

COCCIDAE OF GUAM

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BOARD OF AGRICULTURE AND FORESTRY, HONOLULU

The records in this list are based on my collections of 1911; reports of S. R. Vandenberg, 1925-1931; collections by O. H. Swezey and R. L. Usinger, 1936; records of R. G. Oakley, 1938-1939; and records of interceptions by the U. S. Bureau of Entomology and Plant Quarantine.

SUBFAMILY MONOPHLEBINAE

1. ***Icerya purchasi*** Maskell, New Zealand Inst., Trans. 11: 221, 1878.
On *Citrus* and ironwood, Fullaway; on orange and lime, Oakley; on lemon, Vandenberg. Well controlled by the ladybeetle, *Rodolia cardinalis* (Mulsant), which was introduced from Hawaii in 1926 by Vandenberg.

SUBFAMILY ERIOCOCCINAE

2. ***Pseudococcus boninsis*** (Kuwana).
Dactylopius boninsis Kuwana, New York Ent. Soc., Jour. 17: 161, 1909.
On sugar cane, Agricultural School Farm, Piti, July 27, Swezey; Dededo, Aug. 11, Swezey. At Piti parasitized by *Pseudococcobius terryi* (Fullaway).
3. ***Pseudococcus brevipes*** (Cockerell).
Dactylopius brevipes Cockerell, The Entomologist 26: 267, 1893.
On pineapple, Fullaway, Usinger, Swezey; on sugar cane, Yona, May 12; Piti, July 27, Swezey; on tuberose, Usinger; on *Pandanus*, Usinger, Oakley.
4. ***Pseudococcus* species near *brevipes***.
On pineapple and *Barringtonia*, Oakley.
5. ***Pseudococcus cocotis*** (Maskell).
Dactylopius cocotis Maskell, New Zealand Inst., Trans. 22: 149, 1889.
On coconut, Fullaway, Swezey, Usinger, Oakley; on coconut and oil palm, Vandenberg.
6. ***Pseudococcus comstocki*** (Kuwana).
Dactylopius comstocki Kuwana, Calif. Acad. Sci., Proc. 3(3): 52, 1902.
On cotton, Usinger.
7. ***Pseudococcus lilacinus*** Cockerell, Davenport Acad. Nat. Sci., Proc. 10: 128, 1905.
Mt. Alifan, May 21, on male inflorescence of seeded variety of breadfruit, *Artocarpus communis*, Swezey; on *Terminalia catappa*, Oakley.

8. **Pseudococcus** species close to **lilacinus**.
Umatac, May 28, on large-leaved *Ficus*; Machanao, June 30, Swezey.
9. **Pseudococcus** species close to **lilacinus**.
On *Citrus*, Fullaway; on *Randia racemosa* and *Guamia mariannae*, Swezey, Usinger.
10. **Pseudococcus** species (*citri* group).
On *Citrus*, Fullaway; on orange, Oakley.
11. **Pseudococcus** species (not *citri*).
On *Pandanus*, Oakley; on *Premna gaudichaudii*, Swezey, Oakley.
12. **Pseudococcus** species.
At base of fruit of *Crescentia alata*, Swezey.
13. **Pseudococcus** species.
On coffee, Fullaway, Oakley.
14. **Pseudococcus** species.
On rice, Oakley.
15. **Pseudococcus** species.
On tuberose, Oakley.
16. **Ferrisia virgata** (Cockerell).
Dactylopius virgatus Cockerell, The Entomologist 26: 178, 1893.
On peanut, cotton, Ceara rubber, eggplant, soursop, Fullaway; Inarajan, May 7, on *Citrus*, Swezey, Usinger; Yona, May 12, on pigeon pea, Swezey; on cactus, mango fruits, *Allamanda*, Oakley.
17. **Trionymus sacchari** (Cockerell).
Dactylopius sacchari Cockerell, Trinidad Naturalists' Club, Jour. 2: 195, 1895.
On sugar cane, Fullaway, Swezey, Usinger, Oakley.
18. **Antonina boutelouae** Parrott, Kansas Expt. Sta., Bull. 98: 138, 1900.
On Bermuda grass, Fullaway.

