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Occurrence of a Wild Albino Chinook Salmon (Oncorhynchus tshawytscha) in the Columbia River

Abstract

A 42 mm juvenile albino chinook salmon *(Oncorhynchus tshawytscha)* was captured in the Columbia River near Richland, Washington, on April 20, 1975.

Albinism has been reported in wild salmonids, genus *Salvelinus,* (Blackett and Armstrong, 1945; Allin, 1965) and has been found in Northwest fish hatcheries that raise rainbow trout, *Salmo gairdneri*, coho salmon, *Oncorhynchus kisutch,* and chinook salmon, *O. tshawytscha* (Hager, Washington Department of Fisheries, pers. comm.). However, the abnormality has not been reported for natural chinook salmon populations (Dawson, 1964, 1966, 1970), with the exception of a possible albino adult chinook observed in a fish ladder at Pelton Dam in the Deschutes River, Oregon, in 1961 (Leonards and Madden, 1963).

We collected a 42 mm (fork length) albino chinook salmon from the shoreline of the Columbia River 65 km above Richland, Washington, during seining operations, on 20 April 1975. Since hatchery chinook from upriver locations are released later in the spring and are larger (Anderson, Washington Department of Fisheries, pers. comm.), the fish probably originated from natural spawning populations. Immediately adjacent areas contain up to 30 percent of the estimated fall chinook redds located in the Hanford Reach (Watson, 1970).

After initial examination, the albino was preserved in 10 percent formalin. The specimen was devoid of all normal coloration, appearing pale white with pinkish eyes. Scale formation was not yet evident. Detailed microscopic examination showed no melanistic pigmentation among fin rays or on the ventral body surface. Scattered melanophores were detectable, however, on each operculum and along the dorso-lateral body surface. The salmon did not differ morphologically or meristically from other wild chinook captured in this area. Figure 1 compares markings of the albino specimen with a normally pigmented chinook captured and preserved at the same time.

We have examined over 49,000 wild 0-age chinook salmon taken in the central Columbia River from 1973-1976. No other case of abnormal coloration has been detected. The low incidence of albinism in natural populations may reflect the albino's

lack of protective coloration, as well as weakened eyesight, increasing its vulnerability to predators.

Figure 1. Comparison of markings between the albino chinook salmon fry and a normally pigmented chinook salmon fry.

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