

Rose Hair Tarantula

Grammostola rosea

SubPhylum: Chelicerata **Order:** Aranea **Suborder:** Mygalomorphae

Family: Theraphosidae **Subfamily:** n/a

Other names: Chilean rose tarantula; Chilean fire tarantula; Chilean red-haired tarantula

Other subspecies:

Other relatives: around 20 other species of *Grammostola*

Zoo Tarantula 0.1

'Fiona' 0.1 – female

DOH: Somewhere between 1996-2006 AQ: 8/23/2006

Fiona weight: approximately 30 grams



Status

Not yet assessed

Geographic Range

Chile, Bolivia and Argentina

Habitat

Natural habitat is the desert and scrub regions of Northern Chile, Bolivia, and Argentina



Characteristics

Size: 4.5-5-5" diameter [1]

Longevity: Wild: males 3-10 years [1]; Females 15-20 years, possibly longer [2]
years (average is 12 years) [1]

Captivity: males less than 2 years, females 20 or more

Physical Description:

Bristles

- The exterior of the body is covered by long, hair-like bristles; they are their most important means of sensory input and serves several functions. Some hairs contain temperature or smell receptors. Other hairs can detect airborne vibration. Some tarantulas have stridulating bristles used to create sounds (the loud "hissing" sound created by some species is created in this way) [3]. Hairs near the mouth are capable of sensing chemicals that give the spider a basic sense of smell and taste [1].
- Barbed hairs called **urticating hairs**, mostly on the abdomen, can be "flicked" and act as an itchy irritant. These specialized hairs are only present on New World tarantulas.
- There are 2 different color schemes, depending on where in Chile they are from. Many are brownish, while others are more reddish or pink (or 'rose') in color [1]. This subtle rose casting on the hair is where the name comes from.

Body

- This tarantula possess 2 venomous fangs, has a hard **exoskeleton** and 8 jointed legs.
- There is a smaller pair of sensory appendages called **pedipalps** [1]. They have 8 eyes, but they are very small and generally not very strong [4].
- Like all spiders, their body consists of a **cephalothorax** (composed of the head and thorax) to which all appendages except the spinnerets (tubular structures from which web silk are produced) are attached. The spinnerets are found on the **abdomen** [1].

Dimorphism:

Male: Males often look identical to females until their final (ultimate) molt when they reach maturity. During this ultimate molting process he obtained his sexual organs, which are bulbs (*emboli*, plural; *embolus*, singular) on the end of his pedipalps that are used to transfer sperm from his sperm web to the female. Additionally, males of this species develop **tibial spurs**. [5]

Female: Females of this species are typically significantly larger than males once maturity is reached, however they will look very similar until this stage of life [5]. In most tarantula species the female will live for twenty years or more, but the male may survive only the few years required to reach maturity. Once the male has fulfilled the biological function of mating, it usually will die of natural causes or the female may eat him. The male's lifespan is further shortened by the stress of captivity [1].

Diet: Carnivore (venomous)

Their digestive system is designed to deal with liquid food only [1]

Diet in the Wild: insects and other arthropods; grasshoppers, crickets, moths, beetles, cockroaches and mealworms [1]. Occasionally other tarantulas, frogs, spiders, and baby mice [4]

Diet in Captivity: crickets

Behavior

- *Nocturnal*, night-active
- When fully grown, they molt up to twice a year [4]. Immature tarantulas molt up to 4 times per year; adult females molt once a year throughout their adult life [6].

Home Life

- While previously thought to be wanderers in nature, large numbers have been observed living in burrows in their natural habitat. They generally do not burrow in captivity [7].
- After a night of active hunting, they will find a shelter to web itself into at dawn [1].
- They do not weave typical ‘webs,’ but they do spin silk to line their burrows. They have at least three different silk glands within their abdomen. While inside the glands, the silk is liquid, transformed to a solid by the tension produced as the silk is excreted through the **spinnerets**. The silk is incredibly strong – half the tensile strength of steel! [4]

Defense Mechanisms

- *Grammostola rosea* are usually skittish, running away from danger rather than acting defensively, but they may also raise their front legs and present their fangs in preparation to defend themselves.
- They can act especially defensive for days after **moulting** [7]
- They have small spine-like **urticating** hairs on their abdomen that they kick off or release when threatened as a defense [7]. These hairs can impale the intruder, causing irritation or temporary blindness if hit in the eyes. [4]
- Hairs on the abdomen have been modified to serve as defense weapons. They possess sharp tips with microscopic barbs. When threatened, the tarantula will use its back legs to kick off a cloud of hairs at its attacker [1].

Social Structure and Communication

- *Solitary* [6]
- Females will often fight each other and will occasionally eat males if they are around them for too long [6].
- During mating season males will approach the burrows of females cautiously, tapping and vibrating their legs in order to “lure” the female out [6].

