

imbalance in the ecosystem.

**Limiting factors: O2 concentration and transferrin polymorphism of pike perch larvae in the Kuibyshev water reservoir of Russia**

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*Symposium: Egg Type: Oral*

Serum proteins of two pike perch species (*Stizostedion lucioperca* and *S. volgense*) were investigated by 10 % SDS and 5 % native-PAGE. In the intensive growing period, fingerlings require vast amount of transferrin. In comparison with adult fishes, fingerlings have more transferrin peaks in both SDS and native polyacrylamide gel electrophoreses systems. Dissolved O2 content in the water bodies has an inverse relationship with transferrin protein patterns. In Kuibyshev water reservoir, the deficiency of dissolved O2 usually occurred in August (below 4.5 ppm). DO content in the water bodies could help to regulate the transferrin levels of fishes. Transferrin polymorphism of pike perch established direct relationships with the ecosystem.

**Are heat shock proteins reliable indicators of general stress in fish?**

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*Symposium: Stress Type: Oral*

General indicators of stress should consistently change beyond their normal range in response to a wide range of stressors. Plasma concentrations of catecholamines and cortisol are examples of such indicators in vertebrates, including fish. The ubiquitous existence of heat shock proteins (hsps; also known as stress proteins) and responsiveness to a wide

range of stressors has convinced many researchers that they are good indicators of stressed states in fish. This cellular response, however, can vary according to species, tissues, hsp family, and type of stressor. This paper will discuss the reliability of hsps as such indicators in fish.

**Reproductive cycle and migration of blue shark (*Prionace glauca*) in the South Atlantic Ocean**

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*Symposium: Communities Type: Poster*

Research developed by several authors and a study conducted on southwest Atlantic Ocean, between 27°S e 35°S, proposes the existence of an annual reproductive cycle for blue shark (*Prionace glauca*) in the southwest Atlantic Ocean. Coupling takes place during spring and summer. Ovulation and egg fertilization occurs between March and April, followed by parturition 9 or 12 months later. The existence of two distinct populations was established in Brazilian waters: Population I, between 5°N and 7°S; and Population II between 20° and 35°S.

**Cardiac Function in Atlantic Wolffish (*Anarhichas lupus*) Exposed to Acute Temperature and Hypoxia Challenges**

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*Symposium: Respiration Type: Poster*

The wolffish is a benthic North Atlantic species, that has aquaculture potential and whose physiology is virtually unknown. We exposed 8°C-acclimated wolffish to an acute temperature challenge (6 to 16°C at 2°C h<sup>-1</sup>)