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GENERAL INFORMATION ABOUT MACROBRACHIUM ROSENBERGII (MACROBRACHIUM ROSENBERGII)

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Abstract: The article provides detailed information about the appearance, distribution, care, breeding, and reproduction of the species Macrobrachium rosenbergii.
Keywords: Macrobrachium rosenbergii, freshwater prawn, predatory prawn, cannibalism, aquarium keeping, brackish-water larvae, ornamental prawn, food industry, molting, migratory species.

General Information

Macrobrachium rosenbergii is a large freshwater prawn belonging to the family Palaemonidae. While its natural habitat is in South and Southeast Asia, due to artificial introduction, it is now found in many regions worldwide. Macrobrachium rosenbergii can reach impressive sizes, with a body length of up to 30 cm and claws extending up to 50 cm.

This species holds significant importance in the food industry, being commercially farmed in specialized facilities. Additionally, its striking appearance makes it a popular exhibit in public aquariums. However, keeping them in home aquariums is relatively challenging—they require large tanks, and cohabitation with other aquatic animals is difficult due to their predatory nature. These prawns may hunt small fish and other prawns, and cannibalism is common, with weaker or injured individuals often falling prey to their tankmates.

Appearance

Macrobrachium rosenbergii has a typical decapod crustacean body structure. The front part (cephalothorax) is covered by a hard chitinous carapace, while the rear (abdomen) consists of segmented sections ending in a fan-shaped tail fin. The tail is highly mobile, with swimming appendages (pleopods) underneath. The cephalothorax features sharp protrusions housing the eyes, mouth, and sensory antennae.

This prawn has five pairs of walking legs, one of which is exceptionally long (often twice the body length) and ends in claws used for hunting.

Their coloration is striking, typically dominated by brown hues, though dominant males may develop a blue tint. The claws also undergo color changes—juveniles have brown claws, which turn red as they mature and eventually blue upon reaching sexual maturity.

Under ideal conditions, their lifespan is around four years.

Distribution

The natural range of Macrobrachium rosenbergii is extensive, spanning coastal waters from India to Southeast Asia, including islands along the Pacific and Indian Ocean borders. Due to their high culinary value, they are actively farmed and have been introduced to regions such as East Asia, New Zealand, Africa, and even parts of Central America.

These prawns prefer calm, vegetated waters with rocky or sandy substrates and tree roots. They are primarily nocturnal and are migratory, often traveling long distances to brackish estuaries for reproduction, as their larvae require saline water to develop.

Care and Maintenance

Keeping Macrobrachium rosenbergii in an aquarium requires a tank of at least 500 liters for two to three individuals. It is advisable to keep only one male to avoid aggression. Interestingly, these prawns exhibit a strict hierarchy, with a dominant "blue-clawed" male suppressing the sexual development of other males.

Substrate choice is flexible, but ample hiding spots—such as rocks, driftwood, and ceramic caves—are essential. Live plants are not recommended, as the prawns may damage them; artificial plants are a better alternative.

A powerful external filter (e.g., Tetra EX1200 Plus) is necessary to maintain water quality. A heater should keep the temperature at 25°C or higher, as this is optimal for the prawns.

Weekly 20% water changes are crucial to prevent toxin buildup. New water should be treated with a conditioner like Tetra Crusta AquaSafe to neutralize chlorine and heavy metals.

Like other crustaceans, Macrobrachium rosenbergii molts regularly, shedding its exoskeleton to grow. Molting is a critical and vulnerable period. Males may protect molting females but can also become prey themselves if they molt in the presence of aggressive tankmates. Juveniles molt every 2–3 days, while adults do so every few months.

Ideal water parameters:

- Temperature: 26–30°C
- pH: 7.0–8.0
- GH (general hardness): 8–20 dGH

Compatibility

A species-only tank is best for Macrobrachium rosenbergii, as they are highly aggressive. Even in spacious setups, conflicts between males are common, and weaker individuals may be attacked.

They should not be housed with small fish, which they will hunt. Conversely, large or aggressive fish may damage the prawns' appendages. Suitable tankmates include large, peaceful fish like shark catfish or armored catfish (Pterygoplichthys, Platydoras, or Synodontis).

Feeding

Macrobrachium rosenbergii is omnivorous and will eat almost anything. A balanced diet of plant- and animal-based foods is essential. Specialized prawn foods, such as Tetra Crusta or Tetra WaferMix, are ideal as they sink quickly and provide complete nutrition.

Breeding and Reproduction

Breeding Macrobrachium rosenbergii in home aquariums is nearly impossible because their larvae require brackish water to develop. In the wild, larvae drift to estuaries and return to freshwater after reaching ~1 cm in size. Sexual maturity is reached at 4–5 months.

Mating occurs after a female molts. The female carries fertilized eggs on her pleopods, where water currents ensure oxygenation. A single female can produce between 20,000 and 150,000 eggs.

Commercial farming is the primary method of production for food purposes.

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