

Analysis of experiments to improve food quality and nutrition programs in aquaculture

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Abstract. This article provides information on a scientific analysis of work on growing a new type of artemia in artificial reservoirs of our Republic.

Key words: aquaculture, artemia parthenogenetica, artemia franciscana(Vinchau), nauplii, sista, adaptation.

Artemia - sexual and parthenogenetic genus included ancestors. There are currently six known species with sexual abilities. Most of them more than 80 million years ago, artemia species separated from the general species. It mainly lives in the salt lakes of Eurasia or the Mediterranean Sea [5; -P. 1679–1698].

Artemia species are divided into Old World and New World species (1- table).

Table 1. Old World and New World species [2; -P. 100359, 1; -P. 11-24]

Old World species	New World species
<i>Artemia salina</i> (From the Mediterranean basin)	<i>Artemia franciscana</i> (From the Americas and the Caribbean)
<i>Artemia tibetiana</i> (From the Tibetan Plateau)	<i>Artemia persimilis</i> (Camara, 2020)
<i>Artemia urmiana</i> (From Lake Urmia in Iran and Ukraine)	
<i>Artemia sinica</i> (From China and Mongolia)	

Artemia is distinguished by its ability to live in high salt conditions all over the world. Artemia is adapted to live in unfavorable conditions such as high temperature, low oxygen content, complex ion content (sulphates, chloride-rich water or carbonates) and strong exposure to ultraviolet rays[2; -P. 100359].

Artemia classification. Phylum: Arthropoda, Class: Crustacea, Order: Branchiopoda, Family: Anostraca, Genus: Artemiidae, Species: Artemia, Leach (1819)

Currently, the Aral Sea (A. Sea) has become one of the world's hypersaline water basins, in which, since the end of the 20th century, the salt crustacean Artemia parthenogenetica has appeared and multiplied[4; -P. 10-48].

All species of Artemia: crustaceans, nauplii and especially cysts are commercially valuable products with unlimited export potential[6; -P. 48-60].

There are many strategies to develop the aquaculture sector and implement sustainable production. One of these strategies is to improve feed quality and nutrition programs[3; -P. 642-663].

In our republic, scientific research work is being carried out on the acclimatization of a new species of artemia, San Franciscana Bay Winchau. This species has great advantages over the Aral Sea artemia population with its strong adaptability, high hatching percentage, and small cyst diameter (220-230µm). [7; -P. 25-26]. Scientific research work on acclimatization of this species was carried out in Chimboy district, despite the unfavorable conditions of air temperature, water and salt retention problems, the new species of Artemia grew well and developed cysts.

After the introduction period in our republic, the Artemia SFB (Winchau) strain is adapting to the climate of our salt field. The new artemia species has a small diameter of the cyst and the small size of the larvae, as well as the presence of high unsaturated fatty acids, which determine its high quality indicators in the world market.

Currently, scientific research works are being carried out in Khojaly district (Fig. 1). According to the owner's experience, despite unfavorable weather conditions, active growth and development of Artemia was observed in artificial water bodies, indicators of abiotic factors were also studied.

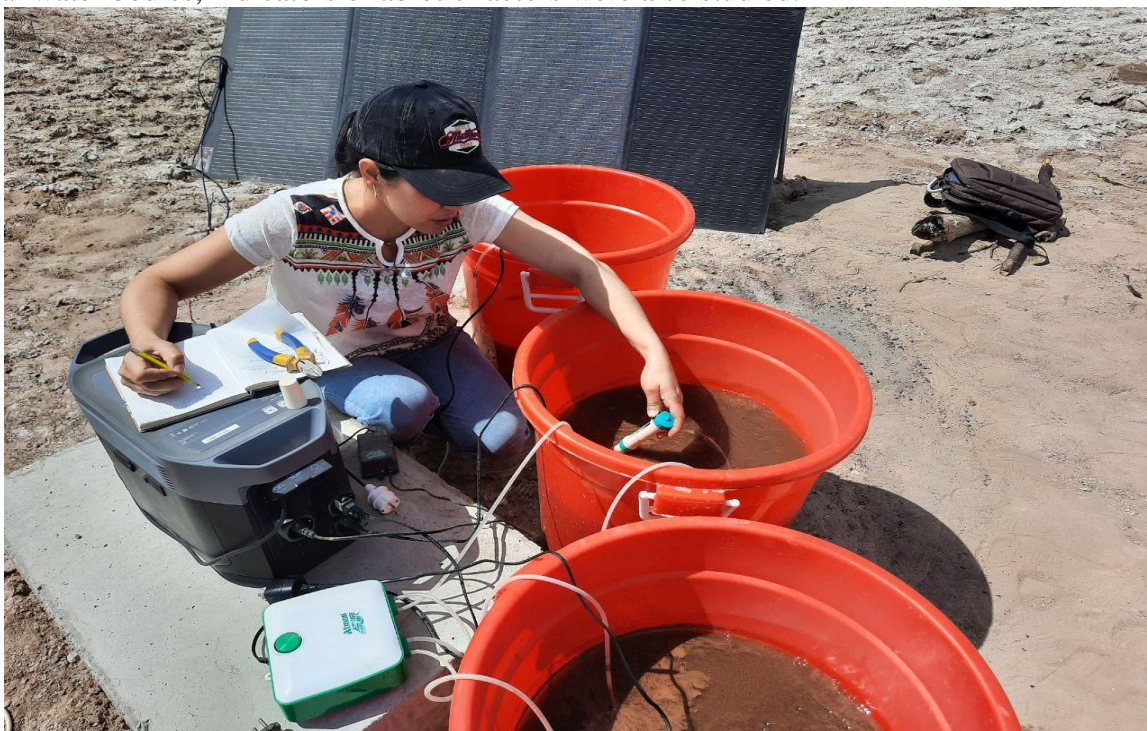


Figure 1. Inspection of water parameters in the process of incubation of cysts in the experimental field of Khodzhayli district.

