NEMATODES, FUNGI, INSECTS AND MITES ASSOCIATED WITH THE COCONUT PALM

GOLDEN स्वर्ण जयन्ती JUBILEE

ICAR
भाकृअप

1929-1979

CENTRAL PLANTATION CROPS RESEARCH INSTITUTE
KASARAGOD 670 124
KERALA, INDIA

Earlier Publication in the Series

TECHNICAL BULLETIN-1

COCONUT DISEASES OF UNCERTAIN ETIOLOGY

November 1976

Contents

CONTENTS

Cover

Top : *Phytophthora palmivora* infection

Centre : *Oryctes rhinoceros* damage

Bottom : *Radopholus similis* lesions on roots

CHAPTER 1

NEMATODES ASSOCIATED WITH THE COCONUT PALM *(COCOS NUCIFERA L.)*

By

M. P. GOVINDANKUTTY AND P. K. KOSHY
Nematology Laboratory
Central Plantation Crops Research Institute
Regional Station – Kayangulam
Krishnapuram 690 533, Kerala State, India

CONTENTS

INTRODUCTION

Plant parasitic nematodes are implicated by some workers as direct causative factors or vectors of the pathogenic agents associated with some of the coconut diseases of unconfirmed etiology (cf. Maramorosch, 1964 and the references therein). One of the well known nematode problems of palms is the red ring disease of coconut caused by *Rhadinaphelenchus cocophilus* (Cobb, 1919) Goodey, 1960 and is reported to occur in about 20 countries viz. Barbados, Belize, Brazil, Colombia, Costa Rica, Dominican Republic, El Salvador, Ecuador, Grenada Guyana, Honduras, Mexico, Nicaragua, Panama, St. Vincent, Surinam, Trinidad & Tobago and Venezuela (Blair, 1968; Harries, 1971, 1977). The epidemiology, symptomatology, pathogenicity, transmission, available control measures and the importance of this disease (transmitted by a palm weevil, *Rhynchophorus palmarum* L.) to the economy of these countries have been reviewed by Blair (1964, 1968, 1970, 1976). Fenwick (1957, 1969 a, b), and Griffith (1978)

The possibility of ecto and endoparasitic nematodes being involved in other coconut diseases of unconfirmed etiology was investigated by several workers from time to time. The reports of van Weerdt, Martinez and Esser (1959) in Florida; Latta (1964, 1966) and Dixon and Latta (1965) in Jamaica in relation to the lethal yellowing disease; Luc (1957) and Luc and Hoestra (1960) on Kaincope disease of Togo in West Africa; Palo (1964, 1966); Pizarro and Santa Maria (1974) on Cadang Cadang, a malady prevalent in the Philippines; Reinking and Radewald (1961) on Tinangaja or Guam disease on the Pacific island of Guam; Ekanayake (1964), Ekanayake and Wickramaratne (1964) and Robertson (1965, 1969) on the leaf scorch decline of Sri Lanka; Weischer (1967), Mathen (1969) and Mathen, Kurian and Lal (1970) in connection with the root (wilt) disease of South India, and through a worldwide survey on several of these diseases by Maramorosch and Golden (1967) have revealed that a number of nematodes are found in the tissues and soil around roots of the declining palms. But no specific nematode was reported to be directly involved in any of these diseases except red ring. The present effort is to collate the information on the association of nematodes with coconut. Table I presents alphabetically the list of nematodes associated with coconut, their occurrence in different countries and the context of investigation. List of nematodes encountered during studies on specific coconut diseases and general surveys are given in Table II. The country-wise record of nematodes is presented in Table III. Comprehensive literature pertaining to nematode associations with the coconut, and disease problems of the palm on which considerable researches were carried out is included in the bibliography.

Table 1. NEMATODES ASSOCIATED WITH THE COCONUT PALM, THEIR OCCURRENCE AND THE CONTEXT OF INVESTIGATION

Nematode (1)	Country of occurrence (2)	Context of investigation (3)	Reference (4)
Acrobeloides sp.	Sri Lanka	Leaf scorch decline	Robertson (1965, 1969)
Actus salvadoricus Baqri & Jairajpuri, 1973	El Salvador	General survey	Baqri & Jairajpuri (1973)
Aglenchus costatus	Malaysia	,,	Kheng (1975)
Anguillulina sp.	USA	,,	Crossman & Christie (1937)
Aphelenchoides cocophilus (Cobb, 1919) T. Goodey, 1933 (= *Rhadinaphelenchus cocophilus*)	Brazil Trinidad ,,	Red ring disease General survey Red ring disease	Lordello & Zamith (1954) van Weerdt *et al.* (1959a) Fenwick & Maharaj (1960)
A. parietinus (Bastian, 1865); Steiner, 1932	Sri Lanka	Leaf scorch decline	Robertson (1965, 1969)
Aphelenchoides sp.	USA Togo Guam (USA) Sri Lanka India	General survey Kaincope disease Guam disease Leaf scorch decline General survey	van Weerdt *et al.* (1959a) Luc & Hoestra (1960) Reinking & Radewald (1961) Robertson (1965, 1969) Koshy *et al.* (1979)
Aphelenchus avenae Bastian, 1865	Sri Lanka	Leaf scorch decline	Robertson (1965, 1969)
A. cocophilus Cobb, 1919	Trinidad	Red ring disease	Cobb (1919)
Aphelenchus sp.	Jamaica Sri Lanka India	Lethal yellowing disease Leaf scorch decline General survey	Latta (1964, 1966) Robertson (1965, 1969) Koshy *et al.* (1979)
Atylenchus sp.	,,	,,	,,

Axonchium asacculum Siddiqi, 1968	India	General survey	Siddiqi (1968)
Basiriotyleptus nemoralis Siddiqi, 1970	,,	,,	Siddiqi (1970)
Belonolaimus longicaudatus Rau, 1958	USA	,,	van Weerdt *et al.* (1959a)
Boleodorus thylactus Thorne, 1941	El Salvador	,,	Abrego & Tarjan (1972)
Cacopaurus sp.	USA Jamaica	,, Lethal yellowing disease	van Weerdt *et al.* (1959a) Latta (1964, 1966)
Caloosia longicaudata (Loos, 1948) Siddiqi & Goodey, 1964	Sri Lanka	Leaf scorch decline	Ekanayake (1964) ; Robertson (1969)
Caloosia sp.	India	General survey	Koshy *et al.* (1979)
Cephalenchus sp.	Malaysia	,,	Kheng (1975)
Criconema sp.	,,	Root (wilt) disease	Weischer (1967), Mathen (1969 Mathen *et al.* (1970)
Criconemoides citri Steiner, 1949	USA Togo	General survey Kaincope disease	van Weerdt *et al.* (1959a) Luc & Hoestra (1960)
C. discolabium Diab & Jenkins, 1966	Philippines	General survey	Diab & Jenkins (1966)
C. kirijanovae Andrassy, 1962		,,	Siddiqi (1964)
C. mutabile Taylor, 1936	USA	,,	van Weerdt *et al.* (1959a)
C. ornatum Raski, 1958	Togo	Kaincope disease	Luc & Hoestra (1960)
Criconemoides sp.	Jamaica Trinidad	Lethal yellowing disease Coconut decline	Latta (1964, 1966) Maramorosch & Golden (1967)

(1)	(2)	(3)	(4)
Criconemoides sp.	India	Root (wilt) disease	Weischer (1967), Mathen (1969), Mathen *et al.* (1970)
	Philippines	Cadang Cadang disease	Pizarro (1969)
	El Salvador	General survey	Abrego & Tarjan (1972)
	India	,,	Venkitesan (1972); Koshy *et al.* (1979)
Criconemoides spp.	USA	Lethal yellowing disease	van Weerdt *et al.* (1959b)
Diphtherophora sp.	India	General survey	Koshy *et al.* (1979)
Discocriconemella racensi Khan, Seshadri, Weischer & Mathen (1971)	,,	Root (wilt) disease	Khan *et al.* (1971)
Ditylenchus sp.	Sri Lanka	Leaf scorch decline	Robertson (1965, 1969)
	Venezuela	General survey	Torrealba (1969)
	India	,,	Koshy *et al.* (1979)
Dolichodorus profundus Luc, 1960	Togo	Kaincope disease	Luc (1960); Luc & Hoestra(1960); Maramorosch & Golden (1967)
D. pulvinus Khan, Seshadri, Weischer & Mathen, 1971	India	Root (wilt) disease	Khan *et al.* (1971)
		General survey	Koshy *et al.* (1979)
Dolichodorus sp.	,,	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Dorylaimus sp.	,,	,,	Maramorosch & Golden (1967)
Encholaimus taurus Golden & Murphy, 1967	Trinidad	Coconut decline	Golden & Murphy (1967); Maramorosch & Golden (1967)
Hadronchus andamanicus Jairajpuri, 1969	India	General survey	Jairajpuri (1969)

Helicotylenchus dihystera (Cobb, 1893); Sher, 1961	Thailand	General survey	Timm (1964)
	Jamaica	Lethal yellowing disease	Maramorosch & Golden (1967)
	Trinidad	Coconut decline	,,
H. erythrinae (Zimmermann, 1904); Golden, 1967	USA	General survey	van Weerdt *et al.* (1959a)
	,,	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Jamaica	,,	,,
H. multicinctus (Cobb, 1893); Golden, 1956	,,	,,	Latta (1964, 1966).
H. nannus Steiner, 1945(= *H. dihystera*)	Guam (USA)	Guam disease	Reinking & Radewald (1961)
	Jamaica	Lethal yellowing disease	Latta (1964, 1966)
H. retusus Siddiqi & Brown, 1964	Thailand	General survey	Timm (1964)
Helicotylenchus sp.	USA	,,	van Weerdt *et al.* (1959a)
	,,	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Togo	Kaincope disease	Luc & Hoestra (1960)
	Jamaica	Lethal yellowing disease	Latta (1964, 1966)
	Sri Lanka	Leaf scorch decline	Ekanayake (1964); Robertson (1965, 1969)
	Philippines	Cadang Cadang disease	Pizarro (1969)
	Malaysia	General survey	Kheng (1975)
	India	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al.* (1070);
	,,	General survey	Venkitesan (1972); Koshy *et al.* (1979)
	Venezuela	,,	Torrealba (1969)
	El Salvador	,,	Abrego & Tarjan (1972)
Hemicriconemoides cocophilus (Loos, 1949) Chitwood & Birchfield, 1957)	USA	,,	van Weerdt *et al.* (1959a)
	El Salvador	,,	Abrego& Tarjan (1972)
	Puerto Rico	,,	Roman (1978)
H. mangiferae Siddiqi	Pakistan	,,	Saeed & Ghaffar (1979);
H. strictathecatus Esser, 1960	USA	,,	van Weerdt *et al.* (1959a). Esser (1960)

(1)	(2)	(3)	(4)
H. squamosum (Cobb, 1913); Siddiqi, & Goodey, 1964	Thailand	General survey	Timm (1964)
H. wessoni Chitwood & Birchfield, 1957	USA	,,	van Weerdt *et al.* (1959a)
Hemicriconemoides sp.	Jamaica	Lethal yellowing disease	Latta (1964, 1966)
	India	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al.* (1970);
	,,	General survey	Koshy *et al.* (1979)
	El Salvador	,,	Abrego & Tarjan (1972)
Hemicriconemoides spp.	USA	Lethal yellowing disease	van Weerdt *et al.* (1959b)
Hemicycliophora longicaudata Loos, 1948 (=*Caloosia longicaudata*)	Sri Lanka	Leaf scorch decline	Ekanayake & Wickramaratne (1964); Robertson (1965)
H. paucianulata, Luc 1958	Togo	Kaincope disease	Luc (1958); Luc & Hoestra (1960)
Hemicycliophora sp.	USA	General survey	van Weerdt *et al.* (1959a)
	,,	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Sri Lanka	Leaf scorch decline	Ekanayake (1964)
	Togo	Kaincope disease	Maramorosch & Golden (1967)
	India	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Hemicycliophora spp.	USA	Lethal yellowing disease	Latta (1964, 1966)
Heterodera sp.	,,	,,	van Weerdet *et al.* (1959b)
Heterodera spp.	Jamaica	,,	Latta (1964, 1966)
	USA	,,	van Weerdt *et al.* (1959a)

Hirschmaniella sp.	India	General survey	Koshy *et al*. (1979)
Hoplolaimus indicus Sher, 1963	,,	,,	Venkitesan (1972)
H. seinhorsti Luc, 1958	Thailand	,,	Timm (1964)
	Sri Lanka	Leaf scorch decline	Maramorosch & Golden (1967)
H. tylenchiformis Daday, 1905	USA	General survey	van Weerdt *et al*. (1959a)
Hoplolaimus sp.	India	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al*. (1970)
	,,	General survey	Koshy *et al*. (1979)
Hoplolaimus spp.	Jamaica	Lethal yellowing disease	van Weerdt *et al*. (1959b)
	USA	,,	,,
Iotonchus baqri Jairajpuri, 1969	India	General survey	Jairajpuri (1969)
Leptonchus baccatus Siddiqi, 1970	,,	,,	Siddiqi (1970)
Longidorus laevicapitatus Williams, 1959	Trinidad	Coconut decline	Maramorosch & Golden (1967)
L. saginus Khan, Seshadri, Weischer & Mathen, 1971	India	Root (wilt) disease	Khan *et al*. (1971)
	,,	General survey	Koshy *et al*. (1979)
Longidorus sp.	,,	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al*. (1970);
	Puerto Rico	General survey	Roman (1978)
Macroposthonia cufium Khan, Chawla & Saha, 1975	India	Root (wilt) disease	Khan *et al*. (1975)
M. oachirai Khan, Seshadri, Weischer & Mathen, 1971	,,	,,	Khan *et al*. (1971)
	,,	General survey	Koshy *et al*. (1979)
Macroposthonia sp.	French West Indies	,,	Scotto La Massese (1969)

(1)	(2)	(3)	(4)
Meloidogyne incognita (Kofoid & White, 1919); Chitwood, 1949	Togo	Kaincope disease	Luc & Hoestra (1960)
	India	General survey	Venkitesan (1972)
M. incognita acrita Chitwood, 1949	Sri Lanka	Leaf scorch decline	Maramorosch & Golden (1967)
Meloidogyne sp.	Jamaica	Lethal yellowing disease	Latta (1964, 1966)
	Guam (USA)	Guam disease	Reinking & Radewald (1961)
	India	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
	El Salvador	General survey	Abrego & Tarjan (1972)
	India	,,	Koshy *et al.* (1979)
	USA	,,	van Weerdt *et al.* (1959a)
Meloidogyne spp.	,,	Lethal yellowing disease	van Weerdt *et al.* (1959b)
Metacrobeles togoensis Loof, 1962	Togo	Kaincope disease	Luc & Hoestra (1960); Loof (1962)
Mononchus sp.	India	Root (wilt) disease	Maramorosch & Golden (1967)
Neopsilenchus sp.	,,	General survey	Abrego & Tarjan (1972)
Neotylenchus sp.	,,	,,	Koshy *et al.* (1979)
Panagrolaimus rigidus (Schneider, 1866) Throne, 1937	,,	,,	Nadakkal (1965a)
Panagrolaimus sp.	,,	,,	Nadakkal (1965b)
Paralongidorus flexus Khan, Seshadri, Weischer & Mathen, 1971	,,	Root (wilt) disease	Khan *et al.* (1971)
	,,	General survey	Koshy *et al.* (1979)
Paratylenchus minutus Linford in Linford, Oliveria & Ishii, 1949	USA	,,	van Weerdt *et al.* (1959a)

Paratylenchus sp.	USA	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Togo	Kaincope disease	Luc & Hoestra (1960)
	India	Root (wilt) disease	Weischer (1967); Mathen *et al.* (1970)
	El Salvador	General survey	Abrego & Tarjan (1972)
	Surinam	Coconut decline	Anonymous (1975)
	India	General survey	Koshy *et al.* (1979)
Peltamigratus luci Sher, 1964	Trinidad	Coconut decline	Maramorosch & Golden (1967)
P. thornei Knobloch, 1969	British Honduras	General survey	Knobloch (1969)
Pratylenchus brachyurus (Godfrey, 1929) Filipjev & Schurmanns Stekhoven, 1941	USA	General survey	van Weerdt *et al.* (1959a)
	Togo	Kanicope disease	Luc & Hoestra (1960)
P. hexincisus Taylor & Jenkins, 1957	USA	General survey	van Weerdt *et al.* (1959a)
Pratylenchus sp.	”	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Togo	Kaincope disease	Luc & Hoestra (1960)
	Jamaica	Lethal yellowing disease	Latta (1964, 1966)
	India	General survey	Swamy & Govindu (1966); Venkitesan (1972); Koshy *et al.* (1979)
	”	Root (wilt) disease	Weischer (1967); (Mathen 1969); Mathen *et al.* (1970)
	El Salvador	General survey	Abrego & Tarjan (1972)
Psilenchus sp.	India	”	Koshy *et al.* (1979)
Radopholus similis (Cobb, 1893) Throne, 1949	USA	”	van Weerdit *et al.* (1959a)
	”	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Jamaica	”	”
	”	”	Latta (1966)
	India	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
	”	General survey	Koshy *et al.* (1975, 1979)
Radopholus sp.	Sri Lanka	Leaf scorch decline	Ekanayake (1964, 1968); Robertson (1965, 1969)

(1)	(2)	(3)	(4)
Rhabditis sp.	Sri Lanka	Leaf scorch decline	Robertson (1965, 1969)
Rhadinaphelenchus cocophilus (Cobb, 1919); J.B. Goodey, 1960	Barbados	Red ring disease	cf. Harries (1977)
	Belize	”	”
	Brazil	”	Joffilly (1948); Lordello & Zamith (1954); Chaves (1956); Franco (1964); Ponte *et al.* (1971)
	Colombia	”	Potes (1967); Harries (1971); Vilardebo (1971)
	”	Little leaf disease	Messa Bernal (1951)
	Costa Rica	Red ring disease	cf. Harries (1977)
	Dominican Republic	”	Schieber (1970)
	El Salvador	General survey	Abrego & Tarjan (1972)
	Ecuador	Red ring disease	cf. Harries (1977)
	Grenada	”	Singh (1972)
	Guyana	”	Singh (1971)
	Honduras	”	cf. Harries (1977)
	Mexico	”	Gonzalez (1972); Marban Mendoza (1973); Bedford *et al.* (1978)
	Nicaragua	”	cf. Harries (1977)
	Panama	”	”
	St. Vincent	”	Edmunds (1969)
	Surinam	Red ring disease	Mass (1969)
		Little leaf disease	van Hoof & Seinhorst (1962); Kraayenga & den Ouden (1966); Mass (1969)
	Trinidad & Tobago	Red ring disease	Cobb (1919); Fenwick (1958; 1962b, 1963a,b); van Weerdt *et al.* 1959a,b Blair (1963, 1968); Fenwick & Maharaj (1960, 1963c); Harries (1971)
	”	Coconut decline	Maramorosch & Golden (1967)
	Venezuela	Red ring disease	Bain & Fedon (1951); Oostenbrink (1963)

Rotylenchulus reniformis Linford & Oliveira, 1940	Sri Lanka	Leaf scorch decline	Ekanayake (1964, 1968)
	Guam (USA)	Guam disease	Reinking & Radewald (1961)
	Jamaica	Lethal yellowing disease	Dixon & Latta (1965); Latta (1966)
	Togo	Kaincope disease	Luc & Hoestra (1960)
	India	General survey	Venkitesan (1972); Koshy *et al.* (1979)
Rotylenchulus sp.	USA	Lethal yellowing disease	van Weerdt *et al.* (1959b); Ollagnier & Weststeijn (1963)
	Jamaica	,,	Latta (1964, 1966)
	India	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
	Venezuela	General survey	Torrealba (1969)
	El Salvador	,,	Abrego & Tarjan (1972)
Rotylenchus sp.	Trinidad	Red ring disease	Fenwick & Maharaj (1962)
	Guam (USA)	Guam disease	Reinking & Radewald (1961)
	India	General survey	Koshy *et al.* (1979)
Scutellonema bradys (Steiner & Lehew, 1933); Andrassy, 1958	Togo	Kanicope disease	Luc & Hoestra (1960)
Scutellonema sp.	USA	General survey	van Weerdt *et al.* (1959a)
	Jamaica	Lethal yellowing disease	van Wedt *et al.* (1959b)
	India	General survey	Koshy *et al.* (1979)
Sphaeronema (?)	Jamaica	Lethal yellowing disease	Latta (1966)
Trichodorus christiei Allen, 1957	USA	General survey	van Weerdt *et al.* (1959a)
T. proximus Allen, 1957	,,	,,	,,
Trichodorus sp.	,,	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Jamaica	,,	,,
	Togo	Kaincope disease	Luc & Hoestra (1960)
	India	General survey	Koshy *et al.* (1979)
Trichotylenchus astriatus Khan & Nanjappa, 1971	,,	,,	Khan & Nanjappa (1971)

(1)	(2)	(3)	(4)
Trophonema sp.	Trinidad	Coconut decline	Maramorosch & Golden (1967)
Trophurus similis Khan & Nanjappa, 1971	India	General survey	Khan & Nanjappa (1971)
Trophurus sp.	Jamaica	Lethal yellowing disease	Latta (1966)
Tylenchorhynchus elegans Siddiqi, 1961	India	General survey	Koshy *et al.* (1979)
T. martini Fielding, 1956	Thailand	,,	Timm (1964)
T. microphasmis Loof, 1959	Zaire	,,	Loof (1959)
T. nudus Allen, 1955	Sri Lanka	Leaf scorch decline	Loof (1959); Ekanayake (1964)
T. triglyphus Seinhorst, 1963	Thailand	General survey	Timm (1964)
T. zeae	India	,,	Mukhopadhyaya & Haque (1974)
	USA	,,	van Weerdt *et al.* (1959a)
Tylenchorhynchus sp.	,,	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Jamaica	,,	Latta (1964, 1966)
	Sri Lanka	Leaf scorch decline	Robertson (1965, 1969)
	India	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
	Venezuela	General survey	Torrealba (1969)
	El Salvador	,,	Abrego & Tarjan (1972)
Tylenchulus semepenetrans Cobb, 1913	USA	,,	van Weerdt *et al.* (1959a)
Xiphinema americanum Cobb, 1913	,,	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Guam (USA)	Guam disease	Reinking & Radewald (1961)
	India	General survey	Janarthanan *et al.* (1969); Koshy *et al.* (1979)
X. attorodorum Luc, 1961	Togo	Kaincope disease	Luc & Hoestra (1960)

X. brasiliense Lordello, 1951	Trinidad	General survey	Maramorosch & Golden (1967)
	Brazil	,,	Loof & Sharma (1979)
X. brevicolle Lordello & Da Costa, 1961	Brazil	General survey	Loof & Sharma (1979)
X. campinense Lordello, 1951	Togo	,,	Luc (1958)
X. diversicaudatum (Micoletzky, 1927); Thorne, 1939	Guam (USA)	Guam disease	Reinking & Radewald (1961)
X. elongatum Schurmanns Stekhoven & Tenunissen, 1938	Thailand	General survey	Timm (1964)
	Guam (USA)	Pencil point disease	Maramorosch & Golden (1967)
X. infacolum Luc, 1961	Brazil	General survey	Loof & Sharma (1979)
X. insigne Loos, 1949	Thailand	,,	Tim (1964)
	Malaysia	,,	Kheng (1975)
X. setariae Luc, 1958	Togo	Kaincope disease	Luc & Hoestra (1960)
X. vulgare Tarjan, 1964	French West Indies	General survey	Scotto La Massesse (1969)
	Brazil	,,	Loof & Sharma (1979)
Xiphinema sp.	USA	,,	van Weerdt *et al.* (1959a)
	,,	Lethal yellowing disease	van Weerdt *et al.* (1959b)
	Jamaica	,,	Latta (1964, 1966)
	Togo	Kaincope disease	Luc & Hoestra (1960)
	Sri Lanka	Leaf scorch decline	Robertson (1965, 1969)
	India	Root (wilt) disease	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
	Malaysia	Pencil point disease	Maramorosch & Golden (1967)
	Venezuela	General survey	Torrealba (1969)
Xiphinema spp.	India	Root (wilt) disease	Mathen *et al.* (1970)

Table II NEMATODES IN RELATION TO COCONUT DISEASES

Nematode (1)	Locality (2)	Reference (3)
CADANG CADANG DISEASE		
Criconema discolabium	Philippines	Diab & Jenkins (1966)
Circonemoides sp.	,,	Pizarro (1969)
Helicotylenchus retusus	,,	,,
Helicotylenchus sp.	,,	,,
COCONUT DECLINE		
Circonemoides sp.	Golden Grove, Trinidad	Maramorosch & Golden (1967)
Encholaimus taurus	,,	,,
Helicotylenchus dihystera	,,	,,
Longidorus laevicapitatus	,,	,,
Paratylenchus sp.	Surinam	Anonymous (1975)
Peltamigratus luci	Golden Grove, Trinidad	Maramorosch & Golden (1967)
Rhadinaphelenchus cocophilus	,,	,,
Trophonema sp.	,,	,,
Xiphinema brasiliense	,,	,,
GUAM DISEASE		
Aphelenchoides sp.	Guam (USA)	Reinking & Radewald (1961)
Helicotylenchus nannus	,,	,,
Meloidogyne sp.	,,	,,
Rotylenchulus reniformis	,,	,,
Rotylenchus sp.	,,	,,

(1)	(2)	(3)
Xiphinema americanum	Guam (USA)	Reinking & Radewald (1961)
X. diversicaudatum	,,	,,
X. infacolum	,,	Maramorosch & Golden (1967)
KAINCOPE DISEASE		
Dolichodorus profundus	Togo	Luc (1960); Luc & Hoestra (1960); Maramorosch & Golden (1967)
Helicotylenchus sp.	,,	Luc & Hoestra (1960)
Hemicycliophora pauciannulata	,,	Luc (1958); Luc & Hoestra (1960)
Hemicycliophora sp.	,,	Maramorosch & Golden (1967)
Metracrobeles togoensis	,,	Loof (1962); Luc & Hoestra (1960)
Paratylenchus sp.	,,	Luc & Hoestra (1960)
Pratylenchus brachyurus	,,	,,
Pratylenchus sp.	,,	,,
Rotylenchulus reniformis	,,	,,
Scutellonema bradys	,,	,,
Trichodorus sp.	,,	,,
Tylenchus sp.	,,	,,
Xiphinema attorodorum	,,	,,
X. campinense	,,	Luc (1958)
X. setariae	,,	Luc & Hoestra (1960)
Xiphinema sp.	,,	,,
LEAF SCORCH DECLINE		
Acrobeloides sp.	Sri Lanka	Robertson (1965, 1969)
Aphelenchoides parietinus	,,	,,
Aphelenchoides sp.	,,	,,
Aphelenchus avenae	,,	,,

(1)	(2)	(3)
Aphelenchus sp.	Sri Lanka	Robertson(1965, 1969)
Caloosia longicaudata	,,	Ekanayake (1964, 1968); Robertson (1969
Ditylenchus sp.	,,	Robertson (1965, 1969)
Helicotylenchus sp	,,	,,
Hemicycliophora longicaudata	,,	Ekanayake & Wickramarantne (1964); Robertson (1965)
Hemicycliophora sp.	,,	Ekanayake (1964)
Hoplolaimus seinhorsti	,,	Maramorosch & Golden (1967)
Meloidogyne incognita acrita	,,	,,-
Radopholus sp.	,,	Ekanayake (1964, 1968); Robertson (1965, 1969)
Rhabditis sp.	,,	,,
Trichodorus sp.	,,	,,
Tylenchorhynchus nudus	,,	Ekanayake (1964, 1968); Loof (1959)
Tylenchorhynchus sp.	,,	Robertson (1965, 1969)
Tylenchus sp.	,,	,,
Xiphinema sp.	,,	,,
LETHAL YELLOWING DISEASE		
Aphelenchus sp.	Jamaica	Latta (1964, 1966)
Cacopaurus sp.	,,	,,
Circonemoides sp.	,,	,,
Circonemoides spp.	Florida, USA	van Weerdt *et al.* (1959b)
Helicotylenchus dihystera	San Antonio, Jamaica	Maramorosch & Golden (1967)
Helicotylenchus erythrinae	Florida, USA; Jamaica	van Weerdt *et al.* (1959b)

(1)	(2)	(3)
H. multicinctus	Jamaica	Latta (1964, 1966)
H. nannus	,,	,,
Helicotylenchus sp.	,,	,,
Helicotylenchus spp.	Florida, USA	van Weerdt *et al.* (1959b)
Hemicriconemoides sp.	Jamaica	Latta (1964, 1966)
Hemicriconemoides spp.	Florida, USA	van Werrdt *et al.* (1959b)
Hemicycliophora sp.	,,	,,
Hemicycliophora spp.	,,	Latta (1964, 1966)
Heterodera sp.	Jamaica	van Weerdt *et al.* (1959b)
Heterodera spp.	,,	Latta (1964, 1966)
Hoplolaimus spp.	Florida, USA; Jamaica	van Weerdt *et al.* (1959b)
Meloidogyne sp.	Jamaica	Latta (1964, 1966)
Meloidogyne spp.	Florida, USA	van Weerdt *et al.* (1959b)
Paratylenchus sp.	,,	,,
Pratylenchus sp.	Jamaica Florida, USA	Latta (1964, 1966) van Weerdt *et al.* (1959b)
Radopholus similis	Jamaica Florida, USA; Jamaica	Latta (1966) van Weerdt *et al.* (1959b)
Rotylenchulus reniformis	Jamaica	Dixon & Latta (1965)
R. reniformis	,,	Latta (1966)
Rotylenchulus sp.	,,	Latta (1964, 1966)
Rotylenchulus sp.	Florida, USA	Ollagnier & Weststeijn (1963); van Weerdt *et al.* (1959b)
Scutellonema sp.	Jamaica	,,
Sphaeronema (?)	,,	Latta (1966)

(1)	(2)	(3)
Trichodorus sp.	Florida, USA; Jamaica	van weerdt *et al.* (1959b)
Trophurus sp.	Jamaica	Latta (1966)
Tylenchorhynchus sp.	,,	Latta (1964, 1966)
Tylenchorhynchus sp.	Florida, USA	van Weerdt *et al.* (1959b)
Tylenchus sp.	Jamaica	Latta (1964, 1966)
Xiphinema sp.	,,	,,
Xiphinema sp.	Florida, USA; Jamaica	van Weerdt *et al.* (1959b)
LITTLE LEAF DISEASE		
Rhadinaphelenchus cocophilus	Surinam	van Hoof & Seinhorst (1962); Kraayenga & den Ouden (1966); Mass (1969)
	Bogota, Colombia	Messa-Bernal (1951)
PENCIL POINT DISEASE		
Xiphinema infacolum	Guam (USA)	Maramorosch & Golden (1967)
Xiphinema sp.	Malaysia	,,
RED RING DISEASE		
Rhadinaphelenchus cocophilus	Trinidad	Cobb (1919); Fenwick (1958, 1962b, 1963a, b); Fenwick & Maharaj (1960, 1963c); van Weerdt *et al.* (1959a, b); Blair (1963, 1968); Harries (1971); Maramorosch & Golden (1967)
	Brazil	Joffilly (1948); Lordello & Zamith (1954); Chaves (1956); Franco (1964); Ponte *et al.* (1971).
	Venezuela	Bain & Fedon (1951); Oostenbrink (1963)
	Surinam	van Hoof & Seinhorst (1962); Kraayenga & den Ouden (1966); Mass (1969)

(1)	(2)	(3)
Rhadinaphelenchus cocophilus	Colombia	Potes (1967); Harries (1971); Vilardebo (1971)
	St. Vincent	Edmunds (1969)
	Dominican Republic	Schieber (1970)
	Guyana	Singh (1971)
	El Salvador	Abrego & Tarjan (1972)
	Grenada	Singh (1972)
	Mexico	Gonzalez(1972); Marban Mendoza (1973); Bedford *et al.* (1978).
	Barbados	cf. Harries (1977)
	Belize	,,
	Costa Rica	,,
	Ecuador	,,
	Honduras	,,
	Nicaragua	,,
	Panama	,,
Rotylenchus sp.	Trinidad	Fenwick & Maharaj (1962)
ROOT (WILT) DISEASE		
Criconema sp.	Kerala, India	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Criconemoides sp.	,,	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Discocriconemella racensi	,,	Khan *et al.* (1971)
Dolichodorus pulvinus	,,	,,
Dolichodorus sp.	,,	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Dorylaimus sp.	,,	Maramorosch & Golden (1967)
Helicotylenchus sp.	,,	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)

(1)	(2)	(3)
Hemicriconemoides sp.	Kerala India	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Hemicycliophora sp.	,,	,,
Hoplolaimus sp.	,,	,,
Longidorus saginus	,,	Khan *et al.* (1971)
Longidorus sp.	,,	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Macroposthonia oachirai	,,	Khan *et al.* (1971)
Meloidogyne sp.	,,	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Mononchus sp.	,,	Maramorosch & Golden (1967)
Paralongidorus flexus	,,	Khan *et al.* (1971)
Paratylenchus sp.	,,	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Pratylenchus sp.	,,	,,
Radopholus similis	,,	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Rotylenchulus sp.	,,	,,
Tylenchorhynchus sp.	,,	,,
Xiphinema sp.	,,	,,
Xiphinema spp.	,,	,,
GENERAL SURVEY		
Actus salvadoricus	El Salvador	Baqri & Jairajpuri (1973)
Aglenchus costatus	Malaysia	Kheng (1975)
Anguillulina sp.	Florida, USA	Crossman & Christie (1937)
Aphelenchoides cocophilus	Trinidad	van Weerdt *et al.* (1959a)

(1)	(2)	(3)
Aphelenchoides sp.	USA; India	van Weerdt *et al.* (1959a) Koshy *et al.* (1979)
Aphelenchus sp.	India	Koshy *et al.* (1979)
Atylenchus sp.	,,	,,
Axonchium asacculum	El Salvador	Baqri & Jairajpuri (1973)
Basiriotyleptus nemoralis	India	Siddiqi (1970)
Belonolaimus longicaudatus	Florida, USA	van Weerdt *et al.* (1959a)
Belonolaimus sp.	Venezuela	Yepez (1973)
Boleodorus thylactus	El Salvador	Abrego & Tarjan (1972)
Cacopaurus sp.	Florida, USA	van Weerdt *et al.* (1959a)
Caloosia sp.	India	Koshy *et al.* (1979)
Cephalenchus sp.	Malaysia	Kheng (1975)
Criconemoides citri	Florida, USA	van Weerdt *et al.* (1959a)
C. discolabium	Philippines	Diab & Jenkins (1966)
C. kirjanovae		Siddiqi (1964)
C. mutabile	Florida, USA	van Weerdt *et al.* (1959a)
Criconemoides sp.	El Salvador India	Abrego & Tarjan (1972) Venkitesan (1972); Koshy *et al.* (1979)
Diphtherophora sp.	,,	Koshy *et al.* (1979)
Ditylenchus sp.	Venezuela	Torrealba (1969)
Dolichodorus pulvinus	India	Koshy *et al.* (1979)
Eneholaimus taurus	Trinidad	Golden & Murphy (1967)
Hadronchus andamanicus	Andamans, India	Jairajpuri (1969)
Helicotylenchus dihystera	Thailand	Timm (1964)
H. erythrinae	Florida, USA Venezuela	van Weerdt *et al.* (1959a) Yepez (1973)

(1)	(2)	(3)
H. retusus	Thailand	Timm (1964)
H. multicinctus	Venezuela	Yepez (1973)
Helicotylenchus sp.	El Salvador Venezuela Florida, USA India Malaysia	Abrego & Tarjan (1972) Torrealba (1969) van Weerdt *et al.* (1959a) Venkitesan (1972); Koshy *et al.* (1979) Kheng (1975)
Hemicriconemoides cocophilus	El Salvador Puerto Rico Florida, USA	Abrego & Tarjan (1972) Roman (1978) van Weerdt *et al.* (1959a)
H. mangiferae	Pakistan	Saeed & Ghaffer (1969)
H. strictathecatus	Florida, USA	Esser (1960)
H. wessoni	,,	van Weerdt *et al.* (1959a)
H. squamosus	Thailand	Timm (1964)
Hemicriconemoides sp.	El Salvador India	Abrego & Tarjan (1972) Koshy *et al.* (1979)
Hemicycliophora sp.	Florida, USA	van Weerdt *et al.* (1959a); Koshy *et al.* (1979)
Hirschmaniella sp.	India	Koshy *et al.* (1979)
Hoplolaimus indicus	Kerala, India West Bengal, India	Venkitesan (1972) Mukhopadhyaya & Haque (1974)
Hoplolaimus seinhorsti	Thailand	Timm (1964)
H. tylenchiformis	Florida, USA	van Weerdt *et al.* (1959a)
Hoplolaimus sp.	Venezuela India	Yepez (1973) Koshy *et al.* (1979)
Iotonchus baqri	,,	Jairajpuri (1969)

(1)	(2)	(3)
Leptonchus baccatus	India	Siddiqi (1970)
Longidorus saginus	,,	Koshy *et al.* (1979)
Macroposthonia oachirai	,,	,,
Macroposthonia sp.	French West Indies	Scotto La Massese (1969)
Meloidogyne incognita	Kerala, India	Venkitesan (1972)
Meloidogyne sp.	El Salvador India	Abrego & Tarjan (1972) Koshy *et al.* (1979)
Mylonchulus mulveyi	El Salvador	Baqri & Jairajpuri (1973)
Neopsilenchus sp.	,,	Agbrego & Tarjan (1972)
Neotylenchus sp.	India	Koshy *et al.* (1979)
Panagrolaimus rigidus	Kerala, India	Nadakkal (1965b)
Panagrolaimus sp.	,,	Nadakkal (1965a)
Paralongidorus flexus	,,	Koshy *et al.* (1979)
Paratylenchus sp.	El Salvador India	Abrego & Tarjan (1972) Koshy *et al.* (1979)
Peltamigratus holdemani	Venezuela	Yepez (1973)
P. thornei	British Honduras	Knobloch (1969)
Paratylenchus brachyurus	Florida, USA	van Weerdt *et al.* (1959a)
Pratylenchus hexincisus	,,	,,
P. minutus	,,	,,
Pratylenchus sp.	El Salvador Mysore, India India	Abrego & Tarjan (1972) Swamy & Govindu (1966) Venkitesan (1972); Koshy *et al.* (1979).
Psilenchus sp.	,,	Koshy *et al.* (1979)
Radopholus similis	Florida, USA	van Weerdt *et al.* (1959a)

(1)	(2)	(3)
Radopholus similis	India	Koshy *et al.* (1979)
Rhadinaphelenchus cocophilus	El Salvador St. Vincent	Abrego & Tarjan (1979) Edmunds (1969)
Rotylenchulus reniformis	India	Venkitesan (1972); Koshy *et al.* (1979)
Rotylenchulus sp.	El Salvador Venezuela	Abrego & Tarjan (1972) Torrealba (1969)
Rotylenchus sp.	India	Koshy *et al.* (1979)
Scutellonema sp.	,,	,,
Trichodorus christiei	Florida, USA	van Weerdt *et al.* (1959a)
T. proximus	,,	,,
Trichodorus sp.	Venezuela India	Yepez (1973) Koshy *et al.* (1979)
Trichotylenchus astriatus	Mysore, India	Khan & Nanjappa (1971)
Trophurus similis	,,	,,
Tylenchorhynchus actus	Venezuela	Yepez (1973)
T. elegans	India	Koshy *et al.* (1979)
T. martini	Thailand	Timm (1964)
T. triglyphus	,,	,,
T. zeae	India	Mukhopadhyaya & Haque (1974)
Tylenchorhynchus sp.	El Salvador	Abrego & Tarjan (1972)
Tylenchorhynchus sp.	Venezuela	Torrealba (1969)
Tylenchulus semipenetrans	Florida, USA	van Weerdt *et al.* (1959a)
Tylenchus sp.	Venezuela French West Indies India	Torrealba (1969) Scotto La Massese (1969) Koshy *et al.* (1979)

(1)	(2)	(3)
Xiphinema americanum	Florida, USA India	van Weerdt *et al.* (1959a) Janarthanan *et al.* (1969); Koshy *et al.* (1979)
X. braziliense	Golden Grove,Trinidad	Maramorosch & Golden (1967)
X. campinense	Togo	Luc (1958)
X. elongatum	Thailand	Timm (1964)
X. insigne	,, Malaysia	,, Kheng (1975)
X. vulgare	French West Indies	Scotto La Massese (1969)
Xiphinema sp.	El Salvador Venezuela	Abrego & Tarjan (1972) Torrealba (1969)

Table III OCCURRENCE OF NEMATODES ON COCONUT IN VARIOUS COUNTRIES

Nematode (1)	Reference (2)
BARBADOS	
Rhadinaphelenchus cocophilus	cf. Harries (1977)
BELIZE	
Rhadinaphelenchus cocophilus	cf. Harries (1977)
BRAZIL	
Rhadinaphelenchus cocophilus	Joffilly (1948); Lordello & Zamith (1954); Chaves (1956); Franco (1964); Ponte *et al.* (1971).
BRITISH HONDURAS	
Panagrolaimus thornei	Knobloch (1969)
COLOMBIA	
Rhadinaphelenchus cocophilus	Messa Bernal (1951); Potes (1967);Harries (1971); Vilardebo (1971)
COSTA RICA	
Rhadinaphelenchus cocophilus	cf. Harries (1977)
DOMINICAN REPUBLIC	
Rhadinaphelenchus cocophilus	Schieber (1970)
EL SALVADOR	
Actus salvadoricus	Baqri & Jairajpuri (1973)
Boleodorus thylactus	Abrego & Tarjan (1972)
Criconemoides sp.	,,
Helicotylenchus sp.	,,
Hemicriconemoides cocophilus	,,
Hemicriconemoides sp.	,,
Meloidogyne sp.	,,

(1)	(2)
Mylonchulus mulveyi	Baqri & Jairajpuri (1973)
Neopsilenchus sp.	Abrego & Tarjan (1972)
Paratylenchus sp.	,,
Pratylenchus sp.	,,
Rhadinaphelenchus cocophilus	,,
Rotylenchulus sp.	,,
Tylenchorhynchus sp.	,,
Xiphinema sp.	,,
ECUADOR	
Rhadinaphelenchus cocophilus	cf. Harries (1977)
FRENCH WEST INDIES	
Tylenchus sp.	Scotto La Massese (1969)
Xiphinema vulgare	,,
GRENADA	
Rhadinaphelenchus cocophilus	Nowell (1922); Singh (1972)
GUAM	
Aphelenchoides sp.	Reinking & Radewald (1961)
Helicotylenchus nannus	,,
Meloidogyne sp.	,,
Rotylenchulus reniformis	,,
Rotylenchus sp.	,,
Xiphinema americanum	,,
X. diversicaudatum	,,
X. infacolum	Maramorosch & Golden (1967)

(1)	(2)
GUYANA	
Rhadinaphalenchus cocophilus	Singh (1971)
HONDURAS	
Rhadinaphelenchus cocophilus	cf. Harries (1977)
INDIA	
Aphelènchoides sp.	Koshy *et al.* (1979)
Aphelenchus sp.	,,
Atylenchus sp.	,,
Basiriotyleptus nemoralis	Siddiqi (1970)
Caloosia sp.	Koshy *et al.* (1979)
Criconema sp.	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Criconemoides sp.	Weischer (1967); Mathen (1969); Mathen *et al.* (1970); Koshy *et al.* (1979)
Discocriconemella racensi	Khan *et al.* (1971)
Diphtherophora sp.	Koshy *et al.* (1979)
Ditylenchus sp.	,,
Dolichodorus pulvinus	Khan *et al.* (1971); Koshy *et al.* (1979)
Dolichodorus sp.	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Dorylaimus sp.	Maramorosch & Golden (1967)
Hadronchus andamanicus	Jairajpuri (1969)
Helicotylenchus sp.	Weischer (1967); Mathen (1969); Mathen *et al.* (1970) Koshy *et al.* (1979)
Hemicriconemoides sp.	Weischer (1967); Mathen (1969); Mathen *et al.* (1970); Koshy *et al.* (1979)
Hemicycliophora sp.	Mathen (1969); Mathen *et al.* (1970); Koshy *et al.* (1979)
Hirschmaniella sp.	Koshy *et al.* (1979)

(1)	(2)
Hoplolaimus indicus	Venkitesan (1972); Mukhopadhyaya & Haque (1974)
Hoplolaimus sp.	Weischer (1967); Mathen (1969); Mathen *et al.* (1970); Koshy *et al.* (1979)
Iotonchus baqri	Jairajpuri (1969)
Leptonchus baccatus	Siddiqi (1970)
Longidorus saginus	Khan *et al.* (1971); Koshy *et al.* (1979)
Longidorus sp.	Weischer (1967); Mathen (1969) Mathen *et al.* (1970)
Macroposthonia oachirai	Khan *et al.* (1971); Koshy *et al.* (1979)
Meloidogyne sp.	Weischer (1967); Mathen (1969); Mathen *et al.* (1970); Koshy *et al.* (1979)
Neotylenchus sp.	Koshy *et al.* (1979)
Panagrolaimus rigidus	Nadakkal (1965b)
Panagrolaimus sp.	Nadakkal (1965a)
Paralongidorus flexus	Khan *et al.* (1971); Koshy *et al.* (1979)
Paratylenchus sp.	Weischer (1967); Mathen (1969); Mathen *et al.* (1970); *Koshy et al.* (1979)
Pratylenchus sp.	Swamy & Govindu (1966); Weischer (1967); Mathen (1969); Mathen *et al.* (1970); Venkitesan (1972); Koshy *et al.* (1979)
Psilenchus sp.	Koshy *et al.* (1979)
Radopholus similis	Weischer (1967); Mathen (1969); Mathen *et al.* (1970) Koshy *et al.* (1975); Koshy *et al.* (1979)
Rotylenchulus reniformis	Venkitesan (1972); Koshy *et al.* (1979)
Rotylenchulus sp.	Weischer (1967); Mathen (1969); Mathen *et al.* (1970)
Rotylenchus sp.	Koshy *et al.* (1979)
Scutellonema sp.	,,
Trichodorus sp.	,,

