On seeing things for the first time

by Deborah Stone

I've never seen a great blue heron catch a fish. I've seen a great blue in the air, frog dangling from beak, and I've watched great blues deliver a fresh catch to a nest full of screaming broodlings. I've even seen a parent shove its beak down the gaping maw of its chick. But for all the time I've spent staring at a heron staring at the water, hoping to catch it in the act of getting dinner, I've never actually seen the catch.

It's very hard to see what you're looking for. One evening I went down to the beaver pond to watch the herons feed, but I got distracted by the whirligig beetles. You have to wonder, when you watch whirligigs, whether they ever sleep. You also have to wonder how they go to from zero to sixty. One second the thing is gliding lazily over the surface, the next it's racing at full speed. With what does it push, and what does it push against? Physics has always baffled me. I've read that surface tension is incredibly strong and makes the surface of water more like a solid than a liquid—something about molecules holding hands with electrically-charged finger tips. When you see how much traction a whirligig gets, you don't need a fancy physics experiment to prove surface tension to yourself.

At one moment, I had my eye on two whirligigs. One was very passive and lazy, the other darted and whirled as usual. The languid one didn't seem to be just pausing between gigs, as whirligigs often do, so I thought it might be sick or dying. Do whirligigs slow down when they're old, like people, or do they just die suddenly? That's another thing I'd like to see—how a whirligig goes out when it doesn't go down as somebody else's dinner. Does it just slow down, stop twirling, and ease into a long, slow arc like a figure skater coming out of a spin? Or does it throw it all into one last daring dervish and dance to its watery grave?

I once saw a monarch butterfly die. It was lying on its side in the grass beside my tomato patch, and in my peripheral vision, I noticed the gentle motion of one wing flapping slowly. The wing had a tiny orange piece missing, as though one section of stained glass had been knocked cleanly out of its lead frame. I knew the butterfly was dying, and I stayed to witness its passing. When it laid down its wing for the last time, I whispered to it, "You're beautiful." Later I wondered whether it mattered a whit to the monarch that someone had witnessed its life and death, and then I wondered why it mattered so much to me. Because you might as well be dead yourself if you don't notice what's happening while you're here.

'...You might as well be dead yourself if you don't notice what's happening while you're here.'

While I was musing on the meaning of whirligig lethargy, I suddenly realized that the whirligigs had disappeared. I knew it wasn't just that my eyes couldn't see them anymore as darkness blanketed the pond, because when they're there, you see their ripples and wakes on the water's surface. Now, at dusk, there were no ripples or wakes, just a still, glassy surface. So where *do* they sleep? Do they nestle into the stalks of grass at

Photo: Jane Wingate, Farmington, N.H., www.janewingate.com

Photo taken in New Hampshire pond offers a study in the physics and beauty of surface tension and flotation.

Whirligig beetle

Photo: David Liebman, Norfolk, Va., David1@sybercom.net

the water's edge to hide from predators? Do they plug into the mud to recharge their batteries? What should I look for to find one asleep? I recognize whirligigs by their whirling, and when there are only two or three, I find them by using the ripples to guide my eyes ahead to the beetle. Maybe I've never seen whirligigs sleeping because I only know them by their motion. To see something, you have to have an idea what it looks like.

As evening silence descended with the dark, I heard the familiar plop of frogs dropping back into the water after they've leapt into the air. Usually you hear the plop and by the time your eyes get to where the sound came from, the frog is long submerged and you see only the rings of water where it dove in. So I have a little game I play. I stare at a place on the water where I think there's apt to be a good hideout for a frog and I try to see the whole leap, push to plop.

This evening, while I was hunting for wide-awake whirligigs, I just happened to be looking where a frog started from and I saw it make five hops across the water's surface, without plunging in between. Then I saw one make twelve hops, and I

Whirligig beetles are the only beetles that can swim on the surface film of the water. You can often spot them, sometimes in large gatherings, on quiet sections of ponds, lakes or streams during summer months or into the fall. Other creatures seen swimming or skating about on the surface are probably not beetles.

