

Quill Bear

When I sift through my memories for the moments when I felt deeply honored, there are few that match those that come from being welcomed into the circle of trust of a wild creature. Honor aside, such trust allows me to watch closely and learn things I could not learn through rare and chance encounters.

For the past month I have enjoyed such a relationship with the porcupine I call Fretful. Fretful became a regular visitor to my backyard apple tree during August, and when the apples were gone, he was only too happy to have apples from other trees delivered.

From the proximity that trust makes possible, I could admire Fretful's remarkable snout. It is little wonder that the porcupines' name is a melding of "quill" and "pig" in many languages, for the front of a porcupine's muzzle is flattened and the mobile sides can flare, appearing to create a scent funnel. When I offer Fretful an apple, he extends a paw, palm up, draws the apple to his muzzle and sniffs deeply and thoughtfully before beginning his meal. When he finishes his apples, he treats unfamiliar objects in his environment in the same way. He takes special interest in human hands and faces, and a few people have now been distinguished by Fretful's whiskery "kisses."

Fretful's friends have remarked that, despite his nose, he is more like a bear than a pig. Both animals have similar proportions and walk with the same slightly rolling bow-legged, pigeon-toed gait. Both need to climb trees, despite their bulk, and have similar feet, with broad, flat footpads and long, stout claws to aid in this endeavor.

Like all good New Englanders, Fretful is an apple connoisseur. After sniffing an apple, he takes a few experimental nibbles. If the apple meets his standards, he continues eating. If the apple does not suit him, he drops it and asks if there isn't a better one.

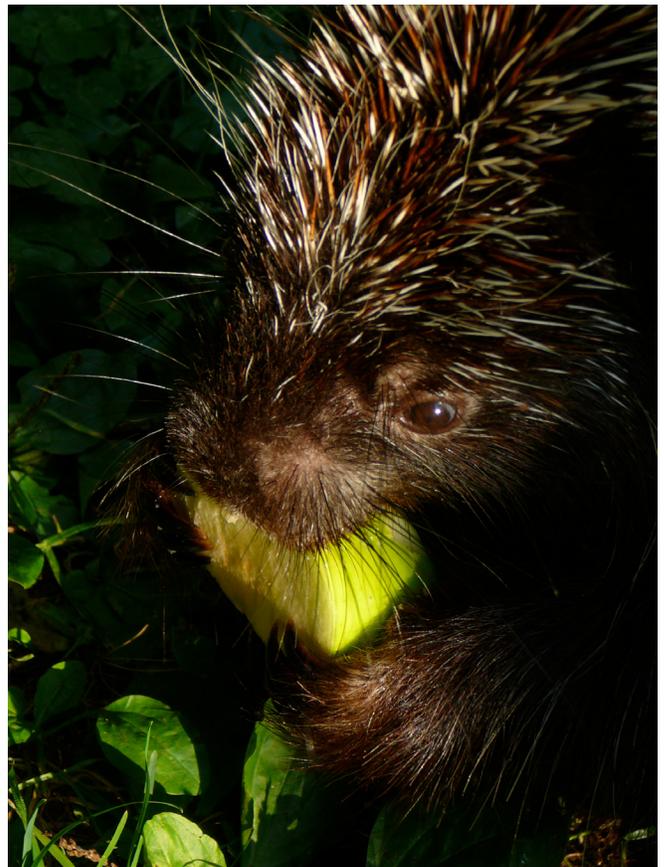
For important physiological reasons, Fretful prefers apples that would be spurned by human epicures. Porcupines, like all herbivores, face challenges in turning plants into animal. Nerves and muscles rely on electrical signals transmitted via ionic gradients between the inside and outside of cells. Outside the cells, the ions are sodium, inside the cells, potassium. Because plants have no nerves or muscles, they have much higher potassium to sodium ratio than animals. To maintain the 1:1 sodium to potassium ratio found in nerve and muscle tissue, herbivores

must get rid of the excess potassium and cling to every sodium molecule they can ingest.

In his book, *The North American Porcupine*, Uldis Roze notes that during apple season porcupines excrete more sodium in their urine, a result of the acidity of the apples. Roze tested porcupine apple preference and found that they like apples with the highest pH. Of the several commercial varieties he tested on porcupines, he found they preferred red delicious (pH 4.1). Rejected apples had an average pH of 2.95. In wild apple trees, Roze found porcupines fed only on apples that he found to be bland and mushy, often those earliest to mature.

In autumn, porcupines add nuts to their diet and, like bears, depend on such foods to put on fat. Fretful lives in a forest with no mature oaks and the beechnut crop is poor this year. Fortunately for Fretful, his friends delivered a bag of acorns and he now has a feast of acorns and apples when he visits.

Pleasant as it is, there is a limit to the behaviors that can be observed sitting next to a porcupine in a backyard. Now that he trusts me, I have followed Fretful into his



world and found that he has a taste for milkweed and violet leaves and takes naps after a big meal.

Porcupines mate in early autumn. Females begin advertising more than a week before they become receptive, so all of the males in the area have time to assemble. The porcupines emit terrible shrieks and whines as females rebuff unwanted advances and males argue about which among them is most worthy.

While walking in the woods one night, I saw the rear ends of two porcupines, one heading into the bushes and the other disappearing up a hemlock tree. I was more than a quarter mile from home and over the crest of a steep hillside. "Fretful?" I asked. The porcupine in the bushes stopped, turned, and paced eagerly toward me making little moans of greeting. He sniffed my hand and then my face, and soon headed to the tree the other porcupine had just ascended.

For the half hour that I watched, Fretful rested and the other porcupine moved about quietly. She(?) then wandered over and sniffed Fretful's nose before settling down near him. I hypothesized that such amicable relations would occur after other business was taken care of.

While the rewards of a trusting relationship can be large, the animal's wellbeing must be given precedence. Many animals would be cruelly served to believe that all humans are trustworthy. Any animal that ranges widely will encounter people who do not merit trust. That is fine if you are a chickadee. Less fine if you are a bear. In the case of Fretful, given the size of a porcupine's territory and the disposition of my human neighbors, I cautiously deem our relationship mutually beneficial. Fretful will enter the lean season with the extra fat my offerings provide. For my part, I will learn more about the habits of porcupines and enjoy the honor of the touch of a trusting porcupine paw. —Patti Smith



Fretful & Friend