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"Prionailurus rubiginosus" Rusty-spotted Cat

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Prionailurus rubiginosus rusty-spotted cat

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By Danielle Miles

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Geographic Range

Rusty-spotted cats, *Prionailurus rubiginosus*, are found only in India and Sri Lanka. New localities that host this species are found with more research, increasing the known range of the species. The northern most location where the species has been sighted is in the Pilibhit forest division, which is in the Indian Terai region in the state of Uttar Pradesh. The first sighting of the animal in Central India was in the Nagzira Wildlife Sanctuary in Maharashtra; the animal has since been spotted in many parts of Maharashtra, including West Maharashtra where a breeding population was identified alongside agricultural and human dominated landscapes. The species is also found in the Varushanad Valley, Western Ghats, part of a biodiversity hotspot. Rusty-spotted cats also live in the state of Gujarat, where they occur in semi-arid, dry, tropical, and deciduous forests in the center of the state and also in the city of Navagam. These cats inhabit the the Nugu Wildlife Sanctuary, state of Karnataka, the Nagarjunasagar-Srisailam Tiger Reserve in Andhra Pradesh, and other parts of Andhra Pradesh, such as

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Classification

Kingdom
Animalia
animals

Phylum

the Nellore district. (Anwar, et al., 2010; Athreya, 2010; Behera and Borah, 2010; Gavali, et al., 2008; Kumara and Singh, 2005; Kumara and Singh, 2007; Manakadan and Sivakumar, 2005; Patel, 2010; Pillay, 2008; Vyas, et al., 2007)

Biogeographic Regions: oriental (native)

Habitat

Rusty-spotted cats inhabit mainly dry forest areas, but within the last few years a breeding group was found living in a human inhabited agricultural area in West Maharashtra, India. This species, along with other small cat species in the oriental region, may be surviving in agricultural areas because of large rodent populations. In southern India, the species is being found in rafters of abandoned houses in areas a considerable distance away from forests. Some rusty-spotted cat habitat is in semi-arid and tropical climates. (Anwar, et al., 2010; Athreya, 2010; Gavali, et al., 2008; Kumara and Singh, 2007; Patel, 2010; Pillay, 2008; Sunquist and Sunquist, 2002; Vyas, et al., 2007)

Habitat Regions: temperate ; tropical ; terrestrial

Terrestrial Biomes: forest

Other Habitat Features: agricultural

Physical Description

The fur of rusty-spotted cats is short and brownish gray in color with a rusty tinge. The coat of the Sri Lankan subspecies is less gray and has more of a russet color. The underside and throat are white with darker spots and stripes. The back and sides are covered by rusty brown spots. There are four dark stripes running from above the eyes, between the ears and onto the shoulders. The cheeks of the face are marked by two streaks of darker fur and the ears are small and rounded. The soles of the feet are black and the tail is about half the length of the head and body. At about half the size of a domestic cat, this is considered the smallest [cat](#) species. Full grown females can weigh up to 1.4 kg and full grown males reach up to 1.7 kg. For about the first 100 days of development, males are smaller in size than females, but after that time, males have a greater average body weight. (Dmoch, 1997; Sunquist and Sunquist, 2002)

Other Physical Features: endothermic ; bilateral symmetry

Sexual Dimorphism: male larger

Chordata
chordates

Subphylum
Vertebrata
vertebrates

Class
Mammalia
mammals

Order
Carnivora
carnivores

Family
Felidae
cats

Genus
Prionailurus
Asian small cats

Species
Prionailurus rubiginosus
rusty-spotted cat

Range mass

1.7 (high) kg

3.74 (high) lb

Reproduction

Though the mating system of rusty-spotted cats has not been explicitly studied, data available from their close relatives, [leopard cats](#), suggests that this species may be polygynous. One male leopard cat's territory overlaps with several female territories, but territories of two females or two males never overlap. A territorial male can mate with all females within his territory. However, in zoos rusty-spotted cat males have been allowed to stay with females after mating and after the birth of kittens. The West Berlin Zoo recorded a male protecting young from zoo keepers and bringing meat to the kittens. These behaviors suggest their mating system may be monogamous. ([Sunquist and Sunquist, 2002](#))

