

Research of Parasitopa of Module of *Rutilus Aralensis* Deltas of Amudarya

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Abstract: In the article the results of research of dynamics of infection of nanus fishes of first-year pathogenic monogenous *Dactylogyrus* are presented lives, that meet on the reservoirs of water-fish economy of "Antika" Turtkul the district located on the south of Republic of Karakalpakstan. Were first certain in permanent establishment of Turtkul of water pool of fish industry of loud speaker, extensiveness, intensity infection the pathogen of *Dactylogyrus* of nanus fingerlings of first-year of life depending on their morph-physiological features in the conditions of epizootic invasion morbidity of Central Asia.

Keywords: Republic of Karakalpakstan, pathogen of *Dactylogyrus*, dynamics of infection, reservoirs of water-fish

1. Introduction

Presently aquiculture is developing industry in the world because of her high efficiency and possibility to supply with to the markets products super during throughout the year. Lately effectiveness of aquiculture in many countries grew repeatedly. Fishes, as well as other animals, is subject to the different diseases. Illnesses of fishes can arise up both in natural reservoirs and in different fish-breeder economies. In the natural reservoirs of illness more often arise up at the intensive affecting of anthropogenic factors natural ecosystems. At the artificial growing of disease more often show up in those cases, when for the objects of fish-farming unfavorable terms are created [4, 10].

Pisces is subject to the invasion diseases, one of that are dangerous for the health of fishes and quite often cause their mass death, other are dangerous for a man and animals, feeding on such fish. In addition, invasion illnesses reduce quality of fish products sharply [2, 10]. Distribution of parasitogenic illnesses of fishes is assisted by different factors, including the use of off-grade forage, violation of technology of maintenance of fish and other [4].

To present tense are absent taking at the infections of fingerlings of fishes by the pathogen of *Dactylogyrus nanus* one of representatives of class of monogenous depending on morphology and anatomy features, their behavior from the temperature of water. Therefore in this article the results of research of dynamics of infection of nanus fishes of *Rutilus Aralensis* pathogenic monogenous *Dactylogyrus* are presented first-year lives, that meet on the reservoirs of water-fish economy of "Antika" Turtkul the district located on the south of Republic of Karakalpakstan.

A primary purpose of research is realization of analysis of dynamics of infection of fingerlings of *Rutilus Aralensis* pathogenic *Dactylogyrus nanus* in the first year of life during a month on the water-fish economy of "Antika" in Turtkul district of Karakalpakstan

2. Materials and Methods

The field materials and information are in-process presented about experimental researches on the water-fish economy of "Antika" in Turtkul district.

Norm of infection of *Rutilus Aralensis* first-year of life by the pathogen of *D. Nanus* is certain generally accepted ichthyology is parasitology by the complete and incomplete method of Bykhovskaya-Pavlovskaya et al.,[1]. On an infection the pathogen of *D. Nanus* were investigational 650 fingerlings of fishes during 12 months, in all seasons 2018-2019 by an incomplete ichthyology is parasitology methods (in the microscope of ok.7x oh.8,10 eyeshots).

For determination of morphology and anatomy features of fingerlings of *Rutilus Aralensis* and pathogen of *D. Nanus* is used living fishes, their parameters were measured by an ocular micrometer. Determinants of freshwater fishes were used edited O.N. Bauer [8, 9] for determination of types of *Dactylogyrus nanus*.

Also for determination of types of fishes of *Rutilus Aralensis* Determinants of fishes of Uzbekistan of I.M Mirabdullayev et al. [7], and Atlas of A. P. Makeev [6] for determination of types of fingerlings of fishes. Young individual of fish period, the year-old fingerlings of the Aral Sea roach were investigational through magnifying glass and microscope from the moment of hatching from caviar each 5, 10, 15, 30 days, each 28-30 are numbers of subsequent months

3. Results and Discussion

The row of factors of environment causes stress and represses the resistibility of organism of fishes. The negative results of economic activity of man often violate formed in the wild during many centuries the state of equilibrium in the system a parasite is an owner, what results in the origin of many diseases. In addition, presently at cultivation of fishes in economies the diseases complicated by a toxicosis register often, and also caused by a few causative agents.

Dactylogyrus are the sharply aleak invasion diseases of fishes, caused by monogenous from the sort of *Dactylogyrus* striking the branchial petals of fishes. For fishes of freshwater reservoirs of our republic more than 150 types of monogenous are described. Most pathogenic from them *Dactylogyrus vastator*, *D. extensus* and *D. anchoratus*. The

representatives of these kinds strike the fishes conducted in pond economies more often, quite often causing the mass flashes of illness and death of carp and vegetable-feeding of fishes, especially young fishes. Monogenous of other types parasitize mainly on fishes dwellings in natural reservoirs, and mass flashes of *Dactylogyrus* among them not marked.

