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# Biogeography of Gulf of Guinea Oceanic Island Reptiles

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## Abstract

Studies on the reptile fauna of the oceanic islands of the Gulf of Guinea had its initial impetus during the second half of the nineteenth century leading to the description of several new forms and the overall cataloguing of the occurring group of species. After this period, studies on the taxonomy and biogeography of this fauna in the region came to an almost complete halt. Since the early 2000's, backed with molecular data, the reptile fauna of these islands started to be investigated, leading to the discovery and description of five new endemic species and several subspecies. Evidence shows that species diversity is even higher than currently documented on these islands, and additional work will reveal new species. These new discoveries have increased the percentage of endemic reptiles and contributed to a new paradigm on the biogeographic and evolutionary patterns for these islands. Similar to other taxonomic groups (e.g. mammals and amphibians) our data on reptiles shows several modes of post-colonization diversification on these islands – 1) single representatives of certain genera arrived at specific islands and speciated *in situ*; 2) sister-taxa occurring on two or more islands diversified through island-hopping colonization; 3) independent colonization of different islands by representatives of the same genus; and 4) populations diversified after sea-level changes fragmented some of the islands. Besides the endemics, at least three species represent recent introductions, possibly through anthropogenic mediated dispersal. Biogeographically, the reptile fauna of the Gulf of Guinea Oceanic Islands is composed by Western and Central African Groups, but there are noticeable differences between islands, with the southern islands having representatives of southern and eastern African clades. Our current knowledge of reptile diversity in these islands raises several hypotheses that need to be formally addressed and that will likely contribute to a better understanding of the biogeography, colonization and diversification processes in oceanic islands.

**Keywords:** Reptilia, Africa, new species, diversification, endemism

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