

LA Zoo attempts to close Komodo dragon gender gap

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Komodo dragon. Image: Wikimedia Commons

The Los Angeles Zoo is trying to raise the population of female Komodo dragons, a giant and endangered lizard, by using a DNA test originally devised to identify the gender of bird eggs.

Swelling the female ranks would help close a gender gap in captive dragons in North America, which is home to 71 males, 46 [females](#) and six of the giant lizards whose sex remains unknown. It would also move the species closer to a self-sustaining and genetically diverse population, which scientists believe they would reach with 75 males and 75 females.

"Until now, we couldn't control the gender of the dragons we hatched out - creating a lopsided male-heavy population," said Ian Recchio, curator of reptiles and amphibians at the L.A. Zoo. "In captivity, it's not uncommon for males to kill females, and females are prone to often fatal complications in pregnancy."

Another reason for wanting to manage the number and sex of Komodo dragons hatched each year: They are expensive to keep and grow big enough to eat a human being.

"Komodos are like keeping tigers," he said, admiring one of the two adults on exhibit at the zoo, a 10-foot male with a powerful tail, slashing stiletto claws and toxic saliva.

The procedure, first attempted at the L.A. Zoo, involves insertion of a fine needle into the leathery shell of a baseball-sized dragon egg halfway through its 260-day incubation period, and extracting a small sample of blood without killing the embryo. The sample is submitted to a laboratory for DNA testing to determine the sex.

Curators then put a dab of glue over the puncture and place the egg back in its nest in precisely the position it was laid. "Unlike bird eggs, reptile eggs cannot rotate at all during incubation," Recchio said.

Only female eggs were allowed to complete incubation.

As part of a cooperative research project, the DNA procedure also has been used at the Memphis Zoo, which has five dragon eggs - all females - expected to hatch any day.

"Now, we can manipulate our breeding efforts according to captive [population](#) goals at any given time," said Chris Baker, assistant curator of herpetology at the Memphis Zoo. "Right now, we want females."

The Los Angeles and Memphis zoos are among a dozen zoos in North American that have bred the species first discovered by Western zoologists in 1912.

Having more strategically bred dragons to choose from will help prevent

captive populations from becoming inbred over time, making them weak and susceptible to hereditary disease, Recchio said.

Zoos with captive breeding programs already routinely donate or swap specimens in "genetic exchanges we call musical dragons," Recchio said.

Baby dragons hatched at the L.A. Zoo over the past year, for example, will be shared with zoos in Europe, India and Australia, he said.

Komodo dragons have always been rare in captivity because they require special enclosures kept about 90 degrees year-round and covered like a greenhouse to let in the ultraviolet light they require from the sun.

Only about 2,000 of these creatures, which are rooted in the Paleocene epoch, 60 million years ago, remain on five small islands in Indonesia. The island habitats are so limited that a tsunami, volcanic eruption or rise in sea level could wipe out the free-ranging lizards already threatened by poaching of their favored prey, deer.

With gloved hands, Recchio held up one of the [zoo's](#) latest offspring, smiled and said, "This little gem is about 12 inches long."

"In about seven years, she'll reach breeding age," he said. "She'll be beautiful, majestic and scary as her momma and papa - the closest things to dinosaurs we have. What kid doesn't want to see that?"

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