(1)	(2)
Trichotylenchus astriatus	Khan & Nanjappa (1971)
Trophurus similis	,,
Tylenchorhynchus elegans	Koshy *et al.* (1979)
T. zeae	Mukhopadhyaya & Haque (1974)
Tylenchorhynchus sp.	Weischer (1967); Mathen *et al.* (1970)
Tylenchus sp.	Koshy *et al.* (1979)
Xiphinema americanum	Janarthanan *et al.* (1969). Koshy *et al.* (1979)
Xiphinema sp.	Weischer (1967); Mahten *et al.* (1970)
Xiphinema spp.	Mathen *et al.* (1970)
JAMAICA	
Aphelenchus sp.	Latta (1964, 1966)
Cacopaurus sp.	,,
Criconemoides sp.	,,
Helicotylenchus dihystera	Maramorosch & Golden (1967)
H. erythrinae	van Weerdt *et al.* (1959b)
H. multicinctus	Latta (1964, 1966)
H. nannus	,,
Helicotylenchus sp.	,,
Hemicriconemoides sp.	,,
Heterodera sp.	van Weerdt *et al.* (1959b)
Heterodera spp.	Latta (1964, 1966)
Hoplolaimus spp.	van Weerdt *et al.* (1959b)
Meloidogyne sp.	Latta (1964, 1966)
Pratylenchus sp.	,,
Radopholus similis	van Weerdt *et al.* (1959b); Latta (1966)

(1)	(2)
Rotylenchulus reniformis	Dixon & Latta (1965); Latta (1966)
Rotylenchulus sp.	Latta (1964, 1966)
Scutellonema sp.	van Weerdt *et al.* (1959b)
Sphaeronema (?)	Latta (1966)
Trichodorus sp.	van Weerdt *et al.* (1959b)
Trophurus sp.	Latta (1966)
Tylenchorhynchus sp.	Latta (1964, 1966)
Tylenchus sp.	,,
Xiphinema sp.	van Weerdt *et al.* (1959b); Latta (1964, 1966)
MALAYSIA	
Aglenchus costatus	Kheng (1975)
Cephalenchus sp.	,,
Helicotylenchus sp.	,,
Xiphinema insigne	,,
Xiphinema sp.	Maramorosch & Golden (1967)
MEXICO	
Rhadinaphelenchus cocophilus	Gonzalez (1972); Marban Mendoza (1973); Bedford *et al.* (1978)
NICARAGUA	
Rhadinaphelenchus cocophilus	cf. Harries (1977)
PAKISTAN	
Hemicriconemoides mangiferae	Saeed & Ghaffar (1979)
PANAMA	
Rhadinaphelenchus cocophilus	cf. Harries (1977)
PHILIPPINES	
Caloosia discolabium	Diab & Jenkins (1966)
Criconemoides sp.	Pizarro (1969)

(1)	(2)
Helicotylenchus sp.	Pizarro (1969)
PUERTO RICO	
Hemicriconemoides cocophilus	Roman (1978)
Longidorus sp.	,,
SRI LANKA	
Acrobeloides sp.	Robertson (1965, 1969)
Aphelenchoides parietinus	,,
Aphelenchoides sp.	,,
A. avenae	,,
Aphelenchus sp.	,,
Caloosia longicaudata	Ekanayake (1964, 1968); Robertson (1969)
Ditylenchus sp.	Robertson (1965, 1969)
Helicotylenchus sp.	,,
Hemicycliophora longicaudata	Ekanayake & Wickramaratne (1964); Robertson (1965)
Hemicycliophora sp.	Ekanayake (1964)
Hoplolaimus seinhorsti	Maramorosch & Golden (1967)
Meloidogyne incognita acrita	,,
Radopholus sp.	Ekanayake (1964, 1968); Robertson (1965, 1969)
Rhabditis sp.	Robertson (1965, 1969)
Rotylenchulus reniformis	Ekanayake (1964, 1968)
Trichodorus sp.	Robertson (1965, 1969)
Tylenchorhynchus nudus	Loof (1959); Ekanayake (1964, 1968)
Tylenchorhynchus sp.	Robertson (1965, 1969)
Tylenchus sp.	,,
Xiphinema sp.	,,

(1)	(2)
ST. VINCENT	
Rhadinaphelenchus cocophilus	Edmunds (1969)
SURINAM	
Paratylenchus sp.	Anonymous (1975)
Rhadinaphelenchus cocophilus	van Hoof & Seinhorst (1962); Krayenga & den Ouden (1966); Mass (1969)
THAILAND	
Helicotylenchus dihystera	Timm (1964)
H. retusus	,,
Hemicriconemoides squamosus	,,
Hoplolaimus seinhorsti	,,
Tylenchorhynchus martini	,,
T. triglyphus	,,
Xiphinema elongatum	,,
X. insigne	,,
TOGO	
Dolichodorus profundus	Luc & Hoestra (1960); Luc (1960); Maramorosch & Golden (1967)
Helicotylenchus sp.	Luc & Hoestra (1960)
Hemicycliophora pauciannulata	Luc (1958); Luc & Hoestra (1960)
Hemicycliophora sp.	Maramorsch & Golden (1967)
Metacrobeles tagoensis	Loof (1962); Luc & Hoestra (1960)
Paratylenchus sp.	Luc & Hoestra (1960)
Pratylenchus brachyurus	,,
Pratylenchus sp.	,,
Scutellonema bradys	,,

(1)	(2)
Trichodorus sp.	Luc & Hoestra (1960)
Tylenchus sp.	,,
Xiphinema attorodorum	,,
X. campinense	,,
X. setariae	,,
TRINIDAD & TOBAGO	
Aphelenchoides cocophilus	Fenwick & Maharaj (1960)
Aphelenchus cocophilus	Cobb (1919)
Criconemoides sp.	Maramorosch & Golden (1967)
Encholaimus taurus	Golden & Murphy (1967); Maramorosch & Golden (1967)
Helicotylenchus dihystera	Maramorosch & Golden (1967)
Longidorus laevicapitatus	,,
Peltamigratus luci	,,
Rhadinaphelenchus cocophilus	Cobb (1919); Fenwick (1958, 1962b, 1963 a, b); van Weerdt *et al.* (1959a, b); Fenwick & Maharaj (1960, 1963 c); Blair (1963, 1968); Maramorosch & Golden (1967); Harries (1971)
Rotylenchulus sp.	Fenwick & Maharaj (1962)
Trophonema sp.	Maramorosch & Golden (1967)
Xiphinema brasiliense	,,
USA	
Anguillulina sp.	Crossman & Christie (1937)
Aphelenchoides cocophilus	van Weerdt *et al.* (1959a)
Aphelenchoides sp.	,,
Belonolaimus longicaudatus	,,
Cacopaurus sp.	,,

(1)	(2)
Criconema citri	Luc & Hoestra (1960)
Criconemoides mutabile	,,
Criconemoides spp.	,,
Helicotylenchus erythrinae	van Weerdt *et al.* (1959a, b)
Helicotylenchus sp.	van Weerdt *et al.* (1959a)
Helicotylenchus spp.	van Weerdt *et al.* (1959b)
Hemicriconemoides cocophilus	van Weerdt *et al.* (1959a)
H. strictathecatus	van Weerdt *et al.* (1959a); Esser (1960)
H. wessoni	van Weerdt *et al.* (1959a)
Hemicriconemoides spp.	van Weerdt *et al.* (1959b)
Hemicycliophora sp.	van Weerdt *et al.* (1959a, b)
Hemicycliophora spp.	Latta (1964, 1966).
Hoplolaimus tylenchiformis	van Weerdt *et al.* (1959a)
Hoplolaimus spp.	van Weerdt *et al.* (1959b)
Meloidogyne spp.	,,
Paratylenchus sp.	,,
Pratylenchus brachyurus	van Weerdt *et al.*(1959a)
P. hexincisus	,,
P. minutus	,,
Pratylenchus sp.	van Weerdt *et al.* (1959b)
Radopholus similis	van Weerdt *et al.* (1959a, b)
Rotylenchulus sp.	Ollagnier & Weststeijn (1963); van Weerdt *et al.* (1959b)
Trichodorus christiei	van Weerdt *et al.* (1959a)
T. proximus	,,
Trichodorus sp.	van Weerdt *et al.* (1959b)

(1)	(2)
Tylenchorhynchus sp.	van Weerdt *et al.* (1959a)
Tylenchulus semepenetrans	van Weerdt *et al.* (1959b)
Xiphinema americanum	van Weerdt *et al.* (1959a)
Xiphinema sp.	van Weerdt *et al.* (1959b)
VENEZUELA	
Ditylenchus sp.	Torrealba (1969)
Helicotylenchus erythrinae	Yepez (1973)
Helicotylenchus sp.	Torrealba (1969)
Rhadinaphelenchus cocophilus	Bain & Fedon (1951); Oostenbrink (1963)
Rotylenchulus sp.	Torrealba (1969)
Tylenchorhynchus actus	Yepez (1973)
Tylenchorhynchus sp.	Torrealba (1969)
Tylenchus sp.	"
Xiphinema sp.	"
Helicotylenchus multicinctus	Yepez (1973)
Peltamigratus holdemani	"
Hoplolaimus sp.	"
Belonolaimus sp.	"
Trichodorus sp.	"
ZAIRE	
Tylenchorhynchus macrophasmis	Loof (1959)

DISCUSSION

Information compiled in this review could help nematologists and scientists involved in plant quarantine. The occurrence of nematodes in the vicinity of coconut palms does not necessarily mean that they are parasitic on the palms and actually feed on them. Similarly a list of nematodes proven to be plant parasitic and those suspected to possess plant infecting properties based on information from analysis of limited samples need not hold any guarantee that these are pathogenic to the coconut palms. Considering that other crops are common in coconut groves and presumably influence the microorganisms and nematodes present and their relative abundance is significant. Several of the nematological surveys and correlation studies are neither intensive nor extensive, and have been unable to establish any positive correlation between populations of the various genera of nematodes and specific type of coconut decline except red ring disease, but the possibility of nematodes acting as vectors or aggravators is not ruled out. Generally a predominant nematode species at any particular site has to be recovered during subsequent sampling.

Red ring disease is not prevalent in Jamaica but in inoculation tests on six Tall coconut varieties carried out in Aracaju (Colombia) for the Coconut Industry Board, Jamaica; no variety proved to be resistant (Harries, 1971). Today Asia and Oceania are believed to be free from red ring infestation and only strict quarantine measures can ensure that these areas remain free of the problem. Introduction of the red ring pathogen through infested coconuts will have to be regarded a risk and importation of nuts subjected to rigorous checks. Certain countries have a reasonable embargo against import of coconuts from red ring and other disease prevalent areas. Quarantine measures are inadequate or nil for oil palm, date palm or ornamental palms which have proved to be susceptible to diseases like red ring (Malagutti, 1953; Franco, 1964; Kraayenga & den Ouden, 1966; Dao and Oostenbrink, 1967; Blair and Darling, 1968; Mass 1969). Today planting materials of many palms are exchanged between countries without ascertaining their role as secondary hosts or symptomless carriers of many of the palm diseases of uncertain etiology. Over twenty ornamental palms are known to be hosts for the lethal yellowing pathogen (Thomas, 1974), and Cadang Cadang symptoms are also believed to be exhibited by certain other palm genera (Pizarro and Santa Maria, 1972; Bigornia, 1977a). It has also been reported that oil palm is a natural host of the root (wilt) pathogen (Shanta, Gopinathan Pillai and Lal, 1970). Van Hoof and Seinhorst (1962) reported *Rhadinaphelenchus cocophilus* consistently assoicated with 'little leaf' disease symptoms of coconut and oil palms in Surinam and Guyana, where nematodes were generally retarding the development of the young leaves in which they occurred. It is probable that the same pathogenic organism may produce dissimilar symptoms in different hosts or identical disease syndrome may be induced by unrelated agents.

Though coconuts are seldom exchanged as seedlings, it is important to caution importers and growers that the roots and adhering soil are likely to carry micro-organisms and nematodes which may or may not be immediately a problem in receiving areas. Red ring nematodes have been found in the husk of dropped nuts (Fenwick, 1959b) and artificial infection trials of Fenwick and Mohammed (1964) showed that red ring elworms are capable of clolonizing the nut tissues and seedlings although infections disappeared about 48 weeks afterwards. Koshy and Sosamma (1979) reported infestation of large populations of burrowing nematode in roots within the husk of coconut seedlings released for planting from several coconut nurseries in Kerala. In order to check an eventual deterioration of the tropical scene due to pestilence the control of the pests and diseases of palms is warranted.

BIBLIOGRAPHY

ABREGO, L. AND TARJAN, A. C. 1972. Survey of nematodes in crops of economic importance in El Salvador. *Nematropica* **2** : 27–29.

ANONYMOUS, 1968. *Control of Plant Parasitic Nematodes*, Vol. 4 Principles of Plant and Animal Pest Control. 172 pp. Pub. No. 1696, Nat. Acad. Sci., Washington, D. C.

ANONYMOUS, 1969. Plant Nematodes, pp. 139–153 *In:* Annual Report for 1968. Landbouw proefstation, Suriname.

ANONYMOUS, 1970. Annual Report for 1970 Guyana, Ministry of Agriculture 111:8, 18–19.

ANONYMOUS, 1973. Report of Research Station 1969–1972. 37 pp. Trinidad & Tobago Coconut Res. Ltd., Champ Fleurs.

ANONYMOUS, 1975. Plant Nematology pp. 23–26 *In:* Annual Report for 1973. Landbouwproefstation, Suriname.

ASHBY, S. F. 1921. Some recent observations on red ring disease. *Agric. News* (Bridgedown) **20** : 350–351.

ASHBY, S. F. 1924. Coconut red ring disease *Exp. Sta. Rec.* **56** : 454.

ASHBY, S. F. 1926. Red ring disease of the coconut. *Trop. Agric.* (*Colombo*) **66** : 334–341.

ASHBY, S. F. AND NOWELL, W. 1924. Red ring disease of the coconut. pp. 164–172 *In*: *Proceedings of the 9th West Indian Agricultural Conference.*

BAIN, F. M. AND FEDON C. S. A. 1951. Investigationes sobre anillo rojo del cocotero. *Agron. Trop.* (*Maracay*) **1** : 103–130.

BANGUERA, R. L. AND POTES, A. S. S. 1972. (Efficacy of various chemicals in killing coconut palms infected with red ring *(Rhadinaphelenchus cocophilus* (Cobb,) Goodey). *Acta Agron.* (*Palmira*) **22** : 33–42.

BAQRI, S. Z. AND JAIRAJPURI, M. S. 1973. Studies on Mononchida. V, The mononchs of El Salvador with descriptions of two new genera, *Actus* and *Paracrassibucca*. *Nematologica* **19** : 326–333.

BIGORNIA, A.E. 1977a. Evaluation and trends of researches on the coconut Cadang Cadang disease. *Asian & Pacific Coconut Community Quarterly Supplement* **22** : 21–55.

BIGORNIA, A. E. 1977b. The virus and viroid theories on cadang cadang. *Philipp. J. Cocount Stud.* **2** (2) : 7–12.

BLAIR, G. P. 1960. Botanical aspects of red ring disease. *Colloqium, University College of West Indies*, St. Augustine, Trinidad, Nov. 30, 1960.

BLAIR, G. P. 1961. Report of the Botanist, 15 pp. Red Ring Research Scheme, Ministry of Agriculture Central Expt., Stn., Trinidad & Tobago,

BLAIR, G. P. 1963. Red ring disease of the coconut palm incited by *Rhadinaphelenchus cocophilus* Cobb, 1919. 90 pp. *Ph.D. Thesis. Univ. of Wisconsin*, (*Diss. Abstr.* **24** : 20–21).

BLAIR, G. P. 1964. Red ring disease of the coconut plam. *J. Agric. Soc. Trinidad Tobago* **64** : 31–49.

BLAIR, G. P. 1965. Red ring disease, the need for further experiments on control. 10 pp. Red Ring Research Division, Ministry of Agriculture, Land and Fisheries, Centeno, Trinidad.

BLAIR, G. P. 1966a The use of immature nuts for studies on *Rhadinaphelenchus cocophilus. Nematologica* **11** : 590–592.

BLAIR, G. P. 1966b Advances in red ring disease. *J. Agric. Soc. Trinidad Tobago* **66** : 127–130.

BLAIR, G. P. 1968. Studies on red ring disease of the coconut palm. *Working paper at 3rd Session of the FAO Technical Working Party on Coconut Production, Protection and Processing.* 9–19 Sept. 1968.

BLAIR, G. P. 1969. The problem of control of red ring disease pp. 99–108 *In*: *Nematodes of Tropical Crops.* (J. E. Peachey, Ed.) 355 pp. Commonwealth Agric. Bur. Farnham Royal, England.

BLAIR, G. P. 1970. Studies on red ring disease of the coconut palm. *Oleagineux* **25** : 19–22, 79–83.

BLAIR, G. P. 1976. Red ring disease of the coconut palm. *Paper at International Symposium on Coconut Research and Development*, 28-31 Dec. 1976, Kasaragod. (p. 35 *In:* Abstracts of Papers.)

BLAIR, G. P. AND DARLING H. M. 1968. Red ring disease of the coconut palm, inoculation studies and histopathology. *Nematologica* **14**: 395–403.

BRATHWAITE, C. W. D. AND SIDDIQI, M. R. 1975. *Rhadinaphelenchus cocophilus.* Commonwealth Institute of Helminthology – *Descriptions of Plant Parasitic Nematodes, Set* 5 (*No.* 72), 4 pp.

BRITON-JONES, H. R. 1940. Red ring disease (*Aphelenchus cocophilus*, Cobb) pp. 91–110 *In*: *The Diseases of the Coconut Palm.* London Balilliere, Tindall and Cox.

CABRERA, C. J. 1963. Red ring disease of coconuts on the Pacific coast. *Agric. Trop.* **19** : 723–727.

CABRERA, C. J. 1965. El anillo rojo en el cocotero del pacifico (*Rhadinaphelenchus cocophilus*). *Agric. Trop.* **21** : 481–484.

CARR, T. W. A. 1970. Methyl bromide fumigation of red ring diseased coconut trees. 1. Preliminary tests for nematicidal and insecticidal effect. *J. Agric. Soc. Trinidad Tobago* **70**: 431–438.

CARVALHO, J. C. 1953. *Aphelenchoides coffeae* em raizes de geranio. *Rev. Inst. Adolfo Lutz* **13** : 33–36.

CHAVES, G. M. 1956. Ocorrencia de anel vermelho no estado do Rio de Janeiro *Rev. Soc. Bras. Agron. Rev.* **12** (1/2) : 69–71.

CIFFERI, R AND CICCRARONE A. 1949. Bronze leaf wilt of the coconut palm in Venezuela. *Rev. Fac. Nac. Agron. Medellin. Colombia* **9** : 17–26.

COBB, N. A. 1919. A newly discovered nematode, *Aphelenchus cocophillus* n. sp., connected with a serious disease of the coconut palm. *W. Indian Bull.* **17** : 203–210.

COBB, N. A. 1922. Notes on the coconut nematode of Panama. *J. Parasitol.* **9** : 44–45.

CORBETT, M. K. 1959. Diseases of the coconut palm. III Red ring. *Principes* **3** : 83–86.

CROSSMAN, L. AND CHRISTIE, J. R. 1936. List of plants attacked by miscellaneous plant in festing nematodes. *Plant Dis. Reptr.* **21** : 144–167.

DAO, F. AND OOSTENBRINK, M. 1967. An inoculation experiment in oil palm with *Rhadinaphelenchus cocophilus* from coconut and oil palm. *Meded. Rijksfac. Landbouwwet. Gent* **32**: 540–551.

DEAN, C.G. AND VELIS, M. 1975. Differences in the effect of red ring on coconut palms in Centeral America and the Carribean and its control. *Paper at 4th Session FAO Techical Working Party on Coconut Production Protection, and Processing. Kingston, Jamaica.* (*Oleagineux* 31 : 321–326.)

DIAB, K. A. AND JENKINS, W. R. 1966. Three new species of Criconemoides (Nematoda : Criconematidae). *Proc. Helminthol. Soc. Wash.* 33 : 5–7.

DIXON, W. B. AND LATTA, R. 1965. Nematological investigations, 1958–1961. *Ministry of Agriculture & Land, Jamaica Bulletin* 59 : (New series), 35 pp.

DUNO, M. J. 1959. How to prevent the spread of red ring of coconut palms. *Agric. Venez.* **23** (214) : 21.

DUTHIE, D. W. 1938. Coconut wilt on Esswquibo and Pomiroon. districts. *Agric. J. Br. Guin.* **9** : 147–152.

EDMUNDS, J. E. 1969. Plant nematode problems of the Windward Islands. pp. 142–148, *In: Nematodes of Tropical Crops* (J. E. Peachey, Ed.) Commonwealth Agric. Bur., Farnham Royal.

EKANAYAKE, U. B. M. 1964. Annual report of the crop protection offcer, Coconut Res. Inst. for 1963. *Ceylon Coconut* Q. **15** : 50–57.

EKANAYAKE, U. B. M. 1968. Leaf scorch decline of coconut. *Ceylon Cocon.* Q. **19** : 183–187.

EKANAYAKE, U. B. M. AND WICKRAMARATNE, C. I. 1964. *Hemicycliophora longicaudata* Loos 1948 (Criconematidae), a parasitic nematode associated with roots of coconut palms showing sysmptoms of 'leaf scorch'. *Proceedings of the Ceylon Association for the Advancement of Science* 1964.

ESSER, R. P. 1960. Three additional species in the genus *Hemicriconemoides* Chitwood and Birchfield 1957 (Nemata : Tylenchidae) *Nematologica* **5** : 64–71.

FENWICK, D. W. 1957. Red ring disease of coconut in Trinidad and Tobago. *Rep. Colonial Office* No. (40617–1) 1 London, 55 pp.

FENWICK, D. W. 1958 a. Preliminary investigations into the red ring disease of coconut. *J. Agr. Soc. Trinidad Tobago* 56 : 253–275.

FENWICK, D. W. 1958 b. Red ring of coconuts : a problem for the nematologist. *Span.* **2** : 5–7 (Indian Coconut J. 12: 82–86.)

FENWICK, D. W. 1959 a. Report on a visit to Venezuela, Red ring research scheme, Ministry of Agric. Central Expt. Stn., Centeno, Trinidad & Tobago.

FENWICK, D. W. 1959 b. The nematological aspects of red ring diseae of coconuts. *Minutes of the monthly general meeting, Agricultural Society of Trinidad & Tobago,*

FENWICK D. W. 1959 c. *J. Agric. Soc. Trinidad Tobago* **59** : 373–395.

FENWICK, D. W. 1962 a. Report on research carried out by Trinidad & Tobago Coconut Res. Ltd. during 1961. *J. Agric. Soc. Trinidad Tobago* **62** : 27–47.

FENWICK, D. W. 1962 b. The entomological aspects of red ring disease. *Minutes of the monthly general meeting, Agricultural Society of Trinidad & Tobago.* pp. 3–17.

FENWICK, D. W. 1962 c. Penetration of coconut tissues by *Rhadinaphelenchus cocophilus* (Cobb 1919) Goodey 1960. pp. A 15 *In : Annual Report of the Research Station, Trinidad & Tobago Coconut Research Ltd.* 1961, Champ Fleurs.

FENWICK, D. W. 1963 a. On the distribution of the *Rhadinaphelenchus cocophilus* (Cobb, 1919). Goodey 1960 on coconut palm suffering from red ring disease. J. *Helminthol.* **37** : 15–20.

FENWICK, D. W. 1963 b. Recovery of *Rhadinaphelenchus cocophilus* (Cobb, 1919) Goodey, 1960 from coconut tissues. *J. Helminthol.* **37**: 11–14.

FENWICK, D. W. 1963 c. Report on reserach carried out by Trinidad & Tobago Coconut Res. Ltd. during 1962 *J. Agric. Soc. Trinidad Tobago* **63** : 335–336.

FENWICK, D. W. 1966. Field experiments on weevil control for 1964–'65. pp. 31–35 *In: Annual Report of the Research Station for* 1964–65. *Trinidad & Tobago Coconut Research Ltd., Champ Fleurs.*

FENWICK, D. W. 1967 a. Coconut research in Trinidad and Tobago. *Oleagineux* **22** : 87–88.

FENWICK, D. W. 1967 b. The effect of weevil control in the incidence of red ring disease. *J. Agric. Soc. Trinidad Tobago* **67** : 231–244.

FENWICK, D. W. 1968 a. Chemicals of possible utility for red ring control. pp. 17–22 *In : Report of the Research Station for* 1966–'68. *Trinidad & Tobago Coconut Research Ltd., Champ Fleurs.*

FENWICK, D. W. 1968 b. A note on the nematicidal properties of Sevin. *Trop. Agric. (Trinidad)* **45** : 125–126.

FENWICK, D. W. 1968 c. Red Ring disease of of the coconut palm. pp. 38–48 *In : Tropical Nematology* (*Smart*, G. C. Jr., & Perry, V. G. Eds.). Univ. of Florida Press: Gainesville, Florida.

FENWICK, D. W. 1969 a. The present outlook on red ring control. *J. Agric. Soc. Trinidad Tobago* **69** : 969–979.

FENWICK, D. W. 1969 b. Red ring disease of the coconut palm. *In : Nematodes of Tropical Crops* (J. F. Peachey, Ed.). Commonwealth Agric. Bur. Farnham Royal, England.

FENWICK, D. W. AND MAHARAJ, S. 1962. Water uptake of healthy and of red ring infected coconut palms. pp. 1–9 *In : Annual Rcport of the Rescarch Station, Trinidad & Tobago Coconut Research Ltd., Champ Fleurs.*

FENWICK, D. W. AND MAHARAJ, S. 1963 a. Water uptake of healthy and red ring infected coconut palms. *Trop Agric. (Trinidad)* **40** : 109–113.

FENWICK, D. W. AND MAHARAJ, S. 1963 b. Observations on the course of red ring disease of coconuts caused by the nematode *Rhadinaphelenchus cocophilus* (Cobb, 1919). Goodey, 1960 in naturally infected trees. *J. Helminthol.* **37** : 21–26.

FENWICK, D. W. AND MAHARAJ, S. 1963 c. *Rhadinaphelenchus cocophilus* (Cobb, 1919) Goodey, 1960 as a root parasite of coconut. *J. Helminthol.* **37** : 27–38.

FENWICK, D. W. AND MAHARAJ, S. 1965. Effect of inorganic fertilisers on the incidence of red ring disease. pp. 560–565 *In : Annual Report for 1964. Trinidad & Tobago Coconut Research Ltd., Champ Fleurs.*

FENWICK, D. W. AND MOHAMMED, M. 1961. The presence of *Rhadinaphelenchus cocophilus* (Cobb, 1919) Goodey, 1960 on the body of the palm weevil. *In*: *Annual Report for 1960. Trinidad & Tobago Coconut Research Ltd., Champ Fleurs.*

FENWICK, D. W. AND MOHAMMED, M, 1962 a. Helminths. pp. 4–19 *In : Annual Report for 1961 Trinidad & Tobago Coconut Research Ltd., Champ Fleurs.*

FENWICK, D. W. AND MOHAMMED, M. 1962. The presence of *Rhadinaphelenchus cocophilus* (Cobb, 1919) Goodey, 1960 on the body of the palm weevil *Rhynchophorus palmarum* L. pp. Q1-15 *In: Annual Report of the Research Station for* 1961. *Trinidad & Tobago Coconut Research Ltd. Champ Fleurs.*

FENWICK, D. W. AND MOHAMMED, S. 1964. Artificial infections of seednuts and young seedlings of the coconut palm with the red ring nematode *Rhadinaphelenchus cocophilus* (Cobb.) *Nematologica* 10: 459-463.

FENWICK, D. W. AND MOHAMMED, S. 1967. Refinements in the use of the vinegar eelworm (*Turbatrix aceti*) for screening of nematicides. *Nematologica* **13**: 467-468.

FRANCO, E. 1964. Estudo sobre o anel vermelho de conqueiro. *Publ. Coes Minist. Agric., Sergipe* No. 6: 236 pp.

FREEMAN, W. G. 1926. Plant Pathology, pp. 31-34 *In: Report of the Department of Agriculture, Trinidad & Tobago,* 1925.

GOBERDHAN, L. C. 1951. Coconut diseases in Trinidad and Tobago. *J. Agric. Soc. Trinidad Tobago* **62**: 33-38.

GOBERDHAN, L. C. 1963. Possible presence of a phytotoxin in the red ring infected trees. *Nature* (Lond.) **197**: 619-620.

GOBERDHAN, L. C. 1964 a. The comparative distribution of dye in healthy and red ring infected coconut palm. *Trop. Agric.* (Trinidad) **41**: 169-174.

GOBERDHAN, L. C. 1964 b. Observations on coconut palms artificially infected by the nematode *Rhadinaphelenchus cocophilus* (Cobb, 1919) Goodey, 1960. *J. Helminthol.* **38**: 25-30.

GOBERDHAN, L. C. 1964 c. The protection of coconut roots against infection by the namatode (*Rhadinaphelenchus cocophilus* Cobb). *Nematologica* **10**: 353-360.

GOBERDHAN, L. C. 1965. Organo phosphates and ıed ring control. pp. 43-45 *In: Annual Report of the Research Station for* 1964. *Trinidad & Tobago Cocount Research Ltd., Champ Fleurs.*

GOLDEN, A. M. 1968. Some morphological characters of a remarkable dorylaimid nematode (Dorylaimida). *p.* 32 *In: Reports, 8th International Symposium of Nematology, Antibes,* September 8-14, 1965.

GOLDEN, A. M. AND MURPHY, D. G. 1967. Encholaimoidea (Nematoda: Dorylaimida) a new superfamily representing dorylaimid specimens with cephalic setae. *Proc. Helminthol. Soc. Wash.* **34**: 94-98.

GONCALVES, R. D. 1936. Doenea do annel varmelho do conquerio. *Biologico* **2**: 28-29.

GONCALVES, R. D. 1937. A doenea do annel vermelho do conqueiro. *Biologico* **3**: 102-103.

GONZALEZ-NUNEZ, A. 1972. *Thesis,* Colegio Superior de Agricultura Tropical, Cardenas, Tabasco, Mexico.

GOODEY, J. B. 1960. *Rhadinaphelenchus cocophilus* (Cobb, 1919) n. comb, the nematode associated with 'red ring' disease of coconuts. *Nematologica* **5**: 98-102.

GOODEY, J. B. 1963. *Rhadinaphelenchus* J. B. Goodey, 1960. pp. 146-148 *In: T. Goodey's Soil* *and Fresh Water Nematodes.* Methuen & Co. Ltd., London.

GOODEY, J. B. AND FRANKLIN, M. T. 1965. *T. Goodey's The Nematode Parasites of Plants, Catalogued under Their Hosts.* 214 pp. Commonwealth Agric. Bur. Farnham Royal.

GOVINDANKUTTY, M. P. 1978. Diseases of the coconut palm. *Indian Express*, 16 Feb. p. 9.

GOVINDANKUTTY, M. P. AND KOSHY, P. K 1978. Nematodes associated with the coconut palm (*Cocos nucifera* L.). Paper at 11th Session–Plant Protection Committee for the South East Asia and Pacific Region, 22-29 Sept. 1978. Kathmandu, Nepal, 31 pp.

GOVINDANKUTTY, M. P. VELLIACHAMY, K. 1976. Histopathology of the roots of coconut palm affected with root (wilt) disease. Paper at *International Symposium on Coconut Research and Development*, 28-31 Dec. 1976, Kasaragod.

GRIFFITH, R. 1965. A method of controlling red ring disease of coconuts. *J. Agric. Soc. Trinidad Tobago* **69**: 827-845.

GRIFFITH, R. 1967. *J. Agric. Soc. Trinidad Tobago* **67**: 209-213.

GRIFFITH, R. 1967. Progress on the entomological aspects of red ring disease, *J. Agric. Soc. Trinidad Tobago* **67**: 231-244.

GRIFFITH, R. 1968. The relationship between the red ring nematode and the palm weevil. *J. Agric. Soc. Trinidad Tobago* **68**: 342-356.

GRIFFITH, R. 1968. The mechanism of transmission of the red ring nematode. *J. Agric. Soc. Trinidad Tobago* **68**: 437-457.

GRIFFITH, R. 1971. Red ring disease, the mechanism of spread and recommendation for control. *Nematropica* **1**: 2.

GRIFFITH, R. 1974. Use of the frequency of occurrence of small individuals of the palm weevil *Rhynchophorus palmarum* L. in the forecasting of red ring disease outbreaks. pp. 287-298 *In: Proceedings of the Symposium on the Protection of Horticultural Crops in the Carribean.* Univ. West Indies, Trinidad, 8-11 April 1974.

GRIFFITH, R. 1974. The use of the smaller palm weevil, *Rhyncophorus palmarum* L. in the forecasting of red ring disease outbreaks. *J. Agric. Soc. Trinidad Tobago* **74**: 149-158.

GRIFFITH, R. 1976. Some characteristics of a defense mechanism in the palm weevil (*Rhynchophorus palmarum* L.) againt the red ring nematode *Rhadinaphelenchus cocophilus* (Cobb 1919) Goodey, 1960. *J. Agric. Soc. Trinidad Tobago* **76**: 246-267.

GRIFFITH, R. 1978. Epidemiology of red ring disease of the coconut plam. (*Cocos nucifesa* L.) in Trinidad and Tobago. *J. Agric. Soc. Trinidad Tobago* **78**: 200–217

HAGLEY, E. A. C. 1960 a. The entomological aspects of red ring disease. *Colloquium, St. Augustine, Trinidad,.* University College of the West Indies, 30 Nov. 1960.

HAGLEY, E. A. C. 1960 b. Report of the Entomologist, Red Ring Research Scheme, Ministry of Agriculture. Cent. Expt. Stn. Centeno, Trinidad & Tobago.

HAGLEY, E. A. C. 1962. The palm weevil, *Rhynchophorus palmarum* L., a probable vector of red ring disease of coconuts. *Nature* (Lond.) **193**: 449.

HAGLEY, E. A. C. 1963. The role of the palm weevil, *Rhynchophorus palmarum* L., as vector of red ring disease of coconut. 1. Results of preliminary observations. *J. Econ. Entomol.* **56**: 375-380.

HAGLEY, E.A.C. 1964 a. Role of insects as vectors of red ring disease. *Nature* **204**: 905-906.

HAGLEY, E. A. C. 1964 b. On the life history and habits of the palm weevil, *Rhynchophorus palmarum* (L). *Ann. Entomol. Soc. Amer.* **58**: 22-28.

HAGLEY, E. A. C. 1965 a. The mechanism of transmission of *Rhadinaphelenchus cocophilus* by the palm weevil, *Rhynchophorus palmarum. Phytopathology* **55**: 117-118.

HAGLEY, E. A. C. 1965 b. Tests of attractants for the palm weevil. *J. Econ. Entomol.* **58**: 1002-1003.

HANSEN, H. P. 1952. On the so-called "unknown disease" and related diseases on coconut palms in the West Indies. *Plant Dis. Reptr.* **36**: 66-67

HANSEN, H. P. 1952. Investigation on the unknown disease of coconuts and observations of some other diseases of coconuts in Jamaica, Cayman islands, Trinidad and British Guinea in 1945-50. *J. Soil Sci. Philipp.* **4**: 47.

HARRIES, H. C. 1971. Red ring. pp. 32-33 *In:* 11th *Report of the Research Department.* Coconut Industry Board, Jamaica.

HARRIES, H. C. 1977. Coconut (*Cocos nucifera* L). pp. 125-136, Section II—Problems of Seeds and Selected Crop Plants, *In: Plant Health and Quarantine in International Transfer of Genetic Resources* (Hewitt, W. B. & Chiarappa, L., Eds.) Chemical Rubber Company Press Inc., Cleveland, Ohio.

HART, J. H. 1905. Coconut disease. *Bull. Misc. Inform. Roy. Bot. Gds. Trinidad* **6**: 241-243.

HOYLE, J. C. 1968. A simple method for poisoning coconut trees. *J. Agric. Soc. Trinidad Tobago* **68**: 459-465.

HOYLE, J. C. 1969. Suspected outlook on bronze leaf wilt in coconuts in Trinidad. *J. Agric. Soc. Trinidad Tobago* **69**: 559-562.

HOYLE, J. C. 1971. Preliminary investigations into the use of systemics for control of red ring disease of coconuts. *Exp. Agric.* **7**: 1-8.

HEWITT, W. B. AND CHIARAPPA, L. (Eds.) 1977. *Plant Health and Quarantine in International Transfer of Genetic Resources.* CRC Press, Inc., Cleveland, Ohio. 346 pp.

JAIRAJPURI, M. S. 1969. Studies on Mononchids of India. I. The genera *Hadronchus, Iotonchus* and *Mononchus* and a revised classification of Monochida, new order. *Nematologica* **15**: 557-581.

JAIRAJPURI, M. S. 1970. Studies on Mononchids of India. III. The genus *Mylonchulus* (Mylonchulidae, Jairajpuri, 1969). *Nematologica* **16**: 434-456.

JANARTHANAN, R., SESHADRI, A. R. AND SUBRAMANIAM, T. R. 1969. Studies on *Xiphinema* spp. and *Longidorus* spp. from Madras State. Paper at *All India Nematology Symposium.* 21-22 Aug. 1969, New Delhi. (p. 34 *In:* Abstracts of Papers.)

JOFFILLY, J. M. 1948. A doenca do anel vermelho do cocqueiro e, Sua ocorrencia no Brasil *Serv. Nac. Pesq. Agron,* (*Rio de Janeiro*) **3**: 64.

JOHNSTON, A. 1963. Coconut quarantine. *Coconut Bull.* **17**: 113-118.

JOHNSTON, A. 1965. Host list of fungi etc. and insects recorded in the South East Asia and Pacific Region. *Cocos nucifera* L. – Coconut. *Tech. Rep.* No. **16**: FAO Regional Office, Bangkok, Thailand.

JORGE, I AND VICTORIA, K. 1971. Eradication as an effective control of red ring disease of coconut palm caused by *Rhadinaphelenchus cocophilus* (Cobb, 1919) Goodey, 1960. *Nematologica* **17**: 1-8.

JULIA, J. F. 1974. (Pests and diseases of the oil palm and coconut). *Oleagineux,* **29**: 79-80.

KHAN, E, CHAWLA, M. L. AND SAHA, M. 1975. Criconematidae (Nematoda: Thylenchida) from India with descriptions of nine new species, two genera and a family. *Indian J. Nematol.* **5**: 70-100.

KHAN, E AND NANJAPPA, C. K. 1971. *Trophurus similis* sp. n. and *Trichotylenchus astriatus* sp. n (Nematoda: Tylenchoidea) from Mysore, India. *Indian J. Nematol.* **1**: 75-79.

KHAN, E., SESHADRI, A. R., WEISCHER, B. AND MATHEN, K. 1971. Five new nematode species associated with coconut in Kerala, India. *Indian J. Nematol.,* **1**: 116-127.

KHENG, K. T. 1975. The nematode parasites of plants in Sarawak, Malaysia. 5pp. *Technical Document* No. **100**; FAO Plant Protection Committee for the South East Asia and the Pacific Region, Bangkok.

KNOBLOCH, N. A. 1969. *Peltamigratus thornei* sp. nov. (Nematoda: Hopololaimidae) from soil in Central America. *Proc. Helmithol. Soc. Wash.* **36**: 208-210.

KOSHY, P. K., SOSAMMA, V. K. AND RADHAKRISHNAN NAIR, C. P. 1975. Preliminary studies on *Radopholus similis* (Cobb, 1893) Thorne, 1949 infesting coconut and arecanut palms in South India. *Indian J. Nematol.* **5**: 26-35.

KOSHY, P. K. AND SOSAMMA, V. K. 1975. Host-range of *Radopholus similis* (Cobb, 1893) Thorne 1949. *Indian J. Nematol.* **5**: 255-257.

KOSKY, P. K., SOSAMMA, V. K. AND PREMACHANDRAN, D. 1977. Nematodes associated with coconut. *Indian Coconut J.* **8**: 1-2.

KOSHY, P. K. AND SOSAMMA, V. K. 1977. Identification of the physiological race of *Radopholus similis* populations infesting coconut, arecanut and banana in Kerala, South India. *Indian Phytopathol.* **30**: 415-416.

KOSHY, P. K. AND SOSAMMA, V. K. 1977. Studies on the population fluctuations of *Radopholus similis* in coconut and arecanut roots. *Indian Phytopathol.* **31**: 180-183.

KOSHY, P. K. AND SOSAMMA, V. K. 1978. A handy tool for coconut research. *Indian Coconut J.* **9**: 4-5.

KOSHY, P. K. AND SOSAMMA, V. K. 1978. Susceptibility of coconut plumule to *Radopholus similis. Indian J. Nematol.* **8**: 77-78.

KOSHY, P. K., SUNDARARAJU, P. AND SOSAMMA, V. K. 1978. Occurrence and distribution of *Radopholus similis* (Cobb, 1893) Thorne, 1949 in South India. *Indian J. Nematol.* **8**: 49-58.

KOSHY, P. K., SOSAMMA, V. K. AND SUNDERARAJU, P. 1979. Survey of plant parasitic nematodes of coconut in India. Paper at *2nd Annual Symposium on Plantation Crops*, Ootacamund, India, 26-29 June 1979. (pp. 4-5 *In:* Abstracts of Papers.)

KOSHY, P. K. AND SOSAMMA, V. K. 1979. Control of the burrowing nematode, *Radopholus similis* (Cobb. 1893) Throne, 1949 on coconut seedlings with DBCP. *Indian J. Nematol.* (in press).

KOSHY, P. K. AND RADHAKRISHNAN NAIR, C. P. 1979. Control of *Radopholus similis* (Cobb. 1893) Thorne, 1949 in coconut nursery. *Indian J. Nematol.* (in press).

KRAAYENGA, D. A. AND DEN OUDEN, H. 1966. 'Red ring' disease in Surinam. *Neth. J. Plant Pathol.* **72**: 20-27.

LAMBERTI, F., TAYLOR, C. E. AND SEINHORST, J. W. 1975. *Nematode Vectors of Plant Viruses*. 460 pp. Plenum Press, London and New York.

LATTA, R. 1964. Studies underway in Jamaica on the role of nematodes in lethal yellowing disease. *Working paper, 2nd Session FAO Technical Working Party on Coconut Production, Protection and Processing, Colombo*, 13 pp.

LATTA, R. 1966. Attempts to relate nematodes to lethal yellowing disease of coconut palms in Jamaica. *Trop. Agric.* (Trinidad) **43**: 59-68.

LOOF, P. A. A. 1959. Miscellaneous notes on the genus *Tylenchorhynchus* (Tylenchidae: Nematoda). *Nematologica* **4**: 294-306.

LOOF, P. A. A. 1962. *Metacrobeles togoensis* n. gen., n. sp., a remarkable acrobelin nematode from diseased coconut trees. *Nematologica* 7: 114.

LOOF, P. A. A. AND SHARMA, R. D. 1979. Plant parasitic nematodes from Bahia State, Brazil: The genus *Xiphinema* Cobb, 1913 (Dorylaimoidea). *Nematologica* **25**: 111-127.

LORDELLO, L. G. E. AND ZAMITH, A. P. L. 1954. Constatacao da molestia do "anel vermelho" do coqueiro no Estada do Rio de Jeneiro. Redescricao do agente causador *Aphelenchoides cocophilus* (Cobb, 1919) Goodey, 1933 (Nematoda, Aphelenchoidae). *Ann. Esc. Agric.* 1960 (*Queiroz*) **11**: 125-132.

LUC, M. 1957. (Nematodes and "Kaincope" disease of coconut palms). *Oleagineux* **12**: 691-693.

LUC, M. 1958. Trois nouvelles especes africaines du cenre Hemicycliophora de Man 1921 (Nematoda: Criconematidae) *Nematologica* 3: 15-23.

LUC, M. 1958. Xiphinema de l'ouest Africain: Description de Clinq Nouvelles Especes(Nematoda: Dorylaimidae). *Nematologica* **3**: 57-72.

LUC, M. 1960. *Dolichodorus profundus* n. sp. (Nematoda—Tylenchidae) *Nematologica* **5**: 1-6.

LUC, M. 1968. Nematological problems in the former French African tropical territories and Madagascar. pp. 93-112 *In: Triopical Nematology* (Smart G. C. Jr. & Perry,) V. G. Eds.) Univ. of Florida Press, Gainesville.

LUC, M. AND HOESTRA, H. 1960. Les nematodes phytoparasites des sols de cocoteraie du Togo. Essai d'interpretation du peuplement. *Agron. Tropicale* (Nogent) **15**: 497-512.

MASS, P. W. Th. 1970. Contamination of the palm weevil *Rhynchophorus palmarum*) with the red ring nematode (*Rhadinaphelenchus cocophilus*) in Surinam. Nematologica **16**: 429-433.

MAHARAJ, S. 1961. Field population studies on the palm weevil *Rhynchophorus palmarum* (L). pp. 1-11 *In: Annual Report, Trinidad & Tobago Coconut Research Ltd, Champ Fleurs.*

MAHARAJ, S. 1964. The use of arsenic on coconut trees suffering from red ring disease, *J. Agric. Soc. Trinidad Tobago* **64**: 59-65.

MAHARAJ, S. 1965. The development of the palm weevil *Rhynchophorus palmarum* L. in felled coconut trees. *J. Agric. Soc. Trinidad Tobago* **64**: 67-64.

MAHARAJ, S. 1965. A new design of trap for collecting the palm weevil, *Rhynchophorus palmarum* (L). *Trop. Agric.* (Trinidad) **42**: 373-375.

MAHARAJ, S. 1966. Use of arsenic on coconut trees suffering from red ring disease. pp. 52-54. *In: Annual Report for* 1964-65 *Trinidad & Tobago Coconut Res. Ltd., Champ Fleurs*

MAHARAJ, S. 1968. The spread of red ring disease of coconut from chips of infected tissue dropped on the ground. *J. Agric. Soc. Trindad Tobago* **68**: 333-338.

MALAGUTTI, G. 1953. Pudicion del cogello, de la palmera de acelte africano (*Elaeis guineensis* Jacq.) en Venezuela. *Agron. Trop* (Maracay) **3**: 13-31.

MALCOLM, P. 1928. Investigation of root disease of coconut. *Trop. Agric.* (Colombo) **70**: 402-408.

