Freshwater Shrimps from the Top End

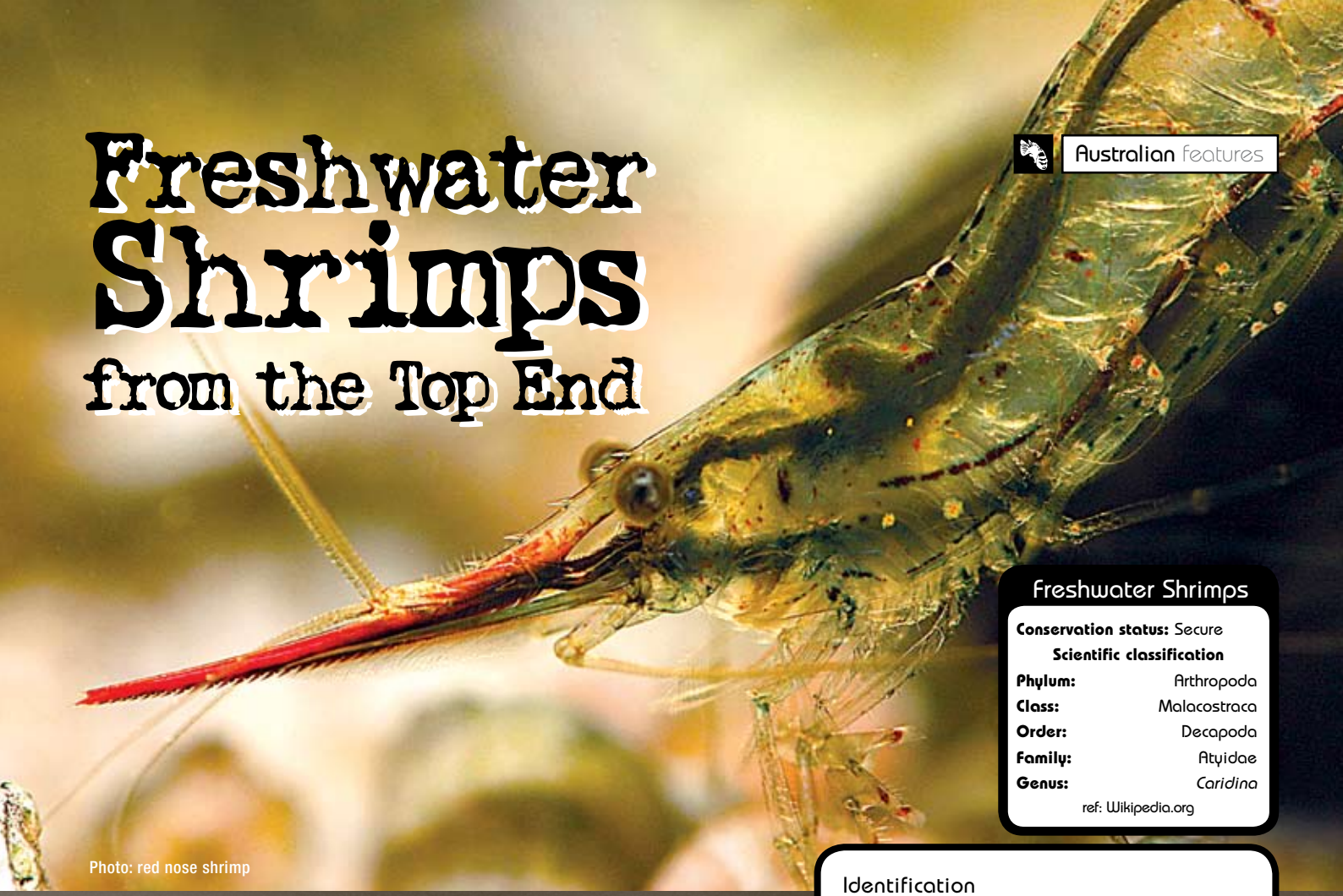


Photo: red nose shrimp

Freshwater Shrimps

Conservation status: Secure

Scientific classification

Phylum:	Arthropoda
Class:	Malacostraca
Order:	Decapoda
Family:	Atyidae
Genus:	*Caridina*

ref: Wikipedia.org

Written and photographed by Dave Wilson

The popularity of small shrimps in the aquarium hobby is growing along with the interest in planted aquaria. Shrimps are used for decoration as they can be colourful but are also part of the cleanup crew when keeping the planted aquarium free of unwanted hair algae. The small Atyidae shrimps also help with detritus management, finding little bits of uneaten food and eating the bacteria film from the surface of dead leaves.

