
OBSERVATIONS ON THE ORNAMENTAL FRESHWATER SHRIMPS FROM THE *NEOCARIDINA DAVIDI* SPECIES

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Abstract

This paper presents one of the most recent species of aquatic animals that have recently grown in Romania, the freshwater shrimp Neocaridina Davidi (Neocaridina heteropoda), or the basic variety, commonly known as "Red Cherry Shrimp", or RCS. This is one of the most common varieties, which derives an overwhelming range of colors.

Introduction

"Freshwater shrimps" is a generic name for several species of crustaceans of the genus Atyidae, including the genera Paracaridina, Caridina and Neocaridina. Of these, the Neocaridina genus is distinguished by the increased popularity among aquarium fishes who are interested in this branch of shrimp and the fact that they are somewhat less demanding and are also recommended to the less experienced.

Originating in Taiwan's wild waters, four wild types of *Neocaridina davidi* have been discovered, each of which is the basis for all the color variations of individuals, which have been selected over time.

RCS is the first and the main variety phenotypically stabilized, derived directly from one of the four wild types. Red cherry shrimp has the characteristic red color, but it never covers the entire body surface of an individual. In this specific case, the female will have a stronger color than the male, having a transparent glass appearance but sprinkled with hundreds of red dots up to 0.3 mm, while the male has fewer pigments and in some cases it can be close colorless, transparent.

Thus, RCS is the starting point for selecting lines that vary chromatically from red to light red for both females and males (Red Fire, Red Sakura), yellow, orange to green and blue, or even combinations of several distinct colors on the same individual, or even specific patterns - longitudinal strips, cross rings, dots.

Also, each variety, once stabilized, will give chickens that will convey the same pigment characteristics, and with the improvement of that line which will also be given a specific name, different degrees of coloration can be obtained within it. Being genetically compatible, individuals with different types of coloring will be able to produce offspring that have different colors or patterns from their parents in carefully selected and carefully selected cases, creating new varieties of color.

Uncontrolled hybridization can easily destabilize the characteristics of the genitors, generating morphogeneous generations of the wild type (transparent or dirty, translucent brown).

RCS shows pronounced sexual dimorphism. Females reach up to 3.5cm and are colored. Males are smaller and less colorful than females. Selected lines will not show the obvious difference in color between individuals of different genders, but there will still be some size difference, females being larger. Adults will see the ovaries loaded into the yellowish form called "saddle", and after fertilization, they will carry the eggs with the 5 pairs of pleopods, specially adapted members with which they also swim in speed.

The eggs remain trapped in the lower part of the abdomen in a mucus, kept with the pleurodes and periodically agitated and mixed with fresh water (30 seconds-1 minute interval) to

avoid catching pathogens and ensure good oxygenation, and after about 30 days they will hatch, resulting in young shrimps with the same morphology as adults, measuring about 1mm. The movement on all surfaces of the aquarium is made with 5 pairs of pereopods, the shrimps preferring this type of walk, to the detriment of swimming.

Table 1

Maintenance conditions

Water Parameters, Light & Filtration				
Temperature(°C)	Hardness(dH)	pH	Light Type	Filter Capacity
15-28	8-10	6,5-8	<ul style="list-style-type: none"> • Fluorescent Light 75W/100 • LED • Natural Light 	60L/h

Neocaridine shrimps live under common environmental conditions for aquariums, so they can be compatible and live together with some fish species. One advantage of the RCS variety would be that being closer to the wild type, they were found to be more resistant to disease and most unpretentious to maintain all shrimps, being ideal for beginners.

The aquarium must contain a source of calcium that will be assimilated to strengthen the shrimp exoskeleton as they increase their size by shedding: a calcareous stone on the substrate, hollow shell snails and periodic water change, approx. one third of the quantity.

The substrate of the aquarium is of no direct importance, but it should support the growth and development of natural plants indispensable to shrimp: a substrate made of sand and fine gravel of 2mm grain, optionally a stone or wood support for certain plant or moss species . Another role of the substrate will be to maintain constant water parameters and microbiological equilibrium.

Plants will have to be used and they must be natural. Leaf species will be selected as often as they allow for the feeding of shrimp with biofilm formed on the surface and with the algae that grows (*Vallisneria* spp., *Najas* spp, *Micranthemum* spp, *Pistia* spp.)

The plants also have the role of oxygenating the water and absorbing the nitrogenous substances excreted by shrimps and fish and providing a good hiding place for egg-laying, chickens or any individual who might be attacked by another aquarium species.

They have peaceful temper, although they are very active, being compatible with other shrimp species and fish, but the preferences of the selected species must be taken into account in certain parameters. Fish must be non-aggressive and of small size, so there is no tendency to spoil or harass them. Compatible fish species: cardinals, corydoras, guppy, endlers, SAE. Associations to be avoided: puntius, barbi, cichlids, xipho, zebras, neons.

Conclusions

- Freshwater shrimps are among the newest species of animals brought to Romania and present an increasing interest, appearing on the market for a while and being unknown animals for many aquarium fish.

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- Due to their unique appearance and relatively easy maintenance conditions in aquariums, freshwater shrimps have gained worldwide popularity in recent years. Abundant competitions and exhibitions are held abroad with such shrimps, some of them being valued at hundreds or thousands of dollars, but surely guaranteed, with their peculiar appearance and peacefulness.
 - *Neocaridina davidi* var. Red are the most unpretentious of their species and adapt quickly to environmentally friendly conditions.
 - By selecting and improving, tens of different colors and degrees of coloring can be obtained within a line.
 - Their growth is favored by the type of water encountered in our country, which can fit into the necessary parameters, but is conditioned by the existence of natural plants in the aquarium.

References

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