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PRODUCTION OF *CYCLOPS VICINUS* ULJANIN, 1875.

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ABSTRACT
Data on the structure and dynamics of *Cyclops vicinus*of Uzbekistan's reservoirs from March till April 2016 have been given in the article. Only copepod and imaginal stages have been taken into account. It could be reported, that the duration of copepod stages of close to 2 days analyzing the data of population dynamics in the same pond for the end of April. Here, apparently, the peak of K2 in April 26, sequentially transferred to K3 and K4 peaks, respectively, in 28 and 30 April.

KEYWORDS: reservoir, fish ponds, the ecosystem, copepod, products, population.

INTRODUCTION

Copepods are an important part of the natural food base of commercial fish and their larvae - nauplii and copepodites - consumed by fish fry at the very first stages of their development.[1]

Body length of *Cyclopsvicinus* – 1200-1700 μm. Gray color. Posterolateral part of the fourth thoracic segment extend in wing-shaped outgrowths. Furcal branches with long chitin fold on the dorsal side and the hairs on the inner edge. L/W furca 6.0-8.0. Antennules 17-segmented, long, reach the middle of the second thoracic segment. Connective plate P4 without bristles. Internal ship Enp3R4 in 2.0-2.7 times as long as the outside. P5 biarticlulated, ship is attached in the middle of the inner edge of the distal segment; its tip extends beyond the end of the segment.[5]

Distribution. One of the most common Cyclops of Uzbekistan. It lives in fish ponds, reservoirs and lakes. We registered this it in 12 reservoirs, fish ponds, rice paddies in the Republic. It is common representative of ponds. This species is found in reservoirs of Asia, Canada, USA, Europe, Russia (Lake Ladoga), the Carpathians and the mountains of the Caucasus, Ukraine (Crimea), pools of Azov, Black and Caspian Seas.

Development of copepods after hatching progresses through a complex metamorphosis. In Cyclopodathere are 6 and 5 copepod nauplius stages. At all stages of copepods they are in free-floating state. The appearance of each new stage preceded by molting.

In winter or during the reservoir drying copepods go into hibernation or diapause stage (dormancy). These stages occur in the egg stage, senior copepodits or adults.

Exact data on the hydrocole products is possible to obtain a positioning data on their actual somatic and generative production in specific water ponds at a particular time. To do this, it is necessary to know their fertility and growth rate.[2.3] Fertility measurement of copepods, as a rule, is not difficult - the female egg is attached to the abdomen and they are easy to calculate. The growth rate can be estimated by defining the time for which the individual passes the development from egg to sexual maturity.[4]

2. MATERIALS AND METHODS

Cyclops vicinus is observed in almost all regions of Uzbekistan. We collected material from 20 reservoirs, fish ponds and other temporary water ponds of Uzbekistan. Cyclops populations were close to each other.

Data on the structure and dynamics of *Cyclopsvicinus*of Uzbekistan's reservoirs from March till April 2016 have been given in the diagram. Only copepod and imaginal stages have been taken into account.From the diagram (*Figure* 1) one can see that in the early observations of March 26, almost 90% of the population numbers were K1 and K2. After 1 day, the proportion of K2 almost reduced twice and the proportion of K4 and K3 significantly increased. It can be assumed that during this period all copepodites of K3 moved inK4, and at least half of K2 passed in K3.

3. RESULTS AND DISCUSSION

On the 30th of March a part of copepodits of the 1st stage decreased significantly. A part of 3rd stagecopepoditshas decreased, and a part of copepodits of 4th stage sharply increased. On the 1st of April a part of 4th stage copepodits decreased, but a part of 5th stage copepodits has not changed significantly. Parts of Copepodits of2nd and 3rd stages are also increased.

On the last day of observations, i.e. on the 3rd of April, we see that the part of copepodits of 1st stage continues to grow, K2 and K3 decline, K4 - also grow.

In general, dynamics of *C.vicinus* population for the studied period is difficult to interpretation in the required aspect of determining the rate of passage of individual stages and the entire development cycle. This is probably due to the lack of synchronicity crustaceans, as well as the influence of eating by fish. The last point can be explained by the constancy of parts of 5th stage.

Yet it can be assumed that, the development duration of the copepod stages was close to two days. Probably, the fourfold increase in the K3 partin March 28, due to the transition from K2. The transition of these crustaceans from K3 to K4 could provide an increase in the share of the latter on 30 March.

Perhaps the more confident one can say that the length of copepod stages of close to 2 days analyzing the data of population dynamics in the same pond for the end of April (Figure 2). Here, probably the peak K2 of April 26, sequentially transferred to K3 and K4 peaks, respectively, of 28 and 30 April.

Thus, if the duration of the senior copepod stage is really nearly 2 days, the duration of the entire copepod development of *C.vicinus* in April in reservoirs of Uzbekistan nearly 10 days. During this period, individual biomass will increase from 0.01 mg (K1) to 0.14 mg (adults), i.e. 14 times.

