

THE BRITISH & IRISH STICK-INSECTS

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Introduction

This century has seen many additions to our native fauna. Some of the most unusual are the New Zealand stick-insects, three species of which survive in the South West of Britain, and one in South West Ireland: the Prickly Stick-insect *Acanthoxyla geisovii*, the Unarmed Stick-insect *Acanthoxyla inermis* (which is the species found in Ireland), and the Smooth Stick-insect *Clitarchus hookeri*. A fourth species, the Laboratory Stick-insect *Carausius morosus*, is often reared in schools and private homes as pets, and discarded eggs and insects may lead to short lived colonies outdoors, but these cannot survive frosts and are usually killed off by our winters.

The first insect to be recorded was the Prickly Stick-insect, located in Paignton, Devon in 1909, and Tresco, Isles of Scilly in 1943. The Scilly colony may be as old as the Paignton one, since a consignment of New Zealand plants was imported onto Tresco in 1907, and some of these were sent to Paignton the same year. The next insect to arrive, although the last to be identified, was the Unarmed Stick-insect, which was certainly in Treseder's Nursery in Truro in the 1920s, and may have been there somewhat earlier. The Smooth Stick-insect was first recorded on Tresco in the 1940s, but was probably present much earlier.

They arrived here on New Zealand plants, most likely as eggs in the soil. There were probably several importations. Apart from those at Tresco and Treseder's, stick-insects at Falmouth in 1981 were traced to an import by Scott's at Merriot, Somerset in the 1970s, where insects were later seen in the nursery.

Life Cycle

All three species have a similar and most unusual life cycle. They breed parthenogenetically, that is, eggs develop without the need for fertilization by a male. Indeed, males of the Prickly and Unarmed Stick-insects are unknown, even in their native New Zealand, and probably do not exist. Males of the Smooth Stick-insect are not uncommon in New Zealand, but none have been found here.

The life cycle begins with the hatching of the eggs, mainly in late April or early May. They hatch to become miniature adults about ½" long (12mm), and grow by shedding their skin and expanding before the new one hardens. Some 10 weeks after hatching, and five or six moults later, they become adults. A few weeks later they begin to lay eggs, typically 2 or 3 a day but some have been known to lay up to 9 eggs in a day. In their adult life of 3 or 4 months they may lay many hundred of eggs in a warm summer and autumn, although cooler weather will greatly reduce this number.

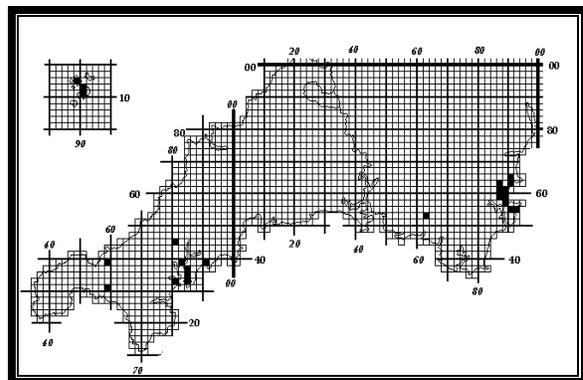
Prickly Stick-insect



This is an unmistakable insect with a body covered in numerous black spines. Adults have a body about 4" long (100mm) and may be either green or brown, green being the more common colour.

FOODPLANTS: This is one of the few insects which feed on both evergreen and deciduous plants, having been found on Cryptomeria, Thuja and Chamaecyparis, as well as Bramble Raspberry, Pittosporum, Myrtle and Fuchsia.

LOCATIONS: It can be found on two of the Scilly Isles. On Tresco in the Abbey Gardens, where it was first discovered in 1943, and fairly widespread on the island. Also on St Marys near Old Town Church and by McFarlane Downs. On mainland Cornwall at St. Mawes (where Tresco insects were released in the Riviera Gardens c1959 and are now widespread in local gardens), Feock, St Just-in-Roseland, Trethem, west Truro, and Veryan. Also in Devon at Paignton, Torquay, Galmpton, and Ermington.



