

## Common Black-Hawk (*Buteogallus anthracinus*, Falconiformes: Accipitridae) predating on a Spotted Snake-Eel (*Myrichthys tigrinus*, Anguilliformes: Ophichthidae) in Costa Rica.

Otto Monge

Instituto Internacional en Conservación y Manejo de Vida Silvestre, Universidad Nacional de Costa Rica, Heredia, Costa Rica. Apdo. 1350-3000 Costa Rica. mongeotto@yahoo.com.mx

(Recibido: 20 de noviembre de 2009)

**KEY WORDS.** *Buteogallus anthracinus*, Common Black-Hawk, diet shift, *Myrichthys tigrinus*, Spotted Snake-Eel.

The Common Black-Hawk (*Buteogallus anthracinus*, Deppé 1830) is a raptor closely tied to bodies of water, frequenting coastal mangroves, beaches, and tidal flats (Stiles & Skutch 1989). One explanation for this behavior is that nesting near the water provides a continuous source of food for both parents and chicks (Barradas *et al.* 2004). And since they always do so (Taylor 2006) and since it's been proven also that they use the same nest for several years (Barradas *et al.* 2004), it really is advantageous for the species' survival to be near moving bodies of water.

Its diet varies along its distribution, from year to year, but most importantly by changes in prey availability (Thiollay 1994). Thus, though it mainly feeds on crabs in Costa Rica (Stiles & Skutch 1989) and Cuba, the latter due to the lack of fish prey (Wiley & Garrido 2005), in the United States it is commonly seen preying on fish, frogs, lizards, and aquatic insects, which make most of its diet (Snyder & Snyder 2006). Near the Pacific coast of Mexico, 86% of its diet consists of the fish *Moxostoma austrinum* (Thiollay 1994) and it has even been reported that Common Black-Hawks predate on adult herons in Panama (Caldwell 1986). Nonetheless, records of specific species preyed upon by this raptor are scarce. Here I present field documentation of a Common Black Hawk predating on a spotted snake-eel (*Myrichthys tigrinus*), on Playa Pavones (8° 21' N, 83° 08' W), a rocky beach in the tropical rainforest region of southwestern Costa Rica.

On 18 January 2009, at approximately CST 11:10, I observed a Common Black-Hawk fly past over me

and land safely in the rocky part of the beach at some 45 m from where I was standing. A few minutes before, I had heard it calling incessantly from inside the dense vegetation, before taking a short, descending pounce. The bird landed accurately in one of the many pools that form when water gets trapped in the rocky formations when the tide is low. The deepness of these pools varies along the beach, from a few centimeters to a meter or so deep. Their importance in this ecosystem is enormous due to the abundance of marine invertebrates, as well as fish, that get trapped in those same pools and serve as a vital food source for many species of birds (pers. observ.). After a few seconds of being inside one of the shallow pools, the Black-Hawk came out of it with something trapped in its feet, which turned out to be a spotted snake-eel.

At first, it had caught the eel with its claws, but then it started pecking its head, making sure it could no longer move (Fig. 1A). As soon as this was achieved, the Black-Hawk stayed a few seconds standing with its prey secured between its claws, looking at its surroundings (Fig. 1B). It then proceeded to grab the eel by the head with its beak, and move lazily a few meters away from the pool where it had caught the eel. One more time, it stood there, firmly grabbing the prey with its beak, at the same time it patiently checked out its environs (Fig. 1C). Suddenly, the bird flew a few meters away towards a "pool-less" rock, took a glance around, and dropped the prey to the ground. It grabbed the eel once again, this time with one foot, and then took off (Fig. 1D). The hunting lasted about 10 min from the moment the Black-Hawk landed

until it flew away carrying the eel on its foot. Slud (1964) points out that, after securing the prey on the ground, the Black-Hawk flies back to a perch; however, it was impossible to track the bird down, since it disappeared amongst the rainforest trees.

The Common Black-Hawk feeds on prey that is most abundant and available (Latta *et al.* 1999). Nevertheless, it was possible to observe abundance of crabs in Playa Pavones at the time the sighting was made. What happened indeed was that the Black-Hawk had presumably spotted the eel from a hunting perch, whose height wasn't possible to determine although it could be assumed that was a medium height perch (Latta *et al.* 1999, Snyder & Snyder 2006), and flew right at it with great precision.

Furthermore, the spotted snake-eel is probably the most commonly observed member of its family (Ophichthidae) in surface waters, making it vulnerable to predators (e.g. birds); plus, unlike other ophichthid eels, they occasionally swim lazily in the surface of the water during the day (J. McCosker pers. comm. 2009). Therefore, it could be assumed that the Black-Hawk deliberately hunted the spotted snake-eel.

