

FIRST RECORD OF A PORBEAGLE SHARK, *Lamna nasus*, IN BRACKISH WATERS OF MAR CHIQUITA LAGOON, ARGENTINA. Luis O. LUCIFORA, Universidad Nacional de Mar del Plata, Departamento de Biología, Mar del Plata, Postal address: Rivadavia 5976, Mar del Plata (7600), and Roberto C. MENNI, Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Museo de La Plata, Paseo del Bosque s/n, La Plata (1900), ARGENTINA.

RÉSUMÉ. - Un *Lamna nasus* a été capturé dans l'embouchure du canal de la lagune de Mar Chiquita (Argentine) en janvier 1997. C'est le premier cas signalé dans les eaux côtières de l'Argentine et le seul cas connu dans le monde pour les eaux saumâtres.

Key-words. - Lamnidae, *Lamna nasus*, Argentina, Lagoon, Brackish water, First record.

On 30 January 1997 a juvenile female porbeagle shark, *Lamna nasus*, was caught with a line at the mouth of Mar Chiquita coastal lagoon (37°45'S, 57°19'W) by a fisherman trying for flatfish (*Paralichthys* sp.). The specimen was returned to the owner after studying it.

Mar Chiquita is a typical coastal lagoon with 58 km² surface, with a maximum length of 25 km parallel to the sea from which is separated by a littoral line of dunes. The lagoon communicates with the sea through a channel at its southern end (Ringuélet, 1962). The site of capture, at the mouth of the channel, is a very shallow sandy-to-muddy beach. Salinity fluctuates between < 5‰ and > 30‰ (Anger *et al.*, 1994) depending on the tide and wind (Anger *et al.*, 1994; Olivier *et al.*, 1972). Catch depth was approximately 50 cm. During the week prior to capture, mean water temperature (measured every day at 10.30 h) at the shoreline was 22.69°C (SD = 0.53°C, n = 8).

The shark was a juvenile female 77 cm in total length without umbilical scars. Teeth slender and with cusplets. The dental formula was: upper right side jaw = 2-1-11, upper left side jaw = 2-0-11, lower jaw = 13/13. The shark has a pointed snout, a crescentic caudal fin, strong keels on the caudal peduncle with secondary keels on caudal base. Back and side of body and dorsal side of

pectoral and pelvic fins were dark blue, the ventral side of the body was white. The first dorsal fin had a white free rear tip. Main measurements (in cm) are the following: precaudal length = 60, fork length = 63, predorsal length = 26, interdorsal space = 22, prepectoral length = 21, preoral length = 7. Weight was 3.75 kg. All traits match the diagnostic features of *Lamna nasus*. According to the fisherman, the shark carried a high number of parasitic copepods at its fins but they were removed immediately after capture and could not be identified. The stomach was empty, with two tapeworms *Hepatoxylon squali* (Cestoda: Trypanorhyncha: Hepatoxylidae) attached to it. This parasite is a cosmopolitan species frequently found in sharks of the genera *Squalus* and *Isurus* (Schmidt, 1986). In Argentina, *H. squali* occurs in *Prionace glauca* (Tanzola and Forte, 1989) and larvae of *H. squali* have been collected from *L. nasus* (J. Timi, pers. com.), being probably a common parasite of the latter species. Hepatosomatic and gonadosomatic indices were 4% and 0.67%, respectively. Teeth marks were observed on the left prebranchial and branchial regions.

This is the first record of the species in brackish waters. Compagno (1984) has already stated that *L. nasus* may come inshore in summer. A putative record of the species very close to the coastline from Alaska (Bright, 1960), was latter referred to *L. ditropis* (Hart, 1973). Previous records of *L. nasus* from Argentina (Nakaya, 1971; Menni and Gosztonyi, 1977; Arquez *et al.*, 1986) or the southern Atlantic (Figueroa, in press) are all from waters deeper than 90 m in open sea. The specimen recorded here was near a coastal area with a wide range of salinity values.

Water temperature at the catch site is over the known range for this species, which is said to live in waters cooler than 18°C (Compagno, 1984). The hepatosomatic and gonadosomatic indices are within the range of juvenile porbeagle sharks from the Bristol Channel, U.K. (Ellis and Shackley, 1995).

The shark could have entered in the zone pursuing some schooling fishes since we found a number of horse mackerels (*Trachurus* sp.) washed ashore at the same day and site of capture.

Although recently made, teeth marks observed on prebranchial and branchial region were not very deep and, possibly, concernless to shark's health, but they certainly indicate a predation attempt upon this shark. Several sharks capable of

preying upon this small individual dwell in the region, namely the sand tiger, *Carcharias taurus*, the copper shark, *Carcharhinus brachyurus* and the sevengill shark, *Notorynchus cepedianus*. Teeth marks seem to have been made by a carcharhinid rather than by an odontaspidid or hexanchid shark because of the shape and size of the marks. The commonest carcharhinid in the area is *C. brachyurus*, which preys upon other elasmobranchs in South Africa (Smale, 1991; Cliff and Dudley, 1992).

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