

AMPHIBIAN TALKING POINTS

AMPHIBIAN GENERAL CHARACTERISTICS

- “Amphibian” has Greek origins and means “double life”; most amphibians undergo complete metamorphosis; a change occurs from the larval or tadpole state into adult form.
- Amphibian eggs do not have a hard shell coating so they must lay their eggs in or near water.
- Amphibians are ectothermic; they are unable to regulate their own body temperature and depend on external sources for their body warmth.
- Amphibians play an important role as both predator and prey. Most adult amphibians are insectivorous and help keep animal populations in balance. Many amphibians eat plants at some point in their lives. Amphibians are prey to numerous birds, fish and reptiles (i.e. snakes and lizards) as well as some mammals (i.e. raccoons, foxes, and otters).
- Amphibians were the only vertebrate life forms on earth for about 60 million years until the better-adapted reptiles began to take over the land.
- The majority of tropical frogs are found in the trees in contrast to those frogs in temperate environments, which are found near bodies of water on the forest floor. Plants such as Bromeliads provide suitable environments where frog eggs are laid and hatched; bromeliads are plants with thick, waxy leaves that form a bowl shape in the center, catch rainwater at their base.
- Permeable, glandular skin acts as a respiratory membrane
- The overall health of the amphibian population is an indication of the overall environmental health of the planet or of individual habitats; amphibians are considered indicator species. Since amphibian skin is permeable, pollutants that threaten an ecosystem’s health will also affect the frog.
- Frogs produce a wide array of skin secretions, many of which have significant potential to improve human health through their use as pharmaceuticals.
- Amphibian diversity is highest in the tropics with Brazil having the most amphibian species. The Amazon basin is habitat for more than 1000 species of frogs.
- Various amphibian populations all over the world have undergone dramatic declines in the past 10-20 years. Overall, 1 in 3 amphibians are at risk of extinction!
- The largest factor leading to amphibian population declines is habitat destruction.
- Chytridiomycosis is an infectious disease (a fungus) that has been linked to the dramatic population declines or even extinctions of amphibian species.
- The zoo is involved in captive breeding and release programs for two native CA species: **Mountain Yellow-legged Frogs** (*Rana mucosa*) and **Red-legged Frogs** (*Rana draytonii*).
- Modern amphibians are divided into three groups: the caecilians (legless amphibians, Order Gymnophiona) the salamanders and newts (Order Caudata) and lastly the frogs and toads (Order Anura).
- The Tropical Aviary has the following amphibian species: **Green and Black Dart Frog** (*Dendrobates auratus*), **Dyeing Dart Frog** (*Dendrobates tinctorius*), **Golfdulcean Poison Frog** (*Phylllobates vittatus*), **Red-eyed Tree Frog** (*Agalychnis callidryas*), **Amazon Milk Frog** (*Trachycephalus resinifictrix*), **Smokey Jungle Frog** (*Leptodactylus pentadactylus*), **Surniam Toad** (*Pipa pipa*), **Panamanian Golden Frog** (*Atelopus zeteki*), and **Aquatic Caecilian** (*Typhlonectes natans*).

POISON DART FROG (FAMILY DENDROBATIDAE) GENERAL CHARACTERISTICS

- Poison Dart Frogs have bright coloration (aposematic coloration), a warning to predators that their skin is toxic; it says, “Don’t eat me, I’m poisonous!”
- Most frogs are nocturnal, but Dart Frogs are diurnal and rely on their bright colors to warn predators of their toxicity.
- Poison Dart Frogs live primarily in leaf litter on the forest floor, but some species live high in the forest canopy.
- Many Poison Dart species exhibit parental care; depending on the species, the male or female will transport their tadpoles on their back to a small body of water that you may find in a bromeliad plant or in a treehole.
- Poison dart frogs get their toxicity from some of the insects they eat, which have fed on toxic plants. Poison dart frogs raised in captivity aren't toxic because the insects they feed on haven't eaten poisonous plants.
- When hunting, indigenous peoples dip the tips of their blowgun darts in the frog’s skin secretions.
- The only natural predator of most of the Poison Dart Frog family is the Fire-bellied Snake (*Leimadophis epinephelus*), which has developed a resistance to the frogs' poison. The snake’s saliva may detoxify the ingested frog.

Sources:

A Neotropical Companion, 2nd edition by John Kricher, © 1999 Princeton University Press

Reptiles and Amphibians of the Amazon by R.D. Bartlett and Patricia Bartlett, © 2003 University Press of Florida

<http://animals.nationalgeographic.com/animals/amphibians/poison-frog/>

<http://amphibiaweb.org/>

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