



# California Wildlife Center

## Patient of the Week

### November 18, 2022



Desert Cottontail in enclosure

### The Largest Larvae at CWC

Here at CWC we diagnose and treat a variety of parasites affecting our patients. Parasites are broken down into three main classes: protozoa (single-celled organisms), helminths (parasitic worms), and ectoparasites (parasites that live on the outside of the host). The most common ectoparasites we see are lice on birds, and fleas on our mammal patients. About twice a year we admit Desert Cottontails who are hosts to the largest species of parasite we see here at CWC: the botfly larva.

Botflies are large, beelike flies with rounded heads. The adults are rarely seen, but their larvae will commonly appear under the skin of deer, rodents, rabbits, horses, and livestock. There are about 35 species of botflies in North America, 25 of which parasitize rodents and rabbits. Adult male flies will perch on the tops of vegetation stems and the females will approach and mate with the males while flying. For the species of botflies that infect rabbits, the females will then deposit fertilized eggs at the opening to host burrows. Eggs will become attached to the fur and hatch in response to the heat and moisture from the animal's body. Freshly hatched larvae will enter the body through the mouth, nose, or abrasion in the skin, and remain there for a few days before migrating under the skin to a preferred location (usually around the neck or legs).



Botfly larva removed from patient

In rabbits, botfly larvae develop for up to 60 days within a pocket under the skin, where they will grow while feeding on the tissue and blood of the host. A large lump will form, with a characteristic hole in the center that allows the larva to breathe. Once the larva is fully grown (reaching up to 1.5 inches long), the organism will stop eating and push themselves out of the skin. They will fall onto the ground and burrow under the soil to pupate. After one month in the ground an adult botfly will emerge and live for two weeks. Adult botflies

do not have working mouth parts and do not eat during this stage of life. They have poor vision, but very sensitive antennae that help them complete their only goal of procreation.

The most recent patient we received affected by a botfly larva was an adult female Dessert Cottontail admitted to CWC during the first half of November. The patient was thin, dehydrated, hypothermic, lethargic, and had an obvious lump by her left shoulder with a fully grown botfly larva starting to emerge. Hospital staff stabilized the cottontail and carefully removed the parasite. It is critical that botfly larvae are not ruptured during removal, since rupturing the larva can cause a severe allergic reaction and potential death in some



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animals. Botfly larvae do not directly kill their host, but they do leave large open wounds that can easily become infected. Once the larva was gone, hospital staff thoroughly cleaned the wound, and the cottontail was prescribed pain medication, anti-inflammatories, and antibiotics. The patient is currently in our ICU, where she is receiving frequent wound care. The cottontail is eating well, gaining weight, and responding well to the medications. We are hopeful that this cottontail will eventually make a full recovery.

If you find a small mammal with a peculiar large lump on the skin with a hole in the center, there is a good chance that the animal is hosting a botfly larva. Contain the animal in a box with airholes, in a warm, quiet, dark location, and contact your local wildlife rehabilitation center for advice.