Fowl Play: A failed predation attempt of an adult Turkey *Meleagris gallopavo* (Chordata; Phasianidae) by *Boa imperator* (Squamata; Boidae) in Cayo District, Belize.

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Introduction

The Mesoamerican boa constrictor (*Boa imperator;* Daudin, 1803) is a distinct species occurring from Northern Mexico to north-eastern South America (Hynková et al. 2009), native to ten countries including Belize and all of Central America (Montgomery & da Cunha, 2018). Numerous subspecies populations are recognised within this range (reviewed by Reynolds and Henderson, 2018), regarding substantial variance in colouration, morphology (maximum size) and behaviour (especially in island populations – see Reed et al. 2007). *Boa imperator* occupies a diverse range of habitats up to 1500m asl (Savage, 2002). Throughout the lowlands of Central America, *B. imperator* is often the largest and most common snake you could encounter; females are longer and heavier than males, generally growing up to 3 meters' total length (Reed and Rodda, 2009). Owing to the popularity of this species in the exotic pet trade, comprehensive information is available on their natural history and behaviour.

The diet of Boa Constrictors is known to be extremely diverse; consisting of almost any animal they can successfully overpower, kill and swallow; exclusively vertebrates, which includes both volant and non-volant mammals, lizards, frogs and birds (Solórzano, 2004; Reed & Rodda, 2009). Primarily these snakes are generalist 'sit and wait' predators, which rely on camouflage to ambush unsuspecting prey which passes by in strike vicinity. A study by Boback (2005) stated that "of 54 diet items reported in the literature for mainland Boas (Greene, 1983; Smith, 1994; Sironi et al., 2000), only 18% (10) were birds". Despite birds (mainly passerines) being a widely documented prey source of Boidae (Pizzatto et al. 2009), in-situ observations remain relatively rare (Pavón-Vazquez et al. 2016). The following note documents an aborted predation attempt of an adult domestic turkey (*Meleagris gallopavo*) by *B. imperator,* and discusses the potential implications of livestock predation on the human-snake conflict in Belize.

Observation

On 24 August 2018 at ca. 14:30, Lower Dover Field Station & Jungle Lodge, Unitedville, Cayo District, Belize (while opportunistically documenting herpetofauna i.e. Brown, 2018); a large *B. imperator* (ca. total length > 2.5 meter) was encountered

attempting to prey on an adult turkey (*M. gallopavo*) in the forest outskirts surrounding the property. While the exact time of capture is unknown, a struggle had been persisting for some time, as both animals seemed exhausted and were bearing injuries consistent with a lengthy skirmish. The adult male turkey lay restrained and incapacitated, bleeding from bite marks on the legs and unable to free itself from the coils of the snake firmly round the underneath of the wing and its body. The snake (presumably a female owing to its great size and relatively small tail) had also sustained wounds, i.e. broken skin to the top of the head and body; undoubtedly a result of the turkey pecking and clawing in its attempts to be freed. Less than 1 minute after my arrival, the snake began to release and abandon the catch; likely triggered by my approach and presence in the vicinity. Whether or not the snake would have continued to constrict/kill its prey in the absence of an observer, remains unknown; though it is assumed the snake would have naturally arrived at the conclusion to abandon the catch owing the turkeys size.

Wild/domestic turkeys (*M. gallopavo*) are the heaviest of all the Galliforme family, with adult males having a body size from 3.6-3.8ft, wingspan of 4.2 – 4.8ft and weight from 5.5 – 18.8lbs (Dunning, 2008). Additionally, adult male turkeys are known to be especially aggressive in self-defence, capable of fending off predators using their beaks, large bodies/wings and spurs on the back legs as weapons. While Boa Constrictors are certainly capable of succumbing larger prey (Reed & Rodda, 2009), in this instance, it appears the capture circumstance, large size and continued tenacity of the turkey proved too ambitious. Upon abandonment, the snake was captured and relocated immediately ca. 150m into the forest, sufficiently away from potential future conflict with humans and domestic livestock. After an initial period of shock, the turkey returned to full health and showed no prolonged ill-effect from its encounter (besides being wary of the forest edges thereon).

Discussion

The conflict between humans and snakes is an ever growing problem worldwide (Shine & Fitzgerald, 1996; Longkumer et al 2016); an issue which continues to surge with on-going encroachment and overlap of urban agricultural lands with natural habitats. Intensive agriculture and urbanisation often results in the rapid decline of local snake populations (especially larger species - see Dodd, 1993). Primarily, the conflict between humans and snakes is driven by concerns for ‘human safety in work and living environments’ and economic interests such as reducing hunting pressures on domestic livestock (Nonga & Haruna, 2015; Chippaux, 2017). However, despite considerable evidence demonstrating that snakes in urban and agricultural environments actually provide significant economic benefits and services to local people (Cann 1986; e.g. snakes effectively control rodent populations which can be otherwise detrimental to crops/livestock and infrastructure); throughout Central America

Figure 1. Taken at the time of encounter; this photograph depicts the unsuccessful predation attempt of an adult male Turkey (*Meleagris gallopavo)* by a large female *Boa imperator.* © Tom W. Brown

(and indeed globally), it is still common practice for snakes (as an entire group) to be targeted and 'killed on sight' by humans, usually with a complete disregard to differentiating between a beneficial species or those which pose an actual risk to human life (pers.observ.). Miranda et al (2016) reviewed the conflicts between humans and large constrictors (Anacondas), suggesting that most snake killings were not economic or evidence based retaliations, but considered preventative by humans who perceive the snakes as life-threatening. Likewise, despite being harmless to humans, the large size of *B. imperator* generates the same fear and receives a similar level of persecution in Central America.

While reviewing the diet of some Belizean snakes, Platt et al. (2016) reported numerous birds as prey items for *B. imperator* in Belize, as well as four separate records of successful predation on domestic fowl, including chicken, quails and ducks. Observations reporting domestic fowl/ livestock in the diet of snakes are considered valuable, as they not only illustrate a snake's opportunistic predatory nature, but importantly they highlight the frequency of human-snake interactions and a chief motive for current conflict or

retaliation. To the best of my knowledge, this is the first example of a predation attempt on a domestic adult turkey (*M. gallopavo*) in Belize and throughout *B. imperator's* wider range. With hope, it is intended that this publication will help spread and encourage a wider tolerance, understanding and appreciation for snakes inadvertently sharing their habitats with humans.

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