Publication: Dumbleton,L.J. 1961: Aleyrodidae (Hemiptera: Homoptera) from the South Pacific. *N.Z. J. SCI.*: 4 (4):770-774

Reprinted from the NEW ZEALAND JOURNAL OF SCIENCE, *Vol. 4, No. 4, December 1961*

ALEYRODIDAE (HEMIPTERA : HOMOPTERA) FROM THE SOUTH PACIFIC

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(Received for publication, 11 July 1961)

Summary

The Aleyrodidae recorded from the South Pacific, exclusive of New Caledonia, are mostly not endemic. The localities and the food plants from which the species are recorded are listed, and a key to the species is given.

INTRODUCTION

The Aleyrodidae of New Caledonia have been recently reviewed by the author (1956, 1961) and by Cohic (1959). The present paper lists the Aleyrodidae of the remaining part of the South Pacific area, in so far as these are recorded. The fauna of New Guinea, the Solomon Islands and New Hebrides is practically unknown, and little is known of the Chilean fauna except for the few species described by Moles and Baker (1921).

The aleyrodid fauna of the area under consideration is small and consists mainly of species which are not endemic and possibly introduced. Further collecting may, however, increase the number of known endemic species in Fiji. Little affinity is demonstrable between the aleyrodid fauna of the South Pacific and those of adjoining areas, other than the occurrence in Tonga of an endemic species of *Orchamoplatus,* a genus which is centred in New Caledonia. *Orchamoplatus* is not recorded in Micronesia (Takahashi, 1956) which has a small fauna of four endemic and four widely distributed species. Only two of these latter occur in the South Pacific area.

SPECIES LIST, LOCALITIES AND FOOD PLANTS

(x = type locality for species described from the area)

Sub-family UDAMOSELINAE

Aleurodicus holmesii (Maskell)

x Fiji — *Psidium sp.* — Maskell, 1890.

(Note: Duplicate material in the Maskell collection enables me to confirm the identity of Maskell's species with the specimens from Java described by Quaintance and Baker (1913).)

Sub-family ALEYRODINAE

Aleurocanthus calophylii (Kotinsky)

x Fiji (Levuka) — *Calophyllum inophyllum* L., Kotinsky, 1907.

(Sigatoka) — *Calophyllum inophyllum* L., L.J.D.

Aleurotrachelus trachoides (Back)

Tahiti	*Capsicum annuum* L., Cohic, 1955.
	Datura sp., Coll., Cohic.
	Dioscorea sp., Coll., Cohic.
Rangiroa	*Bidens pilosa* L., Coll., Cohic.

Bemisia leakii (Peal)

Fiji	undetermined, Kotinsky, 1907.
Tahiti	*Colocasia esculenta* L., Cohic, 1955.
	Erythrina sp., Coll., Cohic.

Dialeurodes fijiensis (Kotinsky)

x Fiji (Rewa)	undet. Leguminosae, Kotinsky, 1907.

Dialeurodes kirkaldyi (Kotinsky)

Tahiti	*Morinda citrifolia* L., Coll., Cohic.
Bora Bora	*Gardenia tahitiensis* De Candolle, Coll., Cohic.

Neomaskellia bergii (Signoret)

Fiji	*Saccharum officinarum* L., Maskell, 1896.
Tahiti	*Saccharum officinarum* L., Cohic, 1955.
Rarotonga	*Saccharum officinarum* L., L.J.D.
Mauke	*Saccharum officinarum* L., L.J.D.
Vella Lavella	*Saccharum officinarum* L., L.J.D.

Neomaskellia comata (Maskell)

x Fiji	undet. Graminaceae, Maskell, 1896.

Orchamoplatus mammaeferus (Quaintance and Baker)

Samoa	*Codiaeum* and *Citrus* spp., Dumbleton, 1956.
Rarotonga	*Codiaeum* and *Citrus* spp., Dumbleton, 1956.
Tahiti	*Codiaeum* and *Citrus* spp., Dumbleton, 1956.
Fiji	*Codiaeum* and *Citrus* spp., Dumbleton, 1956.

