

Biogeography. Lecture 15

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Outline

Taxonomy

Birds

Reptiles and amphibians

Overview



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Reptiles and amphibians

Overview



Taxonomy

Birds

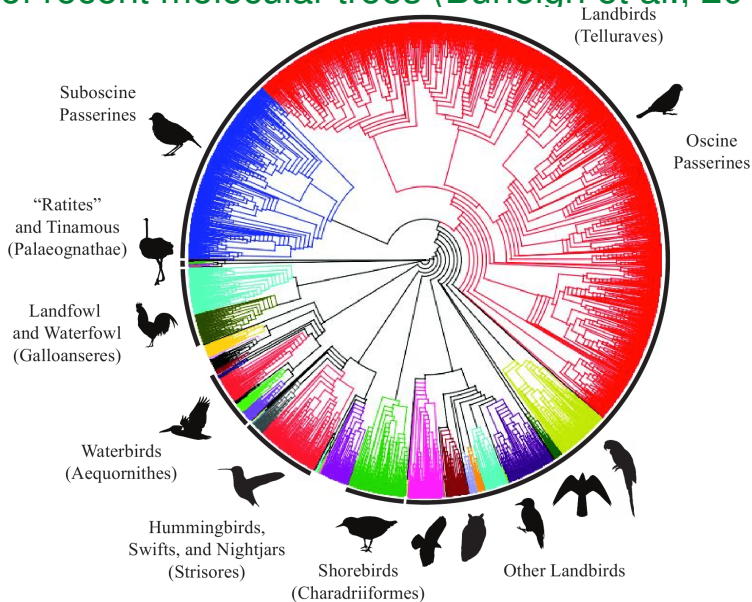


Birds phylogeny

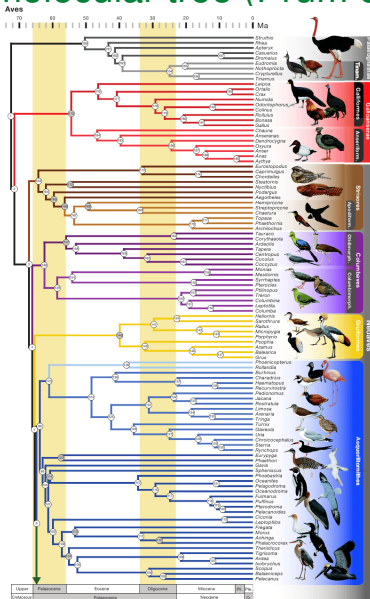
- ▶ Phylogenetically, birds are subgroup of theropod dinosaurs
- ▶ Molecular phylogeny is not yet stable, morphological trees are much better



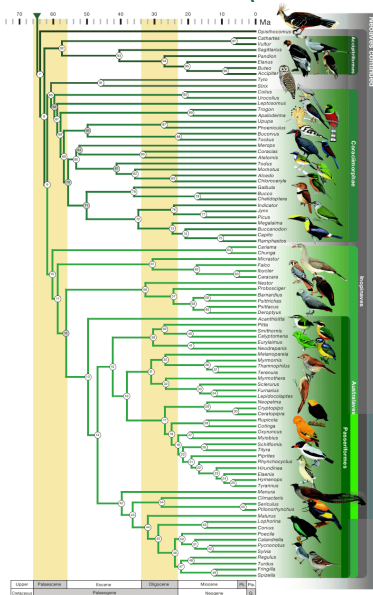
One of recent molecular trees (Burleigh et al., 2014)