According to the data obtained from the natural pool, the average salinity is 33 ppt, the temperature is 27.6 0C, the pH is 7.7 (Fig. 2).

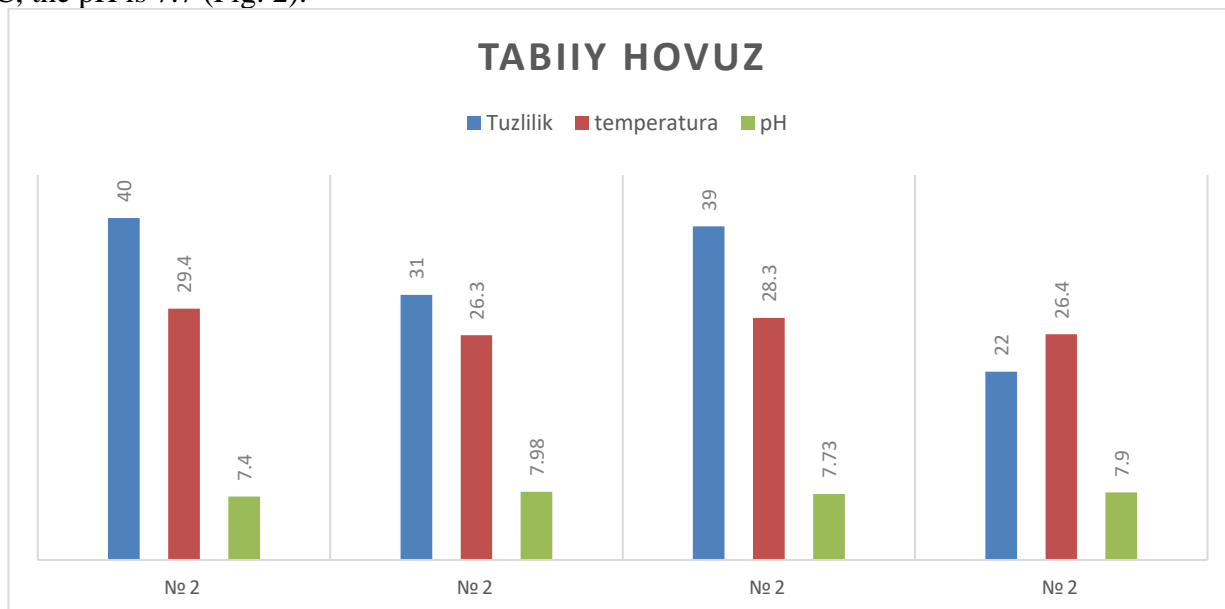


Figure 2. Experimental analyzes of the natural pool of Khojaly district

A food pond is prepared for Artemia. In order to develop organisms necessary for artemia in this pond, various fertilizing works have been carried out. The salinity indicator is as follows (Fig. 3).

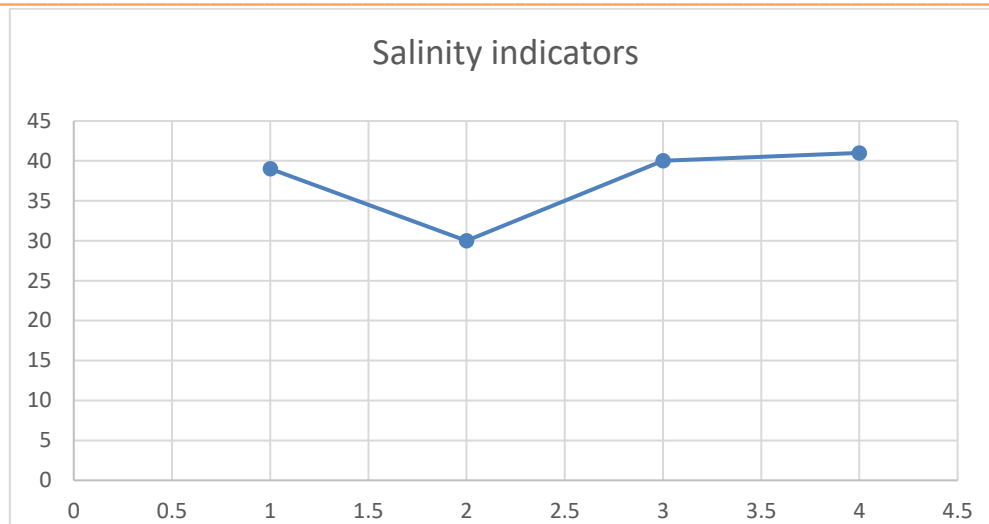


Figure 3. The salinity index of the feed pond.

According to the received data, the average indicator of salinity was 37.5.

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