

Ants a major problem for birds

KIA'I MOKU

By Lissa Strohecker



The Hawaiian archipelago is crawling with ants and not a single one belongs here. Humans introduced more than 45 ant species to the islands. While they're a nuisance to people, to Hawaiian seabirds they are a major problem.

Sheldon Plentovich is the Coastal Program coordinator with the Pacific Islands Fish and Wildlife Office. She has studied some of these impacts.

"Seabirds haven't evolved with these ants," she says and goes on to explain that they have no defenses. And even though ants are present, the seabirds return to the same areas to nest as they have for generations.

In March, throughout Hawaii, wedge-tailed shearwaters dig burrows for nesting along the coastline. Unfortunately tropical fire ants, *Solenopsis geminata*, often inhabit these areas. Plentovich isn't sure whether the ants are trying to eat the birds or if the ants are just defending their nests. Adult birds can fly away to escape the ants but the chicks can't.

"They're programmed to stay in the nest," explains Plentovich.

In their fury, the six-legged invaders devour the tender webbing on the chicks' feet. These ant attacks affect the development of the chicks as well. Oftentimes chicks that have been attacked fail to grow feathers.

Plentovich knocked back the population of tropical fire ants on one islet off the coast of Oahu and, as expected, found that the seabirds had greater fledgling success compared to those on an islet still infested by tropical fire ant.

Tropical fire ants belong

to a group designated as "tramps." Tramp ants are omnivorous, and because they do not compete between colonies, form dense supercolonies made up of multiple queens.

These dense supercolonies can outcompete everything else for food and resources. And since it takes a queen to start a new colony, the greater density of queens makes it easier for these ants to be spread around by people.

Not surprisingly tramp ants include some of the Pacific's most devastating invasive species, such as the little fire ant. They've hitched rides to the furthest reaches of the Hawaiian archipelago.

Johnston atoll is one of the most isolated atolls in the world, 860 miles west of Hawaii. The atoll is strictly a wildlife refuge where red-tailed tropicbirds nest alongside shearwaters, petrels, terns, noddies, and boobies.

Unfortunately the atoll has become a haven for the yellow crazy ant, or *Anoplolepis gracilipes*. This tramp ant doesn't bite or sting the birds, rather it sprays them with formic acid and birds don't respond well to formic acid. Animals that can seek out fish from the sky are left with swollen puffy eyes. Plentovich has seen red-tailed tropic birds that have "toughed it out" staying to nest despite being swarmed by ants, spraying formic acid.

Ants' impacts can vary from place to place. The big-headed ant, *Pheidole megacephala*, is one of the most common ants in Hawaii. On Mokuauia off Oahu, eradicating the big-headed ant had no effect on the hatching and fledging success of shearwater chicks. But on Kure atoll the big-headed ant has been seen swarming birds and eating chicks alive.



Above: A petrel is covered by big-headed ants on Kure Atoll. While ants can be a nuisance for people, the insects can maim or kill nesting seabirds. SHELDON PLENTOVICH photo

Plentovich said she thinks ant density is the reason. On Kure, the population of big-headed ants was five times more dense than it ever was on Mokuauia. "They're eating everything they encounter," says Plentovich.

Chances are people inadvertently brought ants to isolated Johnston and Kure atolls. All it takes is a single queen ant in a piece of cargo to start an infestation. And eradicating an established infestation is extremely difficult work.

Plentovich is hopeful that new techniques will lead to the eradication of yellow crazy ant on Johnston atoll where other techniques have been unsuccessful. She's seen how controlling an invasive ant can influence the whole ecosystem. When she reduced the population

of invasive ants on offshore islets, she saw an increase in the diversity of insects and "native plants survived better-the ilima started taking off."

■ *Lissa Fox Strohecker is the public relations and education specialist for the Maui Invasive Species Committee. "Kia'i Moku," (Guarding the Island) is prepared by the Maui Invasive Species Committee to provide information on protecting the island from invasive plants and animals that can threaten the island's environment, economy and quality of life. For more information visit www.mauiisc.org*