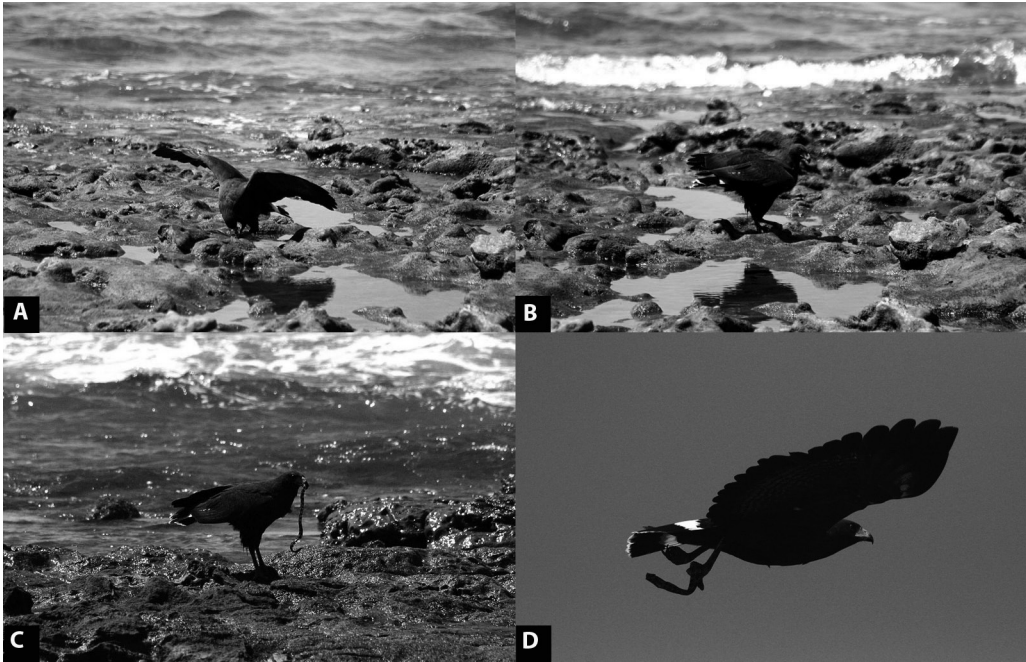
Hence, this constitutes the first report of a Common Black-Hawk hunting a fish in Costa Rica. It is strongly recommended that the diet of the Common Black-Hawk in Costa Rica, at least in the southwestern beaches, should be reviewed and studied.

#### ACKNOWLEDGMENTS

I thank Rigoberto Víquez (Department of Marine Biology, Universidad Nacional de Costa Rica) and John E. McCosker (Department of Aquatic Biology, California Academy of Sciences) for their help on the identification of the eel species. Thanks also to Carmen Hidalgo and one anonymous reviewer for their helpful comments on the manuscript. For help during field work I thank Alejandra Rojas Barrantes.

#### LITERATURE CITED

- Barradas, H. H., G. Carmona & E. Rodríguez. 2004. Anidación del Aguillilla Negra (*Buteogallus anthracinus* Deppe 1830) en el manglar de Sontecomapan, Catemaco, Veracruz, México. *Maderas y Bosques* 2: 37-43.
- Caldwell, G. S. 1986. Predation as a selective force on foraging herons: effects on plumage color and flocking. *The Auk* 103: 494-505.
- Latta, M. J., C. J. Beardmore & T. E. Corman. 1999. Arizona Partners in Flight bird conservation plan. Nongame and Endangered Wildlife Program Technical Report 142. Arizona Game and Fish Department, Phoenix, Arizona. vii+335 p.
- Slud, P. 1964. The birds of Costa Rica: distribution and ecology. *Bulletin of the American Museum of Natural History*. N. Y. 128: 1-430.
- Snyder, N. & H. Snyder. 2006. The raptors of North America: natural history and conservation. Voyageur Press, St. Paul, Minnesota. 320 p.
- Stiles, F. G. & A. F. Skutch. 1989. A guide to the birds of Costa Rica. Cornell University Press, Ithaca, New York. 656 pp.
- Taylor, C. 2006. Family Accipitridae: Hawks, Kites, Eagles, and allies. *In*: J. Alderfer (ed.). Complete birds of North America. National Geographic Society, Washington, D.C. pp. 130-161.
- Thiollay, J. M. 1994. Family Accipitridae (Hawks and Eagles). *In*: J. Del Hoyo, A. Elliott & J. Sargatal (eds.). Handbook of the birds of the world. Vol. 2: New World Vultures to Guinea-fowl. Lynx Edicions, Barcelona, Spain. pp. 52-205.
- Wiley, J. W. & O. H. Garrido. 2005. Taxonomic status and biology of the Cuban Black-Hawk, *Buteogallus anthracinus gundlachii* (Aves: Accipitridae). *Journal of Raptor Research* 39: 351-364.



**Figure 1.** Sequence of events of the predation of a spotted snake-eel (*Myrichthys tigrinus*) by a Common Black-Hawk (*Buteogallus anthracinus*) on Playa Pavones, Costa Rica: **A**) pecking of the head until the eel could no longer move; **B**) the prey is secured between the raptor's claws; **C**) the bird holds the dead eel with its beak; **D**) the Black-Hawk flies away carrying the eel on one foot. All photos by Otto Monge.