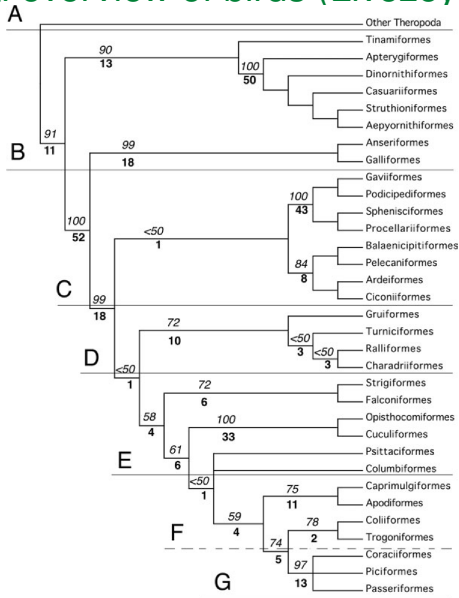
Another recent molecular tree (Prum et al., 2015) (1)



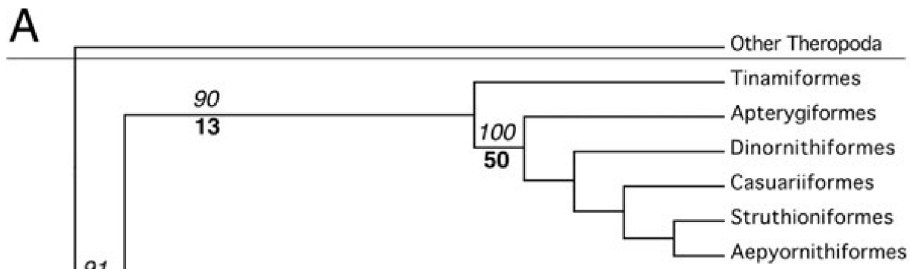
Another recent molecular tree (Prum et al., 2015) (2)



Morphological overview of birds (Livezey et al., 2007)