MANOO, S. 1963. Cited in Fenwick, D. W. 1963

MARAMOROSCH, K. 1964. *A Survey of Coconut Diseases of Unknown Etiology.* FAO, Rome. 38 pp.

MARAMOROSCH, K. AND GOLDEN, A. M. 1967. Nematodes associated with declining coconut palms. *FAO Plant Prot. Bull.* **15**: 38-39.

MARBAN MENDOZA, N. 1973. Some observations on the red ring nematode (*Rhadinaphelenchus cocophilus* Cobb.) in the States of Guerrero and Oazaca, Mexico. *Nematropica* **3**: 50-51.

MARTYN, E. B. 1945. Coconut diseases in Jamaica: (1) Bronze leaf with and other diseases affecting the bud of coconuts; (2) Diseases affecting the leaves, crowns and stem of coconuts. *Trop. Agric.* (Trinidad) **22**: 51-59, 69-76.

MARTYN, E. B. 1949. Further observations on the unknown disease of coconut palms in Jamaica. *Trop. Agric.* (Trinidad) **26**: 110-112.

MARTYN, E. B. 1953. Red ring disease of coconuts in Trinidad and Tobago. *Trop. Agric. (Trinidad)* **30**: 43-53.

MASSESE, SCOTTO LA, C. 1969. Plant nematodes of crops in the French West Indies, pp. 164-183 *In: Nematodes of Tropical Crops* (J. F. Peachey, Ed.) Commonwealth Agric. Bur. Hearts, England.

MASS, P. W. Th. 1969. Two important cases of nematode infestation in Surinam. pp. 149-154. *In: Nematodes of Tropical Crops* (J. F. Peachey Ed.) *Commonwealth Agri. Bur. Herts, England.*

MASS, P. W. Th., VAN WOUDENBERG, J. AND IMAMBAKS, M. J. 1968. Roderingsziekte van kokos en eliepalm (Ehrencron V. K. R., Ed.). *Landbouwproefstn Suriname. Meded* **43**: 114-115.

MATHEN, K. 1964. What nematodes do to agriculture. *Coconut Bull.* **18**: 303-307.

MATHEN, K. 1969. Investigations on nematodes of coconut. Paper at *All India Nematology. Symposium* 21-22 Aug. New Delhi p. 18-19. *(In:* Abstracts of papers)

MATHEN, K., KURIAN, C. AND LAL, S. B. 1970. Record of *Radopholus similis* (Cobb, 1893) Thorne, 1949 and other plant parasitic nematodes from coconut palm *Cocos nucifera* L. *Sci. Cult.* **36**: 159.

MESSA—BERNAL, D. 1951. Consideration on the so called "little leaf" disease of coconuts. *Agric. Trop (Bogota)* **7** (9): 37-42, **7** (10): 45-50, **7** : 39-42.

MEDINA DUNO, J. 1959. How to prevent the spread of red dring disease of coconut palm. *Agric. Venez.* **23**: 21.

MENON, K. P. V. AND PANDALAI, K. M. 1960. Red ring disease, p. 241 *In: The Coconut Palm—A Monograph.* Indian Central Coconut Committee. Ernakulam.

MOHAMMED, S. 1963. The survival of red ring nematodes during pupation of the palm weevil. *In: Annual Report of the Research Station, Trinidad & Tobago Coconut Res. Ltd., for* 1962. *Champ Fleurs.*

MUNGIA, R. 1958. Combata et mayate prieto de cocotero. *Tierra (Mexico)*, **13**: 689, 753-754.

MUKHOPADHYAYA, M. C. AND HAQUE, M. S. 1974. Nemstodes associated with field crops, fruits and fodder crops in West Bengal. *Indian J. Nematol.* **4**: 104-107.

NADAKKAL, A. M. 1965 a. A note on the occurrence of nematodes on the leaves of diseased coconut palms in Kerala. *Sci. Cult.* **31**: 157-158.

NADAKKAL, A. M. 1965 b. Nematodes in relation to disease of coconut palms. *J. Sci. Ind. Res.* (India) **24**: 128-135.

NICKLE, W. R. 1970. A taxonomic review of the genera of the *Aphelenchoidea* (Fuchs, 1937) Thorne, 1949 (Nematoda: Tylenchida). *J. Nematol.* **2**: 375-392.

NOWELL, W. 1918. Root disease of coconut palms in Grenada. *Agric. News* (Bridgetown) **17**: 398-399.

NOWELL, W. 1920. The red ring disease of coconut palms. Infection experiments. *W. Indian Bull.* **18**: 74-76.

NOWELL, W. 1919. Red ring or 'root' disease of coconut palms *W. Indian Bull.*, **17**: 189-192.

NOWELL, W. 1920. The red ring or root disease of coconut palms. *Trop. Agric.* (Colombo) **54**: 240-245.

NOWELL, W. 1923. *Diseases of Crop Plants of the Lesser Antilles.* 383 pp. The West Indian Committee, London.

NOWELL, W. 1924. Red ring disease of coconuts. pp. 164-172 *In: Proceedings 9th West Indies Conference, Jamaica.*

O'CONNOR, B. A. 1969. Exotic Plant Pests and Diseases—A Handbook of Plant Pests and Diseases to be Excluded from or Prevented from Spreading within the Area of South Pacific Commission. *South Pacific Commission Publication Bureau.*

OLLAGNIER M. M. AND WESTSTEIJN.G, 1961. Les maladies du cocotier auxiles Caraibes Comparison avec la maladie de Kaincope and Togo. *Oleagineux* 16: 729-736. (English translation—Child, R. *Indian Coconut J.* **16**: 25-35)

OOSTENBRINK, M. 1963. *Meded. Landbouwbogesch. Opzoingsstn. Staat. Gent.* **28**: 663-671.

OOSTENBRINK, M. 1972. Evaluation and integration of nematode control methods. pp. 497-514 *In: Economic Nematology* (J. M. Webster, Ed.) Academic Press, London.

PALO, A. V. 1963. A preliminary report on species of plant parasitic nematodes found in Cadang-Cadang infected areas in the Bicol region. *Philipp. J. Agric.* **28**: 31-34.

PALO, A. V. 1966. Some plant parasitic nematodes found around the roots of apparently healthy and Cadang Cadang affected coconut. *Philipp. J. Plant. Ind.* **31**: 137-143.

PATEL, J. S. 1938. Red ring. p. 265 *In: The Coconut—A Monograph.* Government Press, Madras.

PIZARRO, A. C. 1967. Observation on *Helicotylenchus* sp. parasitic on coconuts and African oil palms. *Philipp. J. Plant. Ind.*, **32**: 77-81.

PIZARRO, A. C. 1969. Nematodes associated with roots of coconut and other palms. *Philipp. J. Plant. Ind.* **34**: 155-158.

PIZARRO, A. C. AND SANTAMARIA, P. A. 1972. Cadang Cadang symptoms induced by nematodes on African oil palm. *Philipp. J. Plant. Ind.* **37**: 61-66.

PONTE, J.J., DALIMA J.A.A. AND BRANDINI, E. 1971. (The red ring of coconut in the State of Ceara, Brazil). *Pesqui. Agropecu. Nordeste. Recife* **3**: 85-87.

POTES, A. S. 1966. Diseases of cotton, coconuts and oil palms in Colombia. *Acta Agron. (Palmira)* **16**: 1-13.

POTES, A. S. 1967. Red ring disease of coconut palms in the region of Tumaco, Narino. *Agric. Trop. (Bogota)* **23**: 433-449.

POTTER, T. E. K. 1953. Pamphlet on control of the palm weevil *Rhynchophorus palmarum* L. with Weedicide 100. T. Geddes Grant, Port of Spain, Trinidad.

REINKING, O. A. AND RADEWALD, J. D. 1961. Cadang Cadang disease of coconuts in Guam may be caused by a soil-borne plant virus spread by dagger nematodes (*Xiphinema* sp. *Plant Dis. Reptr.* **45**: 411-12.

ROBERTSON, D. 1965. Report of Dr. D. Robertson, Colombo Plan Nematologist. 8 Jan-1 April 1965. *Ceylon Coconut Research Institute Circulation Paper* 34/65.

ROBERTSON, D. 1969. Report on "leaf scorch" of coconut. *Ceylon Coconut Q.* **20**: 168-173.

ROMAN, J. 1978. Nematodo del cocotero (*Cocos nucifera* L. p. 158 *In: Phytonematologia Tropical* University of Puerto Rico, Rio Piedras, Puerto Rico.

SCHIEBER, E. 1970. Important coconut diseases in the Dominican Republic. *Turrialba* **20**: 171-176.

SAEED, M. AND GHAFFAR, A. 1979: A survey of stylet bearing nematodes in Karachi. *Ncmatol. Medit.* **7**: 127–128

SANWAL, K. C. 1974. Nematodes associated with seed. *Seed Res.* **20**: 1-12.

SEAL, J. L. 1926. Coconut Diseases. *Florida Union Experiment Station Report.*

SHAMSI, M. A. 1979. *Basirolaeimus Gen. N.* (Nematoda: Hopolaimidae) with the description of *Basirolaeimus sacchari* n. sp. from India. *Nematol. Medit.* **7**: 15-19.

SHANTA, P., GOPINATHAN PILLAI, N. AND LAL, S. B. 1970. Oil palm (*Elaeis guineensis* Jacq.) a natural host of root (wilt) disease pathogen of coconut. *Curr. Sci.* (Bangalore) **39**: 260-261.

SIDDIQI, M. R. 1964. *Labdev J. Sci. & Technol.* **2**: 73-74

SIDDIQI, M. R. 1968. *Proc. Helminthol. Soc. Wash.* **35**: 147-162.

SIDDIQI, M. R. 1970. Five new species of *Basiriotyleptus* and the description of *Leptonchus baccatus* n. sp. (Nematoda: Dorylaimoidae). *Nematologica.* **16**: 203-212.

SINGH, N. D. 1971. A survey for the causes of the early death of coconut palms (*Cocos nucifera* L.) in the Pomeroon River area, Guyana, *Nematropica* **1**: 17.

SINGH, N. D. 1972. Plant parasitic nematodes of crops in Trinidad. *J. Agric. Soc. Trinidad Tobago* **72**: 464-466, 468-470.

SINGH, N. D. 1972. A survey of red ring disease of coconut palm in Grenada, West Indies. *Plant Dis. Reptr.* **56**: 339-341.

SMART, G. C. JR. AND PERRY, V. G. 1968. *Tropical Nematology.* 153 pp. Univ. of Florida Press, Gainesville.

STELL, F. 1930. Notes on the diseases of coconuts in Trinidad and Tobago. Trinidad & Tobago Department of Agriculture.

STOCKDALE, F. A. 1906. *J. Agric. Soc. Trinidad Tobago* **7**: 9-31.

STOCKDALE, F. A. 1907. Coconut palm disease in Trinidad. *Bull. Dept. Agric. Jamaica* **5**: 11–39.

STOCKDALE, F. A. 1909. Fungus diseases of. coconuts in the West Indies. *W. Indian Bull.* **9**: 361-371.

SWAMY, B. C. N. AND GOVINDU, H. C. 1966. A preliminary note on the plant parasitic nematodes of Mysore State. *Indian Phytopathol.* **19**: 239-240.

TARJAN, A. C. 1960. *Check List of Plant and Soil Nematodes—A Nomenclatorial Compilation.* 200 pp. Univ. of Florida Press: Gainesville.

TARJAN, A. C. 1967. *Supplement* (1961-1965) *to the Check List of Plant and Soil Nematodes—A Nomenclatorial Compilation,* 115 pp. Univ. of Florida Press: Gainesville.

TARJAN, A. C. AND HOPPER, B. E. 1974. *Nomenclatorial Compilation of Plant and Soil Nematodes.* 419 pp. The Society of Nematologists Inc. USA.

TAYLOR, C. E. 1977. Nematological. pp. 17-23 *In: Plant Health and Quarantine in International Transfer of Genetic Resources* (Hewitt, W. B. & Chiarappa, L., Eds.) 346 pp. C. R. C. Press Inc., USA,

THAMPAN, P. K. 1975. Red ring disease, pp. 186-187 *In*: *The Coconut Palm and Its Products.* Green Villa Publishing House: Cochin.

THOMAS D. L. 1974. Possible link between declining palm species and lethal yellowing of coconut. palms. *Proc. Fla State Hort. Soc.* **87**: 502-504.

THORNE, G. 1961. *Principles of Nematology.* 553 pp, Mc Graw Hill Book Co. Inc. New York.

THURSTON, H. D. 1973. Threatening plant diseases. *Annu. Rev. Phytopathol.* **11**: 27-52.

TIDMAN, D. A. 1959. Agricultural and horticultural problems in Brazil. *World Crops* **3**: 341-364.

TIMM, R. W. 1964. Preliminary survey of the plant parasitic nematodes of Thailand and the Philippines. Thai Sambhand Printing Press, Bangkok, Thailand.

TORREALBA, P. A. 1969. Survey of plant parasitic and free living nematode genera from Venezuela, pp. 257-263 *In: Nematodes of Tropical Crops* (Peachey, J. E. Ed.) Commonwealth Agricultural Bureaux, Farnham Royal, England.

VAN HOOF, H. A. AND SEINHORST, W. 1962. *Rhadinaphelenchus cocophilus* associated with little leaf of coconut and oil palm. *Neth. J. Plant Pathol.* **68**: 251-256.

VAN WEERDT I. G. BIRCHFIELD, W. AND ESSER, R. P. 1959 a. Observations on some sub tropical plant parasitic nematodes in Florida, *Proc. Soil Crops Sci. Soc. Fla.* [**19**: 443-451.

VAN WEERDT, L. G., MARTINEZ, A. P. AND ESSER, R. P. 1959 b. Results of a survey designed to determine the etiology of lethal yellowing of *Cocos nucifera* L. *Proc. Fla Sta. Hort. Soc.* **72**: 421-430.

VARGHESE, M. K. 1934. Red ring Disease, pp. 87-91 *In: Diseases of the Coconut Palm.* Department of Agriculture and Fisheries, Travancre, Trivandrum.

VENKITESAN, T. S. 1972. On the occurrence of plant parasitic nematodes associated with different crops in Cannanore dt., Kerala. *Agric. Res. J. Kerala* **10** : 179-180.

VICTORIA, K. J. I. 1971. Eradication as an effective control for red ring disease of coconut palm caused by *Rhadinaphelenchus cocophilus* (Cobb, 1919) Goodey, 1960. *Nematropica* **1**: 6.

VICTORIA, K. J., SANCHEZ, P. A. AND BARRIGA, O. R., 1970. Eradicacion de palmas de cocotero afectadas por el anillo rojo (*Rhadinaphelenchus cocophilus* Cobb 1919, (Nematoda: Aphelenchoididae) mediantela utilizacion de sustancias quimicas. *Rev. Inst. V Colomb. Agropeceu*. **5**: 185-190.

VILARDEBO, A. 1971. (Survey of nematode diseases of tropical crops: Coconut nematodes). *Journees francaiser d'etudes et d' information.* 3-5 Nov. 1971. Association de Coordination Technique Agricole. Paris, France.

WEBSTER, B. M. AND GONZALES, J. 1959. Investigaciones sobre le enfermedad'anillo rojen cocos y palma de aceite *IX Conv. de la assoc. Venezolana el avance de la eiencis Servico Shell Paa el agr. Estalla Agrajua.*

WEISCHER, B. 1967. *Report to the Government of India on Plant Parasitic Nematodes.* 15 pp. PL : TA/52 Report NO. TA 2332, FAO Rome.

WEISCHER, B. 1977. *Rhadinaphelenchus cocophilus* (Cobb), pp. 241-242 *In: Diseases, Pests and Weeds in Trophical Crops.* (Kranz., J., Schmutterer, H., & Koch, W., Eds) Verlag Paul Parey, Berlin and Hamburg.

YEPEZ, G. T. 1973. Los nematodes enemigos de la agricultura Imprents Universitaria, Caracas, Venezuela.

CHAPTER 2

FUNGI ASSOCIATED WITH THE COCONUT PALM (*COCOS NUCIFERA* L.)

By

THOMAS JOSEPH AND K. RADHA
Central Plantation Crops Research Institute
Regional Station – Kayangulam
Krishnapuram 690 533, Kerala State, India.

CONTENTS

INTRODUCTION

The coconut palm harbours many fungi on its various organs. One hundred and seventy three species of fungi have been so far observed on the live palm, shed and dead tissues and its produces. These fungi live either in association with known diseases or as sheer space occupiers. The number of fungi as well as diseases caused by them keep on increasing. This makes it imperative to periodically up-date their list to satisfy the current needs. An attempt is made here to list the fungus species and fungus diseases hitherto recorded on coconut. Earlier compilations are by Johnston (1965) and Joseph and Radha (1979).

The present compilation lists 54 diseases having fungus-association (Table 1). List of 173 species of fungi along with the country of their occurrence, is presented in Table II. A country wise record of the fungi, the diseases with which they are associated and the name of author(s) who reported or compiled the information are given in Table III. The nature of association of the fungi in some instances has been indicated as "unspecified" where it was not available in the original.

No fungus recorded on the coconut, however innocuous it might appear, was left out because it might prove hazardous to the crop under optimal environment. For example, weak pathogens like *Gliocladium roseum* and *Gloeosporium* sp. caused leaf rot of coconut (Menon and Pandalai, 1960). Therefore, the fungi or the diseases have hardly been grouped here into major or minor. This compilation may serve as useful reference list on the distribution and association of fungus species in the context of mycological investigations on coconut.

Table I DISTRIBUTION OF FUNGUS-ASSOCIATED DISEASES OF COCONUT

Name of disease (1)	*Country of occurrence* (2)
Anabe roga	India
Basal stem rot	Sri Lanka
Bitten leaf	Jamaica, Mauritius, South Africa, Trinidad and Tobago
Black leaf mould	Malaysia, New Hebrides, Papua New Guinea
Black mould on nut	New Caledonia, Papua New Guinea
Black spot of petiole and leaves	Malaysia
Blue stain of trunk	Colombia
Brown root rot	Malaysia, Sri Lanka
Bud rot	Cayman Is., Cook Is., Costa Rica, Cuba, Diego Garcia, Dominican Rep., Fiji, India, Indonesia, Jamaica, Malaysia, New Hebrides, Papua New Guinea, Philippines, Puerto Rico, South Africa, Sri Lanka, Tonga, Trinidad and Tobago, UK, USA
Coconut "Knife cut"	Mauritius
Die back	Jamaica
False bud rot	India
Fetid heart rot	Cameroun
Fruit rot	Colombia, India, Malaysia
Ganoderma wilt	Bangladesh, Indonesia, New Hebrides
Grey blight/Grey leaf blight/ Leaf blight/Leaf mildew	Bangladesh, Brazil, Brunei, Burma, Colombia, Guyana, Indonesia, Kampuchea, New Caledonia, New Hebrides, Papua New Guinea, Samoa, Solomon Is., Sri Lanka, Thailand, US Trust Terr., Wallis
Gummosis	Colombia
Heart rot	Cuba, Fiji
Kribi disease	Cameroun

(1)	(2)
Leaf and stem disease	Indonesia, Papua New Guinea
Leaf break	Colombia, Fiji, India, Malaysia, Papua New Guinea, Sri Lanka
Leaf dieback	Malaysia, Sri Lanka
Leaf disease	Malaysia, Sri Lanka
Leaf rot	Brunei, Fiji, India, Indonesia, Malaysia, Vietnam
Leaf smut/smut	Fiji, Fr. Polynesia, New Caledonia, New Hebrides, Tahiti, Wallis
Leaf spot	Fiji, Fr. Polynesia, India, Indonesia, Malaysia, New Caledonia, New Hebrides, Papua New Guinea, Philippines, Samoa, Sri Lanka, Thailand, Tonga, Virgin Is.
Lesion on nut	Samoa
Lethal bole rot	Kenya, Tanzania
Nut discolouration	Philippines
Nut fall	India, Sri Lanka
Nut rot	Brunei, Indonesia, Vietnam
Nut spot	India
Oval leaf spot	Indonesia, Malaysia, New Caledonia, New Hebrides, Samoa, Solomon Is., US Trust Terr.
Peduncle rot	Brazil
Petiole disease	Malaysia, New Caledonia, Papua New Guinea
Premature death	Jamaica
Premature fall of nuts and leaves	Puerto Rico
Red ring disease	Colombia, Honduras, Panama, Vanezuela
Ring disease of nuts	Fiji, Pupua New Guinea
Root disease	India, Papua New Guinea, Sri Lanka
Root rot	India, Malaysia, New Hebrides, Sri Lanka, USA
Root (wilt) disease	India

(1)	(2)
Rotting of seedlings	Indonesia
Seedling damage	Ivory Coast
Shoot desiccation	Colombia
Shoot rot	India
Sooty mould	Malaysia, Philippines, Solomon Is.
Stem bleeding/Stem rot	Diego Garcia, Dominican Rep., Fiji, India, Indonesia, Malaysia, New Caledonia, New Hebrides, Papua New Guinea, Philippines, Sri Lanka, Thailand, Trinidad and Tobago
Stem disease	Bangladesh, India, Malaysia, New Hebrides, Sri Lanka
Tapering stem	Papua New Guinea
Thread blight/White thread blight	Fiji, New Hebrides, Papua New Guinea, Sri Lanka
Tip break	Papua New Guinea
Top rot	Brazil, Burma
Wilting of leaves	USA

Table II DISTRIBUTION OF FUNGI REPORTED ON COCONUT

Name of fungus (1)	*Name of country* (2)
Actiniceps cocos	India
Aithaloderma setosum	Malaysia, Solomon Is.
Alternaria alternata	India
Alternaria sp	Cuba
Annellophora phoenicis	Indonesia, Malaysia
Anthostomella cocoina	New Caledonia, Philippines
A. cyclindrospora	New Caledonia, Papua New Guinea
A. fusisporella	Malaysia
Ascochyta cocoina	India
Ascochyta sp	Cuba
Aspergillus chevalieri	UK
A. cinnamonensis	Malaysia
A. flavus-oryzae	Malaysia
A. fumigatus	Malaysia
A. glaucus	Malaysia
A. niger	Malaysia, UK
A. ochraceous	Malaysia
A. tamarii	Malaysia, UK
A. wentii	Malaysia
Aspergillus sp	Colombia, Ghana, India
Bahusandhika indica	India
Botryodiplodia cococarpa	Indonesia
B. palmarum	India, Samoa

(1)	(2)
B. theobromae	Brazil, Brunei, Fiji, India, Indonesia, Malaysia Panama, Papua New Guinea, Vietnam
Botryodiplodia sp	Colombia, Honduras, India, Malaysia, Papua New Guinea, Sri Lanka, Venezuela
Botrytis (Beauveria) bassiana	Ghana
Capnodium footi	Philippines
Capnodium sp	Colombia
Catacauma torendiella	Brazil
Catantops humilis	Malaysia
Cephalosporium sp	Malaysia
Ceratostomella adiposum	Malaysia
C. paradoxa	Colombia, Diego Garcia, Dominican Rep., Fiji, India, Indonesia, Mauritius, New Caledonia, New Hebrides, Papua New Guinea, Philippines, Sri Lanka, Thailand, Trinidad and Tobago
C. fimbriata	Seychelles
Cercospora sp	Fiji
Chaetomium sp	India
Cladosporium sp	Cuba
Clasterosporium cocoicola	New Hebrides, Paupua New Guinea
Clasterosporium sp	Cuba
Colletotrichum (*Glomerella*) *cingulata*	India
C. paucisetum	India
Colletotrichum sp	Malaysia
Coniothyrium fukelii	Malaysia
C. olivaceum	Malayisa
Corticium penicillatum	Fiji, New Hebrides, Papua, New Guinea, Sri Lanka

(1)	(2)
Curvularia inequalis	India
C. maculans	Malaysia
C. palmarum	India
Curvularia sp	Cuba, India
Cylindrocarpon effusum	India
C. gracile	New Caledonia
C. lucidum	India
Cylindrocladium scoparium	Malaysia
Cylindrocladium sp	Brazil
Cytospora palmicola	Sri Lanka
Dactylaria sp	Cuba
Desmotascus cocos	Sri Lanka
Diplodia epicocos	Seychelles, Tanzania
Diplodia sp	Cuba, Indonesia, Jamaica, Malaysia, Sri Lanka
Drechslera incurvatum	Pupua New Guinea
Epicoccum cocos	Indonesia, Malaysia, New Caledonia, New Hebrides, Papua New Guinea, Philippines, Samoa, Solomon Is., Tonga, US Trust Terri.
Eurotium herbariorum	Seychelles
Exosporium durum	Philippines
E. palmarum	India
Fomes applanatus	Papua New Guinea, Sri Lanka
F. lamaoensis	Brazil, Malaysia, Papua New Guinea, Sri Lanka
F. lignosus	Malaysia, Papua New Guinea, Sri Lanka
F. lucidus	Papua New Guinea, Sri Lanka
F. multiplicatus	Papua New Guinea

(1)	(2)
F. noxius	Papua New Guinea
F. ovalaccatus	Papua New Guinea
Fomes sp	Fiji, India
Fusarium conglutinans	Cameroun
F. dimerum	Cameroun
F. equiseti	India
F. oxysporum	Togo
F. semitectum	Cameroun
Fusarium sp	Brazil, Burma, Cuba, India, Papua New Guinea, Tanzania
Ganoderma boninense	Sri Lanka
G. lucidum	Bangladesh, India, Indonesia, Malaysia, New Hebrides, Papua New Guinea, Sri Lanka
Gliocladium roseum	India
Gliocladium sp	India
Gloeosporium cocophilum	Fr. Polynesia, Sri Lanka, Thailand
Gloeosporium sp	Cuba, India, Tanzania
Glomerella cingulata	Papua New Guinea
Gongronella butleri	India
Grallomyces portoriconsis	New Hebrides
Graphiola cocoina	Fiji, Fr. Polynesia, New Caledonia, New Hebrides, Tahiti, Wallis
Graphium sp	India
Helminthosporium halodes	India, Ivory Coast
H. incurvatum	Fr. Polynesia, Indonesia, Malaysia, New Caledonia, New Hebrides, Papua New Guinea, Philippines, Sri Lanka, Thailand, Virgin Is.
Helminthosporium sp	Fiji

(1)	(2)
Hendersonia palmigena	India
Isaria palmae	India
Leiosphaerella longispora	Papua New Guinea
Lomachashaka kera	India
Macrophomina phaseoli	Brazil, India, Papua New Guinea
Marasmiellus cocophilus	Kenya, Tanzania
Marasmius palmivorus	Brazil, India, Indonesia, Malaysia, Papua New Guinea, Seychelles
Marasmius sp	Seychelles
Melanconium palmarum	Malaysia, Papua New Guinea, Sri Lanka
Monochaetia monochaeta	New Hebrides
Mucor racemosus	UK
Mucor sp	India, Malaysia
Mycomicothelia palmivorum	India
Mycosphaerella gastonis	India, Indonesia, Malaysia, Samoa, Sri Lanka
M. palmicola	India
Mycosphaerella sp	Fiji, India
Myelosperma tumidum	Sri Lanka
Nectria bolbophylli	India
Neocosmospora vasinfecta	India
Oidium cococarpum	India
Oxydothis maculosa	Indonesia
Penicillium candido-fulvum	UK
P. glaucum	Malaysia
P. javanicum	India
P. spiculisporum	India

(1)	(2)
Penicillium sp	Colombia, Ghana, India
Periconia saraswathipurensis	India
P. torulosa	India
Pesaltotia japonica	Papua New Guinea
P. palmarum	Bangladesh, Brazil, Brueni, Burma, Colombia, Diego Garcia, Fiji, Guyana, India, Indonesia, Kampuchea, Malaysia, Mozambique, New Caledonia, New Hebrides, Papua New Guinea, Philippines, Samoa, Seychelles, Solomon Is., Sri Lanka, Tanzania, Thailand, US Trust Terr., Wallis
P. papposa	Malaysia
P. stictica	Malaysia
P. theae	Malaysia, Papua New Guinea
P. versicolor	Malaysia
Pestalotia sp	Cuba, India, Malaysia, Papua New Guinea, Sri Lanka
Phaeosphaeria palmivorum	India
Phoma cocoicola	Sri Lanka
Phoma sp	Colombia, Cuba, India, Malaysia
Phomopsis cocos	India
Phyllachora sp	Brazil
Phyllosticta cocos	India
P. cocophila	Indonesia
P. palmicola	Brazil
Phyllosticta sp	Philippines
Phyllostictina cocoicola	Brazil
Physalospora transversalis	Burma, India
Phytophthora palmivora	Brazil, Cayman Is., Colombia, Cook Is., Costa Rica, Cuba, Dominican Rep., Fiji, India, Indonesia, Jamaica,

(1)	(2)
	Malaysia, New Hebrides, Papua New Guinea, Philippines, Puerto Rico, Seychelles, South Africa, Sri Lanka, Tonga, Trinidad and Tobago
Phytophthora sp	Brazil, Fiji, Philippines, Sri Lanka, USA
Pleospora batanensis	India
Podoconis theae	Indonesia
Polyporus ostreiformis	Bangladesh, India, Malaysia
P. rugulosus	South Africa
Polyporus sp	India
Polystictus occidentalis	Papua New Guinea
P. sanguineas	Papua New Guinea
Poria ravenalae	Malaysia
Poria sp	Sri Lanka
Pseudocamptoum fasciculatum	India
Pseudodiplodia epicocos	India
Pseudomicrocera kenningsii	Seychelles
Pythium sp	Cuba, Jamaica, Nigeria
Ramularia eriodendri	Indonesia
Rhizoctonia bataticola	Brazil, India, Sri Lanka
Rhizoctonia (Corticium) solani	India
Rhizoctonia sp	Colombia, Jamaica, Nigeria
Rhizopus nigricans	Malaysia, UK
Schizophyllum commune	Seychelles
Scoptria chlorina	New Caledonia, Papua New Guinea
Scopulariopsis sp	UK
Septoria cocoes	Sri Lanka

(1)	(2)
Sphaeroneaema sp	Sri Lanka, Tanzania
Sphaeropsis palmarum	India
Sphaerostilbe coccidophthora	Seychelles
Spongospora sp	Malaysia
Sporidesmium macrurum	Malaysia, Papua New Guinea
Stemphylium sp	Cuba
Syncephalastrum (?) cinereum	UK
Thielaviopsis (Ceratostomella) paradoxa (ethaceticus)	Brazil, Fiji, India, Jamaica, Malaysia, Mauritius, Papua New Guinea, Philippines, Puerto Rico, South Africa, Sri Lanka, Togo, Trinidad and Tabago, USA
Thielaviopsis sp	India, Jamaica, Malaysia
Torula herbarum	India
Trametes ohinensis	Papua New Guinea
Trichoderma sp	Cuba, India
Trichothecium roseum	Malaysia
Valsa batangae (Cytospora batangae)	Cameroun
Verticillium sp	Malaysia
Ustilina zonata	Malaysia

Table III COUNTRY-WISE DISTRIBUTION OF FUNGI, ASSOCIATED DISEASES AND NAME OF REPORTER(S)

Country (1)	Name of fungus (2)	Disease/part with which associated (3)	Reported/compiled* by (4)
Bangladesh	*Ganoderma lucidum*	Ganoderma wilt	Johnston (1965*)
	Pestalotia palmarum	Leaf blight	,,
	Polyporus ostreiformis	Stem disease	,,
Brazil	*Botryodiplodia theobromae*	Leaf blight	Radha (1978*)
	Catacauma torendiella	Unspecified	Batista (1946)
	Cylindrocladium sp	Peduncle rot	,,
	Fomes lamaoensis	Unspecified	Bondar (1940)
	Fusarium sp	Top rot	Batista and Coelho (1947)
	Marasmius palmivorus	Unspecified	Bondar (1940)
	Pestalotia palmarum	Leaf blight	Radha (1978*)
	Phyllachora sp	,,	Johnston (1965*)
	Phyllosticta palmicola	Unspecified	Batista and Vital (1952)
	Phyllostictina cocoicola	,,	Batista (1952)
	Phytophthora palmivora	,,	Bondar (1940)
	Phytophthora sp	Leaf blight	Radha (1978*)
	Rhizoctonia bataticola (*Macrophomina phaseoli*)	Unspecified	Bondar (1940)
	Thielaviopsis (*Ceratostomella*) *paradoxa*	,,	,,

(1)	(2)	(3)	(4)
Brunei	*Botryodiplodia theobromae*	Leaf rot	Johnston (1965*)
	,,	Nut rot	,,
	Pestalotia palmarum	Leaf blight	,,
Burma	*Fusarium* sp	Top rot	Anonymous (1943)
	Pestalotia palmarum	Leaf blight	Johnston (1965*)
	Physalospora transversalis	Unspecified	,,
Cameroun	*Fusarium conglutninans*	Fetid heart rot	Heim and Chevaugeon (1948)
	F. dimerum	,,	,,
	F. semitectum	,,	,,
	Valsa batangae (*Cytospora batangae*)	Kribi disease	Grimaldi (1966)
Cayman Is.	*Phytophthora palmivora*	Bud rot	Edwards (1938)
Colombia	*Aspergillus* sp	Blue stain of trunk	Sanchez Potes (1966)
	Botryodiploida sp	Red ring disease	Menon and Pandalai (1960*)
	√ *Ceratostomella paradoxa*	Gummosis	Sanchez Potes (1966)
	Capnodium sp	On withered leaf	Toro (1930)
	Penicillium sp	Blue stain of trunk	Sanchez Potes (1966)
	Pestalotia palmarum	Leaf mildew	,,
	Phoma sp	Leaf break	,,

	Phytophthora palmivora	Fruit rot	Sanchez Potes (1966)
	,,	Shoot desiccation	,,
	,,	On withered leaf	Toro (1930)
	Rhizoctonia sp	On roots	,,
Cook Is.	*Phytophthora palmivora*	Bud rot	Johnston (1965*)
Costa Rica	*Phytophthora palmivora*	Bud rot	Stahel (1924)
Cuba	*Alternaria* sp	Heart rot	Todorova Mijailova (1967)
	Ascochyta sp	,,	,,
	Cladosporium sp	,,	,,
	Clasterosporium sp	,,	,,
	Curvularia sp	,,	,,
	Dactylaria sp	,,	,,
	Diplodia sp	,,	,,
	Fusarium sp	,,	,,
	Gloeosporium sp	,,	,,
	Pestalotia sp	,,	,,
	Phoma sp	,,	,,
	Phytophthora palmivora	Bud rot	Burner (1922)

(1)	(2)	(3)	(4)
	Pythium sp	Heart rot	Todorova Mijailova (1967)
	Stemphylium sp	,,	,,
	Trichoderma sp	,,	,,
	Verticillium sp	,,	,,
Diego Garcia	*Ceratostomella paradoxa*	Stem rot/Stem bleeding	Orian (1959)
	Pestalotia palmarum	On leaf put nursery blight of seedlings	,,
	Phytophthora palmivora	Bud rot	,,
Dominican Rep.	*Ceratostomella paradoxa*	Stem bleeding	Schieber (1970)
	Phytophthora palmivora	Bud rot	,,
Fiji	*Botryodiplodia theobromae*	Leaf break	Mc Paul (1962)
	,,	Ring disease of nuts	Simmonds (1924)
	,,	Leaf rot	Johnston (1965*)
	Ceratostomella paradoxa	Stem bleeding	Mc Paul (1962)
	Cercospora sp	Leaf spot	,,
	Corticium penicillatum	Thread blight	,,
	Fomes sp	Heart rot	,,
	Graphiola cocoina	Leaf smut	Campbell (1925)
	,,	Leaf spot	Mc Paul (1962)

	Helminthosporium sp	Leaf rot	Mc Paul (1962)
	Mycosphaerella sp	,,	,,
	Pestalotia palmarum	,,	Campbell (1925)
	Phytophthora palmivora	Bud rot	Simmonds (1925)
	Phytophthora sp	Leaf rot	Mc Paul (1962)
"	*Thielaviopsis paradoxa*	Stem bleeding	Campbell (1925)
French Polynesia	*Gloeosporium cocophilum*	On nut	Johnston (1965*)
	Graphiola cocoina	Leaf smut	,,
	Helminthosporium incurvatum	Leaf spot	,,
Ghana	*Aspergillus* sp	On copra	Fishlock (1930)
	Botrytis (Beauveria) bassiana	On scale infested leaf	Cottebell (1923)
	Pencillium sp	On copra	Fishlock (1930)
Guyana	*Pestalotia palmarum*	Leaf blight	Copeland (1921)
Honduras	*Botryodiplodia* sp	Red ring disease	Menon and Pandalai (1960*)
India	*Actiniceps cocos*	On dead wood	Subramanian (1954)
	Alternaria alternata	On leaf	Rao and Subramanyam (1956
	Ascochyta cocoina	,,	Ponnappa (1969)
	Aspergillus sp	Root (wilt) disease	Radha and Menon (1954)
	Bahusandhika indica	On dead spathe	Subramanian (1954a)
	Botryodiplodia palmarum	Leaf rot	Johnston (1965*)

(1)	(2)	(3)	(4)
	B. theobromae	On root	Misra *et al.* (1929)
	,,	Fruit rot	Menon and Nair (1952)
	,,	Leaf rot	,,
	Botryodiplodia sp	Root disease	Mitra (1929)
	Ceratostomella paradoxa	Stem bleeding	,,
	Chaetomium sp	Root (wilt) disease	Radha and Menon (1954)
	,,	Leaf rot	Johnston (1965*)
	Colletotrichum (*Glomerella*) *cingulata*	Leaf spot	Mitra (1929)
	C. paucisetum	Leaf spot	Johnson (1965*)
	Curvularia inequalis	On dead leaves	Subramanian (1953)
	C. palmarum	,,	,,
	Curvularia sp	Root (wilt) disease	Radha and Menon (1954)
	Cylindrocarpon effusum	,,	Thomas Joseph (1978)
	C. lucidum	,,	Sosamma and Koshy (1978)
	Exosporium palmivorum	Leaf spot	Mitra (1929)
	Fomes sp	False bud rot	Menon and Pandalai (1960*)
	Fusarium equiseti	Root (wilt) disease	Thomas Joseph (1978)
	Fusarium sp	,,	Radha and Menon (1954)

Fusarium sp	Shoot rot	Sundararaman (1929)
Ganoderma lucidum	*Anabe roga*	Venkatarayan (1929)
Gliocladium roseum	Leaf rot	Menon and Nair (1952)
Gliocladium sp	Root (wilt) disease	Radha and Menon (1954)
Gloeosporium sp	Leaf rot	Menon and Nair (1952)
,,	Root (wilt) disease	Radha and Menon (1954)
,,	Shoot rot	Mc Rae (1929)
Gongronella butleri	On root	Lily (1975)
Graphium sp	Root (wilt) disease	Thomas Joseph (1978)
Helminthosporium halodes	Leaf rot	Menon and Nair (1952)
Hendersonia palmigena	On leaf	Poonappa (1959)
Isaria palmae	On dry inflorescence	Chona *et al.* (1957)
Lomachashaka kera	On dead leaf	Subramanian (1956)
Macrophomina phaseoli (*Rhizoctonia bataticola*)	Root rot	Menon and Nair (1952)
Marasmius palmivorus	False bud rot	Menon and Pandalai (1960*)
Mycomicothelia palmivorum	On leaf	Chaudury and Rao (1964)
Mycosphaerella gastonis	Leaf spot	Johnston (1965*)
M. palmicola	On leaf	Chaudury and Rao (1964)
Mycosphaerella sp	Leaf spot	Mitra (1929)
Mucor sp	Root (wilt) disease	Radha and Menon (1954)

1)	(2)	(3)	(4)
	Nectria bolbophylli	On trunk	Sydow and Butler (1911)
	Neocosmospora vasinfecta	Root (wilt) disease	Radha and Menon (1954)
	Oidium cococarpum	On seed coconut	Stevens and Perice (1933)
	Penicillium javanicum	Root (wilt) disease	Thomas Joseph (1978)
	P. spiculisporum	,,	,,
	Penicillium sp	,,	Radha and Menon (1954)
	Periconia saraswathipurensis	Leaf spot	Gupta and Asha Ram (1971)
	P. torulosa	On dead leaf	Raghuveer Rao and Dev Rao (1964)
	Pestalotia palmarum	Leaf spot	Sundararaman (1925)
	Pestalotia sp	Root (wilt) disease	Radha and Menon (1954)
	Phaeosphaeria palmivorum	On leaf	Chaudury and Rao (1964)
	Phoma sp	On leaf	Ponnappa (1969)
	Phomopsis cocoes	,,	,,
	Phyllosticta cocos	,,	Johnston (1965*)
	Phytophthora palmivora	Bud rot	Mc Rae (1923)
	,,	Nut fall	,,
	,,	Leaf base	Menon and Pandalai (1960*)
	Physalospora transversalis	Unspecified	Johnston (1965*)

Pleospora batanensis	On leaf	Chaudury and Rao (1964)
Polyporus ostreiformis	Stem bleeding	Johnston (1965*)
Polyporus sp	False bud rot	Menon and Pandalai (1960*)
Pseudocamptoum fasciculatum	On dead peduncles	Subramanian (1956a)
Pseudodiplodia epicocos	Nut spot	Johnston (1965*)
Rhizoctonia bataticola	Root rot	Menon and Nair (1952)
R. (Corticium) solani	,,	,,
Sphaeropsis palmarum	On leaf	Johnston (1965*)
Thielaviopsis paradoxa	Stem bleeding	Sundararaman (1922)
Thielaviopsis sp	Flase bud rot	Menon and Pandalai (1960*)
Torula herbarum	On dead leaf sheath	Subramanian (1952)
Trichoderma sp	Root (wilt) disease	Radha and Menon (1954)
Annellophora phoenicis	Leaf spot	Johnston (1965*)
Botryodiplodia cococarpa	Nut rot	,,
B. theobromae	,,	,,
,,	Leaf rot	,,
Ceratostomella paradoxa	Stem bleeding	,,
Diplodia sp	Rotting of seedlings	Leefmans (1934)
Epicoccum cocos	Oval leaf spot	Johnston (1965*)
Ganoderma lucidum	Ganoderma wilt	Van der Goot (1937)

(1)	(2)	(3)	(4)
	Helminthosporium incurvatum	Leaf spot	Johnston (1965*)
	Marasmius palmivorus	Leaf and stem disease	Van der Goot (1937)
	Mycosphaerella gastonis	On coconut	Barros (1973)
	Oxydothis maculosa	Unspecified	Johnston (1965*)
	Pestalotia palmarum	Leaf blight	Hubert (1957)
	,,	On palms killed by bud rot	Van Hall (1921)
	Phyllosticta cocophila	On leaf	Johnston (1965*)
	Podoconis theae	Unspecified	,,
	Ramularia eriodendri	Unspecified	,,
Ivory Coast	*Helminthosporium haldoes*	Seedling damage	Quillec and Renard (1975)
Jamaica	*Diplodia* sp	Premature death	Smith (1929)
	Phytophthora palmivora	,,	,,
	,,	Bud rot	Ashby (1922)
	Pythium sp	Die back of roots	Ashby (1921)
	Rhizoctonia sp	,,	,,
	Thielaviopsis (*Ceratostomella*) *paradoxa*	Bud rot	Briton-Jones (1940)
	Thielaviposis sp (? *C. paradoxa*)	Bitten leaf	Bain (1940)
Kampuchea	*Pestalotia palmarum*	Leaf blight	Johnston (1965*)

Kenya	*Marasmiellus cocophilus*	Lethal bole rot	Book *et al.* (1970)
Malaysia	*Aithaloderma setosum*	Sooty mould	Johnston (1965*)
	Annellophora phoenicis	Leaf spot	,,
	Anthostomella fusisporella	Petiole disease	Booth and Shaw (1967)
	Aspergillus cinnamonensis	On copra	Cooke (1932)
	A. flavaus-oryzae	,,	,,
	A. fumigatus	,,	Eyre (1932)
	A. glaucus	,,	Cooke (1932)
	A. niger	,,	,,
	A. ochraceous	On nut	Ward (1937)
	A. tamarii	On copra	Cooke (1932)
	A. wentii	On nut	Ward (1937)
	Botryodiplodia theobromae	Leaf rot	,,
	Botryodiplodia sp	Leaf break	,,
	Catantops humilis	On leaf	,,
	Ceratostomella adiposum	On copra	Thompson (1933)
	Cephalosporium sp	,,	,,
	Colletotrichum sp	,,	,,
	Coniothyrium fukelii	On leaf	Johnston (1965*)
	C. olivaceum	On leaf	,,

(2)	(3)	(4)
Curvularia maculans	Leaf spot	Chan (1974)
,,	Leaf die back	Wiltshire (1956)
Cylindrocladium scoparium	On root and bole	Coleman (1959)
Diplodia sp	On copra	Thompson (1933)
Epicoccum cocos	Oval leaf spot	Johnston (1965*)
Fomes lamaoensis (*noxius*)	Brown root rot	,,
F. lignosus	Root rot	,,
Ganoderma lucidum	On trunk	Jamil (1968)
Helminthosporium incurvatum	Leaf spot	Williams (1968)
Marasmius palmivorus	Leaf disease	Thompson (1941)
,,	On leaf base	Sharples (1928)
Melanconium palmarum	Leaf spot	Anonymous (1963)
Mucor sp	Bud rot	Sharples and Lambourne (1922)
Mycosphaerella gastonis	Leaf spot	Johnston (1965*)
Penicillium glaucum	On nut	,,
Pestalotia palmarum	Leaf blight	Thompson (1924)
P. papposa	Leaf spot	Johnston (1965*)
P. stictica	,,	,,

	P. theae	”	”
	P. versicolor	”	”
	Pestalotia sp	”	”
	Phoma sp	Diseased roots	Sharples (1928)
	Phytophthora palmivora	Fruit rot	Turner (1965)
	Polyporus ostreiformis	”	Johnston (1965*)
	Poria ravenalae	On nut	”
	Rhizopus nigricans	”	”
	Spongospora sp	Black spot of petiole and leaf stalks	Sharples (1923)
	Sporidesmium macrurum	Black leaf mould	Johnston (1965*)
	Thielaviopsis ethaceticus (*T. paradoxa*)	Stem bleeding	Sharples (1923)
	Thielaviposis sp	Bud rot	Sharples and Lambourne (1922)
	Trichothecium roseum	On copra	Thompson (1933)
	Ustilina zonata	Stem disease	Johnston (1965*)
Mauritius	*Ceratostomella paradoxa*	Bitten leaf	Shepherd (1930)
	”	Coconut “knife-cut”	Wiehe (1940)
	Thielaviopsis paradoxa	”	Shepherd (1930)
Mozambique	*Pestalotia palmarum*	On coconut	De Carvalho (1948)
New Caledonia	*Anthostomella cocoina*	Unspecified	Johnston (1965*)

