

## RECENT STRANDINGS OF ROUGH-TOOTHED DOLPHINS (*STENO BREDANENSIS*) ON THE OREGON AND WASHINGTON COASTS

Three rough-toothed dolphins (*Steno bredanensis*) were recently found stranded on the beaches of Oregon and Washington. Two were discovered alive on 14 January 1991, 3 km north of the Rogue River, Curry County, Oregon (42°26'N, 124°25'W). Repeated attempts to return the animals to the ocean were not successful. One dolphin, a 219-cm female, died approximately 36 h after stranding and the other, a 209-cm male, was euthanized shortly thereafter. The third dolphin, a 192-cm male, was recovered dead on 4 October 1992 on Washington's Long Beach peninsula approximately 2 km north of Ocean Park, Pacific County (46°30'N, 124°03'W).

Previous records of rough-toothed dolphin sightings or strandings in the coastal waters of the northeastern Pacific are rare. Orr (1951) reported a single weathered skull from Marin County, California and Balcomb (1980) noted a stranded female on the outer coast of Washington in 1980. Rough-toothed dolphins are considered a warm-water pelagic inhabitant, occurring in low densities throughout the eastern tropical Pacific Ocean where surface water temperatures are generally above 25°C (Perrin and Walker 1975, Leatherwood *et al.* 1982). Sea surface temperatures off southern Oregon were 8–9°C in January 1991, and 11–12°C off Washington in October 1992 (Anonymous 1991, 1992).

Necropsies were performed on all three animals; gross examination of internal organs, muscles, nasal passageways, and middle ear cavities revealed no irregularities in the Oregon animals. The Washington animal's lungs showed agonal emphysema throughout and a few scarified nodules up to 3 mm in diameter. Its liver showed faint brownish speckling over the entire surface, but the margins

were sharp and no swelling was evident. The carcass (72 kg) was moderately decomposed; no external indications of recent trauma were noted except for marks made by scavengers. The cause of death was not determined.

Teeth from the center of the lower jaw of each animal (three from the Washington animal, one each from the Oregon specimens) were decalcified, sectioned, and stained (Myrick *et al.* 1983), and the cementum and dentinal layers counted. From these counts the Oregon male was determined to be at least 14 yr old and the female was about 5 yr old. The Washington animal was at least age 7. All pulp cavities were open. Comparisons of these ages with *S. bredanensis* from Japan examined by Miyazaki (1980) suggest that the Oregon male was sexually mature, but the Oregon female and the Washington male were not. The right testis weight of the Washington male (23.3 g) further supports its immature status relative to Miyazaki's (1980) reported minimum size of *S. bredanensis* testes at sexual maturity (175 g).

The stomachs from the Oregon animals contained otoliths representing 10 top smelt (*Atherinops affinis*), 6 jack smelt (*A. californiensis*) and a myctophid otolith that was too worn to identify. Both species of smelt are common in inshore waters of the Oregon coast (Eschmeyer and Herald 1983). In addition, both stomachs contained neon flying squid (*Ommastrephes bartrami*) beaks (6 pairs from the female, 2 upper beaks from the male). Neon flying squid are also present in Oregon waters (Sinclair 1991), suggesting that the animals were feeding in coastal waters prior to stranding.

The stomach of the Washington animal contained 60–70 pairs of squid beaks identified as *Onychoteuthis borealijaponica*. This squid is found throughout the northeastern Pacific Ocean (Clarke and MacLeod 1980). In addition, approximately 200 *Anisakis* spp. were present in the forestomach and one 3-mm ulcer was noted.

The skeletons of the Oregon animals are stored at the California Academy of Natural Sciences, San Francisco. The squid beaks from the Oregon specimens are archived at the Santa Barbara Museum of Natural History (SBMNH), catalog numbers 64544 and 64545. The skeleton, gonads, and stomach contents of the Washington animal are catalogued as RLH 004 at the National Marine Mammal Laboratory (NMML) in Seattle.

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