

## NORTHERN RANGE EXTENSION OF THE LEOPARD SHARK, *TRIAKIS SEMIFASCIATA*

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A single leopard shark, *Triakis semifasciata*, was collected on 6 September 2007 in Samish Bay, Washington (approx. 48° 37.20 N, 122° 28.11 W) by commercial fisherman, Jason Freeman. The previously listed geographic range for this species is from Oregon south to Mazatlan, Mexico, including the Gulf of California (Ebert 2003). As such, this specimen represents a significant northern range extension of over 250-km for the species. The Samish Bay specimen is a male, measuring 133.4 cm total length (TL), 106.7 cm precaudal length (PCL), and weighing 8.62 kg. It was caught using commercial gillnet gear targeting salmon. The gear had been set at night in less than 2 m of water over sand and eelgrass. Spiny dogfish, *Squalus acanthias*, was the only other component of the catch. The author found a record of another specimen captured in a research gillnet during August 1996 sturgeon tagging project in Willapa Bay, a coastal estuary in southwest Washington State (Washington Department of Fish and Wildlife unpublished data). However, this specimen was not photographed, preserved, or archived.

Examination of this specimen agreed with previous descriptions and morphological characteristics of leopard sharks (Miller and Lea, 1972; Eschmeyer et al. 1983; Ebert 2003), which describe a species that is easily identified due to its distinctive coloration. (Fig.1). The dorsal surface of the body is silvery gray to bronze whereas the underside is lighter or white with no markings. Bold, black, saddle-like bars and blotchy spots on the upper portion of its body are both unique and distinctly indicative of this species. Other significant characteristics comprise the following: caudal fin is elongated with a strong subterminal notch, fourth and fifth gill slits located over the pectoral fin, first dorsal fin originates above the rear of pectoral fin, and second dorsal fin origin is in front of the anal fin.

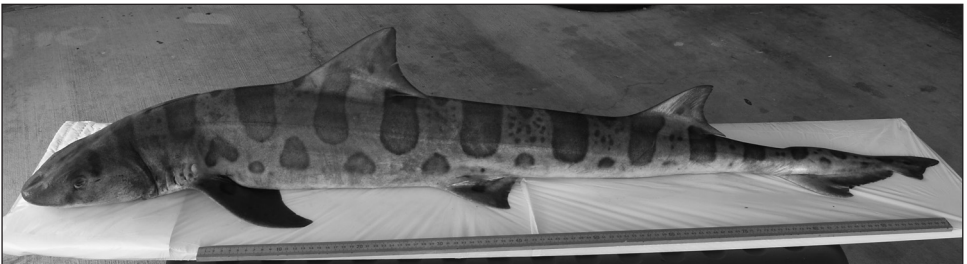


Fig.1 *Triakis semifasciata*, male, 133.4 cm total length, caught in Samish Bay, Washington on 6 September 2007. Photo by Vicky Okimura

The leopard shark is an inshore, coastal species commonly found in shallow bays and estuaries along the California Coast and is occasionally sighted as far north as Oregon (Eschmeyer et al. 1983; Ebert 2003). Leopard sharks are known to gather in the shallow waters off the coast of San Diego in the summer months (Smith 2005) and are seasonally abundant in several northern California bays, including Elkhorn Slough in Monterey Bay, San Francisco, Tomales, Bodega, and Humboldt bays, where they give birth in the spring; usually April and May (Ebert 2003; Ebert and Ebert 2005). The movement patterns of this benthic species remain elusive, although there may be limited exchange among various regional subpopulations (Smith and Abramson 1990). A recent study along the California coast found there to be up to seven distinct gene pools, with the Humboldt Bay population appearing to be especially isolated (Lewallen et al. 2007).

The specimen was deposited at the University of Washington Fish Collection, catalog # UW 117500 and a tissue sample is archived with Washington State Department of Fish and Wildlife # 07LN1.

## ACKNOWLEDGMENTS

I would like to thank J. Freeman (commercial fisher) for the donation, collection, and preservation of the specimen and S. Palm (former director, Marine Life Center, Bellingham, Washington) for field identification and facilitating delivery of this specimen to my office. G. Williams and G. Bargmann (Northwest Fisheries Science Center NOAA Fisheries, Washington State Department of Fish and Wildlife) provided comments and clarifications that were helpful in submitting this manuscript. I also thank V. Okimura and S. Axtell (Washington State Department of Fish and Wildlife) for photography. D. Ebert, (Pacific Shark Research Center, Moss Landing Marine Laboratories), who confirmed the identification of this specimen and for his helpful suggestions and assistance with the literature review. This work was partially supported by the U.S. Fish and Wildlife Service Sport Fish Restoration Program, Grant F-126.

## LITERATURE CITED

- Ebert, D.A. 2003. Sharks, Rays, and Chimaeras of California. California Natural History Guides No. 71, University of California Press, Berkeley and Los Angeles, California, U.S.A.
- Ebert, D.A. & T.B. Ebert. 2005. Reproduction, diet, and habitat use of leopard sharks, *Triakis semifasciata* (Girard), in Humboldt Bay, California, U.S.A. Marine and Freshwater Research, 56: 1089-1098
- Eschmeyer, W.N., E.S. Herald, and H. Hammond. 1983. A field guide to Pacific Coast fishes of North America. The Peterson Field Guide Series. Houghton Mifflin Company, Boston, Massachusetts, Field Guide (28): 1-336.
- Lewallen, E.A., T.W. Anderson, and A.J. Bohonak. 2007. Genetic structure of leopard shark (*Triakis semifasciata*) populations in California waters. Marine Biology, 152: 599-609.
- Miller, D.J. and R.N. Lea. 1972. Guide to the coastal marine fishes of California. California Fish and Game Fish Bulletin No. 157. (The Resources Agency, Department of Fish and

Game, Sacramento, CA).

Smith, S.E. and N. Abramson. 1990. Leopard shark *Triakis semifasciata* distribution, mortality rate, yield, and stock replenishment estimates based on a tagging study in San Francisco Bay. Fishery Bulletin, U.S. 88(2): 371-381.

Smith, S.E. 2005. Leopard shark mating observed off La Jolla, California. California Fish and Game 91(1): 128-135.

Received: 27 February 2008

Accepted: 26 April 2008