Ecology & Evolution | Oct 29, 2026 | 5 min read | By Bryan White

New World Screwworm Detected in Arizona Dog: How a Flesh-Eating Parasite Works and How Sterile Flies Stop It

Biology * Parasitology * Entomology

On October 28, 2026, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) and the Arizona Department of Agriculture (AZDA) confirmed the first case of New World screwworm (Cochliomyia hominivorax) in Arizona [1, 2] . The flesh-eating parasite was discovered in a domestic dog in Cochise County along the U.S.-Mexico border after a local veterinarian examined an enlarging dorsal wound on October 26 and identified dozens of burrowing fly larvae [1, 2] . Diagnostic testing at the USDA National Veterinary Services Laboratories (NVSL) in Ames, Iowa, verified the species, marking Arizona as the third U.S. border state -- following recent detections in Texas and New Mexico -- to confront the re-emergence of a devastating livestock and wildlife pest that had been eradicated from the United States since the 1960s [1, 3] .

Technical Bulletin: Key Outbreak & Biological Telemetry

| Parameter | | Verified Field & Biological Specification |

| Causative Agent | | Cochliomyia hominivorax (New World screwworm; Family Calliphoridae) [1, 4] |

| Index Detection | | Domestic dog (Canis lupus familiaris), Cochise County, Arizona (examined Oct 26; confirmed Oct 28, 2026) [1, 2] |

| Confirmatory Lab | | USDA APHIS National Veterinary Services Laboratories (NVSL), Ames, Iowa [1] |

| Quarantine Perimeter | | 20-kilometer (~12.4-mile) infested containment zone with mandatory animal movement and inspection controls [1, 2] |

| Reproductive Output | | 200-400 eggs per clutch laid on wound margins; larvae hatch in 12-24 hours and feed on living tissue for 5-7 days [4, 5] |

| Primary Eradication Vector | | Sterile Insect Technique (SIT): ~1 million gamma/X-ray sterilized male flies aerially dispersed over Cochise County + $25M Douglas dispersal facility [2, 6] |

1. Why Screwworms Are Different from Ordinary Blowflies

To understand why veterinarians and ranchers treat a single dog infection as an agricultural emergency, it helps to compare the New World screwworm to familiar backyard blowflies. Most blowflies and houseflies are saprophagous -- their maggots feed exclusively on dead, decaying organic matter and actually help clean out necrotic tissue. By contrast, Cochliomyia hominivorax is an obligate parasite of warm-blooded vertebrates, meaning its larvae can only complete their life cycle by feeding on living flesh [4, 5] . Even its scientific species name, hominivorax , translates literally from Latin as "man-eater."

A female screwworm fly is drawn over several kilometers by the volatile chemical scent of fresh blood, serum, or mucous discharge. She does not need a large gash to start an infestation: a tick bite, a scratch from barbed wire, a dehorning site, or the navel of a newborn calf is sufficient [1, 4] . Once she lands on the edge of a wound, she cements a shingled mass of 200 to 400 overlapping white eggs along the dry skin border [4] . Within 12 to 24 hours, those eggs hatch into first-instar larvae that immediately crawl into the open tissue.

The larva's anatomy explains its common name. Each maggot is encircled by bands of microscopic, backward-pointing spines that resemble the threads of a wood screw [4, 5] . Using pair-wise mouthhooks and proteolytic enzymes that liquefy living muscle and connective tissue, the larvae bore head-first into the host while keeping their posterior breathing tubes (spiracles) pointed toward the surface for oxygen [5] . As the wound deepens and emits a distinctive pungent odor, chemical cues attract additional gravid females to lay hundreds more eggs in the same lesion. Left untreated, a heavily infested animal -- whether a family pet, a prize bull, or a wild white-tailed deer -- can succumb to massive tissue destruction, secondary bacterial sepsis, and shock within 7 to 14 days [4, 5] .

2. The Cochise County Detection and the Border Corridor

The Arizona index patient was brought to a veterinarian in Cochise County on the evening of October 26, 2026, after its owners noticed a rapidly worsening back wound [2] . Recognizing the characteristic deep-burrowing behavior and tracheal pigmentation of the larvae, the veterinarian extracted specimens, placed the dog on systemic antiparasitic therapy and wound debridement, and alerted state and federal animal health officers [1, 2] . While the dog is recovering under quarantine, the geographic location of the case immediately triggered federal emergency protocols.

Cochise County sits in the southeastern corner of Arizona directly across the border from Sonora, Mexico, and encompasses the major livestock port of entry at Douglas, Arizona [2, 3] . For more than six decades, the United States and Mexico maintained a biological barrier -- ultimately pushed all the way south to the Dari n Gap between Panama and Colombia -- that kept North America free of endemic screwworms [5, 6] . Beginning in 2023 and accelerating through 2025 and 2026, however, screwworm detections breached Central American containment zones and moved steadily northward through Mexican cattle corridors into Texas, New Mexico, and now Arizona [1, 3] .

