

# ENVIRONMENTALLY SPEAKING

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## The fascination called life and what is happening to it

We live in dramatic times. I am not talking here about hormone injections in baseball, the battle for delegates in the Democratic primary, nor the current/imminent economic recession. Rather, I am referring to the potential extinction of millions of species over the next generation or two. Many scientists think that we are currently undergoing one of the fastest mass extinctions ever observed on the planet Earth. Despite this knowledge, the enormity of this development seems to escape our society's attention. This is certainly one of the greatest untold stories of our time. But why? Why does humanity largely ignore this fact despite its being supported by the scientific community? Is it because it is so scary that we rather ignore it? Is it because we don't care? Is it because we don't believe it? Or, is it something else?

I don't know the answer to these questions and I have never seen this issue systematically studied. However, I think the reason might have to do with two fundamental ideas that we seem to have abandoned or forgotten as a culture. First, we don't live as if we understand or appreciate that, "all life depends on all other life." In human terms, this means that we depend on the other 30 million other life forms to live. This is often difficult to comprehend because we can't imagine how we might be dependent upon so many forms of life—such as the polar bears of the North, the viscacha of the Andes, the kangaroo or dingo of Australia or any of the 70,000+ different fungi that have been identified by taxonomists. However, the more research we do, we begin to understand that relationships exist in ways that we never had suspected. Removing wolves from Yellowstone National Park led to the demise of aspen trees. Prairie dogs, which were/are part of major extermination programs, provide key functions in the soil which allows the abundant growth of grasses and forbs necessary for many prairie species including the bison, the golden eagle, and the badger. Natural soils derive their high productivity levels from incredibly abundant and diverse microscopic life forms found within them. At some level, it is these tiny species found in the soils that keep us alive. According to one of the leading experts on biodiversity, E.O. Wilson, humans would not live more than few months without the insects and bacteria who work tirelessly decomposing dead matter and returning usable chemicals back into the soil.

Second, in our hyper-consumeristic society, most of us spend little or no time admiring the planet on which we live for all its brilliance, diversity, and complexity. In the past, when we were all more connected to the planet by necessity, we spent our days and nights, I suspect, trying to understand how to live with nature rather than how to conquer nature. Now, most of us don't need to connect with nature anymore. There is something lost when we create lives that don't intersect with other living things on a regular basis. One thing lost appears to be the other species on the planet. Will we recognize and do something about it in time?

The sad thing is when we go about our day to day business, species continue to endure hardship, many are becoming endangered, and others going extinct. Even more sadly, we don't seem to know what we are losing. In fact, scientists don't know a lot about the species that we are losing. However, they know that some species are no longer found, and that others are likely going extinct as well given the magnitude of deforestation, pollution, and international commerce (which brings species invaders to new lands) taking place right now.

Yet, as bleak as the prospects often look,



A giant squid in a Melbourne, Australia aquarium



A wrybill

An anglerfish

there is hope. Here is what a local young person thinks about the issue: "Are you aware that we are losing animals faster than the blink of an eye? If all these species become extinct, it will destroy our ecosystem and cause an imbalance in the food chain, leaving many species of animals either overpopulation or starving. For example, if a frog becomes extinct, it will leave large birds and snakes hungry while also making insects overpopulated. All of the species in the food chain are like dominos. If one falls, all the others will also fall. We need to try to conserve animals or there will be no penguins, poison dart frogs, cockatoos, blue whales, or Przewalski's horses. Many more will go extinct as well.

Ways to stop this from happening are conserving paper. Conserving paper can help by stopping trees from being cut down which prevents habitat destruction from happening. Ways you can conserve paper are drawing on both sides or reusing and reducing paper use. So the next time you are thinking of your favorite animal, think that maybe it could disappear from this earth. It could mean a lot of trouble if no one helps conserve it." (Elena Prado-Ragan, 5<sup>th</sup> grader at Silas Willard Elementary) I have hope largely because the younger generation is acutely aware of the problems and are preparing to solve them.

Rather than grovel in the losses, I'll spend the rest of this essay highlighting some of the amazing characteristics and adaptations that can be found in nature, when we take the time to look and try to understand them. The following "stories" reveal that the natural world around us is teeming with fascinating behaviors and seemingly unimaginable variety. Perhaps if we understand better what we are causing to be lost, we might pay more attention and do something about it.

Not a biologist by training, I don't pretend to be anything remotely resembling an expert in the biological sciences. The following examples of amazing species do not come from my mental roll-a-dex but rather from a collection of books I recently examined. (I also want to thank



Elena, quoted above, for loaning me some of her books and for helping me identify several of these stories.) As you review these examples, consider if they make you feel more connected with the planet and its living things.