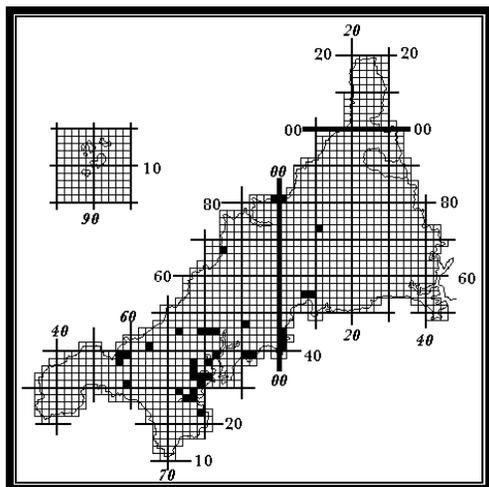
Prickly Stick-insect tetrad distribution at Nov. 2003

Unarmed Stick-insect



Relatively smooth, with a few tiny bumps on the body. Adult insects have a body typically 4" long (100mm), but an insect with a 5" body (125mm) was found in Port Isaac in 1992. This is the longest insect ever found outdoors in the UK. Insects can be either green or brown. Whilst green forms are generally a uniform apple green, brown forms can be most varied. These range from light straw, mahogany red to brown and purple blotched, and all shades in between. Mahogany red insects have also been observed to change colour, being red in the daytime and pale at night. Interestingly, in their native New Zealand, the mahogany red, and brown and purple-blotched forms are unknown, as is their ability to change colour.

FOODPLANTS; Mainly roses, bramble, currant, potentilla, and leylandii hedging, but also dahlia, hypericum, red valerian, and probably a wide range of plants.



Unarmed Stick-insect tetrad distribution at Nov. 2003

LOCATIONS: Until 1985, all non-spiny stick-insect reports on mainland Cornwall were treated as the Smooth Stick-insect. Research by Paul Brock on insects from several locations showed they were the similar Unarmed Stick-insect. It is most likely that all mainland insects are the Unarmed, but this has not been positively confirmed at every location. These are the known mainland sites: Truro, particularly around the former site of Treseder's nursery (first reported 1979, but seen

at the nursery since the 1920s), several sites around the Helford River (1987, but may have been there since the 1920s), also at Camborne, Constantine, Falmouth, Feock, Mawnan Smith, Mevagissey, Mylor Bridge, Penryn, Probus, Port Gaverne, Port Isaac, Rosewarne, Tywardreath and Veryan Green. Many of these colonies originated from Treseder's plants, or via Falmouth insects, which were collected in 1981 and given to a butterfly breeder in Penryn. Their eggs hatched in spring 1982 and nymphs were distributed to schools throughout Cornwall. Discarded school insects and eggs may give rise to more colonies.

This is the species found in SW Ireland, particularly around the Bay of Kenmare in County Kerry. It was first recorded on Rossdohan Island in the early 1960s, but may have been there much earlier. Several large gardens around the Bay of Kenmare were laid out with New Zealand plants from Treseder's in Victorian times.

Smooth Stick-insect

This is very similar to the Unarmed Stick-insect, but somewhat smaller (80mm long). It can be identified as its cerci are pointed, not rounded. It has no opercular spine, and has a near continuous black line on its body. Its known food plants are Brambles and roses, also ferns and callistemon. Outside New Zealand just two colonies are known, and both are on the Isles of Scilly; the Abbey Gardens Tresco, and in the north of St Marys.

Laboratory Stick-insect

As this species is so often kept in schools and private homes, discarded insects and eggs may form short-lived colonies almost anywhere. They will be killed off by the first frost. This is smaller than the New Zealand species, being typically only 3" long (70mm). It also lacks the cerci at the end of the abdomen, and has long antennae, almost as long as its legs.

Comparing the end of the abdomen with this key may identify the three non-spiny stick-insects; -

Unarmed Stick-insect



Short opercular spine Rounded cerci

Smooth Stick-insect



No opercular spine Pointed cerci

Laboratory Stick-insect



No opercular spine No visible cerci