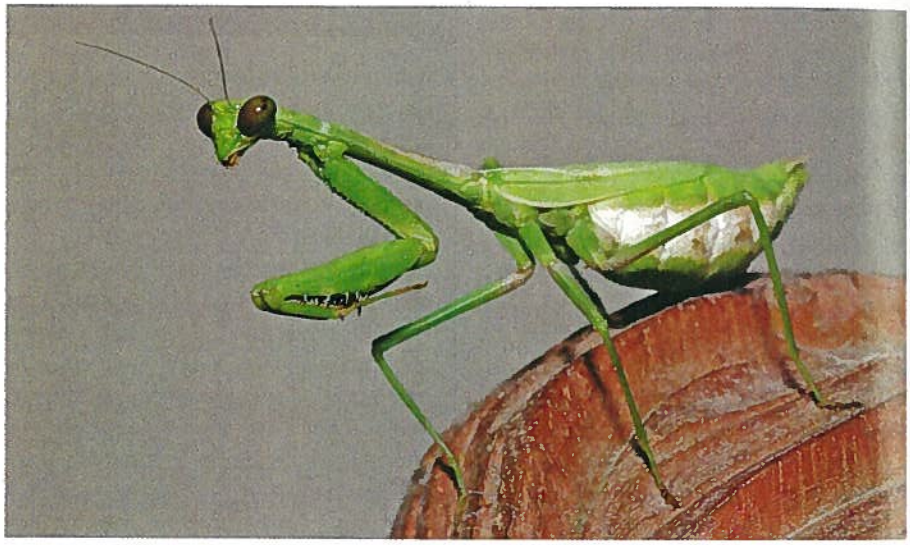
The Embodiment of Entomophilia

John Acorn

In my last column, I wrote about my experiences with insects as the subject matter for my former television series, *Acorn, The Nature Nut*. I also enjoyed poking fun at the broadcast executives who never quite understood why our audience seemed to prefer insects to birds and mammals. Here, I would like to continue with this theme. Let me begin, then, by taking the opposite side, and attempting to sympathize with my vertebrate-centric colleagues.

Let's face it—in a bodily sense, non-human tetrapods are easier to identify with than are insects, since they share with us the same numbers and types of parts. Add to that one of the big developments in neuropsychology lately: the recognition of mirror neurons in the brain that "mirror" the actions of other people, in such a way that, for example, when I see someone else running, neurons in the same part of my brain that controls my own ability to run fire to "mirror" the other person's running movements. Psychologists are still struggling over just how much of human experience this new discovery might explain, but in the meantime it is fascinating to contemplate what happens when mirror neurons fire in response to watching non-human animals. All of this also relates to what is called the embodiment of mind—the idea that our cognitive processes are basically add-on features of our sensorimotor system, all constructed in a particularly human way, such that we think the way we think, in large part, because we have the sorts of bodies that we have. To me, this idea originally seemed deeply at odds with scientific objectivity, but I now see it as an evolutionary inevitability, and I hope you won't mistake me for some sort of anti-scientist as a result.

To illustrate how all of this makes everyday sense, one of the most popular episodes from *Acorn, The Nature Nut* was the show we devoted to frogs. It wasn't the best written or directed, nor did it have the best photography, but I do have a theory for why it generated so many compliments and spontaneous submissions of kid art. My theory is simple: frogs look like little naked people. And when you think of it, not very many other animals do, since frogs possess hairlessness and taillessness, both rare features frogs share with *Homo sapiens*. When we watch a frog, the theory goes, we feel it in our own bodies.



Human-like, but perhaps not human-like enough.

"If we love frogs because they do a better job of engaging our mirror neurons than most other animals, what does this tell us about how most people feel about insects?" Humans have only four limbs, two eyes, and (except for angels, which are now mostly the stuff of television commercials) we don't have wings coming out of our backs. Mantids, mind you, come close. Their forebodies are so obviously human-like that it is easy to miss the fact that they have a few extra body parts, so to speak. From the classic idea that they adopt an "attitude of prayer" to mantis-style kung fu, these insects inspire humanoid interpretations. I devoted an episode of the television series to mantids, but it failed to generate even a fraction of the praise that the frog show received. Perhaps the psycho-looking triangular faces of mantids, compared with the lovely smiles of frogs and toads, are an unavoidable clue to the bugginess of the Mantodea.

