



First Report of a Non-native West African Helmeted Turtle, *Pelomedusa variabilis* (Petzold et al. 2014) in Florida

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Invasive herpetofauna have been documented in Florida for decades, with at least 63 known established species as of 2015 (Krysko et al. 2016). This number includes at least four taxa of turtles: *Chrysemys dorsalis* (Southern Painted Turtle), *Graptemys pseudogeographica* (False Map Turtle), and *Trachemys scripta subsp.* (Red-eared Slider, and Yellow-bellied Slider), and at least two other species, *Staurotypus salvinii* (Giant Musk Turtle) and *Trachemys venusta* (Meso-American Slider) documented but with limited evidence of establishment (Krysko et al. 2011; Smith et al. 2011; Stemle 2020). Invasive turtles like *T. scripta elegans* have been observed competing with native species for resources; they also potentially serve as disease vectors (Lambert et al. 2019; Schönbacher et al. 2022). This suggests that non-native turtles may pose an underrepresented threat to native turtle populations.

Pelomedusa subrufa (West African Helmeted Turtle) was recognized as a monotypic genus across the continent of Africa for a number of years (Branch 2008). However, in 2014 genetic and morphological analyses revealed potentially greater than 10 cryptic species within the genus (Petzold et al. 2014). Of these, *P. variabilis* is likely to be one of the most readily available species in the international pet trade, as its range in western Africa coincides with some of the most prolific reptile trade routes in the world (Auliya et al. 2016). The availability of turtles such as *Pelomedusa* sp. and *Pelusios* sp. has increased in recent years, with even large chain stores (Petco, PetSmart) regularly offering adult turtles for sale (JD, pers. obs.). This is potentially concerning as estimates from Masin et al. (2014) indicate the *Pelomedusa* spp. clade may have one of the largest ranges of suitable climates outside of its natural range. This indicates species like *P. variabilis* and congeners may have invasive potential in the sub-tropical climates of peninsular Florida. Here we describe to our knowledge, the first vouchered specimen of *P. variabilis* in the state of Florida.

On 21 July 2021, a male turtle (12.7 cm straight carapace length) was found by the roadside in a suburban neighborhood in Sarasota County, Florida (27.056°N, 82.252°W), flipped on its carapace and under attack by feral cats. The nearest water body from the location was an urban canal approximately 205 m straight line distance. The turtle was captured by CG and collected by JD and CW due to its nonnative status. A photographic voucher was submitted to the Florida



Fig. 1. A male West African Helmeted Turtle (*Pelomedusa variabilis*) found in southwestern Florida exhibiting diagnostic separated triangular pectoral scutes. Photograph by Craig Greene.

Museum of Natural History (VIN NUMBER 193003). The species of the turtle was confirmed to be *Pelomedusa variabilis* by Uwe Fritz of the Senckenberg Research Institute, due to its separated triangular pectoral scutes (Fig. 1) (Petzold et al. 2014).

Although the genus *Pelomedusa* has been documented outside of its natural range in Europe (Ferri et al. 2021), to our knowledge this is the first time the genus has been officially documented and vouchered outside of its native range in the contiguous United States. Nonnative turtle species often take residence in urban habitats (Aplasca et al. 2018) and given the animal's overall health and affable behavior, this animal likely represents a single released or escaped pet. However, given the common nature of its importation and presence in the American pet trade, populations could be established with subsequent releases. Nevertheless, models produced by Fujisaki et al. (2010) indicate that *Pelomedusa* spp. may be a low risk of becoming established in Florida due to a combination of factors that include fecundity, environmental requirements, and annual importation numbers. Other observations of West African Mud Turtles, *Pelusios* sp. (Bartlett and Bartlett 1999; Stemle 2022) and our own observation of *P. variabilis* from Florida likely indicate instances of released pets, rather than founder populations; but documenting these observations only serves to further fortify our knowledge base of nonindigenous species and their potential for establishment.

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