

Ocnophiloidea regularis (Trinidad Twig or Stick Insect)

Order: Phasmida (Stick Insects and Leaf Insects)

Class: Insecta (Insects)

Phylum: Arthropoda (Arthropods)



Fig. 1. Trinidad twig, *Ocnophiloidea regularis*.

[http://invertdiary.ebaker.me.uk/2007_06_01_archive.html, downloaded 6 April 2015]

TRAITS. Like other phasmids, these have a twig-like appearance, which lead to the name Trinidad twig or Trinidad stick insect. They have long straight bodies, with six legs, two antennae, two compound eyes and jaws (Fig. 1). These phasmids are smaller than many of their close relatives. This species exhibits sexual dimorphism, where the female grows to a length of 5cm but the male only grows to 4.5cm (Brunner, 1907). Both male and female are apterous (they lack wings), and the young resemble the adults. A detailed identification key to both the adults and eggs (Fig. 2) of phasmids in Trinidad is available (Phasmatodea of Trinidad, 2015). *Ocnophiloidea regularis* was previously known as *Libethra regularis*.

DISTRIBUTION. *Ocnophiloidea regularis* is native to Trinidad and Tobago, and is endemic (not known to be found elsewhere) (Phasmatodea of the Lesser Antilles, 2015).

HABITAT AND ACTIVITY. These phasmids are usually found in humid areas. They are herbivorous and predominantly nocturnal. They may be found during the day sleeping on one of the plants that form part of its diet (Brunner, 1907). This is advantageous as they can camouflage with twigs and leaves to avoid predation, and also are close to their food source. The eyes of these phasmids are quite sensitive, and so allow them to decipher images in low lighting conditions. This ability facilitates their nocturnal activity. The Trinidad twig, like other phasmids, also have considerable regenerative ability, which greatly assists their survival. The limbs of these phasmids, if torn off, or removed by its own volition, may be regrown over time. It would usually take about three moultings for a limb to be entirely replaced, although it will be a bit shorter than its other limbs (Brunner, 1907). Where these are found in forested areas, they are considered important due to their activity as light-gap insects, which are herbivores that create a light-gap by devouring leaves of older, taller trees. This allows light to reach the floor of densely tree-occupied areas, facilitating the growth of younger plants by enabling them to acquire light energy.

FOOD AND FEEDING. The Trinidad twig is herbivorous, and feeds on the leaves of certain plants. As they are often found on their food source, they need not search for food elsewhere. The nymphs (young) of these phasmids feed on the same plant leaves as the adults, but are also known at times to feed on fruit such as banana when available (World of Stick Insects, 2015).

POPULATION ECOLOGY. These phasmids are found alone, unless mating. Their solitary preference is likely due to increased success in avoiding predators through camouflage, as it would be more difficult to camouflage as a twig or part of a leaf while in a group. Though they prefer acting solely, others may be found nearby on other plants or leaves for instance, but they do not function as a group with specialised roles for individuals.

REPRODUCTION. Phasmids such as the Trinidad twig undergo sexual reproduction. Couplings between males and females of these insects may last a long time; sometimes up to several days (Sivinski, 1980). The male clasps on to the female's abdomen (Fig. 3), and stays attached to the female possibly for defence against sperm competition, where there is a better chance that his sperm alone will fertilise eggs if he remains to ward off other males. Citable information was not found on this species' function as facultative parthenogens, which is where females may lay eggs without input of a male, which is known to occur in other species of phasmids, however, some individual accounts claim to have seen this occur (Bugnation, 2006). This would usually occur if there are limited suitable males to mate with. Eggs that are produced this way are always female, and are basically clones of the mother, since there is no sexual reproduction to incorporate variation. Nymphs of the male Trinidad twig reach adult size in about 3-6 months, while the females take about 5-8 months (Terres des phasmes, 2015).

BEHAVIOUR. These phasmids, like others, spend most of the time being very still, as camouflage is their main means of defence against predators. When walking, the Trinidad twig has a certain rocking gait, which is accompanied by the movement of their antennae which help pick up vibrations signalling nearby movement. Social interactions mainly include mating, and warding off males from a female. Males may ward off other males by using their bodies and limbs as weapons against the competitor, while remaining on the female that it is clasped to (Sivinski, 1978).

APPLIED ECOLOGY. Sometimes phasmids are kept by humans as pets, or otherwise kept and bred in captivity either to protect a threatened species, or to be studied and bred. Breeding phasmids is a growing interest for many individuals, due to their interesting morphology and minimal required care for their survival (Bugnation, 2015). This will likely increase the chances of this species surviving, despite any conditions that may occur in its natural habitat.

REFERENCES

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Fig. 2. Eggs of *Ocnophiloidea regularis*.

[<http://lemondedesphasmes.free.fr/spip.php?article232>, downloaded 6 April 2015]



Fig. 3. Male and female Trinidad twigs mating.

[<http://www.pbase.com/tmurray74/image/90551968>, downloaded 6 April 2015]

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