(1)	(2)	(3)	(4)
	A. cylindrospora	Petiole disease	Booth and Shaw (1967)
	Ceratostomella paradoxa	Stem bleeding/stem rot	Johnston (1965*)
	Cylindrocarpon gracile	Unspecified	,,
	Epicoccum cocos	Oval leaf spot	,,
	Graphiola cocoina	Leaf smut	,,
	Helminthosporium incurvatum	Leaf spot	,,
	Pestalotia palmarum	Leaf blight	,,
	Scoptria chlorina	Black mould on nut	,,
New Hebrides	*Ceratostomella paradoxa*	Stem bleeding	Dadant (1954)
	Clasterosporium cocoicola	Black leaf mould	Johnston (1965*)
	Corticium penicillatum	Thread blight	Dadant (1954a)
	Epicoccum cocos	Oval leaf spot	Johnston (1965*)
	Ganoderma lucidum	Ganoderma wilt	,,
	,,	Root rot	,,
	,,	Stem disease	,,
	Grallomyces portoriconsis	On leaf	,,
	Graphiola cocoina	Leaf smut	,,
	Helminthosporium incurvatum	Leaf spot	,,

	Monochaetia monochaeta	On nut	Johnson (1965*)
	Pestalotia palmarum	Grey leaf spot	Dadant (1954)
	Phytophthora palmivora	Bud rot	Johnston (1965*)
Nigeria	*Pythium* sp	On root	Rajagopalan and Aderungboye (1970)
	Rhizoctonia sp	,,	,,
Panama	*Botryodiplodia* sp	Red ring disease	Menon and Pandali (1960*)
Papua New Guinea	*Anthostomella cylindrospora*	Petiole disease	Shaw and Booth (1967)
	Botryodiplodia theobromae	Ring disease in immature nuts	Dwyer (1937a)
	Botryodiplodia sp	Leaf break	,,
	,,	Tip break	,,
	Ceratostomella paradoxa	Stem bleeding	,,
	Clasterosporium cocoicola	Black leaf mould	Johnston (1965*)
	Corticium penicillatum	Thread blight	Bryce (1924a)
	Drechslera incurvata	Leaf spot	Gallasch (1974)
	Epicoccum cocos	Leaf spot	Shaw (1965)
	Fomes applanatus	Unspecified	Countinho (1922)
	F. lamaoensis	Root disease	Bryce (1924)
	F. lignosus	,,	,,
	F. lucidus	,,	,,

(1)	(2)	(3)	(4)
	F. multiplicatus	Unspecified	Coutinho (1922)
	F. noxius	Tapering stem	Dwyer (1937a)
	F. ovalaccatus	Thread blight	Coutinho (1922)
	Fusarium sp	Tip break	Dwyer (1937a)
	Ganoderma lucidum	On roots	,,
	Glomerella cingulata	On leaf	Johnston (1965*)
	Helminthosporium incurvatum	Leaf blight	Shaw (1965)
	Leiosphaerella longispora	On collapsed fronds	Sivanesan *et al.* (1976)
	Macrophomina phaseoli	Unspecified	Johnston (1965*)
	Marasmius palmivorus	Leaf and stem disease	Dwyer (1937)
	Melanconium palmivorum	Leaf spot	Shaw (1965)
	Pestalotia japonica	On leaf	Johnston (1965*)
	P. palmarum	Grey blight	Dwyer (1937)
	P. theae	Leaf spot	Shaw (1965)
	Pestalotia spp	,,	,,
	Phytophthora palmivora	Bud rot	Dwyer (1937)
	Polystictus occidentalis	Unspecified	Countinho (1922)
	P. sanguineas	,,	,,

	Scoptria chlorina	Black mould on nut	Johnston (1965*)
	Sporidesmium macrurum	Black leaf mould	,,
	Thielaviopsis paradoxa	Unspecified	Dwyer (1937)
	Trametes ohinensis	Unspecified	Coutinho (1922)
Philippines	*Anthostomella cocoina*	On leaf	Johnston (1965*)
	Capnodium footi	Sooty mould	Teodoro (1926)
	Ceratostomella (Thielaviopsis) paradoxa	Leaf spot	Protacio (1965)
	,,	Stem bleeding/stem rot	Johnston (1965*)
	Epicoccum cocos	On leaf	Stevens (1932)
	Exosporium durum	Leaf spot	Johnston (1965*)
	Helminthosporium incurvatum	Leaf spot	Era and Celino (1972)
	Pestalotia palmarum	Leaf blight	Lee (1922)
	Phyllosticta sp	On leaf	Anonymous (1926)
	,,	Nut discolouration	Teodoro (1926)
	Phytophthora palmivora	Bud rot	Johnston (1965*)
	Phytophthora sp	,,	Reinking (1923)
	Thielaviopsis paradoxa	Stem bleeding	Lee (1922)
Puerto Rico	*Phytophthora palmivora*	Bud rot	Tucker (1924)
	Thielaviopsis paradoxa	Premature fall of nuts and leaves	Cook (1924)

(1)	(2)	(3)	(4)
Samoa	*Botryodiplodia palmarum*	Lesion on nut	Johnston (1965*)
	Epicoccum cocos	Oval leaf spot	,,
	Mycosphaerella gastonis	Leaf spot	,,
	Pestalotia palmarum	Leaf blight	,,
Seychelles	*Ceratostomella fimbriata*	On leaf	Dupont (1928)
	Diplodia epicocos	Unspecified	Dupont (1925)
	Eurotium herbariorum	Unspecified	,,
	Marasmius sp	,,	,,
	(? *Marasmiellus palmivorus*)	On nut	Dupont (1931)
	Pestalotia palmarum	Unspecified	Dupont (1925)
	Phytophthora palmivora	Unspecified	,,
	Pseudomicrocera kenningsii	On nuts	Dupont (1932)
	Schizophyllum commune	Unspecified	Dupont (1926)
	Sphaerostilbe coccidophthora	On nuts	Dupont (1932)
Solomon Is.	*Aithaloderma setosum*	Sooty mould	Johnston (1965*)
	Epicoccum cocos	Oval leaf spot	,,
	Pestalotia palmarum	Leaf blight	,,
South Africa	*Phytophthora palmivora*	Bud rot	Walters (1929)

	Polyporus rugulosus	On coconut matting	Anonymous (undated)
	Thielaviopsis (Ceratostomella) paradoxa	Bitten leaf	Walters (1929)
Sri Lanka	*Botryodiplodia* sp	Leaf break	Ragunathan (1927)
	Ceratostomella paradoxa	Stem bleeding	Johnston (1965*)
	Corticium penicillatum	Thread blight	Petch (1925)
	Cytospora palmicola	On nut	Johnston (1965*)
	Desmotascus cocos	On leaf	,,
	Diplodia sp	Root rot	Small (1927)
	Fomes applanatus (Ganoderma applanatus)	Root disease	,,
	F. lamaoensis	Brown root rot	Copeland (1921)
	F. lignosus	Root disease	Small (1927)
	F. lucidus (Ganoderma lucidum)	,,	,,
	,,	Stem disease	Johnston (1965*)
	Ganoderma boninense	Basal rot of stem	Peries (1974)
	Gloeosporium cocophilum	On nut	Johnston (1965*)
	Helminthosporium incurvatum	Leaf blight	Anonymous (1960)
	Melanconium palmarum	Leaf spot	Johnston (1965*)
	Mycosphaerella gastonis	Leaf disease	Small (1927)
	Myelosperma tumidum	On leaf	Johnston (1965*)

(1)	(2)	(3)	(4)
	Pestalotia palmarum	Grey leaf blight	Anonymous (1924)
	Pestalotia sp	Dead root	Bryce (1921)
	,,	Leaf disease	Small (1927)
	Phoma cocoicola	On leaf	Johnston (1965*)
	Phytophthora palmivora	Bud rot	Anonymous (1960)
	Phytophthora sp	Nut fall	Bryce (1921)
	Poria sp	Root disease	Small (1927)
	Rhizoctonia bataticola (*Macrophomina phaseoli*)	Root disease	Park (1927)
	Septoria cocos	On Leaf	Johnston (1965*)
	Sphaeronema sp	Dead roots	Bryce (1921)
	Thielaviopsis ethaceticus	Stem bleeding	Anonymous (1921)
Tahiti	*Graphiola cocoina*	Smut	Simmonds (1925)
Tanzania	*Diplodia epicocos*	Unspecified	Welsford (1925)
	Fusarium sp	,,	,,
	Gloeosporium sp	,,	,,
	Marasmiellus cocophilus	,,	Bock *et al.* (1970)
	,,	Lethal bole rot	Johnston (1965*)
	Pestalotia palmarum	Unspecified	Welsford (1925)

	Sphaeronema sp	Unspecified	Welsford (1925)
Thailand	*Ceratostomella paradoxa*	Stem bleeding/Stem rot	Johnston (1965*)
	Gloeosporium cocophilum	On nut	,,
	Helminthosporium incurvatum	Leaf spot	,,
	,,	On coconut	Johnston (1964)
	Pestalotia palmarum	Leaf blight	,,
Togo	*Fusarium oxysporum*	Unknown disease	Meiffren (1951)
	Thielaviopsis (*Ceratostomella*) *paradoxa*	,,	,,
Tonga	*Epicoccum cocos*	Leaf spot	Johnston (1965*)
	Phytophthora palmivora	Bud rot	Simmonds (1925)
Trinidad and Tobago	*Ceratostomella paradoxa*	Stem bleeding	Goberdhan (1961)
	Phytophthora palmivora	Bitten leaf	Stell (1929)
	Thielaviopsis (*Ceratostomella*) *paradoxa*	,,	Briton-Jones ~~(1970)~~ 1940
	,,	Stem bleeding	Anonymous (1924a)
United Kingdom	*Aspergillus chevalieri*	On copra	Passmore (1931)
	A. niger	,,	,,
	A. tamarii	,,	,,
	Mucor racemosus	,,	,,

(1)	(2)	(3)	(4)
	Penicillium candido-fulvum	On copra	Passmore (1931)
	Rhizopus nigricans	,,	,,
	Scopulariopsis sp	,,	,,
	Syncephalastrum (?) *cinereum*	,,	,,
United States of America	*Phytophthora* sp	Bud rot	Burger (1925)
	Pythium sp	Wilting of leaves	Webber (1924)
	Thielaviopsis paradoxa	On stem	Fulton (1922)
	,,	Root rot	Giddings and Wood (1924)
US Trust Territory	*Epicocoum cocos*	Oval leaf spot	Johnston (1965*)
	Pestalotia palmarum	Leaf blight	,,
Venezuela	*Botryodiplodia* sp	Red ring disease	Menon and Pandalai (1960*)
Vietnam	*Botryodiplodia theobromae*	Leaf rot	Johnston (1965*)
	,,	Nut rot	,,
Virgin Is.	*Helminthosporium incurvatum*	Leaf spot	Wiltshire (1956)
Wallis	*Graphiola cocoina*	Leaf smut	Johnston (1965*)
	Pestalotia palmarum	Leaf blight	,,

BIBLIOGRAPHY

ANONYMOUS 1921. Summary of laws and regulations in force in Ceylon in respect of plant pests and diseases. *Dept. Agric. Ceylon Bull.* **48**: 6 pp.

ANONYMOUS 1924. Report of Mycological Division, Department of Agriculture, Ceylon. *Trop Agric.* **62** (4) : 230–231.

ANONYMOUS 1924 a. Division of Plant Pathology. *Admin. Rept. Dept. Agric. Trinidad and Tobago for the year* 1923 pp. 14–15.

ANONYMOUS 1925. Bud rot of coconut. *Trop. Agric.* **64** (5) : 257–268.

ANONYMOUS 1926. Twentyfifth Annual Report of the Bureau of Agriculture, Philippine Islands for the fiscal year ending December 31, 1925. 123 pp.

ANONYMOUS 1943. Mycology. *Rept. Dept. Agric. Burma* 1941–42 and 1942–43 pp. 4–9.

ANONYMOUS 1960. Annual Report of Coconut Research Institute for 1960. *Ceylon Cocon. Quart.* **12**: 100 pp.

ANONYMOUS 1963. Plant Pathology and Plant Quarantine. *Rept. Dept. Agric. Sabah* pp. 43–53.

ANONYMOUS (Undated). Timber Research Laboratory. Annual report for the years 1946, 1947 and 1948. *Transvaal Chamber* of *Mines* 152 pp.

ASHBY, S.F. 1921. Report of the Microbiologist, 1920. *Ann. Rept. Dept. Agric. Jamaica* for 1920 pp. 24–25.

ASHBY 1922. Oospores in cultures of *Phytophthora faberi*. *Kew Bull. Misc. Inform.* **9**: 257–262.

BAIN, F.M. 1940. Report on the coconut growing areas of Jamaica. *Bull. Dept. Sci. Agric. Jamaica (N.S.)* **22**: 12 pp.

BARROS, Ml. De. 1973. Incidence of genera *Cercospora* and *Mycosphaerella* in Portuguese Timor. *Garcia de Qrta.* **1** (1) : 27–34.

BATISTA, A.C. 1946. Principal plant diseases in the north-east. *Bol. Agric. Pernambuco* **13** (4) : 195–252.

BATISTA, A.C. 1952. Some new species of *Phyllosticta* and *Phyllostictina*. *Bol. Agric. Pernambuco* **19** (3–4): 212–215.

BATISTA, A.C. AND COELHO, M. 1947. Investigations on the control of damping-off of dwarf coconut seedlings. *Bol. Agric. Pernambuco* **14** (4): 297–316.

BATISTA, A.C. AND VITAL, A.F. 1952. Monograph of the species of *Phyllosticta* in Pernambuco. *Bol. Agric. Pernambuco.* **19** (1–2): 1–80.

BOCK, K.R., IVORY, M.H. AND ADAMS, B.R. 1970. Lethal bole rot disease of coconut in East Africa. *Ann. Appl. Biol.* **66**: 453–464.

BONDAR, G. 1940. Noxious insects and diseases of the coconut (*Cocos nucifera*) in Brazil. *Bol. Inst. Centr. Forns. econ. Bahia* **8**: 160 pp.

BOOTH, C. AND SHAW, D.E. 1967. *Anthostomella fusispora* sp. nov. and *A. cyclindrospora* sp. nov. on *Cocos nucifera*. *Papua New Guinea Agric. J.* **19**: 94–98.

BRITON-JONES, H.R. 1940. The diseases of coconut palm. 176 pp. Bailliere Tindall and Cox, London

BRYCE, G. 1921. Report on the work of the Botanical and Mycological Division. *Rept. Dept. Agric. Ceylon* 1920 pp. 13–15.

BRYCE, G. 1924. Coconut diseases. *Dept. Agric New Guinea*, Leaflets **7**, **8**, **9**: 6 pp.

BRYCE, G. 1924a. Coconut thread-blight (*Corticium penicillatum* Petch) *Dept. Agric. New Guinea*, Leaflet, **5**: 2 pp.

BURGER, O.F. 1925. Report of the Plant Pathologist. *Rept. Florida Agric. Exper. Sta. for the Fiscal Year ending June* 30, 1925 pp. 42R–64R.

BURNER, S.C. 1922. The death of coconut trees. *Rev. Agric. Com. y. Trab.* (Cuba) **1**: 9–10.

CAMPBELL, J.G.C. 1925. Report of the Mycologist for the year 1924. *Ann. Rept. Fiji Dept. Agric. for the year* 1924 pp. 13–14.

CHAN, C.L. 1974. Chemical control of *Curvularia* leaf spot of coconut seedling. *MARDI Res. Bull.* 2: 19–24.

CHONA, B.L., MUNJAL, R.L. AND KAPOOR, J.N. 1957. Notes on miscellaneous Indian fungi. IV. *Indian Phytopathology* **9**: 125–132.

CHAUDURY, RENUKA AND RAO, P.N. 1964. Ascomycetes from Hyderabad, India. *Mycopath. Mycol. Appl.* **22**: 219–224.

COLEMAN, P.G. 1959. Annual Report of the Department of Agriculture, Federation of Malaya for the year 1958. 98 pp.

COOK, M.T. 1924. Coconut fall. (preliminary paper). *J. Dept. Agric. Porto Rico* **8** (4): 12–14.

COOKE, F.C. 1932. Investigations on coconut and coconut products. *Dept. Agric. Straits Settlements* and *Federated Malayan States Bull.* **8**, (*Gen. Ser.*) 99 pp.

COPELAND, E.B. 1921. The coconut. 224 pp. MacMillan and Co. Ltd., London.

COTTEBELL, G.S. 1923. The biological control of insect pests of crops. *J. Gold Coast Agric. Comm. Sac.* **2**: 103–109.

COUTINHO, A.X.P. 1922. Contribution to the Mycological flora of the island of St. Thomas (Gulf of Guinea). Reprinted from *Anais do Inst. de Agron.* 26 pp.

DADANT, R. 1954. A contribution to the study of the diseases of the coconut, cacao tree and coffee bush in the New Hebrides. *Agron. Trop. Nogent* **9** (1): 41–48.

DADANT, R. 1954 a. Phytopathology. *Courr. Cherch. Off. Rech. Sci. Qutre-Mer.* 8: 159–186.

DE CHARVALHO, T. 1948. Preliminary report on the diseases observed in plants and insects with phytopathological annotations. *Colombia de Mocambique, Reparticao de Agriculture, Seccao de Micologia* 84 pp.

DUPONT, P.R. 1925. Annual Report of the Seychelles Department of Agriculture for the year 1924. 8 pp.

DUPONT, P.R. 1926. Annual Report of the Seychelles Department of Agriculture for the year 1925 p. 5.

DUPONT, P.R. 1928. Annual Report of the Seychelles Department of Agriculture for the year 1927. 5 pp.

DUPONT, P.R. 1931. Entomological and Mycological notes. *Ann. Rept. Seychelles Dept. Agric. for the year* 1930 pp. 11–13.

DUPONT, P.R. 1932. Entomological and Mycological notes. *Ann. Rept. Dept. Agric. Seychelles for the year* 1931 pp. 10–11.

DWYER, R.E.P. 1937. Report of the Economic Botanist. Year ended 30th June 1936. *New Guinea Agric. Gaz.* **3** (1):11–18.

DWYER, R.E.P. 1937a. The diseases of the coconuts (*Cocos nucifera*) in New Guinea. *New Guinea Agric. Gaz.* **3** (1): 28–93.

DWYER, R.E.P. 1940. Some investigations on coconut diseases associated with soil conditions in New Guinea. *New Guinea Agric. Gaz.* **5**(3): 31–53.

EDWARDS, W.H. 1938. Report on the agricultural survey in Cayman Islands. With notes on more important pests and diseases which were found attacking economic plants in the Dependency of Jamaica. *Bull. Dept. Sci. Agric. Jamaica* (*N.S.*) **13**: 40 pp.

ERA, A.M. AND CELINO, M.S. 1972. *Helminthosporium* leaf spot of coconut and the effect of irradiation on the fungus. *Araneta Res. J.* **19**: 137–158.

EYRE, J.C. 1932. Cultural studies on the Aspergilli, with special reference to lipase production of strains isolated from stored copra and cacao. *Ann. Appl. Biol.* **19**(3): 351–369.

FISHLOCK, W.C. 1930. Moisture and mould in copra under western province condition. *Gold Coast Dept. Agric. Year Book* 1929 *Bull.* **22**: 233–238.

FULTON, H.R. 1922. Occurrence of *Thielaviopsis paradoxa* on coconut palm in Florida. *Phytopathology* **12** (8): 398–399.

GALLASCH, H. 1974. Effect of nutrition on the incidence of *Drechslera incurvata* leaf spot of coconuts. *Papua New Guinea Agric. J.* **25**(3–4): 38–50.

GIDDINGS, N.J. and WOOD, J.I. 1924. Diseases of nut and fruit crops in the United States in 1924 *Pl. Dis. Reptr.* (*Supplement*) **39**: 105 pp.

GOBERDHAN, L.C. 1961. Coconut diseases in Trinidad and Tobago. I. Bleeding Stem. *J. Agric. Soc. Trinidad* and *Tobago* **61**: 33–38.

GRIMALDI, J. 1966. The Kribi disease of coconut. *Cameroun Agric.* **101:** 38–46.

GUPTA, O.S.D. AND ASHA RAM 1971. A new leaf spot of coconut palm. *Indian Phytopathology* **24:** 205–206.

HEIM, R. AND CHEVAUGEON, J. 1948. The fetid heart rot of coconut in Camerouns. *Rev. Path. veg.* **27** (4): 195–216.

HUBERT, F.P. 1957. Diseases of some export crops in Indonesia. *Pl. Dis. Reptr.* **41** (1): 55–63.

JAMIL, M. 1968. Annual Report of the Division of Agriculture, Malaya for the year 1964. 75 pp.

JOHNSTON, A. 1964. Quarterly report for April-June, 1964 of the Plant Protection Committee for South East Asia and Pacific Region. 20 pp. FAO Publ. Bangkok, Thailand.

JOHNSTON, A. 1965. Host list of fungi etc. and insects record in the South East Asia and Pacific Region. *Cocos nucifera* L. Coconut. *Tech. Rept.* No. 16: 18pp. FAO Regional Office, Bangkok, Thailand.

LEE, H.A. 1922. Observations on previously un-reported or noteworthy plant diseases in the Philippiness. *Philipp. Agric. Rev.* **14**(4): 422-434.

LEEFMANS, S. 1934. Diseases and pests of cultivated crops in Dutch East Indies in 1931. *Meded. Inst. voor Plantenziekten* **82:** 92 pp.

LILY, V.G. 1975. Note on the observation of the fungus *Gongronella bulteri* (Lindn) Payronel and Dalvesso in coconut root. *Curr. Sci.* **44:** 198.

Mc PAUL, J.W. 1962. Coconut growing in Fiji. *Bull. Dept. Agric. Fiji* **38:** 99.

Mc RAE, W. 1923. Economic Botany Part III. Mycology. *Ann. Rept. Board of Scientific Advice, India* 1921–1922 pp. 43-47.

Mc RAE, W. 1924. Economic Botany. Part III. Mycology. *Ann. Rept. Board of Scientific Advice, India* 1922–1923 pp. 31–35.

Mc RAE, W. 1929. India: new diseases reported during the year 1928. *Int. Bull. Pl. Prot.* 3(2): 21–22.

MEIFFREN, M. 1951. A preliminary note on the study of the disease of coconut palm in Togoland *Agron. Trop.* **6**(3–4): 163–172.

MENON, K.P.V. AND NAIR U.K. 1952. Scheme for the investigation of the root and leaf diseases of coconut palm in South India. Consolidated final report of work done from 8th March 1937 to 31st March 1948. *Indian Cocon. J.* **5**(1): 5–19; (2) 81–100, 113.

MENON, K.P.V. AND PANDALAI, K.M. 1960. The Coconut Palm A Monograph. 384 pp. Indian Central Coconut Committee, Ernakulam, S. India.

MISRA, A.P. AND MOHAMMAD, A. 1964. *Botryodiplodia* rot of coconut (*Cocos nucifera* L.) in Bihar. *Proc. Bihar Acad. Agric. Sci.* **12-13:** 53–54.

MITRA, M. 1929. Some diseases of crops in Andaman Islands. *Agric. Res. Inst. Pusa Bull.* 195: 14 pp.

PARK, M. 1927. On the occurrence on coconut of *Rhizoctonia bataticola* (Taub) Bulter. *Trop. Agric.* **69**(1): 28.

PASSMORE, F.R. 1931. Depreciation of copra due to moulds and insects. *Bull. Imp. Inst.* **29**(2): 171–180.

PERIES, O.S. 1974. *Ganoderma* basal stem rot of coconut, a new record of the disease in Sri Lanka. *Pl. Dis. Reptr.* **58:** 293–295.

PETCH, T. 1925. A thread-blight on coconuts. *Year Book Dept. Agric. Ceylon* 1925 pp. 27–28.

PONNAPPA, K.M. 1969. On five fungi associated with coconut in India. *Indian Phytopathology* **22:** 342–345.

PROTACIO, D.B. 1965. The *Ceratostomella* (*Thielaviopsis*) *paradoxa* leaf spot new in the Philippiness. *Philipp. J. Agric.* **25:** 67–75.

QUILLEC, G. AND RENARD, J.L. 1975. Helminthosporiopsis of the coconut palm. Preliminary studies. *Oleagineaux* **30:** 209–213.

RADHA, K. 1978. Deputation report of Plant Pathologist, Central Plantation Crops Research Institute, Regional Station, Kayangulam, Krishnapuram–690 533, Kerala, India, to Brazil in June-July 1978. 16 pp. (unpublished)).

RADHA, K. AND MENON, K.P.V. 1954. Studies on the wilt (root) disease of the coconut palm. *Indian Cocon. J.* **7** (3) 99–106.

RAGHUVEER RAO, P. AND DEV RAO 1964. The genus *Periconia* from India. *Mycopath. Mycol. Appl.* **22:** 285–310.

RAGUNATHAN, C. 1927. Leaf break disease of coconuts. *Year Book Dept. Agric. Ceylon* 1927 pp. 25–26.

RAJAGOPALAN, K. AND ABERUNGBOYE, F.O. 1970. Plant Pathology Division. *Rept. Dept. Agric. Sabha* 1966 pp. 99–107.

RAO, A. P. AND SUBRAMANYAN, K. 1976. A newrecord of *Alternaria* on coconut leaf. *Indian Phytopathology* **28**(3): 404–407.

REINKING, O.A. 1923. Comparative study of *Phytophthora faberi* on coconut and cacao in the Philippine Islands. *J. Agric. Res.* **25**: 267–284.

RESPLANDY, Mme R., CHAVAUGEON, J., DELASSUS, M. and LUC, M. 1954. First annotated list of parasitic fungi of cultivated plants in the Ivory Coast. *Ann. Inst. Rech. Agron.* (*Ser. C.*) **5**(1): 1–61.

SANCHEZ POTES, A. 1966. Diseases of cotton, coconut and oil palm in Columbia. *Acta Agron. Palmira* **16**: 1–13.

SCHIEBER, E. 1970. Important diseases of coconut palm in the Dominican Republic. *Turrialba* **20**: 171–176.

SHRPLES, A. 1923. Annual Report of the Mycologist for 1922. *Malayan Agric. J.* **11**(10): 267-272.

SHARPLES, A. 1928. Palm diseases in Malaya. *Malayan Agric. J.* **16**(9–10): 313–360.

SHARPLES, A. AND LAMBUORNE, J. 1922. Observations in Malaya on bud rot of coconuts. *Ann. Bot.* **36** (141): 50–70.

SHAW, D.E. 1965. Diseases of coconut in Papua and New Guinea. *Papua New Guinea Agric. J.* **17**:67–71.

SHEPHERD, E.F.S. 1970. Botanical Division. *Ann. Rept. Mauritius Dept. Agric. for the year* 1928 pp. 10–13.

SIMMONDS, H.W. 1924. Report on mission to New Guinea, Bismarks, Solomons and New Hebrides. *Council Paper, Legislative Council, Fiji.* 11 pp.

SIMMONDS, H.W. 1925. Pests and diseases of coconut palm in the islands of Southern Pacific. *Fiji Dept. Agric. Bull.* **16**:31 pp.

SIVANESAN, A., SHAW, D.E. AND BROWN, J.S. 1976. *Leiosphaerella longispora* sp. nov. on coconut petiole in Puppua New Guinea. *Trans. Brit. Mycol. Soc.* **67** (3): 529–532.

SMALL, W. 1927. Matters of phytopathological interest during 1926. *Year Book Dept. Agric. Ceylon* 1927 pp. 7–10.

SMITH, F.E.V. 1929. Plant diseases in Jamaica in 1928. Report of the Government Mycologist. *Ann. Rept. Dept. Agric. Jamaica for the year ended 31st December* 1928 pp. 17–20.

SOSAMMA, V.K. AND KOSHY, P.K. 1978. A note on association of *Cylindrocarpon* spp. with *Radopholus similis* in coconut. *Indian Phytopathology.* **31**: 381–382.

STAHEL, G. 1924. Report of an official journey to Central America, 1st February to 2nd April 1923. *Dept. van Landbow, Suriname, Bull.* **45**: 73 pp.

STELL, F. 1929, Plant Pathology, *Admin. Rept. Dept. Agric. Trinidad and Tobago for the year* 1927 pp. 33–36.

STELL, F. 1930. Notes on the diseases of coconuts in Trinidad and Tobago. 8 pp.

STEVENS, F.L. 1932. Two fungous invasions often following the coconut leaf miner *Promecotheca cumingii* Baly. *Phillip. Agric.* **21**(2): 80–82.

STEVENS, F.L. AND PERICE, A.S. 1933. Fungi from Bombay. *Indian J. Agric. Sci.* **3**(5): 912–913.

SUBRAMANIAN, C.V. 1952. Fungi Imperfecti from Madras—I. *Proc. Indian Acad. Sci.* (*Sect. B.*) **36**: 43–52.

SUBRAMANIAN, C.V. 1953. Fungi Imperfecti from Madras—V. *Proc. Indian Acad. Sci.* (*Sect. B.*) **38**: 27–39.

SUBRAMANIAN, C.V. 1954. Fungi Imperfecti from Madras—VI. *J. Indian Bot. Soc.* **33**:36–42.

SUBRAMANIAN, C.V. 1954a. Three new hyphomycetes. *J. Indian Bot. Soc.* **33**: 28–34.

SUBRAMANIAN, C.V. 1956. Hyphomyctes–I. *J. Indian Bot. Soc.* **35**(1): 53–91.

SUBRAMANIAN, C.V. 1956a. Fungi Imperfecti from Madras–VII. *Proc. Indian Acad. Sci.* (*Sect. B.*) **42**: 283–292.

SUNDARARAMAN, S. 1922. The coconut bleeding disease. *Agric. Res. Inst. Pusa Bull.* **127**: 8 pp.

SUNDARARAMAN, S. 1925. Preliminary note on "Coconut leaf rot" of Cochin. *Year Book Madras Agric. Dept.* 1924 pp. 6–8.

SUNDARARAMAN, S. 1929. Administrative report of the Government Mycologist, Coimbatore for 1928–29. *Rept. Dept. Agric. Madras Presidency for the Official Year* 1928–29. 27 pp.

SYDOW, H. AND P. AND BUTLER, E.J. 1911. Fungi Indiae orientalis Pars-II. *Ann. Mycol.* **9**: 372–421.

TEODORO, N.G. 1926. Coconut diseases and their control. *Philipp. Agric. Rev.* **18**(4): 585–592.

THOMAS JOSEPH 1978. Some fungi associated with the root system of coconuts in the root (wilt) affected area. *Curr. Sci.* **47**: 586–587.

THOMAS JOSEPH AND RADHA, K. 1979. Coconut diseases and quarantine regulations. *Tech. Bull.* No. 118. 14 pp. FAO Plant Protection Committee for the South East Asia and Pacific Region, FAO Regional Office, Bangkok, Thailand.

THOMPSON, A. 1924. Annual Report of the Mycologist for 1923. *Malayan Agric. J.* **12** (8): 246–251.

THOMPSON, A. 1933. Division of Mycology. Annual Report for 1931. *Dept. Agric. Strait Settlements and Federated Malay States Bull.* **12** (*Gen Ser*): pp. 48–52.

THOMPSON, A. 1937. Division of Mycology. Annual Report for 1936. *Bull. Dept. Agric. Strait settlements and Federated Malay States* (*Gen Ser*): pp. 49–57.

THOMPSON, A. 1941. Notes on plant diseases in 1940. *Malayan Agric. J.* **29** (6): 241–245.

TODOROVA MIJAILOVA, PARASKEVA 1967. Report on heart rot of coconut palm. *Revta. Agric. Habana* **1**: 74–110.

TORO, R.A. 1930. Colombia (Republic of). Crop diseases and pests. *Int. Bull. Pl. Prot.* **4** (1): 3–4.

TUCKER, C.M. 1924. Controlling bud rot. Agricultural notes. *Porto Rico Agric. Exper. Stat. Mayaguez* **8**:1 p.

TURNER, G.J. 1965. Plant Pathology. *Rept. Res. Brch. Dept. Agric. Sarawak* 1964 pp. 70–78

VAN DER GOOT, P. 1937. Diseases and pests of cultivated crops in Dutch East Indies in 1936. *Meded. Inst. PlZiekt. Batavia* **89**: 109 pp.

VAN HALL, C.J.J. 1921. Diseases and pests of cultivated plants in the Dutch Indies during 1921. *Meded. Inst. voor Plantenziekten* **53**: 46 pp.

VENKATARAYAN, S.V. 1929. How to distinguish between the stem bleeding disease and *anable roga* of coconuts. *Mysore Agric. Calendar* 1929 pp. 13–17.

WALTERS, E.A. 1926. Report on the Agricultural Department, St. Lucia, 1924. 30 pp.

WALTERS, E.A. 1929. Report on the Agricultural Department, St. Lucia, 1928. 31 pp.

WARD, F.S. 1937. Insects, fungi and bacteria associated with copra in Malaya. 2. Deterioration of copra caused by bacteria and moulds. 108 pp. Department of Agriculture Straits Settlements and Federated Malay States.

WEBBER, G.F. 1924. Field work in Florida during the year on disease control. *Quart. Bull. State Plant Board Florida* **8**(1): 1–8.

WELSFORD, E.J. 1925. Report of the Government Mycologist for the year 1924. *Ann. Rept. Dept. Agric. Zanzibar* 1924. 15 pp.

WIEHE, P.O. 1940. Coconut "knife-cut". *Rev. Agric. Maurice* **14** (3): 101–103.

WILLIAMS, T.H. 1968. Plant Pathology. *A Rept. Dept. Agric. Sabha*. 1966. pp. 99–107.

CHAPTER 3

INSECTS AND MITES ASSOCIATED WITH THE COCONUT PALM (*COCOS NUCIFERA* L.)

By

CHANDY KURIAN, B.SATHIAMMA, G. B. PILLAI, AND K. N. PONNAMMA
Central Plantation Crops Research Institute
Regional Station – Kayangulam
Krishnapuram 690 533, Kerala State, India.

CONTENTS

INTRODUCTION

The coconut palm is subject to the infestation of a variety of insect and mite pests during different stages of its growth and development. Some of them are responsible for heavy crop losses. The coconut product, Copra, also is damaged by a large number of insect and mite pests in different parts of the world. Lepesme (1947) had listed 751 species of insects infesting palms, of which nearly 22% were specific to the coconut palm. Nirula (1955) reviewed the world distribution of pests of coconut and gave the list of 106 insects and one mite infesting the palm in various countries and their prevalence and nature of damage. Since then, numerous species of insects have been recorded as coconut pests from different coconut growing tracts of the world. An FAO check list enumerated 254 pests (Second Session of FAO Technical Working Party on Coconut Production, Protection and Processing, Colombo, Sri Lanka, 1964). Subsequent records of many more insect species as new pests on coconut and the introduction and establishment of certain species of insects in newer areas necessitated the revision of the above check list published by the FAO in 1965 (Compiled by A. Johnston; Technical Document No. 16, Second Edition). The monograph on coconut pests by Lever (1969) dealt with 110 of the more serious pests on coconut and gave information on their distribution and methods of control. Kurian *et al.* (1979) listed 547 insects and mite species infesting the coconut palm and copra and furnished information on the distribution of different species in the various coconut growing countries of the world (FAO Plant Protection Committee For The South East Asia and Pacific Region, Technical document No. 119: World Distribution of pests of coconut).

In the present compilation we have made every effort to update the check list and to furnish the bibliography on coconut pests, to the extent possible. In certain cases we could not consult the original references but only the abstracts which appeared in the *Review of Applied Entomology*.

INSECT AND MITE PESTS OF COCONUT

Name of pest (1)	Part affected (2)	Reference (3)
AFRICA		
Orthoptera		
Acrididae		
Locusta migratoria migratorioides Reiche & Fairmaire	Leaf	Lean, 1931
Schistocerca gregaria Forskal	,,	Lever, 1969
Thysanoptera		
Phlaeothripidae		
Scotothripus claripennis Moult	,,	Reinerts Nakahra, 1976
Isoptera		
Termitidae		
Allodontotermes morogoroensis Harris	Bole, trunk	Lever, 1969
Macrotermes nigeriensis Sjostedt	,,	,,
Termes classicus Sjostedt		Chiaromonte, 1934
Homoptera		
Aphididae		
Cerataphis lataniae Boisduval	Leaf, nut	Lever, 1969
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Newstead, 1917

Coccidae		
Ischnaspis longirostris Signoret	Leaf, nut	Simmonds, 1960
Selenaspidus articulatus Morgan	,,	,,
Vinsonia stellifera Westwood	,,	Lever, 1969
Heteroptera		
Coreidae		
Pseudotheraptus wayi Brown	Nut	Way, 1954
P. ugandæ Brown	,,	Brown, 1955
P. (*Theraptus*) *devastans* Dist.	,,	,,
Lepidoptera		
Hesperiidae		
Lophopetes dysmephila Trimen	Leaf	Lever, 1969
Pyraustidae		
Pimelephila ghesquierei Tams		,,
Limacodidae		
Latoia (= *Parasa*) *lepida* Cramer	Leaf	,,
Thosea chrysoparala		Tams, 1930
Coleoptera		
Chrysomelidae—Hispinae		
Gyllenhalius palmarum Maulik		Maulik, 1930
Coelaenomenodera elaeidis Maulik	Leaf	Morin & Marian, 1971
Curculionidae		
Rhynchophorus phoenicis Fabricius	Stem	Harrer, 1914

(1)	(2)	(3)
Rhinostomus afzelii Fahraeus		Lever, 1969
Rhina amplicollis Gressit	Trunk	Lommel, 1925
Scarabaeidae—Dynastinae		
Archon centaurus Burmeister		Cotterell, 1924
Oryctes monoceros Olivier	Bud	Lommel, 1925
O. boas Fabricius	,,	,,
O. sjostedti	,,	Lever, 1969
O. gigas Cast.	,,	,,
O. cristatus Snellen		Lommel, 1925
O. owariensis Palisot de Beauvois		Mayne, 1928
O. rhinoceros Linnaeus		,,
Strategus sp		Walters, 1937
Formicidae		
Oecophylla smaragdina Fabricius (*Oecophylla longinoda* Latreille)		Lever, 1969
Acarina		
Eriophyidae		
Aceria guerreronis Keifer	Nut	Cardona, Potes, 1971

	ARGENTINA		
	Coleoptera		
Curculionidae *Homalinotus coriaceus* Gyllenhal		Petiole, leaf, trunk	Lever, 1969
	ARU		
	Orthoptera		
Tettigonidae *Sexava nubila* Stàl		Leaf	Lever, 1969
	AUSTRALIA		
	Orthoptera		
Acrididae *Cyrtacanthacris maulicollis*		Leaf	Hill, 1915
Valanga nigricornis Burmeister		"	Lever, 1969
Phasmidae *Graeffea crouani* Le Guillou		"	"
	Isoptera		
Termitidae *Mastotermes darwiniensis* Froggat			Hill, 1915
	Homoptera		
Diaspididae *Aspidiotus destructor* Signoret		Leaf	Hill, 1915

(1)	(2)	(3)
Heteroptera		
Coreidae		
Ambhypelta lutescens Distant	Nut	Lever, 1969
Lepidoptera		
Hesperiidae		
Telicota bambusae Moore	Leaf	Lever, 1969
Cosmopterygidae		
Batrachedra arenosella Walker	Flower	,,
Pyralidae		
Tirathaba rufivena Walker	Inflorescence	,,
Coleoptera		
Curculionidae		
Rhabdoscelus obscurus (*Calandra stigmaticollis* Gull.)	Stem	Hill, 1915
Chrysomelidae-Hispinae		
Promecotheca varipes	Leat	Taylor, 1937
P. callosa	,,	Taylor, 1937
Hymenoptera		
Formicidae		
Oecophylla smaragdina F.	Leaf	Lever, 1969

BISMARK ARCHIPELAGO

Orthoptera		
Tettigonidae		
Sexava novae—guineae Brancsik	Immature nut	Lever, 1969
Isoptera		
Termitidae		
Nasutitermes novarum-hebridarum Holmgren (*Eutermes yandiniensis* Hill)	Trunk	,,
Homoptera		
Aphididae		
Cerataphis lataniae Boisduval		Simmonds, 1924
Coccidae		
Lecanium (*Eucalymnatus*) *tessellatum* Signoret		Simmonds, 1924
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Simmonds, 1924
A. cyanophylli Signoret	,,	,,
Pinnaspis minor Maskell		,,
Pseudococcidae		
Pseudococcus simmondsi Laing		,,
Heteroptera		
Pentatomidae		
Axiagastus cambelli Distant	Inflorescence	Lever, 1969
Lepidoptera		
Agonoxenidae		
Agonoxena pyrogramma Meyrick		Simmonds, 1925

(1)	(2)	(3)
Hesperiidae		
Corone palmarum Moore	Leaf	Simmonds, 1924
Pyralidae		
Tirathaba rufivena Walker	Flower	,,
Coleoptera		
Chrysomelidae—Hispinae		
Promecotheca papuana Csiki (*P. antiqua* Weise)	Leaf	Lever, 1969
P. antiqua Weise	,,	Simmonds, 1924
Hymenoptera		
Formicidae		
Oecophylla smaragdina F.	Leaf	Lever, 1969
BRAZIL		
Homoptera		
Aleyrodidae		
Aleurodicus flavus Hempel		Hempel, 1923
A. neglectus Quaint & Baker		Bondar, 1924
Aleurotrachelus atratus Hempel		Carvalho, Freit & Arruda, 1971
A. cocois Curtis		,,
A. stellatus Hempel		Hempel, 1923

Paraleurodes crateraforman		Bondar, 1923
P. pulverans		,,
Radialeurodicus assymetrus		,,
R. cinereus		,,
Aphididae		
Cerataphis lataniae Boisduval		Melo *et al.*, 1977
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Macedo, 1944
Chrysomphalus aonidum		De Azevedo, 1924
Eucalymnatus perforatus Newstead		,,
Vinsonia stellifera Westwood		Silva & Cavalcante, 1977
Ortheziidae		
Orthezia praelonga Douglas		Lima & Cassino, 1977
Lepidoptera		
Hesperiidae		
Brassolis sophorae Linnaeus	Leaf	Cleare, 1915
Castniidae		
Lapaeumides (Castnia) daedalus Cramer	Leaf base, trunk	Lever, 1969
Cosmopterygidae		
Batrachedra peroptusa Meyrick	Pollen	,,
Phycitidae		
Hyalospila ptychis Dyar	Female flower, nut	,,

(1)	(2)	(3)
Pyralidae		
Cadra cautella Walker	Flower, copra	Bondar, 1940
Coleoptera		
Chrysomelidae—Hispinae		
Brevicolaspis villosa Bryant	Leaf	Bondar, 1922; Bryant, 192:
Coraliomela brunnea Thunberg	,,	Macedo, 1944
Delocrania cossyphoides Guerin	Leaf	Bondar, 1922
Himatidium neivai Bondar	Bud, leaf, nut	Bondar, 1940 a
Porphyraspis tristis Boh.	Leaf	Bondar, 1922
Mecistomela corallina Vigors	,,	,,
M. marginata Latreille	,,	,,
M. quadrimaculata Guerin	,,	,,
Colydiidae		
Bitoma palmarum Bondar	Flower	Bondar, 1940 a
Scarabaeidae		
Strategus aloeus Linnaeus	Bud	Bondar, 1939
S. anachoreta Burmeister	Root, trunk	Macedo, 1944
S. jugurtha Burmeister		Vayssiere, 1965
S. titanus F.		Gowdey, 1923
S. validus Fabricius		Quindere *et al.*, 1977

Curculionidae		
Dynamis politus Gyllenhall (*Rhynchophorus politus* Gyllenhall)		Landeiro, 1942
Homalinotus coriaceus Gyllenhall	Petiole, leaf, trunk	Bondar, 1922
H. deplanatus Sahlb		,,
Rhina barbirostris F.		Bondar, 1925
Rhynchophorus palmarum L.		Simmonds, 1925
Scolytidae		
Xyleborus affinis Eichhorn	Trunk, petiole	Bondar, 1922
X. perforans Wollaston	,,	Gowdey, 1920
X. torquatus Eichhorn	,,	Bondar, 1922
Acarina		
Eriophyidae		
Aceria guerreronis Keifer	Shoot	Arruda & Aquino, 1969
BURMA		
Orthoptera		
Acrididae		
Aularches miliaris Linnaeus	Leaf	Johnston, 1965
Lepidoptera		
Hesperiidae		
Udaspes folus Cramer	,,	Johnston, 1965

(1)	(2)	(3)
Limacodidae		
Cania bandura Moore	Leaf	Johnston, 1965
Chalcoscelis fumifera Swinhoe	,,	,,
Setora nitens Walker	,,	,,
Thosea unifascia Walker	,,	Isaac, 1925
Cryptophasidae		
Nephantis serinopa Meyrick	,,	Ghosh, 1923, 1924
Zygaenidae		
Artona catoxantha Hampson	,,	Johnston, 1965
Coleoptera		
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, spathe	Ghosh, 1924
Xylotrupes gideon Linnaeus	Petiole	Ghosh, 1924.
Curculionidae		
Rhynchophorus ferrugineus Fabricius	Trunk	Johnston, 1965
CAROLINE IS.		
Hemiptera—Homoptera		
Pseudococcidae		
Pseudococcus oceanicus Takahashi		Takahashi, 1939

Coleoptera

Chrysomelidae—Hispinae		
Brontispa mariana Spaeth	Leaf	
B. yoshinoi Barber		Hagen & Doutt, 1950
B. froggatti Sharp	,,	Zacher, 1915
Planispa (Oxycephala) chalybeipennis Zacher	,,	Zacher, 1915: Chujo, 1937
Botryonopa sanguinea Guerin	,,	Zacher, 1915
Promecotheca cumingi Baly	,,	Zacher, 1915
P. callosa Baly	,,	,,
P. varipes Baly	,,	,,
P. antiqua Weise	,,	,,
P. opacicollis Gestro	,,	,,
P. reichei Baly	,,	,,
P. coeruleipennis Blanchard	,,	,,
P. lindingeri Aulm.	,,	,,
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus		Gressitt, 1953
Curculionidae		
Diocalandra frumenti Fabricius	Leaf	Lever, 1969
Rhabdoscelus obscurus Boisdual		Bianchi & Owen, 1965

