WE BUILT IT, AND THEY CAME

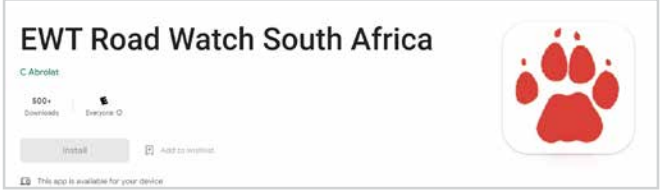
We tend to think of big cities as separate from nature, but these modern habitats attract a myriad of small carnivores that have learned to thrive on our concrete turf. These smaller carnivores play a crucial role in the ecosystem, deserving our respect and protection.

We currently live in the Anthropocene – a time when humans have changed natural habitats everywhere. We are building and modifying the whole planet, sometimes for worse, and sometimes for better. For example, when we disturb the veld with tractors and cattle, we create an excellent habitat for termites, which attracts all sorts of termite eaters. When we extend our cities and (mis)manage our waste removal systems, we often leave food for tiny critters: the scavengers and the curious ones who will try everything at least once. And because we tend to kill or chase away big threats like lions and leopards, we actually create a safe space for small carnivores – foxes and wildcats and mongoose.

Pest-controlling, nature-cleaning ninjas

This is one of the reasons why small carnivores often benefit from global change. They are very different from the many species that humans are currently driving to extinction. Not only are small carnivores very adaptable in terms of diet, but they flit around under our noses without us really noticing them. Unless they eat our baby chicks or steal the dog's food, we don't bother with keeping them out. This is not a bad thing. Small carnivores are excellent for the environment (and therefore, us). They are in the middle of almost every food web across the planet. They often eat the unwanted pests like termites and rodents – in Europe we even see small carnivores killing off invasive species like gray squirrels! Jackals and other small carnivores help keep our environments clean by scavenging off carcasses, and all the diverse diets means that they certainly help keep disease under control. Like vultures, their cleaning jobs make them central to our own health too.

Small carnivores are super flexible in terms of their behaviour – they can adapt their diets and change their social systems, all in response to human pressures. They are curious and can therefore figure out how traps work,



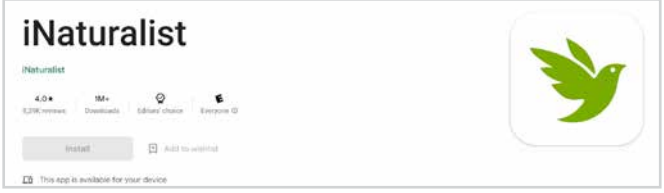


Photo: Supplied.

Yellow mongoose paternal care in action.

and how to get themselves in or out of tight spots. Small carnivores even show smarts when it comes to raising their youngsters: I've seen bat-eared fox dads give their pups a patty of cow dung just so they can dig around in there for some yummy grubs. And a young mama fox killed a scrub hare, which was as big as she was! Remember, these foxes eat termites, not big animals. This is odd and smart behaviour, to say the least.

Nature's environmental watchdogs

Because they are central to many food webs, grow up quickly, and show so much behavioural flexibility, small carnivores are excellent indicators of changes in the environment. We know something is up if suddenly they become bolder, or you see larger groups running around where there used to be only single individuals. If we monitor them better, we can quickly see what's happening in terms of environmental change.

Photo: Supplied.

Bat-eared fox

Unfortunately, because they are small and somewhat unnoticed, there is a lot we don't know about small carnivores. And, because they are not large, charismatic and endangered, there is typically not a lot of conservation and research funding going towards small carnivores.

Sure, there are exceptions. Species like meerkats have certainly made a big splash on the international stage, and they deserve it! But you are far more likely to read and see stories about lions in the news than servals.

When it comes to small carnivores, we know that we need to increase our research, precisely because they eat other animals and don't mind human disturbance so much. For example, carnivores can carry diseases, ticks and fleas that they get from their food. And when crowded habitats force them to live in denser social groups, these diseases may become an even larger threat. This happens on some farm habitats and near places with lots of "free food", like rubbish dumps. Even worse, we know that carnivores carry diseases that are a risk to human, with rabies virus and coronaviruses being quite common amongst them.

Should we be rushing out to cull them all?

No! A healthy, biodiverse ecosystem protects us against disease: the more wild hosts that are available, the lower the risk that a virus or other pathogen will jump to humans. Also, by removing the even bigger threat of rodents (and rotting carcasses) small carnivores can powerfully reduce the risk of disease to humans. But this is where our ignorance shows: we don't know under which conditions we might be reducing risk, and when we may be increasing it. Almost nobody is monitoring; nobody is checking.

App spies needed

There are some boots on the ground already. Ecologists and zoologists not only run around after small mammals, but they love poop. Just by sending animal droppings to the right lab, we can describe all the viruses and bacteria that the animal has in its guts. The next-generation sequencing technology is available in South Africa – there are labs in the Free State and Gauteng. We just need to connect the different specialists.

Is there anything you can do to contribute to the science on small carnivores? Funny you should ask... there's an app for that! Quite a few apps. Armed with a smartphone, you can submit any carnivore sightings to iNaturalist, or if you spot suspicious roadkill, you can alert the Endangered Wildlife Trust through their "Roadwatch" app. Perhaps, if we connect ecologists and virologists, and get more citizens actively involved, we can make small carnivores Big.

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