Realized niche modelling of four sand-dwelling lizard species in Qatar

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Qatar is a small country with desert climate and marine influence where only few studies have been done on reptiles and their distribution. These data are basic for the correct conservation and management of the species and their habitats. In this work we present ecological niche models (ENMs) for four sand-dwelling lizards in Qatar, using as predictors remote sensing and climatic data. Although both sets of predictors provided similar outputs, predicting the southern sandy areas of Qatar as suitable habitat for the four species, differences were detected, and they have been corrected using distance to sand layer on the raw remote sensing model. These models were considered at least "good" (AUC>0.8), and provide a useful species distribution predictive tool, despite their limitations. Future advances in the knowledge of the environment, higher resolution habitats and climate maps, will improve these and other ecological niche models in Qatar.

Key words: MaxEnt; reptiles; distribution; biodiversity; desert.