

## THE BIODÔME'S BABY SLOTH



On December 17, 2014, one of the female sloths at the Biodôme gave birth in the Tropical Rainforest, after a gestation lasting about 10 or 11 months. Since the baby was born in the canopy, far from reach, cameras were used to monitor its growth and how it was interacting with its mother and faring in its environment. It appeared to be healthy and interested in exploring.

### FIRST CHECKUP

It was not until May 27 that the veterinarian gave the young sloth, now just over five months old, its first checkup. Before handling it, the Biodôme caretakers wanted to be sure that the baby was strong and that its immune system was sufficiently developed to avoid over-stressing it, because a newborn's health is fragile. In the first few months, a baby sloth has few energy reserves and is highly dependent on its mother's care. We left nature to look after itself and kept human contact to a minimum during this sensitive period. The checkup revealed that it is a male. Sloths' genitals are internal, making it very difficult to distinguish between males and females. He weighed in at 2.69 kg. When they are born, baby sloths weigh about 400 g and are 25 cm long. During the checkup, he was calm and eagerly ate the food the experts had prepared for him. He is in good condition, with no malformations. His mother, who will soon be turning seven, is also in good health.

### USING HIS MOTHER AS A HAMMOCK

After birth, the baby climbs onto its mother's belly, where she nurses and protects it. Although she nurses it for only three to five months, a young sloth will usually hold onto its mother for the first year. It can actually eat a few leaves and drink water after the first week. When not being carried on its mother's belly, it explores its environment on its own. As it grows, it also clings to its mother's back, like a branch. As long as it stays close to its mother, it learns to eat the same plant species as her.

### REPRODUCTION AND SPECIES RENEWAL

Until the young sloth reaches sexual maturity, around three to five years of age, he can be kept in the Biodôme habitat with his mother and the other sloths. Then, to avoid inbreeding and in keeping with the recommendations of the Species Survival Plan (SSP), he may be transferred to another institution where he can breed and perpetuate the species.

# THE SLOTH'S BIRTH AND ITS FIRST FEW MONTHS



Since 2002, the two-toed sloths at the Biodôme have given birth to nine young. Five of these offspring have been transferred to different North American zoos: Franklin Park Zoo (Massachusetts), Rochester's Seneca Park Zoo (New York), Minnesota Zoo, Evansville's Mesker Park Zoo (Indiana) and Granby Zoo. The three others, all females, have been kept at the Biodôme, along with the male born in December 2014.

## FROM BIRTH

- › A baby sloth is dark brown at birth. It usually weighs about 400 g and is about 25 cm long.
- › It is partly precocial – it is born with its eyes open, already has teeth and is capable of co-ordinated movements.
- › It is covered in fur, except on its chest. It already has sizeable prehensile claws.
- › Its vocalizations are quite loud. This is an essential means of communication during the first 6 months of life!
- › It is carried on its mother's belly and uses her like a hammock. This protects it from predators and falls and gives it easy access to the mother's two nipples, which are located near her underarms.

## NURSING

- › Although the young sloth will be nursed for 3 to 5 months, at one week old it is already able to drink water and eat some leaves.
- › Nursing sessions are periodic and last 5 to 15 minutes.
- › The female sloth's milk contains 6.9% more fat and 61% more protein than cow's milk.
- › The young sloth eats its first solid food at the age of 3 to 5 weeks.

## BECOMING INDEPENDENT

- › At around 3 weeks, the baby sloth can hang from a branch.
- › In captivity, it will start grooming itself at around 4 weeks.
- › After the fifth week, it will start showing various types of behaviour: sniffing odours, licking, tasting things, playing and fighting.
- › Around the age of 5 months, it will leave its mother to go exploring.

- › At around 22 weeks, it will descend to the ground to urinate and defecate without its mother.
- › It will become independent at around 9 to 12 months, but it will usually leave its mother when the next newborn appears.

## PARENTAL CARE

- › The only long-term relationships with other sloths are between mothers and their young.
- › The young sloth is carried by its mother even after it is weaned.
- › The feeding of leaves to young sloths by their mothers may be interpreted as a way of teaching them to properly choose this important dietary item.
- › Grooming between the mother and her offspring, and the way the young sloth moves on its mother's body, appear to help it gain confidence and develop its motor skills.
- › Young orphans show some fear of heights, proving that the mother's movements through the treetops play an essential role in improving and encouraging the young sloth's own movements.
- › The mother spends a lot of time vigorously grooming her offspring's head and licks the anal-genital area to stimulate elimination.
- › The mother may eat her offspring's urine and feces.
- › The young sloth may stay with its mother until the next birth. In captivity, a young sloth may stay with its mother for more than 2 years.

