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Managing Conflicts with Urban Raccoons

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INTRODUCTION

The North American raccoon *(Procyon lotor)* is widely distributed throughout the United States and Central America, with range peripheries reaching into Canada and the Caribbean1. Raccoons are in the Procyonidae family and are a member of the new world carnivores. Urban areas have some of the highest densities of raccoons due to abundant anthropogenic food subsidies, such as human waste and pet food. The prolific ability of raccoons to adapt to human presence enables them to live in urban and suburban areas with ease. Because of this, they may be viewed as nuisance animals by many.

BEHAVIOR AND DESCRIPTION

Raccoons are easily identifiable by a black "mask" across their eyes and a black and white ringed bushy tail (Image 1). Their fur is medium-length, course, and gray to black with lighter underparts and muzzle[2]. They are stocky, with short legs and small rounded ears. Their weight ranges from 1-30 lbs[1]. Raccoons have 5 toes on each foot, with their front feet being more slender and nimble like that of a human hand. As a result of this, they are very adept at climbing and manipulating objects with their front feet (Image 2). They typically exhibit nocturnal behavior but will look for food during the day as they are opportunistic foragers and hunters[2].

Image 1: ***Raccoon.*** Photo by Summer Fink.

Image 2: ***Raccoons can easily access trash and other resources due to their feet dexterity.*** Photo by Getty Images.

Diet. Raccoons are omnivorous, eating a wide variety of plant and animal matter. Since they are a generalist species, they have a wide array of known diet items, including eggs, crayfish, insects, berries, and nuts[1]. In urban settings their diet can also include anthropogenic food sources, like pet food and human discarded food waste. Raccoons are also known to exploit human grown food in gardens and farm plots, where they can decimate much of a small crop[3].

Life History. Raccoons typically mate in February and March. Their offspring are born about 9 weeks later, with litter sizes ranging between 1-7 kits. The female dens with the young in hollow trees or preexisting burrows. In urban areas, they can den in chimneys, under houses, or in attics. Young are weened after 10-12 weeks. After weening, the young will begin to hunt and forage on their own but may remain with their mother for up to a year[2]. After the kits disperse, they establish their own home ranges. Home range sizes can vary depending on the landscape and the sex of the individual. Generally, males have larger home ranges (3 to 20 miles^2) than females (1 to 6 miles^2)[1]. In a study conducted in Illinois it was found that raccoons living in rural areas had significantly larger home ranges than their urban and suburban counterparts. This is due to an increased abundance of food in the urbanized areas, making it easier to find all the resources they need in a smaller area[4,5].

CONFLICT

When humans and raccoons live in close proximity, they are at higher risk for conflict. Conflicts often include issues such as raccoon-pet interactions, disease concerns, and raccoons lingering around human settlements. Usually, most conflicts can be avoided by removing raccoon attractants around human use areas. Common attractions include things such as food (e.g., pet food, discarded food waste), water sources (e.g., bird baths, outdoor ponds), and denning locations (e.g., crawl spaces, the underneath of porches). It is important to limit the availability of these attractants to reduce the likelihood of raccoons becoming habituated to humans.

Sightings. Raccoon sightings are common and as more humans move into urban areas where raccoon densities are higher, sightings are likely to increase. Although raccoons are nocturnal, it is not abnormal to see them during the day. Seeing a raccoon during the day is not a cause for concern[6]. It should also be noted that you may see large congregations of racoons in public parks and other similar areas where human food is commonly available.

Pet/Livestock Conflicts. Raccoons are attracted to pet food (Image 3), which leads to them entering human spaces. Raccoons were the most frequently observed animal at feral cat feeding stations during a study on Jekyll Island Georgia (49% of 142 interspecies interactions observed[6]. Similarly, a study in Arizona found that raccoons visited sites with bird seed and cat food left outside 70% more often than when only bird seed was present[7]. Feeding dogs and cats outside should be avoided to discourage raccoons, and other wildlife, from coming into unwanted areas.

Image 3: ***Raccoons readily use pet food.***
Photo by James R Poston, Shutterstock.