There are two types of whirligig beetles found throughout North America. These creatures are of the Gyrinidae family of medium-sized beetles. The large whirligig beetle is 9 mm to 15 mm long. It often has a bronzy shine to its black body. The small whirligig beetle is 3 mm to 7 mm long. It is shiny black above and black or yellowish brown on the sides and below. Adult whirligigs live through the winter in leaf litter near ponds, on plants or buried in mud.

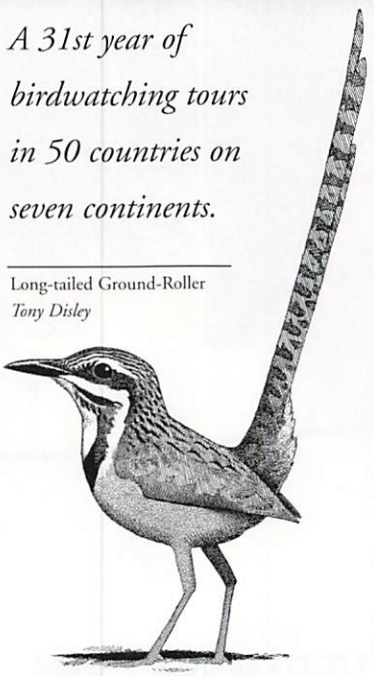
Whirligig beetles are oval shaped when seen from above. These insects gather in large numbers on the surface of the water and swim rapidly in small whirling circles within the group. They seem to dance or 'gig' on the surface of the water.

Whirligig beetles can also dive below the surface and remain submerged. To do this, the whirligig beetle traps a bubble of air under its abdomen. It can then stay underwater for a long time. Oxygen from the water can be absorbed or diffused into the bubble and carbon dioxide can escape into the water. It is as if the beetle has an underwater lung.

WINGS

A 31st year of birdwatching tours in 50 countries on seven continents.

Long-tailed Ground-Roller
Tony Disley



www.wingsbirds.com
(888) 293-6443 • (520) 320-9868

Audubon®
With Audubon optics, you'll see the difference.™

8x40
$59.99

The perfect family binocular! Audubon's 8x40 is ultra-lightweight and unbelievably durable.

8x22
$49.99

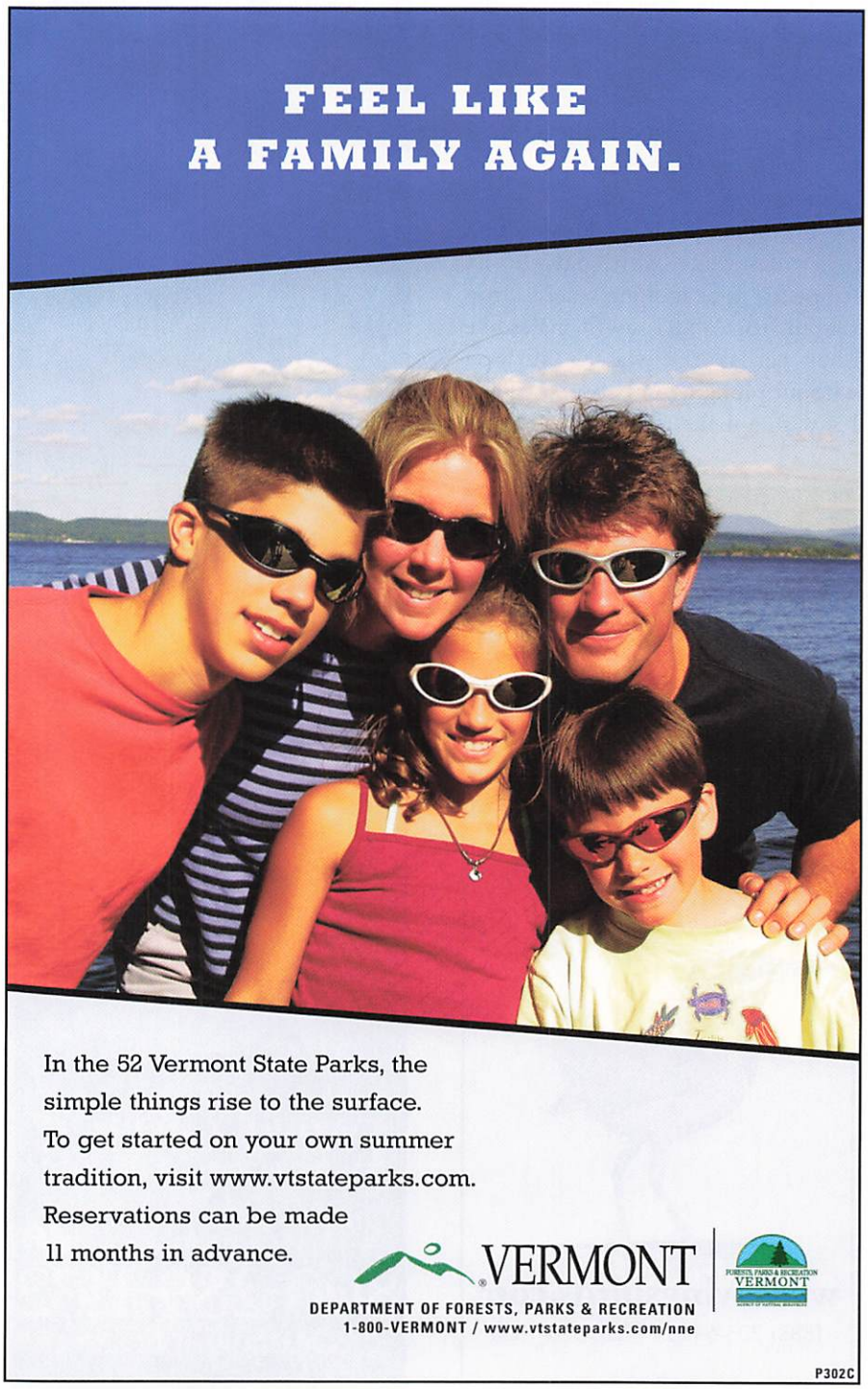
Combining excellent image quality with roof prism durability, the Audubon 8x22 Pocket fits your adventure-travel needs.

