Dwarf Livebearer (Heterandria formosa)

Order: Cyprinodontiformes - Family: Poeciliidae

Also known as: Also known as the mosquito fish, Least Killifish, Lesser Killie Fish or dwarf top minnow,

Type: Tropical - Livebearer

Origin: The Dwarf Livebearer *(Heterandria formosa)*, is the smallest known live bearing fish species, and one of the smallest overall fish species in the world. It is the only member of the genus Heterandria to be found in the United States. Its range covers southeastern United States, from South Carolina south to Georgia and Florida, and through the Florida Gulf Coast to Louisiana. It is one of the few aquarium fishes to come from North America.

Description: The Dwarf Livebearer *(Heterandria formosa)* is a species of live bearing fish within the family Poeciliidae. This is the same family that includes familiar aquarium fishes such as guppies and swordtails. The Dwarf Livebearer is not as commonly kept in aquaria as these species. The Dwarf Livebearer is one of the smallest fish in the world (7th smallest as of 1991), and is the smallest fish found in North America. Despite the common name "Least Killifish", it belongs to the family Poeciliidae and not to one of the killifish families.

Physical Characteristics: The Dwarf Livebearer is one of the smallest fish and smallest vertebrates known to science. Males grow to about 2 centimeters (0.8 inches), while females grow a little larger, to about 3 centimeters (1.2 inches). The fish is generally an olive color, with a dark horizontal stripe through the center of the body. There is also a dark spot on the dorsal fin and females also have a dark spot on their anal fin. The fish is brown with a horizontal brown black stripe going from the mouth to the tail base. The stripe is intersected by vertical brown black stripes. The amount of striping varies from fish to fish. Some also have blotches in place of stripes on their backs. The small and rounded dorsal fin shows a black spot. On some fish (most of mine) this black spot has a red ring around it, the only bit of color in the fish. The anal fin of females (only) also has this spot. The belly to the gill plates is white. The males are slender, with very long gonopodiums. Just for fun, the gonopodium is twice the size of a guppy's! It usually spans one third the length of the fish. The females are much bulkier. Both sexes are beautifully done creations. Like most poeciliids, males' anal fins are modified into a gonopodium that is used for impregnating females during mating.

Size: 3 centimeters (1.2 inches).

Color Form: Olive Stripped

Sexual dimorphism: Males are much smaller than females and possess an enormous gonopodium.

Lifespan: 3-5 years

Behavior: This fish is quite shy at first, but later comes out to accept food. They never beg for food, and still dash behind the lava rock when my hand goes over the tank. The babies swim through the cloud, snatching morsels. The adults are quicker at this, but seldom fight over food, other than snatching pieces from each other should both want the same one. However, should lots of food end up in one place, the largest female will sometimes stake a claim and defend it. Fights between males, females, and even juveniles arise occasionally. The stripes and patterns lighten, the gill plates appear to puff out slighty (making the fish look like it's swallowed a mighty mouthful). The fighting fish circle, and sometimes "charge" each other until one retreats. These skirmishes seldom last over a minute, and the longest I've seen is about 10 (interrupted by feeding and losing sight of each other). The male to male fights seem to show who's dominant, but the female ones are pretty odd. The most revved up fish wins, even if it is considerably smaller. Fry are produced by superfoetation, which means that there are eggs of many different stages in the female at one time. This results in babies produced in sets of two or three randomly (rather than batches).

Habitat: The Dwarf Livebearer lives primarily in slow moving or standing freshwater but also occurs in brackish waters. It's not often seen for sale these days, although it's quite widely available in hobbyist circles. When buying these, ensure they have been identified correctly as they're sometimes confused with the much more aggressive mosquito fish of the genus Gambusia.

Diet: The Dwarf Livebearer primarily eats invertebrates such as worms and crustaceans. They also eat plant matter. Unfussy and omnivorous, it will accept most foods offered. It's particularly fond of small live or frozen varieties such as brine shrimp or Daphnia, and the diet should contain a good proportion of these. It will also browse on algae, so try to ensure it receives some vegetable matter in the diet. In the absence of algae crushed spirulina flakes work well.

Breeding: Like most poeciliids, the Dwarf Livebearer is a livebearer. The male uses his modified anal fin, or gonopodium, to deliver sperm to the female. The fertilized eggs grow within the female until they hatch, and the young are released free swimming. Dwarf Livebearer have a unique breeding strategy even among livebearers. Rather than all the young being released at once, as many as 40 fry are released over a 10 to 14 day period, but occasionally over a longer period. Very easy. It's nigh on impossible to prevent it breeding if both sexes are present in an aquarium. Water parameters are unimportant, provided they are within the ranges stated above. The tank should be planted heavily. It's best kept in a small group with several of each sex present for breeding purposes. The gestation period is around 4 weeks. The species has a slightly different method of fry production to most other livebearers, involving a process known as 'superfetation'. This is defined as 'formation or development of a second fetus when one is already present in the uterus'. Fry at different stages of development can therefore be present in the uterus of the fish at any given time. In addition, the egg yolks of the species are nutritionally poor, and the developing fry derive much of their nourishment via organs that function in a similar way to the placenta of mammals. As a result of this process, fry are dropped continually rather than in defined broods. You'll see a few fry appearing every day or two if you have more than one female in the tank. They are quite large at birth and can accept powdered dry foods and Artemia nauplii straight away. The adults will not usually harm them.

Aquarium Setup: A gently-filtered, heavily planted setup suits it best. Other decor can be added as you wish. Water flow must be kept to a minimum.

Minimum Tank Size: A pair of these can be kept in a tank as small as 12" x 8" x 8" (30cm x 20cm x 20cm) - 12.5 liters. 37.9 Liters (10 US G.)

Stocking Ratio: 1:3 M:F

Care Level: Moderate

Water Conditions:

- **Temperature:** It's a hardy species, being subject to a large range of temperatures in its natural waters. Somewhere between 68-78°F (20-26°C) is best in an aquarium.
- **pH:** 7.0-8.0
- **Hardness:** 5-20°H

Swimming Level:

Compatibility / Temperament: Not a community fish in the general sense, although it's very peaceful. Males in particular are so tiny that they will be seen as a snack by many of the commonly kept species. It will also not compete well with more vigorous tank mates. Other similarly-sized, non-predatory species such as pencil fish, dwarf Corydoras, Otocinclus and freshwater shrimp are the best choices. While males can show a little aggression when competing for females, physical damage is very rare. It's best to maintain it in a small colony.