



"TWO FINGER" FOOD: GREEN BEANS ARE A FAVORITE OF JUVENILE CHOLOEPUS AT THE SANCTUARY

sloth talk

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Director's note

Dear Friends,

We recently attended the first-ever conference on the rescue, rehabilitation and release of Costa Rican wildlife—exactly our mission here at the Sloth Sanctuary of Costa Rica. Our main takeaway from the conference is that the challenges we face are strikingly similar to those of other rescue facilities: the volume and variety of species affected by encroachment into the rainforest is increasing each year. While in the past our efforts have sometimes been criticized for being unable to release all the sloths that arrive here, we finally presented to the broader public the science behind why some sloths are released when others cannot be. Please see a digest of this in our "Release" section.

Our primary goals over the next few months:

- + Expand the scope and sample size of the [Sloth Backpack Project](#)
- + Upgrade our nursery facilities
- + Introduce an educational curriculum on our website about sloths and their plight

I am humbled by the constant outpouring of heartfelt support for our mission. My favorite quote is by Ralph Waldo Emerson: "What you do speaks so loudly that I cannot hear what you say." In essence: action trumps words.

All the best,

Judy Avey-Arroyo, Director

RESCUE

The electric company ICE (*Instituto Costarricense de Electricidad*) was clearing the forest last summer for a new dam. They felled a tree, not seeing the three-fingered sloth camouflaged in it. Because the sloth was injured, ICE brought him to us for treatment. Our head veterinarian, Dr. Francisco Arroyo, assessed his injuries and, to everyone's surprise, told us they were primarily superficial.

VETERINARIAN DR. FRANCISCO ARROYO >



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RAMBO IN HIS NATURAL HABITAT

We are pleased to report that "Rambo"—as we named him for his toughness—recovered well and spent rehab time in our soft-release enclosure. ICE returned for Rambo and released him back to his original territory. We applaud ICE's efforts to honor Costa Rican wildlife while developing energy resources for the country. 🌸

EAT, SLEEP, SLOTH ...



The Sanctuary offers a clean, comfortable **Bed & Breakfast** on site. Six unique rooms with a variety of amenities to suit your needs and budget. Click [here](#) to learn more.

REHABILITATE



This lovely male Choloepus (Two-fingered sloth) was found hanging perilously from a power line in a heavily populated suburban area of San Jose. An animal-loving Costa Rican contacted the local fireman for assistance in the rescue and, after four hours, “Chow” was safely removed from the dangerous power lines. His rescuer drove him to the Sanctuary, which took another four hours.



Because Chow had no injuries, we anticipated his rehabilitation would be routine. But when he refused almond leaves, a staple for wild Choloepus, and hibiscus blooms, a delicacy, this raised a red flag for us. Our veterinarians noticed his teeth were uncharacteristically clean—not tannin-stained from the leaves of a regular diet—and his fingers and toes showed no signs of wear. We can only surmise that Chow was captured at a young age and kept as a pet until he either escaped or was abandoned. He loves carrots and *chayote* but insists on being fed by hand. It will take time for our staff to introduce him to the full, nutritionally balanced diet that he needs to thrive.

Although capturing and domesticating wild animals is illegal, it's distressingly common. Domestication makes it virtually impossible to return former pets to the wild because their natural instincts to forage have been erased. 🌸

WE PLANT ALMOND TREES—a favorite food of Choloepus—each year on Earth Day. Donate for yourself, commemorate a special event or honor the memory of a loved one. Save the Earth, feed a sloth and learn more [here](#).



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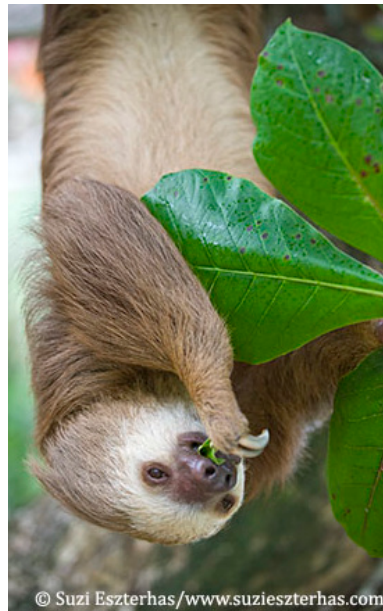
RESEARCH

Downward sloth

If we hung by our toes for hours and hours, we'd probably end up with a headache, or worse. But **it's normal for sloths to hang upside down** for up to 90% of their day. How do they do this, and why?