EAGLE OPTICS™
OPTIC OUTFITTERS™
Visit Our Online Optics Catalog or Call for Your Free Catalog & Buying Guide
800-289-1132
www.eagleoptics.com
2120 W. Greenview Dr. ~ Middleton ~ WI ~ 53562

couldn't believe my eyes. I'd just wrapped my mind around the concept of surface tension, but it didn't include supporting a frog leaping twelve times over the top of water as if the water were solid earth. One part of me challenged another part of me. How do you know it was twelve? You couldn't have counted that fast. And anyway, you didn't even think to start counting until he'd already taken a few hops. That's when I realized that although I saw the frog bounce across the water like a skipping stone, it was my ears that told me I'd seen twelve leaps. I could still hear the rhythm in my mind's ear. Good music is like that. As if to tell the other part of me I wasn't crazy, another frog did ten hops across the surface. Okay, this is real, I said to myself. You saw what you saw.

The next day, I went back to the pond at high noon. The air was still, the surface free of striders and whirligigs, the only disruption the sound of frogs jumping. I stared for awhile, for I find that if you stare hard enough and just sort of relax your eyeballs, something interesting will come into focus. I was expecting to see more water-walking frogs, because often, once you see something for the first time, you begin to see it everywhere. But just as often, what you get is something totally different than what you're expecting. Sure enough, out of nowhere, a frog materialized on a lily pad. He didn't swim to it, latch his forelegs over its edge, and climb aboard, as I've seen so many times. This time he was just there, already perched motionless on the pad when my eyes were ready to see him. I decided I was going to see him catch a fly. That's something I've never seen either, though I've heard the water-plopping and lip-smacking that tells me what I just missed. This frog was perfectly poised to give me a great view – flank toward me, head pointed sideways.

I looked at my watch and decided I'd give it 15 minutes. Fifteen minutes later, the frog hadn't moved, not so much as an eyelid, so I decided I'd give it five more, then five more, then five more again. After 28 minutes, it rotated about 10 degrees on the lily pad. I figured it must have had a leg cramp, because it certainly didn't seem to have my lack of patience. Later, when I wrote the words "not so much as an eyelid," it occurred to me that maybe I didn't see it blink because it didn't have an eyelid to blink with. I vaguely remembered something about frogs and eyelids from biology, but I couldn't remember what. I checked out frog eyes on the internet (Do frogs have eyelids?) I learned that a frog has a translucent membrane for an eyelid instead of opaque skin as humans have, so it can sweep its eyes clean and moisten them in the hot sun without that split-second blindness we get when we blink. How many blinks of a nictitating mem-



