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THERE'S NO DRUGSTORE PREGNANCY TEST FOR A CLOUDED LEOPARD: POINT DEFIANCE ZOO STAFF USES SCIENCE, TRAINING AND TRUST TO TELL IF AN ANIMAL IS EXPECTING – AND SHE IS!

TACOMA, Wash. – There's no handy drugstore test. No easy-to-get blood draw. No tell-tale "baby bump" that's easily apparent early into the pregnancy.



Ascertaining that an endangered clouded leopard is pregnant takes a mixture of hard science, ingenuity, training and trust on the part of Point Defiance Zoo & Aquarium keepers and other staff members.

Oh, and did we mention the unglamorous chore of collecting poop samples? And not just any poop samples. This is fecal matter that's color-coded by slipping harmless food dye into the female's meat so as to easily tell her excrement from her mate's.

Clouded leopard Sang Dao at Point Defiance Zoo & Aquarium.

After weeks of carefully monitoring the bodily excretions of endangered clouded leopard Sang Dao and training her to stand still for an ultrasound, the results are in. The nearly 3-year-old cat is pregnant. Ultrasound testing shows at least three cubs, said zoo General Curator Dr. Karen Goodrowe Beck, who holds a Ph.D. in reproductive biology. They're due around the end of March.

"It takes a combination of science, art, and extensive knowledge of animal behavior to determine a pregnancy in a felid such as a clouded leopard or tiger," Goodrowe Beck said.

Clouded leopards have a relatively short gestation period – only 88-90 days. Without the combination of sophisticated science and old-fashioned training based in an animal's trust with its keepers, a pregnancy wouldn't be apparent until after the 60th day.

So, why is knowing sooner in the pregnancy important? This is, after all, an endangered cat. There won't be any baby showers planned.

"We can better prepare" for the impending birth, Goodrowe Beck said. That means perhaps increasing the mother-to-be's diet, adding nutritional supplements if necessary and setting up a nest box and camera equipment

for overnight monitoring. Each of those steps increases the possibility of a healthy litter and a more comfortable mother.



Sang Dao and her mate, nearly-3-year-old Tien, are participants in the Association of Zoos & Aquariums' Species Survival Plan® for clouded leopards. They were mated in an effort to increase the numbers of clouded leopards in the program and boost the genetic diversity in the population. There are only 113 clouded leopards in North American zoos. The species is under significant pressure in the wild from human encroachment and destruction of its habitat, as well as poaching. But the cats, which live in the forests and trees of Southeast Asia, are elusive, and it's difficult to know how many remain in the wild.

Clouded leopard Tien, almost 3, was born at Point Defiance Zoo & Aquarium. He is Sang Dao's mate.

They also are quite shy. Even when mates live together in a zoo setting, "you usually don't see them breeding," Goodrowe Beck said.

In Sang Dao's case, zookeepers at Point Defiance Zoo & Aquarium began collecting fecal samples – turned green by food coloring – early this year after it was believed the cats had mated. Once several days of excrement was collected, the matter was shipped to Toronto Zoo's laboratory for hormonal testing.

The tests can pinpoint only whether a cat has ovulated, not whether it's pregnant, Goodrowe Beck said. But since cats don't ovulate until after copulation, a positive test signals the chances of a pregnancy. And once a pregnancy is suspected, trust and training come into play.

Keepers work with the female to stand up against a mesh barrier, so gel can be applied to the cat's abdomen and an ultrasound tool can be used to scan it. As an incentive for her patient cooperation, the clouded leopard gets whipped cream, strategically placed on the mesh so she must stretch up to lick it off, Goodrowe Beck said.

None of this happens quickly.

"This involves very patient training by a keeper the animal trusts," Goodrowe Beck said. Whether it's a 35-pound clouded leopard or a 200 pound tiger, there must be a positive relationship between an animal and the staff members who are working with her to determine the pregnancy.

That training often must be done in, well, baby steps. Not only must the naturally shy clouded leopard trust her keeper, she must learn to be comfortable with equipment that is strange looking and unfamiliar. Zookeeper Kadie Burrone worked with Sang Dao for about 2 months to get her ready for her ultrasound.

The news of a positive pregnancy elated the zoo's staff. The mating of Sang Dao and Tien resulted from "a strategic breeding recommendation to introduce better genetics into the population," Goodrowe Beck said.

Point Defiance Zoo & Aquarium long has been a leader in clouded leopard conservation. Both Goodrowe Beck and zookeeper Andy Goldfarb, supported by The Zoo Society's Dr. Holly Reed Wildlife Conservation Fund, have worked with zookeepers in Thailand on improving ways to breed and rear clouded leopards.

Having a robust population of clouded leopards in zoos allows scientists to study the species' behavior, physiology and medical conditions. That's not possible in the wild, Goodrowe Beck said. But the information gained may one day help scientists develop conservation strategies for helping the species in the wild.

Maintaining clouded leopard populations in zoos allows animals like Sang Dao and Tien, who was born at Point Defiance Zoo, to inspire people to take action on behalf of wildlife and wild places.

The zoo's Paws for the Cause program, for example, helps consumers understand the link between some foods they eat and products they use and the deforestation of animal habitat half a world away. The program also provides shoppers with tips on choosing products with deforestation-free palm oil and ways to get engaged by urging companies to make wildlife friendly choices in the raw materials they buy. Palm oil, used in a wide variety of goods from candy to shampoo and body lotion to laundry soap, is derived from the oil palm tree. And some palm oil production results in wholesale destruction of the habitat on which clouded leopards, orangutans, tigers, tapirs and other animals depend.

To learn more about this and how to take action, go to www.pdza.org/pawsforthecause. To learn more about clouded leopards, go to www.pdza.org/clouded-leopard and www.cloudedleopard.org

And in the meantime, be expecting a birth announcement in less than a month.

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Point Defiance Zoo & Aquarium, the Northwest's only combined zoo and aquarium, practices and promotes responsible stewardship of the world's resources through education, conservation, research and recreational opportunities. The zoo, a division of Metro Parks Tacoma, is accredited by the Association of Zoos & Aquariums (AZA) and the Alliance of Marine Mammal Parks and Aquariums (AMMPA).

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