- A spotted hyena has one major appetite. In a given meal, one can eat up to 35 pounds of meat, approximately 20% its weight. Also, interestingly, they breed underground in dens (Bur).

- A European eel has a truly amazing life. Starting from Europe, it swims thousands of miles westward across the Atlantic ocean where it breeds, dying shortly afterwards. Its babies swim back to Europe taking three years to do so (Bur).

- A wrybill is the only bird in the world that has a beak that turns to the side. Apparently, this is ideal for getting food beneath stones found in its native habitat (Bur).

- There are over 2000 species of mosquitoes. They can be found in virtually any part of the world, from the frozen Arctic to the tropical forests. Not all carry the same diseases though. Some are ideal for transferring the malaria parasite while others transmit encephalitis. This can be particularly important as new breeding grounds are made for invading mosquitoes, many of whom have made their way to the United States via the importation of used automobile tires from other countries—lingering water in these tires serves as great breeding ground. Only female mosquitoes actually bite though, so here is a case where males adopt the less violent approach to survival—living off the nectar of flowers rather than blood (Bur).

- Sea otters, the largest member of the weasel family, actually use tools to eat. In order to open clams and abalones, sea otters have been observed smashing rocks against hard shells to get at the nutritious meat inside (Bur).

- Giant squid aren't just legendary creatures of sea-fairer's imaginations. They actually exist deep in the ocean and can reach lengths of more than forty feet. It wasn't until 2004 that humans first captured

images of this species of squid in its natural habitat.

- A mako is a shark found in virtually all tropical and subtropical oceans. Its claim to fame is its remarkable speed. Some have been clocked at moving more than 50 miles per hour through the water (Bur). Compare this to the fastest human swimmer who reaches only ~5 miles per hour during an Olympic freestyle event.

- An anglerfish has an amazing way to obtain food. It literally shakes a lure coming out of the center of its head to entice interested prey for its diet. In some deep sea species, this lure (called an esca) is actually bioluminescent—meaning that it "lights up" to make sure other fish can see it in the dark confines of the abyss (Pax).

- Garter snakes, which can be found all over Galesburg, don't lay eggs but can hold up to 80 babies in their body until their birth (Wal).

- Arctic terns are birds that fly from North Pole to the South Pole every year and as a result live in almost continuous daylight (Wal).

- Horned lizards squirt blood out of their eyes to dissuade attackers (Bur).

- Gorillas are quite similar to us, not only genetically but otherwise. Mother gorillas carry their young for 257 days, only 9 days shorter than mother humans, and they breast feed their young for about a year-and-a-half (Wal). Sadly, the mountain gorilla is one of the most threatened species right now. The abuse that these beautiful creatures are dealing with at the hands of our species is outright despicable. Read more about this at: [www.gorillafund.org](http://www.gorillafund.org). Arctic/Alpine hares conceal themselves by changing their coat coloring to adapt to the seasonal weather—white (in the snowy winter) and grey (in summer) (Gou).

Marvels aren't they? Well, if you think you have had enough, just consider the following list of animal species: (How many have you even heard of? How many would you like to know more about? How many are threatened or endangered?)

- Birds: aasvogel, amadavat, redstart, tody, ovenbird, bulbul, hoatzin, pitta, honeyeater, yellowhammer, drongo, takahe, rhea, tinamou, cassowary, tubenose, anHINGA, merganser, pochard, ptarmigan

- Primates: siamang, loris, galago, capuchin, saki, titi, uakari, tarsier, potto, macaque, talapoin, ouistiti, mangabey, hanuman, indri, colobus, langur, guenon, wanderoo, sifaka.

- Fish: rudd, cero, capelin, cusk, sanddab, dace, loach, goby, luce, wrasse, goosfish, mola, opah, scup, tyee, stickleback, cabezon, danio, coelacanth, pirarucu.

- Other: okapi, echidna, tenrec, quokka, takin, nyala, tahr, ratel, karakul, dugong, serval, linsang, reitbok, bharaL, markhor, mouflon, argali, carabao, tamarau, polecat

Note: I have deliberately left out the insects which are considered the most diverse group of animals, likely numbering in the millions of different species, and I've only included 20 names in each group. It was through studying obscure Scrabble® words that I first came across most of these myself.

So there you have it. Nature is amazing and needs to be respected not only for its own good but for our well-being.

### Works Cited

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