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A splash of color

Tiny dace and darters add sparkle to Wisconsin's waters.

John Lyons

Ask people to describe colorful Wisconsin natives, and you'll hear tales of Houdini, Liberace and La Follette. Ask about our most attractive animals, and people will point to birds and butterflies. But shimmering just below the water's surface are a host of Badgerland beauties that are largely unknown.

Anglers know brook trout and pumpkinseeds, but I think some of the state's prettiest fishes are nongame species. With just a little effort, you can see and enjoy these colorful fishes, and even maintain them in an aquarium.

Wisconsin is home to a wide variety of fish, with 148 native species, and another 18 or so species introduced from elsewhere. About 35 of these species are brightly colored, with intense red, orange, blue, green, or yellow pigments. The remaining species are cloaked in more somber shades of black, white, silver, gray, bronze, or brown. To a fish scientist such as me, all Wisconsin fishes are attractive in their own way, but some of the colorful species would be considered beautiful by anybody's standards. I think they rival the more glamorous coral reef fishes in appearance.

Among the most spectacular Wisconsin nongame species are the rosyface shiner, southern redbelly dace, orangespotted sunfish, rainbow darter, Iowa darter, and banded darter. These species are common, relatively easy to observe or capture, and do well in an aquarium. So let's learn a little more about each of these half dozen native beauties.

Dace, shiners and chubs

The rosyface shiner (*Notropis rubellus*) and southern redbelly dace (*Phoxinus erythrogaster*) are small minnows that live in the rocky areas of streams. The rosyface shiner is found statewide, and the southern redbelly dace occurs in the southern half of the state. The two species are sometimes found together, although the southern redbelly dace tends to prefer smaller streams than the rosyface shiner.

During the spawning season, typically from early May through mid-June, both take on a brilliant red color. The rosyface is red over its entire body, with the most intense color around its head and darker steel-blue tones toward the back and tail.

The southern redbelly dace has, as its name implies, the strongest red (or sometimes bright yellow) on its belly, grading to a yellowish or reddish brown on its back.

The redbelly's belly is a brilliant crimson in early summer. Garold Sneegas, © 1998

Two black stripes along each side make for a nice contrast, and provide an easy means of identifying the species.

The rosyface shiner and southern redbelly dace both spawn on pebble-mound nests that other species, particularly the hornyhead chub (*Nocomis biguttatus*), build and defend in shallow rocky areas with current. Although the male chub vigorously guards his nest from other male chubs as he tries to entice a female to spawn with him, the chub usually doesn't bother the rosyface shiners, southern redbelly dace or other small fish species that share his spawning nest.



With a little practice, you will easily pick out the pebble-mound nests that chubs build in the rocky run sand riffles of clear streams. Once you've found the mounds, careful observation will often reveal groups of bright red fish milling around them. If you can stand the cool waters of May in Wisconsin, it's surprisingly easy to snorkel up to these mounds and watch the mating rituals of shiners, dace, chubs, and other species. Moreover, these species can be captured with a small-mesh seine or minnow trap. If they are handled carefully and promptly transported home, they will thrive in an aquarium. Keep the aquarium at room temperature, and feed the fish frozen brine shrimp, bloodworms or dried flake foods, which are readily available from pet stores.

Collecting nongame fish

Wisconsin residents don't need a fishing license to collect most nongame fish species if they use a small-mesh dip net or seine less than 35 feet long. However, non-residents 16 years or older do need a fishing license.

Up to 600 "minnows" may be possessed without a special permit; the minnow category apparently includes darters and other small nongame species not in the minnow family (Cyprinidae).

However, sport fish, panfish, threatened and endangered nongame species must be released upon capture. In certain areas, including designated trout stream, spring ponds, and Lake Superior and its tributaries, minnow collecting is either not allowed or greatly restricted. Boundary waters may also have special regulations.

Anyone planning on collecting nongame fishes should consult the 1998-99 Wisconsin Fishing Regulations and Spearing and Netting Regulations pamphlets, which are available where fishing licenses are sold. Orange-spotted sunfish

Though millions of Wisconsin residents and visitors fish avidly for members of the sunfish family (Centrarchidae), which includes such popular sport fish as largemouth and smallmouth bass, bluegills, and crappies, only a handful of non-scientists are aware of Wisconsin's most colorful family member, the orange-spotted sunfish (*Lepomis humilis*). This spunky fish rarely grows more than four inches long; it lives in the shallow, turbid backwaters of rivers, where few people venture.

This fish occurs in the southern third of Wisconsin and is most common in the Mississippi River. What the orange-spotted sunfish lacks in size or angling interest, it more than makes up for in appearance. Breeding male orangespots are almost gaudy in appearance, with a bright orange belly, bright orange fins and bright blue sides liberally sprinkled with orange spots.



The flashy orange-spotted sunfish shines brightly in waters murky or clear. Garold Sneegas, © 1998

Females are less dramatic, but still look nice, with orange spots on a blue-gray or brownish body. Males establish and defend nests in colonies from late May through early July. Females spawn with the males on these nests, and then leave the male to care for the eggs and newly hatched fry.

