100 degrees Fahrenheit.

Diet: Omnivorous: broad spectrum diet including crustaceans and vegetable material, but will also feed on aquatic insect larvae, especially mosquitoes, when abundant.

Breeding: The breeding season is April through November, but they can reproduce year-round in thermally stable springs. During breeding, some males become dark and exhibit aggressive breeding behavior. The typical brood consists of over 1000 young. The typical life span is one year.

Status: In 1967, the Gila Topminnow was listed by the U.S. Fish and Wildlife Service as endangered. At one time, the Gila Topminnow was the most common fish found in the Gila River basin. Its numbers have been greatly reduced due to the introduction of other fish species, especially the mosquito fish.

Photo: Taken at Scottsdale Community College on April 5, 2007.

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QUITOBAQUITO PUPFISH (CYPRINODON MACULARIUS EREMUS)



Scientific Name: *Cyprinodon macularius eremus*

Range: Sonoran and Mojave Deserts of southern California, southern Arizona and northwest Mexico.

Habitat: Warm desert pools, marshes, streams and springs. During winter months, when the water is cold, they become dormant and burrow in the muddy bottom of their habitat.

Diet: Green and brown algae.

Breeding: Breed during spring when there are warm waters. The male becomes blue and defends his territory, chasing away all

other fish except females who are ready to mate. As temperatures become extreme toward summer, evaporation dries up most pools and streams, resulting in the death of most Pupfish.

Status: Pupfish are endangered by desert development and the introduction of exotic fish species into their habitat.

Photo: Spawning male and female Quitobaquito Pupfish at Scottsdale Community College on March 26, 2007.

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COUCH'S SPADEFOOT TOAD (SCAPHIOPUS COUCHII)

Scientific Name: *Scaphiopus couchii*

Residency: Found year-round in the southwestern United States and in Mexico.

Temporal Activity: They are nocturnal and active during rainy conditions. Also, it burrows itself deeply underground, and this is an adaptation to the extreme environments in which they live.

Diet: Carnivorous; eats mostly insects.

Breeding: Seasonal breeders who breed May through September, during a period of rainfall. The male lets out a cry or groan, like the anxious bleat of a sheep while looking for a mate. They breed in rain pools, and lay their eggs in small masses which can hatch in 24 hours. Then, tadpoles can develop in as few as eight days.

Predators: The parasite *Psuedodiploorchis americanus* (a type of worm) infect breeding toads and feed on their blood during hibernation. This causes some infected toads to not survive hibernation, and some might not breed during this time.

Photo: To be added.

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GREAT PLAINS TOAD (BUFO COGNATUS)

Scientific Name: *Bufo cognatus*

Residency: Year-round in Southwest to Southeast Canada, and in Texas, Utah, Arizona, and parts of Mexico.

Diet: Feeds on insects like moths, beetles, flies, and cutworms.

Temporal Activity: Spends most of its time underground. They burrow in the ground by shuffling into the ground with their hind feet, and come out of their burrows about an hour before dusk. The toad is nocturnal, but sometimes during breeding season they are diurnal.

Breeding: Breeds March through September, only after rainfall when the temperature exceeds 12 degrees Celsius. They breed only in relatively clear shallow water. The male initiates breeding by calling out in a harsh explosive clatter, which is almost deafening. The female can lay as many as 20,000 eggs and they hatch within two days. Then tadpoles form and go through a metamorphosis. The new toads will not breed for 3-5 years.

Interesting Fact: When annoyed, this toad's lungs become inflated, thereby increasing the size of its body. One scientist calculated the toad value in his area to be about \$25, because each toad saves a farmer \$25 by killing winter cutworms.

Photo: To be added.

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LOWLAND LEOPARD FROG (RANA YAVAPAIENSIS)



Scientific Name: *Rana yavapaiensis*

Range: Lower Colorado River and tributaries of Arizona and Nevada, and extreme Northeast Baja, and North Sonora.

Diet: Adults feed on small insects; tadpoles feed on algae, plant tissue, and small insects.

Temporal Activity: Live in permanent or semi-permanent waters. They like to be in streams, rivers, and ponds. They restrict themselves to elevations below 3,000 feet.

Breeding: Breed February to April, and sometimes in the fall. Hatch time is three to eighteen days. The tadpoles emerge to frogs from June to August. Males lack vocal sacs to create a chorus while looking for a mate.

Predators: Cougars, birds, predatory fish, and other frogs.

Notes: Pollution of waters and the environment has contributed to this species leaving many parts of Arizona. Read our [Cave Creek RAYA](#) story to learn about how CNUW was involved in rescuing and relocating a population of lowland leopard frogs.

Photo: Taken at Scottsdale Community College on November 8, 2005.