Rusty-spotted cats mate year-round. Data indicate that 50% of young are born between July and October, which is not enough to consider rusty-spotted cats seasonal breeders. Captive individuals are recorded to begin mating activity at anywhere from 1 to 72 days after introduction (on average 7.8 days). In 49% of first introductions, mating occurred within 4 days. There is no evidence that the time between introduction of the male and mating has anything to do with the age of the female, time elapsed from the weaning, physical characteristics of the male, or the season. As in other small cats, mating includes a nape bite and straddling. Males average 7.64 mounts per hour, with each mount less than a minute long. Mating activity lasts from 1 to 11 days. The gestation period lasts between 67 to 71 days. In Sri Lanka, females were observed to give birth in hollow trees or under rock cliffs. Females in the Frankfurt Zoo repeatedly chose birthing spots that were on the ground. Birthing boxes were offered in both low and higher level areas, but the lower boxes were used. Each litter has from 1 to 3 offspring. ([Dmoch, 1997](#); [Sunquist and Sunquist, 2002](#))

: **Key Reproductive Features:** iteroparous ; year-round breeding ;
 : gonochoric/gonochoristic/dioecious (sexes separate) ; sexual ;
 : fertilization ; viviparous

Breeding season

Breeding can occur at any time of the year.	Range number of offspring 1 to 3	Average number of offspring 1.3
Average number of offspring 2.5 AnAge	Range gestation period 67 to 71 days	Average age at sexual or reproductive maturity (female) Within the first years

Average age at sexual or reproductive maturity (male)

Within the first years

Within an hour after birth, the mother leaves her young where she birthed them to eat and defecate. Mothers are not known to translocate their young or to carry food to them. The young start to come and go from the birth site between 28 and 32 days, and at least initially, their mother continues to remove their feces from the den. When the young emerge, they already have well-developed locomotion abilities, as reflected in their climbing onto and jumping down from wooden posts in the Frankfurt Zoo. Between 35 and 42 days of age, the young can climb downwards head first from steep branches. In one case a mother died when her offspring was only 5 weeks old, but the kitten never learned to climb downwards headfirst and continued to climb down backwards indicating extended juvenile learning periods occur. Between 47 and 50 days of age, the young can jump about 50 cm from a height of about 2 m. The young appear to tire quickly even when the mother remains active. At first, young sleep near or on their mother, retreating to where the mother lies down after her activity period. As they get older, they sleep on high ledges alone. Play was observed between siblings and between the young and mother, which appears crucial to locomotion development. Most interactions between mother and young are play oriented. In the Frankfurt Zoo, the young were removed from their mother between 3 and 9 months, but late removal never resulted in aggression between mother and offspring. Weaning starts between day 35

and 42. The young start to eat meat at around 40 days of age. Suckling was still observed up to day 60. (Dmoch, 1997)

Parental Investment: precocial ; female parental care ; extended period of juvenile learning

Lifespan/Longevity

The longest lifespan recorded was at the Frankfurt zoo with a rusty-spotted cat reaching 18 years of age. (Dmoch, 1997; Sabapara, 1999)

Range lifespan

Status: captivity

18 (high) years

Average lifespan

Status: captivity

17.9 years

[AnAge](#)

Behavior

Rusty-spotted cats are solitary animals, living alone in forests, and more recently in human dominated agricultural areas. The species is considered terrestrial, but has arboreal tendencies. When rusty-spotted cats were first brought to the Frankfurt Zoo, they were presumed to be nocturnal because most sightings had been at night or at early dawn and late evening. They were then placed in a nocturnal environment in the zoo, but after monitoring the behavior of the cats, it was shown that the species may not be strictly nocturnal or crepuscular. Sexually active animals were more active during daylight hours. (Anwar, et al., 2010; Athreya, 2010; Behera and Borah, 2010; Dmoch, 1997; Gavali, et al., 2008; Kumara and Singh, 2007; Patel, 2006; Patel, 2010; Pillay, 2008; Vyas, et al., 2007)

