

Psalmopoeus cambridgei (Trinidad Chevron Tarantula)

Order: Araneae (Spiders)

Class: Arachnida (Spiders and Scorpions)

Phylum: Arthropoda (Arthropods)



Fig. 1. Trinidad chevron tarantula, *Psalmopoeus cambridgei*.

[http://www.exoreptiles.com/my/index.php?main_page=product_info&products_id=1127, downloaded 30 April 2015]

TRAITS. A large spider, maximum size 11-14cm across the legs, with chevrons (V-shaped marks) on the abdomen (Fig. 1). Males are either grey or brown in colour, and females vary from green to brown with red or orange markings on the legs (Wikipedia, 2013). The Trinidad chevron tarantula is hairy in appearance, has eight legs, and its body is divided into two parts, the cephalothorax and the abdomen which are connected by a pedicel that looks like a narrow stalk (Fig. 2). The cephalothorax has eight legs plus a pair of smaller leg-like appendages (pedipalps) used to catch prey; in males these have palpal bulbs attached to the ends for holding sperm (Fig. 3). The mouth has chelicerae with fangs at the ends and swollen bases that house the venom glands, and there are eight small eyes (Foelix, 2010). However, even with eight eyes the Trinidad chevron tarantula can hardly see and so depends mostly on touch, smell, and taste to find its way. There are organs on their feet to detect changes in the environment and special type of hair on their legs and pedipalps for taste. The second part, the abdomen attached to a narrow waist, can

expand and contract to accommodate food and eggs; two pairs of spinnerets are located at the end of the abdomen (Fig. 2); silk is spun from them to make webs (Gallon, 2000).

DISTRIBUTION. It is endemic to Trinidad (Bennie et al., 2011).

HABITAT AND ACTIVITY. The Trinidad chevron tarantula is an arboreal species. It mostly inhabits terrestrial habitats mainly rain forests. They do not prefer foliage so they tend to inhabit behind loose tree bark, in epiphytic plant growth, rot holes and some even build tube webs on the walls of buildings and road banks that are not being disturbed on a regular basis (Gallon, 2000). *Psalmopoeus cambridgei* is a nocturnal animal, active at night.

FOOD AND FEEDING: *Psalmopoeus cambridgei* is a predator. They walk a small distance away from their place of residence to hunt tackling any animal that they can defeat which includes bats, frogs, lizards, grasshoppers, mice, crickets, and insects, as they do not use their silk to trap their prey (Gallon, 2000). They use their fangs to inject venom into their prey to stun, kill and liquefy them (Schultz. and Schultz, 2009) so that it can be moved to their retreat to be consumed. The venom also helps the tarantula to consume the prey much easier as it contains enzymes that help to soften the tissues of the prey. Since their sight is not good, they rely on smell and vibrations to know if prey is in close proximity.

POPULATION ECOLOGY. The male tarantulas are smaller and do not live very long whereas the females are larger and has a longer life span than the males (Foelix, 2011).

REPRODUCTION. In mature males the ends of their pedipalps has sperm storage vesicles which, when filled with sperm, are then inserted into the genitalia of the female (Gallon, 2000). The male tarantula fills these vesicles by spinning a web where he deposits some sperm on its underside, and then he walks out, goes on the top this web and extends his palps to dip it into the sperm filling his vesicles. Mating happens at night when the male leaves his retreat to go in search of the female (Gallon, 2000). He finds her when he scents her pheromones, then he courts her by shaking different parts of his body; he angles himself over the entrance, leading the female away from her home. He uses his front legs to nudge the female up, then he stretches his pedipalps towards the female's genitalia to insert sperm; afterwards the female falls as if stunned and the male will pull out his palps and disengage himself from the female then retreat hastily to a safe distance to clean his vesicles with fang and mouth (Gallon, 2000). The female now has some sperm in her spermathecae (sperm storage organs) located under her genital opening; eggs are fertilized while passing from the opening to the spermathecae then she will deposit the eggs on a silken mat which she will build and cover them with more silk layering in her retreat (Gallon, 2000). The hatchlings emerge as postembryos pale white in colour, stationary and take a couple of weeks to moult and darken after which they leave the mother's retreat and construct their own.

BEHAVIOUR Anti-predator behaviour: *Psalmopoeus cambridgei* do not have urticating setae (irritating hairs) used by most tarantulas to ward off predators. This tarantula uses intimidation to ward off predators. This is achieved when he /she rise up on its back legs with the two pairs of front legs extended to the front in the air, if provoked further it will lunge forward and may deliver a bite (Gallon, 2000).

APPLIED ECOLOGY. Trinidad chevron tarantulas are kept as pets, and can be found in pet shops. The venom is the source of psalmotoxin, which is used in the treatment of strokes (Wikipedia, 2015).

REFERENCES

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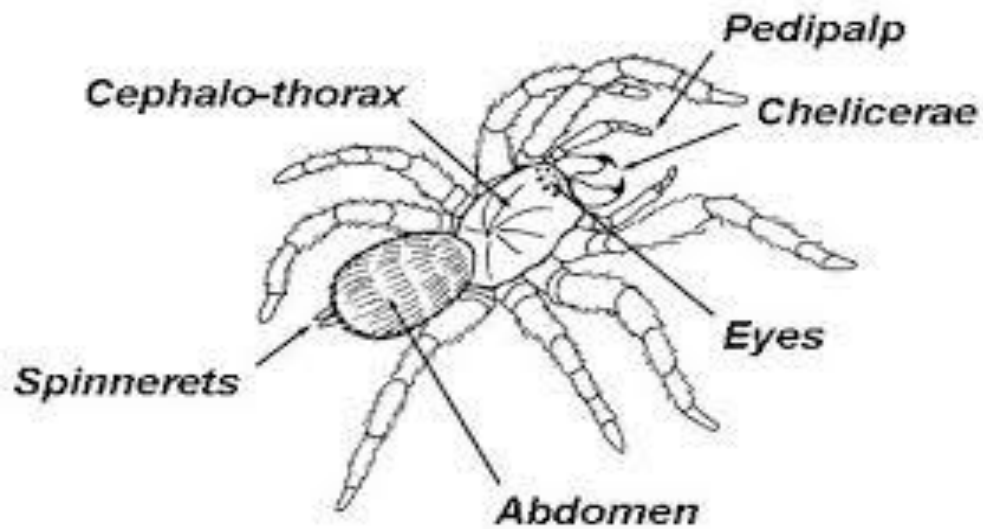


Fig. 2. Anatomy of a tarantula.

[Terresrialtarantulas.blogspot.com, downloaded 31 March 2015]



*Palpal bulb at the end of a mature males' left pedipalp.
Photo By: R, Gallon*

Fig. 3. Palpal bulb at the end of the pedipalp in male tarantula.

[www.thebts.co.uk, downloaded 31 March 2015]