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SONORAN DESERT TOAD (BUFO ALVARIUS)



Scientific Name: *Bufo alvarius*

Range: From Central Arizona to southwestern New Mexico and Sinaloa, Mexico.

Diet: Eats lizards, invertebrates, small mammals, and amphibians.

Temporal Activity: They are nocturnal during the hot summer months. Their activity is stimulated by rainfall, therefore they are active from late May to September during this rainy season.

Breeding: The male makes a call to his mate which is weak, sounding

somewhat like a ferry-boat whistle. Eggs are laid in strands in temporary rain pools and permanent ponds. Larvae metamorphosis takes six to ten weeks. Members of this species live about ten years.

Predators: This toad is a predator to dogs. It has extremely potent, defensive toxins that are released from several glands in the skin. These toxins are strong enough to kill full-grown dogs.

Photo: Taken at the pond at Scottsdale Community College, unknown date.

Brown's Ranch:



Scottsdale Community College:



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WOODHOUSE'S TOAD (BUFO WOODHOUSII)



Scientific Name: *Bufo woodhousii*

Residency: Occurs in the Intermountain West and Central states of North America into Northern Mexico and from the Atlantic Coast westward.

Diet: Feeds on insects and other invertebrates.

Temporal Activity: Live below 7,000 feet elevation. The toads burrow into the soil beneath low mounds or hide in debris piles, and they hibernate in the winter. They are active at night but can be seen in the daytime. They are seen away from water because they have microscopic mucous glands,

which keep their tight skin moist, not making water a huge necessity.

Breeding: The male's call is 4 to 10 seconds long and is a long trill that sounds like "waa-a-a-a-a-ah." They mate in water, like pools and streams. The female lays a clutch of 10,000 eggs between February and September.

Photo: Taken at Scottsdale Community College on September 19, 2003.

Scottsdale Community College:



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CHECKERED GARTER SNAKE (THAMNOPHIS MARCIANUS)

Scientific Name: *Thamnophis marcianus*

Temporal Activity: Diurnal in cool weather, nocturnal in hot summer weather, and crepuscular.

Diet: Eats fish, frogs, toads, tadpoles, lizards and invertebrates.

Predators: Disappearing due to habitat loss.

Breeding: Mating occurs in late March: 5-30 live births per litter.

Vegetation Association: Found near riparian habitat.

Notes: Irrigation activities may have produced habitat.

Photo: To be added.

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COMMON KINGSNAKE (CALIFORNIA KINGSNAKE) (LAMPROPELTIS GETULA)

Scientific Name: *Lampropeltis getula*

Temporal Activity: Mainly crepuscular and diurnal; becomes nocturnal in the warm summer months; does hibernate. Juveniles are more crepuscular and nocturnal than adults.

Diet: Eats snakes, lizards, small turtles, reptile eggs, frogs, birds, and small mammals.

Predators:

Breeding: Lays 2- 24 eggs May-August.

Vegetation Association: Can be found in pinon juniper. Uses rock outcrops or rodent burrows to escape heat.

Notes: Are known to eat rattlesnakes.

Photo: To be added.

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GOPHER SNAKE (PITUOPHIS MELANOLEUCUS)



Scientific Name: *Pituophis melanoleucus*

Temporal Activity: Diurnal (nocturnal in extreme heat).

Diet: Mostly mammals, birds, and eggs.

Predators: Preyed upon by hawks, owls, coyotes, and ringtails.

Breeding: 2-24 eggs hatch in the summer. Males have combats during the spring mating season.

Vegetation Association: Found in a wide variety of habitats: ponderosa pine forest, pinon-juniper woodland, grasslands, scrublands, sandhills, marshes, and cultivated fields.

Notes: May reach up to 9 ft. in length. May be mistaken for a rattlesnake. It is a great rodent catcher.

Photo: Taken at Coon Bluff on July 23, 2006.

Coon Bluff:



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MOJAVE RATTLESNAKE (CROTALUS SCUTULATUS)

Scientific Name: *Crotalus scutulatus*

Temporal Activity: Mostly nocturnal, but in some areas it is crepuscular and diurnal. At lower elevations, it is mainly nocturnal during summer. Most active April to May (hibernates in winter).

Diet: Eats Kangaroo Rats, ground squirrels, mice, rabbits, lizards, snakes, and Spadefoot Toads.

Predators: Preyed upon by hawks, owls, coyotes, and ringtails.

Breeding: Gives birth to 2-11 live young, July to August.

Vegetation Association: Can be found near creosote bush in semi-arid grasslands and desert grasslands.

Notes: Venom is extremely toxic. Bite can result in death if untreated.

Photo: To be added.

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RED RACER (COACHWHIP) (MASTICOPHIS FLAGELLUM)



Scientific Name: *Masticophis flagellum*

Temporal Activity: Diurnal, hibernates, is active during morning and late afternoon from April to October.

