



# Insects: Nature's Tiny Heroes

## FOOD

Insects are a critical part of the food web, feeding fish, birds, reptiles, amphibians, and mammals.



Those pesky mosquitoes and gnats provide food for fish, bats, and birds.



**96%**  
of birds eat insects

**25%**  
of humans eat insects

Most songbirds feed their babies a steady diet of insects, especially caterpillars. One notable study by researcher Doug Tallamy found that one chickadee family fed their babies **350 to 570 caterpillars every day**.



## BALANCE

Called "6-legged lifesavers" by some, insects not only provide food—they also keep harmful organisms in check.

Spiders\* eat

**400-800**  
**BILLION TONS** of insects a year!



\*a spider is not an insect but an arachnid

A ladybug is a voracious meat eater

eating up to  
**A THOUSAND**  
aphids during its  
larval development



& **SEVERAL HUNDRED**  
more as an adult  
producing its eggs.

A wasp colony can eat

**2 POUNDS**  
of other insects in a  
2,000 sq.ft. garden.



## POLLINATION



Insects' role in the pollination of plants is nearly incalculable. The insects get fed by the pollen and nectar they gather, while the fertilized flowers are able to form fruit and set seeds.



Specific interactions called mutualisms have evolved over time and certain insects are the only pollinator for some plants, like figs and the fig wasp.

Insects pollinate

**85%**  
of wild  
plants

**75%**  
of agricultural  
crops.



## PLANTING

Many insects collect the fruit and seed from plants as food, dispersing them across long distances away from the parent plant.

Ant dispersal of seeds is beneficial to the plant because seeds are moved to new areas with reduced competition, and may be stored underground and guarded from other seed predators.



Ants disperse the seeds

of about **11,000**  
different plants.



## CLEANUP



Not only do insects and other invertebrates feed us, but they break down and clean up our waste, too. Without them, we'd be knee-deep in—well, you know!



Acting as nature's tiny janitors, insects, fungi, and bacteria break down and recycle dead matter to form new life. They clean up dung, dead plants, and animal bodies and return them to the soil as nutrient-rich organic matter.



Blowflies and flesh flies eat dead animal and plant waste and recycle it into the ecosystem as they produce waste or are themselves eaten.

**CALIFORNIA NATIVE  
PLANT SOCIETY**  
Sacramento Valley Chapter

Source: Sweetser, R. (2024, October 16). Why do we need bugs? Almanac.com. <https://www.almanac.com/why-do-we-need-bugs>  
Lowe, J. (2020, June 9). Insect freefall: What does it mean for birds? American Bird Conservancy. <https://abcbirds.org/blog/insect-freefall/>