# TWO-TOED SLOTH REPRODUCTION



The Biodôme has 6 two-toed sloths (*Choloepus didactylus*), 4 of them females. Because the Biodôme is participating in the American Species Survival Plan, or SSP, for endangered species, a male from the Baltimore National Aquarium was introduced in the Biodôme's Tropical Rainforest in December 2013. The male, age 9, was chosen for his excellent reproductive potential. And that now seems to have been very much the case!

### SEXUAL MATURITY

- › It is thought that female *Choloepus* do not reproduce before age 3 and males before age 4 and a half.
- › There is no sexual dimorphism, i.e. no marked morphological difference, between males and females.
- › Two-toed sloths have neither external sexual organs nor secondary sexual characteristics like the orange spots found on the backs of some species of male three-toed sloths.

### MATING

- › We know very little about how two-toed sloths mate.
- › Sexual reproduction seems to occur throughout the year.
- › After a very brief courtship ritual, the male and female mate.
- › They usually mate face to face. Their positions may vary depending on what obstacles there are in the forest.

### GESTATION

- › The gestation period is thought to last 10 to 11 months.
- › It is difficult to determine the exact length of the gestation period. The estimates found in the literature vary, given the sperm storage mechanisms and varying implantation times. This is also the case with other members of the Xenarthra.
- › The time between births may range from 18 to 24 months.

### BIRTH (DELIVERY)

- › Few births of two-toed sloths have been documented.
- › We do know, however, that this stage can take up to 35 minutes for *Choloepus didactylus*, and that the female usually eats the placenta.
- › We also know that three-toed sloths give birth while hanging from a branch. The newborn emerges head first. Once completely out of the uterus, it clings onto the mother's fur and climbs onto her belly.
- › The oldest female to have given birth in captivity was 25 years old.

## About SLOTHS

# SLOTHS



### LAZY ACROBATS

Sloths spend most of their time hanging from branches very high in the forest. Next to monkeys, they're some of the mammals best adapted to living in trees. Along with anteaters and armadillos, sloths are xenarthrans, a name that means "strange joints." These nonchalant acrobats have a number of intriguing characteristics in terms of how they move, in fact. There are a total of six sloth species, the best-known ones being two-toed and three-toed sloths. The long, sharp, hook-like claws on their front and back feet allow them to latch onto branches – so tightly that dead sloths have actually been found still hanging in trees!

Sloths don't jump, but they do often dangle by three feet or even just two as they swing from branch to branch or grab onto tangled vines to move from one tree to another. If you slow down and take the time to observe them at the Biodôme, you might even see one in mid-swing!

### A PERSONAL ECOSYSTEM

Sloths can survive for 10 to 15 years in the wild and up to 30 years in captivity. Although they are not very large, gestation takes about 11 months and sloths mate only every 18 to 24 months. It isn't easy to tell males and females apart, because their sexual organs are internal. They are solitary animals, but that doesn't mean they're all alone in the treetops. In the wild, some one hundred moths and close to one thousand beetles can take up residence in a sloth's dense fur. And that's not counting all the arboviruses, bacteria, microscopic fungi, protozoa, nematodes, arthropods, flies, ticks and fleas it can harbour. Their fur also grows from their bellies toward their backs, so rainwater runs off easily. Each hair is grooved, and holds some water in which microscopic algae grow and thrive thanks to the nitrogen released by the moths. In other words, each sloth has its own individual and very fascinating ecosystem!

### A LIMITED DIET AND HABITAT

In captivity, sloths are very well equipped to digest a diet made up almost exclusively of leaves, fruit and vegetables, although the ones at the Biodôme love tofu! Like rodents, their teeth never stop growing, and they have large, multi-chambered stomachs like cows and other ruminants. It was recently discovered in the wild that sloths also eat the algae growing on their fur while grooming themselves. The carbohydrate- and fat-rich algae supplement their nutrient-poor diet. Sloths are mammals with very slow metabolisms, and are surprisingly resistant to infections, wounds and toxic substances. Because they make their way down to the ground only about once a week to defecate, it's hard for their predators – harpy eagles, jaguars, ocelots, anacondas and humans – to find them in their natural habitat. There are six sloth species in Central and South America, where they live in the rainforest canopy. Two-toed sloths are very difficult to spot and can rarely be seen up close.