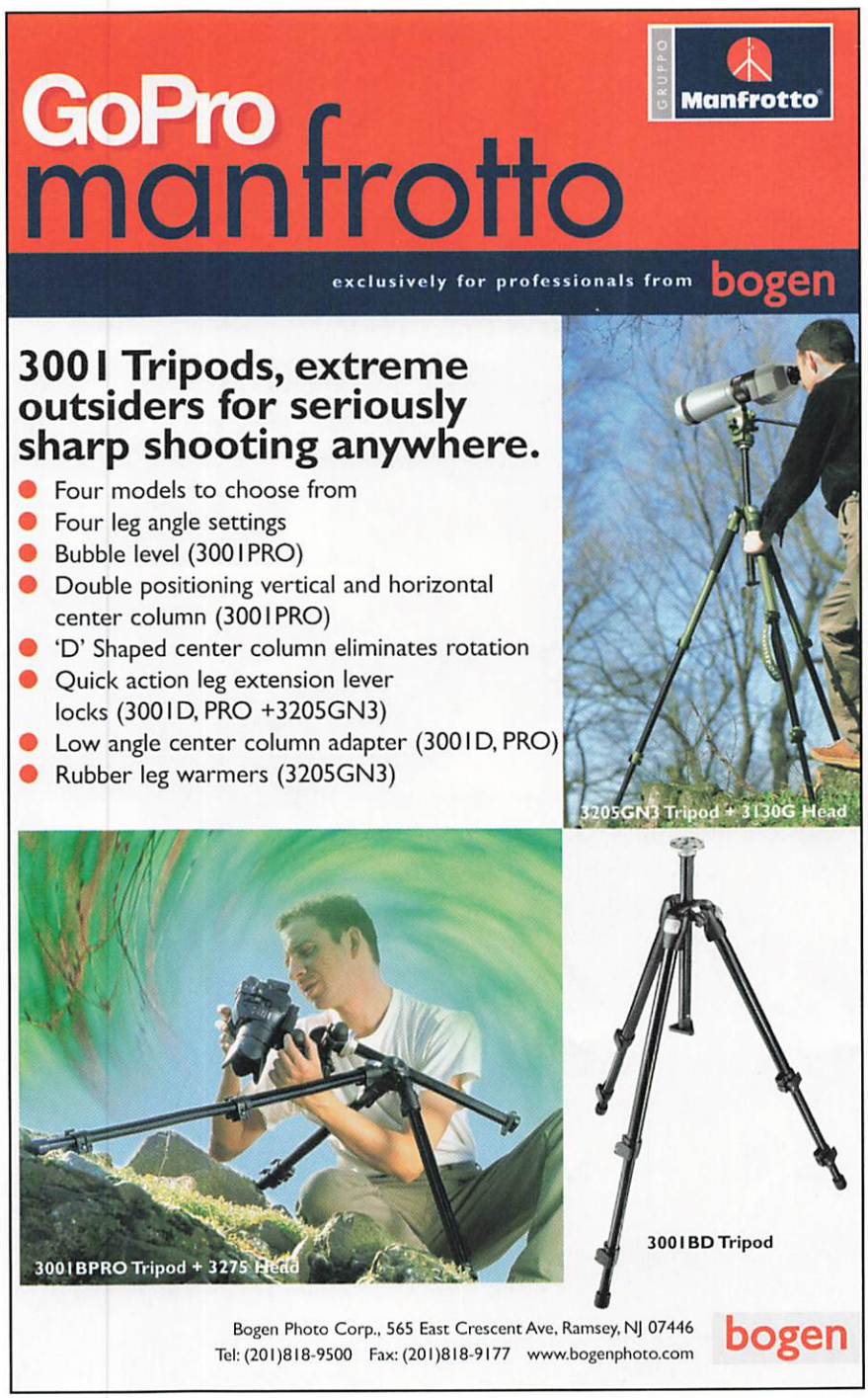
brane did I not see in thirty minutes, I wondered. Will I be able to see a frog blink if I try hard enough?

