

# FishBase for Africa

## A contribution to information transfer and capacity building in African ichthyology

Dimitri Geelhand de Merxem<sup>1</sup>, Tobias Musschoot<sup>1</sup>, Gert Boden<sup>1</sup> and Jos Snoeks<sup>1,2</sup>

<sup>1</sup> Royal Museum for Central Africa (RMCA), Vertebrate Section, Ichthyology, B-3080 Tervuren, Belgium

<sup>2</sup> Department of Biology, Laboratory of Biodiversity and Evolutionary Genomics, KU Leuven, B-3000 Leuven, Belgium



### FishBase

the world's largest online encyclopaedia on fishes with information on more than 33,000 species

#### History:

- Idea conceived in 1987 by Daniel Pauly and Rainer Froese
- 1987–2000: development at WorldFish (formerly ICLARM), with support of the European Commission
- 2001: establishment of the FishBase Consortium, currently consisting of 10 institutions, to support and manage the database



- Originally:** a database with information on about 200 commercially important fish species
- Now:**
  - A database with information on more than 33,000 species
  - Available in 24 different languages
  - 300,000 common names in more than 350 languages
  - 9 mirror sites
  - 0.7 million visits by 0.4 million visitors per month

### Ichthyology at RMCA

Assets of the Royal Museum for Central Africa (RMCA) as a founding member of and as a partner in the FishBase Consortium:

- More than a century long tradition in taxonomic and biodiversity studies on African fresh- and brackish water fishes
- Large fish collection: > 1 million specimens of African fresh- and brackish water fishes, being the largest in the world
- One of the most comprehensive libraries on African fishes in the world
- Highly qualified and experienced team of ichthyologists



### FishBase for Africa programme at RMCA

*“Providing high quality information on African fishes directly to scientists and decision makers in Africa and contributing to local capacity building to assist in a better sustainable management of fisheries and aquaculture”*

#### FishBase for Africa

- RMCA is responsible for the information on the about 3,500 known African fresh- and brackish water fish species in **FishBase**
  - Validating and updating data on African fresh- and brackish water fishes in FishBase
  - Screening new literature on African fresh- and brackish water fishes, and adding relevant data to FishBase
  - Modifying and updating information according to comments and questions of users
- RMCA developed **FishBase for Africa**, a subset of FishBase with exclusively data on African fresh- and brackish water fishes
  - Functions as a platform for African ichthyologists to share information, news and publications



#### ‘FishBase and Fish Taxonomy’ training session

- Since 2005 RMCA organizes an annual, comprehensive and ‘state-of-the-art’ training session on the use of FishBase and on African fish taxonomy for five African ichthyologists
- Contents of the training session:
  - FishBase:** courses on the encyclopaedic character of FishBase and the practical use of FishBase data
  - Fish taxonomy:** theoretical courses on fish taxonomy, statistical analyses and many identification exercises
  - Case study**

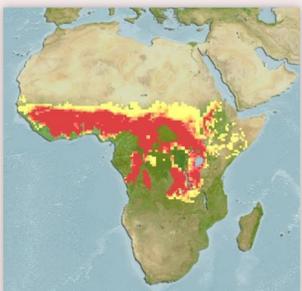


Interested in the training session? Please visit: <http://fishbase.africamuseum.be>

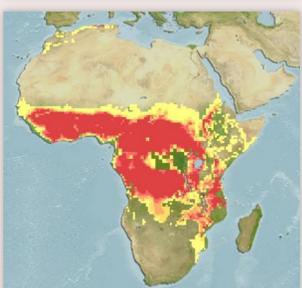
- 55 scientists from 20 different African countries have already attended this hands-on training session, forming an extensive network
- Since 2009, RMCA also organizes an annual **follow-up training session**, allowing former trainees to finish the work on their case study
- In November 2015, a **local training** on FishBase and fish taxonomy will be organized in Africa for the first time as a result of a collaboration between RMCA and a FishBase alumni from Senegal.

#### AquaMaps for Africa

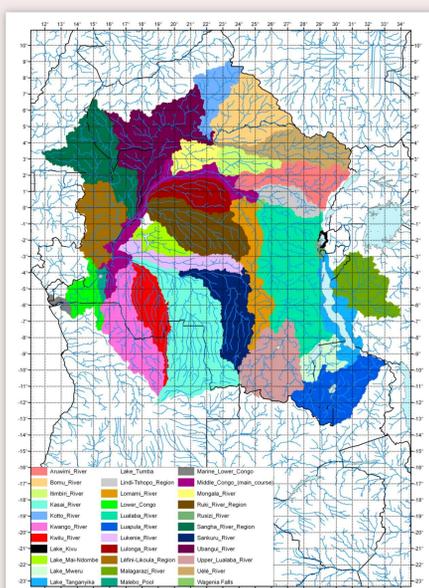
- AquaMaps** were originally developed to predict the natural occurrence of marine mammals, and later fishes, using different environmental parameters
- AquaMaps for African freshwater fishes are being developed by the RMCA and FishBase
  - A first set of AquaMaps were developed for 200 catfish species of the Congo River basin
  - This required an update of the distribution range of the catfish species in the basin and the delimitation of river basins and subbasins in Africa using Hydro1K and HydroBasins



native range



suitable habitat

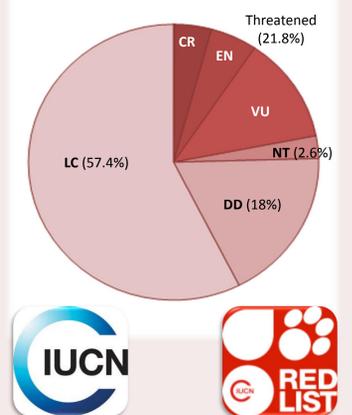


Subbasins of the Congo River basin

AquaMaps for *Auchenoglanis occidentalis*

#### IUCN

- From 2003 to 2010 the RMCA assisted the IUCN in the evaluation of the conservation status of 2,836 African freshwater fish species for the IUCN Red List of Threatened Species™
- This Pan-African Freshwater Biodiversity assessment revealed that 21.8% of the assessed species can be classified as threatened. About 500 species were listed as ‘Data Deficient’.
- RMCA now closely collaborates with IUCN to fill existent gaps in the knowledge and to further complete the assessments of African fresh- and brackish water fishes. This includes:
  - Adjusting the taxonomy of African fish species in the IUCN Species Information System (SIS)
  - Adding and assessing recently described species in SIS
  - Updating relevant information on the distribution range, threats, ecology, ... of African fish species based on the available literature



With the support of THE BELGIAN DEVELOPMENT COOPERATION .be