Presented taking about the norms of infection the pathogenic representatives of *Dactylogyrus nanus* class of monogenous, and their dynamics of quantity depending on morphology - anatomical, ecological feature of year-old fingerlings of *Rutilus Aralensis* representatives of fishes family of Carp. In the water-fish economy of "Antika" in Turtkul district, laying of caviar of *Rutilus Aralensis* actively proceeds from March, 28-30 to the end of May at the temperature of 16,3⁰C -17,4⁰C. On our supervisions in the off-shore zone of reservoir from 1 to April, 5 the shallow and more large fingerlings of *Rutilus Aralensis*, developing on one stage, were met, therefore we took in basis of morphology - anatomical feature of young fish period of this fish.

On the stage of "A" of young fish period of *Rutilus Aralensis* in a 1-5 daily age, from 1 to April, 5, when length of body arrives at a 5,8-6,8 mm the fingerlings of young fish period begin to move, branchiaes and mouth vehicle are formed. On this stage of development a vitelline sack has a middle or large size, pear-shaped form, flippers underdeveloped, air is absent in air sacks. A mouth is not down closed. Pigmental cages in form asterisk are located on the side of stomach and behind on length.

For the young fish period of *Rutilus Aralensis* the not mobile way of life is characteristic, rarely rises from a depth to the surface, a feed at attaching to the plant takes place due to vitelline sacks. At an inspection 50 individuals of only вылупленных fingerlings first 1-5 days pathogen of *D. Nanus* was found out not in branchiaes, and on the cutaneous covering, extensiveness of infection made 8%, intensity is a 1-1 copy.

On the stage of "B" of young fish period of *Rutilus Aralensis* 6-10 daily age from 6 to April, 10 a vitelline sack had a small size. Length of body of fingerlings of young fish period had length a 6,6-8,1 mm and layers of flippers for swimming it is bent a bit. It is educed, that air sacks are filled by air in all larval period. On the stage of "B" of development of fingerlings of *Rutilus Aralensis* larvae and adult individuals of эктопаразитов of monogenous сосальщиков of *Dactylogyrus nanus* dwellings in branchiaes it is not peculiar were discovered on the cutaneous covering of fingerlings in the young fish period of *Rutilus Aralensis*, extensiveness of infection made 12%, intensity of 1-2 things. We suppose that parasite *D. Nanus* passed to the cutaneous covering from the not complete forming of branchiaes in the young fish period of *Rutilus Aralensis*.

On the stage of "B" development of fingerlings of *Rutilus Aralensis* is in a 11-15 daily age, from 11 - for April, 15 there was not a vitelline sack, air sacks are fully filled by air. On the stage of "B" development of fingerlings of *Rutilus Aralensis* is in some days of month of April, from the increase of temperature of water extensiveness of infection of fingerlings a parasite *Dactylogyrus nanus* made 24%,

intensity of 1-4 things. From the increase of temperature of water in a reservoir and transition of early fingerlings of *Rutilus Aralensis* on an exogenous feed some increase of infection their parasite *D. nanus* is educed.

On the stage of "D" of development of fingerlings of *Rutilus Aralensis* on May, 15, age 45 days length of body of fingerlings made 14,3-15,8 mm. of Edge of flippers for swimming saved on an abdominal stripe, on spinal and anal flippers osteohondrous asterisks appear, abdominal flippers are formed. In this period a cut appears on a tail flipper, air sacks are divided into two chambers and formed fully.

We consider that increase of infection of fingerlings a parasite *D. Nanus* it is constrained from our data, firstly, with the increase of temperature of water pools and with the most hatching of larvae from eggs of monogenous. We consider also, that by reason of infection and basis of invasion of fingerlings of *Rutilus Aralensis* by the pathogen of *D. Nanus* is joint habitation of year-old fingerlings with the coveys of 1-2 summer fishes. On this stage of development the fingerlings of *Rutilus Aralensis* quickly begin to move and swim so far bottoms up and begin increase to feed on a zoobenthos and zooplankton. Extensiveness of infection of skin and branchiaes of fingerlings of *Rutilus Aralensis* *D. Nanus* in a 60 daily age 56% makes on the period of May, 28-30, intensity is 1-19 things. It was also set that some fingerlings; going to not deep waters *Dactylogyrus nanus* is anymore infected.

Thus, in the ecological terms of Southern Aral Sea area in Turtkul water pool of fish industry forming infection of fingerlings of *Rutilus Aralensis* first-year of life *nanus* submits the pathogenic representative of class of monogenous of *Dactylogyrus*, to the set forth law of V.A. Dogel [5]. Taking into account that fishes of the senior age-related groups are the carriers of invasion, it is necessary to shut out joint maintenance them with young people. Together with сеголетками of растительных fishes it is possible to grow fishes of other kinds immune to this causative agent (carp, сазан, European carp). It is necessary to improve the sanitary state of ponds by their drainage and disinfection.

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