Raccoons also eat eggs, which can lead to interest in backyard chicken coops. Since they are opportunistic hunters, this easy food source often leads to repeated visits. They will also occasionally kill and eat adult chickens. To prevent this behavior, ensure there are no gaps in fencing and secure chickens in an enclosure at night when raccoons are most active.

Disease. Increased interactions because of urbanization leads to an increased risk of disease transmission. Raccoons can also carry zoonotic diseases, meaning they can transmit them to humans and pets[8]. Some primary disease concerns are:

Rabies. Not all raccoons carry rabies, but they account for a high percentage of wildlife that test positive for rabies in the eastern United States. Wild animals account for over 90% of all positive rabies tests in the United States, with raccoons accounting for 30% of them[9]. In Georgia, raccoons accounted for 60% of all rabid animals tested in 2008 and 10% of raccoons tested in Georgia in 2022 were positive[10]. Clinical signs of rabies in raccoons can include confusion, lack of coordination, aimless wandering, seizures, and sometimes aggression that exhibits in the form of attacks or self-mutilation[11]. Rabies is spread via saliva from an infected animal through bites or scratches. Since rabies can be contracted by all mammal species, including humans and pets, it is important to keep domestic dogs and cats up to date on their rabies vaccinations. If you see an animal that is showing potential signs of rabies, you should report it to Georgia DNR immediately. If you or a pet are contacted (e.g., bitten, scratched) by a raccoon, contact your local animal control office, your healthcare provider, and your veterinarian for further guidance. For more information regarding rabies in Georgia, refer to the Georgia Department of Public Health's website or the Southeastern Cooperative Wildlife Disease Study website.

Sarcoptic Mange. Sarcoptic mange is caused by an infestation from *Sarcoptes scabiei*. These mites cause pruritic dermatitis, or itchy skin that persists. A study in Michigan found that approximately 75% of raccoons in the study area exhibited signs of mange and *S. scabiei* was confirmed in 3 animals examined by a diagnostic lab[12]. Since then, sporadic reports of sarcoptic mange have been reported in raccoons in the US. Mange is highly contagious to other animals and can transiently infect humans and cause a disease known as pseudoscabies. There are also human-specific strains of *S. scabiei* that causes a disease known as scabies. Wild animals should never be handled, especially when they appear sick. You should not attempt to treat wild animals for mange but licensed rehabilitators may be able to capture and treat animals.

Raccoon Roundworm. Raccoon roundworm *(Baylisascaris procyonis)* is an intestinal worm parasite that occurs in a high prevalence (68-82%) of raccoons in the western, midwestern, and northeastern United States. Although the parasite is only found sporadically in the Southeastern US, prevalence rates can be high in localized areas such as mountainous Appalachian regions and in some parts of Florida and Georgia[13-17].

When raccoons are affected, they remain largely asymptomatic unless the parasite load increases to an amount that damages their intestines; when this occurs, symptoms include lethargy and a reduction in grooming behaviors[18]. Raccoons with roundworm can pass millions of eggs in their fecal matter daily. When the eggs are shed into the environment, they can then be picked up by a huge diversity of mammalian and avian paratenic hosts, which allows the parasite to continue its life cycle when these hosts die or are exhibiting severe disease that allows raccoons to predate them (Figure 1)[19-21]. This is a concern for humans if the eggs come in contact with everyday items that are later ingested. For example, the primary danger for humans lies mainly with children and pets, because of their likelihood to put objects in their mouth. To avoid this, children and pets should be supervised whenever outside, and outside food attractants should be removed to reduce the potential for transmission. When removing raccoon feces from an area, ***be careful:*** wear personal protective equipment (disposable gloves) and wash hands thoroughly after exposure. Of note, if domestic dogs ingest raccoon feces or infected paratenic hosts, they can just pass eggs through their intestines or become infected with adult parasites in the intestines and pass eggs from those adult female worms. This is a concern because dogs, unlike raccoons, can be indiscriminate defecators in domestic environments[22-23].

