

First evidence of an Osprey *Pandion haliaetus* preying on elasmobranches

Juan C. Fernández-Ordóñez¹, Oscar M. Lasso-Alcalá² y Ernesto J. Ron³

¹Fundación Científica ARA MACAO, Apartado Postal 94,
San Carlos 2201, Cojedes, Venezuela. aramacaovenezuela@gmail.com

²Museo de Historia Natural La Salle, Fundación La Salle de Ciencias Naturales, Apartado Postal 1930, Caracas 1010-A,
Distrito Capital, Venezuela.

³Escuela de Ciencias Aplicadas del Mar, Núcleo Nueva Esparta, Universidad de Oriente, Boca de Río 6301, Macanao,
Isla de Margarita, Nueva Esparta, Venezuela.

In Venezuela, the Osprey *Pandion haliaetus* is a fairly common, nonbreeding, migrant raptor from North America. It can be found in the marine coast and inland, usually around large rivers and lakes, or wandering between bodies of water from lowlands to above tree lines (0–3,600 m asl). It can be present all year round (immatures may even remain more than a year), but there are more records in boreal winter months, throughout widespread areas, including offshore islands of Las Aves, Los Roques, La Orchila, La Tortuga, and Isla de Aves (Phelps and Meyer de Schauensee 1979, Hilty 2003).

Ospreys look for food by hovering over water (salt or fresh water), although sometimes they are able to use a perch to chase their prey. Once located, they dive into the water with their wings swept back, thrusting their talons forward at the last minute to grab the food from below the surface. The captured prey is

carried onto a perch or nest, where it is consumed (Debus 1998, ROP 2014). With few exceptions, 99% of the Osprey diet is exclusively live fish (Poole 1989). On few occasions, it has been seen collecting dead fish (Dunstan 1974, Poole 1984). Other Ospreys' preys include mollusks, baby alligators, snakes, aquatic mammals, voles, squirrels, and even birds (Wiley and Lohrer 1973, Proctor 1977, Thorpe and Boddam 1977, Taylor 1986, Poole 1989, Olsen and Marples 1993). Nonetheless, Poole (1989) questions many of these records, because Ospreys can use corpses and animal remains as material for their nests.

While Ospreys certainly feed on a wide variety of fishes, there is no previous documented information about its stingray (elasmobranch) predation. Few birds have also been recognized as elasmobranchs



FIGURE 1. After capturing a stingray at Paraguaná Peninsula, Falcón State, Venezuela, the Osprey *Pandion haliaetus* rests on a wooden structure with the stingray still alive (a). Then, it flies away over the sea with its motionless prey in its left foot (b). Photos: J.C. Fernández-Ordóñez.

predators, including a direct predation evidence by the Great Blue Heron *Ardea herodias* (Ajemian *et al* 2011), which captured and consumed an Atlantic Stingray *Dasyatis sabina* (Florida, USA). Nonetheless, indirect evidence, for example, elasmobranch remains such as placoid scales, has been reported inside the gut of the Common Merganser *Mergus merganser* (Heard and Curd 1958) (Oklahoma, USA). In addition, a dead Brown Pelican *Pelecanus occidentalis* was found with several ray species in its pouch (Bostic and Banks 1966) (California, USA). Also, skate remains have been recovered from the nest sites of Bald Eagles *Haliaeetus leucocephalus* (Cash *et al* 1985A) (Cape Breton Island, Nova Scotia, USA). More recently, Martin (2004) reported the consumption of a Puffadder Shyshark *Haploblepharus edwardsii* (Scyliorhinidae) via kleptoparasitism by a Black-backed Kelp Gull *Larus dominicanus* in South Africa. Other typical elasmobranchs predators include marine mammals such as Killer Whales *Orcinus orca* (Fertl and Acevedo-Gutiérrez 1996, Visser 1999), and Cape Fur Seals *Arctocephalus pusillus* (Martin 2004); as well as big fishes such as Giant Grouper *Epinephelus lanceolatus* (Randall 1992) and a suite of large Sharks (Strong *et al* 1990, Ebert 1991, Compagno 2001, Chapman and Gruber 2002).

Here we present the first field observation of an Osprey capturing and partially consuming a Stingray (elasmobranch). The record also represents the first in Venezuela and the Neotropic. The observation took place at Punta Tumatey, NE Paraguaná Peninsula, Falcón State, western coast of Venezuela (12°10'19.4"N–69°56'03.7"W) on November 23, 2013. Although Ospreys and stingrays are present year-round in the shallow waters of the Paraguaná Peninsula (Hilty 2003, Valdez and Aguilera 1987, Cervigón and Alcalá 1999), no studies have previously documented any interactions between these two species. A solitary Osprey was sighted and photographed flying over the beach and then perched on a wooden structure with its prey (Fig 1). Photographs were taken with a Canon Rebel T3 camera (Nikkor lens 70–300 mm, f. 2.8). Initially, the Osprey was observed with a stingray in its claws (15:10 h), flying from sea to mainland. At this time the prey was still moving, wriggling and whipping both its tail and venomous spine back and forth. After flying about 100 meters above the beach, the Osprey perched on a wooden structure (Fig 1a). There, it pecked its prey on six occasions, and the stingray became motionless (15:12 h). Then, the Osprey took flight (15:13 h) and moved above sea with a southerly direction, parallel to the coastline, holding the stingray with its left foot (Fig 1b). Twenty seconds later, the Osprey and its prey disappeared in the horizon.

Although the stingray species was extremely difficult to identify through the pictures, we combined some characteristics taken from the photographic

material with related stingray information in the area, such as distribution range, ecological habits, and previous reports in this Venezuelan region (Valdez and Aguilera 1987, Cervigón *et al* 1992, Aguilera 1998, Cervigón and Alcalá 1999). Thus, we identified the specimen into the genus *Dasyatis* (Elasmobranchii: Myliobatiformes: Dasyatidae). This genus is represented on the Venezuelan coast by three species *Dasyatis americana*, *D. guttata*, and *D. geijslkessi* (Cervigón and Alcalá 1999). From them, it is most probable that *D. americana* is the species involved in our report since it is the most common stingray species captured by local fishermen in the study area (Juan Carlos Guardia, *personal communication*).

The consumption of this type of prey in shallow and relatively quiet waters may provide a food resource for migrant and wintering Ospreys in hard times of their life cycle. Stingray predation lends further support to the Osprey's role as a top predator in aquatic food webs, along with large herons (Great Blue Heron), large fishes (i.e. sharks) and marine mammals. We anticipate that the predator-prey interaction observed here will be taken in consideration with future investigations of near shore ecology and food-web relationships.

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