

Morphology of eggs, alevins and fry of
Brachymystax lenok (Pallas) reared in aquarium

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Introduction

Manchurian trout(Korean name; Yeol-mok-eo), *Brachymystax lenok*, is one of the coldwater species in the family Salmonidae and is widely distributed throughout the freshwater of the Peninsula of Korea, north-eastern Asia, Siberia and North America. The upper stream of the Nak-Dong River and The Sum-Jin River in Korea are well known as the southern limit of their distribution in the world (Chung,1977).

The authors had performed experiments to develop techniques for culturing *B. lenok* for three years. In this time, the authors compiled morphological information during the early developmental stages of this species.

Materials and Methods

The mature fish used in this experiment were reared for 1-2 years in an artificial pond located in the valley of T'aebaek Mt., Bonghwa gun., Gyoungsangbuk-do. 65 mature fish, 30-45cm in body length, were selected from the group. The eggs were stripped and inseminated by the dry method.

The fertilized eggs were incubated in trough incubators at the Bonghwa hatchery with a supply of both underground water and stream water. The fertilized eggs were incubated at 4 - 10 °C until the eyed stage, after which they were hatched at 14 - 17 °C. The prime source of feed for the fry was an artificial compound feed and brine shrimp eggs which had the shell removed. 5 to 10 live alevins and fry were collected at random from the aquarium periodically. They were anaesthetised (with MS222), measured, and sketches were made using a compound microscope.

Results

The eggs of *Brachymystax lenok* were demersal and separate, yellow or yellowish-red, and had a diameter which varied between 44 - 51 mm (mean 48 mm, n=20). They also had a number of small oil globules. Hatching took place between 135 and 160 °C accumulated degree days after fertilisation.

The newly hatched alevins lay on the bottom of the aquarium. They had a mean total length of 14.1 - 15.6 mm and had a large yolk on the abdomen. 7 days after hatching, the alevins reached 21.2 mm in mean total length, and began swimming toward the surface. 17 days after hatching, the fry attained a mean total length of 26.7 mm and had 3 parr marks on their body. 2 months after hatching, the fry were 53.7 to 61.0 mm in total length with 8 - 10 parr marks and 20 - 30 small, black spots on their body.

During early development, the ratios of eye diameter and trunk length to total length decreased while that of body depth to total length increased.

Literature Cited

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