

## STICK INSECT PESTS OF OIL PALM IN PAPUA NEW GUINEA

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### Introduction

There are two types of stick insects ("*wild kindam*") feeding on oil palm in PNG that are of economic importance. The larger species is called *Eurycantha calcarata* (Fig.1) while *E.insularis* is smaller and is known only from mainland PNG (Fig.2). A less common species, never confirmed as a pest is *E.horrída* (Fig. 3). You can (and should) check on them in the relevant pest display boxes and on the posters that are in all plantation and OPIC offices.

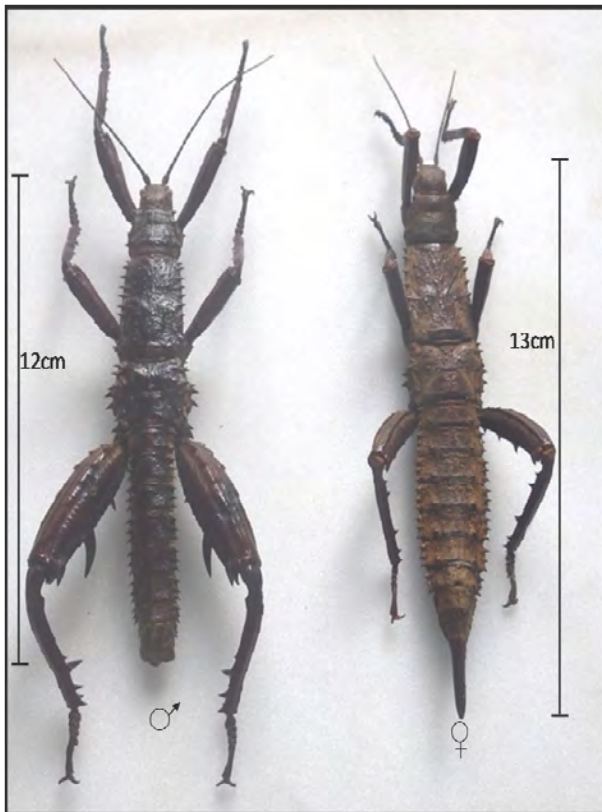


Figure 1: *Eurycantha calcarata* (Female-(L) and Male (R))

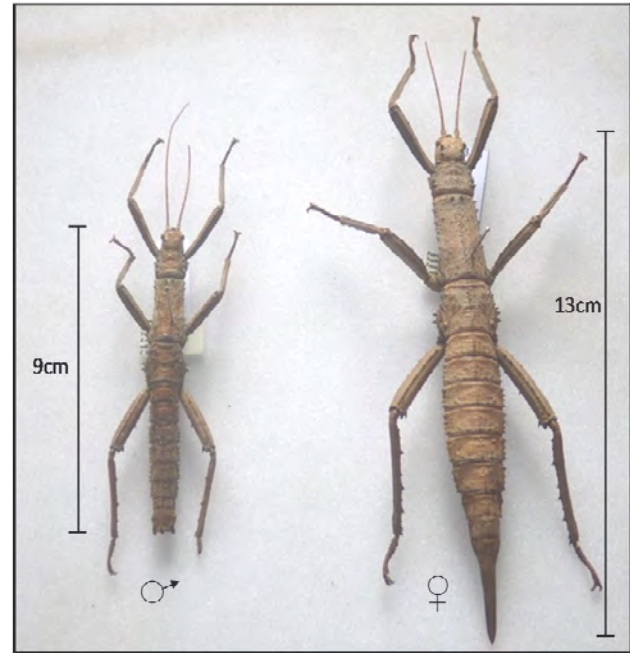


Figure 2: *Eurycantha insularis*, male (L) and female (R)

