

A Bare-throated Tiger Heron (Tigrisoma mexicanum) Preying on a Yellow-bellied Seasnake (Hydrophis platurus) in Corcovado National Park, Costa Rica

Raby Nuñez Escalante¹ and Gabriel Calvo Benavides²

¹Sierpe de Osa, Puntarenas, Costa Rica (sierpefrogs@gmail.com) ²Bahía Drake, Puntarenas, Costa Rica (gabrielbirding@gmail.com)

The Yellow-bellied Seasnake (*Hydrophis platurus*) is a common species with the broadest distribution of any snake; in the eastern Pacific, it ranges from extreme south-

western California southward to northern Peru and the warm waters around Isla de Pascua, Chile (Campbell and Lamar 2004; Wallach et al. 2014). This is the only truly pelagic sea-



Fig. 1. A Bare-throated Tiger Heron (*Tigrisoma mexicanum*) grabbing a Yellow-headed Seasnake (*Hydrophis platurus*) by the head (left) before swallowing it (right). Notice the other avian predator, a Yellow-headed Caracara (*Milvago chimachima*), another species frequently encountered along the Pacific shore of Costa Rica. Photographs by Gabriel Calvo Benavides.

snake, with a life cycle occurring entirely in the water, where individuals often can be seen floating at the surface 1–20 m from shore (Kropach 1975; Voris 1983; Campbell and Lamar 2004). In Costa Rica, this species is encountered most frequently in gulfs, bays, and other areas relatively near to the shore. At the beginning of the dry season, individuals sometimes are stranded on the shore, a consequence of strong seasonal winds and ocean currents (Solórzano 2004; Solórzano and Kastiel 2015).

Relatively few predation events on this species have been documented (Heatwole 1975, 1999; Solórzano 2004), perhaps attributable to its aposematic coloration, toxic skin, and a lack of palatability (Rubinoff and Kropach 1970; Kropach 1975; Caldwell and Rubinoff 1983). However, wounds and scars found on seasnakes (Rubinoff and Kropach 1970; Kropach 1973; Dunson in Heatwole 1975; Weldon and Vallarino 1988; Sheehy et al. 2011) suggest that predation attempts might not be that rare.

Known predators of *H. platurus* include crabs (likely Ocypode spp.; partially eaten individuals have been reported protruding from crab holes), a pufferfish (probably Sphoeroides annulatus), Tiger Sharks (Galeocerdo cuvier), a Leopard Seal (Hydruga leptonyx), and possibly a young Galapagos Sea Lion (Zalophus wollebaeki) (Duellman 1961; Heatwole and Finnie 1980; Reynolds and Pickwell 1984; Masunaga et al. 2008; Sheehy et al. 2011). Of these, the pufferfish and seal subsequently regurgitated the snakes, and the sea lion was observed vomiting but the body of a snake was not found. Birds also are known predators of seasnakes (Heatwole 1999). A Lava Gull (Larus fuliginosus) dropped a H. platurus onto a research vessel (Reynolds and Pickwell 1984) and Frigatebirds (Fregata magnificens) have been reported carrying snakes for a short distance before dropping them into the water (Wetmore 1965; Sheehy et al. 2011). Predatory attacks also occur when snakes are stranded on beaches, a situation that makes them more vulnerable. A Wood Stork (Mycteria americana) and a Common Black Hawk (Buteogallus anthracinus) are known to have taken a stranded H. platurus (Solórzano and Kastiel 2015; Solórzano and Sasa 2017).

Tide pools along the rocky beach at San Pedrillo, Corcovado National Park, support a variety of vertebrates and invertebrates that are most vulnerable during low tides. At 0847 h on 5 August 2019, GCB found a Yellow-bellied Seasnake trapped in a pool. Unfortunately for the snake, an opportunistic Bare-throated Tiger Heron (*Tigrisoma mexicanum*), one of many species of predatory birds that patrol this beach in search of a meal, captured the snake and beat it against the rocks. Once the heron immobilized the snake by

grasping its head, the bird began its meal (Fig. 1). The heron regurgitated the snake once but swallowed it a second time. We were unable to determine if the heron suffered any ill effects or regurgitated the snake after swallowing it the second time. To the best of our knowledge, this is the first report of a Bare-throated Tiger Heron feeding on a Yellow-bellied Seasnake.