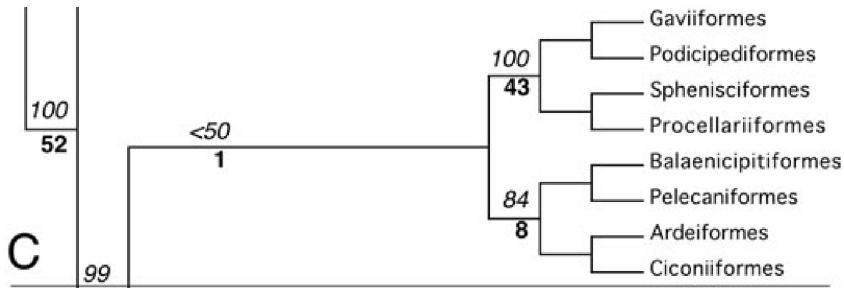
A: non-flying birds, ostrich and others



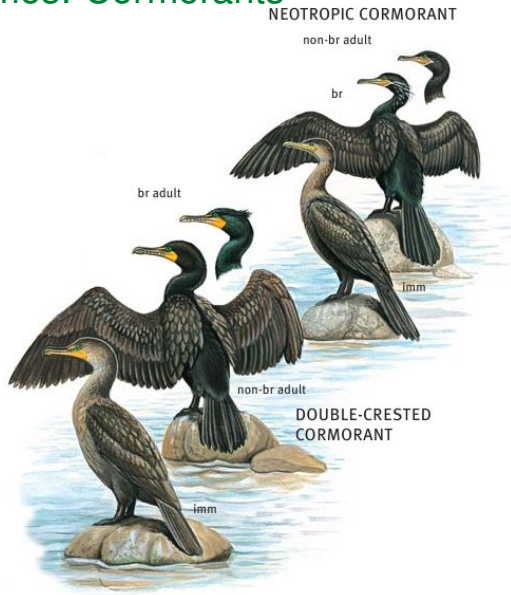
B: Galloanseres, chicken and ducks



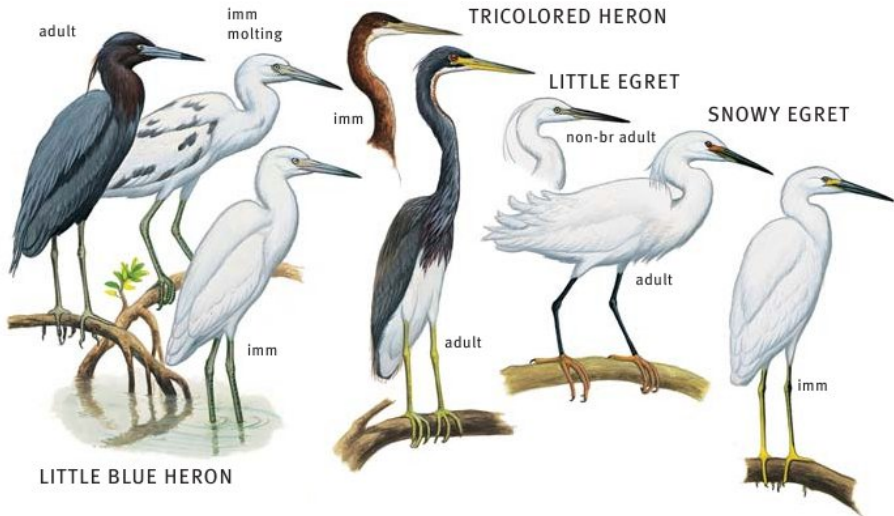
C: seabirds



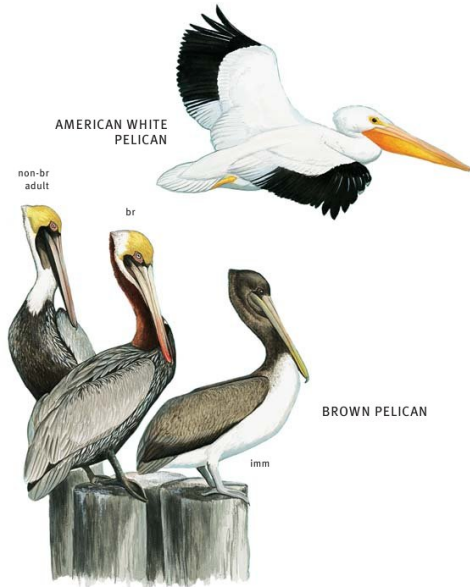
Pelecaniformes: Cormorants



Pelecaniformes: Herons