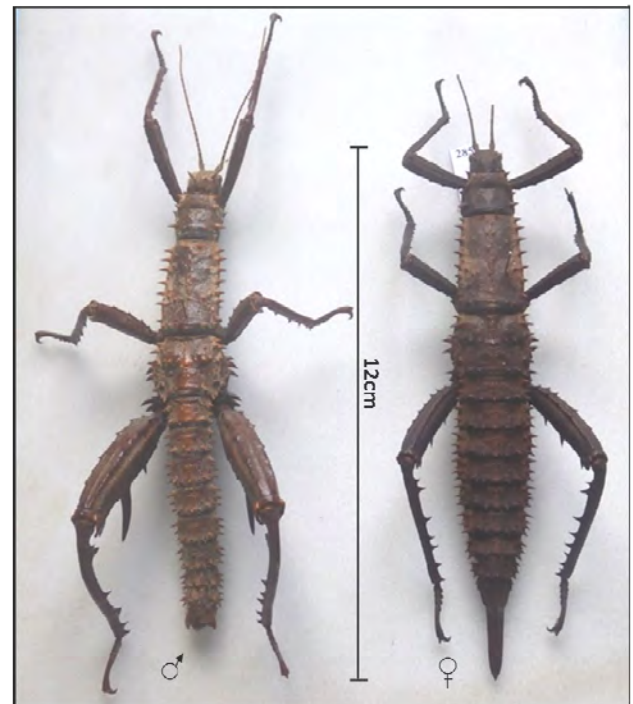


Figure 3: *Eurycantha horrida* Male (L) and Female (R). Both are about 12cm.

## Biology

All three species feed on (amongst other things), the leaves of oil palm, and they may cause serious defoliation (=reduced fruit production). The stick insects are usually only to be found at night, as they hide during the daylight hours (especially in old bunches of male spikelets). Females are larger than males, and unlike the sexavae, they do not bite, but males of the larger species (*E.calcarata* and *E.horrída*) can give a nasty kick with their hind legs, which are armed with strong spines. Adults of *E.insularis* are more delicate, and uniformly brown in colour, while *E.calcarata* and *E.horrída* are typically black, but are sometimes brown. The young stages look like miniature versions of the adults. When eggs are laid, they are either placed into moss clumps on the palm trunks, frond bases or simply dropped on to the ground, where they are similar to the droppings ("excreta").

## Stick insect damage

Stick insects will feed on a variety of plants, however they may cause serious defoliation to oil palms at all stages. The damage they cause is characteristic, as they remove large patches of leaf tissue down to the mid rib (Fig. 4).



Figure 4: Damage to oil palm leaflets caused by *E.calcarata*.

## Control and sanitation

Control on young palms is by "hand-picking", while for older palms, Targeted Trunk Injection (TTI) is currently recommended.

Fungal pathogens (*Metarhizium*) have not been used against stick insects, although adults are sometimes found to have been killed by fungal pathogens.

PNGOPRA currently rears a recently identified egg parasitoid for release at localised sites, and the planting of beneficial (nectar and shelter) providing plants will encourage natural enemies (e.g. Hymenoptera, *Anastatus eurycanthae*) (Fig. 5). Other recently identified egg parasitoids of *E.insularis* have not yet been reared in the laboratory—a future possibility.

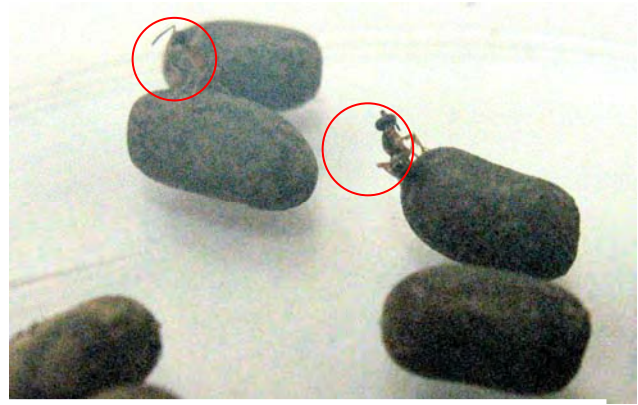


Figure 5: *Anastatus eurycanthae* adult females parasitizing *E.calcarata* eggs.

## Importance of survey and reporting

Regular surveys for the presence or absence of all pests are essential to enable Managers to know when to request a Pest Visit from PNGOPRA. During surveys, samples of stick insects from palms should be collected and sent to PNGOPRA for confirmation of their identity and for any follow up visits that may be required. Samples collected should **not** be sent in plastic bags, but in the white pollination bags available. They must be provided with food. They should not be allowed to become overheated, or left too long without moisture. A Pest Visit request (PestReq) should be either emailed or hand delivered to PNGOPRA.

## Label information required is:

1. Locality where the sample was collected, Plantation, Division, MU, Section or Block.
2. Host plant from which the samples were collected.
3. Age of the palm/s if collected from oil palm.
4. Date of collection.
5. Name of person who made the collection.

## Authority to undertake palm Treatment (TTI)—an important reminder

*Plantations and or OPIC considering to undertake TTI with Methamidophos are reminded that this is not permitted by the PNG Department of Environment and Conservation (DEC) without written authority from PNGOPRA (Head of Entomology). Permission is granted by the possession of a signed Pest Recommendation form.*

*Treatment teams are expected to receive regular training in Operational, and Health and Safety procedures.*

For further information contact:

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