

The Outside Story

Sunbathing Birds

By Laurie D. Morrissey

One cold spring morning, a turkey vulture soared across the sky and landed high in a tree behind my house.

I soon noticed another vulture, most likely its mate, in a nearby oak. This one was perched with its back to the sun and its gigantic wings outspread. It

remained in place, giving me a good look at its impressive wingspan – nearly 6 feet – and the light filtering through its long, silvery wingtips, or “fingers.”



This stretched-wing position is called the horaltic pose, and it is used by vultures, some hawks, storks, and cormorants. While scientists are not certain of the exact function of this behavior, they believe the reasons range from temperature regulation to parasite control.

The vulture in my back yard was most likely using its dark wing feathers as solar collectors. During the night, vultures become slightly hypothermic, lowering their body temperatures by several degrees to conserve energy. Standing with their dark backs to the morning sun allows optimal absorption of the sun’s heat. By spreading their wings, the birds increase the amount of surface area exposed to the sun’s rays, warming up their muscles for flight. The vulture I observed was standing still, which allowed it to conserve the energy stored during the previous day.

Two species of vulture breed in the Northeast: the familiar turkey vulture, which breeds as far north as Quebec, and the less common black vulture, a more southern species expanding its range in New England. The featherless, red heads of the vultures in my trees identified them as turkey vultures. Black vultures, roughly the same size, share the sunbathing habit but can be differentiated by their gray heads.

Soaking up feel-good rays is not the only reason vultures sunbathe, however. Researchers believe this sun-seeking behavior may help control ectoparasites that thrive in the birds’ feathers, especially in the long flight feathers and wing coverts (the contour feathers that cover the bases of the flight feathers). These parasitic hitchhikers feast on feather fragments, lipid secretions, skin debris, fungus, algae, and bacteria.

According to evolutionary biologist Jennifer Koop, of Northern Illinois University, a vulture with a high parasite load could have hundreds or even thousands of ectoparasites, including feather mites and quill mites. In the vulture's case, this is one downside to dining almost exclusively on carrion. Because the pesky parasites are tiny, it's difficult for host birds to find them and preen the bugs out of their feathers.

"These birds may use the horaltic pose to heat the feathers, creating an uninhabitable microclimate for mites or feather-degrading bacteria," says Koop. "This also triggers ectoparasites like lice to move around on the feathers, making them more vulnerable to preening."

Ridding themselves of ectoparasites has survival benefits for these birds. Because the pests can cause plumage to dull and lead to additional preening time, infestation can decrease a bird's fitness and mate-attracting abilities. Scientists believe that even brief periods of direct sunlight serve as a non-chemical pesticide.

Recent studies on hooded vultures in Africa indicated that short bouts of sunning in extreme heat are sufficient to kill lice and unhatched eggs. Researchers observed the vultures sunning on hot sand, where the temperatures were above what the birds normally tolerate. They believe the birds may accept short-term heat loads because excess heat can later be passively dissipated by resting in the shade.

In cormorants, which dive underwater to catch food, the horaltic pose may also serve to dry the outer wing feathers. Scientists theorize that for cormorants, the wind is a more important factor than the sun, and these birds most often face into the breeze as they stand upright on a rock or pier with their wings outstretched.

I've read that birds are the most thoroughly studied group of organisms on earth. Although not fully understood, the horaltic pose is one more fascinating facet of bird behavior, an endlessly interesting topic.

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