SUBFAMILY ASTEROLECANIINAE

19. **Asterolecanium bambusae** Boisduval, Insectologie Agricole, 1869.
On bamboo, Fullaway, Oakley; Piti, April 30, on bamboo stems, Swezey.
20. **Asterolecanium miliaris longum** (Green).
Planchonia miliaris var. *longa* Green, Indian Mus. Notes 4: 5, 1896.
Piti, Sept. 26, Oct. 27, on bamboo leaves, Swezey.

21. *Asterolecanium pustulans* (Cockerell).

Asterodiaspis pustulans Cockerell, Inst. Jamaica, Jour. 1: 143, 1892.

On cotton, Oakley.

SUBFAMILY LECANIINAE

22. *Pulvinaria psidii* Maskell, New Zealand Inst., Trans. 25: 223, 1892.

On coffee, Fullaway, Oakley; Sumay, Aug. 2, on corn, Swezey; Piti, on *Gardenia*, Swezey.

23. *Pulvinaria* species near *tyleri*.

On sweet potato leaves, Fullaway, Oakley.

24. *Saissetia nigra* (Nietner).

Lecanium nigrum Nietner, Enemies of the coffee tree, 9, 1861.

On cotton, Ceara rubber, kapok, Fullaway, Oakley; Tumon, May 30, on *Barringtonia speciosa*, Swezey; Sumay, Aug. 2, on corn, Swezey; Sumay Road, June 21, on *Premna gaudichaudii*, Swezey; on *Pandanus*, corn, *Asplenium nidus*, Oakley. Parasitized by *Tomocera californica*.

25. *Saissetia hemisphaerica* (Targioni).

Lecanium hemisphaericum Targioni, Studii sul. cocciniiglie, 26, 1867.

On coffee, Fullaway, Oakley.

26. *Saissetia* species.

On *Morinda*, Swezey.

27. *Saissetia* species.

On pigeon pea, Fullaway.

28. *Saissetia* species.

On peanut, Fullaway.

29. *Coccus acuminatus* (Signoret).

Lecanium acuminatum Signoret, Soc. ent. France, Ann. 5(3): 397, 1873.

On *Ochrosia* and *Gardenia*, Oakley.

30. *Coccus elongatus* (Signoret).

Lecanium elongatum Signoret, Soc. ent. France, Ann. 5(3): 404, 1873.

On *Hibiscus*, croton, *Pithecolobium dulce*, *Psophocarpus tetragonolobus*, Oakley.

31. *Ceroplastes floridensis* Comstock, U. S. Dept. Agric., Rept. (1880), 331, 1881.

On mango, Vandenberg, Swezey.

32. *Ceroplastes rubens* Maskell, New Zealand Inst., Trans. 25: 214, 1892.

On mango, sunflower, *Barringtonia*, Oakley.

SUBFAMILY DIASPIDINAE

TRIBE PARLATORINI

33. *Parlatoria proteus* (Curtis).
Aspidiotus proteus Curtis, Gardener's Chronicle, 676, 1843.
 On *Gardenia*, Swezey, Oakley.
34. *Parlatoria cinerea* Hadden, Canadian Ent. 41: 299, 1909.
 On grapefruit, Oakley.

