



Preface

Amphibian & Reptile Conservation Special Angola and Africa Issue

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Africa is a mega continent that was isolated for long periods of its history. However, after the tectonic activity and uplift that accompanied Gondwana's breakup and Africa's birth c. 130 Ma the continent was relatively quiescent for nearly 100 million years until the development of the East African Rift system 31–30 mMa (Ring 2014). Prior to this erosion prevailed and African landforms underwent a complicated evolution. The mechanics and consequences of both the accumulation of Kalahari sands in the central basin, and the relatively recent cutback of small coastal rivers through the fragmenting Great Escarpment to drain the great palaeolakes of the interior, are now slowly being pieced together (Senut et al. 2009; Cotterill and De Wit 2013; Flügel et al. 2015; Neumann and Bamford 2016). During this time of isolation Africa developed many unique biological lineages and communities, not the least of which are Afrotherian mammals and the world's most diverse assemblage of venomous snakes.

At least 1,648 reptile species are known from mainland Africa (Uetz and Hošek 2016), but this is likely to be a significant underestimate, given the high reptile diversities of well-studied faunas such as those of Mexico (>800 species) and Australia (>900 species). Even within Africa many regions are rarely surveyed resulting in severe knowledge gaps. This is reflected in the number of African reptile records in public databases, where for Australia there are nearly 780 records per species, 475 for Mexico, but only 60 records per species for Africa. Many areas, particularly in the Congo Basin, the Sahel and the Horn of Africa, have zero records for many species (Tolley et al. 2016), and although there remain nu-

merous additional locality records dispersed in museum collections, they have not been consolidated and made easily accessible. This hinders the study of the African herpetofauna, preventing fuller understanding of its origins and diversity, and therefore its conservation (Tolley et al. 2016).

Although there have been numerous regional surveys for reptiles south of the Equator, e.g., southern Africa (Branch 1998), East Africa (Spawls et al. 2001), Zambia (Broadley et al. 2003), Tanzania (Broadley and Howell 1991), etc., the last detailed review of Angolan herpetology was prepared over 120 years ago (Bocage 1895) and consequently is now very out-of-date. The Reptile Database (Uetz and Hošek 2016) currently lists 253 reptile species from Angola. However, this list, which is automatically generated, contains incorrect inclusions, e.g., *Comsophis boulengeri* (Madagascar) and *Micrurus bogerti* (Mexico), *Agama finchi* (East Africa), *Trachylepis quinquetaeniata* (northeast Africa), etc. It also includes species that have been fragmented by recent revisions, and where the revived local species is included along with the original species with which it was synonymized and which no longer occurs in Angola, e.g., *Chamaesaura macropholis*, *Cordylus cordulus*, *Cordylus vittifer*, *Holaspis laevis*, *Leptotyphlops nigricans*, *Pachydactylus serval*, *Pedioplanis undata*, etc.

Southern Africa, the geographic region south of the Cunene and the Zambezi rivers, has the most diversity reptile fauna in Africa, both in terms of species and family richness (Branch 2006). South Africa, in particular, has exceptional reptile diversity, with nearly 400 species and 44% endemism (Branch 2014 and updates).

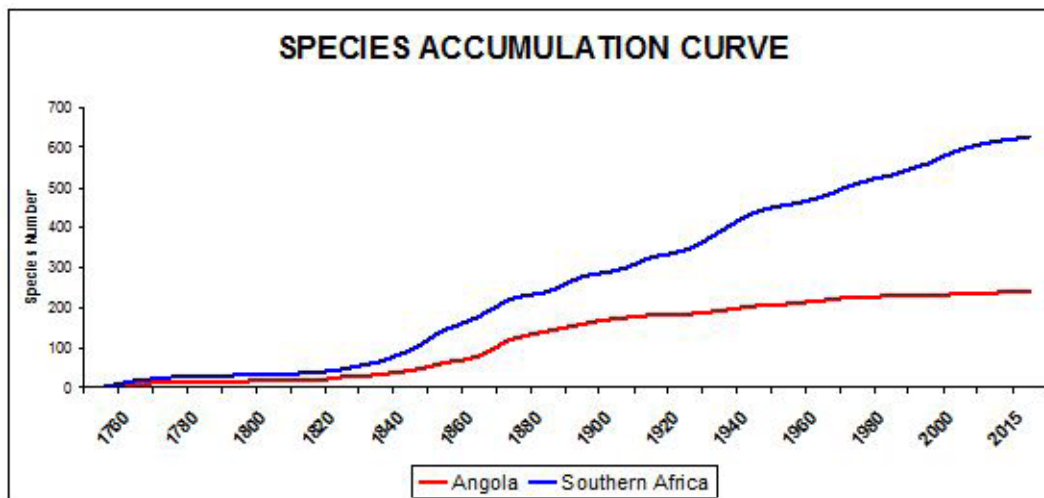


Figure 1. Species accumulation curves for Angolan (red) and southern African (blue) reptiles.

Although alpha diversity for Namibia is lower, with 228 species and just 22% endemism (Herrmann and Branch 2013 and updates), this is in part due to its smaller geographic area (Namibia 0.82 million km², South Africa 1.22 million km²) and reduced habitat diversity. Angola, however, is approximately the same size as South Africa (1.25 million km²) with diverse habitats ranging from the northern section of the world's oldest desert, the Namib, in the southwest, to lowland tropical rain forest of the Congo Basin in the north. In addition, the complex topography and geology of northern outliers of the Great Escarpment and numerous central isolated highlands create further habitat complexity. Despite this the known Angolan reptile diversity (about 253) is only slightly richer than that of adjacent Namibia and much lower than that of South Africa. A species accumulation curve for the description of reptiles from southern Africa has shown no decline during the last 150 years, and now exceeds 600 taxa (Fig. 1). In contrast the curve for Angola has shown very little increase during the last century (Fig. 1). Normally this would infer that the country's reptile fauna is well known and that few new species remain to be discovered. However, recent surveys (e.g., Huntley 2009; Huntley and Francisco 2015; Ceriaco et al. 2014, 2016) have uncovered numerous new species (e.g., Conradie et al. 2012, 2013; Stanley et al. 2016), and it is evident that Angolan reptile diversity simply remains poorly known. The articles presented in this special issue detail new discoveries, provide updated checklists, and taxonomic discussion, and begin to reveal the true extent of Africa's rich herpetofauna.

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