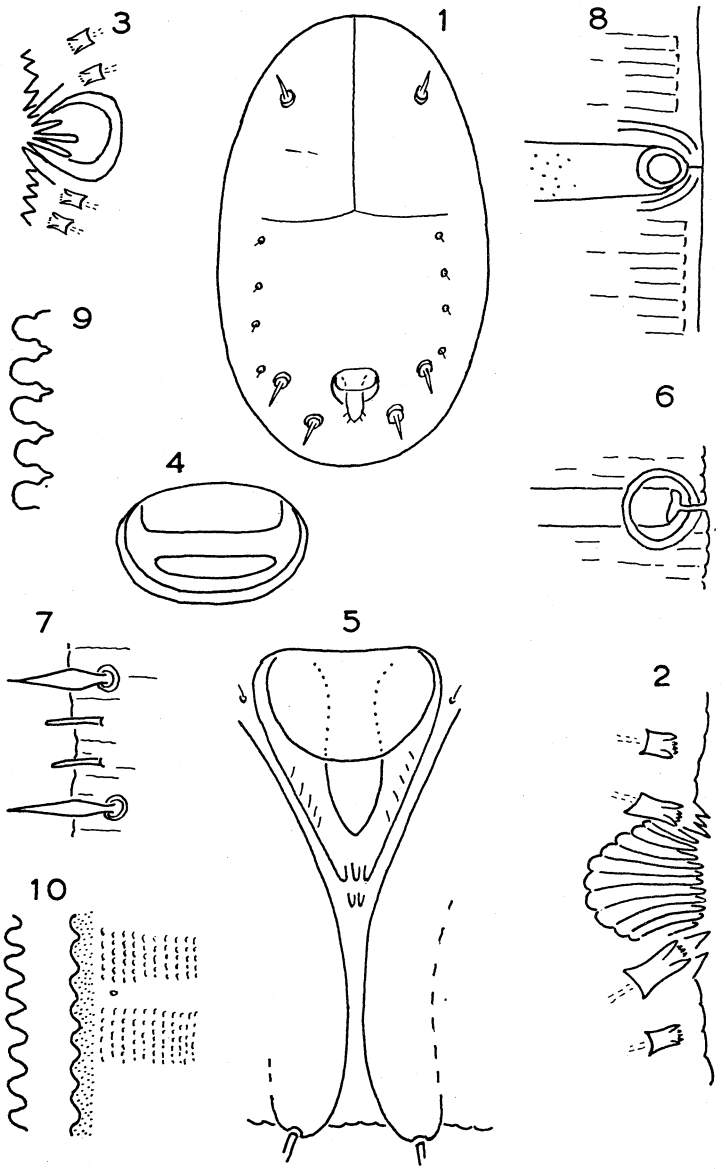
Orchamoplatus calophylli Russell

Tonga (Vavau) *Calophyllum* sp., Russell, 1958.

KEY TO SPECIES (based on pupae)

1. Compound wax pores present (*Udamoselinae*); 7 pairs (Fig. 1), 2 pairs caudal and 1 pair cephalic larger, with longer entire central process (*Aleurodicus*); lingula long exserted, with 2 pairs prominent hairs; marginal teeth broadly rounded ..... *A. holmesii*
   Compound wax pores absent (*Aleyrodinae*) 2

2. Submarginal row of exserted gland orifices (papillae) (*Orchamoplatus*) (Figs 2 and 3) 3
   Not as above. 4



FIGS—1. *Aleurodicus holmesii,* compound pores and vasiform orifice. 2. *Orchamoplatus mammaeferus,* thoracic tracheal comb and gland orifices. 3. *Orchamoplatus calophylli,* thoracic tracheal comb and gland orifices. (After Russell.) 4. *Neomaskellia bergii,* vasiform orifice, operculum and lingula. 5. *Bemisia leakii,* vasiform orifice and anal furrow. 6. *Dialeurodes fijiensis,* thoracic tracheal pore. (After Quaintance and Baker.) 7. *Dialeurodes fijiensis,* vasiform marginal setae. (After Quaintance and Baker.) 8. *Dialeurodes kirkaldyi,* thoracic tracheal pore. 9. *Aleurocanthus calophylli,* marginal teeth. 10. *Aleurotrachelus trachoides,* marginal and submarginal teeth.