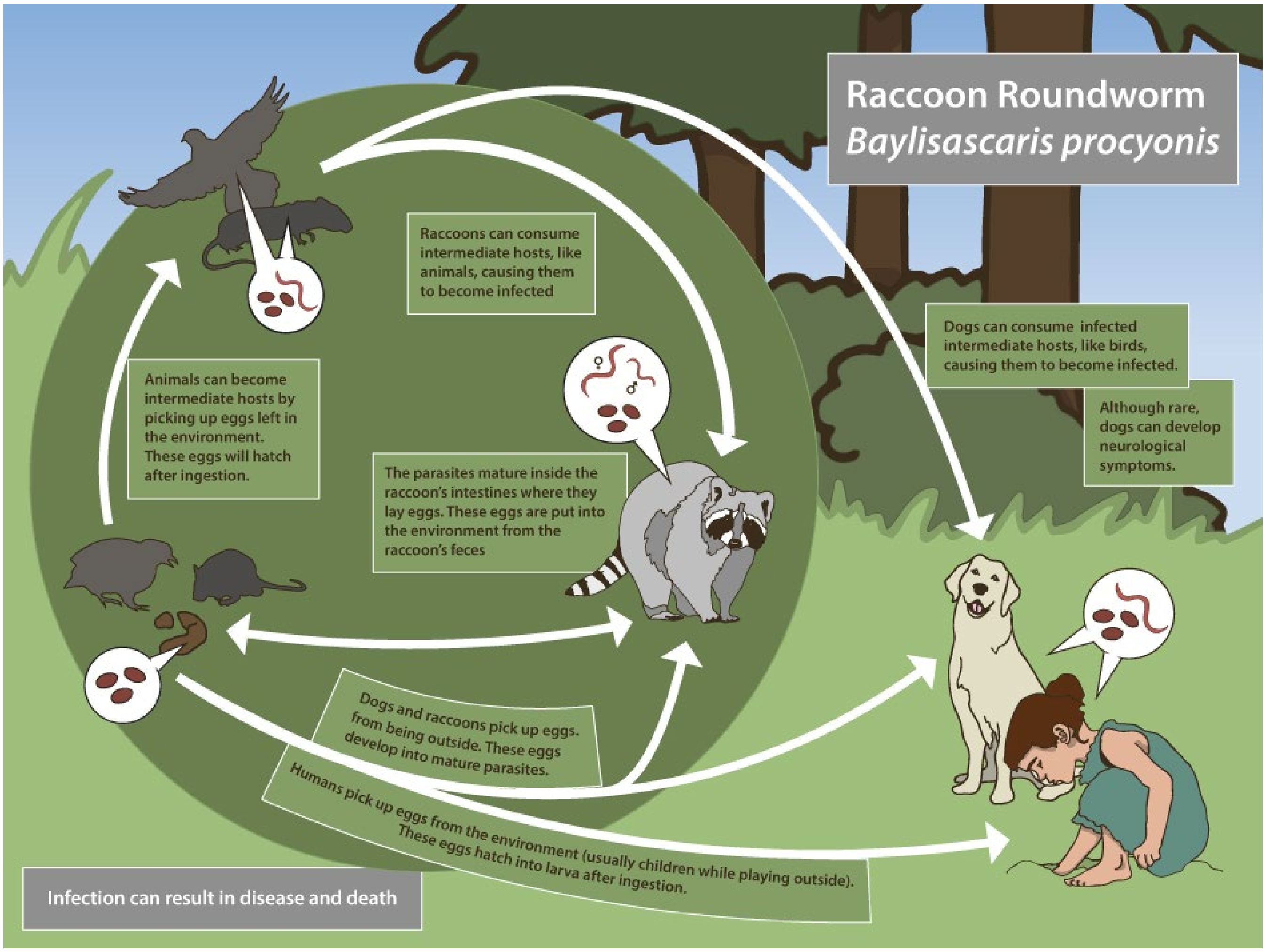

Figure 1: *Image depicting the transmission cycle of raccoon roundworm.*

Canine Distemper Virus (CDV). Canine Distemper Virus (CDV) infects a high diversity of wildlife and can be passed to domestic dogs. In infected animals, CDV can be fatal or result in permanent nervous system damage. CDV is spread through droplets of infected individuals, usually while sneezing or coughing. Clinical signs are similar to animals with rabies and may include lethargy, confusion, disorientation, tremors, and convulsions. Therefore, any animal exhibit neurologic disease should be considered rabies suspects and treated with appropriate caution. Both of these pathogens commonly circulate in single populations of raccoon and even in individual raccoons as has been noted on coastal Georgia[24]. In the southeastern US, including Georgia, raccoons are the most common species positive for CDV among all wildlife submitted for testing at the Southeastern Cooperative Wildlife Disease Study (SCWDS) at the University of Georgia[25-26]. Most cases in the eastern United States and Canada are detected during the breeding season[25-27]. The best thing you can do to protect your domestic dogs is keep them up to date with their recommended CDV vaccination and minimize contact with wildlife.

