

The invasive brown anole *Anolis sagrei* introduced to Bioko island (Equatorial Guinea); a threat to the Gulf of Guinea

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The Gulf of Guinea, situated along the central-western coast of Africa, includes several tropical islands with unique ecosystems and numerous endemic species (Jones, 1994; Ceriaco et al., 2022). Currently, only one reptile species non-native to Africa, the blind snake *Indotyphlops braminus*, has been documented on these islands. Although its presence is well-known (Jesus et al., 2003), its ecological impact remains unclear. On Annobón Island, however, the introduced gecko *Hemidactylus mabouia*, an African species, shares habitats with the endemic *Hemidactylus newtoni* (Jesus et al., 2005), potentially causing competitive exclusion. In contrast, on Bioko Island, despite being the largest island in the Gulf of Guinea and the site of Equatorial Guinea's capital, no invasive reptile species had been recorded until now (Sánchez-Vialas et al., 2022).

In this note, we document the first introduced populations of the invasive lizard *Anolis sagrei* Duméril y Bibron, 1837 on Bioko. This species, native to Cuba and the Bahamas, is known for its successful establishment in numerous regions worldwide, often with substantial ecological impacts (Fisher et al., 2020; Bush et al., 2022). For example, it is known to alter the behaviour of native lizard species, and impact native ant communities, spiders and other arthropod populations (Kamath et al., 2013; Huang et al., 2008a; 2008b). It is also noted for its rapid population growth in new environments (Campbell & Echternacht, 2003).

The identification of these lizards as *A. sagrei* was based on a combination of morphological traits, consistent with those described for the species (Rodríguez-Schettino, 1999; Norval et al., 2002). Observations of *A. sagrei* on Bioko were documented at two distinct localities, approximately 14 km apart (Fig. 1). The first observation took place on 20 June 2024, when a single adult was found in a private garden in Malabo, perched on a mango tree (3° 45'17.8" N, 8° 46'57.0" E). The second population was recorded on 4 August 2024 in Sipopo (3° 45'31.5" N, 8° 54'06.1" E), where 15 specimens (10 adults and 5 juveniles) were sighted among garden vegetation near the beach (Fig. 2). The presence of juveniles at this site indicates that *A. sagrei* has established a breeding population on Bioko Island.

The introduction of *A. sagrei* to Africa was first documented in Luanda, Angola, in 2020 (Ceriaco & Bauer, 2020). According

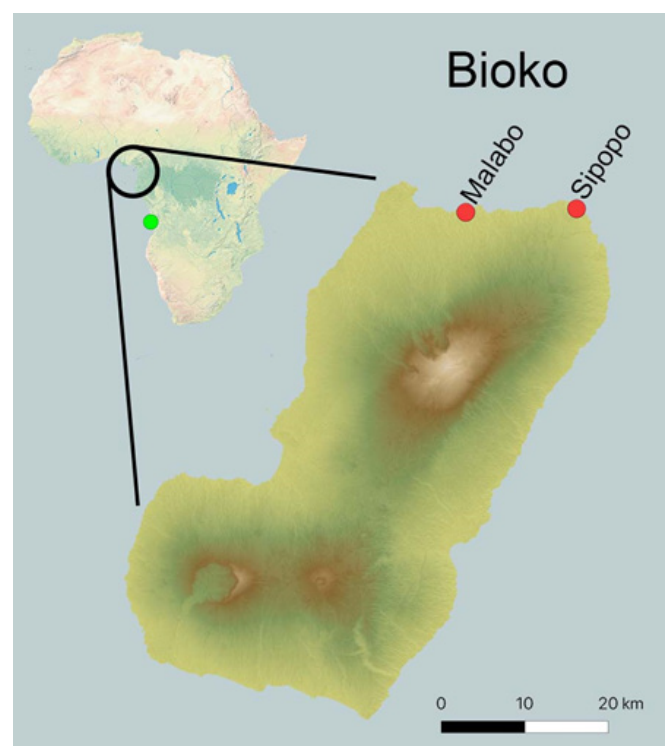


Figure 1. Documented localities of the introduced *Anolis sagrei* in Africa. The green dot depicts a previously reported population in Luanda, Angola. Red dots indicate the localities where this species has been recorded in Bioko, Equatorial Guinea

to literature and citizen science platforms such as iNaturalist, *A. sagrei* has spread to regions such as Singapore, Taiwan, Nepal, Israel, and numerous locations across the Americas, including various U.S. states (Hawaii, California, Florida, Texas, among others). The species' adaptability and potential ecological disruptions raise significant conservation concerns for Bioko and other Gulf of Guinea islands. In light of these potential ecological threats, conservation authorities and stakeholders should make immediate efforts to contain and prevent the spread of *A. sagrei* to safeguard the native biodiversity of Bioko and other regions across the Gulf of Guinea.



Figure 2. A selection of photographs of *Anolis sagrei* observed in Sipopo, Bioko

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