Identification

As you move around the country exploring the fish and plants of creeks, rivers, billabongs and swamps little crustaceans always seem to get caught with the small fish. Occasionally, some shrimps have a different shape to the majority or are more colourful. I started to bring these shrimps back to the public aquarium where I worked as food for larger fish. Some species bred easily in the ponds and thus did not breed so readily. Ten to fifteen years ago I took some of these shrimps to the museum, and had them identified by a technician. Two species were identified as *Caridina gracilirostris* and *Caridina longisrostris*. Recently, I returned to the Museum and asked for a further two species identification. The first was identified as *Caridina serratirostris* and the other was different to the museum specimens and it was suggested that it was new to science.

Fortunately, crustacean scientist Peter Davies visited Darwin and I bought four local species for him to examine. Peter suggested that the Australian Atyidae shrimps needed plenty of taxonomie work and that my ID's may be incorrect. Armed with this uncertainty I sought out Dr Tim Page of Griffith University in Queensland who kindly agreed to examine the four species of common NT atyids molecular biology (DNA compararison). The results were exciting all four of the local shrimps are undescribed species.

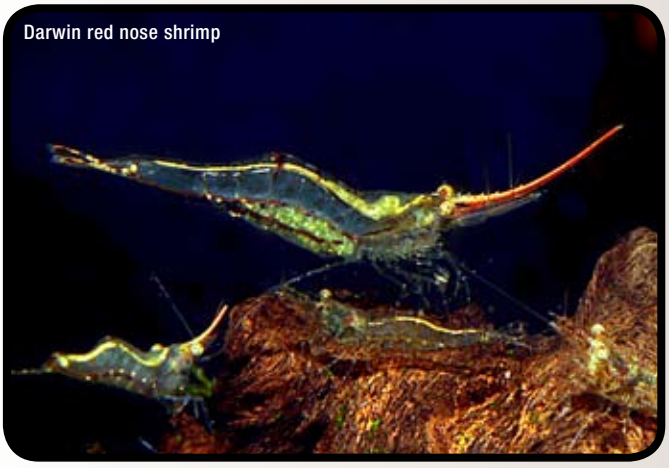

Blackmore River NT, Australia.

Selected Species

Darwin Red Nose Shrimp

Dr Page identified this shrimp as belonging with the undescribed species that are referred to as *Caridina* sp. 'Gulf1'. They have a long rostrum which seems to get longer and redder as the shrimp matures, the body is mostly clear with iridescent white spots and red tips on the outer extremities of the tail. They grow to a maximum of 4 cm but are mostly ~2.5 cm. The females carry large green eggs which can develop in freshwater habitats.

This is a very abundant species among the aquatic vegetation in freshwater creeks near to Darwin and the Daly River catchment. They have also been found in tidal estuary areas that range from fresh to highly saline environments. In captivity they do very well in a planted aquaria and are quite good algae eaters.


Darwin red nose shrimp

Darwin Algae Shrimp

This undescribed species referred to as *Caridina* sp. 'Ntnilotica'. This species is more abundant near the coastal creeks but is found 90 km from the sea in the Roper River NT at Roper Bar. It is the largest of the local atyids reaching almost 5 cm in length.


