

ENVIRONMENT

The humble Trinidadian guppy: a fish to be proud of

KNOWN as the “millions” or “drain fish,” the common guppy is a familiar sight to many people in Trinidad and Tobago. It is found in almost every freshwater habitat in the country – from the picturesque mountain streams of the Northern Range, to the polluted ditches alongside the Priority Bus Route.

Wild guppies in Trinidad are small (two to four cm) and are usually seen shoaling in shallow water; males are smaller and display vivid patches of orange, green and yellow, while the larger females are plain. Even from the river bank it is possible to watch males perform their distinctive “sigmoid” courtship dance, which involves arching into an s-shape, raising their dorsal fin and intensifying their colouration in an attempt to seduce a female.

Despite their dull appearance, female guppies are quite interesting among fish in that they give birth to live babies (rather than laying eggs) – up to 20 at a time – and have an amazing ability to store sperm from multiple males for several months. They are prolific breeders, completing as many as three to four generations in a single year.

One of the founders of



MALE and female guppies (*Poecilia reticulata*). PHOTO BY SEAN EARNSHAW



The Trinidad & Tobago Field Naturalists' Club

Trinidad & Tobago Field Naturalists' Club in 1891 was Plantegenet “Planty” Guppy and the fact that he shared his

name with a fish is far from coincidental.

Planty’s father, Robert John Lechmere Guppy, was an avid naturalist, and in 1866 he sent samples of these pretty little fish from the St Ann’s River to the British Museum in London where the species was initially named after him: ‘*Girardinus guppii*’.

The name was later changed to *Poecilia reticulata*, when it was discovered that the same species had already been described from Venezuela, but the “guppy” part stuck.

Indeed, as well as throughout TT, guppies are also found



PRIME guppy habitat at Turure. This area is being affected by run-off from nearby quarry operations. PHOTO BY AMY DEACON

naturally along the north-eastern coast of South America and as ornamental fish in aquaria all around the world. However, many are surprised to hear that over the last century this tiny fish has estab-

lished itself in natural rivers and streams in at least 70 different countries, spanning every continent in the world with the exception of Antarctica.

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Our amazing natural laboratory

●GUPPY from Page 4B

There are two main routes by which guppies find themselves in foreign lands – many are deliberately introduced as a means of controlling mosquito larvae while others are discarded pets that thrive in their new habitat. Their prolific reproduction, sperm storage and adaptability to the changing conditions in their natural habitat, prepares them well for establishing in new places.

As with many exotic species, in many places outside of their native range the guppy is becoming a real problem, multiplying to the point where it outcompetes native fish species for food and habitat.

In addition to being a mosquito-control agent and a popular pet, the guppy is also famous in the world of science. Biologists from all over the world regularly travel to Trinidad to study these fish, especially within the Northern Range, where the multiple parallel streams provide a “natural laboratory” for conducting hundreds of studies into ecology, evolution and animal behaviour, many of which get published in the top scientific journals.

One of the most interesting things about these fish is their amazing variability and how they adapt and evolve in the face of different environments. For example, those individuals that find themselves sharing a pool with many large predators (such as the pike cichlid or guabine),

tend to be less colourful and show stronger anti-predator behaviours (such as shoaling and escape responses). By artificially moving guppies from “low predation” to “high predation” sites, it is possible to watch them adapt (behaviourally and genetically) within just a few generations. In fact, studies on guppies in the Northern Range are internationally renowned for providing some of the best evidence we have for evolution by natural selection.

Sadly, some of the key research areas in the Northern Range, including the streams of the Turure and the Arima Valley, have been badly affected by pollution run-off from quarries upstream. The guppy has played a great role in Trinidad’s history, and could continue to be an important part of its future – not least thanks to the relentless enthusiasm of local and international guppy scientists and their seemingly endless stream of exciting new discoveries. This will only be possible if we take pride in our natural heritage and conserve the amazing “natural laboratory” in which this fascinating little fish resides.

Today’s feature was written by Amy Deacon. For more information on our natural environment, you can contact the Trinidad and Tobago Field Naturalists’ Club at admin@ttfnc.org or visit our website at www.ttfnc.org.