TRIBE LEPIDOSAPHINI

35. *Lepidosaphes beckii* (Newman).
Coccus beckii Newman, The Entomologist 4: 217, 1869.
 On lemon, Bureau of Entomology and Plant Quarantine.
36. *Lepidosaphes mcgregori* Banks, Philippine Jour. Sci. 1: 233, 1906.
 On coconut leaf, Vandenberg, Swezey, Oakley, Bureau of Entomology and Plant Quarantine.
37. *Lepidosaphes duponti* Green, Bull. Ent. Research 7: 195, fig. 3, 1916.
 On coconut trunk, Fullaway, Oakley, Bureau of Entomology and Plant Quarantine.
38. *Lepidosaphes tubulorum* Ferris, Bull. Ent. Research 12: 216, 1921.
 On asparagus, Chinese inkberry, Oakley.
39. *Lepidosaphes* species near *tubulorum*.
 On rose, Swezey; on rose and sweet potato, Oakley.
40. *Lepidosaphes* species near *tubulorum*.
 On mango fruit, Swezey.
41. *Lepidosaphes* species.
 On *Areca* palm, Bureau of Entomology and Plant Quarantine.
42. *Ischnaspis longirostris* (Signoret).
Mytilaspis longirostris Signoret, Soc. ent. France, Bull. VI, 2: xxxv, 1882.
 On *Jasminum sambac*, Swezey; *Pandanus*, Oakley; palm, Bureau of Entomology and Plant Quarantine; Piti, May 2, on mango; Piti, July 30, Swezey.
43. *Pinnaspis* species.
 On *Hibiscus*, Oakley.

TRIBE ASPIDIOTINI

44. *Aspidiotus destructor* Signoret, Soc. ent. France, Ann. IV, 9: 120, 1869.
 This scale was first reported on coconut in 1924 by C. W. Edwards, having

been discovered late in December of the previous year. It soon threatened the destruction of the coconut trees in Guam, as it had destroyed them on Saipan. However, a small black ladybeetle (*Telsimia nitida* Chapin) which was found to be feeding on the scale prevented the catastrophe. In 1927, *T. nitida* was reported to have effected complete control of this scale in Guam. In 1936, no infestations were found, and only small colonies were occasionally found on coconut leaves, banana, grape, mango, *Ochrosia* fruits, and avocado. Reported also on papaya and *Dioscorea alata* by Oakley.

45. **Aspidiotus lataniae** Signoret, Soc. ent. France, Ann. IV, 9: 124, 1869.
Piti, July 30, on rose, Swezey; on *Leucaena glauca*, Oakley; on coconuts, Bureau of Entomology and Plant Quarantine.
46. **Aspidiotus** species near **lataniae**.
On rose, Oakley.
47. **Aspidiella (Targionia) sacchari** (Cockerell).
Aspidiotus sacchari Cockerell, Inst. Jamaica, Jour. 1: 255, 1893.
On *Sporobolus* grass, Swezey, Usinger; on sugar cane, Oakley.
48. **Aspidiella (Targionia) hartii** (Cockerell).
Aspidiotus hartii Cockerell, Psyche 7, Suppl. 1: 7, 1895.
On *Dioscorea* species, Bureau of Entomology and Plant Quarantine.
49. **Aonidiella inornata** McKenzie, Microentomology 3: 10, 1938.
On orange and *Ochrosia*, Oakley; on *Citrus* as *Chrysomphalus aurantii*, Fullaway, Vandenberg.
50. **Aonidiella sotetsu** (Takahashi).
Chrysomphalus sotetsu Takahashi, Gov. Inst. Formosa, Rept. 60: 57, 1933.
On *Citrus*, Swezey.
51. **Aonidiella orientalis** (Newstead).
Aspidiotus orientalis Newstead, Indian Mus. Notes 3(5): 26, 1894.
On rose and *Citrus*, Swezey.
52. **Aonidiella** species.
On orange and *Ochrosia*, Oakley.
53. **Chrysomphalus dictyospermi** (Morgan).
Aspidiotus dictyospermi Morgan, Ent. Mo. Mag. 25: 352, 1889.
On lemon, Bureau of Entomology and Plant Quarantine.
54. **Chrysomphalus** species.
On coconut, Bureau of Entomology and Plant Quarantine.

55. Duplaspidiotus tesseratus (de Charmoy).

Aspidiotus tesseratus de Charmoy, Soc. Amic. Sci., Proc. p. 23, 1899.

On coffee, Fullaway.

TRIBE DIASPINI

56. Phenacaspis inday (Banks).

Chionaspis inday Banks, Philippine Jour. Sci. 1: 787, 1906.

On palm, Bureau of Entomology and Plant Quarantine. Perhaps this is the scale reported on coconut by Vandenberg as *Hemichionaspis minor*.