Since their habitat is normally turbid, it's difficult to see orange-spotted sunfish in the wild. They are easily captured with a seine, as long as you're willing to slog through the thick sticky mud that characterizes most river backwaters. Orangespots do well in an aquarium, eating a range of live, frozen, or flake foods, but the males can be territorial, so a relatively large tank (20 gallons or more) is desirable if you plan on keeping more than one adult male.

Darters

The rainbow (*Etheostoma caeruleum*) and banded darters (*Etheostoma zonale*) are denizens of shallow rocky riffles in clear-water streams throughout the southern two-thirds of Wisconsin. Both are small bottom-dwellers that move in quick darts, hence their name. The two species are sometimes found together, although the rainbow darter usually favors slightly faster, more turbulent water than the banded darter.

Both species are most colorful during spawning, which occurs in May and June. The breeding male rainbow darter lives up to his name, with deep blue and orange-red bars covering its sides, and bright blue and orange fins and throat.



Male darters use their bright colors to attract females. Konrad Schmidt, © 1998

The female is more subdued, with mottled dark brown and tan sides, and less brilliant oranges and blues in her fins. The breeding male banded darter has bright green bands along his sides, and orange and green stripes in his dorsal fins. The female lacks the strong green color and can be easily confused with the female rainbow darter.

The striking colors of these male darters are used to attract females, and studies show that the most brightly colored males have the greatest spawning success. Bright colors have a downside though -- they may attract predators as well as females. For this reason, male rainbow and banded darters establish breeding territories in shallow waters where large fish predators such as bass and pike can't forage efficiently. Brightly colored algae covering these rocky bottoms help the darters blend to avoid fish-eating birds such as kingfishers and herons.

Rainbow and banded darters can be closely approached in the wild, but are often difficult to see because of the shallow, turbulent water they inhabit. Snorkeling or surface viewing can be frustrating, but both species are simple to catch. Hold a small-mesh dip net or seine just below a riffle, then kick up mud and rocks on the stream bottom with your feet to drive the fish into the net.

Rainbow darters are easy to maintain in an aquarium, and quickly adjust to captivity, to the point that they learn to swim to the surface looking for food at feeding time. They'll eat a variety of frozen or live foods.

Banded darters are more difficult to keep, remaining skittish for a long time after capture, and eating only certain types of live foods such as water fleas (*Daphnia*) or bloodworms.

The Iowa darter (*Etheostoma exile*) is one of the few darters that's more common in lakes than streams. It occurs throughout Wisconsin, but is far more abundant in clear-water northern lakes, where it lives in the sandy and silty shallows among aquatic plants.

Like rainbow and banded darters, Iowa darters spawn in May and June, and the male is more colorful than the female. The breeding Iowa darter male has color patterns similar to the rainbow darter, but the Iowa darter has more reddish than orange pigments and the blues have a distinctly greenish tinge. The female Iowa darter is more nondescript. Only its dorsal and anal fins having bright red and blue-green colors.

Snorkelers can easily see Iowa darters breeding on aquatic vegetation and plant roots along the shoreline. If you're like me, you'll need a wet suit or even a dry suit to stay warm enough to enjoy the experience. Seining the shallow weedy areas of a lake or stream is the best way to capture Iowa darters. They do reasonably well in aquariums stocked with aquatic vegetation and the fish will subsist on various frozen foods.

These six species are just a small sample of the fascinating variety of nongame species found in Wisconsin. Every stream, river, and lake has nongame species you can catch or observe without much effort. They are not all colorful, but they may have intriguing shapes or behaviors well worth watching. So wade out in the shallow water this spring, and experience the hidden world of Wisconsin's nongame fishes.

More about native fish

- *Fishes of Wisconsin*, by George C. Becker, University of Wisconsin Press. The standard technical reference on Wisconsin fishes. Filled with information on identification, distribution, and biology of all fishes in the state. Good black and white photos of all species, but the color photos are largely of preserved specimens and don't illustrate life colors. Out of print, but available in some university libraries.
- *Fishes of the Central United States*, by Joseph R. Tomelleri and Mark E. Eberle, University Press of Kansas. Non-technical book discussing some of the game and nongame fishes found in Wisconsin. Superb color paintings of these species.
- *Fishes of the Minnesota Region*, by Gary L. Phillips, William D. Schmid, and James C. Underhill, University of Minnesota Press. Non-technical summary of the biology of most of the species found in Wisconsin. Good close-up photos of live fish in aquaria, but many of the specimens portrayed are not particularly colorful.
- *Peterson Field Guides: Freshwater Fishes* by Lawrence M. Page and Brooks M. Burr, Houghton Mifflin Company. Excellent field guide for identification, including all Wisconsin species. Good paintings and line drawings, but limited biological information.
- *The Audubon Society Field Guide to North American Fishes, Whales, and Dolphins*, Alfred E. Knopf Publishers. Excellent photos, and good, albeit brief, biological summaries, but only a subset of Wisconsin species is included.
- The [North American Native Fishes Association](#) is a nonprofit group dedicated to the preservation and enjoyment of nongame fishes. Anyone can join. The association's web site has some nice pictures and information, and links to many other relevant sites.

About the author

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