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# Save The Wasps

*Conservation Struggles in Protecting an Animal with a Bad Reputation*

Written by Megan Tiffany

Illustrated by Adam Wise

**W**hat is your least favorite animal? For many, the answer is wasps, without question. Liking wasps can be challenging, even among those who usually love insects. Many have called these animals cruel if not outright evil.

Yet wasps are not some invasive species or agricultural pest, but massive and diverse taxa found worldwide with critical roles in nearly every ecosystem on land. This poses a question: why do such vital insects elicit such an intense response?

The obvious answer is the fact that wasps sting. While that is undoubtedly true, we hardly revile tigers for their occasional mauling, and the much-lauded honey bee ranks among the deadliest stinging insects in the world. The annual mortality rate from dog attacks in the United States is nearly equal to the mortality rate of all bee and wasp species combined. While this fear may be

understandable — I myself am scared of dogs — the burn-it-with-fire vitriol is not. When you consider them in context with other animals, especially bees, danger alone cannot account for this disdain, nor can some abstract concept of wasps being “evil.” And the antipathy towards wasps is not benign. Like countless other insects, wasp populations are in steep decline, yet wasp-focused conservation efforts are frighteningly rare despite their importance. The cultural hatred for wasps is irrational, and more importantly, it is dangerous.

But before one can understand the conservation issues that wasps face, one must understand what they are. Hymenoptera, the order containing bees, wasps, ants, and sawflies, is now believed to be among the largest orders of animals on Earth, alongside Coleoptera (beetles) and Diptera (flies). While the true number

of Hymenoptera species remains unknown, over 150,000 species have been described, and some estimates claim that the accurate number could even exceed one million. Of these, most are parasitoid wasps. While people often consider bees a sister group to wasps, if not the adorable heroes to their villainous cousins, they are a small subgroup nestled deep in the wasp family tree. Bees are more closely related to yellowjackets than yellowjackets are to ichneumon wasps. Despite the taxonomical inaccuracy, it can be helpful to use a definition that excludes bees and ants to help avoid confusion and highlight how non-Apis wasps are treated.

Despite that limited definition, wasps are still a large and diverse group. Some species may be parasites, scavengers, decomposers, or pollinators, but most are formidable predators. At the height of seasonal activity, a single colony of social wasps may hunt up to 4,000 prey insects daily. On the other hand, parasitoid wasps hunt with assassin-like precision, sometimes only targeting a single prey species, making them invaluable to efforts to control invasive species. For just one example of many, a species of minuscule wasps called *Anastatus orientalis* is being considered as a way to control the devastatingly invasive spotted lanternfly without harming local bug species. Wasps are such effective

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hunters that certain wasps even have mutualistic relationships with some plants, where a plant under attack from herbivorous insects may release a chemical signal that draws in wasps to hunt them.

And the importance of these pests is something we cannot overlook. It is easy to think that larger animals must be more important to their ecosystem than a bunch of bugs, but compared to things like deer, herbivorous insects reproduce more rapidly and can cause more damage to plants. Not to mention the role wasps play in controlling the pests that spread diseases to humans! While many may hate the idea of wasps showing up to a picnic, they are far less dangerous than the mosquitoes they hunt. In Ohio, mosquitoes have been found to regularly carry pathogens like West Nile virus and Eastern equine encephalitis virus, and transmission of these diseases rises dramatically as mosquitoes become more common. The benefits wasps bring by controlling the population of other insects are immeasurable.

But we should not take them for granted, as wasp populations are steeply declining. Climate change, habitat loss, and pesticides are as devastating to wasps as they are to any bee or butterfly. And just like any other insect, the impact varies depending on species and situation. Some species, like *Vespula vulgaris*, or the Common wasp, are able to weather the storm and even become invasive, while others suffer from increasingly harsh competition with said invasive species. Parasitoid wasps in particular suffer due to their specific diet, as they cannot adapt if their host population declines. One species, *Ooencyrtus pitosina*,

is only known to hunt the endangered Samoan swallowtail, which solely lays its eggs on the threatened talafalu trees. These are hardly the only endangered wasps; countless species are believed to be threatened by environmental changes. Yet when it comes to wasps, specifics are hard to find. A simple search of “wasp conservation” on the internet was met with articles asking if wasps were an “endangered species,” and others insist they are all fine while ignoring the clear evidence to the contrary. These examples show a startling lack of understanding of the natural world, where the critical role of wasps is underplayed and forgotten.

This extends beyond reporting bias online, though that certainly contributes to the issue. The International Union for Conservation of Nature has evaluated only six ichneumon wasps, and five of them are listed as “data deficient,” despite this taxa containing an estimated 25,000 species. Even research shows anti-wasp bias, with bee-focused scientific papers being nearly twice as common as papers focused on non-parasitoid wasps, despite their vastly greater diversity of species. The importance of knowledge to conservation cannot be understated. There is little researchers can do to preserve a species with an unknown diet, habitat, and life cycle; unfortunately, thousands of wasps fit that description. There is a blind spot in arthropod research, and it covers one of the largest taxa of animals on the planet.

This is the conservation challenge wasps are facing: apathy and antipathy. It is easy to see how a lack of knowledge can cause disinterest among the general public. Still, the lack of papers published shows little interest even among entomologists — experts who can see past the myths and misconceptions about wasps. As long as people ignore the importance of wasps, there will be little money for wasp research. This creates an environment where research is neglected, and without new research, the negative public perception will remain unchallenged, and conservation efforts will be an uphill battle. After all, how can we protect endangered species if we do not even know what kinds are endangered to begin with? Wasps are worth preserving, not only because they are a critical part of so many ecosystems but also because they are living creatures just like any other animal. Asking about the purpose of a wasp is like asking about the purpose of a tiger; for one, they are both keystone predators, but on a deeper level, it misses the point. They are fascinating and beautiful animals that are inherently worth protecting.

So what can be done to help? In general, wasps tend to benefit from the same measures as other insects, so anything that can help design a butterfly or bee garden should be just as useful to wasps. Growing a variety of native plants is especially helpful, and because bees and wasps are so closely related, plants that attract bees tend to attract wasps. On top of this, there are some other lesser-known changes that can positively impact your local insect population. Like bumblebees, young queens of social wasps often hibernate under dead leaves, so letting fallen leaves stay on the lawn can be beneficial. Avoiding pesticides is invaluable to keeping both wasps and bees alive as well. However, for wasps, recognizing their role and advocating for their protection is critical. Something can be frightening and still worth protecting. ●●●