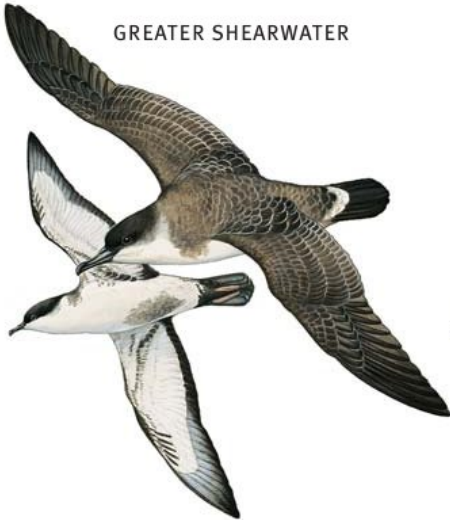


Pelecaniformes: Pelicans

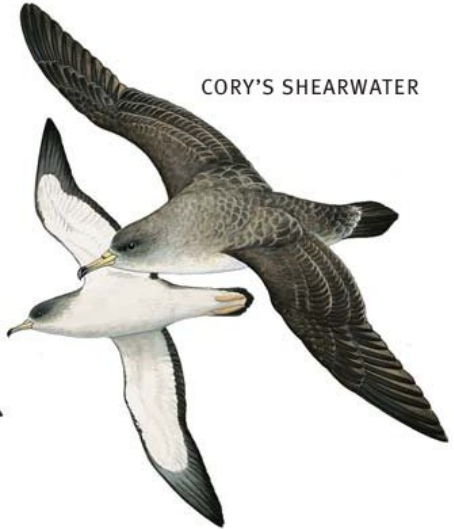


Procellariiformes: Shearwaters

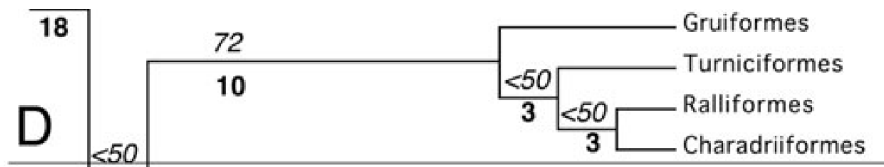
GREATER SHEARWATER



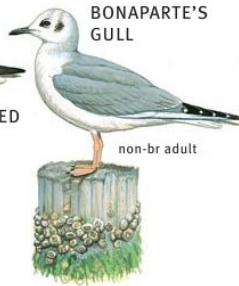
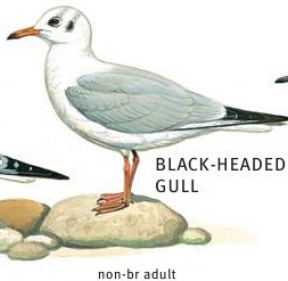
CORY'S SHEARWATER