Darwin algae shrimp

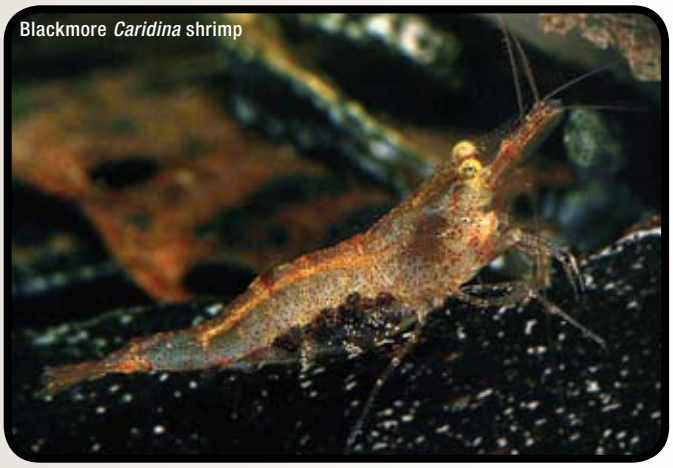
Males are smaller and less colourful than females which can be reddish or dark green with a cream stripe running along their back from the tip of the rostrum to then end of the tail. When a mature female moults she is surrounded by the smaller males so I am assuming that this is when they mate. After mating the females are laden with very small greyish eggs. Unfortunately initial attempts to raise these in fresh water were unsuccessful. When salt (half strength sea water), mangrove leaves, and local detritus from a small tidal creek were added, survival increased dramatically. After a few weeks, however, many tiny shrimp were tearing around the top of the tub when they were transferred into fresh water. Discussions with crustacean aquaculturists at Darwin Aquaculture Centre suggested the species may survive in fresh water but the correct type of plankton for their first foods was unavailable in fresh water.

North Australian Chameleon Shrimp

Known as *Caridina* sp. 'WA 4', This species is very similar to *Caridina serratirostris,* known in the aquarium trade as ninja shrimp. We call it the chameleon shrimp, because it can change colours quickly, and disappear. It is the smallest of the local atyids reaching only 3

Three photos above: Various colours of the chameleon shrimp

cm, but mostly found at 2 cm or less. The females are larger and more colourful, with the colour of the species differing by location. Specimens from areas with leaf litter are generally black with some white markings, others living amongst plants are red or orange with a cream stripe down the centre of the back running from rostrum to tail, while still others are green or blue with darker bands running around their bodies. These shrimps have quite large eggs and breed readily in freshwater.



Blackmore *Caridina* shrimp

Blackmore River *Caridina*

This species is known as *Caridina* sp. 'NT2', and is almost as small as the north Australian chameleon shrimp. It is abundant near the sea but has been found over 50 km up the Moil River NT. *Caridina* sp. 'NT2' has large black eggs and can complete its life cycle in freshwater. This is the least colourful species and is transparent until almost full grown when females become coloured.

General husbandry

The diet is mostly detritus, algae, bacterial slimes and can be substituted with plant based flake foods in captivity. The larger two species are very good at hair algae removal, a trait that makes them useful in the start up phase of a planted aquarium. Their water quality requirements are not too stringent as they are found in a wide variety of habitats, they will even suffer low dissolved oxygen levels, (except the red nose variety) but will not tolerate copper, chlorine or chloromine. It is a good practice to prepare water for water changes in advance and store it for a week or more to be certain all chlorine has gone. These shrimps are not suitable tank mates with larger fish, and with smaller fish they need places where they can hide or they will be targeted as food when they moult.

Conclusion

In the natural habitat, these shrimps live with up to 45 fish species in a very hostile environment. When placed in the planted aquarium they will immediately seek refuge. After some adjustment, if there are not too many bigger fish, they will be seen walking around on the substrate and in the plants feeding. In the sparsely populated aquarium all but the Darwin Algae Shrimp will breed. These are delightful little critters for those aquarists who take pleasure from small things.

Acknowledgements

Karen Combes formerly of the NT Museum for help with identification, Petshrimp.com forum for help with cultivation and identification, The Technicians and Collections Manager at the NT Museum for putting up with my constant questions and Dr Tim Page for DNA sequencing and comparrison of the NT Shrimps against his collection. The staff at DAC (Darwin Aquaculture Centre) deserve special mention for ongoing help with my aquaculture projects.