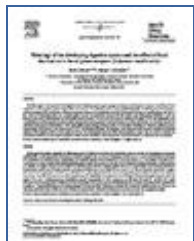


## Histology of the developing digestive system and the effect of food deprivation in larval green sturgeon (



The histological development of the digestive tract in hatchery-reared green sturgeon (*Acipenser medirostris*) larvae and the effects of food deprivation on the digestive system organization were studied from hatching until 31 days post-hatching (dph). At hatching, the larval digestive system consisted of two rudiments: a large endodermal yolk sac and a primordial hind-gut. During the endogenous feeding phase, the wall of the yolk sac differentiated into the stomach (glandular and non-glandular regions) and the anterior and intermediate intestine, while the hind-gut primordium differentiated into the spiral valve and rectum. At the onset of exogenous feeding (15 dph at 16 °C), the organization and cytoarchitecture of the digestive system in green sturgeon larvae was generally similar to those of juveniles and adults. Larvae deprived of food exhibited a progressive deterioration, with subtle pathological changes observed after 5-d starvation: shrinkage of digestive epithelia, tissue degeneration, and necrosis were observed at 10–15 d of starvation (30 dph). No changes were observed in the mucous secretion of different regions of the digestive tract of

food-deprived larvae. The histological analysis of the larval digestive system may be used to evaluate the nutritional condition of larval green sturgeon in their nursery habitats in spawning rivers, which are affected by dams and flow diversions.

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