Key Behaviors: terricolous ; nocturnal ; crepuscular ; motile ; solitary ; territorial

Home Range

The home range of rusty-spotted cats has not been determined. But in a related species of similar size, [iriomote cat](#), females have home ranges of about 1.8 sq km, while males control a territory of around 3.0 sq km. (Schmidt, et al., 2003)

Communication and Perception

Communications between rusty-spotted cats are scent oriented. Both males and females spray urine for scent-marking. (Sunquist and Sunquist, 2002)

Communication Channels: chemical

Other Communication Modes: scent marks

Perception Channels: visual ; tactile ; acoustic ; chemical

Food Habits

The Sri Lankan subspecies of rusty-spotted cats (*Prionailurus rubiginosus phillipsi*) as adults in the wild eat birds and mammals and will occasionally catch a domestic chicken. An adult in the Frankfurt Zoo is fed a daily diet consisting of beef muscles in large chunks and small strips, beef heart, two day-old chicks, one mouse and 2.5 grams of carrot, apple, boiled egg and cooked rice. In the zoo, the animals are also given mineral supplements daily, multivitamins weekly, and vitamins k and b are added to the diet twice per week. The animals are occasionally fed banana, germinated wheat or fish. On one occasion, a male adult cat at the zoo killed a rabbit weighing 1.77 kg. The cat at the time weighed 1.6 kg and the night after the killing ate 320 grams of the muscle meat. Wild caught kittens in the zoo were fed protein-rich mash and mice, rats and minced beef muscle and heart at 7 weeks old. The kittens at this time rejected the day old chicks that were offered. Rusty-spotted cats in human populated and agricultural areas are hypothesized to be successful because of their high numbers and the availability of rodents. (Athreya, 2010; Dmoch, 1997)

Primary Diet: carnivore (eats terrestrial vertebrates , eats eggs) ; herbivore (granivore) ; omnivore

Animal Foods: birds ; mammals ; fish ; eggs

Plant Foods: roots and tubers ; seeds, grains, and nuts ; fruit

Predation

There are no known wild predators to rusty-spotted cats. However, because of its small size, some speculate that they might be eaten by larger predators. It is further speculated that mating activity could increase their vulnerability, selecting for brief copulations. (Sunquist and Sunquist, 2002)

Ecosystem Roles

Rusty-spotted cats are largely carnivorous and likely play a role in controlling populations of small vertebrates. If individuals in the wild eat fruits, as is observed in the zoo setting, then rusty-spotted cats might benefit plants through the distribution of their seeds in fecal matter. (Athreya, 2010; Dmoch, 1997; Sabapara, 1999)

⋮ **Ecosystem Impact:** disperses seeds

Species Used as Host

- none

Commensal/Parasitic Species

- [Nematoda](#)
- *Toxascaris leonina*
- *Trichuris* spp.
- *Ancylostoma* spp.

Economic Importance for Humans: Positive

There are no known benefits of rusty-spotted cats to humans.

Economic Importance for Humans: Negative

At least in India, rusty-spotted cat deaths have occurred because the species is vulnerable to vehicular slaughter. However, the economic impact and number of cat deaths are minimal at only 2.8% occurrence of all vehicular mammal deaths observed. (Behera and Borah, 2010)

Conservation Status

The CITES Appendix 1 rating is only for the population of rusty-spotted cats in India. According to IUCN Red List, rusty-spotted cats have an estimated combined population total in India and Sri Lanka of under 10,000 mature individuals. There is no sub-population with more than 1000 breeding individuals. The declining trend is due to habitat loss characterized by a decline in natural forest environments and an increase in agricultural areas. (Gavali, et al., 2008)

[IUCN Red List](#)

Vulnerable

[More information](#)

[IUCN Red List](#)

Vulnerable

[More information](#)

[US Federal List](#)

No special status

[CITES](#)

Appendix I

State of MichiganList

No special status

Contributors

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