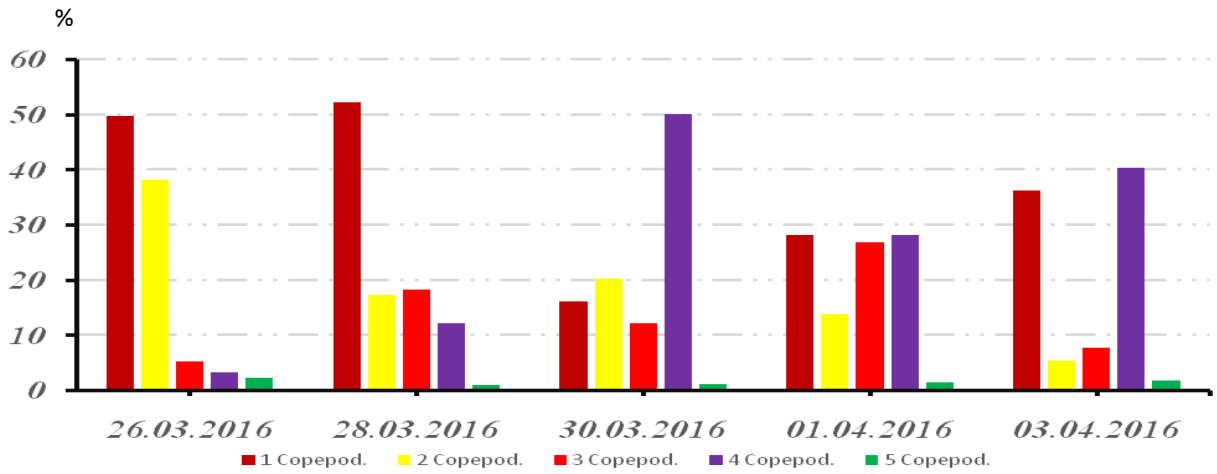

Fig. 1.Copepod stages of *Cyclops vicinus* development

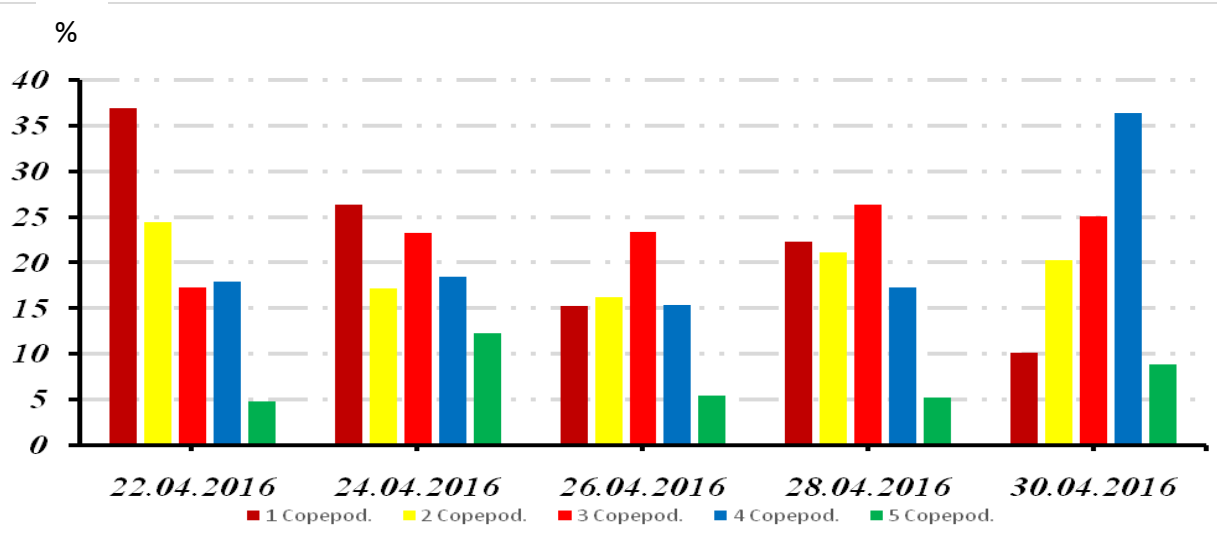

Fig. 2.Copepod stages of *Cyclops vicinus* development

REFERENCES

1. Bogatova I.B. Rybovodnaya gidrobiologiya Moskva. Pishchevaya promyshlennost'., 1980; 168 str.
2. Alimov A.F. Vvedeniye v produktsionnuyu gidrobiologiyu. Leningrad, 1989; 146 str.
3. Polishchuk L.V. Dinamicheskiye kharakteristiki populyatsii planktonnykh zhivotnykh. Moskva. Nauka, 1986; 130 str.
4. Kuzmetov A.R. Zooplankton rybovodnykh prudov Uzbekistana: Avtoreferat dis … kand. biol. nauk. – Tashkent: Institut zoologii AN RUz., 1999; - 16 s.
5. I.M Mirabdullayev, A.N. Abdurakhimova, A.R. Kuzmetov, Kh.Kh. Abdinazarov «Ozbekiston Eshkakoyoqli qisqichbaqasimonlar (Crustacea, Copepoda) aniqlagichi» Toshkent., 2012; 100 b.