(1)	(2)	(3)
CELEBES		
Orthoptera		
Tettigonidae		
Sexava coriacea Linnaeus	Leaf	Lever, 1969
S. karnyi Leefmans	,,	,,
Lepidoptera		
Limacodidae		
Orthocraspeda catenatus Snellen	Leaf	Tams, 1930
Altha alastor	,,	,,
Thosea porthetes	,,	,,
Zygaenidae		
Artona catoxantha Hampson	,,	Van der Goot, 1935
Coleoptera		
Chrysomelidae—Hispinae		
Promecotheca nuciferae Maulik	Leaf	Mualik, 1929
Brontispa froggatti var. *selebensis* Gestro	,,	Awibowo, 1934
CENTRAL AMERICA		
Homoptera		
Aleyrodidae		
Aleurodicus dispersus Russell	Leaf	Russell, 1965
Diaspididae		
Chrysomphalus ficus Ashmead	,,	Maskew, 1918

	Lepidoptera		
Brassolidae			
Opsiphanes quiteria quirinus Godman & Salvin		Leaf	Young, 1977
Castiniidae			
Lapaeumides (Castnia) licus Boisduval		,,	Lever, 1969
	Coleoptera		
Curculionidae			
Rhinostomus (Rhina) barbirostris Fabricius			Lever, 1969
Rhynchophorus palmarum L.		Trunk	,,
	Acarina		
Eriophyidae			
Aceria guerreronis Keifer		Nut	Mariau, 1977
	CERAM		
	Orthoptera		
Tettigonidae			
Sexava nubila Stål		Leaf	Lever, 1969
S. coriacea Linnaeus		,,	,,
	Coleoptera		
Scarabaeidae—Dynastinae			
Papuana semistriata Arrow		Seedling	Leefmans, 1931
	CHINA		
	Orthoptera		
Acrididae			
Locusta migratoria manilensis Meyen		Leaf	Lever, 1969

(1)	(2)	(3)
Homoptera		
Aphididae		
Astegopteryx nipae Van der Goot	Leaf	Lever, 1969
Heteroptera		
Tingidae		
Stephanitis typica Distant	,,	,,
Coleoptera		
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, spathe	,,
CONGO		
Homoptera		
Diaspididae		
Aspidotus destructor Signoret		Droussie, 1914
Diaspis boisduvali Signoret		Balachowsky, 1929
Lepidoptera		
Cosmopterygidae		
Batrachedra arenosella Walker	Flower	Lever, 1969
Coleoptera		
Anthribidae		
Araecerus fasciculatus De Geer	Copra	Ghesquiere, 1922

Chrysomelidae—Hispinae		
Coelaenomenodera elaeidis Maulik	Leaf	Lever, 1969
Scarabaeidae—Dynastinae		
Oryctes sp.	Bud	Droussie, 1914
COOK Is.		
Orthoptera		
Phasmidae		
Graeffia crouani Le Guillou	Leaf	Johnston, 1965
Isoptera		
Kalotermitidae		
Kalotermes immigrans	Trunk	,,
Neotermes rainbowi Hill		Lever, 1969
Hymenoptera		
Scholastidae		
Scholastes lonchifera Hend		Simmonds, 1925
CUBA		
Thysanoptera		
Tripidae		
Cephalothrips merrilli Watson	Nut	Watson, 1926
Haplothrips merrilli Watson	,,	,, 1920
Aleurodothrips fasciapennis Franklin		,, 1926
Homoptera		
Diaspididae		
Aonidiella orientalis Newstead		Mckenzie, 1946

(1)	(2)	(3)
Aspidiotus cocotiphagus		Montgomery & Bragdon, 1919; Strong, 1922
A. destructor Signoret	Leaf	Gomez—Menor, 1937
Chrysomphalus ficus	,,	Ortega, 1940
Ischnaspis longirostris Signoret		Russo, 1927
Vinsonia stellifera Westwood		,,
Pseudococcidae		
Pseudococcus nipae Maskell		Ortego, 1934
Lepidoptera		
Tineidae		
Homaledra sabulella Chambers		Russo, 1927
Coleoptera		
Curculionidae		
Rhina barbirostris Fabricius		Menor, 1934
Scarabaeidae—Dynastinae		
Strategus titanus F.		De Lara, 1936
S. anachoreta Burmeister	Seedling	Lever, 1969
Acarina		
Eriophyidae		
Aceria guerreronis Keifer	Nut	Estrada Ortiz & Gonzalez Avila, 1975

	ELLICE Is.		
	Orthoptera		
Acrididae			
Valanga isolata Willemse			Plant Prot. Comm, 1969
Phasmidae			
Graeffia crouani Le Guillou		Leaf	Johnston, 1965
	Isoptera		
Microcerotermes peraffinis Silvester			Hopkins, 1927
Kalotermitidae			
Neotermes raibowi Hill			Hopkins, 1927
	Homoptera		
Diaspididae			
Pinnaspis strachani Cooley		Leaf	Johnston, 1965
P. minor Maskel		,,	Hopkins, 1927
	Lepidoptera		
Agonoxenidae			
Agonoxena argaula Meyrick		Leaf	Johnston, 1965
Pyralidae			
Harpagoneura complexa		Immature nut	,,
Tirathaba complexa Butler		Flower	Lever, 1969
	Coleoptera		
Curculionidae			
Diocalandra frumenti Fabricius		Trunk	Johnston, 1965

(1)	(2)	(3)
FATUNA Is.		
Orthoptera		
Phasmidae		
Graeffea crouani Le Guillou		
G. cocophaga Newport	Leaf	Johnston, 1965
	,,	Simmonds, 1925
Homoptera		
Diaspididae		
Pinnaspis strachani Cooley	Leaf	Johnston, 1965
Lepidoptera		
Agonoxenidae		
Agonoxena argaula Meyrick	Leaf	,,
Coleoptera		
Chrysomelidae—Hispinae		
Promecotheca coerulipennis Blanchard	Leaf	,,
P. reichei Baly	,,	Simmonds, 1925
FIJI		
Orthoptera		
Phasmidae		
Graeffea crouani Le Guillou (*G. cocophaga* Newport)	Leaf	Simmonds, 1925
Lopaphus cocophagus Newport	,,	Knowles, 1918

Tettigonidae		
Conocephalus maculatus	Leaf	Johnston, 1965
Homoptera		
Aphididae		
Astegopteryx rappardi Hille Ris Lambers	Leaf	Hille Ris Lambers, 1953
Cerataphis variabilis Hille Ris Lambers	,,	Hille Ris Lambers, 1953
Coccidae		
Coccus hesperidum Linnaeus	Leaf	Johnston, 1965
Lecanium (*Eucalymnatus*) *tessellatum*	,,	,,
Derbidae		
Paralyricon sp nr. *tephrias*	,,	,,
Pyrrhoneura saccharicida	,,	,,
Swezeyia lyricen	,,	,,
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Jepson, 1916
A. pangoensis D. & F.	,,	Green & Laing, 1923; Simmonds, 1925.
A. simmondsi Green & Laing	,,	Simmonds, 1925
A. palmae Cockerell	,,	,,
Chrysomphalus dictyospermi Morgan	,,	,,
Hemiberlesia cyanophylli	,,	Johnston, 1965
H. palmae	,,	,,

(1)	(2)	(3)
Phenacaspis samoana	Leaf	Johnston, 1965
Pinnaspis strachani Cooley	,,	,,
P. buxi (Bch.)	,,	Simmonds, 1925
Vinsonia stellifera Westwood	,,	Lever, 1969
Margarodidae		
Icerya seychellarum Westwood	,,	Johnston, 1965
Pseudococcidae		
Laminicoccus vitiensis		,,
Pseudococcus cocotis Maskel		Simmonds, 1925
P. vitiensis	,,	Green & Laing, 1924
	Lepidoptera	
Agonoxenidae		
Agonoxena argaula Meyrick	Leaf	Meyrick, 1921; Simmonds, 1922
Cosmopterygidae		
Batrachedra arenosella Walker	Flower	Meyrick, 1931
B. atriloque Meyrick	,,	,,
Pyroderces paroditus Meyrick	,,	Lever, 1938
Cossidae		
Acritocera negligens Butler	Spathe, Leaf	Simmonds, 1925

Gelechidae		
Stoeberhinus testacea		Johnston, 1965
Glyphipterygidae		
Imma philonomma		Johnston, 1965
Heliodinidae		
Stathmopoda trichrysa		Johnston, 1965
Lyonetidae		
Decadarchis flavistriata Wals.	Flower	Johnston, 1965
D. heterogramma Meyrick	Leaf	,,
D. psammaula Meyrick	,,	Meyrick, 1921
Opogona regressa		Johnston, 1965
Noctuidae		
Hydrillodes dentalis		Johnston, 1965
Pyralidae		
Harpagoneura complena	Immature nut	Knowles, 1918
Sufetula hemiophthalma		Johnston, 1965
Coleoneura (*Tirathaba*) *trichogramma* Meyrick	Spike, nut	Fletcher, 1918; Simmonds, 1924
C. (*T.*) *complexa* Butler	Spike	Lever, 1969
Tinaeidae		
Trachycentra calamias Meyrick	Leaf	Jepson, 1917
T. chlorogramma		Johnston, 1965
Rhabdocnemis (*Sphenophorus*) *obscura* Boisduval		Simmonds, 1925

(1)	(2)	(3)
Zygaenidae		
Artona catoxantha Hampson	Leaf	Johnston, 1965
Levuana iridescens B.B.	,,	Jepson, 1916
Coleoptera		
Chrysomelidae—Eumolpinae		
Eurydemus grandis		Johnston, 1965
Chrysomelidae—Hispinae		
Promecotheca coerulipennis Blanchard	Leaf	Johnston, 1965
P. reichei Baly	,,	Jepson, 1916
P. bicolor Maulik	,,	Simmonds, 1935
Cleridae		
Necrobia rufipes De Geer	Copra	Lever, 1938
Curculionidae		
Diocalandra taitensis Guerin	Spathe, trunk	Simmonds, 1925
Rhabdoscelus obscurus Biosduval	Trunk	Johnston, 1965
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle, Leaf, spathe	,,
Scarabaeidae—Melolonthinae		
Rhopaea subnitida		,,
R. vestita	Leaf	,,
Lachnosterna vandinei		Smith, 1917

Scolytidae		
Stephanoderes biramnus	Trunk	Johnston, 1965
Xyleborus perforans Wollaston	”	Paine, 1934
Hymenoptera		
Scholastes bimaculatus Hend	Kernel	Simmonds, 1925
Acarina		
Tetranychidae		
Tetranychus fijiensis Hirst	Leaf	Hirst, 1924; Simmonds, 1925
FLORIDA		
Homoptera		
Aphididae		
Cerataphis variabilis Hille Ris Lambers	Spike	Reinert & Woodiel, 1974
Aleyrodidae		
Aleurodicus near *A. coccolobae* Quaint & Baker		Martinez, 1965
A. dispersus Russell	Leaf	Russell, 1965
Coccidae		
Lecanium (*Eucalymntus*) *tessellatum* Signoret		Moznette, 1921
Diaspididae		
Chrysomphalus dictyospermi Morgan		Moznette, 1920
Aspidiotus destructor Signoret	Leaf	Berger, 1935
Pseudococcidae		
Pseudococcus nipae		Chaffin, 1921

(1)	(2)	(3)
Cixidae		
Haplaxius crudus Van D.	Suspected vector of lethal yellowing	Tsai, 1975; Eden-Green & Schulling, 1976
Cicadidae		
Proarna hilaris	,,	Eden. Green & Schulling, 1976
Cicadellidae		
Oncometopia nigricans Walker	,,	Tsai, 1975; Tsai & Anwar, 1977
Lepidoptera		
Tineidae		
Batrachedra mathesoni Busck.	Flower	Puerto Rico, 1943
Homaledra sabalella Chambero	Leaf, petiole	Creighton, 1937
Coleoptera		
Curculionidae		
Eucoptus depressus Wollaston		Joyce, 1954
GHANA		
Hemiptera – Homoptera		
Diaspididae		
Pinnaspis buxi (Bouche)	Leaf	Lever, 1969
Aspidiotus destructor Signoret	,,	Patterson, 1914

Lepidoptera		
Zygaenidae *Chalconycles catori* Jordan	Leaf	Lever, 1969
Hesperiidae *Pyrrhochalcia iphis* Dr.	Leaf	Patterson, 1922
Coleoptera		
Chrysomelidae – Hispinae *Coelaenomenodera elaeidis* Maulik	Seedling	Patterson, 1822
Scarabaeidae – Dynastinae *Archon centaurus* Burmeister		Patternson, 1916
Curculionidae *Rhynchophorus phoenicis* Fabricius		Patterson, 1914
GILBERT Is.		
Orthoptera		
Acrididae – Cyrtacanthacrinae		
Valanga gilbertensis Willemse		Willemse, 1970
Phasmidae *Graeffia crouani* Le Guillou	Leaf	FAO, 1974
Isoptera		
Kalotermitidae *Kalotermes immigrans*	Trunk	
K. rainbowi	”	Johnston, 1965

(1)		(2)	(3)
	Hemiptera – Homoptera		
Diaspididae			
Pinnaspis strachani Cooley		Leaf	Johnston, 1965
	Lepidoptera		
Agonoxenidae			
Agonoxena argaula Meyrick		Leaf	Johnston, 1965 & FAO, 1974
	Coleoptera		
Curculionidae			
Diocalandra frumenti Fabricius		Young leaf, Spike	Johnston, 1965
Diocalandra taitensis Guerin			FAO 1974
Scarabaeidae – Dynastinae			
Oryctes monoceros Olivier			Cotterell, 1925
	GUAM		
Phasmidae			
Acanthograeffia denticulata		Leaf	Johnston, 1965
	Hemiptera – Homoptera		
Diaspididae			
Aonidiella inornata		Leaf	Johnston, 1965
Aspidiotus destructor Signoret		,,	Briggs, 1921

Furcaspis oceanica		Leaf	Johnston, 1965
Lepidosaphes megregori			Vandenberg, 1929
Pseudococcidae *Pseudococcus cocotis*		”	Johnston, 1965
	Lepidoptera		
Agonoxenidae *Agonoxena argaula* Meyrick		Leaf	”
A. pyrogramma Meyrick		”	”
	Coleoptera		
Chrysomelidae – Hispinae *Brontispa mariana* Spacth		Young leaf	Johnston, 1965
Curculionidae *Diocalandra frumenti* Fabricius		Trunk	”
Rhabdoscelus obscurus Boisduval		”	Vandenberg, 1926
	GUYANA		
	Orthoptera		
Acrididae *Tropidacris latreillei* Perty		Leaf	Bodkin, 1916
	Hemiptera – Homoptera		
Aphididae *Cereataphis lataniae* Boisduval			Bodkin, 1914
Diaspididae *Aspidiotus destructor* Signoret		Leaf	Bodkin, 1914

(1)	(2)	(3)
Pseudococcidae		
Pseudococcus nipae Maskell	Leaf	Bodkin, 1914
Nipaecoccus nipae Maskell	,,	Rai, 1977
Vinsonia stellifera Westwood	,,	Bodkin, 1914
Lepidoptera		
Cosmopterygidae		
Batrachedra arenosella Walker	Flower	Lever, 1969
B. peroptusa Meyrick	Pollen	,,
Castniidae		
Lapaeumides (*Castnia*) *daedalus* Cramer	Leaf base, trunk	Bodkin, 1914
L. licus		Lever, 1969
Lyonetidae		
Decadarchis pachygramma Meyrick		Meyrick, 1921
Brassolidae		
Brassolis sophorae Linnaeus	Leaf	Bodkin, 1914; 1916
Limacodidae		
Sibine trimacula	,,	Bodkin, 1914
S. fusca Stoll	,,	Bodkin, 1919
Perichares corydon F.		Bodkin, 1916
Opsiphanes cassiae Feld.		,,
Blastobasis ocrobathra Meyrick	Flower	Meyrick, 1921

Coleoptera		
Cleridae		
Necrobia rufipes De Geer	Copra	Cleare, 1941
Curculionidae		
Rhynchophorus palmarum Linnaeus		Bodkin, 1914
Rhina barbirostris		,,
Metamasius hemipterus L.		,,
Dyscinetus bidentatus		,,
Scarabaeidae – Dynastinae		
Strategus aloeus F.	Stem, bud	Bodkin, 1914
Hymenoptera		
Formicidae		
Azteca cartifex Forel		Rai, 1977
HAITI		
Homoptera		
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Wolcott, 1926
Coleoptera		
Scarabaeidae – Dynastinae		
Strategus quadrifoveatus Palisot de Beauvois	Bud	Wolcott, 1926
HAWAII		
Thysanoptera		
Phlaeothripidae		
Nesothri ps brevicollis Bagn.	Leaf	Reinest & Nakahara, 1976
Scotothrips claripennis Moult	,,	,,

(1)	(2)	(3)
Homoptera		
Aphiiddae		
Cerataphis lataniae Boisduval	Leaf	Lever 1969
Diaspididae		
Aspidiotus destructor Signoret		Ehrhorn, 1917
A. cyanophylli		Strong, 1922
A. lataniae		,,
Pinnaspis (Hemichionaspis) minor Maskel	Nut	Maskew, 1916
P. (H.) aspidistrae		Strong, 1922
Chrysomphalus aonidum Linnaeus		Maskew, 1916; 1017
Pinnaspis buxi (Bouche)	Leaf	
Phenacaspis inday		Strong, 1922
Hyposmocoma sp.		Strong, 1922
Dactylopiinae		
Ripersia palmarum Ehrhorn		Ehrhorn, 1916
Lepidoptera		
Agonoxenidae		
Agonoxena argaula Meyrick	Leaf	Lever, 1969
Pyraustidae		
Hedylepta (Lamprosema) blackburni Butler	Leaf	Pemberton, 1938

Pyralidae			
Nacoleia (Omiodes) blackburni Butler			Copeland, 1914
Lyonetidae			
Decadarchis (Ereunetis) flavistriata Wlsm.			Timberlake, 1926
Hesperiidae			
Lamprosema blackburni Butler		Leaf	Swezey, 1934
Cryptophasidae			
Nephantis serinopa Meyrick		Leaf	Bardley & Burgess, 1934
	Coleoptera		
Curculionidae			
Diocalandra taitensis Guerin		Spathe, trunk	Swezey, 1921
	INDIA		
	Orthoptera		
Acrididae			
Aularches miliaris Linnaeus		Leaf	Jones, 1940
Locusta migratoria Linnaeus		,,	Johnston, 1965
Patanga succincta Linnaeus		,,	Menon, 1970
Schistocerca gregaria Forskal		,,	Johnston, 1965
Valanga nigricornis Burmeister		,,	Lever, 1969
	Isoptera		
Termitidae			
Odontotermes obesus Ramb.		Seedling	Fletcher, 1919

(1)	(2)	(3)
Thysanoptera		
Thripidae		
Cephalothrips merrilli		
Haplothrips ceylonicus Schmutz	Inflorescence	Johnston, 1965
Kleothrips subramani		,,
Symphiothrips punctatus		,,
Phlaeothripidae		
Nesothrips brevicollis Bagn.	Leaf	Reinert & Nakahara, 1976
Scotothrips claripennis Moult	,,	,,
Homoptera		
Coccidae		
Ceroplastes actiniformis Green	Leaf	Johnston, 1965
C. ceriferus Anderson	,,	,,
Coccus acutissimus Green	,,	,,
C. hesperidum Linnaeus	,,	,,
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Ayyar, 1919 Fletcher, 1919
A. ficus Ashmead	,,	Johnston, 1965
A. orientalis	,,	,,

Chrysomphalus ficus Ashmead	Leaf	Johnston, 1965
Neofurcaspis andamanensis Green	,,	Green, 1926
Pinnaspis aspidistrae Signoret	,,	Narayanan, 1954
Vinsonia stellifera Westwood	,,	Mathen *et al.*, 1962
Pseudococcidae		
Pseudococcus longispinus Targ	,,	Johnston, 1965
P. cocotis Maskell	,,	,,
Heteroptera		
Coreidae		
Paradasynus rostratus Distant	Nut	Kurian *et al.*, 1976
Tingidae		
Stephantis typica Distant	Leaf	Fletcher, 1917; Nirula, 1955
Lepidoptera		
Cosmopterygidae		
Batrachedra arenosella Walker	Inflorescence	Narayanan, 1954
Coconympha irriarcha Meyrick	Leaf	Nair, 1975
Gelechidae		
Coconympha iridarcha Meyrick	Leaf	Meyrick, 1931
Hesperiidae		
Gangara thyrsis Moore	Leaf	Pillai, 1921
Suastus gremius Fabricius	,,	Fletcher, 1914; 1919
Telicota palmarum Moore	,,	Lever, 1969

(1)	(2)	(3)
Limacodidae		
Contheyla rotunda Hampson	Leaf	Ayyar, 1917; 1919
Narosa conspersa	,,	Johnston, 1965
Mecroplectra (Natada) nararia Moore	,,	Fletcher, 1919
Latoia (Parasa) lepida Cramer	,,	Pillai, 1921
Spatulifimbria castaneiceps Hampson	,,	Nair, 1975
Thosea unifascia Walker		Issac, 1925
Lymantriidae		
Euproctis semisignata Walker	Female flower	Abraham & Remamony, 1976
Noctuidae		
Cyclodes omma Van der Hoeven	Nut	Venkitasubban, 1938
Notodontidae		
Turnaca acuta W.	Flower	Narayanan, 1954
Psychidae		
Manatha albipes Moore	Leaf	Mathen *et al.*, 1962
Pyralidae		
Corcyra cephalonica Staint	Copra	Menon & Nirula, 1958
Cadra cautella Walker	,,	Menon & Nirula, 1958
Tirathaba sp.	Nut	Nair, 1975
Cryptophasidae		
Nephantis serinopa Meyrick	Leaf	Pillai, 1919; Pieris, 1926

Geometridae		
Chloroclystis sp.	Flower	Nair, 1970
Coleoptera		
Nitidulidae		
Carpophilus dimidiatus F.	Copra	Menon & Nirula, 1958
Cleridae		
Necrobia rufipes De gear	,,	,,
Cucujidae		
Oryzaephilus surinamensis L.	,,	,,
Tribolium Castaneum Hbst	,,	,,
Trogoderma granaria Evans	,,	,,
Curculionidae		
Amorphoidea coimbatorensis Subramaniam, Thangavel & David	Male Flower	Subramaniam *et. al*, 1975
Diocalandra stigmaticollis Gyllenhall (*D. frumenti* Fabricius)	Petiole	Fletcher, 1919; Joseph, 1959; Lever, 1969
Myllocerus curvicornis F.	Leaf	Kurian *et al.*, 1968
Rhynchophorus ferrugineus F.	Trunk	Lefroy, 1906
Dereodus sparsus Boh.	Leaf	Nair, 1975
D. mastos Hbst.	,,	,,
Chrysomelidae—Hispinae		
Callispa sp. nr. *C. minima* Gestro	Leaf	Nair & Oommen, 1965

(1)	(2)	(3)
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, unopend inflorescence	Stebbing, 1903
Xylotrupes gideon L.	Trunk	Nair, 1975
Scarabaeidae—Melolonthinae		
Leucopholis coneophora Burmeister	Root	Nirula et al. 1952 Nirula 1957
Anomala marginipennis Arr.	,,	Abraham & Kurian, 1970
Scarabaeidae—Rutelinae		
Adoretus lasiopygus Burmeister	Leaf	Johnston, 1965
A. lithobius	,,	Pillai, 1921
Scolytidae		
Xyleborus parvulus E	Stem	Nair, 1975
X. perforans Wollaston	,,	,,
Formicidae		
Dorylus orientalis Westwood	Root	Roonwal, 1975
Oecophylla smaragdina F.	Leaf	Menon & Pandalai, 1960
Acarina		
Tenuipalpidae		
Raoiella indica Hirst	Leaf	Hirst, 1924
Tetranychidae		
Tetranychus fijiensis Hirst	Leaf, Flower	Nair, 1970

T. hindustanicus Hirst		Leaf	Nair, 1970
Oligonychus indicus Hirst		Leaf	Channabasavanna & Banu 1972
Amenosius sp.		Flower	Nair, 1970
	INDONESIA		
	Orthoptera		
Acrididae			
Locusta migratoria manilensis Meyer		Leaf	Johnston, 1965
Valanga nigricornis Burmeister		,,	Leefmans, 1929
V. sumatrensis		,,	Johnston, 1965
V. zehntneri		,,	,,
V. transiens		Nursery	,,
Aularches miliaris Linnaeus		Leaf	Lever, 1969
Tettigonidae			
Sexava coriacea Linnaeus		Leaf	Leefmans, 1924
S. karnyi Leefmans		,,	,, 1927
S. nubila stal		,,	,,
	Thysanoptera		
Phlaeothripidae			
Nesothrips brevicollis Bagn			Reinert & Nakahara, 1976
	Isoptera		
Rhinotermitidae			
Coptotermes curvignathus Holmgren		Stem	Johnston, 1965
C. gestrai Wasmann.			

(1)	(2)	(3)
Termitidae		
Macrotermes gilvus Hagen	Seedling	Johnston, 1965
Microtermes amboinense	Bark, trunk, leaf	,,
Homoptera		
Aleyrodidae		
Aleurocanthus cocois Corbett	Leaf	Johnston, 1965
A. spiniferous	,,	,,
Aleurodicus destructor Mvaskell	,,	Hall, 1916; Kuechenius, 1916
Aphididae		
Cerataphis lataniae (Boisduval)		Johnston, 1965
Oregma rhaphidis Goot	Leaf	Takahashi, 1925
O. nipae		Johnston, 1965
Astegopteryx nipae v. d. Goot	Leaf	Hille Ris Lambers, 1953
A. rappardi Hille Ris Lambers		Hille Ris Lambers, 1953
Coccidae		
Coccus mangiferae Green	Leaf	Johnston, 1965
Diaspididae		
Aspidiotus destructor Signoret	,,	Kuechenius, 1915, 1916
A. orientalis Newstead	,,	Johnston, 1965

A. palmae	Leaf	Johnston, 1965
Chrysomphalus ficus pallens Ashmead	,,	,,
Hemiberlesia palmae	,,	,,
Lepidosaphes pinnaeformis Bch	,,	Kuechenius, 1915, 1916
Margarodidae		
Icerya pulcher	Leaf	Johnston, 1965
Heteroptera		
Tingidae		
Stephanitis typica Distant	Leaf	Johnston, 1965
Lepidoptera		
Agonoxenidae		
Haemolytis miniana	Leaf	,,
Amathusiidae		
Amathusia phidippus L.	Leaf	Kuechenius, 1915
Discophora celinde	,,	Johnston, 1965
Drepanidae		
Phyllopteryx elongata	Leaf	,,
Glyphipterygidae		
Iridostoma ichthyopa	Flower	Johnston, 1965
Penthocrates bigenita		,,
Hesperiidae		
Erionota thrax Linnaeus	Leaf	Kuechenius, 1916
Cephrenes palmarum	,,	Johnston, 1965

(1)	(2)	(3)
Gangara panda	Leaf	Johnston, 1965
Hidari irava Moore	,,	Kuechenius, 1915; Leefmans, 1919
Telicota bambusae Moore	,,	Johnston, 1965
Limacodidae		
Altha alastor	,,	,,
Cania bandura Moore	,,	,,
C. sericea Walker	,,	,,
Chalcoscelides castaneipars	,,	,,
Chalcoscelis albiguttata Snellen	,,	,,
Darna castenatus	,,	FAO, 1962
D. trima	,,	,,
Narosa conspersa	,,	Johnston, 1965
Parasa chlorostigma	,,	,,
Latoia lepida Cramer	,,	Van Hall, 1924
Ploneta diducta	,,	FAO, 1962
Scopolodes unicolor	Leaf	FAO, 1962
Setora nitens Walker	,,	Leefmans, 1929
Belipa laleana	,,	Van Hall, 1924

Susica pallida	Leaf	Johnston, 1965
Thosea bisura	”	FAO, 1962
T. moluccana	”	Johnston, 1965
T. porthetes	”	”
T. sinensis	”	”
Trichogyia albistrigella	”	”
T. bigenita	”	”
Lyonetidae		
Decadarchis pachygramma	”	”
Opogona dimidiatella	Flower	”
Notodontidae		
Turnaca refflesi		”
Noctuidae		
Cyclodes omma van der Hoeven	Nut	Lever, 1969
Simplicia marginata Moore	Leaf	Kuechenius, 1916
Psychidae		
Mahasena corbetti Trans	Leaf	Johnston, 1965
Pyralidae		
Tirathaba ignevena	Leaf, nut	Johnston, 1965
T. mundella Walker	Inflorescence	”
T. rufivena Walker (*Melissoblaptes rufovenalis* Snell)	”	Kuechenius, 1916; Leefmans, 1930

(1)	(2)	(3)
Satyridae		
Elymnias hypermnestra Linnaeus	Leaf	Johnston, 1965
E. nosaea	,,	,,
Zygaenidae		
Artona catoxantha Hampson	Leaf	Kuechenius, 1916; Van Heurn, 1919; Leefmans & Awibowo, 1955
Cosmopterygidae		
Batrachedra arenosella Walker	Flower	Hall, 1918
B. atriloqua Meyrick		Meyrick, 1931
Coleoptera		
Buprestidae		
Aphanisticus altus	Leaf	Johnston, 1965
Chrysomelidae—Hispinae		
Botryonopa sanguinea Guerin	Leaf	Kuechenius, 1916
Brontispa longissima Gestro	,,	Van Hall, 1924
B. longissima var. *javana* Weise	,,	Tjoa Tjien Mo, 1965
B. froggatti selebensis Gestro	,,	Leefmans, 1929
B. affinis	,,	Johnston, 1965
Plesispa reichei Chapius	Leaf	Johnston, 1965
Promecotheca cumingi Baly	,,	,,

P. nucifera Maulik	Leaf	Johnston, 1965
P. soror	,,	,,
Wallaceana palmarum	,,	,,
Curculionidae		
Diocalandra frumenti Fabricius	Trunk	,,
Omolemnus miniatocrinitis Chev.	,,	,,
Protocerius colossus	Stem	Kuechenius, 1916
P. praetor	,,	Johnston, 1965
Rhynchophorus ferrugineus Fabricius	Trunk	Kuechenius, 1915, 1916; Hall, 1916
R. papuanus Kirsch	,,	Johnston, 1965
R. schach Olivier	,,	,,
Trochorrhopalus strangulatus		,,
Dermestidae		
Dermestes ater de Geer	Copra	,,
Hemipelpidae		
Hemipelpus nuciferae	Leaf	,,
Lucanidae		
Eurytrachelus bucephalus Perty		Kuechenius, 1915
E. gypaetus Cast		Kuechenius, 1915
Melissoblaptes rufovenalis		Hall, 1916
Odontolabis bellicosus	Inflorescence	Johnston, 1965

(1)	(2)	(3)
Scarabaeidae—Dynastinae		
Oryctes centaurus Sternberg	Bud	Johnston, 1965
O. gnu Mohner		”
O. rhinoceros Linnaeus	Spindle, leaf, spathe	Kuechenius, 1915, 1916; Hall, 1916
Papuana woodlarkiana	Stem base	Johnston, 1965
Strategus aloeus Linnaeus		Mass & Woudenberg, 1970
Scapanes australis	Bud	Johnston, 1965
Xylotrupes gideon L.	Trunk	Kuechenius, 1915, 1916
Scarabaeide—Melolonthinae		
Exopholis hypoleuca Wied.	Leaf	Leefmans, 1929
Lepidoderma pica	Root	Johnston, 1965
Lepidiota stigma	”	”
	”	

IVORY COAST

Homoptera

(1)	(2)	(3)
Diaspididae		
Aspidiotus destructor Signoret		Mallarma rie, 1934
Coreidae		
Pseudotheraptus sp.	Nut	Julia & Mariau, 1978

	Lepidoptera		
Zygaenidae			
Chalconycles catori Jordan		Young palm	Lever, 1969
	Coleoptera		
Scarabaeidae—Dynastinae			
Oryctes monoceros Olivier			Lommel, 1925
O. boas Fabricius			Mariau, 1966
O. gigas Laporte de Castelneau			Lommel, 1925
O. owariensis Palisot de Beauvois			"
	JAMAICA		
	Thysanoptera		
Phlaeothripidae			
Nesothrips brevicollis Bagn		Leaf	Reinert & Nakahara, 1976
Scotothrips claripennis Moult		"	"
	Isoptera		
Termitidae			
Eutermes ripperti Rambur			Edwards, 1933
	Homoptera		
Aphididae			
Cerataphis sp.		Leaf	Ritche, 1917
Aleyrodidae			
Aleurodicus cocois Curtis		"	Gowdey, 1922

(1)	(2)	(3)
A. jamaicensis Cockerell	Leaf associated with Lethal Yellowing	Grylls & Hunt, 1971
Coccidae		
Asterolecanium palmae Morgan & Cockerell	Leaf	Edwards, 1935
Xanthophthalma concinna Cockerell & Pair	,,	Carter, 1967
Diaspididae		
Aspidiotus palmae Morgan & Cockerell	Leaf	Gowdey, 1922
Chrysomphalus aonidum L.	,,	Gowdey, 1922
Diaspis boisduvali Signonett	,,	Gowdey, 1924
Oeceticus abbotti	,,	Towdey, 1927
Pinnaspis buxi Bouche	,,	Ritchie, 1917
Vinsonia stellifera Westwood	,,	,,
Pseudococcidae		
Pseudococcus nirae Maskell	Leaf	Ritchie, 1917
Pseudoparlatoria ostreata Cockerell		
P. parlatorioides Comstock		
Cixiidae		
Haplaxius crudus van D.	Leaf associated with Lethal Yellowing disease	Waters, 1977

H. cocois Fennah		Leaf	Eden Green & Schniting, 1978
Proarna hilaris Germ.		Root	,,
Cicadellidae *Oncometopia nigricans*		Leaf associated with Lethal Yellowing	Tsai & Anwar, 1977
	Coleoptera		
Curculionidae *Macraspis tetradactyla* L.		Trunk	Ritchie 1917
Metamasius sericeus Olivier		Crown	Ritchie, 1917 & Ashly, 1917
Sternodontis damicornis		,,	Ritchie 1918
Scolytidae *Xyleborus perforans* Wollaston		Trunk	Gowdey, 1924
	KAMPUCHEA		
	Homoptera		
Diaspididae *Aspidiotus destructor* Signoret		Leaf	Johnston, 1965
	Lepidoptera		
Amathusiidae *Amathusia phidippus* Linnaeus		Leaf	Johnston, 1965
Noctuidae *Cyclodes omma* Van der Hoevn		Immature nut	Lever, 1969
	Coleoptera		
Curculionidae *Rhynchophorus ferrugineus* Fabricius		Trunk	Lever, 1969

(1)	(2)	(3)
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, spathe	Johnston, 1965
Xylotrupes gideon Linnaeus	Trunk	,,
KENYA		
Orthoptera		
Acrididae		
Nomadacris septemfasciata Serville	Leaf	Lever, 1969
Heteroptera		
Coreidae		
Pseudotheraptus (*Theraptus*) *wayi* Brown	Nut	Way, 1953; Brown, 1955
Coleoptera		
Scarabaeidae—Dynastinae		
Oryctes monoceros Olivier	Bud	Anderson, 1916
KOREA		
Heteroptera		
Tingidae		
Stephanitis typica Distant	Leaf	Lever, 1969
LAOS		
Lepidoptera		
Limacodidae		
Setora nitens Walker	Leaf	Lever, 1969

Noctuidae		
Cyclodes omma van der Hoeven	Immature nut	Lever, 1969
Coleoptera		
Scarabaeidae—Dynastinae		
Xylotrupes gideon L.	Crown	,,
MALAGASY REPUBLIC		
Orthoptera		
Acrididae		
Nomadacris septemfasciata	Leaf	Lever, 1969
Locusta migratoria migratorioides Reiche & Fairmaire	,,	Zolotarevsky, 1929
Isoptera		
Termitidae		
Nasutitermes laticeps Wasmann		Lever, 1969
Coleoptera		
Lymexylonidae		
Melittomma insulare Fairmaire	Trunk	Frappa, 1948
Chrysomelidae—Hispinae		
Gestronella lugubris	Leaf	Appert, 1974
G. centrolineata	,,	,,
Coelaenomenodera perrieri Fairmaire	,,	Mariau, 1975
Balyana sp.	,,	,,
Curculionidae		
Diocalandra taitensis Guerin	Leaf Inflorescence	Lever, 1969

(1)	(2)	(3)
Scarabaeidae—Dynastinae		
Oryctes augias Olivier	Spindle leaf, unopened inflorescence	Copeland, 1940
O. boas Fabricius	,,	Lever, 1969
O. gigas Laporte de Castelneau	,,	Bedford, 1968
O. colonicus Coqueral		Copeland, 1940
O. insularis Coqueral		,,
O. pyrrhus Burmiester		,,
O. ranavelo Coqueral		,,
O. cinnar Coqueral		,,
O. blucheaui Fairmaire		Bedford, 1968
Eugnoristus monachus Ol. var. *alluaudi* Hust.		Frappa, 1933

MALAYSIA

Orthopera

(1)	(2)	(3)
Acrididae		
Atractomorpha crenulataf F.	Leaf	Susainathan, 1924
A. psittacina de Hann	,,	,,
Catantops humilis Serville	,,	Johnston, 1965
C. splendens Thunberg	,,	Susainathan, 1924

Cyrtacanthacris luteicornis	Leaf	Johnston, 1965
Locusta migratoria manilensis Meyen	,,	Lewton-Brain, 1913
Oxya velox Fabricius	,,	Johnston, 1965
O. vicina	,,	,,
Patanga succincta Linnaeus	,,	,,
Valanga nigricornis Burmeister	,,	Corbett, 1924
Tagasta marginella Thunberg	,,	Susainathan, 1924
Tettigonidae		
Hexacentrus unicolor	Leaf	Johnston, 1965
Dermaptera		
Forficulidae		
Chelisoches nigronitens	Flower	Johnston, 1965
Isoptera		
Rhinotermitidae		
Coptotermes amboinensis	Trunk	FAO, 1962
C. curvignathus Holmgren	,,	Corbett, 1932
C. sinabangensis Oshima	Seedling	,, 1934
C. (Termes) gestroi Wasmann		Richards & Ponniah, 1914, 1917
Termitidae		
Amitermes (Globitermes) sulphureus Hav.	Leaf rachis	Corbett, 1934
Capritermes latignathus	Trunk	Johnston, 1965

(1)	(2)	(3)
Eutermes havilandi Fuller]	Trunk	Johnston, 1965
E. javanicus	,,	,,
Thysanoptera		
Thripidae		
Haplothrips ceylonicus Schmutz	Inflorescence	Johnston, 1965
Homoptera		
Aleyrodidae		
Aleurocanthus cocois Corbett	Leaf	Corbett, 1927
A. gateri Corbett	,,	,,
A. woglumi Ashby	,,	Johnston, 1965
A. yusopoi	,,	,,
Aleurodicus destructor Mackie	,,	Corbett, 1930
Dialeurodes (*Gigaleurodes*) *simmondsi* Corbett	,,	,, 1927
Aphididae		
Astegopteryx (*Oregma*) *nipae* van der Goot	,,	Hille Ris Lambers, 1953
A. rhapidis	,,	Johnston, 1965
Cicadidae		
Dundubia rufivena Walker	,,	,,
Cixiidae		
Oliarus cocosivora Muir	,,	Muir, 1929

Coccidae		
Ceroplastes actiniformis Green	Leaf	Johnston, 1929]
Coccus hesperidum (Linnaeus)	,,	,,
Derbidae		
Pamendanga pseudoabcissa	,,	,,
Phenice moesta	,,	,,
Diaspididae		
Aonidiella orientalis	Leaf	Johnston, 1965
Aspidiotus destructor Singnoret	,,	Corbett, 1932
A. orientalis	,,	Johnston, 1965
A. palmae	,,	,,
Chionaspis eugeniae	,,	,,
Chrysomphalus propsimus	,,	,,
Ischnaspis longirostris Signoret	,,	,,
Jassidae		
Bothrogonia ferruginea	,,	,,
Pseudococcidae		
Anomalococcus multipori Mor	,,	,,
Neosimmondsia hirsuta	,,	FAO, 1962
Heteroptera		
Coreidae		
Physomerus grossipes Fabricius	Leaf	Johnston, 1965

(1)	(2)	(3)
Tingidae		
Stephanitis typica Distant	Leaf	Johnston, 1965
Lepidoptera		
Amathusidae		
Amathusia gunneryi	Leaf	Johnston, 1965
A. phidippus Linnaeus	,,	Corbett, 1928
A. Phidippus chersias Linnaeus	,,	Johnston, 1965
Arctiidae		
Asura humilis	,,	,,
Cosmopterygidae		
Batrachedra arenosella Walkeı	Inflorescence	Corbett, 1922
Pyroderces dectyliota Meyrick	Flower	Meyrick, 1931
P. falcatella	,,	FAO, 1962
P. paroditis	,,	,,
P. ptilodelta Meyrick	Leaf	Corbett, 1922
Heliodinidae		
Stathmopoda adulatrix Meyrick	Fower	Corbett, 1929
Hesperiidae		
Cephrenes chrysozona niasico	Leaf	Johnston, 1965
C. palmarum	,,	,,
Corone palmarum	,,	FAO, 1962

Gangara thyrsis Moore	Leaf	Lever, 1969
Erionota (*Hidari*) *irava* Moore	,,	Lewton-Brain, 1913
Limacodidae		
Cania bilinea		Johnston, 1965
C. bandura Moore	,,	,,
C. sericea	,,	,,
Chalcoscelis albiguttata Snell	,,	Corbett, 1933
Darna trima	,,	FAO, 1962
Contheyla rotunda Hampson	Leaf, Flower, Immature nut	,,
Latoia lepida Cramer	Leaf	Corbett, 1930
Setora nitens Walker	,,	,, 1926
Suscia pallida	,,	Johnston, 1965
Trichogyia gateri	,,	,,
Lyonetidae		
Decadarchis carpophthora	Male flower	Johnston, 1965
D. flavistriata Wals.	Flower	,,
D. heterogramma Meyrick	Leaf	,,
D. scorpiura	Flower	Meyrick, 1931
D. spodomicta Meyrick	,,	Johnston, 1965
Erechthias flavistriata Wlsm.	Male flower, leaf	Corbett, 1922

(1)	(2)	(3)
Ereunetis ochrocrena	Flower	Johnston, 1965
Opogona dimidiatella Zell	,,	Corbett, 1929
O. leucodelta	,,	Johnston, 1965
Pieridae		
Delias hyparete	Leaf	,,
Psychidae		
Mahasena corbetti Tams	Leaf	Richard, 1917
Pyralidae		
Corcyra cephalonica Staint	Copra	Johnston, 1965
Doloessa viridis Zell.	,,	,,
Cadra (*Ephestia*) *cautella* Walker	Copra	Corbett, 1931
Tirathaba sp. nr. *trichogramma*	Flower	Corbett, 1922 a, b
Harpagoneura acrocausta	,,	Johnston, 1965
Meliphora grisella F.	Copra	,,
Satyridae		
Elymnias hypermnestra beatrice Linnaeus	Leaf	,,
Zygaenidae		
Artona catoxantha Hampson	Leaf	Lewton-Brain, 1913; South, 1914 ; Burkill, 1914.
Psocoptera		
Psocidae		
Psoquilla marginipunctata Hagen	Copra	Corbett 1933

Coleoptera

Chrysomelidae—Hispinae		
Brontispa longissima Gestro (*B. froggatti* Sharp)	Leaf	Lever, 1969
Plesispa reichei Chapius	,,	Baker, 1918
Promecotheca cumingi Baly	,,	Burkill, 1918
Cleridae		
Necrobia rufipes de Geer	Copra	Corbett & Dover, 1927
Colydiidae		
Euxestus basalis	Copra	Johnston, 1965
Cucujidae		
Ahasverus advena Waltl.	,,	Corbett, 1933
Europs gestroi Grouv.	Male flower	Johnston, 1965
Laemophloeus pusillus Schouh.	Copra	Corbett, 1933
Oryzaephilus (*Silvanus*) *surinamensis* L.		Johnston, 1965
Curculionidae		
Cathartus advena Waltl.	Copra	Corbett, 1931
Derelomorphus eburneus Marshall	Male flower	Corbett, 1929
Diocalandra frumenti Fabricius	Trunk	Susainathan, 1924
D. taitensis Guerin	,,	Corbett, 1922
Melanitis harterti Honrath	,,	Corbett, 1935
Pentarthrum cylindricum	Copra	Johnston, 1965
Rhynchophorus schach Olivier	Trunk	,,

R. ferrugineus Fabricius	Trunk	Richards, 1917; South, 1924
Trochorrhopalus strangulatus Gyl.		Corbett & Ponniah, 1934
Dermestidae		
Dermestes ater de Geer	Copra	Johnston, 1965
D. maculatus	,,	,,
Elateridae		
Anathesis laconoides Cand.	Male flower	Joqnston, 1965
Lacon sinensis Cand.	,,	,,
Lucanidae		
Eurytrachelus bucephalus Perty	Trunk, Petiole	Kuechenius, 1916
E. gypaetus Cast.	,,	,,
Metopodontus occipitalis Hope	,,	,,
Odontolabis bellicosus	Trunk, petiole	,,
O. gazella	Inflorescence	Johnston, 1965
O. latipennis	,,	,,
O. sinensis	,,	,,
Nitidulidae		
Carpophilus dimidiatus F.	Male flower, copra	Corbett, 1929
C. humeralis F. (*foveicollis* Murr.)	Male flower	Johnston, 1965
C. hemipterus Linnaeus	Copra	,,