D: cranes, gulls and others



Charadriiformes: Gulls



Charadriiformes: Sandpipers



SOLITARY SANDPIPER

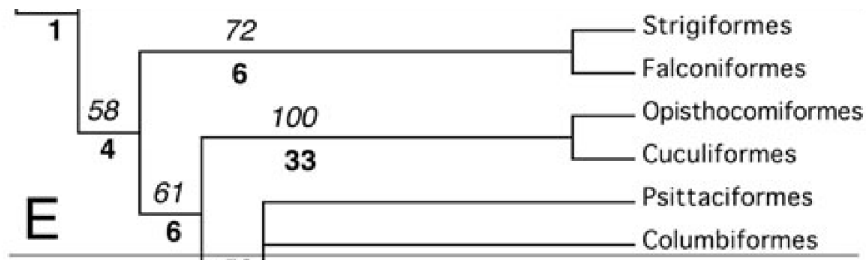


WOOD SANDPIPER

Gruiformes: Rails



E: birds of prey, cuckoos, parrots, doves



Psittaciformes: Parrots

YELLOW-BILLED
PARROT

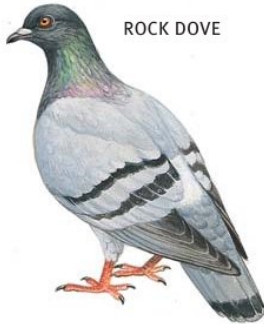


BLACK-BILLED
PARROT



ST LUCIA
PARROT

Columbiformes: Doves



ROCK DOVE

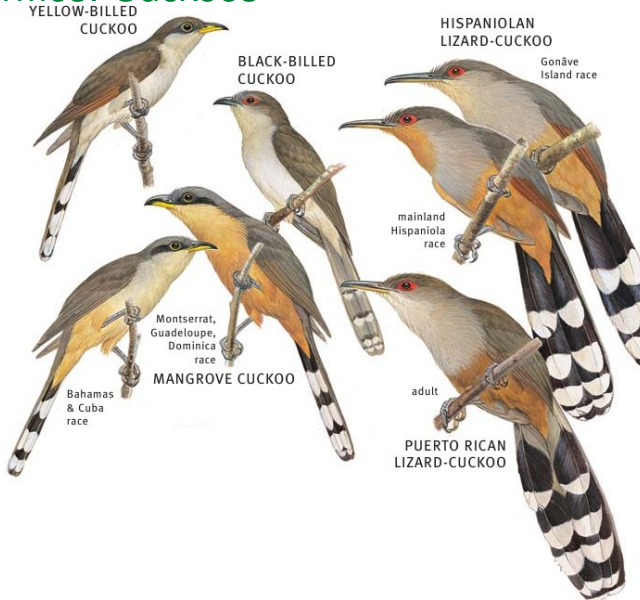


WHITE-WINGED DOVE

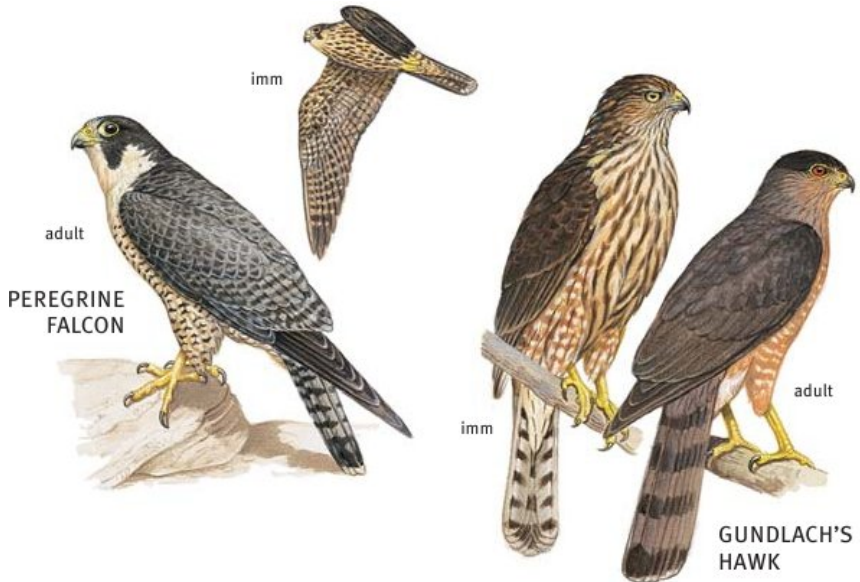


EARED DOVE

Cuculiformes: Cuckoos



Falconiformes: Falcon and hawk



Strigiformes: Owls

PUERTO RICAN
SCREECH-OWL

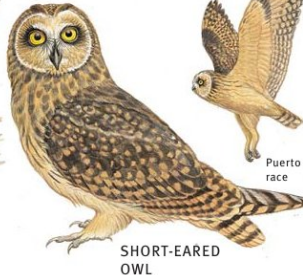


adult

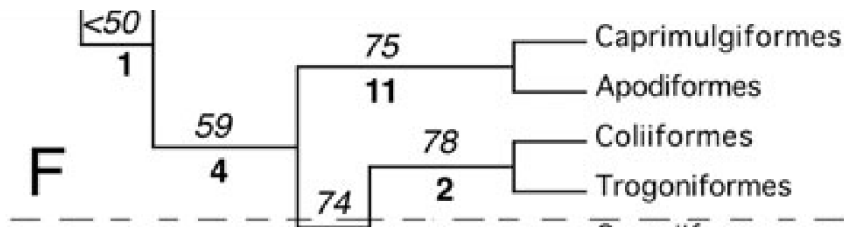


BURROWING OWL

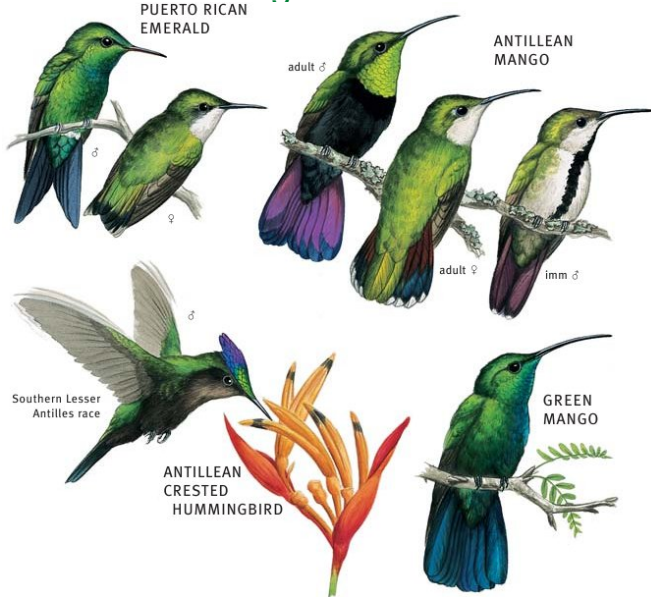
CUBAN PYGMY-OWL



F: swifts, hummingbirds and others



Apoditiformes: Hummingbirds



Apoditiformes: Swifts



Caprimulgiformes: Nightjars



WHITE-TAILED NIGHTJAR



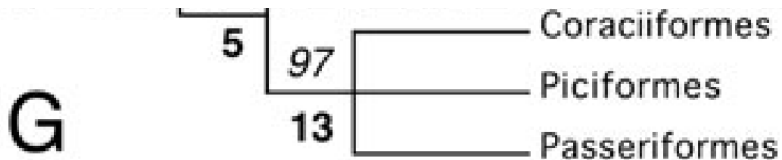
WHIP-POOR-WILL/PUERTO RICAN NIGHTJAR



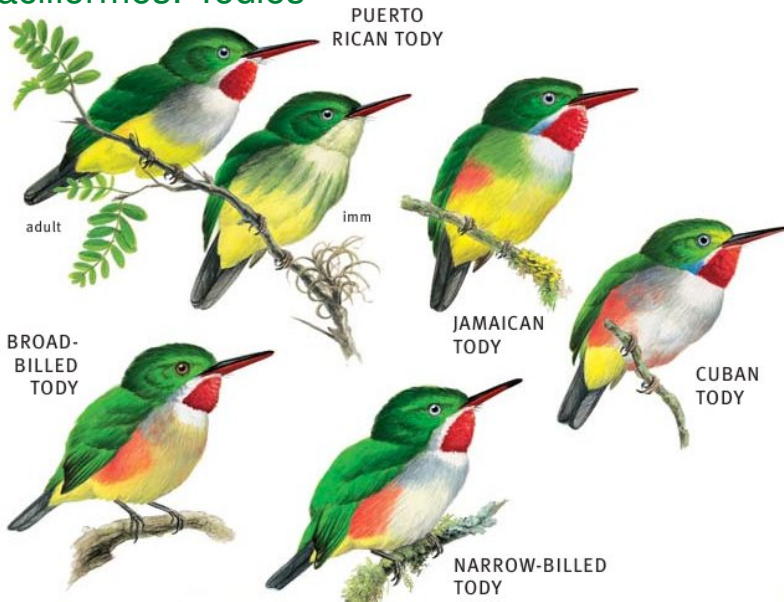
Trogoniformes: Trogons