Because Douglas recently served as the lead port for the phased resumption of Mexican feeder cattle imports under strict inspection protocols, epidemiologists from USDA APHIS and AZDA are investigating whether the Cochise County fly arrived via cross-border wildlife movement, windborne dispersal, or livestock transport corridors [2, 3] . In response, officials activated a 20-kilometer (12.4-mile) infested quarantine zone around the detection site, mandating physical wound inspections and movement permits for all livestock, equines, and companion animals entering or leaving the perimeter [1] .

3. Fighting Biology with Biology: The Sterile Insect Technique (SIT)

Unlike chemical pesticides -- which can harm native pollinators and fail to reach

maggots buried deep inside animal hosts -- the gold -standard weapon against New World screwworm turns the fly's own reproductive biology against itself [6, 7] . Known as the Sterile Insect Technique (SIT) , this method was pioneered in the 1950s by USDA entomologists Edward F. Knipling and Raymond C. Bushland and remains one of the greatest triumphs of applied biological control [6, 7] .

The entire strategy hinges on a single behavioral quirk: while male screwworm flies mate multiple times, a female screwworm fly mates only once in her entire adult life (monandry) [4, 6] . In specialized biosecure production plants, millions of screwworm pupae are raised on nutrient media and exposed to a precisely calibrated dose of ionizing radiation (gamma rays or high-energy X-rays) just before adult emergence [6, 7] . The radiation induces dominant lethal chromosomal breaks in the flies' germ cells, rendering the males completely sterile without impairing their flight muscles or courtship behavior.

Airplanes then disperse millions of these sterile males across the target zone -- outnumbering wild fertile males by a ratio of 10:1 or higher [6] . When a wild female mates with a sterilized male, her single lifetime mating slot is used up: she lays clutches of unfertilized eggs that never hatch, and the local population collapses within a few generations [6, 7] . Following the Cochise County confirmation, USDA APHIS initiated aerial drops of approximately one million sterile flies over southeastern Arizona and accelerated a $25 million federal investment to establish a permanent Sterile Fly Dispersal Facility in Douglas, Arizona -- reviving a historic border defense site that previously operated in Douglas from 1963 to 1983 [2, 3] .

4. What Pet Owners and Ranchers Should Watch For

Because adult screwworm flies can travel several miles in search of warm-blooded hosts, state veterinarians emphasize that early detection by pet owners, ranchers, and hunters is the fastest way to halt local transmission [1, 2] . Unlike routine tick or flea checks, screwworm vigilance focuses on any break in the skin:

* Inspect all wounds daily: Check dogs, cats, horses, and livestock for any cuts, punctures, tick bites, surgical incisions, or navels that appear to be enlarging, draining bloody fluid, or failing to heal [1, 4] .

* Look for egg rafts and deep larvae: Watch for clusters of creamy-white eggs glued to the dry edges of a wound, or maggots burrowed vertically into living tissue rather than crawling loosely on the surface [4, 5] .

* Monitor behavioral changes: Infested animals often become lethargic, isolate themselves from the herd or household, stop eating, or obsessively lick and bite at a painful lesion [1, 2] .

* Report before discarding: If maggots are found in a wound, do not simply wash them onto the ground -- where mature third-instar larvae can burrow into the soil, pupate, and emerge as adult flies days later [4] . Contact a licensed veterinarian, the Arizona State Veterinarian's Office, or USDA APHIS (via screwworm.gov) so samples can be preserved in alcohol for laboratory confirmation and targeted sterile-fly drops [1] .

References & Primary Sources

* [1] U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA APHIS) (Oct 28, 2026). USDA Confirms New World Screwworm in a Dog in Cochise County, Arizona; Initiates Sterile Fly Dispersal and 20-km Containment Protocols. -- https://www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/screwworm

* [2] Arizona Department of Agriculture (AZDA) & Office of the State Veterinarian (Oct 28, 2026). First Case of New World Screwworm Confirmed in Cochise County Canine; State and Federal Quarantine and Surveillance Measures Activated. -- https://agriculture.az.gov/

* [3] Centers for Disease Control and Prevention (CDC) (2026). Clinical Overview and Lifecycle of New World Screwworm Myiasis (Cochliomyia hominivorax). -- https://www.cdc.gov/parasites/myiasis/index.html

* [4] World Organisation for Animal Health (WOAH) (2025). New World Screwworm (Cochliomyia hominivorax) and Old World Screwworm (Chrysomya bezziana) -- Terrestrial Manual Diagnostic & Surveillance Standard. -- https://www.woah.org/en/disease/new-world-screwworm/

* [5] Scott, M. J., Concha, C., Welch, J. B., Phillips, P. L., & Skoda, S. R. (2017). Review of research advances in the screwworm eradication program over the past 25 years. Entomologia Experimentalis et Applicata, 164(3), 226-236. -- https://doi.org/10.1111/eea.12607

* [6] Knipling, E. F. (1955). Possibilities of Insect Control or Eradication Through the Use of Sexually Sterile Males. Journal of Economic Entomology, 48(4), 459-462. -- https://doi.org/10.1093/jee/48.4.459

* [7] Lindquist, A. W., Bushland, R. C., & Knipling, E. F. (1955). Eradication of screw-worms through release of sterilized males. Science, 122(3165), 287-288. -- https://doi.org/10.1126/science.122.3165.287