C. maculatus	Copra	Johnston, 1965
C. mutilatus Erichson	,,	,,
C. obsoletus Erichson	,,	,,
C. vittiger	,,	,,
Haptoncus luteolus Erichson	,,	,,
Platypodidae		
Platypus cupulatus	Inflorescence	,,
P. turbatus	,,	,,
Scarabaeidae—Cetoninae		
Glycyphana sinuata Wall	Male flower	,,
Macronota regia	Leaf	,,
Pachnoda marginata	,,	,,
Protactia acuminata	Male flower	,,
Scarabaeidae—Dynastinae		
Chalcosoma atlas Linnaeus	Bud	Leefmans, 1931
Oryctes rhinoceros Linnaeus	Spindle leaf, spathe	Brown, 1912; Richards, 1917
O. trituberculatus Lansb.	Bud	Johnston, 1965
Xylotrupes gideon L.	Crown	Corbett & Ponniah, 1924
Scarabaeidae—Rutelinae		
Adoretus compressus Weber (*A. umbrosus* Burmeister)	Leaf	Corbett, 1924
Adoretus sinicus	,,	Johnston, 1965

(1)		(2)	(3)
Anomala pallida Fabricius		Leaf	Johnston, 1965
Tenebrionidae			
Alphitobius diaperinus Pz.		Copra	,,
A. laevigatus F.		,,	Corbett, 1933
Palorus subdepressus Wollaston		,,	Johnston, 1965
P. foveicollis Blair			Corbett, 1929
Platydema nucifera Blair		Flower	Corbett, 1929
Tribolium castaneum Hbst.		Copra	Corbett, 1931
Trogositidae			
Tenebroides nauritanicus L.		,,	Johnston, 1965
	Hymenoptera		
Formicidae			
Oecophylla smaragdina F.		Leaf	Johnston, 1965
	Diptera		
Cecidomyidae			
Silvestrina coprae Felt.		Copra	Johnston, 1965
	Acarina		
Tyroglyphidae			
Rhizoglyphus (?) *callae* Oudemans		Copra	Corbett, 1933
	MARIANA IS		
	Thysanoptera		
Phloeothripidae			
Phloeothrips kinugasai Kurosawa		Leaf	Kurosawa, 1937

	Coleoptera		
Chrysomelidae—Hispinae			
Brontispa mariana Spaeth		Leaf, Spike	Lever, 1969
Planispa castaneipennis Chujo		Shoot	Chujo, 1937
Curculionidae			
Rhabdoscelus obscurus Boisduval		Trunk	Bianchi & Owen, 1965
R. asperipennis Fairmaire		,,	,,
	MARQUESA Is		
	Orthoptera		
Phasmidae			
Craeffia crounai Le Guillou		Leaf	Lever, 1969
	MAURITIUS		
	Orthoptera		
Acrididae			
Nomadacris septemfasciata Serville		Leaf	,,
	Thysanoptera		
Phlaeothripidae			
Nesothrips brevicollis Bagn.		Leaf	Reinert & Nakahara, 1976
	Homoptera		
Coccidae			
Lepidosaphes vermiculus		Leaf	Mamet, 1937
Diaspididae			
Aspidiotus destructor Signoret		Leaf	Charmoy, 1928
Chrysomphalus ficus Ashmead		,,	Mamet, 1936

(1)		(2)	(3)
	Coleoptera		
Chrysomelidae-Hispinae *Brontispa limbata* Waterhouse			Lever, 1969
Scarabaeidae–Dynastinae *Oryctes rhinoceros* Linnaeus		Spindle leaf, unopened inflorescence	Vinson, 1963
	Acarina		
Tenuipalpidae *Raoiella indica* Hirst		Leaf	Moutia, 1958
Tetranychidae *Oligonychus pratensis* Banks		,,	Moutia, 1958
	MELANESIA		
	Orthoptera		
Acrididae *Oxya chinensis* Thunberg		Leaf	Lever, 1969
	Homoptera		
Aleyrodidae *Aleurodicus destructor* Maskell		Leaf	Lever, 1969
	Lepidoptera		
Cosmopterygidae *Batrachedra arenosella* Walker		Flower	,,
	Coleoptera		
Curculionidae *Diocalandra taitensis* Guerin		Young leaf, inflorescence	Lever, 1969

	MEXICO		
	Thysanoptera		
Phlaeothripidae *Scotothrips claripennis* Moult		Leaf	Reinert & Nakahara, 1976
	Homoptera		
Diaspididae *Acutaspis tingi*			Mckenzine, 1947
Pseudococcidae *Pseudococcus* sp.		Nut	Maskew, 1916
	Coleoptera		
Curculionidae *Rhynchophorus palmarum* L.		Trunk	Gonzalez & Camino, 1974
Rhinostomus (*Rhina*) *barbirostris* Fabricius			Lever, 1969
	Acarina		
Eriophyidae *Aceria guerreronis* Keifer		Nut	Ortega, Rodriguez & Garibay, 1965
	MOLUCCAS		
	Orthoptera		
Tettigonidae *Sexava novae-guinea* Brancsik			Froggatt, 1935
	Lepidoptera		
Limacodidae *Chalcocoelis albiguttata* Snell		Leaf	Ropke, 1935

	(2)	(3)
Thosea moluccana Roepke	Leaf	Ropke, 1935
Coleoptera		
Chrysomelidae-Hispinae		
Promecotheca soror Maulik	”	Maulik, 1929
Curculionide		
Rhabdoscelus obscurus Boisduval	Trunk	Lever, 1969
MOZAMBIQUE		
Thysanoptera		
Phalaeothripidae		
Scotothrips claripennis Moult	Leaf	Reinert & Nakahara, 1976
Homoptera		
Aphididae		
Cerataphis variabilis Hille Ris Lambers	Leaf	Anonymous, 1970
Lepidoptera		
Limacodidae		
Latoia lepida Cramer	Leaf	Lever, 1969
Trogocrada deleter Tams	”	”
NEW CALEDONIA		
Orthoptera		
Phasmidae		
Graeffia crouani Le Guillou	Leaf	Johnston, 1965

Hormachus pythonius	Leaf	Johnston, 1965
Tettigonidae		
Pseudophyllanax imperialis		,,
Embioptera		
Embiidae		
Oligotoma oceanica	,,	,,
O. saundersii Westwood	,,	,,
Homoptera		
Aleyrodidae		
Aleurodicus destructor Mackie	Leaf	Risbec, 1936
Aleurocanthus sp.	,,	,,
Dialeurodicus elongatus Dumbleton	,,	Cohic, 1959
Aphididae		
Cerataphis lataniae Boisduval	Leaf	Johnston, 1965
Coccidae		
Ceroplastes rubens Maskel		,,
Eucalymnatus perforatus		,,
Lacanium (Eucalymatus) tessallatus Signoret		,,
Derbidae		
Phaciocephalus rubrofasciata		,,
Diaspididae		
Abgrallaspis cyanophylli		,,
Aspidiotus hederae Vall.	Leaf	Cohic, 1959

(1)	(2)	(3)
A. destructor Signoret	Leaf, nut	Risbec, 1936
Aulacaspis cinnamomii		Johnston, 1965
Chrysomphalus ficus Ashmead		Cohic, 1959
Fiorinia fioriniae Targ.		Johnston, 1965
Pinnaspis aspidistrae Signoret	Leaf	,,
P. strachani Cooley	,,	,,
Margarodidae		
Icerya seychallarum Westwood	Leaf	,,
Pseudococcidae		
Dysmicoccus palmarum		Johnston, 1965
Pseudococcus cocotis Maskell	Trunk	
Tychea palmarum		Johnston, 1965
Lepidoptera		
Pyralidae		
Agonoxena sp.	Leaf	Risbec, 1931
Tirathaba rufivena Walker	Inflorescence	Risbec, 1934
Coleoptera		
Chrysomelidae—Hispinae		
Brontispa longissima Gestro (*B. froggatti* Sharp)	Leaf	Jacques, 1930, 1940; Cohic, 1961

Plesispa cocotis Maulik		Maulik, 1933
Curculionidae		
Diocalandra taitensis Guerin	Spathe, trunk	Risbec, 1934
Rhynchophorus ferrugineus Fabricius	Trunk	Jacques, 1930
NEW HEBRIDES		
Orthoptera		
Phasmidae		
Graeffia crouani Le Guillou (*G. cocophaga* Newport)	Leaf	Cohic, 1953
Isoptera		
Termitidae		
Nasutitermes novarum-hebridarum Holmgren		Lever, 1969
Homoptera		
Aleyrodidae		
Aleurodicus destructor Maskell	Leaf	Johnston, 1965
Astegopteryx nipae van der Goot (*Oregma nipae* van der Goot)	,,	,,
Coccidae		
Platylecanium cocotis Laing	Leaf	Simmonds, 1924
Diaspididae		
Aonidiella aurantii Maskell	,,	Lever, 1969
A. eremocitri Mckenzie	,,	Mckenzie, 1946
Aspidiotus destructor Signoret	,,	Simmonds, 1924

(1)		(2)	(3)
A. cyanophylli Signoret		Leaf	
Aulacaspis cinnamonii v. *mangiferae* Newstead			Simmonds, 1924
Diaspis sp.			Cohic, 1953
Pseudococcidae			
Pseudococcus sp.			Cohic, 1953
Pentatomidae	Heteroptera		
Axiagastus cambelli Distant		Inflorescence	Simmonds, 1925
Agonoxenidae	Lepidoptera		
Agonoxena argaula Meyrick		Inflorescence	Cohic, 1953
Cosmopterygidae			
Batrachedra arenosella Walker		”	Simmonds, 1924
Pyralidae			
Tirathaba trichogramma Meyrick		”	Risbec, 1934
T. complexa Butler		”	
T. rufivena Walker		Inflorescence, nut	Risbec, 1934
Chrysomelidae—Hispinae	Coleoptera		
Brontispa longissima Gestro		Leaf	Lever, 1946
Promecotheca opacicollis Gestro		”	Copeland, 1914; Simmonds, 1924

Curculionidae		
Diocalandra taitensis Guerin	Trunk, inflorescence	Risbec, 1934
Nodocnemus uniformis	Male flower	Johnston, 1965
Rhabdoscelus obscurus Boisduval	Trunk	,,
Lucanidae		
Odontolabis lafertei		Johnston, 1965
Scarabaeidae—Cetoninae		
Poecilopharis emilia	Male flower	,,
Scarabaeidae—Dynastinae		
Oryctes centaurus Sternberg	Bud	,,
Papuana woodlarkiana	Bole	,,
Xylotrupes asperulus	Trunk	,,
*X. gideon*L. (*X. nimrod* Volt.)	,,	Risbec, 1934
Scarabaeidae—Cetoninae		
Ischiopsopha esmeralda Walker	Pollen	Simmonds, 1924
Temnoschoita quadrimaculata Gyllenhall		Peacock, 1913
PALAU Is		
Orthoptera		
Tettigonidae		
Segestes unicolor Redtenbacher	Leaf	Lever, 1969
Coleoptera		
Curculionidae		
Rhabdoscelus obscurus Boisduval	Trunk	Bianchi & Owen, 1965

(1)	(2)	(3)
R. asperipennis Fairmaire	Trunk	Bianchi & Owen, 1965
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, unopened inflorescence	Lever, 1969
PANAMA		
Isoptera		
Termitidae		
Nasutitermes ephrates Holmgren	Petiole, leaf sheath	Lever, 1969
Homoptera		
Diaspididae		
Aonidiella orientalis Newstead		Mckenzie, 1946
Lepidoptera		
Brassolidae		
Brassolis isthmia G. & S.	Leaf	Copeland, 1914; Dunn, 1917
PAPUA NEW GUINEA		
Orthoptera		
Gryllidae		
Cardiodactylus novae-guineae Hann	Leaf	Johnston, 1965
Tetigonidae		
Eumossula gracilis Willemse	,,	Willemse, 1958

Pseudonicsona szentia Willemse	Leaf	Willemse, 1958
Sequestidea hanoverana Willemse	,,	Johnston, 1965
S. insulana Willemse	,,	,,
Sexava novae-guinea Brancsik	,,	Froggatto, 1935
S. nubila stal	,,	FAO, 1962
S. coriacea Linnaeus	,,	,,
Isoptera		
Termitidae		
Macrotermes gilvus Hagen	Seedling	Lever, 1969
Microtermes biroi Desmeux		FAO, 1962
Nasutitermes noverum-hebridarum Holmgren		Johnston, 1965
Rhinotermitidae		
Coptotermes curvignathus Holmgren		Lever, 1969
Homoptera		
Aleyrodidae		
Aleurodicus cocois	Leaf	Anonymous, 1927
A. destructor Maskell	,,	Johnston, 1965
Aphididae		
Astegopteryx nipae van der Goot	,,	,,
Cerataphis lataniae Boisduval	,,	,,
Diaspididae		
Aspidiotus destructor Signoret	,,	Simmonds, 1924
A. lataniae Signoret		

	(2)	(3)
Chrysomphalus dictyospermi Morgen	Leaf	Johnston, 1965
Hemiberlesia cyanophilli		,,
H. lataniae Signoret		,,
H. palmae		,,
Ischnaspis longirostris Signoret	,,	,,
Pseudococcidae		
Mutabilicoccus simmondsi		Johnston, 1965
Steatococcus samaraius		,,
Lophopidae		
Zophiuma lobulata Ghauri	Leaf	Bourke *et al.*, 1973
Heteroptera		
Coreidae		
Amblypelta lutescens papuensis Brown	Flower, nut	Szent-Ivary & Catley, 1960
A. cocophaga China	,,	Smee, 1965
Lygaeidae		
Astacops dorycus	Leaf	Johnston, 1965
Pentatomidae		
Agapophyta bipunctata Boisduval	,,	Froggatt, 1936
Axiagastus cambelli Distant	Nut	FAO, 1962
Tingidae		
Stephantis typica Distant	Leaf	Lever, 1969

Lepidoptera

Agonoxenidae		
Agonoxena pyrogramma Meyrick		Simmonds, 1925
Cosmopterygidae		
Batrachadra arenosella Walker	Flower	Smee, 1965
Zygaenidae		
Artona catoxantha Hampson	Leaf	FAO, 1962
Hesperiidae		
Corone palmarum Moore	Leaf	Simmonds, 1924
Cephrenes spp.	,,	
Telicota bambusae Moore	,,	Froggatt, 1936
Lasiocampidae		
Darala rubeola	Leaf	Johnston, 1965
Limacodidae		
Chalcocelis albiguttata	Leaf	Lever, 1969
Decadarchis flavistriata Wals.	,,	Johnston, 1965
D. ophicypha Meyrick	,,	Froggatt, 1936
Latoia lepida Cramer	,,	Johnston, 1965
Orthocraspeda catenatus Snellen	,,	Lever, 1969
Setora nitens Walker	,,	,,
Thosea cinereomarginata	,,	Anonymous, 1927
T. sinensis Walker	,,	Bourke *et al.*, 1973

(1)	(2)	(3)
Lyonetidae		
Opogona taochroa	Spathe	Johnston, 1965
Pyralidae		
Tirathaba ignevena Hampson	Flower	,,
T. rufivena Walker	,,	Froggatt, 1936
Psychidae		
Mahasena corbetti Trans	Leaf	Lever, 1969
Noctuidae		
Prodenia litura F		Froggatt, 1936
Coleoptera		
Chrysomelidae—Hispinae		
Brontispa longissima Gestro (*B. froggatti* Sharp)	Leaf	O'connor, 1940
Oxycephala papuana Gestro	,,	Froggatt, 1936
O. corniger Guerin	,,	,,
O. wallacei Baly	,,	,,
Plesispa ruficollis Spaeth	,,	,,
Promecotheca papuana Csiki (*P. antiqua* Weise)	,,	Copeland, 1914
Cucujidae		
Oryzaephilus surinamensis L.	Copra	Johnston, 1965

Curculionidae		
Barystethus cleutsi	Male flower	Johnston, 1965
Diocalandra frumenti Fabricius	Trunk	,,
D. taitensis Guerin	Spathe, trunk	,,
Meredolus cocotis	Male flower	,,
Lophotectes pencilliger	Inflorescence	,,
Rhabdoscelus obscurus Boisduval	Trunk	,,
Rhynchophorus kaupi	,,	,,
R. papuanus Krisch	,,	,,
R. ferrugineus Oliver	,,	Simmonds, 1924
R. schach Olivier	,,	Johnston, 1965
R. bilineatus Montr	Bud, trunk	Bourke et al., 1973
Rhabdocnemis obscura Boisduval	Trunk	Simmonds, 1924
Sparganobasis subcruciatus Marshall	Bole	Froggatt, 1936
Lucanidae		
Cyclommatus margaritae Gestro	Spathe	Froggatt, 1936
C. speciosus Boisduval	,,	,,
Eurytrachelus egregius Moll	Male flower	Froggatt, 1936
E. pilosipes Waterhouse		Simmonds, 1924
Metopondotus bison F.	Male flower	Froggatt, 1936
Scarabaeidae—Cetoninae		

(1)	(2)	(3)
Ischiopsopha wallacei		FAO, 1962
Lomaptera batchiana Thoms.	Male flower	Froggatt, 1936
Panglaphyra duboulayi Thoms.	,,	,,
Poecilopharis emilia White	,,	,,
Scarabaeidae—Dynastinae		
Camelonotus nasutes Bates		Copeland, 1914
Oryctes centaurus Sternberg	Bud	Smee, 1965
O. rhinoceros Linnaeus	,,	Bedford, 1974
O. preussi Kolbe	,,	Copeland, 1914
Oryctoderus coronatus Bates	,,	Beford, 1974
O. latitarsus Boisduval	Trunk	Copeland, 1914
O. nanus	,,	FAO, 1962
Papuana laevipennis	Bole	,,
P. woodlarkiana	,,	Johnston, 1965
Pimelopus spp.		Copeland, 1914
Scapanes australis Boisduval	Bud	,,
S. brevicornis	,,	FAO, 1962
S. grossepunctatus Sternberg	,,	Copeland, 1914
Strategus australis grossepunctatus Sternberg	Bud	Bedford, 1974

S. a. salomonensis Sternberg		Bud	Bedford, 1974
S. a. australis Boisduval		,,	,,
Trichogomphus fairmairei Arr.		Bud	,,
T. semmelinki Ritz		,,	Simmonds, 1924
Xylotrupes lorquini		,,	FAO, 1962
	Hymenoptera		
Formicidae *Oecophylla smaragdina* F.		Fosters noxious coccids	Simmonds, 1925
	PHILIPPINES		
	Orthoptera		
Acrididae *Atractomorpha psittacina* Serville		Leaf	FAO, 1962
Cantantops splendens Thunberg		,,	,,
Locusta migratoria manilensis Meyen		,,	Uichanco, 1936
Oxya velox Fabricius		,,	FAO, 1962
Trilophidia annulata		,,	,,
	Isoptera		
Termitidae *Hospitalitermes luzonensis*		Trunk	FAO, 1962
Microcerotermes losbanosensis		,,	,,
Nasutitermes luzonicus		,,	,,
	Homoptera		
Aleyrodidae *Aleurodicus destructor* Quaint		,,	Copeland, 1914

(1)	(2)	(3)
Cerataphis lataniae Boisduval	Leaf	FAO, 1962
Coccidae		
Coccus mangiferae Green	,,	,,
Paralecanium expansum quadratum Green	,,	FAO, 1962
Saissetia triangularum Nietner		Morrison, 1920
Derbidae		
Eosaccharissa pulchra Muir	Leaf	FAO, 1962
Horonax maculipennis Mel.	,,	,,
Nesokaha lineata Muir	,,	,,
N. philippina Muir	,,	,,
N. rubrinervis Muir	,,	,,
Pseudococcidae		
Ferrisia virgata Cockerell		FAO, 1962
Pseudococcus pandani Cockerell		Herms, 1926
Diaspididae		
Aonidiella comperei McKenzie		McKenzie, 1946
A. orientalis Newstead		,,
Aspidiotus coryphae Cockerell & Robinson		Munting, 1977
A. destructor Signoret	Leaf	Copeland, 1914
A. lataniae		FAO, 1962

A. palmae		FAO, 1962
Chrysomphalus ficus Ashmead (*aonidum* Linnaeus)		Merino, 1929
C. propsimus		FAO, 1962
Furcaspis haematochroa Cockerell	Leaf	Johnston, 1965
Lepidosaphes gloveri	,,	,,
L. megregori Banks	,,	,,
L. unicolor Banks	,,	,,
Parlatoria cryptonis	,,	,,
Phenacaspis inday (Banks)	,,	,,
Pinnaspis strachani Cooley	,,	FAO, 1962
Pinnaspis (*Hemichionaspis*) *aspidistrae* Signoret	,,	Herms, 1926
Jassidae		
Bothrogonia ferruginea	,,	FAO, 1962
Margarodidae		
Icerya scychellarum Westwod	,,	,,
Heteroptera		
Tingidae		
Stephanitis typica Distant	Leaf	,,
Lepidoptera		
Amathusiidae		
Amathusia phidippus Linnaeus		,,
Hesperiidae		
Cephrenes chrysozona Plotz.	Leaf	Johnston, 1965

		(3)
Erionota thrax Linnaeus		
Gangara thyrsis Moore	Leaf	Silayan, 1938
Telicota palmarum Moore	,,	Lever, 1969
Limacodidae	,,	,,
Latoia lepida Cramer		
Thosea cinereomarginata Banks	Leaf	FAO, 1962
T. sinensis Walker	,,	Copeland, 1914
Pyralidae	,,	FAO, 1962
Tirathaba rufivena Walker		
Zygaenidae		Pierce, 1934
Artona catoxantha Hampson		
Padraona chrysozona Plotz.	Leaf	Silayan, 1938
	,,	Mackie, 1917
Coleoptera		
Chrysomelidae—Hispinae		
Brontispa angulosa		
B. banguiensis	Leaf	Johnston, 1965
B. depressa	,,	,,
B. surigaoana	,,	,,
Plesispa reichei Chapius	,,	,,
Promecotheca cumingi Baly	,,	FAO, 1962
	,,	Copeland, 1914

Cleridae		
Necrobia rufipes de Geer	Copra	Herms, 1926
Cucujidae		
Oryzaephilus surinamensis	,,	Johnston, 1965
Curculionidae		
Diocalandra frumenti F.	Trunk	Copeland, 1914
D. taitensis Guerin	Inflorescence	Herms, 1926
Oxydema fusiforme Wollaston	Leaf sheath	Herms, 1926
Rhabdoscelus lineatocollis	Trunk	,,
Rhynchophorus ferrugineus F.	,,	Mackie, 1917
R. pascha Boh.	,,	FAO, 1962
R. schach Olivier	,,	,,
Melyrididae		
Prionocerus coeruleipennis	Stamen	Johnston, 1965
Oedemeridae		
Ananca collaris Sharp	Pollen	Herms, 1926
A. decolor Fairmaire	,,	,,
Platypodidae		
Platypus jansoni	Trunk	Johnston, 1965
Scarabaeidae—Dynastinae		
Chalcosoma atlas L.	Bud, Trunk	Johnston, 1965
Oryctes rhinoceros L.	Spindle leaf, Unopened inflorescence	Banks, 1906; Mackie, 1917

(1)	(2)	(3)
O. gnu Mohner	Bud	Lever, 1969
Scapanes australis Boisduval	Bud	Leefmans, 1931
Xylotrupes gideon L. (*X. nimrod Voet*)	Bud, trunk	Copeland, 1914
X. lorquini Deyr	Bud	,,
Scarabaeidae—Melolonthinae *Leucopholis irrorata*	Leaf	Johnston, 1965
Scarabaeidae—Rutelinae *Adoretus luridus*	Leaf	Johnston, 1965
Scolytidae *Xyleborus confusus* Eich.	Nut	Herms, 1926
Acarina		
Eriophyidae *Acathrix trymatus* Keifer	Leaf	Keifer, 1962, 1963; Briones, 1963
Dialox stellatus Keifer	,,	,,
Notostrix attenuata Keifer	,,	Keifer, 1962, 1963; Briones, 1963
Scolocerius spiniferous Keifer	,,	Johnston, 1965
POLYNESIA		
Orthoptera		
Phasmidae *Graeffia crouani* Le Guillou	Leaf	Johnston, 1965

G. lifuensis Sharp	Leaf	Johnston, 1965
Isoptera		
Kalotermitidae		
Kalotermes immigrans	Trunk, leaf	„
Homoptera		
Diaspididae		
Aspidiotus destructor Signoret	Leaf, petiole, nut	Johnston, 1965
Lepidosaphes gloveri	Leaf	„
Pinnaspis aspidistrae Signoret	„	„
Pseudococcidae		
Dysmicoccus palmarum		„
Pseudococcus swezeyi		
Lepidoptera		
Lyonetidae		
Decadarchis psammaula Merick		„
Coleoptera		
Chrysomelidae—Hispinae		
Brontispa longissima Gestro	Leaf	„
Curculionidae		
Diocalandra taitensis Guerin	Trunk, spathe	„
Rhabdoscelus obscurus Boisduval		„
Oedemeridae		
Sessinia livida		„

(1)	(2)	(3)
Scolytidae		
Xyleborus perforans Wollaston	Trunk	Johnston, 1965
	Hymenoptera	
Ortalidae		
Scholastes bimaculatus Hendel	Green copra	,,
	PUERTO RICO	
	Isoptera	
Termitidae		
Eutermes morio		Catoni, 1922
	Homoptera	
Aleyrodidae		
Aleurodicus cocois		Catoni, 1922
A. antillensis		Wolcott, 1936
Diaspididae		
Aonidiella orientalis Newstead		McKenzie, 1946
Aspidiotus destructor Signoret		Catoni, 1923
Ischnaspis longirostris Signoret		Bartlett, 1944
Pinnaspis buxi Bouche	Leaf	
Vinsonia stellifera		Catoni, 1922
Coccidae		
Insulaspis vermicula Mamet (*Lepidosaphes vermiculus*)		USDA, 1978

Pseudococcidae		
Pseudococcus nipae Palisot de Beauvois	Seedling	Catoni, 1922; Crespa, 1920
Coleoptera		
Curculionidae		
Metamasius hemipterus		Catoni, 1922
Scarabaeidae—Dynastinae		
Strategus quadrifoveatus Palisot de Beauvois	Seedling	Crespo, 1920
Scarabaeidae–Melolenthinae		
Lachnosterna (*Phyllophaga*) *portoricensis*		Catoni, 1922
Scolytidae		
Platypus sp.		Catoni, 1922
SAMOA		
Orthoptera		
Phasmidae		
Graeffia crounai Le Guillou (*Cocophaga* Newport)	Leaf	FAO, 1976
Graeffia minor Br.	,,	Swezey, 1924
Isoptera		
Termitidae		
Microcerotermes paraffinis		Johnston, 1965
Homoptera		
Diaspididae		
Aspidiotus destructor Signoret	Leaf, nut	Laing, 1927

A. pangoensis Doane & Ferris	Leaf	Doane & Ferris, 1916
Chionaspis samoana Doane & Ferris	,,	,,
Pinnaspis strachani	,,	Johnston, 1965
P. minor Maskel		Laing, 1927
Spinaspidiotus pangoensis	,,	Johnston, 1965
Pseudococcidae		
Pseudococcus cocotis Maskell	Leaf	Laing, 1927
Pentatomidae		
Tectocoris lineola var. *tongae* Boisduval		Hopkins, 1927
	Lepidoptera	
Agonoxenidae		
Agonoxena argaula Meyrick	Leaf	Simmonds, 1924
Lyonetidae		
Decadarchis euophthalma Meyrick	,,	Simmonds, 1925
Hectaema indicatrix Meyrick	,,	,,
	Coleoptera	
Chrysomelidae—Hispinae		
Promecotheca coerulipennis	Leaf	Johnston, 1965
P. lindingeri Aulman	,,	Aulman, 1914
P. reichei Baly	,,	Swezey, 1924

Curculionidae		
Diocalandra frumenti Fabricius	Trunk	Johnston, 1965
D. taitensis Guerin	Trunk, Spathe	Swezey, 1924
Nodocnemus uniformis	Male flower	Johnston, 1965
Lucanidae		
Alcimus dilatatus Fairmaire	Trunk, petiole	Kuechenius, 1916
Eurytrachelus intermedius Gestro	Flower, bud	,,
Metopodentus cinctus Gestro	,,	,,
Rhabdocnemis obscura Boisduval	,,	Swezey, 1924
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, unopened inflo-rescence	,,
Hymenoptera		
Ortalidae		
Scholastes bimaculatus Hendel	Copra	Swezey, 1924

SAO THOME & PRINCIPE

Homoptera

Diaspididae		
Abgrallaspis palmae Morgan & Cockerell		Fernandez, 1974
Aspidiotus destructor Signoret		Castel–Branco, 1956; Fernandez, 1974
A. palmae Morgan & Cockerell		Kade, 1930
Pinnaspis (Hemichionaspis) aspidistrae Signoret		De Seabra, 1922

(1)	(2)	(3)
Pinnaspis buxi Bouche		Fernandez, 1974
Pseudaonidia trilobitiformis Green		Kaden, 1930
Vinsonia stellifera Westwood		Fernandez, 1974
Scarabaeidae—Dynastinae		
Oryctes latecavatus Fairmaire		Navel, 1921
Acarina		
Eriophyidae		
Aceria guerreronis Keifer	Nut	Cabral & Carmona, 1968
SENEGAL		
Lepidoptera		
Hesperiidae		
Zophopetes dysmephila Trimen	Leaf	FAO, 1964
SEYCHELLES		
Orthopterea		
Phasmidae		
Graeffea lifuensis Sharp	Leaf	Lever, 1969
Isoptera		
Rhinotermitidae		
Coptotermes truncatus Wasmann	”	”
Homoptera		
Coccidae		
Chrysomphalus aonidum L. (*Aspidiotus ficus* Ashmead)	Leaf	Green, 1916

Chrysomphalus (*Aspidiotus*) *dictyospermi* Morgan (*C. ficus* Ashmead)	Leaf	Dupont, 1917; Green, 1916
Eucalymnatus (*Lecanium*) *tessellatus* Signoret		Dupont 1916
Lepidosaphes duponti	Leafstalk	Green 1916
Diaspididae		
Aspidiotus (*Chrysomphalus*) *ansei* Green	Leaf	,,
A. lataniae Signoret	,,	Dupont 1917
Aulacaspis major Cockerell (*flacourtiae* Rthf.)		,, 1931
Chionaspis dilatata	,,	,, 1918
C. inday		,, 1917
Eugnoristus braueri		,, 1918
Ischnaspis longirostris (filiformis) Signoret	Leaf, flower, nut	,, 1918
Pinnaspis aspidistrae Signoret		,, 1931
P. buxi Bouche	Leaf, flower, nut	,, 1925
P. minor Maskell		,, 1931
Pseudaonidia (A) *trilobitiformis* Green		,, 1926
Pseudococcidae		
Icerya seychellarum Westwood		,, 1918
Delphacidae		
Stenocranus sp.		Vesey-Fitzzerald, 1938
	Coleoptera	
Lymexylonidae		
Melittomma insulare Fairmaire	Trunk	Copeland, 1914; Dunpont, 1917

(1)	(2)	(3)
Curculionidae		
Diocalandra frumenti F. (*Calandra stigmaticollis* Gyll)	Trunk, leaf, Inflorescence	Dupont, 1916
Scarabaeidae-Dynastinae		
Oryctes monoceros Olivier	Spindle leaf, unopend inflorescence	Vesey-Fitzzerald, 1941
O. rhinoceros Linnaeus	,,	,,
Hymenoptera		
Formicidae		
Technomyrmex detorquens Walker		
Acarina		
Tetranychidae		
Tetranychus fijiensis Hirst	Leaf	Gutierrez, 1974
SIERRA LEONE		
Homoptera		
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Hargreaves, 1927
A. elaeidis March	,,	,,
A. gowdeyi Newstead	,,	,,
A. (Targionia) sacchari Cockerell	,,	Laing, 1929
Ctenochiton arborescens Laing		Hargreaves, 1927

Pinnaspis buxi Bouche		Leaf	Hargreaves, 1927
Selenaspidus articulatus Morgan			"
S. kamerunicus Lindiger			"
Derbidae			
Diostrombus (Camma) dilatatus Westwood			"
D. nitidus Muir			"
Kamendaka albomaculata Muir			"
Lydda cocos Muir			Muir, 1926
	Coleoptera		
Curculionidae			
Coelaenomenodera elaeidis Maulik		Leaf	Hargreaves, 1927
Rhina afzelii Fhs.		Trunk	"
Zónozerus variegatus L.		Leaf	"
	SINGAPORE		
	Coleoptera		
Chrysomelidae-Hispinae			
Promecotheca cumingi Baly		Leaf	Lever, 1969
	SOCIETY Is		
	Orthoptera		
Phasmidae			
Graeffia crounai Le Guillou		Leaf	"

(1)	(2)	(3)
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Simmonds, 1925
SOLOMON Is.		
Orthoptera		
Acrididae		
Oxya gravisa	Leaf	Johnston, 1965
Gryllidae		
Cardiodactylus novaeguinea	,,	FAO, 1964
Phasmidae		
Graeffia crounai Le Guillou	,,	Johnston, 1965
G. rosea Stoll	,,	Lever, 1936
Megacrania phelaus Westwood	,,	,,
Ophiocrania leveri	,,	,,
Tettigonidae		
Phisis pectinata	,,	Johnston, 1965
Isoptera		
Rhinotermitidae		
Schedorhinotermes majoriae Snyder	Root	Harris & Brown, 1958
S. solomonensis Snyder	,,	
Termitidae		
Microcerotermes biroi Desn		Harris & Brown, 1958

M. piliceps Snyder	Petiole	Lever, 1934
Nasutitermes novarumhebriderum Holmgren (*Eutermes yandiniensis* Hill)	Trunk	Lever, 1934; Harris & Brown, 1958
Homoptera		
Cixiidae		
Euryphlespia cocos Muir	Leaf	FAO, 1962; Johnston, 1965
Diaspididae		
Aonidiella eremocitri Mckenzie	”	McKenzie, 1946
Aspidiotus destructor Signoret	Leaf, nut	Simmonds, 1924
Hemiberlesia lataniae Signoret	Leaf	Johnston, 1965
H. palmae	”	”
Spinaspiditous pangoensis		FAO, 1962
Coccidae		
Trionymus malaitensis Cockerell	Spathe, nut	Cockerell, 1929
Lophopidae		
Painella simmondsi		Johnston, 1965
Pseudococcidae		
Dysmicoccus brevipes	Root	Johnston, 1955
Laminicoccus cocois		”
L. giffardi		”
Mutabilicoccus simmondsi		”
Neosimmondsia hirsuta		”

(1)		(2)	(3)
Palmicola browni		eaf	Johnston, 1965
Paraputo kukumi		Root	”
P. leveri			”
Phenacoccus horridus Green (*Heterococcus painei* Laing)		Nut	Lever, 1936
Planococcus citri (Risso)		Leaf	FAO, 1964
Pseudococcus cocotis Maskel		Female flower	Lever, 1933
P. leveri Green			Green, 1934
	Heteroptera		
Coreidae			
Amblypelta cocophaga China		Nut	China, 1934
A. costalis Van D.		”	Brown, 1959
A. cristobalensis Brown		”	”
A. gallegonis Lever		”	”
Pentatomidae			
Axiagastus cambelli Distant		Nut, flower	Tothill, 1929
	Lepidoptera		
Agonoxenidae			
Agonoxena pyrogramma Meyrick		Leaf	Meryick, 1924 ; Simmonds, 1925
Brassolidae			
Brassolis sophorae L.		”	Van Dinther, 1956

Cosmoptergidae		
Batrachedra arenosella Walker	Inflorescence	Simmonds, 1924
Labdia semiramis	,,	Johnston, 1965
Pyroderces paroditis	Flower	,,
Castnidae		
Lapaeumides (*Castnia*) *daedelus* Cramer		Van Dinther, 1956
Heliodinidae		
Stathmopoda nucivora Meyrick	Nut	Meyrick, 1932
Hesperiidae		
Corone palmarum Moore	Leaf	Simmonds, 1924
Telicota bambusae	,,	Johnston, 1965
Lyonetidae		
Decadarchis carpophthora Meyrick	Male flower	Meyrick, 1932
D. enophthalama Meyrick		Simmonds, 1925
D. flavistriata	Flower	Johnston, 1965
D. heliotaxa Meyrick	Male flower	Meyrick, 1934
Hectaema indicatrix Meyrick	Leaf	Simmonds, 1925
Pyralidae		
Cadra cautella Walker	Copra	Johnston, 1965
Tirathaba rufivena Walker	Inflorescence	Simmonds, 1924
T. mundella Walker	,,	

(1)	(2)	(3)
Coleoptera		
Anthribidae		
Araecerus fasciculatus De Geer	Copra	Johnston, 1965
Chrysomelidae—Hispinae		
Aulostyrax nuciferae Maulik	Leaf	Maulik, 1929
Brontispa longissima Gestro (*B. froggatti* Sharp)	”	Simmonds, 1924; Lever, 1936, 1946
Oxycephala testacea		Johnston, 1965
Promecotheca opacicollis Gestro	Leaf	Lever, 1934
Cleridae		
Necrobia rufipes De Geer	Copra	Lever, 1934
Cucujidae		
Oryzaephilus (Silvanus) surinamensis L.	Copra	Lever, 1934
O. mercator Fauvel	Copra	Johnston, 1965
Curculionidae		
Diocalandra frumenti Fabricius	Trunk, leaf, inflorescence	FAO, 1962
D. taitensis Guerin	Trunk, spathe	Simmonds, 1924
Meredolus cocotis Marshall	Male flower	Marshall, 1935
Nodocnemis uniformis Marshall	”	FAO, 1964
Rhynchophorus ferrugineus Fabricius	Trunk	Simmonds, 1924

R. schach Olivier	Trunk	Lever, 1936
Rhabdocnemis obscura	,,	Simmonds, 1924
Dermestidae		
Dermestes ator	Copra	Johnston, 1965
Elateridae		
Simodactylus cinnamomeus Boisduval	Male flower	,,
Nitidulidae		
Carpophilus dimidiatus F.	Copra, Male flower	Lever, 1933
Lucanidae		
Eurytrachelus pilosipes Waterhouse	Trunk, petiole	Kuechenius, 1916; Simmonds, 1924
Scarabaeidae—Cetoninae		
Glycyphana brunnipes Kby		Lever, 1933
Macronota regia F.		,,
Panglaphyra duboulayi marginicollis		Johnston, 1965
Sparganobasis subcruciatus Marshall	Bole, Trunk	Simmonds, 1924
Scarabaeidae—Dynastinae		
Oryctes preussi Kolbe	Bud	
Papunana laevipennis Arrow.	Bole	FAO, 1964
Scapanes grossepunctatus Sternberg	Bud	,,
S. australis	,,	
Trichogomphus fairmarirei Arrow.	Bud	FAO, 1964
T. semmilinki Ritz	,,	Simmonds, 1924

		(2)	(3)
Xylotrupes lorquini			
X. gideon L. (*nimrod* Voet).			Simmonds, 1924
Scarabaeidae—Rutelinae			FAO, 1964
Parastasia inconstans Fairmaire			
Tenebrionidae			Lever, 1933
Amarygmus hydrophiloides Fairmaire		Bark	Lever, 1933
Ischiopsopha esmeralda Walker		Pollen	Simmonds, 1924
Pediris (*Setenis*) *sulcigera* Boisduval		Trunk	Lever, 1933
Tribolium castaneum Hbst.		Copra	,, 1934
Ortalidae	Diptera		
Scholastes cinctus			
Formicidae	Hymenoptera	Green Copta	Johnston, 1965
Oecophylla smaragdina F.			Simmonds, 1925
	SRI LANKA		
Acrididae	Orthoptera		
Aularches miliaris Linnaeus		Leaf	Huston, 1923; Jepson, 1924
Termitidae	Isoptera		
Microcerotermes bugnioni Holmgren		Root	Lever, 1969
M. peraffinis		Trunk	,,

Nasutitermes ceylonicus Holmgren	Root, trunk	Lever, 1969
Odontotermes assmuthi Holmgren	Seedling	Johnston, 1965
O. obesus Rambur	”	Lever, 1969
Odontotermes hormi (Wasmann)	Seedling	Johnston, 1965
O. h. var. *hutsoni* Kemner	”	Kemner, 1926
O. redemanii (Wasmann)	”	Johnston, 1965
Rhinotermitidae		
Coptotermes curvignathus Holmrgen	Root, trunk	
C. ceylonicus Holmgren	Root, trunk	Jepson *et al.*, 1931
	Homoptera	
Aleyrodidae		
Aleurocanthus woglumi Ashby	Leaf	Johnston, 1965
Coccidae		
Coccus acutissimus	”	”
Diaspididae		
Aspidiotus destructor Signoret	”	Hutson, 1933
Legidosaphes gloveri	”	
Phenacaspis eugeniae Maskell	”	
Pinnaspis aspidistrae Signoret		Dupont, 1931
P. minor Maskell		
Vinsonia stellifera Westwood	”	Sasscer, 1938
Pseudococcidae		
Dysmicoccus sp.		FAO, 1977

	(2)	(3)
Palmicultor sp.		FAO, 1977
Pseudococcus citriculus Green		,,
P. longispinus Targ.	Leaf	,, 1964
Heteroptera		
Tingidae		
Stephanitis typica Distant	Leaf	Lever, 1969
Lepidoptera		
Glyphipterygidae		
Iridostoma ichthyopa	Flower	Johnston, 1965
Limacodidae		
Latoia lepida Cramer	Leaf	Anonymous, 1914; Jepson *et al.*, 1930
Macroplectra nararia Moore	,,	Hutson, 1923
Narosa conspersa Walker	,,	Jepson, 1924
Thosea aperiens Walker	,,	FAO, 1964
Lyonetidae		
Decadarchis pachygramma Meyrick		Meyrick, 1921
Erichthias lampadacma		Johnston, 1965
Psychidae		
Acanthopsyche cana Hampson	Leaf	Jepson, 1924
A. hypoleuca Hampson	Leaf	,,

Manatha (Phyche) albipes Moore	Leaf	Hustson, 1923
Hesperiidae		
Gangara thyrisis Moore	Leaf	Hutson, 1923
Parnara sp.	,,	Hutson, 1919
Suastus gremius Fabricius	,,	,, 1931
Pyralidae		
Tirathaba rufivena Walker	Inflorescence	Lever, 1969
Satyridae		
Elymnias fraterna Butler	Leaf	Jepson, 1924
Spodoptera mauritia Boisduval	,,	,,
Cryptophasidae		
Nephantis serinopa Meyrick	Leaf	Meyrick, 1889
Erechthias pachygramma	,,	Hutson, 1923
Noctuidae		
Cyclodes omma van der Hoeven	Nut	FAO, 1964
Tineidae		
Batrachedra sp.		FAO, 1977
Coleoptera		
Chrysomelidae – Hispinae		
Promecotheca cumingi Baly	Leaf	FAO, 1975; Dharmadhikari *et. al.*, 1977
Curculionidae		
Rhynchophorous ferrugineus Fabricius	Trunk	Rutherford, 1914; Henry, 1917

(1)	(2)	(3)
Diocalandra frumenti Fabricius	Trunk, Leaf, inflorescence	Jepson, 1924
Scarabaeidae – Dynastinae		
Oryctes rhinoceros Linnacus	Spindle leaf, unopened inflorescence	Bryce, 1915; Hutson, 1922; De Mel, 1927
Scarabaeidae – Rutelinae		
Adoretus celogaster Arr.	Leaf	FAO 1964
Scarabaeidae – Melolonthinae		
Phyllognathus dionysius F.	,,	,,
Scolytidae		
Xyleborus perforans Wollaston	Trunk	FAO, 1964.
Nitidulidae		
Carpophilus sp.	Copra	Hutson, 1926
Hymenoptera		
Formicidae		
Dorylus orientalis Westwood	Trunk	FAO, 1964
Acarina		
Tenuipalpidae		
Raoiella indica Hirst	Leaf	FAO, 1977
Tetranychidae		
Oligonychus sp.	,,	,,
Tetranychus fijiensis Hirst	,,	,,

	SOUTH AMERICA		
Aleyrodidae	Homoptera		
Aleurodicus dispersus Russell		Leaf	Russell, 1965
Diaspididae			
Chrysomphalus aonidum Linnaeus			Maskew, 1917
Diaspis boisduvali Signoret			Mosquera, 1973
Parlatoria sp.			Maskew, 1917
Pseudococcidae			
Pseudococcus pseudonipae Cockerell		Leaf	Essig, 1914
	Lepidoptera		
Brassolidae			
Brassolis sophorae L.		Leaf	FAO, 1964
	Coleoptera		
Chrysomelidae – Hispinae			
Hispoleptis ollgnieri Berti & Chenon			Berti & Chenon, 1975
Scarabaeidae – Dynastinae			
Strategus quadrifoveatus Palisot de Beauvois			Van Zwaluwenburg, 1916
Scarabaeidae – Melolonthinae			
Lachnosterna vandinei		Leaf	Smyth, 1917
	SURINAM		
	Lepidoptera		
Castnidae			
Lapaeumides (Castnia) daedalus Cramer		Leaf	Reyne, 1923

(1)	(2)	(2)
TAHITI		
Homoptera		
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Brugiroux, 1928
Pinnaspis (Hemichionaspis) minor Maskel	,,	,,
Chrysomphalus ficus Ashmead (*C. aonidum* Auct.)	,,	,,
Coccidae		
Ripersia palmarum	,,	,,
Lepidoptera		
Pyralidae		
Cryptoblabes sp. nr. *plagioleuca* Turn.	Leaf	Simmonds, 1925
Coleoptera		
Chrysomelidae – Hispinae		
Brontispa longissima Gestro	,,	Cohic, 1961
Promecotheca reichai Baly	,,	Brugiroux, 1928
Curculionidae		
Diocalandra taitensis Guerin	Leaf, inflorescence	Lever, 1969
TAIWAN		
Orthoptera		
Acrididae		
Locusta migratoria manilensis Meyen	Leaf	Lever, 1969

Thripidae		
Nesothrips brevicollis Bagn		Reinert & Nakahara, 1976
Homoptera		
Aphididae		
Astegopteryx nipae van der Goot	Leaf	Lever, 1969
(*Oregma nipae*)		
Cerataphis formosanus Takahashi	,,	FAO, 1964
Heteroptera		
Tingidae		
Stephanitis typica Distant	Leaf	Lever, 1969
Coleoptera		
Scarabaeidae – Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, un-opened inflorescence	FAO, 1962
TANZANIA		
Orthoptera		
Acrididae		
Nomadacris septemfasciata Serville	Leaf	Lever, 1969
Isoptera		
Termitidae		
Macrotermes bellicosus	Seedling	Lever, 1969
Homoptera		
Aphididae		
Cerataphis lataniae Boisduval	Spindle leaf, inflorescence	Harris, 1934

