

GECKODAILY CLASSROOM RESOURCES · RESEARCH SPOTLIGHT

Research Spotlight: A Species Rediscovered

How does a species go missing for 128 years and then turn up again after a storm?

The crested gecko was first formally described by French naturalist Alphonse Guichenot in 1866, based on specimens collected in New Caledonia. Then, for reasons that are still not fully clear, the species stopped appearing in scientific records. Decades passed. By the mid-20th century, herpetologists widely treated it as extinct - a casualty, most assumed, of habitat clearance and introduced predators like rats and fire ants on the islands.

In 1994, following a tropical storm, a team led by herpetologist Robert Seipp found living crested geckos on the Isle of Pines, off the southern coast of New Caledonia's main island. The rediscovery made headlines in the herpetological community and quickly led to captive breeding programs, both for conservation and eventually for the pet trade.

Species that vanish from scientific record and later turn up alive are informally called 'Lazarus species,' after the biblical figure raised from the dead. The crested gecko is one of the better-known modern examples, alongside cases like the coelacanth (a fish thought extinct for 65 million years until one was caught in 1938) and Wollemi pine (a tree known only from fossils until a living stand was found in Australia in 1994 - the same year as the gecko).

The rediscovery came with a genetic catch. Because the entire modern captive population - now numbering in the hundreds of thousands worldwide - traces back to a comparatively small number of founding individuals, captive crested geckos have noticeably reduced genetic diversity compared with species that were never presumed extinct. This is sometimes called a genetic bottleneck, and it's a pattern conservation biologists watch closely in any species reduced to a small founding population, whether by presumed extinction or a more ordinary population crash.

Why it matters in class

The crested gecko connects a familiar animal to real concepts in conservation biology - Lazarus species, genetic bottlenecks, and the limits of declaring a species extinct from absence of sightings alone.

Discuss

What kind of evidence would convince you a species is truly extinct, rather than just hard to find? How might that threshold differ for a small, camouflaged, nocturnal forest animal versus a large, visible one?

Sources: IUCN Red List; Wikipedia (Crested gecko); Bauer & Sadlier, The Herpetofauna of New Caledonia (2000).