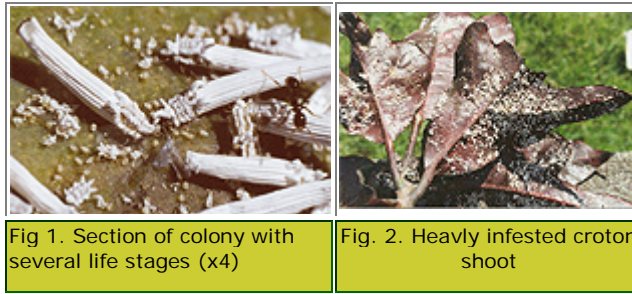


# The Ensign Scale, *Orthezia insignis*, A Pest of Growing Concern in Residential Areas

## Introduction

Around 1995, gardens in the Vineyard Town area of south-eastern St. Andrew experienced damage by a pest which, before then, was hardly noticed. Affected plants had large numbers of small, white insects attached (Fig. 1) and looked sickly, some eventually dying. Croton was the main plant affected (Fig. 2).



Householders sprayed many pesticides, with poor results. The pest has since been found in Havendale / Hope Pastures ShortwoodMeadowbrook, , Doncaster, , Harbour View and Half-Way Tree in the corporate area; Morant Bay, St. Thomas and the Portmore, Hellshire and Spanish Town areas of St. Catherine. They have also been seen in locations in St. Ann, St. James, Westmoreland and Clarendon. So far, the pest has been reported only from residential/urban areas. It is not known to be a pest in agricultural areas. However, we cannot say how long this will remain the case.

This pest, the Ensign Scale, *Orthezia insignis* (Homoptera: Ortheziidae), has been present in Jamaica for decades but never caused such damage. Reasons for the sudden upsurge of the pest are not yet fully understood. The pest is found in many tropical areas e.g. central and south America, the Caribbean, south and east Africa, India and south-east Asia. It is also present in the United States.



They are often seen among yellowish, newly-hatched crawlers (less than 1 mm) and growing females (from 1 x 2 mm) looking like small, white, pointed stars (Fig 1). Males (Fig's 1, 4) are much smaller than mosquitoes (0.5 x 3 mm) purplish-grey, with very delicate wings (about 3 mm, both outstretched). The life cycle (egg to adult) lasts about 4.5 months.

Adult females are small (up to 3 x 13 mm) and white, attached mainly at the backs of leaves (Fig 2).

## Behaviour

Females settle usually at the backs of leaves, which they pierce and suck sap from within. As they mature, threads of white wax grow out behind their bodies, forming a tube with slightly-curved tip.

Eggs are laid inside these egg sacs. Crawlers later hatch and move out onto the plant (**Fig 3**).

As the pest numbers grow, crawlers and young females move to less-crowded sections of a plant or to new plants, in search of food. They can be seen walking across ledges, flower pots (Fig. 5), other objects and the ground to do so. There they settle, feed, grow into adults and breed, continuing the life cycle. In early mornings, males fly around infested plants, seeming to float in the air. While flying, they appear white. This has led persons to call them White Flies, which they are not. Males do not damage plants as they do not feed.

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## Damage

In heavy infestations, sucking by females may weaken plants, cause wilt, leaf curl and leaf drying.



**Figure 6.** Mango- Fruit infestation

While feeding, they pass out a sugary liquid, honeydew, onto the plant (Fig 9). Ants feed on honeydew and are usually seen among the Ensign scales and other similar insects. A black fungus, Sooty Mold, also grows on honeydew.

## Infested

Together, direct feeding and sooty mold weaken the plant more severely. Heavy infestations strip leaves and kill branchess of large Poor Man Orchid trees. As new shoots appear, they may also be infested. After repeated attacks, some plants may die.

Many householders in infested areas can attest to this, with their croton, ixora, bougainvelia, small annual plants, among others. Some have cut down plants in frustration.

