SMART Angler's Notebook

by Carl Richardson

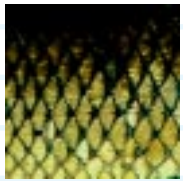
illustrated by Ted Walke

FISH COLORS

Pennsylvania's fish aren't nearly as colorful as some you might find hanging out on a coral reef somewhere. Yet, in their own right, many of our game fish and forage fish are very colorful. Have you ever seen a male brook trout in the fall? The males of all salmon that spawn in the fall become very colorful, and nothing compares to the colors of a brook trout. By comparison, the colors of fall leaves look pale. How about a bluegill or a largemouth bass? Have you ever noticed how brilliantly shiny an American shad is? What makes these fish, or any fish, colorful?

bluegill

pumpkinseed



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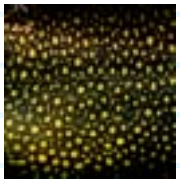

brook trout

rainbow trout

American shad

channel catfish

smallmouth bass

brown trout

What makes the colors?

Generally, colors are the result of reflected or absorbed light. Fish and other animals have special organs in the skin that produce color-causing chemicals. Some chemicals reflect light. Others absorb it, and we see colors. The iridescent look of an American shad or a shiner comes from chemicals produced by cells called *iridocytes* in the skin.

The colors of a bluegill come from cells called *chromatophores.* These are the cells that cause true colors. Each chemical results in a specific color. Chromatophores, depending on the species, produce a mixture of chemicals. This process is much like mixing paint at the hardware store.

What influences color?

Iowa darter, *Etheostoma exile*

Spawning males are usually very bright and colorful. The spawning process triggers the chromatophores and puts them in high gear. Fish under stress are often pale and discolored. Stressed fish put their energy into more important functions.

Color patterns

Fish tend to blend in with their surroundings. We all know that as camouflage. Fish that live in weeds generally have vertical bars or stripes. The ones that live in open water have horizontal stripes or countershading (where the belly is lighter than the back).

yellow perch–vertical stripes

striped bass–horizontal stripes