Feeding Behavior

- Ambush predators; they lie in wait to catch their prey, then hold on with their fangs and jaws [4]. They don’t make aerial or food catching webs [6].
- Their venom interferes with the prey’s nervous system (**neurotoxin**) or by breaking down the body’s tissues (**cytotoxin**) [1]
- To digest its prey, it vomits a mixture of digestive enzymes onto its food, breaking the tissue down into a liquid that can then be sucked up through the spider’s mouthparts [1].
- Spider droppings consist mostly of uric acid crystals and are usually dry and chalk-like [1].

Reproduction

- Chilean rose-haired tarantulas reach sexual maturity at 2-3 years of age. Mating season is in September and October [1].
- The male develops **tibial spurs** or “mating hooks,” and swollen tips on both pedipalps which contain a chamber where sperm is stored as well as a syringe-like instrument used to insert semen into the female [1].
- A male must leave the safety and security of the burrow and wander around until he finds a female in her shelter. The female leaves chemical signals called pheromones in the silk that lines her shelter [1].
- Mating starts by the male spinning a special web, then depositing droplets of sperm onto its surface which he loads onto the bulbs of his *pedipalps* (mouthparts) [4].
- The male begins a courtship display, typically ground tapping and caressing. If receptive, the female responds with a display of her own, usually by tapping her feet on the ground [1]. She then turns to face the male and opens her fangs [4]. The male, using the *tibial spurs* on his first set of legs to grab the female’s fangs, pushes her upwards and backwards, allowing him access to her *epigyne* (external genitalia) to release his sperm with his pedipalps, fertilizing the female [1] [4] [6].
- The male will then attempt a hasty retreat, because females occasionally kill their suitors! [1] [4]
- The gestation period is 6 weeks. The female constructs an egg sac and lays a large number of eggs (from 400-500) on the sac, which she carries around and guards for around 2 months, until the spiderlings emerge. Each egg cell’s yolk is packed with energy used by the embryo to develop into a juvenile tarantula [1] [4].

Conservation:

- **Use & Trade**
 - *Grammostola rosea* has been bred in captivity for years either for research purposes or for trade.
 - Probably the most common species of tarantula available in American and European pet stores today, due to the large number of wild-caught specimens exported cheaply from their native Chile into the pet trade [7].

- **Threats**

- Because of the wide-spread collection of this species from the wild for the pet trade, increasing regulation in the future is probably inevitable in order to protect it from becoming threatened and/or endangered [1].
- There are a number of other tarantula species in the world that are currently protected, and several more may be in the future. There are a few laws in effect now, but this is an area mostly unregulated at the present time [1].
- Tarantulas are often misunderstood and feared even though most cannot cause death to humans [4]. There are 800+ species of tarantulas and none of them are dangerous to humans unless they are allergic [6].

- **Predators**

- Various nocturnal animals (large mammals, reptiles, other tarantulas), hunting wasps, parasitized by nematodes or roundworms [1]. Coatis and the tarantula hawk – a wasp that stings the tarantula to paralyze it, then drags the tarantula home to be eaten alive by its larvae [4].

Did you know?/Fun Facts

- All tarantulas have a venom. Although most people are not affected by this species, some people may be allergic to its venom, or just more sensitive, making it a dangerous situation [1].
- There are no known human deaths from tarantula bites. The venom is not poisonous to people, although some people can have allergic reactions to a bite [4].
- They can smell using organs on their feet and taste using sensitive hairs on their legs [4].
- Tarantulas can regenerate a leg if one is lost [6]

Glossary

Abdomen -one of the three main body parts of an insect and one of the two main body parts of spiders.

Cephalothorax- found in various arthropods, comprising the head and the thorax fused together, as distinct from the abdomen behind

Exoskeleton- the external skeleton that supports and protects an animal's body, in contrast to those with internal skeletons (endoskeleton). Animals with an exoskeleton are classified as an *invertebrate*.

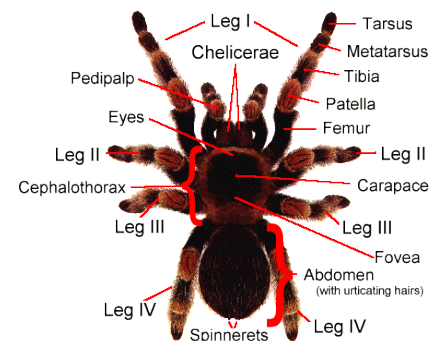
Molting- (of an animal) shed old feathers, hair, or skin, or an old shell, to make way for a new growth.

Pedipalps- One of the second pair of appendages near the mouth of a *chelicerate*, arachnids and horseshoe crabs, used for various reproductive, predatory or sensory functions.

Spinnerets- silk-spinning organ of a spider

Tibial spurs- "mating hooks" on the underside of the tibia (or long segment) of the first pair of walking legs and are used to engage the female's fangs during mating.

Urticating hairs -"Urticating hairs" is actually a bit of a misnomer – urticating bristles is more correct, since "hair" grows from follicles and are only found on mammals. The hair-like bristles found on tarantulas are only superficially similar to hair, but they don't grow from follicles, and in fact they differ greatly in terms of structure, shape, and purpose [3].



References

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