	(2)	(3)
Diaspididae		
Aspidiotus lataniae Signoret	Leaf	Harris, 1934
Coccidae		
Ceroplastes stellifer Ldgr.	,,	,,
Derbidae		
Diostrombis abdominalis Distant	,,	,,
Heteroptera		
Coreidae		
Pseudotheraptus wayi Brown (*Theraptus* sp.)	Nut	Way, 1953, Brown, 1955
Lepidoptera		
Lyonetidae		
Decadarchis minuscula Wals.	Nut	Harris, 1935
Coleoptera		
Curculionidae		
Diocalandra frumenti Fabricius.	Leaf, inflorescence	Harris, 1935
Rhina amplicollis Gerst	Trunk	Harris, 1934
Rhinostomus afzelii Fahraeus	,,	
Rhynchophorus phoenicis F.	,,	Morstatt, 1914
Prionidae		
Mallodon (*Stenodontes*) *downesi* Hope	,,	Harris, 1934

	Coleoptera		
Scarabaeidae—Dynastinae			
Oryctes monoceros Olivier		Spindle leaf, un-opened infloresence	Aders, 1917
O. boas Fabricius		”	
	TASMANIA		
	Lepidoptera		
Cosmopterygidae			
Batrachedra arenosella Walker		Flower	Lever, 1969
	THAILAND		
	Orthoptera		
Acrididae			
Aularches miliaris Linnaeus		Leaf	Johnston, 1965
Chondracris rosea brunneri		”	”
Gastrimagus marmoratus		”	
Patanga luticornis Sew		”	*
Stenocatantops splendens		”	*
Valanga nigricornis Burmeister		”	*
	Homoptera		
Aphididae			
Cerataphis lataniae Boisduval		”	*

* Personal Communication

		(2)	(3)
Aleyrodidae			
Aleurodicus destructor Maskell		Leaf	*
Diaspididae			
Aspidiotus destructor Signoret		,,	*
Pseudococcidae			
Nipaecoccus vestator		Leaf	Johnston, 1965
Pseudococcus comstocki Kus.		,,	,,
Tingidae	Heteroptera		
Stephanitis typica Distant		Leaf	Lever, 1969
Amathusiidae	Lepidoptera		
Amathusia phidippus Var. adustatus Fruhst		Leaf	FAO, 1964
Hesperiidae			
Cephrenes chrysozona		,,	*
Erionota thrax Linnaeus		,,	*
Gangara thyrsis Moore		,,	*
Hidari irava Moore		,,	Johnston, 1965
Lotongus calathus calathus Hew		,,	*
Suastus sp.		,,	*
Telicota augias augias Linnaeus		,,	Johnston, 1965

* Personal Communication

Limacodidae		
Cania bandura Moore	Leaf	*
C. sericea Walker	,,	*
Chalcoscelis (*Altha*) *albiguttata* Snellen	,,	*
Latoia lepida Cramer	,,	*
Miresa spp.	,,	*
Oxyplex spp.	,,	*
Setora nitens Walker	,,	*
Thosea loesa	,,	FAO, 1964
T. sinensis	,,	,,
Lymantridae		
Dasychira horsfieldii	Leaf	Johnston, 1965
Cosmopterygidae		
Batrachedra arenosella Walker	Flower	*
Psychidae		
Mahasena corbetti Trans.	Leaf	Johnston, 1965
Pyralidae		
Tirathaba rufivena Walker	Inflorescence	,,
T. mundella Walker	,,	Lever, 1969
Satyridae		
Elymnias hypermnestra	Leaf	FAO, 1964

* Personal Communication

(1)	(2)	(3)
Zygaenidae		
Artona catoxantha Hampson	Leaf	FAO, 1964
Coleoptera		
Chrysomelidae—Hispinae		
Plesispa reichei Chapius	,,	*
Curculionidae		
Diocalandra frumenti Fabricius	Leaf	Johnston, 1965
Rhynchophorus ferrugineus Fabricius	Trunk	Vestal, 1956
R. schach Olivier	,,	,,
R. vulneratus Panzer	,,	
Scarabaeidae—Dynastinae		
Oryctes gnu Mohner (*O. tribuerculatus* Lansb.)	Bud	FAO, 1964
O. rhinoceros Linnaeus	Spindle leaf, spathe	Vestal, 1956
Scolytidae		
Xyleborus similis Ferrari	Trunk	
TOKELAU Is		
Homoptera		
Diaspididae		
Pinnaspis strachani Cooley	Leaf	Johnston, 1965

*Personal communication

	Coleoptera		
Scarabaeide—Dynastinae			
Oryctes rhinoceros Linnaeus		Spindle leaf, un-opened inflorescence	FAO, 1962
	TONGA		
	Orthoptera		
Phasmidae			
Graeffia crouani Le Guillou (*G. cocophaga* Newport)		Leaf	Hopkins, 1927 & O' Connor, 1949
	Homoptera		
Diaspididae			
Aspidiotus destructor Signoret		,,	
Phenacaspis samoana			Johnston, 1965
Spinaspidiotus pangoensis			,,
Margarodidae			
Icerya seychellarum Westwood		Leaf	Johnston, 1965
Pseudococcidae			
Pseudococcus cocotis Maskel		,,	Collier, 1936
	Lepidoptera		
Agonoxenidae			
Agonoxena argaula Meyrick		,,	O' Connor, 1949
Pyralidae			
Coleoneura (*Tirathaba*) *complexa* Butler		Inflorescence	
C. (*T.*) *trichogramma* Meyrick		,,	Cotterell-Dormer, 1941

(1)	(2)	(3)
Coleoptera		
Chrysomelidae—Hispinae		
Promecotheca coerulipennis Blanchard	Leaf	Johnston, 1965
P. reichei Chapius	,,	O' Connor, 1949
Curculionidae		
Diocalandra taitensis Guerin	Spathe, trunk	,,
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, unopened inflorescence	Latch & Fallon, 1976
TRINIDAD		
Orthoptera		
Acrididae		
Tropidacris dux Drury	Leaf	Lever, 1969
Thysanoptera		
Thripidae		
Heliothrips haemorrhoidalis Bouch	Leaf	Urich, 1913
Phlaeothripidae		
Scotothrips claripennis Moult	,,	Reinert & Nakahara, 1976
Homoptera		
Aleyrodidae		
Aleurodes sp.		Urich, 1913
Aleurodicus cocois Curtis		Anonymous, 1924; Walters, 1926

Dialeurodicus pulcherrimus Quaint & Baker		Urich, 1913
Paraleurodes sp.		,,
Diaspididae		
Aspidiotus destructor Signoret	Leaf	Urich, 1914
Parlagena bennetti Williams	,,	Williams, 1969
Pinnaspis buxi Bouche	,,	Urich, 1915
Vinsonia stellifera Westwood	,,	,,
Coccidae		
Xanthophthalma concinnum Cockerell & Parr.		Williams, 1969
Margarodidae		
Icerya montserratensis Riley & Howard		Urich, 1915
Pseudococcidae		
Pseudococcus nipae Maskell		,,
Lepidoptera		
Brassolidae		
Brassolis sophorae sophorae Linnaeus	Leaf	Cleare, 1915; Urich, 1915; Sommeijer, 1978
Castniidae		
Castnia licus Drury	Leaf	Urich, 1915
Limacodidae		
Automeris liberia Cramer	,,	,, 1915
Hesperus sp.	,,	,, 1915
Natada urichia Schaus	,,	Schaus, 1924

(1)		(2)	(3)
Sibina modesta Cramer		Leaf	Urich, 1915
Sibine spp.		,,	Genty & Mariau, 1973
Tortrix sp.		,,	Urich, 1915
Curculionidae	Coleoptera		
Metamasius metamasius hemipterus L.		Trunk	Urich, 1915
M. obsoletus Gyll		,,	,,
M. sericeus Olivier		,,	Walters, 1926
Rhinostomus barbirostris Fabricius		,,	Lever 1969
Rhynchophorus palmarum L.		,,	Urich, 1915
Scarabaeidae—Dynastinae			
Cholus martiniguensis Marshall			Sommeijer, 1978
Enema endymion Chev.			Urich, 1915
Passalus interruptus L.			,,
Phileurus didymus L.			,,
Scalmus interstitialis Eich			Sommeijer, 1978
Strategus aloeus L.		Trunk	Urich, 1915
S. anachoreta Burmeister		Seedling	Lever, 1969
Formicidae	Hymenoptera		
Atta octospinosa		Male flower	Urich, 1915
Azteca cartifex		Leaf	,,

US TRUST TERRITORY

Orthoptera		
Acrididae		
Valanga excavata	Leaf	Johnston, 1965
Phasmidae		
Acanthograeffia denticulata	,,	FAO, 1962
A. modesta	,,	,,
Graeffia crouani Le Guillou	,,	Johnston, 1965
Tettigonidae		
Segestes unicolor Redtenbacher	,,	FAO, 1962
Isoptera		
Kalotermitidae		
Neotermes kanchirao		Johnston, 1965
Termitidae		
Nasutitermes brevirostris	Root, trunk	FAO, 1962
Thysanoptera		
Thripidae		
Phloeothrips kinugasai		Johnston, 1965
Homoptera		
Aleyrodidae		
Aleurocanthus palauensis		Johnston, 1965
Diaspididae		
Aonidiella inornata		FAO, 1962

(1)	(2)	(3)
Aspidiotus destructor Signoret	Leaf	FAO, 1962
Furcaspius oceanica Ldgr.		Bryan Jr., 1949
Lepidosaphes duponti		FAO, 1962
L. esakii		,,
L. mergregori		,,
Pseudococcidae		
Pseudococcus oceanicus	Leaf	,,
P. saipanensis	,,	,,
Lepidoptera		
Agonoxenidae		
Agonoxena pyrogramma Meyrick	Leaf	Johnston, 1965
Coleoptera		
Chrysomelidae—Hispinae		
Brontispa mariana Spaeth	,,	Bryan Jr. 1949
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Bud	Bryan Jr., 1949
VENEZUELA		
Orthoptera		
Acrididae		
Tropidacris dux Drury	Leaf	Lever, 1969

	Lepidoptera		
Castniidae			
Lapaeumides (*Castnia*) *daedalus* Cramer		Leaf	Anonymous, 1976
	Coleoptera		
Scarabaeidae—Dynastinae			
Strategus aloeus Linnaeus		Seedling	Lever, 1969
	Acarina		
Eriophyidae			
Aceria guerreronis Keifer		Flower	Doreste, 1970
	VIETNAM		
	Homoptera		
Aleyrodidae			
Aleurodicus destructor Maskel		Leaf	Johnston, 1965
Aphididae			
Astegopteryx nipae (*Oregma nipae*)		,,	,,
Diaspididae			
Aspidiotus destructor Signoret		,,	,,
Diaspis pentagona		,,	,,
Pseudococcidae			
Pseudococcus nipae		,,	,,
	Lepidoptera		
Amathusiidae			
Amathusia phidippus Linnaeus		,,	,,

(1)	(2)	(2)
Limacodidae		
Latoia lepida Cramer	Leaf	Johnston, 1965
Metisa grisea alba	,,	,,
Setora nitens Walker	,,	,,
Psychidae		
Crematopsyche nipae	,,	,,
Satyridae		
Elymnias hypermnestra Linnaeus	,,	,,
Noctuidae		
Cyclodes omma van der Hoeven	Immature nut	Lever, 1969
Coleoptera		
Curculionidae		
Rhynchophorus ferrugineus Fabricius	Trunk	Johnston, 1965
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, unopened inflorescence	,,
WALLIS IS.		
Orthoptera		
Phasmidae		
Graeffia crounani Le guillou	Leaf	Simmonds, 1925
Homoptera		
Diaspididae		
Aspidiotus destructor Signoret	,,	Johnston, 1965

Pinnaspis strachani Cooley	Leaf	Johnston, 1965
Lepidoptera		
Agonoxenidae		
Agonoxena argaula Meyrick	,,	,,
Pyralidae		
Tirathaba complexa Butler	Inflorescence	Lever, 1969
Coleoptera		
Chrysomelidae—Hispinae		
Promecotheca cumingi Baly	Leaf	
P. coeruleipennis Blanchard	,,	Johnston, 1965
P. reichei Baly	,,	Simmonds, 1925
Curculionidae		
Diocalandra taitensis Guerin	Leaf, inflorescence	Johnston, 1965
Polyderces zonatus Swed	Petiole	Walters, 1931
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, unopened inflorescence	Cohic, 1959
WEST INDIES		
Homoptera		
Aleyrodidae		
Aleurodicus cocois Curtis		Ballou, 1913, 1916
A. dispersus Russell	Leaf	Russell, 1965
Diaspis boisduvali Signoret		Ballou, 1913, 1916

(1)	(2)	(3)
Vinsonia stellifera Westwood		Ballou, 1913, 1916
Diaspididae		
Aspidiotus destructor Signoret		Ballou, 1916
Coccidae		
Coccus viridis Green		,,
Pseudococcidae		
Pseudococcus nipae Maskel		,,
Coleoptera		
Curculionidae		
Rhynchophorus palmarum Linnaeus	Trunk	,,
Scarabaeidae—Dynastinae		
Cholus zonatus Sweden	Leaf	Parasram & Mederick, 1971
Strategus quadrifoveatus Palisot de Beauvois	Seedling	
WEST SAMOA		
Orthoptera		
Phasmidae		
Graeffia crouani Le guillou (*Graeffia cocophaga* Newport)	,,	Johnston, 1965
Isoptera		
Termitidae		
Microcerotermes peraffinis	Bole, Stem	,,
Microtermes biroi Desneux	,,	,,

Homoptera		
Diaspididae *Aspidiotus destructor* Signoret	Leaf	Johnston, 1965
Chrysomphalus aonidum Linnaeus *C. rossi* Maskell	,,	,,
Pinnaspis aspidistrae Signoret	,,	
P. minor	,,	
Coccidae *Coccus acuminatus*	,,	
Pseudococcidae *Pseudococcus cocotis* Maskell	,,	Johnston, 1965
Lepidoptera		
Agonoxenidae *Agonoxena argaula* Meyrick	,,	,,
Pyralidae *Coleoneura complex* Buter (*C. trichogramma* Meyrick)	,,	Lever, 1969
Psychidae *Mahasena corbetti* Trans	Leaf	
Tinaeidae *Trachycentra calamias*		Johnston, 1965
Coleoptera		
Chrysomelidae—Hispinae *Promecotheca coeruleipennis* Blanchard	Leaf	,,
P. reichei Baly	,,	,,

(1)	(2)	(3)
Curculionidae		
Diocalandra stigmaticollis Gyllenhall	Root, trunk, leaf, fruit stalk	
Rhabdoscelus obscurus Boisduval	Trunk	Johnston, 1965
Scarabaeidae—Dynastinae		
Oryctes rhinoceros Linnaeus	Spindle leaf, unopened inflorescence	”
ZAMBIA		
Orthoptera		
Acrididae		
Nomadacris septemfasciata Serville	Leaf	Lever, 1969

BIBLIOGRAPHY

ABRAHAM, C.C. AND REMAMONY, K.S. 1976. New record of *Euproctis semisignata* Walker (Lymantriidae; Lepidoptera) as a serious pest of coconut inflorescence. *Curr. Sci.* **45**: 707–708.

ABRAHAM, V.A. AND KURIAN, C. 1970. Save your coconut palms from the ravages of white grubs. *Coc. Bull.* **1**(8): 3–4.

ADERS, W.M. 1917. Entomology in relation to agriculture. *Ann. Rept. Pub. Health Dept. for* 1916 36 pp. Zanzibar Protectorate, Zanzibar (*RAE* **6**: 276, 1918).

ANDERSON, T.J. 1916. Report on the Entomological Laboratory for the year ending 31st March, 1914. *Ann. Rept. Agric.* 1913-1915, pp. 52–83, British East Africa. (*RAE* **5**: 110–112, 1917).

ANONYMOUS, 1914. Slug caterpillars or nettle grubs of tea. *Trop. Agric.* **43**: 51–55 (*RAE* **2**: 654, 1914).

ANONYMOUS, 1915. *Cadamastus typicus* – a minor coconut pest. *Garden's Bulletin* 1: 329 (*RAE* **3**: 724, 1915).

ANONYMOUS, 1919. Some coconut pests. *Chacaras e Quintaes* **19**: 403 (*RAE* **7**: 353, 1919).

ANONYMOUS, 1923. Work of the Entomologist. *Rept. Dept. Agric. Tanganyika Territory*, 1922, pp. 19–21 (*RAE* **11**: 531, 1923).

ANONYMOUS, 1924. Work connected with insect and fungus pests and their control. *Rept. Agric. Dept.* 1923, pp. 23–29, St. Vincent, Trini-dad (*RAE* **13**: 22–23, 1925).

ANONYMOUS, 1927. Territory of New Guinea. The plantation diseases and pests ordinance. *Dept. Agric. Leafl. No.* 54, 2 pp. (*RAE* 15: 310–311, 1927)

ANONYMOUS, 1970. Aphids on coconut. *Gazeta do Agriculture* **22**: 342–343 (*RAE* **60**: 850, 1972).

ANONYMOUS, 1976. The giant coconut borer. *Noticias Agricolas* 7 (35): 1–2 (*RAE* **65**: 1187, 1977).

APPERT, J. 1974. On two Hispid Coleoptera of genus *Gestronella*, harmful to coconuts in Malagasy. *Oleagineux* **29**: 559–564.

ARRUDA, P. DE G. AND AQUINO N.DE. 1969. Note on the control of the mite that causes necrosis of the shoots of coconut in Pernambuco. *Summaries of second annual meeting of the Brazilian Society of Entomology 1st to 6th Dec.* 1969, 119 pp. Recife Pernambuco, Brazil. (*RAE* **59**: 857–863, 1971).

ARRUDA P. DE G. AND CARVALHO, P. DE GE. 1969. The occurrence of larvae of *Automeris* sp. on coconut in the State of Pernambuco. *Summaries of the Second Annual Meeting of the Brazilian Society of Entomology 1st to 6th Dec.* 1969, 119 pp. (*RAE* **59**: 857–863, 1971).

ASHBY, S.F. 1915. Notes on diseases of cultivated crops observed in 1913–1914. *Bull. Dept. Agric.* **2**(8): 299–327, Kingston, Jamaica (*RAE* **3**: 650, 1915).

ASHBY, S.F. 1917. Leaf bitten diseases of coconuts. *J. Jamaica Agric. Soc.* **21**(7): 269–273 (*RAE* **6**: 71, 1918).

AULMANN, G. 1914. A new pest of coconut palms in Samoa. *Entom. Rundschau*, **31**(5): 31–32, Berlin. (*RAE* **2**: 270, 1914).

AWIBOWO, R. 1934. The coconut leaf beetle *Brontispa froggatti* var. *selebensis* and its biological control in Celebes. *Landbouw.* **10**: 76–92. (*RAE* **23**: 509, 1935).

AYYAR, T.V.R. 1917. A new pest of the coconut palm on the West Coast, *Contheyla rotunda* Hmp. *Madras Agric. Dept. Year Book* 1917, pp. 91–96 (*RAE* **6**: 47, 1918).

AYYAR, T.V.R. 1919. Some insects recently noted as injurious in South India. *Imp. Dept. Agric. Bull. No. 101*, Pusa, India.

BALOCH, G.M. 1973. Natural enemies of *Axiagastus cambelli* Distant (Hemiptera : Pentatomidae) on the Gazella Peninsula, New Britain. *Papua New Guinea Agric. J.* **24**: 41–45 (*RAE* **63**: 1100, 1975).

BAKER, C.F. 1918. Identity of a coconut hispid. *Garden's Bull. Straits Settlements* **2**(1): 3 Singapore (*RAE* **6**; 523, 1918).

BALACHOWSKY, A. 1929. Contribution a l' etude de la fauna du Congo belge. Diaspines nuisibles au cafe' ier et an cacaoyer. *Rev. Path. Vig. Agric.* **16**: 141–145 (*RAE* **17**: 540, 1929).

BALLOU, H.A. 1913. Work connected with insect and fungus pests and their control. *Rept. Agric. Dept. for* 1912–1913, p. 11–17 (*RAE* **2**: 142–144, 1914).

BALLOU, H.A. 1913. Report on the prevalence of some pests and diseases in the West Indies during 1912. *West Ind. Bull.* **13**: 333–357 (*RAE* **2**: 86–88, 1914).

BALLOU, H.A. 1915. Report on the prevalence of some pests and diseases in the West Indies during 1914. Part I. Insect pests. *West Ind. Bull.* **15**: 121–147 (*RAE* **4**: 43, 1916).

BANKS, C.S. 1906. The principal insects attacking the coconut palm. *Philippine J. Sci.* **1**: 143–167, 211–228.

BARTLETT, K.A. 1944. Entomological investigations and biological control. *Rep. PR (Fed) Exp.Sta.* 1940 pp. 65–85; pp. 1941, pp. 19–23 & 1942 pp. 12–17 (*RAE* 32: 341–346, 1944).

BASTOS, J. A.M. 1975. Differentiation in the larval stage of some pests in the State of Ceara, Brazil. *Fitossanidade* **1**: 35–37 (*RAE* **64**: 1457, 1976).

BEDFORD, G.O. 1968. Observations on the ecology of *Oryctes* (Coleoptera: Scarabaeidae: Dynastinae) in Madagascar. *Bull. ent. Res.* **58**: 83–105.

BEDFORD, G.O. 1974. Description of the larvae of some rhinoceros beetles (Coleoptera: Scarabaeidae: Dynastinae) associated with coconut palms in New Guinea. *Bull. ent. Res.* **63**: 445–472.

BEDFORD, G.O. 1974. Parasitism of the palm weevil, *Rhynchophorus bilineatus* Montrouzier (Coleoptera : Curculionidae) by *Praecocilenchus rhaphidophorus* Poinar (Nematoda: Aphelenchoidea) in New Britain. J. *Aust. Ent. Soc.* **13**: 155–156 (*RAE* **63**: 557, 1975).

BEDFORD, G.O. 1975. Observations on the biology of *Xylotrupes gideon* (Coleoptera: Scarabaeidae : Dynastinae) in Malanesia. *J. Aust. Ent. Soc.* **14**: 213–216 (*RAE* **64**: 1202, 1976).

BERGER, E.W. 1935. The destructor scale. How to control it? *Pr. Bull. Fla Agric. Exp. Sta.* No.473, 2 pp. (*RAE* **23**: 358, 1935).

BERTI, N AND CHENON R. DESMIER DE. 1975. Coleoptera Hispinae of South America injurious to palms. Description of a new species. *Bull. de la Societa Entomologique de France* **80**: 192–198 (*RAE* **64**: 1541, 1976).

BIANCHI, F.A. AND OWEN R.P. 1965. Observations on *Rhabdoscelus obscurus* Boisd, and *Rhabdoscelus asperipennis* Fairmaire in Micronesia (Coleoptera : Curculionidae) *Proc. Hawaii ent. Soc.* **19**: 77–81 (*RAE* **55**: 292, 1967).

BONDAR, G. 1922. Insect pests and diseases of of the coconut in Brazil. 113 pp. (*RAE* **11**: 120–122, 1923).

BONDAR, G. 1923. Brazilian Aleurodidae. *Secret. Agric. Ind. & Obras Publicas da* Bahia, 183 pp. (*RAE* **11**: 491–492, 1923).

BONDAR, G. 1924. Aleyrodideos do Brazil Ou piolhos "faxinheiros" das plantas. *Chacaras e Quintaes* **29**: 353–357 (*RAE* **12**: 280, 1924).

BONDAR, G. 1925. The coconut plantations on the coast of Bahia. *Correio-agric.* **3**: 203–210 (*RAE* **13**: 561–1925).

BONDAR, G. 1939. The coconut in Brazil. *Bol. Inst. Cent. Fom. econ. Bahia* no. 7, 100 pp. (*RAE* **28**: 318, 1940).

BONDAR, G. 1940. Notas entomologicas da Bahia V. *Rev. Ent.* **11**: 199–214 (*RAE* **29**: 9–11, 1941).

BONDAR, G 1940 a. Notas entomologicas da Bahia VI. *Rev. Ent.* **11**: 842–861 (*RAE* **29**: 468–1941).

BODKIN, G.E. 1913. Report of the Economic Biologist of British Guiana for 1912. A pp. (*RAE* **1**: 139, 1913).

BODKIN, G.E. 1913 a. A new insect pest of coconut palms of British Guiana, *Castnia daedalus*, Cramer. *J. Board. Agric. of Br. Guiana* **7**: 87–90 (*RAE* **2**: 57, 1914).

BODKIN, G.E. 1914. The scale insects of British Guiana *J. Bd. Agric. Brit. Guiana*, **7**: 106–124 (*RAE* **2**: 416–417, 1914).

BODKIN G.E. 1914 a. Report of the Economic Biologist of British Guiana for 1912–1913, 10 pp. (*RAE* **2**: 568–569, 1914).

BODKIN, G.E. 1914 b. Report of the Economic Biologist. *Rept. Dept. Science & Agric.* British Guiana 1913–1914 (*RAE* **3**: 590–591, 1915).

BODKIN, G.E. 1916. Report of the Economic Biologist. *Rept. Dept. Sci. & Agric. Brit. Guiana* for the nine months ended 31st Dec. 1915, 10 pp. (*RAE* **5**: 169–170, 1917).

BODKIN, G.E. 1917. Notes on the coccidae of British Guiana. *Bull. ent. Res.* **8**: 103–109.

BODKIN, G.E. 1920. Report of the Government Economic Biologist. *Ann. Rept. Dept. Sci. & Agric.* (*Br. Guiana*) **1919**, 9 pp. (*RAE* **10**: 101, 1922)

BODKIN, G.E. 1923. Report of the Government Economic Biologist, *Rept. Dept. Sci. & Agric. Brit. Guiana* 1921, pp. 36–40. (*RAE* **11**: 375, 1923).

BOURKE, T.V., FENNER, T.L., STIBICK, J.N. BAKER, G.L., HASSAN, E., O' SULLIVAN, D.F., Li, C.S. 1973. Insect pest survey for the year ending 30th June 1969. Dept. Agric. stock & Fisheries, Entomology Branch, Port Moresly, Papua—New Guinea. 57 pp. (*RAE* **62**: 1095–1096, 1974).

BOYCE, J.S. 1923. Johore Agricultural Pests Enactment, 1921. Rules, No. 18, pp. *in* The Deterioration of Felled Western Yellow pine on Insect Control projects. *U.S. Dept. Agric. Dept. Bull.* **1140**: 7 (*RAE* **11**: 520, 1923).

BRADLEY, W.G. AND BURGESS, E.D. 1935. The biology of *Cremastus flavoorbitalis* Cameron, an ichneumonid parasite of the European corn borer. *U.S. Dept. Agric. Tech. Bull. No.* **441**, 15 pp (*RAE* **23**: 245, 1935).

BRIGGS, G. 1921. Report of the Agronomist and and Horticulturist. *Report. Guam Agric. Expt. Sta.* 1920, pp. 15–64 (*RAE* **10**: 278–279, 1922).

BROWN, E.S. 1955. *Pseudotheraptus wayi*, a new genus and species of coreid (Hemiptera) injurious to coconuts in East Agfrica. *Bull. ent. Res.* **46**: 221–240.

BROWN, E.S. 1959. Immature nut fall of coconut in the Solomon Islands. I. Distribution of nutfall in relation to that of *Amblypelta* and of certain species of ants. *Bull. ent. Res.* **50**: 97–133.

BROWN, L.C. 1912. Coconut beetles. *Federated Malay States Agric. Bull.* **1**: 152–154.

BRYANT, G.E. 1923. New injurious phytophaga from Brazil. *Bull. ent. Res.* **13**: 261–265.

BRYAN, Jr, E.H. 1949. Economic insects of Micronesia, *Report of the Insect Control Committee for* Micronesia 1947–1948. 29 *pp.* (*RAE* **40**: 96, 1952).

BRYCE, G. 1915. Rhinoceros beetle fungi. *Trop. Agriculturist* **45**: 150.

BURKILL. I.H. 1913. The Sirangoon outbreak (1913) of *Brachartona catoxantha. Gardens' Bull.* **1**: 207–208 (*RAE* **2**: 583, 1914).

BURKILL, I.H. 1913. *Promecotheca cumingii* Baly, another coconut hispid and a pest in Malacca. *Gardens' Bull.* **2**: 3–5 (*RAE* **6**: 523).

CARESCHE, L. 1937. Premiere note sur les insectes nuisibles au kapokier dans le Sud-Indochinois. *C.R. Inst. Rech. Agron.* for Indo China 1916–1935: 175–194 (*RAE* **26**: 185–187, 1938).

CARTER W. 1967. Geometric mosaic, a new expression of Phytotoxaemia. *J. econ. Ent.* **60**: 603.

CARVALHO, M.B. DE., FREITAS, A.O. DE., ARRUDA, G.P.DE, 1971. Some observations on *Aleurodicus cocois* (Curtis, 1846) (Homoptera, Aleyrodidae), the cashew white fly in the State of Pernambuco. *Boletim Te'cnico do Instituto de Pesquisas Agronomicas, Recife No.* 18, 20 pp. (*RAE* **62**: 488, 1974).

CASTEL–BRANCO, A.J.F 1956. A coccid attacking coconut on the Island of Principle (*A. destructor*). *Garcia de Orta* **4**: 225–238. (*RAE* **47**: 415–416, 1959).

CATONI, L.A. 1922. Insect pests of the coconut palm. *Rev. Agric. Puerto Rico.* **7**(3): 21–25. (*RAE* **11**: 75, 1923).

CHAFFIN, J. 1921. Mealybugs. *Florida Ent. Gainsvilla* **5**(2): 31–33 (*RAE* **10**: 99, 1922).

CHANNABASAVANNA, G.P. AND BANU, K. 1972. Plant feeding mites of India. 3. Spider mites of the species of *Oligonychus* (Acarina: Tetranychidae) *Mysore J. Agric. Sci.* **6**: 163–168.

CHEVALIER, A. 1927. Une attaque des cocotias par l' *Aspidiotus destructor* a Conakry. *Rev. Bot. Appl. & Agric. Colon.* **7**: 338 (*RAE* **15**: 519, 1927).

CHIAROMONTE, A. 1934. Entomological notes on the cultivation of oil producing plants in Italian Somaliland. Agricoltura Colon. **28**: 38–43, 1934 (*RAE* **22**: 172, 1934).

CHINA, W.E. 1934. A new species of Coreidae (Heteroptera) injurious to coconut in the Solomon Islands. *Bull. ent. Res.* **25**: 187–189.

CHUJO, M. 1937. Descriptions of two Hispid beetles, belonging to a new genus from the South Sea Islands under Japanese Mandate (Coleoptera: Chrysomelidae). *Trans. Nat. Hist. Soc. Formosa* **27**: 222–228. (*RAE* **26**: 336, 1938).

CLEARE, L.D. 1915. Note on the recent attack of *Brassolis sophorae*. *Jl. Bd. Agric. Brit. Guiana* **7**: 86–87 (*RAE* **3**: 652, 1915).

CLEARE, L.D. 1915. A butterfly injurious to coconut palms in British Guina. *Bull. ent. Res.* **6**: 273–278.

CLEARE, L.D. 1941. Report on the Entomological Division for the year 1940. Dep. Arig. Brit. Guiana (*RAE* **30**: 294, 1942).

COCKERELL, T.D.A. 1929. A new mealybug infesting coconut in the Solomon Islands. *Entomologist* **42**(791): 90–91. (*RAE* **17**: 417, 1929).

COCHIC, F. 1959. *Dialeurodicus elongatus* Dumbleton, aleur ode parasite du cocotier en *Nouvella*-Caledonie. *Agron. trop.* **14**: 232–238 (*RAE* **48**: 164, 1960).

COCHIC, F. 1959. Enquete sur les parasites animaux d' interest agricole a Wallis 69 pp. (*RAE* **49**: 266, 1961).

COCHIC, F. 1961. Outbreaks and new records. *FAO Plant Prot. Bull.* **9**: 109–111.

COPELAND, E.B. 1914. The coconut 212 pp. Mc-Millan & Co., London.

COPELAND, E.B. 1931. The coconut 3rd ed. 233 pp. MacMillan & Co., London.

CORBETT, G.H. 1921. Entomological jottings, *Malayan Agric. J.* **10**: 56–59 (*RAE* **10**: 557–558, 1922).

CORBETT, G.H. 1922. Moths from coconut spikes. *Malayan Agric. J.* **10**: 184–185 (*RAE* **11**: 189, 1922).

CORBETT, GH. 1922 b. Preliminary note on the *"Lesser"* Coconut spike Moth. *Malayan Agric. J.* **10**: 136–139 (*RAE* **11**: 117, 1923).

CORBETT, G.H. 1924. Annual report of the Government Entomoloigist for 1923. *Malayan Agric. J.* **12**: 252–259 (*RAE* **12**: 526, 1924).

CORBETT, G.H. 1926. Annual report of the Entomological Division for 1925. *Malayan Agric. J.* **14**: 171–174 (*RAE* **14**: 557, 1926).

CORBETT, G.H. 1927. Three new Aleyrodids on coconuts in Malaya. *Malayan Agric. J.* **15**: 24–25 (*RAE* **15**: 220–1927).

CORBETT, G.H. 1927. Annual report of the Government Entomologist for 1926. *Malayan Agric. J.* **15**: 168–173 (*RAE* **15**: 656–657, 1927).

CORBETT, G.H. 1928. Division of Entomology Annual report for 1927. *Malayan Agric. J.* **16**: 136–140 (*RAE* **16**: 628, 1928).

CORBETT, G.H. 1929. Division of Entomology Annual report for 1928. *Malayan Agric. J.* **17**: 261–276 (*RAE* **18**: 57–59, 1930).

CORBETT, G.H. 1930. Entomological Notes. Second Quarter, 1930. *Malayan Agric. J.* **18**: 359–362. (*RAE* **18**: 657–658, 1930).

CORBETT, G.H. 1931. Entomological Notes. Second Quarter, 1931. *Malayan Agric. J.* **19**: 351–355 (*RAE* **19**: 646–647, 1931).

CORBETT, G.H. 1932. Insects of coconut in Malaya. *Dept. Agric. Strait. Settlements Federated Malay States Bull. No.* 10, 106 pp.

CORBETT, G.H. 1933. Division of Entomology *Annual report for the year* 1931. *Gen. Ser. Agric. S.S, & F.M.S. No.* **12**: 41–47.

CORBETT, G.H. 1933 a. Division of Entomology Annual report for the year 1932. *Gen. Ser. Dept. Agric. S.S. & F.M.S. No.* 14: 39–52.

CORBETT, G.H. 1934. Division of Entomology Annual report for the year 1933. *Gen. Ser. Dep. Agric. S.S. & F.M.S. No.* **19**: 38–54 (*RAE* **23**: 57, 1935).

CORBETT, G.H. 1935. Division of Entomology *Annual report for the year* 1934. *Gen. Ser. Dep. Agric. S.S. & F.M.S. No.* **21**: 43–56. (*RAE* **24**: 103–105, 1936).

CORBETT, G.H. AND DOVER, C. 1927. The life history and control of some Malayan insects of economic importance. *Malayan Agric. J.* **15:** 239-270 (*RAE* **16:** 100-101, 1928).

CORBETT, G.H. AND PONNIAH, D. 1924. "Red Stripe" weevil of coconuts (*Rhynchophorus schach*, Oliv.) *Dept. Agric. S.S. & F.M.S. Bull.* **36**, 51 pp. (*RAE A* **13:** 73, 1925).

CORBETT, G.H., YUSOPE, M. HASSAN, A. AND WARD, F.S. 1937. Insects, funigi and bacteria associated with copra in Malaya. *Dept. Agric. S.S. & F.M.S. Scientific Series No.* **20**, 108 pp.

COTERELL, G.S. 1924. Report of the Entomologist for the year ending 31st March, 1924. *Gold Coast. Report. Agric. Dept.* 1923-1924, pp. 34-35 (*RAE* **13:** 110-1925).

COTTERELL, G.S. 1925. Report of the Entomological Division. *Gold. Coast: Rept. Agric. Dept.* 1924-1925 pp. 34-36. (*RAE* **13:** 9-10, 1925).

COTTERELL, G.S. 1931. The occurrence of the migratory lucust(*Locusta migratoria migratorioides*) in the Gold Coast and its dependancies during 1930. *Bull. Dept. Agric. Gold Coast No.* 23: 255-281 (*RAE* **20:** 208-209, 1932).

COTTIER, W. 1936. A redescription of *Pseudcoccus cocotis* Maskell, including a description of the male (Hemiptera) *Proc. R. ent, Soc. Lond.* **5**(2): 25-31. (*RAE* **24:** 270, 1936).

COTTERELL-DORMER, W. 1941. Report of the Director of Agriculture (Tonga) for 1940. 9 pp.

CREIGHTON, J.T. 1937. *Homaledra sabalella* Chambers, the major pest of palms in Florida. *J. econ. Ent.* **30:** 590-595 (*RAE* **26:** 22, 1938).

CRESPO, M.A. 1920. An insect very injurious to the coconut in Porto-Rico. *Rev. Agric. Puerto Rico, San Juan* **4:** 47-48 (*RAE* **8:** 451, 1920).

DEAN, C.G. AND VELIS, M. 1976. Differences in the effiects of red ring disease on coconut palms in Central America and the Caribbean and its control. *Oleagineux* **31:** 321-326.

DE AZEVEDO, A. 1924. Insects observed on plants in the State of Bahia by the Plant Inspection Service. *Correio-Agric.* **2:** 331-332 (*RAE* **13:** 137, 1925).

DE GARCA CABRAL, R.V. AND CARMONA, M.M. 1968. *Aceria guerreronis* Keifer (Acarina : Eriophyidae), a new species for Sao Thome and Principe. *Port. Acta. Biol.* **10:** 353-358 (*RAE* **57**: 461, 1969).

DE JONG, A.W.K. 1924. Verslag (Report) Van den Directeur van het Algemeen Proefstation der A.V.R.O.S. 1 Juli 1923-30 Juni 1924. *Meded. Algem. Proefst. AVROS. Algem. Ser. No.* **18:** 25 pp. (*RAE* **12:** 524, 1924).

DE LARA, R. 1936. A successful measure against *Strategus titanus* in coconut. *Rev. agric. Com.* **27:** 2470 (*RAE* **24:** 786, 1936).

DE MEL C.N.E.J. 1927. Pests and diseases of coconuts in the North Western Province. *Trop. Agriculturist* **48** : 252-256. (*RAE* **15:** 360, 1927).

D'EMMEREZ DE CHARMOY D. 1928. Insect pests in Mauritius in 1927. *Ann. Rep. Dept. Agric. Mauritius* 1927 pp. 3; 12-13 (*RAE* **16:** 100-101, 1921).

DEPT. AGRIC. 1939. Pests and diseases. *Rep. Dep. Agric. British Honduras* 1938, p. 3 (*RAE* **28:** 124, 1940).

DE SEABRA, A.F. 1922. Insectes de S. Thome' provenant de la Mission d' etude du Professeur Sousa da Camara en 1920. *Anais do Instituto de Agronomia* 21 pp.

DHARMADHIKARI, P.R., PERERA, P.A.C.R. AND HASSEN, T.M.F. 1977. A short account of the biological control of *Promecotheca cumingri* (Coleoptera : Hispidae) the coconut leaf miner, in Sri Lanka. *Entomophaga* **22**(1): 3-18 (*RAE* **65:** 1642-1643, 1977).

DOANE, R.W. AND FERRIS, G.F. 1916. Notes on Samoan Coccidae with description of three new species. *Bull. ent. Res.* **6:** 399-402.

DORESTE S.E. 1968. The coconut palm flower mite *Aceria guerreronis* in Venezuela. *Agronomia trop.* **18:** 379-386. (*RAE* **58:** 102, 1970)

DOUTT, R.L. 1951. The parasite complex of *Furcaspis oceanica* Lindinger. *Ann. ent. Soc. Amer.* **43:** 501-507.

DROUSSIE, P. 1914. Note on cultivation of the coconut palm enemies of the coconut palm. *Bull. Agric. du Congo Belge*, Brussels **5:** 44-48. (*RAE* **2:** 422, 1914).

DUN, G.S. 1955. Economic Entomology in Papua and New Guinea 1948-1954. *Papua New Guinea agric. J.* 9: 109-119. (*RAE* **45:** 465, 1957).

DUPONT, P.R. 1913. Notes on certain coccids which attack the coconut palm and other plants cultivated on a large scale at Mahe' (Seychelles). *Bull. Soc. Belge d' Etudes Coloniales No.* **2:** 164–167 (*RAE* **1:** 129, 1913).

DUPONT, P.R. 1917. Insect Notes. Colony of Seychelles, *Ann. Rept. on Agric. & Crown lands for* 1916, *Victoria* P. 13 (*RAE* **6:** 67–68, 1918).

DUPONT, P.R. 1918. Insect Notes. Curator's report on Botanic Station, Seychelles, for 1917. M.S. from Colonial Office June, 1918 (*RAE* **6:** 375–377, 1918).

DUPONT, P.R. 1925. Insect Notes. *Seychelles Ann. Rept. Dept. Agric.* 1924, p. 5 (*RAE* **13:** 551, 1925).

DUPONT, P.R. 1926. L' invasion des pucerons jaunes dans les plantations de cocotiers a Mahe Seychelles. *Bull. Dept. Agric. & Peche No.* **6:** 4–6 (*RAE* **14:** 229, 1926).

DUPONT, P.R. 1929. Entomological and mycological notes. *Ann. Rep. Dept. Agric. Seychelles* 1928, pp. 5–6 (*RAE* **17:** 650, 1929).

DUPONT, P.R. 1931. Entomological and mycological notes. *Ann. Rep. Dept. Agric. Seychelles* 1930 pp. 11–13 (*RAE* **19:** 685, 1931).

DUPORT, L. 1913. Notes on certain diseases and enemies of cultivated plants in the Far East. *Extrait du Bulletin Economique de* **1'** *Indochine, Hanoi Haiphong, Nouvelle Seire No.* **99:** 147 pp. (*RAE* **2:** 489–491, 1914).

DUNLOP, W.R. 1922. Report on the economique and natural features of British *Honduras* in relation to agriculture with proposals for development. F' scap, 32 pp. (*RAE* **11:** 269, 1923).

DUNN, L.H. 1917. The coconut tree caterpillar *Brassolis isthmia* of Panama. *J. Econ. Ent.* **10:** 473–488 (*RAE* **6:** 19–20, 1918).

EDEN–GREEN, S.J. AND SCHUILING, M. 1978. Root acquisition feeding transmission tests with *Haplaxius* spp. and *Proarna hilaris* suspected vectors of lethal yellowing of coconut palm in Jamaica. *Pl. Dis. Rep.* **62:** 625–627.

EDWARDS, W.H. 1933. Report of the Government Entomologist. *Rep. Dep. Agric. Jamaica* 1932 pp. 16–18 (*RAE* **22:** 66, 1934).

EDWARDS, W.H. 1935. Report of the Government Entomologist. *Rep. Dep. Agric. Jamaica* 1933 pp. 21–23 (*RAE* **23:** 394–395, 1935).

EHRHORN, E.M. 1916. Contributions to the knowledge of the Dactylopiinae of Hawaii. *Proc. Hawaiian Entom. Soc.*, **3:** 231–247 (*RAE* **5:** 9–10, 1917).

EHRHORN, E.M. 1923. Reports of the Chief Plant Inspector, February and March, 1923. *Hawaiian Forester* and *Agriculturist* **20:** 63–67 (*RAE* **11:** 441–442, 1923).

ESAKI, T. 1939. Insects injurious to coconut palm in the Mandated South Sea Islands of Japan 1. *Furcaspis oceanica* Lindinger (in Japanese). *Oyo Kontyu* **2:** 1–13 (*RAE* **28:** 259, 1940).

ESAKI, T. 1940. A preliminary report on the entomological survey of the Micronesian Islands under the Japanese Mandate, with special reference to the insects of economic importance. *Proc. 6th Pacif. Sci. Congr.* 1939 **4:** 407–415 (*RAE* **31:** 292–293, 1943).

ESSIG, E.O. 1914. The mealy bugs of *California. Mthly. Bull. Sta. Commiss. Hortic. Sacramento, Cal.* **3:** 97–143 (RAE **2:** 434–437, 1914).

ESTRADA ORTIZ, J AND GONZALEZ AVILAM 1977. Damage caused to coconut by *Aceria guerreronis* (Acarina : Eriophyidae) in Cuba. *Revista de Agricultura, Cuba*, **8:** 30–34 (*RAE* **66:** 171, 1978).

EVANS, J.W. 1952. The injurious insects of the British Commonwealth (except the British Isles, India and Pakistan) Commonwealth Institute of Entomology, London 241 pp.

FAO 1962. Host list of fungi etc. and insects recorded in the South East Asia and Pacific region 2. Insects *Cocos nucifera* L. *Indian Coc. J.* **15:** 162–178.

FAO 1964. List of insect pests of coconut palm. Working paper (Ct) 64/11, 17 PP. Second session Technical Working Party on Coconut Production, Protection and Processing. Colombo, 30 Nov–8 Dec. 1964. FAO Rome.

FAO 1974. Report to the Government of Gilbert and Ellice Islands Colony on a survey of insect pests of crops, based on the work of Peter D. Manser, Rome, Italy FAO. United Nations Development Programme Report No. TA 3246, 35 pp.

FAO 1975. Outbreaks of pests and diseases. *FAO Quarterly Newsletter* **18:** 4–7 (*RAE* **65:** 519, 1977).

FAO 1976. Outbreak of pests and diseases. *FAO Quarterly Newsletter* **19:** 3–5 (*RAE* **65:** 1317, 1977).

FAO 1977. New records. FAO Quarterly Newsletter **20:** 4–7 (*RAE* **66:** 617, 1977).

FELIX, J. 1935. Acridiens nuisibles dans la region cotiere de la Guinea francaise. *Agron. Colon* No. 212: 33–44.

FERNANDEZ, I.M. 1974. Study of some coccids from S. Tome, *Garcia de Orta, Serie Zoologia* **3:** 1–3 (*RAE* **64:** 812, 1976).

FLETCHER, T.B. 1913. Report of the Government Entomologist, 24th April 1912 to 31st March, 1913. Operations of the Dept. of Agric. Madras Presidency 1912–1913 pp. 36–41(*RAE* **2:** 138–140, 1914).

