

RECENT HERPETOLOGICAL SURVEYS IN THE DR CONGO

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Improving the knowledge on the Central African herpetofauna

- Making checklists, describing unknown species
- Updating distribution data, gathering information on the natural history, phylogeny and phylogeography of species
- Evaluating threats and assessing the conservation status of species and habitats
- Capacity building programs for Congolese herpetologists



Boyekoli Ebale 2010

- 26 April - 8 June 2010
- Four field sites surveyed between Kisangani and Bumba, at the Congo River and its tributaries Itimbiri, Aruwimi and Lomami



Field methods

- Surveys during the day and the night
- Photo & call vouchers (frogs) were taken on site
- Specimens were euthanized with MS222 or T61, fixed in formalin and preserved in 70% ethanol
- Tissue samples of each specimen were collected for DNA analyses
- Identification based on morphological analysis assisted by DNA barcoding



Research material collected

- >750 specimens (and tissue samples) in total
 - 180 reptiles: > 50 species
 - 570 frogs: xxx species
- 300 skin swabs of frogs for *Batrachochytrium dendrobatidis* screening
- 50 skin swabs of frogs for screening of some potentially antimicrobial peptides
- 50 blood samples of reptiles for viral / blood parasite studies
- photo and call vouchers
- further (comparing) material is available from the Salonga NP

First results

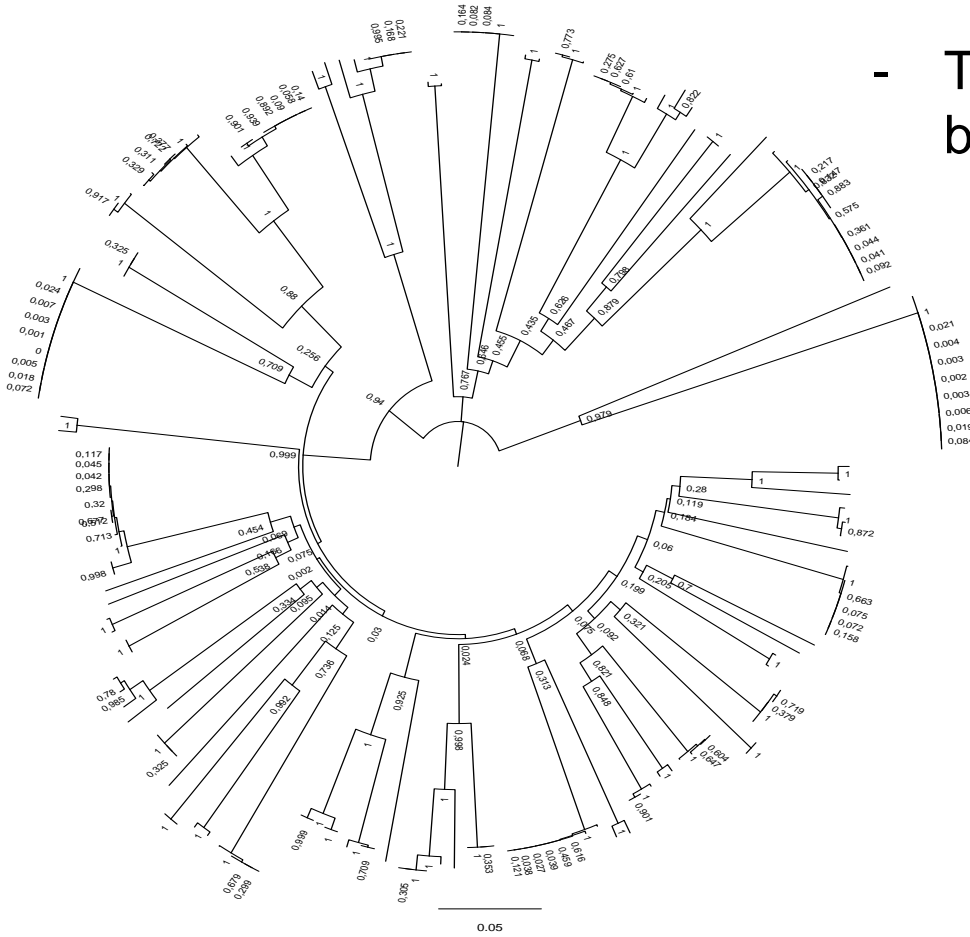
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Foraging acrobatics of *Toxicodryas blandingii* in the Democratic Republic of the Congo

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DNA barcoding of the reptiles collected in the DRC



- The 179 reptile samples investigated belong to >50 species

- Reptile species: well diverged and easy to delineate using DNA barcode sequences
- Intraspecific variation: generally low
- Remarkable intraspecific divergence was only found in skinks and in some snakes (notably in scolecophidians)



DNA barcoding of the frogs collected in the DRC



- The 659 frog samples investigated belong to ca. 50 species
- Amphibian (frog) species: well diverged and in most cases easy to delineate using 16S sequences

Intraspecific divergence varies: in a few cases higher intraspecific divergence observed



Current status

- checklist of the herpetofauna in the DR Congo updated:



Reptiles: **316** species
Amphibians: **238** species
(threatened species: **34**)



- Ongoing and planned activities in eastern, northern and western parts of the country (e.g. Chifundera Kusamba, Eli Greenbaum, Kate Jackson)
- Congo basin: still neglected and vastly underexplored

Support & collaborations

- **technical, logistical etc. support:** Institut Congolais pour la Conservation de la Nature (ICCN), Centre de Recherche en Sciences Naturelles (CRSN)
- **international collaborations:** Danny Meirte (RMCA, Belgium); Eli Greenbaum (UTEP, USA); Ben Evans (McMaster University, Ontario, Canada); Stefan Lötters, University of Trier (Germany)
- **collaborative and funding agencies:** Conservation International (CI), Global Wildlife Conservation (GWC), National Science Foundation (NSF, USA), US Fish and Wildlife Service (USA), Global Taxonomy Initiative, Belgium

Plans for future field work

- Field work in autumn 2011 planned at two sites:
 - I. lowland locality in the Congo Basin (at Mabali; around 145 km south of Mbandaka, a wetland area that is still partly covered by inundated rainforest)
 - II. Upemba National Park (with a mosaic of savannah, grassland and miombo vegetation)

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- Fieldwork winter 2011/2012:

Ethnobotanical investigation of "plant derived antivenoms"

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