Paradoxically, the vertebrate bias I have complained about is not at all in favor of frogs. Frogs, to most non-biologists, are "creepy-crawlies," a popular-culture taxon that includes both herpetiles and invertebrates. True vertebrate lovers are much more excited about warm-blooded, fluffy-bodied birds and mammals. But as I explained in my last column, these creatures may be nice to think about, and they may look great on calendars and in coffee-table books, but when you aim a video camera at them, it's often impossible to get past the fact that they are generally far away, and

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that they don't always do interesting things while you watch them.

When we see birds and mammals in person, we know that they are large, and therefore more like us, than insects. On the television screen, however, size by itself is not an issue, since the right lens can give equal prominence to a tiny ant and a hulking bison. It is tempting to conclude that all animals will feel equally big on the screen, but this brings up yet another limitation of insects as television subjects: the camera can magnify, but it can't hide the physics of scale. We can instantly tell that a tiny animal is tiny, simply by the way it moves (often jerkily, with rapid accelerations), and by the optical physics of high magnification lenses sending images to sensors that are physically larger than the insects being photographed. Small animals are obviously small, no matter how we might try to portray bug watching as a big game safari with a magnifying glass.

Getting back to the subject of faces, it's clear to us all that humans are extraordinarily sensitive to facial expressions, and we see them not only in each other but in other animals, flowers, cars and trains, the moon, and who knows what else. So naturally, we look to an insect's face when we seek to understand it. But have you noticed how often non-biologists ask, "Where are its eyes?" when you show them a particularly interesting insect? We tend to take insect heads for granted while others hunt in vain for the familiar facial landmarks of eyes and a mouth.

Mouths, even more so than eyes, make insect faces truly alien to us, partly because the mouthparts (unless they are profoundly modified) all hinge in the horizontal rather than the vertical, partly because the opening of the throat is rarely if ever visible, and partly because insects don't breathe through their mouths, and have no nostrils. The result of all this is that some insects have faces that seem to fit their personalities (for example, tiger beetles) while others are, for most people, the stuff of nightmares (for example, house flies). Compare the appeal of jumping spiders to other spiders—the eyes make all the difference, and the fact that the fangs are often hidden behind a mustache, and cute little mitten-like pedipalps help too.

The eyes of this common house fly seen here, gives little indication of it's personality.

Photo courtesy Thomas V. Myers, BCE.

On the other hand, there are butterflies. Butterflies are a special case, and their appeal seems to me to be based on a more abstract set of factors. Some are cute, in the big-eyed sense of the term (almost all members of the Lycaenidae, for example), but it's not the face of a butterfly that most people notice. It's the colorful wings that make butterflies the darlings that they are, along with their fluttering flight style (and you can make it more so by using slow-motion photography). It seems that most people think of butterflies as self-propelled flowers, the purpose of which is to bring beauty and whimsy to the world. But flowers have faces, in the metaphorical sense—they are the faces of plants. We use any number of "plants are people" metaphors in everyday life, and as an Acorn, I have heard most of them quite a few times. So, butterflies are flying colorful flower faces, frolicking with other flower faces in a dance of fertility, sunshine, and joy. It becomes rather obtusely metaphorical, like the cuteness of mushrooms (and yes, our mushroom episode was a big audience favorite as well).

After struggling with both sides of the bugs-on-television issue, I have to admit that I think insect appreciation is developing about as well as could be expected, and perhaps even better than that. Most television will always portray the social interactions of people, but let's not forget that even some of our fellow humans are not entirely easy to empathize with. Likewise, relating to any non-human creature is not a simple matter. Perhaps it is a byproduct of the lack of fine-tuning in our own neural capacity for empathy, but a good number of us actually like insects at a deep, emotional level. There may be limits to the empathy we can feel with insects, but the fact that relating to any sort of non-human creature is possible should encourage us to believe that entomophilia is possible to both connect to and nurture in the minds of others.

To me, this is a cute, big-headed, googly-eyed treehopper waving playfully from a leaf tip. To others, it is an alien monstrosity with no discernable face whatsoever.

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