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Size-dependent development of burst swimming ability in juvenile chum salmon: comparisons between reared and wild juveniles

In this study, we examined the development of burst swimming ability in juvenile chum salmon *Oncorhynchus keta*, comparing the swimming abilities of laboratory-reared fish, wild-caught fish, and juveniles confirmed as wild. Burst swimming was measured using an escape measurement method with sound stimuli. Across all groups, burst speed (BS) increased significantly with fork length (FL), demonstrating size dependence. However, the rate of increase differed among groups, with significant differences observed in the slopes of the BS–FL relationships. Despite these differences in developmental trajectories, no significant differences in BS were observed between groups within the body size class corresponding to the start of the downstream migration period (FL 30–45 mm). Our results suggest that, with respect to origin, there is no difference in burst swimming ability between hatchery-reared and wild fish, and that effects associated with growth and ecological processes in the wild may be involved.

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Sensory and processing factors affecting the palatability of frozen atka mackerel fillets for raw consumption

In this study, we aimed to identify key sensory attributes and optimal processing, freezing, and storage conditions for Atka mackerel (*Pleurogrammus azonus*) fillets intended for raw consumption. Sensory evaluation showed that perceived excess moisture and fishy odor were key attributes strongly associated with palatability. Although some physicochemical parameters showed significant differences, no consistent overall differences were observed, suggesting that subtle differences in muscle quality influenced palatability. Furthermore, brine-freezing fillets from fish processed on the day of capture, followed by storage at  $-40^{\circ}\text{C}$  or below, is likely to result in limited ice crystal formation and growth. This reduced perceived excess moisture and preserved a firm and resilient texture, enabling the production of fillets that are suitable for raw consumption.

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##### **Optimal growth temperatures of juvenile pink salmon: A trial of comparative rearing experiments with chum salmon (Short paper)**

The effects of seawater temperature on feeding and growth in juvenile pink salmon (*Oncorhynchus gorbuscha*) and chum salmon (*O. keta*) were examined in a controlled rearing experiment. Fish were fed *Artemia* to satiation for 10 days at six seawater temperatures (4, 8, 10, 13, 18, and 23 °C). We estimated the temperatures at which food intake (FI), specific growth rate in body weight and fork length (SGR<sub>BW</sub> and SGR<sub>FL</sub>), and feeding efficiency (FE) reached their highest values. For pink salmon, maximum FI occurred at 16.1 °C, maximum SGR<sub>BW</sub> at 14.8 °C, maximum SGR<sub>FL</sub> at 14.4 °C, and maximum FE at 10.5 °C. For chum salmon, the corresponding temperatures were 17.7 °C, 16.3 °C, 16.7 °C, and 13.0 °C. Although both species inhabit similar coastal temperature ranges, our results suggest that the optimal growth temperature for juvenile pink salmon is slightly lower than that for chum salmon. Further studies are required to refine these temperature estimates and improve their reliability.

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**Stomach contents of Pacific herring *Clupea pallasii* caught in the Sea of Japan off Rumoi, Hokkaido (Note)**

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**Long-term effect of instream structure improvement on distribution of spawning redds and juvenile density of masu salmon *Oncorhynchus masou* (Note)**