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Sneakers, Satellites and Honest Dads

Glimmering in the shallows on a sunny afternoon, the pumpkinseed is one of the jewels of the fish world. Although its name comes from its flat, pointed, oval shape, the pumpkinseed's most alluring feature is its colours. The red-orange belly and wavy blue and orange-brown stripes give this species an elegance few fish can match. But this is a beauty we often ignore. Maybe our lack of respect stems from its reputation as a "children's fish." Its fondness for waters close to shore makes it vulnerable to anyone fishing from a dock. We also tend to take any species that is this common for granted. However, when it comes to mating behaviour, there is little that is "common" about the pumpkinseed.

In the Kawarthas, our native sunfish include the smallmouth bass, rock bass and pumpkinseed. Three other members of the sunfish family, the largemouth bass, bluegill and black crappie, have either been introduced into the area or have come in on their own. Bluegills are similar in appearance to pumpkinseeds but lack the face stripes and have a large, black "ear" spot on the back edge of the gill cover. They are now the most common fish species in Rice Lake. It is not uncommon for these two closely-related fish to actually mate together and produce hybrids.

In June through early July, male pumpkinseeds construct a nest in the shallow water of lakes and ponds in the hope of attracting a female. The male sweeps away gravel and plant debris from the bottom with his powerful caudal fin, almost as if he was using a whisk brush. At the same time, he holds his side fins out and pushes water forward so as to remain stationary. The nests are circular, about three times the length of the fish in diameter, and often occur in colonies ranging from just a few to as many as 10 to 15. Male pumpkinseeds are very aggressive at spawning time and will chase off intruders by charging. Many an unsuspecting bather has had the experience of an irate sunfish nipping at his legs or feet.

The females remain in deeper water until the nests are completed. The male will then swim out and "greet" an approaching female and try to drive her into his nest. If he is successful in attracting her, there is an elaborate courtship process between the pair. The two fish swim in a circular path, side by side, with their bellies touching. As the female expels the eggs from her body, the male fertilizes them with his sperm. Not only will females often spawn in more than one nest but more than one female may also use the same nest. In fact, some nests can end up with more than 15,000 eggs. The tiny eggs stick to gravel or sand in the nest. If the water is warm enough, they may hatch in as few as three days.

After egg-laying, the females depart for a summer free of domestic responsibilities. For the males, however, their work is far from over. They must guard the eggs against predators and fan them with their tails in order to improve oxygen supply. Even after the eggs hatch several days later, the males stay at the nest and guard the minute fry for nearly two more weeks. These doting fathers will even retrieve babies that leave the relative safety of the nest by bringing them back in their mouths. Without this high level of care, the young would not survive.

However, the business of spawning is not as straightforward for male sunfish as it might appear. After expending huge amounts of energy building nests, defending territories, luring in females and caring for the young, these hardworking dads can't even be sure that they are passing on their own genes. The problem is that not all males are territorial and defend a nesting site. In fact, a majority of males rely on different mating strategies. One group, known as "sneaker" males, are

much smaller in size and will actually slip into a territorial male's nest when the female is releasing her eggs. The cuckolder will then release his sperm at the same time as the larger territorial male does. Although he may get chased away, another sneaker male will often dash in during the "honest" male's absence and take advantage of the situation.

Another group, called "satellite" males, actually mimic females. Similar in age and appearance to the sneaker male, the satellite does not dash into the nest but tends to hover over it, acting like a non-threatening female. If a breeding pair of sunfish is present, he will then slowly swim down into the nest and release sperm during the spawning event. As a result of this philandering on the part of the sneakers and satellites, a majority of the eggs being cared for by the nest-building male have often been fertilized by one or more other fish.

Whether or not a male sunfish becomes a territorial, sneaker or satellite dad is completely under genetic control. In other words, a given male never changes from one strategy to the other during his lifetime. Territorial males don't begin to build nests until they are six or seven years old and big enough to defend a territory. Sneakers, on the other hand, are sexually active by the time they are two. However, they never grow as big as their honest brethren and usually die by five years of age, probably worn out from their promiscuous lifestyle!

In a given sunfish population, about four-fifths of the males are sneakers or satellites. They never take over completely, though. When the number of territorial males becomes too low, there are not enough care-giving fathers for the sneakers to trick into raising their young. When this happens, some sneakers and satellites fail to leave descendants. This allows the number of territorial pumpkinseeds to increase until the balance is re-established. Bluegill sunfish also have both kinds of males.

As you can see, watching fish can be almost as much fun as catching them. Polaroid sunglasses can be a great help because they reduce surface glare. However, as long as you keep the sun behind you, the naked eye also allows for good views. It's also amazing how close you can come to fish when you are out snorkeling. Just be careful not to make any sudden movements. Fish-watching is best from soon after ice-out to early summer and then again from late September through November. The fall is the period when speckled and lake trout are spawning. The Kawarthas also boasts a large number of fascinating non-game fish species such as sticklebacks, darters and a large variety of minnows. Most are found in the shallow waters of lakes, rivers and streams. You will probably need a net, however, to catch and identify most of these.

What to watch for this week:

A meadow alive with fireflies is one of the most beautiful sights of early summer. A member of the beetle family, fireflies possess a special organ in the abdomen which produces light. The light serves to attract a female. Watch for them in damp, open areas with bushes and long grasses.

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