

## Frog Article Notes

Article By Virginia Morell

- a herpetologist studies frogs
- Stephen Richards has discovered dozens in Papua New Guinea and Queensland, Australia
- the sound of rain gathers males to begin calling the females
- scientists can distinguish frogs from their calls
- many species have been sharply declining worldwide
- Litoria- lace lid tree frog
- Nyctimystes- torrent-stream frog
- Rana- large bullfrog
- amplexus- mating
- many species have larger females than the males
- nuptial pads- small spiny structures on the inner surface of each thumb
- if eggs are attacked, they will hatch early
- eggs come out of a female s cloaca
- torrent-stream frogs have suction lips to hold onto rocks to eat algae
- suctorial tadpoles
- adapted to living in strong water
- 190 million years- frogs have been on earth
- 350 million years- amphibians have been on earth
- amphibians were the first to walk on land with a backbone
- anura- frogs and toads
- caudata- salamanders and newts

- gymnophiona- caecilians - worm-like creatures that live in leaf litter or streams
- anurans are most successful- more than 15 new species
- North American Wood Frog- has antifreeze in its blood
- waxy coatings protect Latin American frogs from drying out
- metamorphosis- hatch, tadpoles, frogs
- Cophixals ornatus- ornate nursery frog -microhylit
- males guard nests against things such as fungi
- Sphenophryne schlaginhaufeni- males carry babies on their backs
- Darwin s Frog- males hold the eggs in mouth
- Poison Dart Frog- Dendrobates pumilio- female puts the eggs in vermiliad pools/leaves. the tadpoles eat unfertilized eggs.
- Pipia- skin grows over the eggs on her back
- Agalychnis callidryas- tree frog in Panama- lays eggs on fronds. the eggs hatch early if bothered by a snake.
- Gastric-brooding frogs- Rheobatrachus
- 2 species
- swallows her eggs and then regurgitates them when hatched
- first discovered ~25 years ago
- disappeared since the 1980s
- Queensland species pop. have been dropping since the 1970s
- frogs have been showing up w/ deformities like extra hind legs
- 1989- 4 species in Queensland
- 1991- 2 have disappeared
- day frog pop. have been declining then eventually disappearing

- Costa Rica's mountain frog pop. dwindled
- Golden Toad- *Bufo periglenes*- not seen since 1989
- Chytrid fungus- water born organism that kills frogs
- decomposes plants
- infects and kills vertebrates
- may release a toxin as it eats the carotin in the frog's skin
- compared to the ebola virus in humans
- came to Australia on an infected frog
- 44 species, extinction of 4 including Golden Toad
- most susceptible at higher, cooler altitudes
- don't know how to stop it
- fertilizers and trout cause problems for frogs
- habitat loss is the biggest problem
- Panamanian golden frog- similar to Costa Rica's golden toad- afraid these might be infected too. after research, they are infected with chytrid.
- frog toes are cut off to be studied for the fungus
- *Asterophrys* frog- blue mouth and feisty
- Chiricahua- leopard frog- *Rana chiricahuensis*- almost vanished in many areas
- deformities- trematodes cause deformities
- UV light kills eggs
- climate change- global warming caused dry weather to kill off Golden Toad
- acid rain and metals kill frogs from being absorbed from the skin
- viruses like saprolegnia, irido, and chytrid

- pesticides cause deformities
- 70% of juvenile frogs in farm ponds in Quebec
- adults rarely are deformed, few juveniles live w/ deformities
- males can chirp hundreds of times a night
- Eleutherodactylid- chokes other male competitors
- disguises body to prevent predation