

Predation on *Amphisbaena heterozonata* by the Whistling Heron *Syrigma sibilatrix* at Tucumán, Argentina

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ABSTRACT: Twelve species of birds have been reported to prey upon amphisbaenians (Squamata: Amphisbaenidae). We document the first report of predation on an amphisbaenian by a heron (Pelecaniformes: Ardeidae). On 1 November 2012 we photographed a Whistling Heron *Syrigma sibilatrix* preying on an *Amphisbaena heterozonata* at Tucumán, Argentina.

KEY-WORDS: Amphisbaenidae, Ardeidae, diet, foraging, prey.

Due to their fossorial habits, the natural history of South American amphisbaenians (Squamata: Amphisbaenidae) is poorly known. Amphisbaenians are occasionally preyed upon by birds, with published records including the Chicken (*Gallus gallus* × *sonnerati*) (Gallardo 1967), Maguari Stork (*Ciconia maguari*) (Tozetti *et al.* 2011), Turkey Vulture (*Cathartes aura*) (Zamprogno & Sazima 1993), Harpy Eagle (*Harpia harpyja*) (Silva 2007), White-necked Hawk (*Buteogallus lacernulatus*) (Rajão *et al.* 2013), Roadside Hawk (*Buteo magnirostris*) (Zotta 1934), Gray-lined Hawk (*Buteo nitidus*) (West 1975), Southern Lapwing (*Vanellus chilensis*) (Gans 1971), Barn Owl (*Tyto alba*) (Wiley 2010), Ashy-faced Owl (*Tyto glaucops*) (Wiley 2010), Red-legged Seriema (*Cariama cristata*) (Folly *et al.* 2015), Southern Caracara (*Caracara plancus*) (Zamprogno & Sazima 1993), and Yellow-headed Caracara (*Milvago chimachima*) (Zamprogno & Sazima 1993). Herein we report the first record of a heron (Pelecaniformes: Ardeidae) preying upon an amphisbaenian.

The Whistling Heron (*Syrigma sibilatrix*) is a medium-sized heron in the family Ardeidae occurring throughout South America (Kushlan & Hancock 2005). It usually forages alone or in pairs in wet savannas, and preys mostly upon invertebrates and less frequently on fishes (including eels), amphibians, lizards, and snakes (Schubart *et al.* 1965; Gallardo 1970; Hancock & Elliott 1978; Kushlan *et al.* 1982; Kushlan & Hancock 2005; Franz *et al.* 2006; Beltzer *et al.* 2010; Dean 2012; Aoki &

Filho 2013; Buitrón-Jurado & Quiroga-Carmona 2015). Gallardo (1970) reported 15 legless lizards (*Ophiodes vertebralis*) in the stomach of a *S. sibilatrix* collected in Argentina, suggesting that it could easily prey upon similarly elongated and legless amphisbaenians; however, no amphisbaenians were found in the stomachs of 19 *S. sibilatrix* in Argentina (Beltzer *et al.* 2010).

At about 17:30 h on 1 November 2012 two of us (Hayes and Capllonch) observed an adult *S. sibilatrix* struggling to consume an adult amphisbaenian at the edge of a shallow pool of water in a flooded field near the Hotel Sol San Javier, on Cerro San Javier, Yerba Buena, Tucumán, Argentina (26.8005° S, 65.3594° W; 1 274 m.a.s.l.). Although the initial attack by the heron was not observed, a series of photos taken by Hayes revealed that the amphisbaenian was grasped by its head (Figure 1) and swallowed head-first (Figure 2) within 2 min. The amphisbaenian wriggled, indicating it was still alive. Caudal autotomy, a defensive behavior previously observed in a congeneric species (*Amphisbaena mertensi*) when attacked by a snake (Brito *et al.* 2001), did not occur. The photos indicate that the amphisbaenian was about 3.5 times longer than the length of the heron's bill. Based on a mean bill length of 6.41 cm for the nominate race of *S. sibilatrix* (6.65 cm in males, 6.17 cm in females; Dean 2012), the amphisbaenian's length can be estimated as 22.4 cm long, but given the inexactness of our measurement it is best to estimate its length as 20-25 cm. It was raining slightly when the predation event occurred.



FIGURE 1. A *Syrigma sibilatrix* grasping an *Amphisbaena heterozonata* by its head at Cerro San Javier, Yerba Buena, Tucumán, Argentina, on 1 November 2012. Photo by Floyd Hayes.



FIGURE 2. A *Syrigma sibilatrix* swallowing an *Amphisbaena heterozonata* with its posterior end still protruding at Cerro San Javier, Yerba Buena, Tucumán, Argentina, on 1 November 2012. Photo by Floyd Hayes.

The normally dry field was flooded due to recent rainfall (0.79 cm on 1 November, 0.89 cm on 28 October, 2.79 cm on 27 October 2012 at the Tucumán Aerodrome, 25.7 km away, 26.84° S, 65.10° W, 450 m.a.s.l.; data from wunderground.com), which probably flooded the amphisbaenian's burrow and forced it to the surface where it was opportunistically preyed upon by the heron.

The amphisbaenian was identified as *Amphisbaena heterozonata*, based on its body proportions (the snout-vent length of the species reaches up to 27.5 cm plus 2.5 cm of tail length, so the estimated size of the observed specimen fits well), coloration, and because it is the only amphisbaenian known from this locality (Montero 1996; Nuñez Montellano *et al.* 2010). It is a relatively common amphisbaenian and classified as non-threatened (Abdala *et al.* 2012).

This record appears to represent the first of an amphisbaenian preyed upon by a heron. Because many species of herons forage on snakes and lizards (Kushlan & Hancock 2005), amphisbaenians may be preyed upon opportunistically by herons and similarly large wading birds more frequently than the lack of reports suggests, especially when amphisbaenians are forced to the surface when their burrows are flooded. As an example, an analysis of the stomach contents of a single Maguari Stork, which is a larger wading bird often foraging in the same habitats as *S. sibilatrix* and other species of herons, revealed that *Amphisbaena trachura* accounted for more than half of its prey (Tozetti *et al.* 2011).

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