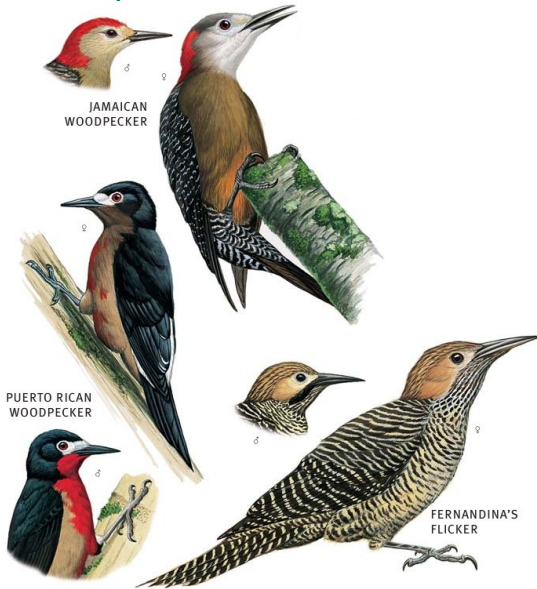
G: woodpeckers, songbirds and others



Coraciiformes: Todies



Piciformes: Woodpeckers

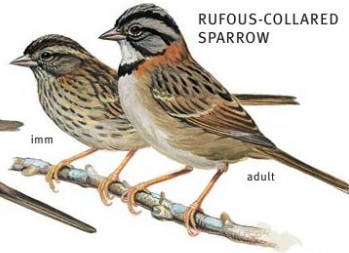


Passeriformes: Sparrows

WHITE-CROWNED
SPARROW



RUFOUS-COLLARED
SPARROW



LARK
SPARROW

CLAY-COLORED
SPARROW



Reptiles and amphibians

Overview



Amphibians: very short overview

► Amphibia

- Gymnophiona: caecilians, legless amphibians
- Caudata: salamanders
- Anura
 - **Archaeobatrachia**, e.g., tailed frog
 - **Mesobatrachia**, e.g., clawed frogs like African *Xenopus*
 - **Hyloidea**, e.g., Puerto Rican tree frog, coqui (*Eleutherodactylus*)
 - **Ranoidea**, e.g., common frogs



American tailed frog (*Ascaphus*)



Puerto Rican tree frog, coqui (*Eleutherodactylus*)



Reptiles: very short overview

► Reptilia

- Testudines, turtles
- Crocodilia, alligators etc.
- Sphenodontia, New Zealand tuatara
- Squamata, lizards and snakes
 - **Gekkota**: geckos like Puerto Rican *Sphaerodactylus*
 - **Scincoidea**: skinks like Puerto Rican *Mabuya*
 - **Lacertoidea**: common lizards like Puerto Rican ameiva (*Ameiva*) and “legless lizards” (*Amphisbaena*)