Diet: Eats lizards, snakes, birds and their eggs, small mammals, insects and carrion.

Predators: Preyed upon by hawks, owls, coyotes, and ringtails. Eaten by skunks when small.

Breeding: 4-20 eggs, mates in spring.

Vegetation Association: Occupies a variety of habitats: creosotebush desert, short-grass prairie, shrub-covered flats and hills, sagebrush desert, and pinon-juniper woodlands.

Notes: A fast snake can move at speeds of 3.6 mph.

Photo: Taken at Brown's Ranch on April 23, 2004.

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WESTERN DIAMONDBACK RATTLESNAKE (CROTALUS ATROX)



Scientific Name: *Crotalus atrox*

Temporal Activity: Nocturnal at night during warm months, diurnal during spring and fall, and hibernates in rocky cliffs during winter.

Diet: Mainly rodents, but also birds, lizards, and small animals.

Predators: Preyed upon by hawks, owls, coyotes, and ringtails.

Breeding: Mating takes place in spring, up to 23 live young are born in late summer.

Vegetation Association: Has an association with mesquite-tarbrush.

Photo: Taken at Brown's Ranch on April 10, 2004.

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DESERT SPINY LIZARD (SCELOPORUS MAGISTER)



Scientific Name: *Sceloporus magister*

Temporal Activity: Diurnal, active from March to October.

Diet: Eats ants and caterpillars, occasionally lizards and plant materials.

Predators: Preyed upon by hawks, owls, coyotes, skunks, and ringtails.

Breeding: 2-9 eggs per clutch, 1-2 clutches per year.

Vegetation Association: Mesquite, creosotebush, or tar bush, more abundant in riparian habitat.

Notes: Exhibit metachromatism, or color change, in response to temperature. When it is cooler they become darker to absorb the sun light.

Photo: Taken at Coon Bluff on October 19, 2006.

Coon Bluff:



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MEDITERRANEAN GECKO (HEMIDACTYLUS TURCICUS)

Scientific Name: *Hemidactylus turcicus*

Temporal Activity: Crepuscular and nocturnal.

Diet: Eats insects, spiders, isopods, and other small invertebrates. Often feeds on insects around lights.

Predators:

Breeding: Mates March to July with clutches of 1-2 eggs and may have more than one clutch per year.

Vegetation Association: None - usually in or on buildings, on walls, or on ceilings.

Notes: Translucent pinkish to white in color with some darker blotching. Male squeaks while fighting. This is an introduced species that is native to the Mediterranean area, Middle East, and India.

Photo: To be added.

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REGAL HORNED LIZARD (PHRYNOSOMA SOLARE)



Scientific Name: *Phrynosoma solare*

Temporal Activity: Diurnal and hibernates. Most active in early morning and before sunset, inactive in extreme heat or cold.

Diet: Eats mostly ants.

Predators: Preyed upon by hawks, owls, coyotes, skunks, and ringtails.

Breeding: Mates in the summer; clutch size of 7-33 eggs.

Vegetation Association: Prefers level terrain with scrub vegetation or succulents.

Notes: When attacked may play dead, or some squirt an irritating blood solution from capillaries near their eyes.

Photo: Taken at the Watt Preserve on September 6, 2007.

Watt Preserve:



Scottsdale Community College:



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TIGER WHIPTAIL LIZARD (CNEMIDOPHORUS TIGRIS)



Scientific Name: *Cnemidophorus tigris*

Temporal Activity: Diurnal, April through September; hibernates during winter.

Diet: Eats insects.

Predators: Wide variety of lizards, snakes, and birds prey upon this species.

Breeding: 1-5 eggs per clutch, 1-2 clutches per year.

Vegetation Association: Open desert

shrubland with a variety of soils.

Notes: Behaves aggressively towards trespassing lizards. Very difficult to catch by hand.

Photo: Taken at Coon Bluff on April 4, 2007.

Coon Bluff:



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DESERT TORTOISE (*GOPHERUS AGASSIZII*)



Scientific Name: *Gopherus agassizii*

Temporal Activity: Diurnal and hibernates, active March through fall, will emerge from burrows in response to thunderstorms, monsoons, rain, or favorable temperatures. Generally more active in early morning and evening; escapes the heat of the day by retreating to its burrow.

Diet: Eats native winter and summer annuals, perennial grasses, cacti, and other vegetation.

Predators:

Breeding: 3-15 eggs per clutch, 2-3 clutches per year, mates in the spring.

Vegetation Association: Associated with creosote, thorn scrub and cacti.

Notes: Bladder can store over 40% of its body weight. Desert Tortoise is a keystone species whose burrow may be used by many other desert species.

Photo: Taken at Brown's Ranch on September 18, 2004.

Brown's Ranch:



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