

## **Snow Trout (*Schizothorax richardsonii* Gray, 1832)**

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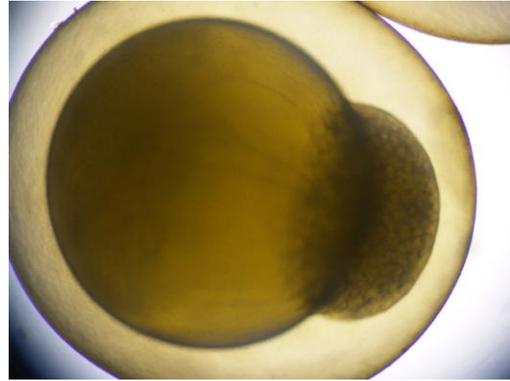
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1. Snow trout, *Schizothorax richardsonii* is an important indigenous coldwater species also known as asaila or mountain barbel, widely distributed in India all along Himalayas from Jammu & Kashmir to Uttarakhand, Assam, Sikkim Nagaland and Bhutan within an elevation of 300-2810 masl.
2. The species is bottom dwelling, illiophagic herbivore having transverse inferior mouth. The species can withstand vast ranges of temperature variation, but prefers snow-fed torrential streams and pools with temperature ranging from 8°C - 22°C.
3. Asaila generally attains maturity in 3+years, spawn twice in a year during February-May and August - October. August -October is considered the best season for large scale seed production. Clear water, stony bottom of creeks composed of fine pebbles and gravel having water flow of 2.8-4 m/sec, pH 7.4-8.2 and dissolved oxygen concentrations 8-10 mg/L provide excellent spawning conditions in the natural environment.
4. Mature males are slender in shape, presence of nuptial tubercles on the snout, faint yellowish color, with reddish fins, roughness of pectoral fins and oozing of free flowing milt.
5. The females are characterized by pinkish soft, enlarged and distended belly. Pectoral fins are smooth. Fully mature female releases orange and sticky eggs when gently pressed on the abdomen. The average fecundity ranged between 16,270-18,340/kg body weight.
6. For breeding, female brooders in size range of >70-80 g and males >40-50 g are selected. The dry fertilization method is followed in dark conditions. Females are stripped by gently pressing abdomen from the pelvic fin area to the vent area and similarly milt is poured over the stripped eggs. Maximum care is taken to avoid entry of water, blood and fecal matter contamination in the egg holding bowl. Milt from three to four males is used for fertilizing the eggs of a single female for achieving better fertilization.
7. Good quality eggs are uniform in size with yellowish-orange in colour. Stripped eggs and milt is mixed thoroughly and water is added for activating the sperm and water hardening for about 15-20 minutes.
8. 35-60% fertilization is achieved with hatching percentage of 60-75. The overall survival from fertilized eggs to swim-up fry is around 30-45% and from swim-up fry to advanced fry is 65-80% . For incubation, it takes 5-7 days at water temperature of 17-21°C. The yolk sac absorption completes within 84-168 hrs. The length of the sac fry (alevins) varies from 7.5 - 9.0 mm.
9. The free swimming larva are reared in indoor flow through hatching trays for 60 days @ 1000-2000 /m<sup>2</sup> with a water flow of 3-4 L/m.
10. In grow out raceways 100-150 advance fry/ m<sup>2</sup> are stocked with water flow rate of 30-40 L/min and fed with 10% of body weight.

# Photographs



**Fertilized eggs of snow trout**



**Fertilized eggs after 24 hours**



***Scizothorax richardsonii***



**Snow trout haul**



**Fry of snow trout**