Three-fingered sloths have a unique system of multiple internal adhesions that anchor their abdominal organs against the lower ribs. These adhesions support the weight of a sloth's stomach, kidneys and digestive tract when inverted, facilitating ease in breathing by preventing the lungs from being compressed.

Our [Sloth Backpack Project](#) reveals that sloths spend about 90% of their day inverted; the internal adhesions make that possible by reducing sloths' energy expenditure. Because of their extremely slow metabolic rate and exceptionally low body temperature, it can take up to 30 days to digest a single leaf. Having a constantly full stomach means they can't ingest much on a daily basis, so their caloric intake is very low. Sloths have



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virtually no flexibility in their energy budget: they generate just enough energy from their diet to move when and where required; beyond that, not much more is stored.

Why do sloths hang upside down for so long? Because they need to eat tender new leaves that grow on the outer tips of branches. These leaves often have a lower toxin content and are easier to digest. In order to reach these choice leaves, a sloth has to hang by its toes.

In addition to the adhesions, sloths have other anatomical features that allow them to remain comfortable when inverted. These include circulatory adaptations that prevent the blood rushing to the head and a highly specialized esophagus that allows them to swallow while upside down. Read more [here](#). 🌸

Becky Cliffe is a British zoologist working at the Sloth Sanctuary of Costa Rica, where she is currently studying for her PhD. Follow her updates and research at [BeckyCliffe.com](#).



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Going wild ... or not

ADULT ADVANTAGE

Many adult sloths that arrive here have been injured as a result of human encroachment into their habitat: machetes, cars, power lines, dogs, etc. Our goal for sloths that recover with full mobility and vision is to return them to the wild. Prior to release they are moved to a transition enclosure to get reacquainted with the sounds, scents and elements of the forest. When they are stable and thriving, the sloths are returned to their home territory. We have successfully used this method to release 120+ rehabilitated sloths.

MOTHER KNOWS BEST

Hand-raised orphaned sloths cannot be safely released this way. A baby sloth learns all survival skills from its mother, one of the most important being selecting which leaves are safe to eat. Most leaves are toxic to sloths—the tree's strategy to avoid over-predation of its leaves. A sloth develops a preference of eight to 10 different trees—inheriting its mother's preferences—to minimize toxic load in the diet. If a sloth feeds too long from the same tree species, there is a risk of dangerous or fatal overdose due to the sloth's slow rate of digestion.

CLEAN SCENE

Another challenge: While rescued orphans require a clean/sterile environment for the healthiest start, they cannot build up their natural defenses against the naturally-occurring rainforest bacteria and microbes. We attempted to initiate a hand-reared sloth release program several years ago, sadly without a single success. But we are not alone: to date, no one has documented (through radio collaring or tracking) the successful release of a hand-reared sloth to the wild. We strive to establish a hand-reared orphaned sloth release program and are working to discover ways for them to build up enough natural defenses to survive in the wild. In the meantime, the Sanctuary provides a safe and healthy environment for our resident sloths. 🌸



This enclosure is located within the protected forested grounds of the Sanctuary. Sloths that fully recover from their injuries are transferred here before their release to the wild. We carefully monitor them during this adjustment process.



This structure at the front of the Sanctuary is designed exclusively for two-fingered sloth rehabilitation. To make them feel welcome in this transitional environment, the walls are not fully enclosed and there is a large almond tree so they can enjoy their favorite leaves. We can monitor their progress more closely due to its proximity to our facility.



SLOTH SWAG

For a donation of **\$60 US / \$75 Int'l**, get our exclusive **sloth-tastic T-shirt & magnet!** Please provide address & size (unisex S–XL) at PayPal checkout and allow up to two weeks for your gifts to ship by USPS Priority Mail®. Shirt is 50/50 cotton/poly; magnet is 2.25" round.

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