



# SOUTHERN REDBELLY DACE

by *Rob Criswell* photos by the author

If a pageant were to be held to name the Commonwealth's most beautiful fish, the Southern Redbelly Dace would certainly be taking a stroll down center stage with the other finalists.

Formal attire would include an overcoat of clashing colors, rich gold and onyx black horizontal stripes running from head to tail. The fish's underside would be adorned in scarlet and accented by lemon yellow fins. Silver dashes would highlight its head.





This small minnow (the largest specimens may grow to 3½ inches) is considered by many to be one of North America's most dazzling fish and would give most aquarium tropical fish a run for their money. However, it is as rare as it is brilliant in Pennsylvania.

Its tortured taxonomy is enough to give the Southern Red Belly Dace an identity crisis. It was originally assigned to the Genus *Chrosomus*, meaning "colored body." Then, it was "reassigned" to *Phoxinus* ("tapering"). Most recently, it was moved back into *Chrosomus*. Two other redbelly dace species also occur in the Keystone State. The Northern Redbelly Dace, which had not been seen here since the 1860s until a few years ago and is listed as an endangered species, occurs in very small numbers in Erie and Warren counties. To further confusion, these two fish shared the species name *erythrogaster*, meaning "red belly," and were considered conspecific (of the same species) for many years.

The Mountain Redbelly Dace, a more southern species, was recently discovered in two small streams in Huntingdon County and has been established there since at least the mid-1990s. These populations are most likely the result of bait bucket releases by anglers.

Southern Red Belly Daces are most fond of clear, cool, small to medium sized streams and spring runs where they prefer quiet pools with gravel, rubble or silty bottoms.

Ideal habitat includes cutbanks and woody debris that provide protection from predators.

There are a few old records from swampy areas in Crawford County as well.

These fish are primarily vegetarians, preferring a menu of algae and decomposing plant material, which they pick off the bottom along with copious amounts of sand and muck. A very long intestine aids digestion of this bland diet. Large individuals occasionally enjoy a side dish of aquatic insect larvae.

Spawning occurs in May, June and into July. This is when the male Southern Red Belly Dace is at his stunning best.

The female, laden with eggs that may account for ¼ of its body weight, is also quite colorful during this time period. These minnows spawn in schools and may move about over gravelly shallows as a single scarlet mass.

Historically, this fish could be found in a number of western streams and marshes from Beaver and Westmoreland counties north to Crawford and McKean counties. Recent surveys, however, have failed to turn up these dace at many early collection sites, and they may no longer exist in Butler, McKean, Warren or Westmoreland counties.

This decline can be attributed to a number of factors including the conversion of springs to livestock watering holes; siltation and sedimentation from logging, agriculture and development; water temperature increases; lowering of local water tables; pollution events; and bait collecting.

In neighboring Ohio where it was much more widespread, according to ichthyologist Milton Trautman, the Southern Red Belly Dace "has been extirpated from innumerable brooks and from large sections of Ohio." He also noted that these schooling fish were extremely vulnerable to bait collectors. In a few hours, two seiners could remove 75 percent of the population of a ½-mile section of stream.

As their larger streams became warmer and siltier, these dace either died out or withdrew to the smallest of tributaries, if conditions permitted. In these tiny streams and runs, they survive in smaller numbers and are much more vulnerable to threats and changes in the environment. And, these threats, with the possible exception of bait collecting, have not abated and may be increasing.

The explosive growth of the gas industry in western Pennsylvania is cause for considerable concern. Well site clearing activities, as well as an increase in construction of gathering pipelines, has the potential to seriously impact very small watersheds and drainages that may serve as the last refuge for these fragile fish.

Based on its decline in the state, and the continued level of threats, the Pennsylvania Fish & Boat Commission listed the Southern Red Belly Dace as a threatened species.

Although this small minnow's outlook appears gloomy, there are bright spots. A few new populations have recently come to light. In Lawrence and Mercer counties in 2002, Western Pennsylvania Conservancy personnel found these dace during surveys of small streams on which they had installed streambank fencing on family farms. In 2011 though 2012, a few of these fish were found in tributaries to one of the historic Crawford County marshes.

Although living in very small watersheds makes these dace vulnerable to even relatively minor disturbances, the size of these streams and drainages also makes habitat improvement and recovery efforts more feasible. Streambank fencing reduces siltation and direct disturbance to stream bottoms. And, the resulting increase in vegetation, as well as riparian plantings, increases shade and helps keep waters cool.

However, small projects on small streams are little more than a band-aid in the conservation of this striking fish if the factors that threaten its survival in Pennsylvania are not soon addressed. □