The whole time I had the stone-still frog in my gaze, I was aware that a lot of other things were having a lot more luck than I or my frog. I heard a Great Blue Heron arrive at tree top with booty for the kids, which is to say I heard its chicks squabbling for advantage. I saw a Kingfisher make three dives and return to its perch on a dead limb. And I watched one sole whirligig cruise the little eight-foot wide "harbor" in the shoreline where I was sitting. In the 30 minutes that the frog spent in freeze-frame, the whirligig skimmed round and round in one smaller, maybe 12-inch cove, only occasionally making a foray out into the larger harbor but always returning to the same little cove, close to shore. There are two ways of making a living on this pond, I thought: Sit still and wait for dinner to cross your path, or else go on the prowl. If I am ever going to see a heron catch a frog or a frog catch a fly, I'm going to have to sit still a lot longer than I'm used to.

But there are also two ways of looking, and you have to look both ways. You have to be a Waiter with your body and a Prowler with your mind. To see life's mysteries, you have to learn what you could see and fill your mind with images, so you know it when you see it. And so you believe your eyes. Then, you have to be rank opportunist and allow yourself to see what *is* there while you're waiting for what isn't.

The first time I decided to see if I could see a frog blink, the sun was high in the sky and the air pinched with late-August warning. There were no frogs to be found on lily pads in the little harbor near shore, but I heard one green frog plucking a banjo string from out in the middle of the pond. I scanned with my binoculars to find it, without any luck. I looked back down at the water at my feet, and there was a green frog, leaning on a grass stalk half in the water and half out, so close I had to back away a few steps so my binoculars could bring it into focus. I could make out the brown vessels in its gold iris. I could see the yellow outlines of its jet-black pupil, and the vertical yellow crescents on either side of its eyeball. I could see a gray sliver just below its eyeball, which I took to be its nictitating membrane. Just a guess, but I had such a good fix on the frog's eye that whatever movement happened, I was sure I'd see it.

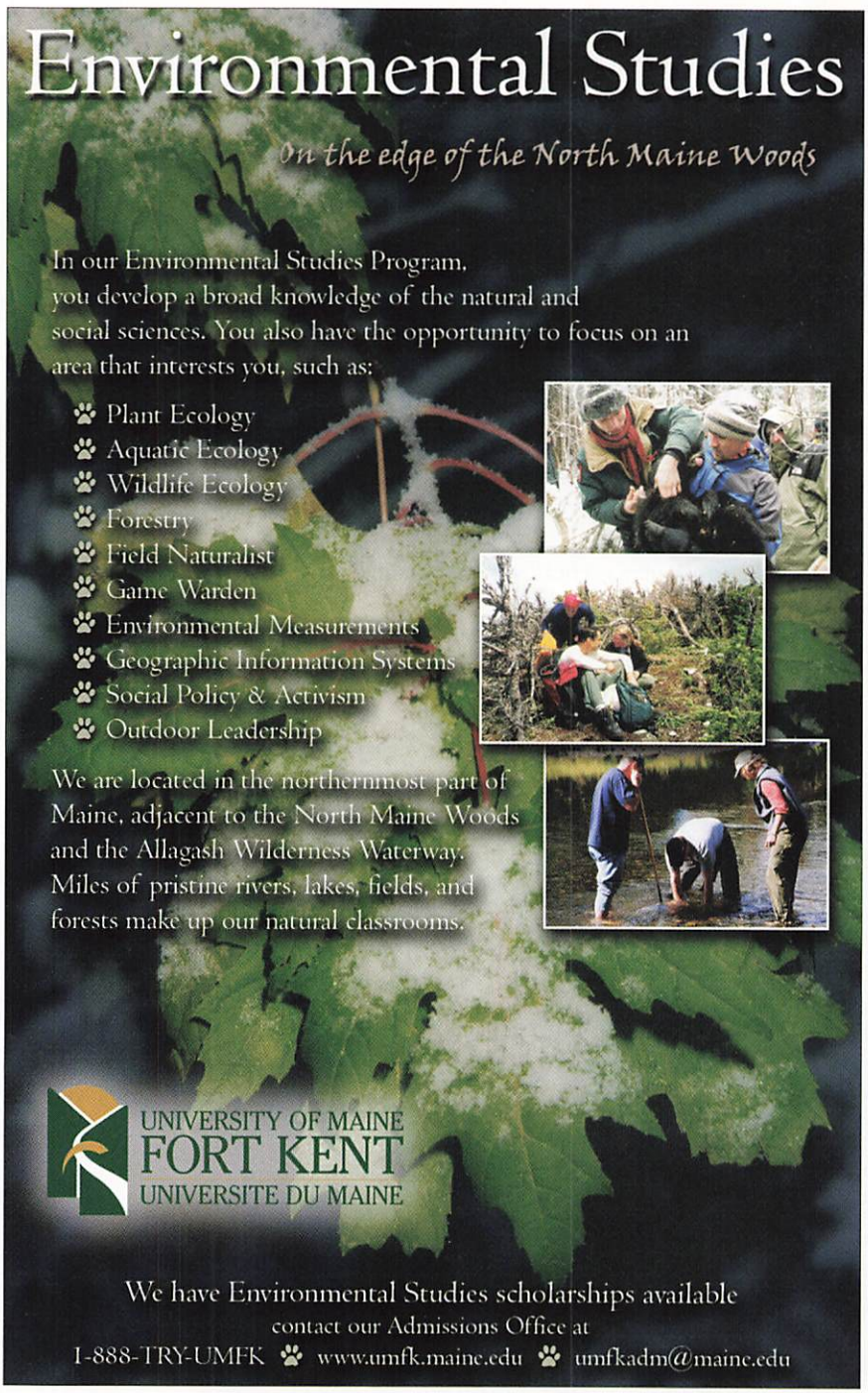
The frog changed position a few times, sometimes facing me square on, sometimes facing sideways, but for about an hour, I had a great view. I never saw a blink. A couple of times the eyes got a little darker, then brightened up again. I got excited until I realized a cloud had passed overhead. I saw a fly land on its nose and take off again in a fraction of an instant, before I could register my lost opportunity and wonder if the



