

Breeding Desert Gobies

Information on breeding the Australian desert goby (*Chlamydogobius eremius*).

By Mike Hellweg

The desert goby should have soft sand or fine gravel in its setup, as this fish spends a lot of time on the substrate. Photo Credit: Gary Lange

Australia is home to many wonderful and bizarre animals that are found nowhere else. Kangaroos, koalas, wombats and giant saltwater crocodiles are familiar to most of us. Many aquarists are also familiar with the most popular and beautiful of Australian fishes which are known as rainbowfish. However, there are many other freshwater fishes found in Australia, few of which ever find their way into our aquariums.

Among those rare animals is the Australian desert goby (*Chlamydogobius eremius*). It is found in the midst of the most barren deserts on the entire continent. Before you start thinking I've been in the sun too long, let me explain.

In spite of what we all think we know about deserts, and have seen in the movies and on TV about the arid central region of Australia, there are actually several permanent bodies of water in the middle of this otherwise-inhospitable region. They are primarily small and are fed by artesian springs. A few are large enough that there are small flowing streams--and in those bodies of water we find life.

Desert gobies are small fish, with a large male barely crossing the 2½-inch mark. Females are a bit smaller, reaching about 2¼ inches. Males are remarkably colorful, with a golden yellow body and boldly colored blue, black and white bands on their fins. The first dorsal of some males is tipped with lemon yellow. Their heads are very large, sometimes seeming as if they are too big for the fish. Females are generally various shades of light brown with clear fins.

They make excellent aquarium residents. A very nice display can be set up with these fish and other small Australian fishes, such as the little "blue eyes" of the genus *Pseudomugil*. Desert gobies do not dig, nor uproot plants, so a planted aquarium is suitable for them, as long as some swimming room is left open on the bottom of the aquarium, since that is where they will spend most of their time.

Males can be somewhat quarrelsome amongst themselves, but little harm is done if the defeated male can get out of the winner's line-of-sight. I've seen a few torn fins but never any serious damage. If you want to keep a group, give them an aquarium of at least 20 gallons, and there will be enough room for two or three pairs to live comfortably. A single pair will be comfortable in a 5- or 10-gallon aquarium.

These fish spend most of their time on the substrate, so offer a bed of soft sand or fine gravel. Give each male a small cave to call his own, and supply some choices by adding a few extras. Almost anything can work as a cave, but if you're into breeding, use caves made of three-quarter-inch PVC pipe cut into 4-inch lengths. Put a cap on one end, and leave the other end open. Position the cave openings facing the front of the aquarium, so you can see what is going on inside.

Feeding is not a problem if you can provide live foods. I've tried dry fish foods, but the gobies ignored them (although an occasional individual may eat pellets or flakes). Desert gobies occasionally take frozen fish foods, especially frozen brine shrimp and frozen blood worms, but they don't seem to really enjoy them. Frozen foods are ignored once they settle on the bottom. Desert gobies will take live brine shrimp, both newly hatched and adult. They will also take *Daphnia*, though it seems to be a lot of work chasing down these swimming live fish foods.

Desert gobies absolutely go crazy for worms. As soon as the worms hit the water, the fish attack and keep eating until none remain. Then searching every square inch of the aquarium, the fish ensure they haven't overlooked any worms. They fish love grindal worms, white worms and black worms, all of which are commercially available or easily cultured. Get the cultures going, or get a secure source lined up before purchasing the fish so that you can feed them right from the start.

Water parameters are easy to meet. Any pH above 7 is appreciated, with a pH of about 7.5 being optimal. Total hardness should also be high: 250 to 300 ppm or higher. You can increase the hardness of your water by adding crushed coral in a small nylon bag placed in or near the filter. Some hobbyists also add marine salt to the water to bring up the salinity since a few of the areas where the desert goby occur in the wild have fairly high salt content. One of the normally dry lakes in the region, Lake Eyre, occasionally holds water for a period of time. That water is reported to be so salty that it burns the

mucus lining in the eyes, nose, etc. of anyone who swims in it. So adding some marine salt might not be a bad idea.

Temperatures should be kept on the warm side. After all, these guys come from the desert. They can tolerate temperatures up into the 90s (Fahrenheit). When the oxygen content of the water is low, they can even extract oxygen from the air for a short period of time. Aquarium temperatures should be kept in the low to mid-80s. Remember to add some extra aeration to make up for the lack of oxygen in warmer water. An airstone-driven sponge filter or overflow type filter are perfect for the fish's filtration and aeration needs. Maintain it regularly, and keep it clean. Regular water changes and good aquarium maintenance are also necessary for good health.

If you provide your *C. eremius* with a good home, follow all of the husbandry guidelines above and provide plenty of worms in their diet, they should spawn regularly without any intervention on your part.

Males will entice a female into their cave to lay eggs. In the wild, they are reported to lay their eggs on the roof of the cave. In PVC pipes, they usually lay eggs on the bottom of the pipe. I've had several spawns, and all have been on the bottom of the pipe. A large female can reportedly lay up to 200 or so eggs, but most spawns are about half that size. The male guards and cares for the eggs, and the female shows no further interest in them. As the male fans the eggs with his large pectoral fins, the oblong eggs look like grass swaying in the breeze.

On around the fourth or fifth day, you'll start seeing eyes in the eggs. At this point, it's usually best to remove the eggs. If they are in a piece of PVC pipe, this couldn't be easier. All you do is chase the male out of the pipe, carefully lift it from the water making sure the eggs stay submerged the entire time and move it to a small incubation aquarium. This can be anything from a small aquarium to an ice cream tub. If there is an end cap on the pipe, remove it, and attach the pipe to the side of the incubation aquarium with a clothespin. Add a slowly bubbling airline near, but not directly into, the pipe. You want a gentle current of water, not a churning, bubbling torrent disturbing the eggs. About two to three days after moving the eggs, they begin hatching. The fry drop to the bottom, and spend another two or three days developing before they attempt their first swim. By about the third day after hatching, they should all be swimming and ready for their first meal.

The fry will take most small live fish foods. Some authors report their fish required micro foods, such as commercial fry fish foods, for several days, but I've found that fry will take mikroworms and newly hatched brine shrimp as first foods. The fry grow quickly, and in six weeks, they will be nearing an inch long. At this point, they can start feeding on small grindal worms, too.

If you reach this point, congratulations! You've completed another successful Adventure in Fish Breeding.