If exported produce is found contaminated by Ensign scale, especially crawlers, shipments may be rejected, resulting in lost earnings and a tainted reputation.

## Plants Infested

– Sanseveira, (Rice and Peas), Baby's Breath fern, Allamanda, Dieffenbachia, Colocasia, Kalanchoe, Red Ginger, Shrimp Plant, Lantana, Mussaenda, Gerbera, Thunbergia, Hibiscus, Rose, Bahama and Zoysia grasses, Mint, Red Peas, Hot Pepper, Mango, Soursop, Pomegranate, Guava, Orange.

Ensign Scale is reported to feed on plants from the Families: Malvaceae, Compositae, Verbenaceae, Solanaceae, Rutaceae, Leguminosae.

## Management

### *Prevention*

The insect does not move over large distances by itself. Long-range spread needs help from man and animals (e.g. possibly birds). As such, infested plants should not be moved to areas that are not infested. Remember: "A' ounce o' prevention worth a pound o' cure"! Plant nurseries in particular, should pay keen attention to their stock.

Ants move the insects around and protect them to get honeydew. Sticky barriers e.g. petroleum jelly, Tanglefoot insect glue, placed at the base of plant stems, will help reduce this means of spread. These plants must not touch any other which is not so treated. Pruning may be necessary.

Physical & Chemical Control Attempts at chemical control have not given acceptable results, as the white covering on the insect's body protects it from contact insecticides. Most systemic insecticides, which penetrate into the plant, also do not work well. As a result, spraying alone will not do. The following is recommended for heavy infestations:

1. Reduce the number of insects, using fire or sunshine as follows:

*Carefully cut plant parts with many of the pests and place in a blazing fire. Avoid shaking insects off. Collect and treat fallen leaves similarly.*

*Otherwise, place cut shoots in a sound plastic bag, tie the mouth tightly and place in direct sunlight for 2-3 days. Heat will buildup inside and destroy the insects. N.B. Do not place sharp parts in the bag, as heat (and the insect) will escape through holes made.*

2. Spray insects left on the plant, every 5 – 7 days, using one of the following mixtures:

*Liquid soap [2-4 tablespoonfuls/gallon water] OR Safer insecticidal soap @ label rates + a contact (e.g. malathion, diazinon) or systemic insecticide (e.g. imidacloprid), at labeled rates.*

*Mineral or orchard oil at labelled rate + an insecticide as above.*

It is very important that pests are well-sprayed. Soap dissolves the wax, exposing the insect to the other insecticide and to drying out; oil suffocates them. Treat light infestations as at

2. above.

**Never throw pruned infested plant parts in the garbage: This will spread the pest.**

When one householder tries to manage the pest and neighbours do not, the pest will always come back from the untreated premises. This makes it difficult to manage the pest.

## **Biological Control**

In countries such as Mexico, Kenya, Uganda, Hawaii and Peru , another insect, a ladybird beetle *Hyperaspis pantherina* (Coleoptera: Coccinellidae), feeds on the pest and keeps it at tolerable levels. Efforts continue locally, to introduce this, or another predator into Jamaica for this purpose. Another ladybird beetle, *Hyperaspis connectans*, has been reported feeding on the pest in Jamaica.

Other natural enemies of the pest include other ladybird beetles, spiders, a Syrphid fly, among others.

## **Conclusion**

The Ensign Scale is a major pest on several ornamental plants of gardens in residential areas, particularly the corporate area. Damage is spreading. Effective control measures are not immediately available. Short-term, community- wide steps can delay the buildup and short distance spread of this pest. Vigilance by plant nurseries and all persons transporting plants will restrict new infestation of pest-free areas. In the meantime, all persons in infested areas are urged to co-operate to reduce their numbers and limit further spread and devastation. All citizens should report any suspected cases promptly. RADA and the Ministry of Agriculture are working to assist in this effort, to preserve the beauty and function of our living environment.

Contact the nearest RADA office/officer for further information.

## **References:**

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