 - **Anguimorpha**: anguids like Puerto Rican *Diploglossus*
 - **Iguania**: true iguanas like Puerto Rican *Anolis* or *Iguana*
 - **Serpentes**: snakes like blind snakes (*Typhlops*) and Puerto Rican boa (*Epicrates*)



New Zealand tuatara (*Sphenodon*)



Gekkota: Puerto Rican gecko (*Sphaerodactylus*) in hotel



Scincoidea: *Mabuya*



Lacertoidea: *Ameiva exsul*



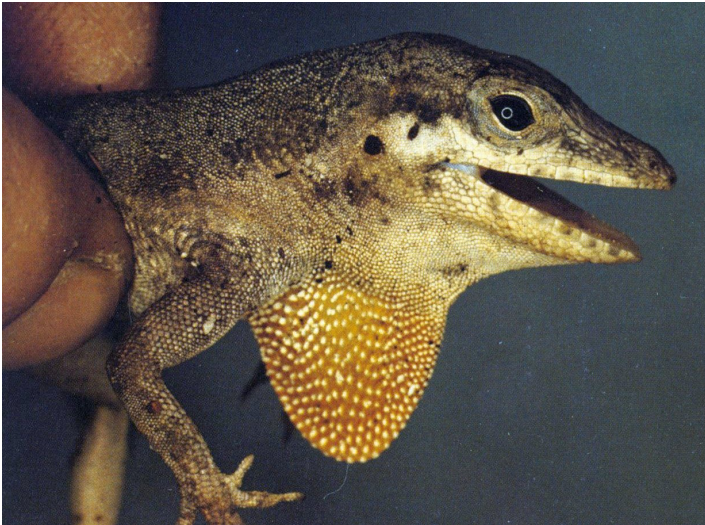
Lacertoidea: *Amphisbaena*



Anguimorpha: *Diploglossus*



Iguania: *Anolis*



Iguania: *Iguana*



Serpentes: *Typhlops*



Serpentes: *Epicrates*



For Further Reading



A. Shipunov.

Biogeography [Electronic resource].

2014—onwards.

Mode of access:

http://ashipunov.info/shipunov/school/biol_330



Biological classification.

[http:](http://en.wikipedia.org/wiki/Biological_classification)

[//en.wikipedia.org/wiki/Biological_classification](http://en.wikipedia.org/wiki/Biological_classification)



Birds.

<http://en.wikipedia.org/wiki/Bird>



Amphibians

<http://en.wikipedia.org/wiki/Amphibian>



Reptiles

<http://en.wikipedia.org/wiki/Reptile>