frog had registered his. I became acutely conscious of my own blinks. I decided that either I need to clean my eyes a lot more often than a frog does or I was missing the thing altogether. Or – a mind-boggling thought – was it possible that the frog and I blinked at exactly the same moments? Maybe when we're locked eyeball to eyeball with a predator, something in our deep animal unconscious tells us when it's safe to blink, a sort of mutual disarmament pact.

In frustration, or just to give myself a change of pace, I scanned my binoculars out over the pond again to find the banjo player. Instead I found a painted turtle perched on a log, tipping up its orange carapace, showing off its glory. I went back to my staring contest with the frog. When I got tired of looking for the blink, I went back to the turtle. Now there was a smaller turtle mounted on top of it. I wondered if they were mating, and as if to answer my question, the male pumped his tail and thumped it on the log. He reared up his head, lowered it a couple of times, and pumped away. Then the female inched forward a bit. The male slipped off, ever so gently, and rolled down into the water.

Day after day, I returned to the pond to watch for blinks and whatever else was happening. One glorious September afternoon, I was following a red dragonfly through my binoculars as she dipped up and down, touching the tip of her ovipositor to the water's surface, rising up, dipping again. As soon as I registered what I was seeing, I started thinking about the fate of those eggs left to their own defenses out there in the middle of a pond. Suddenly, a big blur replaced the dragonfly. Still looking through the binoculars, I readjusted the focus and made out a frog. It was sitting perfectly placidly, not obviously moving its jaws, but a telltale bit of red dragonfly dangled out the left side of its mouth. The lady did well, I thought, scattering her progeny around the pond just in time. Shortly the frog gulped, pulling the dragonfly remnants further into its mouth but not quite all the way. Then it swiped at the stringy dribble with its left forefoot, brushing away the last bit, which I took to be not very tasty.

I think that's how I'm going to see a heron catch a frog. Someday, while I'm staring at a frog trying to see it blink its translucent membrane without losing its visual grip on me, I'm going to lose my visual grip on the frog when a great blue heron jabs its bill into the water and comes out with a flailing frog. I wonder if that will make my little green friend blink.

Deborah Stone, PhD, is a professional political scientist and an amateur naturalist. She lives in Lempster, New Hampshire.
Wild.indigo@nhvt.net