Canine Parvovirus (CPV). Carnivore protoparvovirus 1 (contains genotypes canine parvovirus and feline parvovirus is a highly infectious viral disease that is most commonly transmitted between many carnivores, including both domestic (e.g., domestic dogs, ferrets) and wild (e.g., raccoons, coyotes, foxes, wolves, bobcats) species[28]. Transmission occurs when a healthy individual encounters an infected animal, an infected animal's bodily fluids, or contaminated surfaces[29]. Signs of parvovirus in raccoons and other species include lethargy, vomiting, and severe diarrhea[30]. Parvovirus is a significant disease among young raccoons in rehabilitation where mixed populations can be mixed, but sporadic disease is also noted in wild raccoons[24]. Since this virus can be transmitted to domestic dogs, it is important they stay up to date on annual recommended CPV vaccines.

Image 4: ***Baffle on bird feeder to prevent raccoons from getting into seed.***

MANAGING CONFLICT

Understanding how to effectively manage wildlife conflicts is an important part of living safely with wildlife; not only does it keep humans safe, but it also keeps wildlife and domestic animals safe. Raccoons account for a large portion of wildlife conflicts reported in urban areas[3]. In 2023, raccoons were responsible for 10.4% of conflict phone calls to the Georgia DNR Urban Wildlife Program[31].

Nonlethal Management. Nonlethal management of raccoons focuses mainly on deterring them from entering areas where they are unwanted by humans. This can be done through a variety of ways, but the most effective is removing attractants. Pet food and water bowls should be brought inside at night, garbage should be secured in such a way that makes it difficult for raccoons to access, and bird feeders should include a physical deterrent such as a baffle to make it harder for them raid the bird feeder (Image 4)[3,32]. Raccoons also frequent feral cat feeding stations and control of these is harder because raccoons change their behaviors to come when food is placed out[6] (Image 5).

Image 5: ***Raccoons feeding at a feral cat feeding station.*** Image by Sonia Hernandez.

Scent deterrents, like capsaicin, can be used to keep raccoons out of an area[33]. To prevent raccoons from denning in chimneys or under houses, areas should be screened to eliminate entry points. Tree branches that hang close to the roofs of houses should be trimmed to limit access to attics and chimneys. In cases where a raccoon has already started living in an unfavorable area, they can be trapped and removed from the area. It is important to close the entrance point that was used after removal of the raccoon[3].

Direct (Lethal) Management. Lethal management of raccoons is another option for reducing unwanted interactions. If all attractants in an area have been removed and possible den locations have been closed off, yet the problem persists, lethal removal can be considered. Without efforts to remove attractants, other raccoons will move into the space after lethal removal. Lethal management practices should only be the first option in cases where an animal is demonstrating severe disease symptoms (e.g., rabies) or an attack on a human or pet has occurred. Two types of lethal management exist in Georgia, trapping and hunting. Raccoons were historically hunted and trapped for their pelts, but this practice has become less common as fur prices have declined. In Georgia, raccoons are considered a furbearer species. Thus, if you are removing the raccoon yourself, you must have a trapping and/or hunting license for the state of Georgia which can be obtained from the Georgia DNR. You must also harvest raccoons during the appropriate seasons and follow all other relevant laws; hunting and trapping regulations for the state of Georgia can be found here. If you want a raccoon removed from your property and do not have a hunting or trapping license, you can have a licensed trapper or wildlife control operator remove it for you. The Georgia DNR website has a list of licensed nuisance wildlife control operators (i.e., trappers) and their locations throughout the state to assist with this.

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