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African Rodentia becomes African Mammalia

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The availability of online databases has become key in the advancement of taxonomy and conservation. The African Rodentia database contains extensive specimen and tissue collections of the Royal Museum for Central Africa (RMCA), the Royal Belgian Institute of Natural Sciences (RBINS) and the University of Antwerp (UA). Since its launch in 2007 the African Rodentia database has become an important reference with 100 unique visitors per month, about 50,000 page views/year and more than 150 registered users. Part of its popularity is thanks to its unique combination of taxonomical, ecological, geographical and genetic data, as well as data on parasitic and viral infections. While rodents, and in particular murids, still make up the largest part of the specimen collections, recent research has increasingly focussed on other mammal taxa like shrews and bats. Because of its proven usefulness for the diffusion of data on African rodents the African Rodentia database will therefore expand its taxonomical range to include all African mammal orders. Like its predecessor, African Mammalia maximizes its effectiveness by allowing users to query all fields, so not only on species names, but also on the collector, the locality, date of collecting, habitat, type of infection, availability of measurements, morphological and DNA sequence information. These same reasons that set apart African Rodentia from GBIF and other global databases, will allow African Mammalia to become in important reference for mammalogists working on the African continent.

(POSTER)

Vertebrate diversity patterns in the Congo Basin rainforests

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One of the most widely recognized patterns in ecology is the increase in species richness from poles to tropics. Literature suggest that the Congolian lowland rainforest does not follow this pattern: The Central Congolian forest (CCLF), south of the Congo river, is thought to harbor fewer vertebrate species and endemics than the Northeastern (NELF) and Northwestern lowland rainforest (NWLF) north of the Congo river. We used data from the Global Biodiversity Information Facility (GBIF) database on terrestrial vertebrates (mammals, birds, and reptiles), to

test whether differences in sampling effort caused the irregular biodiversity pattern in this region. Our results show that even though the diversity within the Congolian lowland rainforests remains to be fully mapped, current differences in richness are unlikely to be caused by undersampling alone. We argue that the lower vertebrate richness in the CCLF is due to both its relatively small area size and isolated position: Forest cover fluctuated throughout the history of the Congo Basin due to climatic variability, reducing speciation and increasing extinction, while immigration towards the CCLF is limited due to the barrier effect of the Congo river. This implies that diversity differences among Congolian lowland forests are mostly due to forest-associated taxa with limited dispersal capacities. Indeed, we found that local shrew biodiversity was consistently lower in the CCLF, the less species-rich biogeographic region, from taxonomic and functional perspectives. Moreover, we found no evidence that variation in local shrew species composition or biodiversity were related to differences in local interspecific interactions or anthropogenic disturbances. In contrast, the species pool hypothesis received strong support, suggesting that the historic biogeographic differences between regions continue to influence contemporary spatial patterns of biodiversity.

(ORAL PRESENTATION)

Bio-Based Rodent Control Product - Shifting to ecological and biological rodent control

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For many years there has been no innovation in rodent control methods, while chemical products are losing their effectiveness. Therefore this research is undertaken to study the effectiveness and practicality of a novel way of rodent control, using botanical products. The objective is to create an off-the-shelf bio-based product, based on the active plant ingredients. The product is to be accessible for smallholder farmers to reduce damage caused by rodents. This damage is massive in many areas - globally 5-15% (Meerburg, Singleton, and Leirs 2009). The bio-based rodenticide will make a major contribution to increased and improved food crop production at primary levels for the vast amount of smallholder farmers in sub-Sahara Africa. The potential of these botanicals and their working mechanisms were not proven before. The feasibility study tested a range of botanical products in different mixes and in different form (powder/liquid) under scientific protocols, with encouraging results. During the field and lab experiments it is determined that the selected botanicals have the capacity to kill rodents. In the field dead rats within and nearby the experimental fields were observed showing signs of