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SHORT PAPERS AND NOTES

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THE OCCURRENCE OF THE HAWKSBILL TURTLE, *ERETMOCHELYS IMBRICATA*, ALONG THE LOUISIANA COAST.—The hawksbill is primarily distributed in tropical waters such as the warmer parts of the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea (Carr, 1952). Detailed descriptions of its worldwide distribution are given by Groombridge (1982), Witzell (1983), and Groombridge and Luxmoore (1989). The hawksbill's major breeding grounds are warm-water areas between 25 degrees north and 25 degrees south latitude (Rebel 1974). Representatives of at least some life history stage regularly occur in southern Florida and the northern Gulf of Mexico, with Texas being the only northern Gulf state where hawksbills are sighted with any regularity (NMFS and USFWS 1993). Amos (1989) recorded 77 observations in Texas between 1972 and 1984, with most involving posthatchlings and juveniles. These small turtles are believed to originate from nesting beaches in Mexico (Hildebrand, 1987; Amos, 1989). In a stranding study in Texas done by Cailliouet et al. (1991), 67 hawksbills were recorded from 1986 to 1989. Fuller et al. (1987) found one unsubstantiated report of a hawksbill caught in a gill net in Cameron Parish, Louisiana. Schroeder (1986, in Dundee and Rossman 1989) also has an unsubstantiated report of a stranded hawksbill on the Louisiana coast.

The hawksbill was encountered on 28 April 1995, during a bycatch study on the Gulf of Mexico menhaden fishery. It was encircled accidentally when the purse seine net was set on a school of 25,000 standard menhaden (1 standard menhaden = 2/3 lb). The set was made 2 miles off the eastern end of Holly Beach, Louisiana (29°43'08" N, 93°24'75" W). The turtle was released alive and healthy at the end of the set. While it was being released, pictures were taken of the turtle and the turtle was later positively identified as a hawksbill by Dr. Douglas Rossman, curator of reptiles for the LSU Museum of Natural Science, and by Mr. Charles Orovetz, Chief, Protected Species Management Branch, Southeast Regional Office, National Marine Fisheries Service, St. Petersburg, Florida. The turtle's carapace length was approximately 75 cm and it had between 15 and 20 barnacles on its carapace (Fig. 1). The other bycatch associated with the menha-

den school consisted of one Spanish mackerel, two Atlantic cutlassfish, and eight cabbagehead jellyfish.

The identification was based on the most visible portion of the photograph and the predominance of the evidence. Specifically, there are two pairs of prefrontal scales and the first two pairs of postorbital scales are positioned as expected for a hawksbill, although there are not two large scales posterior to the large central scale. The general shape of the head, narrow and pointed with a distinct beak, far more resembles a hawksbill than a loggerhead, *Caretta caretta*. A loggerhead was considered and rejected on the basis of a lack of a third pair of postorbital scales around the large central scale and the lack of an interprefrontal scale. A picture of the turtle is archived at the LSU Museum of Natural Science.

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View A

View B

Fig. 1. Enlarged views of a hawksbill turtle encountered in a menhaden set off the Louisiana coast on 28 April 1995. (A) The head and carapace. (B) The head. The turtle was released alive and healthy.

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ATLANTIC SPOTTED DOLPHINS (*STENELLA FRONTALIS*) IN THE GULF OF MEXICO.—The distribution of the Atlantic spotted dolphin, *Stenella frontalis*, may be more expansive than previously believed (see Perrin et al. 1994). It is known that this species is endemic to the warm and warm-temperate Atlantic and their existence is well documented in the western North Atlantic and the Gulf of Mexico (Perrin et al. 1994). Although Atlantic spotted dolphins are one of the most frequently sighted dolphins on the continental shelf of the Gulf of Mexico (Gulf), most of the data concerning the distribution and abundance of Atlantic spotted dolphins in this area have been anecdotal (Moore, 1953; Gunter, 1954; Caldwell, 1955, 1960; Schmidley et al., 1972; Caldwell and Caldwell, 1973; Lowery, 1974; Schmidley and Shane, 1978). Moreover, the previously published information is derived from incidental and sporadic sightings (extreme gaps in years) that could be unreliable because of the lack of trained observers and the earlier confusion of the spotted dolphins' taxonomy (see Perrin et al., 1987).

Recently, there has been some aerial survey work done by the National Marine Fisheries Service (NMFS) to determine cetacean abundance and distribution on the continental shelf of the Gulf (Mullin et al., 1990; Blaylock and Hoggard, 1994). These surveys have identified the two dominant species of dolphins on

the shelf as bottlenose (*Tursiops truncatus*) and Atlantic spotted dolphins. These two species are morphologically similar and can be confused (see Leatherwood et al., 1983). In addition, there have been several mixed group sightings of Atlantic spotted and large bottlenose dolphins (Mills, pers. observ.). Differentiating between these two species from the air can be further complicated by sighting conditions such as glare, turbidity, and sea state (Mills, pers. observ.).

Currently, there is no definitive literature describing group sizes of Atlantic spotted dolphins in the Gulf. Leatherwood et al. (1976) state that the species can occur in groups composed of several hundred individuals, although groups of 50 or fewer (6–10) are more common; Perrin et al. (1994) describe Atlantic spotted dolphin group size (throughout its range) as normally <50, with 1–15 individuals being the average group size. However, other species of the genus *Stenella*, such as the closely related pantropical spotted dolphin, *Stenella attenuata*, average 75 or more in the Pacific (Wade and Gerrodette, 1993).

Due to the limited amount of reliable information regarding Atlantic spotted dolphins in the Gulf, the objectives of this research were (1) to determine the spatial and temporal distribution of the Atlantic spotted dolphin in the Gulf of Mexico from shipboard surveys and (2) to describe group characteristics of this species.

Methods.—Opportunistic sightings of Atlantic spotted dolphins were compiled from 7 yr (1988–94) of data. These data were collected during various resource survey cruises under the auspices of NMFS aboard the NOAA ships *Oregon II* and *Chapman*. The study area ranged from Brownsville, Texas, to Key West, Florida, and was intensive along the continental shelf (from ~10 to 183 m). Track lines are indicated in Figure 1 and include some repetitive surveys over the same areas during the study period. Offshore areas out to the U.S. exclusive economic zone ($\cong$ or, sometimes, >1,830 m) were also surveyed using standard marine mammal line transect survey methods (Hansen et al., 1995). Methods involved direct observations by trained observers using naked eye, 7 × 50 binoculars, and 25 × 150 “big-eye” binoculars. Sighting information used in this study included species identification, group structure (i.e., species composition and number of individuals), position (latitude and longitude), water column depth at the sighting position, date, time of day, and sighting conditions (water col-