Cyriocosmus elegans (Trinidad Dwarf Tarantula)

Order: Araneae (Spiders)
Class: Arachnida (Spiders, Scorpions and Mites)
Phylum: Arthropoda (Arthropods)

Fig. 1. Trinidad dwarf tarantula, *Cyriocosmus elegans*.

[www.spidersworld.eu/en/product-category/female-tarantulas/ downloaded 2 March 2016]

TRAITS. This tarantula, also called the Trinidad dwarf, Trinidad dwarf tiger rump or valentine tarantula, is one of the smallest tarantulas in the world. It is brightly coloured, consisting of a black body with orange markings (Fig. 1), including a hairless patch in a heart shape covering 30% of its dorsal abdomen (Bagaturov, 2014). The leg span of an adult female is 25-50mm but they are sexually dimorphic since the male is much smaller than the female (less than 12mm) and the male has tibial hooks to grasp the female during mating (Fig. 2).

DISTRIBUTION. This tarantula is found only in Venezuela and Trinidad and Tobago (Fig. 3). Other *Cyriocosmus* species are found in South America but *C. elegans* doesn't venture farther than the Venezuelan land border. Many large colonies have been found in Tobago within relatively small areas (Bagaturov, 2014). They thrive in tropical rainforest areas with high temperatures and lots of moisture.

HABITAT AND ACTIVITY. *C. elegans* live in tropical climates with high humidity and therefore moist ground conditions. They burrow or inhabit natural shelters on the ground which they line with their silk web for stabilization and to facilitate getting in and out. They are nocturnal and therefore most activity occurs at night. Although they perform slow and deliberate movements, they are accomplished, strategic ambush hunters (National Geographic, 2016) and voracious eaters and can feed on prey as large as themselves. When they are out of their burrows and not hunting they are considered skittish and can move very quickly.

FOOD AND FEEDING. The Trinidad dwarf tarantula feeds on a variety of insects and occupy the third trophic level as carnivores. Spiderlings will feed more often and on smaller prey (e.g. woodlice, pinheads) since they grow rapidly and need substantial energy for their moults. Adults will eat larger insects such as cockroaches and crickets and can feed as infrequently as once per month if the meal is large enough (Kambas, 2016). The Trinidad dwarf tarantula may use a 'trip wire' of silk at the burrow entrance to alert them to approaching prey but usually use an ambush method to hunt. They lay in wait for a suitable insect and then pounce, injecting paralysing venom while holding the prey with their appendages. They then secrete enzymes to digest the tissue of their catch in order to ingest them (Fig. 4).

POPULATION ECOLOGY. They are terrestrial, solitary spiders which occupy their own burrow, but can be found in large populations over relatively small areas; they have a high density within their habitat. They reach maturity quickly at about 10-12 months but have a short lifespan of 5-7 years. They are abundant in Trinidad and Tobago and can be found in forested areas with high humidity levels.

REPRODUCTION. Male adults will grasp the female when mating with his tibial hooks to deposit sperm. She will then produce an egg-sac containing 50-70 fertilised eggs which will hatch in approximately one month to give very tiny hatchlings only a few millimetres in leg span. These spiderlings then feed and grow, moulting several times each time the exoskeleton is outgrown. The breeding activity occurs predominantly at the start of the dry season when temperature and humidity are highest.

BEHAVIOUR. Mating behaviour involves drumming of the pedipalps (a pair of small leg-like appendages, before the first true legs) of a male until a suitable female responds and the male then uses his tibial hooks to grasp onto her fangs and he deposits his sperm for fertilisation of the eggs (Brachypelma, 2010). Predators of the tarantula include some members of the wasp family, birds, centipedes and small mammals. The characteristic bright orange heart shape on the abdomen makes it very visible to predators. Anti-predator behaviour includes releasing barbed, urticating (itching) hairs from the abdomen which they kick out when threatened; these hairs irritate skin and tissue and can be lethal to small animals. This tarantula may also bite (and inject venom) but to humans it is equivalent to a bee sting and is not fatal. Warning behaviour to fend off predators involves rearing up their front legs into a threatening posture, and slapping them down on the predator. If these tactics prove unsuccessful they will retreat.

APPLIED ECOLOGY. No threats to this species' survival were found and it is not listed by the IUCN. This species is popular among tarantula hobbyists. They may also be affected by significant loss to their habitat due to human developmet of forested areas in the future.

REFERENCES

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Kambas, D. (2016) *Cyriocosmus elegans.* www.tarantupedia.com/theraphosinae/cyriocosmus/cyriocosmus-elegans Accessed 02/03/16

National Geographic. (2016). Tarantula. http://animals.nationalgeographic.com/animals/bugs/tarantula/ Accessed 28/02/16

Wikipedia (2016) Tarantula. https://en.wikipedia.org/wiki/Tarantula#Predators Accessed 02/03/16

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Fig. 2. Small size of adult *C. elegans.*

[http://tarantulas.tropica.ru/en/node/202?size=preview downloaded 2 March 2016]

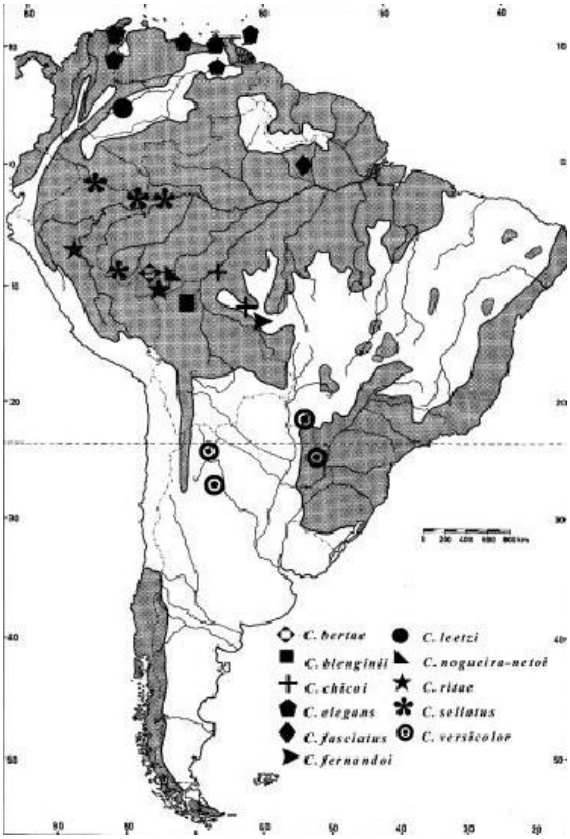

Fig. 3. Distribution of different *Cyriocosmus* species, including *C. elegans*.

[http://tarantulas.tropica.ru/en/evolution/Theraphosinae/Cyriocosmus downloaded 2 March 2016]

Fig. 4. *C. elegans* feeding on a cricket.

[http://www.arachnophilia.de/de/art/22 downloaded 2 March 2016]