The long term effect of salinity and temperature challenge on some physiological indices of Convict Cichlid (*Cichlasoma nigrofasciatum* Gunther, 1867)

Babak Ataimehr[1]
Roya Madani[2*]
Mahmood Bahmani[3]
Arya Ashja Ardalan[4]

1, 2. Islamic Azad University, North Tehran Branch, Fisheries Sciences, Tehran, Iran
3. International Sturgeon Research Organization, Rasht, Iran
4. Islamic Azad University, North Tehran Branch, Marine Biology Sciences, Tehran, Iran

[*]**Corresponding author:**
Roya86m@yahoo.com

Receive date: 2014.04.08
Acceptant date: 2014.11.01

Abstract
Changes in levels of cortisol, glucose, Na^+, Cl^-, K^+ ions, muscle water content, the size and number of gill chloride cells as well as mortality percentage of Convict Cichlid (*Cichlasoma nigrofasciatum*) with mean weight of 3.70±0.93 g were investigated under various salinities (fresh water, 10 and 20 gl^{-1}) and temperatures (20, 25 and 35 °C) for 60 days. Sampling was done at the beginning of the test, and the days of 30 and 60 after the test. Cortisol, glucose, Na^+, Cl^-, K^+ ions, the size and number of gill chloride cells were increased after 30 days of the test and the maximum levels were obtained in 20 gl^{-1} at 20 °C on day 30 of the test. Muscle water content were decrease after 30 days of the test and the minimum level was obtained in 20 gl^{-1} at 20 °C on 30 days of the test. Mortality percentage was increased after 30 days of the test and reached the maximum level in 20 gl^{-1} at 20 °C on 30 days of the test. All of the fish were died until the end of the experiment. Based on obtained results, it seems that the salinity more than 10 $g\ ^{-}l$ and temperature lower than 25 ^{o}C is not suitable for rearing of Convict Cichlid.

Keywords: Stress, Salinity, Temperature, Physiological indices, *Cichlasoma nigrofasciatum*.