Literature Cited

- Caldwell, G.S. and R.W. Rubinoff. 1983. Avoidance of venomous sea snakes by naïve herons and egrets. *The Auk* 100: 195–198.
- Campbell, J.A. and W.W. Lamar 2004. The Venomous Reptiles of the Western Hemisphere. Volume I. Comstock Publishing Associates, Cornell University Press, Ithaca, New York, USA.
- Duellman, W.E. 1961. The amphibians and reptiles of Michoacán, México. University of Kansas Publications, Museum of Natural History 15: 1–148. https://doi.org/10.5962/bhl.part.7287.
- Heatwole, H. 1975. Predation on sea snakes, pp. 233–249. In: W.A. Dunson (ed.), *The Biology of Sea Snakes*. University Park Press, Baltimore, Maryland, USA.
- Heatwole, H. 1999. Sea Snakes. Australian Natural History Series, University of New South Wales Press Ltd., Sidney, New South Wales, Australia.
- Heatwole, H. and E.P. Finnie. 1980. Seal predation on a sea snake. *Herpetofauna* 11: 24.
- Kropach, C.N. 1973. A field study of the sea snake *Pelamis platurus* (Linnaeus) in the Gulf of Panama. Unpubl. Ph.D. Dissertation, City University of New York, New York, New York, USA.
- Kropach, C.N. 1975. The Yellow-bellied Sea Snake, *Pelamis*, in the Eastern Pacific, pp. 185–213. In: W.A. Dunson (ed.), *The Biology of Sea Snakes*. University Park Press. Baltimore, Maryland, United States.
- Masunaga, G., T. Kosuge, N. Asai, and H. Ota. 2008. Shark predation of sea snakes (Reptilia: Elapidae) in the shallow waters around the Yaeyama Islands of the southern Ryukyus, Japan. *Marine Biodiversity Records* 1: e96. https://doi. org/10.1017/S1755267207009700.
- Reynolds, R.P. and G.V. Pickwell. 1984. Records of the Yellowbellied Sea Snake (*Pelamis platurus*) from the Galápagos Islands. *Copeia* 1984: 786–789. https://doi.org/10.2307/1445170.
- Rubinoff, I. and C. Kropach. 1970. Differential reactions of Atlantic and Pacific predators to sea snakes. *Nature* 228: 1288–1290.
- Sheehy, C., III, J.B. Pfaller, H.B. Lillywhite, and H.F. Heatwole. 2011. *Pelamis platura* (Yellow-bellied Seasnake). Predation. *Herpetological Review* 42: 443.
- Solórzano, A. 2004. Serpientes de Costa Rica: Distribución, Taxonomía e Historia Naturall Snakes of Costa Rica: Distribution, Taxonomy, and Natural History. Instituto Nacional de Biodiversidad (INBio), Santo Domingo de Heredia, Costa Rica.
- Solórzano, A. and T. Kastiel. 2015. Hydrophis platurus. Predation by a Wood Stork (Mycteria americana). Mesoamerican Herpetology 2: 121–123
- Solórzano, A. and M. Sasa. 2017. *Hydrophis platurus*. Predation by a Common Black-Hawk (*Buteogallus anthracinus*). *Mesoamerican Herpetology* 4: 431–433
- Voris, H.K. 1983. Pelamis platurus (Culebra de Mar, Pelagic Sea Snake), pp. 411–412. In: D.H. Janzen (ed.), Costa Rican Natural History. The University of Chicago Press, Chicago, Illinois, USA.
- Wallach, V., K.L. Williams, and J. Boundy. 2014. Snakes of the World: A Catalogue of Living and Extinct Species. CRC Press, Boca Raton, Florida, USA.
- Weldon, P.J. and O. Vallarino. 1988. Wounds on the Yellow-bellied Sea Snake (*Pelamis platurus*) from Panamá: Evidence of would-be predators? *Biotropica* 20: 174–176.
- Wetmore, A. 1965. The birds of the Republic of Panamá. Part 1.—Tinamidae (Tinamous) to Rynchopidae (Skimmers). *Smithsonian Miscellaneous Collections* 150(1): iv + 483 pp.