DESCRIPTION OF INVASIVE EXOTIC REPTILE SPECIES FROM THE LESSER ANTILLES

Anolis sagrei

(Duméril et Bibron, 1837)

Common name: Cuban brown anole, Brown anole

Local name: Mayan coastal anole, Bahaman brown anole, Anole brun, Anole marron

Order : Squamata, Family : Dactyloidae

Description

Morphology. *Anolis sagrei* is a medium sized anole. The body is generally light brown, with darker brown and black marks on the back, as well as lighter stripes and spots on the flanks. The dewlap is orange-red with a yellow border. The tail is compressed laterally.

Standard body size (snout-vent length). males: 70 to 90 mm; females: 30 to 59 mm

Sexual dimorphism. Only males have a dewlap. Some adult males present a dorsal crest.

Females are smaller than males, present fewer spots, but do have a white stripe bordered by darker triangular patterns along the dorsal spine.

Variations. The body colour of the same individual can vary from light to dark, depending on its physiological condition.

Head colour variations have been reported (red and orange heads).

Possible confusion with other species. The confusion is possible with *A. cristatellus*. However, the dorsal crest in *A. cristatellus* extends from the tail to the nape, and is always erected.

Distribution

Native. Bahamas, Cuba.

Introduced. Hawai (Kolbe et al., 2004), California, Texas, Louisiana, North Carolina, Georgia, Florida (Lee, 1985; Lee et al., 1989; Kolbe et al., 2004; Wen et al., 2019; Fisher et al., 2020), Mexico (Pazos-Nava et al., 2019), Belize (Eales and Thorpe, 2010), Honduras (Fisher et al., 2020; Reynolds et al., 2020), Panama (Batista et al., 2019), Ecuador (Amador et al., 2017), Brazil (Oliveira et al., 2018), Bermuda (Stroud et al., 2017), Taiwan (Norval et al., 2016), Singapore (Tan and Lim, 2012), Israel (Reptile-database: Shai Meiri, pers. comm., 29 Apr 2021).

Caribbean: Turks and Caicos (Burgess, 2012), Jamaica (Poe and Anderson, 2019), Dominican Republic (Rojas-Gonzalez et al., 2020); Cayman islands (Eales and Thrope, 2010), Anguilla (Williams and Carter, 2015), Saint Lucia (Williams et al., 2019), Saint Vincent and the Grenadines (Powell and Henderson, 2007; Hite et al., 2008; Treglia et al., 2008; Eales and Thorpe, 2010), et Grenada (Greene et al., 2002; Kolbe et al., 2004).

Biology and ecology

Habitat. *Anolis sagrei* can cope with a great diversity of natural and anthropized habitats. However, the species appears more abundant in open environments.

Diet. Mainly insectivore and carnivore (e.g. Corey et al., 2004; Orfinger, 2018). Can also feed on fruits, berries and flower nectar.

Reproduction. Reproduction is seasonal, from March-April to August-September, but can also happen throughout the year under favourable conditions (Lee et al., 1989; Tokarz et al., 1998). The female lays one to two eggs under the leaf litter (Lee et al., 1989). Several eggs can be laid during the breeding season, at intervals of one to two weeks (Lee et al., 1989; Delaney et al., 2016).

Behaviour. Males may use several visual signals, such as dewlap extensions, head-bobbing and push-ups, in order to defend their territory, or when looking for a breeding partner (Simon, 2007; Anzai et al., 2015). These signals are also used to disturb and dissuade predators (Simon, 2007).

Impact and management of introduced populations

Impact. On several small Florida islands, the sympatric presence of *Anolis sagrei* with the native species *A. carolinensis* has resulted in a character displacement: *A. carolinensis* moved to higher perches, and evolved larger toepads after only twenty generations (Stuart et al., 2014).

Another study conducted in Saint Vincent revealed that the presence of *A. sagrei* did not resulted in a shift toward higher perches in the native species *A. griseus* and *A. trinitatus* (Treglia et al., 2008).

In the Bahamas (within the species native range), the presence of *A. sagrei* results in a significant reduction in abundance and diversity of spiders, highlighting the potential impact of the species on arthropod communities in introduced regions (Schoener et Toft, 1983).

Management. To date, no targeted control measures have been established in the different regions where the species has been introduced.

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