3. About 10 apically-rounded teeth in thoracic tracheal comb (Fig. 2); pale species ..... *O. mammaeferus*
Four to six apically-acute teeth in comb (Fig. 3); black species ..... *O. calophylli*

4. Vasiform orifice, lingula and operculum wider than long (Fig. 4); cephalic and 8th abdominal setae long (*Neomaskellia*) 5
Not as above 6

5. Sixteen pairs of submarginal hairs of sub-equal length; hairs of first abdominal segment long ..... *N. bergii*
Twelve pairs of submarginal hairs, the two cephalic pairs shorter; hairs of first abdominal segment short or absent ..... *N. comata*

6. Vasiform orifice long, narrow, pointed posteriorly; anal furrow present (*Bemisia*) (Fig. 5). ..... *B. leakii*
Not as above 7

7. Tracheal pores present (*Dialeurodes*) (Figs 6 and 8) 8
Tracheal pores absent; black species 9

8. Submarginal setae vasiform (Fig. 7); vasiform orifice not toothed; brown species ..... *D. fijiensis*
Submarginal setae absent; vasiform orifice toothed; pale species with median thoracic pigmentation ..... *D. kirkaldyi*

9. Marginal teeth in single row (*Aleurocanthus*), somewhat knobbed (Fig. 9); 40 or more long spines on dorsum ..... *A. calophylli*
Marginal teeth in double row (*Aleurotrachelus*), not knobbed (Fig. 10); without spines on dorsum ..... *A. trachoides*

REFERENCES

BAKER, A. C.; MOLES, M. L. 1921: The Aleyrodidae of South America, with Descriptions of Four New Chilean Species. *Rev. chil. Hist. nat. 25*: 609–56.

COHIC, F. 1955: "Rapport d'une Mission aux Etablissements Français de l'Océanie, Fascicle 3 – Eqquête sur les Parasites animaux des Cultures." Institut Français d'Océanie. Nouméa. pp. 1–68.

———— 1959: Aleyrodidae Actuellement Connus de Nouvelle Calédonie et Dépendances. *Agron. trop. Nogent 14*: 242–3.

DUMBLETON, L. J. 1956: New Aleyrodidae (Hemiptera:Homoptera) from New Caledonia. *Proc. R. ent. Soc. Lond. (B) 25*: 129–41.

———— 1961: The Aleyrodidae (Hemiptera:Homoptera) of New Caledonia. *Pacif. Sci. 15*: 114–36.

KOTINSKY, J. 1907: Aleyrodidae of Hawaii and Fiji, with Descriptions of New Species. *Bull. Hawaii. sug. Ass. ent. Ser. 2*: 93–101.

MASKELL, W. M. 1890: On some Aleurodidae from New Zealand and Fiji. *Trans. N.Z. Inst. 22*: 170–6.

———— 1896: Contributions towards a Monograph of the Aleurodidae, a Family of the Hemiptera:Homoptera. *Trans. N.Z. Inst. 28*: 411–49.

QUAINTANCE, A. L.; BAKER, A. C. 1913: Classification of the Aleyrodidae Part 1. *Bull. U.S. Bur. Ent. (Tech. Ser.) 27*: 1–93.

RUSSELL, L. M. 1958: *Orchamoplatus,* an Australasian genus (Homoptera:Aleyrodidae). *Proc. Hawaii. ent. Soc. 16*: 389–410.

TAKAHASHI, R. 1956: Homoptera-Aleyrodidae *in* "Insects of Micronesia" Vol. 6. Bishop Museum, Honolulu. pp. 1–13.

R. E. OWEN, GOVERNMENT PRINTER, WELLINGTON, NEW ZEALAND—1961