

1. PaDIL Species Factsheet



Scientific Name:

Fiorinia fioriniae (Targioni Tozzetti)
(Hemiptera: Diaspididae)

Common Name

Avocado Scale

Live link: <http://www.padil.gov.au/maf-border/Pest/Main/142937>

Image Library

New Zealand Biosecurity

Live link: <http://www.padil.gov.au/maf-border/>

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Landcare Research

Landcare Research — Manaaki Whenua

<http://www.landcareresearch.co.nz/>

Biosecurity New Zealand

Tiakitanga Pūtaiao Aotearoa

MPI (Ministry for Primary Industries)

<http://www.biosecurity.govt.nz/>

2. Species Information

2.1. Details

Specimen Contact: New Zealand Arthropod Collection - nzac@landcareresearch.co.nz

Author: Rhode, B.E. & Crosby, T.K.

Citation: Rhode, B.E. & Crosby, T.K. (2013) Avocado Scale (*Fiorinia fioriniae*) Updated on 3/30/2014 Available online: PaDIL - <http://www.padil.gov.au>

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2.2. URL

Live link: <http://www.padil.gov.au/maf-border/Pest/Main/142937>

2.3. Facets

Commodity Overview: Field Crops and Pastures, Horticulture

Commodity Type: Avocado & Cinnamon, Banana, Citrus produce, Coconut, Figs & Breadfruit, Mango, Persimmon, Tea, Tomato, Tamarillo & Egg plant

Distribution: Afrotropic, Australasia, Indo-Malaya, Nearctic, Neotropic, Palearctic

Groups: Bugs

Host Family: Agavaceae, Anacardiaceae, Annonaceae, Aquifoliaceae, Araceae, Araliaceae, Arecaceae, Asclepiadaceae, Bombacaceae, Buxaceae, Celastraceae, Clusiaceae, Crassulaceae, Cycadaceae, Ebenaceae, Ericaceae, Euphorbiaceae, Fagaceae, Gnetaceae, Lauraceae, Liliaceae, Malvaceae, Moraceae, Musaceae, Myricaceae, Myristicaceae, Myrtaceae, Oleaceae, Oxalidaceae, Pinaceae, Pittosporaceae, Proteaceae, Rosaceae, Rubiaceae, Ruscaceae, Rutaceae, Salicaceae, Santalaceae, Sapotaceae, Solanaceae, Sterculiaceae, Taxaceae, Theaceae, Ulmaceae, Cephalotaxaceae, Hemerocallidaceae, Laxmanniaceae

Pest Status: 0 Unknown

Status: 0 NZ - Unknown

2.4. Other Names

Camellia Scale

Chermes arecae Boisduval, 1868

Diaspis fioriniae Targioni Tozzetti, 1867

European Fiorinia Scale

Fiorinia camelliae Comstock, 1881

Fiorinia fioriniae Cockerell, 1893

Fiorinia palmae Green, 1896

Fiorinia pellucida Targioni Tozzetti, 1868

Fiorinia Scale

Palm Fiorinia Scale

Parlatoreopsis camelliae Kawai, 1972

Parlatoria fioriniae Korean Society of Plant Protection, 1972

Ridged Scale

Uhleria camelliae Comstock, 1883

Uhleria fioriniae Comstock, 1883

2.5. Diagnostic Notes

****Description from Williams & Watson (1988)****

Female scale about 1.5 mm long, elongate, yellow-brown, flat, exuviae terminal. Male scale whitish, smaller than female scale.

Adult female on microscope slides elongate, sides subparallel, head rounded, without interantennal process; pygidium triangular. Pygidium with well-developed median lobes, forming a distinct notch at apex, strongly divergent and zygotic. 2nd lobes prominent, with inner and outer lobules. Gland spines arranged singly on margins. Marginal macroducts large, numbering 3 or 4 on each side. Dorsal ducts smaller than marginal ducts, represented by a few in submedian area at base of pygidium.

Ventral surface with perivulvar pores present in 5 elongate groups. A few duct tubercles present on margins of mesothorax, metathorax and abdominal segment I. Antennae conical, each with a single seta. Anterior spiracles each with a small group of disc pores.

****Biology****

Fiorinia fioriniae has three generations per year. Eggs are laid in May, July and August (Kuwana, 1911). Johnson & Lyon (1976) indicated overlapping generations in the southern U.S. There are few reports dealing with the life cycle of palm fiorinia scale. Johnson and Lyon (1976) indicate overlapping generations in the southern U.S. Murakami (1970) states that it has 3 generations annually in Japan with eggs laid in May, July, and August. (Miller & Davidson, 2005).

****Structure****

Adult female elliptical, shield-shaped, thin; translucent, brownish yellow to orange-brown, lateral margins slightly curved; 1-1.3 mm in length. First exuviae terminal, pale yellow, projecting partly beyond the second exuviae. The second exuviae covers the insect entirely. The thin waxy secretory cover extends over the 2nd exuviae and slightly beyond the margin of the 2nd exuviae (Dekle, 1965c).

****Systematics****

Fiorinia fioriniae can be identified by its head without a tubercle or fleshy process between the antennae; pygidium with usually only 3 or sometimes 4, large marginal ducts in the adult female (Ferris, 1937).

****Economic Importance & Control****

Miller & Davidson (1990) list this insect as a serious and widespread pest. The palm fiorinia scale is regarded as a pest of avocado (Williams & Watson 1988, Perez Guerra 1986, Cohic 1958), palms (Hodgson and Hilburn 1991, Dekle 1977), tea (Nagarkatti and Sankaran 1990), and ornamentals (Dekle 1977). Beardsley and González (1975) consider this scale to be one of 43 serious armored scale pests, and Miller and Davidson (1990) consider it to be a serious world pest.

****Foes****

COLEOPTERA Coccinellidae: *Microweisea* sp., *Rhyzobius pulchellus*.

HYMENOPTERA Aphelinidae: *Aphytis chrysomphali*, *Aspidiophagus lounsburyi*, *Aspidiotiphagus citrinus*, *Aspidiotiphagus citrinus agilior*, *Aspidiotiphagus lounsburyi*, *Encarsia citrina*, *Hispaniella lauri*, *Signiphora* sp.,

Mymaridae: *Allaptus aurantii*, *Dicopus citri*.
THYSANOPTERA Thripidae: *Karnyothrips flavipes*.

****General Remarks****

Detailed description and illustration by Balachowsky (1954e).

****Keys****

Gill 1997: 144; Williams & Watson 1988: 115 (female); Chou 1982: 105 (female); Howell 1977: 836 (first instar); Gerson & Zor 1973: 516 (female); Danzig 1971d: 841 (female); Beardsley 1966: 532 (female); Takagi 1961: 41 (female); McKenzie 1956: 32 (female); Balachowsky 1954e: 303 (female); Ferris 1942: SIV-446:54 (female); Fullaway 1932: 96 (female); Kuwana 1925b: 3 (female); MacGillivray 1921: 374 (female); Robinson 1917: 18 (female); Leonardi 1906c: 18 (female); Green 1896e: 93 (female).

2.6. References

- <http://www.sel.barc.usda.gov/catalogs/diaspidi/Fioriniafioriniae.htm> - Williams, D. J. & Watson, G. W. (1988). *The scale insects of the tropical South Pacific region. Part 1. The armoured scales (Diaspididae)*. CAB International, Wallingford. 290 pp.

2.7. Web Links

ScaleNet: <http://www.sel.barc.usda.gov/catalogs/diaspidi/Fioriniafioriniae.htm>

3. Diagnostic Images

Results Generated:

Tuesday, August 16, 2022