FLETCHER, T.B. 1914. Some South Indian Insects. Govt. Press, Madras.

FLETCHER, T.B. 1918. Report of the Imperial Entomologist. *Scient. Repts. Agric. Research Inst., Pusa*, 1917–18. pp. 84–116 (*RAE* **7:** 133, 1919).

FLETCHER, T.B. 1919. Annotated list of Indian Crop Pests. *Proc. III ent. Mtg.* Pusa pp. 33–314.

FRAPPA, C. 1933. Un nouveau parasite du cocotier a Madagascar. *Eugnoristus monachus* 01. var. *alluaudi Hust. Agron. Colon.No.* **190:** 114–116 (*RAE* **22:** 48, 1934).

FRAPPA, C. 1948. Un parasite du cocotier dans la region nordouest de Madagascar. *Agron. trop.* **3:** 274–281 (*RAE* **39:** 286–287, 1951).

FRIEDERICHS, K. 1913. On the present state of the campaign against the rhinoceros beetle in Samoa. *Der Tropenpflanzer* Berlin **17:** 538–558; 603–619; 660–675 (*RAE* **2:** 26–28, 1913).

FRIEDERICHS, K. 1919. Studies on rhinoceros beetles as pests of the coconut palm. *Monographien Zur angew. Entomologie No.* 4 *Supplt no.* 1 *to Zeitschr. F. angew Entomologie*, Berlin(*RAE* **8:** 275–276, 1920)

FROGGATT, W.W. 1914. Pests and diseases of the coconut palm. *N.S.W. Dept. Agric. Sydney, Science Bull. No.* **2:** 3–63 (*RAE* **2:** 689–691).

FROGGATT, W.W. 1914a. Australian Hispidae of the genera *Brontispa* and *Promecotheca* which destroy coconut palm fronds. *Bull. ent. Res.* **5:** 149–152 (*RAE* **3:** 27, 1915).

FROGGATT, J.L. 1935. The long-horned treehopper of coconuts *Sexava* spp. *New Guinea Agric. Gazette* **1**(1); 16–27. (*RAE* **24:** 201–202, 1936).

FROGGATT, J.L. 1936. Coconut pests. *New Guinea Agric. Gaz.* **2**(3): 18–21 (*RAE* **25:** 450–451, 1936).

FROGGATT, J.L. 1936a. Entomological Notes *New Guinea Agric. Gazette* **2**(1): 10–14 (*RAE* **24:** 466–467, 1936).

FROGGATT, J.L. 1937. *Promecotheca antiqua* Weise. Leaf pest of coconuts. *New Guinea Agric. Gaz.* **3**(2): 21–22 (*RAE* **26:** 435, 1938).

GEHRMANN, K. 1913. Diseases and pests of cultivated plants in Samoa. *Arbeit K. Biol. Anst. Land-und Forstwirtschaft*, Berlin **9:** 1–120 (*RAE* **2:**7, 1914).

GENTY, P. AND MARIAU, D. 1973. The pests and diseases of the oil palm and the coconut palm, Limacodidae, of the genus *Sibine. Oleagineux* **28:** 225–227.

GHESQUIERE, J. 1922. Contribution a letude ethologique des *Laemophloeus, Rev. Zool. africaine* **10:** 216–218 (*RAE* **11:** 16, 1923).

GHOSH, CC. 1923. The palm beetle in Burma, with notes on other palm pests. *Dept. Agric. Burma Bull.* **19:** 1–38.

GHOSH, C.C. 1924. *Oryctes rhinoceros* and other important palm pests in Burma. *Rept. Proc. 5th Ent. Meeting, Pusa*, 1923, pp. 99–103 (*RAE* **12:**382, 1924).

GOMEZ-MENOR, J. 1937. Biological control work in the Dominican Republic. *Rev. Agric.* **28:** 372–374 (*RAE* **25:** 10, 1937).

GOMEZ-MENOR, ORTEGA, J. 1940. Coccidos de la Republica Dominicana (Hemiptera:Coccidae) *EOS* **16:** 125–143 (*RAE* **29:** 498, 1941).

GONZALEZ, N.A., CAMINO, L.M. 1974. Biology and habits of the palm weevil *Rhynchophorus palmarum* L. in Chontalpa Tabasco. *Folia Entomologica Mexicana* no. **28:** 13–19 (*RAE* **64:** 1017, 1976).

GOVERNMENT GAZETTE 1922. Plantation diseases and pests ordinance, 1916 Extract from *Govt. Gaz. New Guinea No.* **43** (*RAE* **11:**78, 1923).

GOWDEY, C.C. 1922. Annual Report of the Govt. Entomologist. *Ann. Rept. Jamaica Dept. Agric.* 1921, pp. 40–41 (*RAE* **11**: 3, 1923).

GOWDEY, C.C. 1923. The white flies (Aleurodidae)of Jamaica. *Jamaica Dept. Agric. Ent. Bull. No.* 3, 6 pp. (*RAE* **12**: 150, 1924).

GOWDEY, C.C. 1924. Report of the Government Entomoligist. *Ann. Rept. Dept. Agric. Jamaica* 1923, pp. 20–22 (*RAE* **12**: 442–443, 1924).

GOWDEY, C.C. 1925. Report of Government Entomologist Jamaica. *Ann. Rept. Dept. Sci. & Agric.* 1924, pp. 17–20 (*RAE* **14**: 147–148, 1926).

GOWDEY, C.C. 1926. Report of the Government Entomologist. Jamaica: *Ann. Rept. Dept. Agric.* 1925. pp. 10–12 (*RAE* **14**: 497, 1926).

GREEN, E.E. 1906. *Nephantis serinopa Meyrick. Trop. Agriculturist* **26**: 83.

GREEN, E.E. 1914. Remarks on a small collection of Coccidae from Northern Australia *Bull. ent. Res.* **5**: 231–234, (*RAE* **3**: 167, 1915).

GREEN, E.E. 1916. Notes on Coccidae occurrng in the Seychelles Islands with descriptions of new species. *Bull. ent. Res.* **7**: 193–196 (*RAE* **5**: 4, 1916)

GREEN, E.E. 1926. On some new genera and species of Coccidae. *Bull. ent. Res.* **17**: 55–65.

GREEN, E.E. 1934. Description of a new mealybug *Pseudococcus leveri* on coconut from the Solomon Islands. *Ann. Mag. Nat. Hist.* **13**: 473–474 (*RAE* **22**: 272, 1934).

GREEN, E.E. AND LAING, F. 1923. Descriptions of some new species and some new records of Coccidae Diaspidinae. *Bull. ent. Res.* **14**: 123-131.

GRESSITT, J.L. 1953. The coconut rhinoceros beetle (*Oryctes rhinoceros*) with particular reference to the Palau Islands. *Bull. Bishop Mus. No.* 212, 157 pp. (*RAE* **42**: 103–104, 1954).

GRESSITT, J.L. 1958. Ecology of *Promecotheca papuana* Csiki, a coconut beetle. *Proc. of the Tenth International Congress of Entomology, Montreal Aug.* 17–25, 1956, pp. 747–753 (*RAE* **47**: 265–267, 1959).

GRYLLS, N.E. AND HUNT, P. 1971. Studies on the aetiology of coconut lethal yellowing in Jamaica, by mechanical and bacteria inoculations and by insect vectors. *Oleagineux* **26**: 543–549.

GUTIERREZ, J. 1974. Species of the genus *Tetranychus* Dufour (Acarina: Tetranychidae) of economic importance in Madagascar and the neighbouring islands. Completion between the complexes of *Tetranychus neocaledonicus* Andre' et *Tetranychus urticae* Koch. *Acarologia* **16**: 258–270 (*RAE* **63**: 1068, 1975).

HAGEN, K.S. AND DOUTT, R.L. 1950. *Brontispa yoshinoi* Barber, a description of adult and immature stages (Coleoptera: Hispidae). *Ann. ent. Soc. Amer.* **43**: 311–319.

HALL, W.J. 1953. Outbreaks and new records. *FAO Plant Prot. Bull.* **1**: 106–109.

HAMPSON, 1892. Fauna of British India-moths.

HARGREAVES, E. 1927. Some insect pests of Sierra-Leone. *Proc. 1st W. Afr. Conf. Ibadan Nigeria* pp. 113–128 (*RAE* **16**: 244–245, 1928).

HARRER, 1914. Cultivation of the coconut palm in German East Africa. *Naturwiss. Zeits. Forst. Landwirtsch. Stuttgart* **12**: 128–132 (*RAE* **2**: 445, 1915).

HARRIS, W.V. 1934. Report of the acting Entomologist 1933. *Rep. Dep. Agric. Tanganyika*, 1933, pp. 69–75. (*RAE* **22**: 626–627, 1934).

HARRIS, W.V. 1935. Report of the Assistant Entomologist, 1934. *Rep. Dep. Agric. Tanganyika*, 1934, pp. 84–89 (*RAE* **23**: 666, 1935).

HEMPEL, A. 1923. New or little known Rhynchota of the family Aleurodidae. *Rev. Mus. Paul* **13**: 1121–1191 (*RAE* **12**: 351, 1924).

HENRY, G.M. 1915. Abstract from the Report of the Assistant Entomologist. *Rep. Dep. Agric. Ceylon* for the period Jan. 1st to Dec. 31st, 1915, P.C. 12 (*RAE* **5**: 51–52, 1917).

HENRY G.M. 1917. The coconut red weevil, *Rhynchophorus ferrugineus. Trop. Agric. Peradeniya* **48**:218–219 (*RAE* **5**: 326–327, 1917).

HERMS, W.B. 1926. *Diocalandra taitensis* Guerin and other coconut pests of Fanning and Washington Islands. *Philippine J. Sci.* **30**: 243–274 (*RAE* **14**: 524–525, 1926).

HEYDE, M. 1973. Notes on insects in Surinam. *Entomologische Berichten* **33**: 81–82 (*RAE* **64**: 101, 1976).

HILL, G.F. 1915. Insect pests of plants. Northern Territory of Australia. *Dept. External Affairs, Melbourne Bull. Northern Territory*. No. 13, 16 pp. (*RAE* **4**: 110–111, 1916).

HILIE RIS LAMBERS, D. 1953. Notes on aphids from *Cocos nucifera*. *Agric. J. Fiji* **24**; 93–95 (*RAE* **44**: 395–396, 1956).

HIRST, S. 1924. On some new species of red spider. *Ann. Mag. Nat. Hist.* **14**: 522–527 (*RAE* **12**: 563, 1924).

HOLMAN HUNT, C.B. 1913. Note on insect pests. *Agric. Bull. Fed. Malay states* **1**: 294–295 (*RAE* **1**: 158, 1913).

HUSTACHE, A. 1940. Curculionides nouveaux du Bresil. *Rev. Ent.*, **11**: 690–713 (*RAE* **29**: 468, 1941).

HUTSON, J.C. 1919. Progress report of the Entomologist for quarter July-Sept. 1919. *Trop. Agriculturist, Peradeniya*. **53**: 341 (*RAE* **8**: 111, 1920)

HUTSON, J.C. 1920. Report of the Entomologist. *Ceylon Dept. Agric. Administr. Repts. for* 1919, *Peradeniya* pp. 108–110. (*RAE* **8**: 520, 1920).

HUTSON, J.C. 1922. The rhinoceros or black beetle of coconuts *Oryctes rhinoceros*. *Trop. Agriculturist* **59**: 106–109.

HUTSON, J.C. 1923. Some Insect Pests of the coconut palm. *Trop. Agric.* **60**: 103–109 (*RAE* **11**: 316, 1923).

HUTSON, J.C. 1926. Report of the work of the Entomological Division. *Ceylon Administ. Rept.* 1925 *Dept. Agric*, pp. 15–17 (*RAE* **14**: 556, 1926).

HUTSON, J.C. 1931. Report of Insect Pests in Ceylon during 1930 17 pp. (*RAE* **19**: 397, 1931).

HUTSON, J.C. 1933. The coconut scale *Aspidiotus destructor*. *Trop. Agric.* **80**: 254–256 (*RAE* **21**: 363, 1933).

HUTSON, J.C. 1933a. The red weevil of coconut. *Dept. Agric Ceylon Leaflet* No. 22.

ISAAC, P.V. 1925. The South Andaman Coconut Slug caterpillar, *Thosea unifascia* Wlk. *Agric. J. India* **20**: 373–379 (*RAE* **13**: 39, 1925).

JACQUES, C. 1930. Maladie des Cocotiers. *Rev. agric. Nouv. Caledonie* 1930, pp. 29–36. (*RAE* **18**: 555, 1930).

JACQUES, C 1930 a. Maladies Parasitaires du cocotier. *Rev. agric. Nouv. Caledonie* 1930, pp. 57–60 (*RAE* **18**: 510–511, 1930).

JACQUES, C. 1940. Les insectes nuisibles aux vegetaux et aux recoltes en Nouvelle Caledonie. Conservation des grains. *Rev. agric., Nouv. Caledonie.* 1940, pp. 4121-4137 (*RAE* **29**: 391, 1941).

JEPSON, F.P. 1915. Report of the Entomologist. *Dept. Agric. Fiji. Ann. Rep. for the year* 1914, *Suva* pp. 17–27 (*RAE* **4**: 91, 1915).

JEPSON, F.P. 1916. Report on a visit to the Rewa River Plantations. *Dept. Agric. Fiji. Suva. Pamphlet* No. **25**, 4 pp. (*RAE* **5**: 294, 1917).

JEPSON, F.P. 1917. Division on Entomology *Dept. Agric. Fiji. Ann. Rept. for the year* 1916 *Suva*. pp. 16–25 (*RAE* 6: 236–237, 1918).

JEPSON, F.P. 1924. Report of the Acting Entomologist. *Ceylon Administ. Repts. Dept. Agric,*. 1923, pp. 19–21. (*RAE* **13**: 171– 1925).

JEPSON, F.P. et al. 1930. Reports on insect pests in Ceylon during 1929. *Tech. Rep.* 1929 25 pp. *Dept. Agric. Ceylon* (*RAE* **19**: 137–138 1931).

JOHNSON, W.H. 1916. Entomology. *Ann. Rept. Agric. Dept. Southern Provinces, Nigeria for year* 1915 p. 8 (*RAE* **5**: 112, 1917).

JOHNSTON, A. 1965. Host.–list of fungi etc. and insects recorded in the South East Asia and Pacific region, *Cocos nucifera* L. Coconut. *Tech. Document* No. 16. FAO Plant Protection Committee for the South East Asia and Pacific Region, Bangkok, Thailand, 18 pp.

JOHNSTON, J.R. 1915. Cultivation of the coconut palm. *Estacion Experimental Agronomica, Havana* 1915. *Circular* No. 49, 11 pp. (*RAE* **5**:80, 1917).

JONES, C.R. 1913. A new coconut pest, *Promecotheca cumingi* Baly. *Philippine Agric. Rev,* **6**: 105–106 (*RAE* **1**: 118, 1913).

JONES, C.R. 1913a. Insect notes from the Philippines. *Philippine Agric. Rev.* **6**: 246–250 (*RAE* **1**: 314, 1913).

JONES, S. 1940. A visitation of the spotted locust (*Aularches miliaris* L.) in Travancore, *J. Bombay Nat. Hist. Soc* **41**: 676–678 (*RAE* **28**: 567, 1940)

JOSEPH, K.V. 1949. Note on the occurrence of the weevil *Diocalandra stigmaticollis* Gyll, as a pest of coconut palm. *Curr. Sci.* **18**: 173–174.

JOYCE, R.J.V. 1954. Outbreaks and new records. *FAO Plant Prot. Bull.* **2**: 121–122 (*RAE* **43**: 1114, 1955).

JULIA, J. F. AND MARIAU, D. 1978. The coconut bug *Pseudotheraptus* sp. in the Ivory Coast. I. Studies preliminary to the devising of a method of integrated control. *Oleagineux* **33**: 65–75 (*RAE* **67**: 23–24, 1979).

KADEN, O. 1930. Report for 1929 of the section for Phytopathology 8, 56 pp. *S. Thome, Direccao Servicos Agric.* (RAE **19**: 54–55, 1931).

KEIFER, H.H. 1962. Eriophyid studies B7–20pp. *Bur. Ent. Dept. Agric. Sacramento California* (*RAE* **52**: 54, 1964).

KEIFER, H.H. 1977. Eriophyid studies C–14, 24 pp. Sacramento, California, U.S.A. (*RAE* **66**: 585, 1978).

KELSEY, J.M. 1945. A termite damaging coconut palms on Suwarro Island. *Calotermes* (*Neotermes*) *rainbowi* Hill. *N.Z.J. Sci. Tech.* **27**: 69–75 (*RAE* **34**: 211, 1946).

KEMNER, N.A. 1926. Some termites from Ceylon. *Bull. ent. Res.* **14**: 379–392.

KNOWLES, C.H. 1918. Division of Entomology. *Fiji Dept. Agric. Ann. Rept. for year* 1917, **60**: 8–12 (*RAE* **7**: 311, 1919).

KUECHENIUS, P.E. 1915. Diseases and pests of coconuts in the Dutch East Indies. *Teysmannia, Batavia* **10**: 601–612 (*RAE* **4**: 236–237, 1916).

KUECHENIUS, P.E. 1916. Diseases and pests of coconuts in the Dutch East Indies and their control *Teysmannia*, Batavia, Nos. **11-12**: 579–642 (*RAE* **5**: 417–419, 1917).

KURIAN, C, PILLAI G.B., ABRAHAM V.A. AND MATHEN, K. 1972. Record of a coreid bug (nut crinkler) as a new pest of coconut in India. *Curr. Sci.* **41**: 37.

KURIAN, C. ABRAHAM, V.A. PONNAMMA, K.N. AND ABDULLA KOYA, K.M. 1978. *Myllocerus curvicornis*(F) as a new pest of coconut. *J. Plant. Crops* **6**: 44–45.

KURIAN, C., SATHIAMMA, B. AND PILLAI, G.B. 1979. World distribution of pests of coconut. FAO of United Nations Tech. Document No. 119, 53 pp. FAO Plant Protection Committee for the South East Asia and Pacific Region FAO Regional Office for Asia and the Far East, Bangkok, Thailand.

KUROSAWA, M. 1937. A quarantine interception of a new *Phloeothrips* from Japanese South Sea Island. *Zool. Mag.* **49**: 316–318 (*RAE* **27**: 50, 1939).

LAING, F. 1925. Descriptions of some new genera and species of Coccidae. *Bull. ent. Res.* **16**: 51–66.

LAING, F. 1929. Descriptions of new and some notes on old species of Coccidae. *Ann. Mag. Nat. Hist.* **10**: 465–501. (*RAE* **18**: 330, 1930).

LANDEIRO, R. 1942. *Dynamis politus* Grll. (*Rhynchophorus politus* Gyll). A new pest of coconut. *Bol. Minist. Agric.* **30**(11): 1–6 (*RAE* **31**: 444, 1943).

LARGEAU, F. 1916. Combating coccids of the coconut palm in the New Hebrides. *Zeitschr. f. Pflanzenkrankheiten, Stuttgart* **26**: 418 (*RAE* **5**: 94, 1917).

LATCH, G.C.M. AND FALLOON, R.E. 1976. Studies on the use of *Metarrhizium anisopliae* to control *Oryctes rhinoceros. Entomophaga* **21**: 39–48 (*RAE* **65**: 423, 1977).

LEAN, O.B. 1931. On the recent swarming of *Locusta migratorioides* R. & F. *Bull. ent. Res.* **22**: 365–378.

LEEFMANS, S. 1919. The two-coloured coconut leaf beetle. *Meded. Laboratorium voor Plantenziekten, Buitenzorg No.* **35**: 1–14 (*RAE* **7**: 389–390, 1919).

LEEFMANS, S. 1919a. The striped skipper caterpillar of the coconut. *Meded Laboratorium Voor Plantenziekten, Buitenzorg No.* **35**: 15–31 (*RAE* **7**: 390–391, 1919).

LEEFMANS, S. 1924. A dangerous pest of coconuts in the Dutch East Indies outside of Java. Reprint from *De Indische Culturen*, 4 pp. (*RAE* **13**: 74, 1924).

LEEFMANS, S. 1929. A serious cockchafer infestation in a tea and rubber plantation due to *E. hypoleuca*. Reprint from *De Bergcultures*, 16pp. (*RAE* **18**: 286–287, 1930).

LEEFMANS, S. 1929a. Diseases and pests of cultivated plants in the Dutch East Indies in 1928. *Meded. Inst. Plziekt No.* 75, 96pp. (*RAE* **18**:193–194, 1930).

LEEFMANS, S. 1930. Diseases and pests of cultivated plants in the Netherlands Indies in 1929. *Meded. Inst. Plziek No.* 79, 100 pp. (*RAE* **19**: 397–398, 1931).

LEEFMANS, S. 1931. Notes on three dynastid beetles noxious to coconut trees in the Netherlands Indies. *Korte. Meded. Inst. Plziket. No.* **15**, 17pp. Buitenzgrg (*RAE* **19:** 416–417, 1931).

LEEFMANS, S., AND AWIBOWO, R. 1935. Combating *Artona catoxantha* with Dusturan. *Landbouw* **11:** 1–20 (*RAE* **25:** 452, 1936).

LEFROY, H.M. 1906. Indian Insect Pests. Culcutta.

LEPESME, P. 1947. Les Insectes des palmiers, Paris Le Chevalier, pp. 447–473.

LEVER, R.J.A.W. 1933. Insects of the coconut palm in the British Solomon Islands. List I. *Brit. Solomon I. Prot. Agric. Gaz* **1**(2): 4–5 (*RAE* **21:** 481, 1933).

LEVER, R.J.A.W. 1933a. Notes on two Hemipterous pests of the coconut in the British Solomon Islands. *Brit. Solomon Is. Prot. Agric. Gaz.* **1**(3): 2–6 (*RAE* **21:** 624–625, 1933).

LEVER, R.J.A.W. 1933 b. Insects of the coconut palm in the British Solomon Islands List 2. *Brit. Solomon Is. agric. Gaz.* 1(4): 15–16 (*RAE* **22:** 64, 1934).

LEVER, R.J.A.W. 1934. Insects of the coconut palm in the British Solomon Islands List 3. *Brit. Solomon Is. agric. Gaz.* **2**(3): 7–8 (*RAE* **23:** 203, 1935).

LEVER, R.J.W. 1934a. Further notes on local termites. *Brit. Solomon Is. agric. Gaz.* **2**(4) 10–13 (*RAE* **23:** 280, 1935).

LEVER, R.J.A.W. 1934b. Corrections and additions to determinations of local insects. *Brit. Solomon Is. agric. Gaz.* **2**(3): 18–19 (*RAE* **23:** 204, 1935).

LEVER, R.J.A.W. 1936. Report of Entomologist for the year 1935–36, 4pp. *Brit. Solomon Is. Prot. agric. Comm.* (*RAE* **25:** 347, 1936).

LEVER, R.J.A.W. 1936a. Insects of the coconut palm in the British Solomon Islands. List 4. *Brit. Solomon Is. agric. Gaz.* 3(4): 6–7 (*RAE* **24:** 328, 1936).

LEVER, R.J.A.W. 1938. Division of Entomology. Annual report for 1937. *Ann. Bull. divl. Reps. Dep. Agric. Fiji.* pp. 25–27. (*RAE* **27:** 212, 1939).

LEVER, R.J.A.W. 1938. Three moths from coconut flowers. *Agric. J. Fiji* **9:** 23(*RAE* **26:** 497, 1938).

LEVER, R.J.A.W. 1941. Entomological Notes. *Agric. J. Fiji* **12: 77-80** (*RAE* **30:** 315, 1942).

LEVER, R.J.A.W. 1945. Annual report of Entomologist for 1944. *Agric. J. Fiji* **16:** 87–88 (*RAE* **35:** 43, 1947).

LEVER, R.J.A.W. 1946. Annual report of Entomologist for 1945. *Agric. J. Fiji.* **17:** 42–43 (*RAE* **36:** 390, 1948).

LEVER, R.J.A.W. 1946a. The aphids or green flies of Fiji. *Agric. J. Fiji* **17:** 81 (*RAE* **36:** 413–414, 1948).

LEVER, R.J.A.W. 1969. Pests of the coconut palm 190pp. Agricultural series. FAO Rome.

LEWTON–BRAIN, L. 1913. Agriculture in Malaya in 1912. *Dep. Agric. Fed. Malay States/, Kuala Lumpur Bull. No.* **18:** 1–45 (*RAE* **2:** 133–134 1914).

LEWTON–BRAIN L. 1914. Agriculture in Malaya in 1913. *Dept. Agric. Fed. Malay States, Kula-Lumpur Bull. No.* **20:** 1–45 (*RAE* **3:** 12–13, 1915).

LIMA, A.F. DE AND CASSINO, P.C.R. 1977. New hosts of *Orthezia praelonga* Douglas 1891 (Homoptera, Ortheziidae) in the State of Rio de Janeiro. *Arquivos do Universidade Federal Rural, do Rio de Janeiro* **4:** 73–74 (*RAE* 65: 58, 1977).

LOMMEL, V. 1925. On animal pests of the coconut palm. *Zeitschr. angew. Ent.* **11:** 255–272 (*RAE* **13:** 480–481, 1925).

MAAS P.W.T. AND WOUDENBERG VAN J. 1970. Major diseases and pests of coconut in Surinam, with particular reference to growing conditions. *Surinaamse Landbouw* **18**:87–111 (*RAE* **62:** 131, 1974).

MACEDO, A. 1944. How to increase the productivity of coconut palms in Paraiba. *Bol. Minist. Agric.* **32**(9): 27–44 (*RAE* **35:** 106–107, 1947).

MACKIE, D.B. 1917. A summary of the work of the pest control section for the year 1916. *Philippine Agric. Review* **10:** 128–145.

MAHINDAPALA, R. AND SUBASINGHE, S.M.P. 1976. Damage to coconut by *Xyleborus similis*, *FAO Plant Prot. Bull.* **24:** 45–47.

MALLAMAIRE, A. 1934. Extraits du Rapport de la Station Experimentale du Palmier a huile de la Me' Annee 1933. *Etude systematique et biologique des principaux animaux et insectes parasites des plantes cultivees en Cote d Invoire. Bull. Com.* A.O.F. **17:** 434–485 (*RAE* **35:** 356–357, 1935).

MAMET, R. 1936. Note sur les cochenilles de ille d Agalega. *Rev. agric. Maurice no.* **88:** 152–153 (*RAE* **25:** 166, 1937).

MAMET, R. 1937. New species of Coccidae (Hemiptera: Homoptera) from Mauritius. *Proc. R. ent. Soc. Lond.* **6:** 173–176 (*RAE* **26:** 66, 1938).

MARIAU, D. 1966. Aspects of the problem of *Oryctes* in the Ivory Coast. *Oleagineux* **21:** 159–162.

MARIAU, D. 1969. *Aceria guerreronis* Keifer. a recent pest of coconut in Dahomey. *Oleagineux* **24:** 269–272.

MARIAU, D. AND JULIA, J.F. 1970. The attack by the mite *A. guerreronis*, a pest of coconut. *Oleagineux* **25:** 459–464.

MARIAU, D. 1974. Pests and diseases of oil and coconut palms *Temnoschoita*. *Oleagineux* **29:** 557

MARIAU, D. 1975. Hispids of the genus *Coelaenomenodera*, pests of coconut palm in Madagascar. *Oleagineux* **30:** 303–309.

MARIAU, D. 1977. *Aceria* (*Eriophyes*) *guerreronis*, an important pest of African and American coconut plantations. *Oleagineux* **32:** 101–111.

MARIAU, D. AND JULIA, J.F. 1970. The attack by the mite *A. guerreronis*, a pest of coconut. *Oleagineux* **25:** 459–464.

MARTINEZ, A.P. 1965. Lethal yellowing of coconut in Florida. *FAO Plant Prot. Bull.* **13**(2): 25–29.

MARSHALL, G.A.K. 1935. Four new Derelominae (Coleoptera: Curculionidae). *Stylops* **4:** 137–140 (*RAE* **23:** 361–1935).

MASKEW, F. 1916. Quarantine Division Report for the month of August, 1916. *Mthly. Bull. California State Commiss. Hortic., Sacramento,* **5:** 391–392 (*RAE* **5:** 12, 1917).

MASKEW, F. 1916. Quarantine Division Report for the month of September, 1916. *Mthly Bull. California State Commiss. Hortic. Sacramento* **5:** 422–423 (*RAE* **5:** 106, 1917).

MASKEW, F. 1917. Quarantine Division Report. *Mthly. Bull.* Bull. California State Commiss. Hortic., Sacramento 6: 66–67 (*RAE* **5:** 229–230, 1917)

MASKEW, F. 1918. Quarantine Division Report for the month of June, 1918. *Mthly. Bull. California State Commiss. Hortic., Sacramento* **7:** 508–509 (*RAE* **6:** 525, 1918).

MASKEW, F. 1920. Quarantine Division. Reports for the months of July and August, 1920. *Mthly. Bull. California Dept. Agric. Sacramento* **9:** 388–392 (*RAE* **9:** 44, 1921).

MATHEN, K., PILLAI, G.B., ANTONY, J. AND KURIAN, C. 1962. Less serious enemies of the coconut palm. *Coc. Bull.* **16**(4): 99–110.

MAULIK, S. 1929. New injurious Hispinae. *Bull. ent. Res.* **20:** 81–94.

MAULIK, S. 1929. Injurious Hispinae from the Solomon Islands. *Bull. ent. Res.* **20:** 233–239.

MAULIK, S. 1930. New injurious Hispinae *Bull. ent. Res.* **11:** 45–56.

MAULIK, S. 1933. A new Hispine beetle *Plesispa cocotis* sp. n. injurious to coconut in New Caledonia. *Entomologist* **66:** 280–281 (*RAE* **22:** 48, 1934).

MAYNE, R. 1928. Insectes nuisibles aux palmeirs de 1 Afrique tropicale at appartenant a la famille des Dynastides *Ann. Gembloux* **34:** 89–105 (*RAE* **16:** 429, 1928).

MCKENZIE, H.L. 1946. Supplementary notes on the genera *Aonidiella* and *Parlatoria* (Homoptera: Coccoidae: Diaspididae. *Microentomology* **11:** 29–36 (*RAE* **35:** 322, 323, 1947).

MCKENZIE, H.L. 1947. Diaspid scale studies, with notes on California species (Homoptera: Coccoidea, Diaspididae). *Bull. Dep. Agric. Calif.* **36:** 31-36 (*RAE* **36:** 400–401, 1948).

MELO, Q.M.S., CAVALCANTE, R.D., ARAUTO, F.E.DE., CAVALCANTE, M.L.S. 1977. *Cerataphis lataniae* Boisduval 1867, attacking coconut, *Cocos nucifera* L., in the State of Ceara. *Fitossanidade* **2:** 56 (*RAE* **66:** 494, 1978).

MENON, K.S. 1970. Bombay locust–a pest from the Laccadives. *Coc. Bull.* **1:** 3–7.

MENON, K.P.V. AND NIRULA, K.K. 1958. Insect pests of copra and their control. *Proc. of the Fourth Symposium on Oils, Fats and allied products held during* 1955, pp. 287–292

MENON, K.P.V. AND PANDALAI, K.M. 1960. The coconut palm a monograph. 384 pp. Indian Central Coconut Committee, Ernakulam,, India.

MENOR, ORTEGA, J.G. 1934. Report of the Entomologist–Pathologist. *Mem. Soc. Agric. Com. Repub. Dominicana* 117–133, 1932 (*RAE* **22:** 6–7, 1934).

MENOR, ORTEGA, J.G. 1934 a. A little known insect that attacks coconut in the Domican

Republic. *Rev. Agric. Com.* **25**: 1050–1051 (*RAE* **22**: 388, 1934).

MERIND, G. 1929. Plant Pests Control Division. *28th Ann. Rep. Bur. Agric. Philipp.* IS. 67–68, 1928 (*RAE* **18**: 107–108, 1930).

MEYRICK, E. 1889. Coconut trees and caterpillar in Batticaloa. *Trop. Agriculturist* **9**: 790–809.

MEYRICK, E. 1921. Exotic Lepidoptera. ii: 449–480 (*RAE* **10**: 75, 1922).

MEYRICK, E. 1924. Exotic Lepidoptera iii: 65-128 (*RAE* **13**: 88, 1925).

MEYRICK, 1931. Exotic Microlepidoptera. iv: 33–96 and 161–192 (*RAE* **19**: 297 & 721, 1931).

MEYRICK, E. 1932. Exotic Microlepidoptera iv: 225–288 (*RAE* **20**: 433 & 660, 1932).

MEYRICK, E. 1935. Exotic Microlepidoptera iv: 545–576 (*RAE* **23**: 255, 1935).

MONTGOMERY, J.H. AND BRAGDON, K.E. 1919. Quarantine Department. *Quarterly Bull. Florida State Plant Board, Gainsville* **3**: 110–112 (*RAE* **7**: 215, 1919).

MORIN, J.P. AND MARIAW, D. 1971. The biology of *Coelaenomenodera elaeidis* Maulik III Reproduction. *Oleagineux* **26**: 373–378 (*RAE* **59**: 889, 1971).

MORRISON, H. 1920. U.S. Bur. Ent. The non-diaspine coccidae of the Philippine Islands, with descriptions of apparently new species. *Philippine J. Sci.*, **17**: 147–202 (*RAE* **9**: 206–207, 1921).

MORSTATT, H. 1914. Studies of pests of cultivated plants. Der Pflanzer, Dar –es–salaam **10**: 36–39 (*RAE* **2**: 283, 1914).

MOSQUERA, P.F. 1973. Some scale insects that attack plants cultivated in Colombia. *Revista Facultad Nacional de Agronomia Medellin* **28**: 57–64 (*RAE* **64**: 1540, 1976).

M OUTIA, A. 1937. Entomological Division. *Rep. Dep. Agric. Mauritius for* 1936, pp. 37–39 (*RAE* **26**: 176, 1938).

MOUTIA, L.A. 1958. Contribution to the study of some phytophagous Acarina and their predators in Mauritius. *Bull. ent. Res.* **49**: 59–75 (*RAE* **46**: 167–168, 1958).

MOZNETTE, G.F. 1920. U.S. BUR Ent. The Dictyospermum scale on the Avodcado and [illegible] it may be controlled. *Qtrly. Bull. State Plant. Bd. Florida. Gainsville* **5**: 5–1 (*RAE* **9**: 104, 1921).

MOZNETTE, C.F. 1921. U.S. Bur. Ent. Control of two scale insects of the mango. *J. Econ. Ent.* **14**: 469–472 (*RAE* **10**: 188–189, 1922).

MUIR, F. 1926. Notes on some African Derbidae (Homoptera). *Ann. & Mag. Nat. Hist.* **9**: 227–240 (*RAE* **15**: 21, 1927).

MUIR, F. 1929. A new species of *Oliarus cocosivora* (Homoptera : Cixiidae) on coconut palms in Malaya. *Bull. ent. Res.* **20**: 409.

MUNTING, J. 1971. Notes on the genus *Aspidiotus* Bouche (Homoptera : Diaspididae) *J. Ent. Soc. of Southern Africa* **34**: 305–317 (*RAE* **62**: 1209, 1974).

MURRAY, G.H. 1933. Notes on the coconut grasshopper or long-horned tree hopper (*Sexava* sp.). *Leafl. New Guinea Dept. Agric.* **69**: 4 pp. (*RAE* **21**: 683, 1933).

NAIR, M.R.G.K. 1964. Pests of coconut. In: Entomology in India. pp. 72–82. Silver Jubilee Number of the *Indian J. Ent., Ent. Soc. of India*, New Delhi.

NAIR, M.R.G.K. 1975. Coconut. In Insects and mites of crops in India. pp. 68–79. Indian Council of Agricultural Research, New Delhi.

NAIR, M.R.G.K. AND OOMMEN, C.N. 1965. *Callispa* sp. (Hispinae : Chrysomelidae) as a minor pest of coconut in Kerala. *Indian J. Ent.* **27**: 230–232.

NARAYANNAN, E.S. 1954. Insect pests of coconut palm and their control. *Indian Coc. J.* **7**: 117–124.

NAVEL, H.C. 1921. Les principaux Ennemis du cacaoyer aux Iles de San Thome et de Principe. 135 pp. (*RAE* **10**: 323–324, 1922).

NEWSTEAD, R. 1917. Observations on scale insects (Coccidae) v. *Bull. ent. Res.* **8**: 125–134 (*RAE* **6**: 85–86, 1918).

NIRULA, K.K. 1955. Investigations on the pests of coconut palm. Part I. *Indian Coc. J.* **8**: 118–130.

NIRULA, K.K. 1958. Investigations on the pests of coconut palm Part IV. *Leucopholis coneophora* Burm. *Indian Coc. J.* **12**: 10–34.

NIRULA,, K.K. ANTONY, J. AND MENON, K.P.V. 1952. A new pest of coconut palm in India. *Indian Coc. J.* **5**: 137–140.

O'CONNOR, B.A. 1940. Notes on the coconut leaf hispa *Brontispa froggatti* Sharp and its parasites. *New Guinea Agric. Gaz.* **6**: 36–40 (*RAE* **29**: 379, 1941).

O'CONNOR, B.A. 1949. Some Insect pests of Tonga. *Agric. J. Fiji*, **20**: 47–57 (*RAE* **40**: 206, 1952).

OGIVILE, L. 1926. Report of the Plant Pathologist for the year 1925. *Rep. Dept. Agric. for* **1925.** pp. 36–63 (*RAE* **14**: 624–626, 1926).

ORTEGA, C.A., RODRIGUEZ, V.J. AND GARIBAY, V.C. 1965. Preliminary investigations on the coconut eriophyid *Aceria querreronis* Keifer on the Costa Grande of Guerrero. *Agricultura tec. Mex.* **2**: 222–226 (*RAE* **55**: 335, 1967).

PAINE, R.W. 1934. Entomological notes. *Agric. J. Fiji.* **7**: 39–41 (*RAE* **23**: 270, 1935).

PARASRAM, S. AND MEDERICK, F. 1971. A note on damage to coconuts in St. Lucia, West Indies, by a beetle of the *Cholus zonatus complex. Trop. Agric.* **48**: 125–126 (*RAE* **62**: 1367–1368, 1974).

PASSOS DE CARVALHO, J. 1968. Notes on the meeting of entomologists held in Sao Tome and Principe from 8th to 22nd August 1977 *Ser. tec. Inst. Invest. agron. Angola* No. **1**: 17 pp. (*RAE* **57**: 574–575, 1969).

PATTERSON, W.H. 1913. Report of the Entomologist. *Report Gold Coast Agric. Dept. for* 1912, pp. 22–25 (*RAE* **2**: 141–142, 1914).

PATTERSON, W.H. 1914. Report of the Entomologist. *Rept. Gold Coast Agric. Dept.* for 1913 pp. 18–27 (*RAE* **2**: 670–672, 1914).

PATTERSON, W.H. 1916. Report of the Entomologist *Rept. Gold* Coast Agric. Dept. for 1915, pp. 19–21 (*RAE* **4**: 4–7, 1916).

PATTERSON. W.H. 1922. Report of the Entomologist. *Rept. Gold Coast Agric. Dept. for* 1921 (*RAE* **11**: 213–214, 1923).

PEACOCK, A.D. 1913. Entomological pests and problems of Southern Nigeria. *Bull. ent. Res.* **4**: 191–120.

PEMBERTON, C.E. 1938. Entomology. *Rep. Com. Exp. Sta. Hawaii. Sug. Pl. Ass.* 1938, pp. 19–29 (*RAE* **27**: 366–367, 1939).

PERIS, M.M. 1926. The coconut pest in South Canara. *Trop. Agric.* **46**: 350 (*RAE* **14**: 480, 1926).

PIERCE, W.D. 1934. At what point does insect attack become damage ? *Ent. News* **45**: 1–4 (*RAE* **22**: 164–165, 1934).

PILLAI, N.K. 1919. Coconut. The wealth of Travancore. *Agric. J. India, Calcutta*, **14**: 608–628 (*RAE* **7**: 506, 1919).

PILLAI, R.M. 1919. An attack of *Nephantis serinopa* on coconut palm in Travancore. *Agric. J. India* **14**: 668–669 (*RAE* **7**: 506, 1919).

PILLAI, R.M. 1921. Short notes on the insect pests of crops in Travancore. *Travancore Dept. Agric.* Trivandrum, 53 pp. (*RAE* **10**: 85, 1922).

PILLAI, M.D., RAO, E.V.V.B. AND KOYA, C.P. M. 1976. Annotated bibliography of coconut in India, 1936–1976, 270 pp. (*RAE* **66**: 398, 1978).

Plant Protection Committee 1969. Outbreaks of pests and diseases. *Q. Newsl. Pl. Prot. Comm. S.E. Asia* **12**: 4–6 (*RAE* **58**: 830, 1970).

PONNIAH, D. 1921. Insect pests of coconuts. *Agric. Bull. F.M.S.*, Kuala Lumpur, **8**: 192–195 (*RAE* **9**: 412, 1921).

QUINDERE, M.A.W., PEREIRA, L., CARNEIRO, J.DA S. 1977. Differentiation of the larvae of the coconut beetle, *Strategus validus* Fabr. 1775 Coleoptera: Curculionidae). *Fitossanidade* **2**: 20–21 (*RAE* **66**: 96, 1978).

RAFIQ, A. AND GHANI, M.A. 1972. Studies on *Aspidiotus destructor* Sign. (Hemiptera : Diaspididae) and its parasites *Aphytis melinus* De Bach (Hymenoptera : Aphelinidae) and *Pakencyrtus pakistanensis* Ahmed (Hymenoptera : Encyrtidae) in Pakistan. *Tech. Bull. of the Commonwealth Inst. of Biological Control No.* **15**: 51–57 (*RAE* **64**: 418–419, 1976).

RAI, B.K. 1977. Damage to coconut palms by *Azteca* sp. (Hymenoptera : Formicidae) and insecticidal control with bait in Guyana. *Bull. ent. Res.* **67**: 175–183.

REINERT, J.A. AND WOODIEL, N.L. 1974. Palm aphid control on Malayan dwarf coconut palms. *Florida Entomologist* **57**: 411–413 (*RAE* **64**: 811–812, 1976).

REINERT, J.A. AND NAKAHARA, S. 1976. 1976. *Nesothrips brevicollis* and *Scotothrips claripennis* (Thysanoptera : Phlaeothripidae) on *Cocos* *nucifera* two new species records for the Continental United States. *Florida Entomologist* **59**: 308 (*RAE* **65**: 1032, 1977).

REYNE, A. 1923. Entomologists' Report *Dept. Landbouw, Suriname* pp. 32–39, 1922 (*RAE* **12**: 99, 1924).

RICHARDS, P.B. 1914. Note on the occurrence of three caterpillar pests on coconut. *Agric. Bull. Fed. Malay States* **3**: 43–45 (*RAE* **3**: 323–324, 1915).

RICHARDS, P.B. 1917. The history and present position of white ant treatment in Malaya. *Agric. Bull. Fed. Malay States* **5**: 338–348 (*RAE* **5**: 522, 1917).

RICHARDS, P.B. 1918. Notes on Entomology in the Federated Malay States during 1917. *Agric. Bull. Fed. Malay States* **6**: 409–420 (*RAE* **7**: 128, 1919).

RICHARDS, R.M. 1917. The diseases and pest of the coconut palm. *Agric. Bull. Fed. Malay States* **5**: 327–337 (*RAE* **5**: 521, 1917).

RISBEC, J. 1931. Note sur un parasite du cocotier en Nouvelle Calendonie (*Agonoxena* sp.). *Rev. Path. Veg. Ent. agric.* **18**: 217–219 (*RAE* **19**: 734–735, 1931).

RISBEC, J. 1934. Le cocotier en Nouvelle Caledonie. *Agron. colon.* **23**: 1–13; 47–53 (*RAE* **23**: 547, 1935).

RISBEC, J. 1935. Note preliminare sur les principaux parasites du cocotier aux Nouvelles-Hebrides. *Ann. Soc. Ent. Fr.* **104**: 159–173 (*RAE* **23**: 547–548, 1935).

RITCHIE, A.H. 1917. Coconut beetles. *J. Jamaica Agric. Soc., Kingston* **21**: 269 (*RAE* **5**: 520, 1917).

RITCHIE, A.H. 1917 a. Report of the Government Entomologist for the year 1916–1917. *Supplement Jamaica Gazette, Kingston.* **40**: 92–97 (*RAE* **5**: 429–431, 1917).

RITCHIE, A.H. 1918. Annual report of Entomologist. *Jamaica Dept. Agric. Ann. Rept.* for 1918, pp. 34–40. (*RAE* **7**: 57, 1919).

ROEPKE, W. 1935. The Limacodid pest on the Island of Batjan, Moluccas. *Meded. Landb.* **39**, 40 pp. (*RAE* **23**: 341, 1935).

ROONWAL, M.L. [illegible]. Plant pest status of root [illegible] *orientalis* with notes on

taxonomy, distribution and habits (Insecta : Hymenoptera). *J. Bombay Nat. Hist. Soc.* **72**: 305–313 (*RAE* **64**: 1835–1836, 1976).

RUSSELL, L.M. 1965. A new species of *Aleurodicus* Douglas and two close relatives (Homoptera: Aleyrodidae). *Florida Ent.* **48**: 47–55 (*RAE* **55**: 485, 1967).

RUSSO, G. 1927. Dominian *Republic*. Chief insects harmful to crops (*RAE* **16**: 67–68, 1928).

RUSSO, G. 1927a. Report of the Entomological Section. *Repub. Dominiciana, Estac. nac. agron. de Moca, Lal. Entom.* 35 pp. (*RAE* **16**: 68, 1928).

RUTHERFORD, A. 1914. Report of the Entomologist, *Rept. Ceylon Dept. Agric. from July* 1, 1972 *to Dec.* 31, 1973, pp. 9–12 (*RAE* **2**: 643–644).

SASSCER, E.R. 1918. Important foreign insect pests collected on imported nursery stock in 1917. *J. Econ. Ent.* **11**: 125–129 (*RAE* **6**: 205–206, 1918).

SCHAUS, W. 1924. A new moth injurious to coconut palm (Lepidoptera Limacodidae). *Proc. Ent. Soc. Wash.* **26**: 180 (*RAE* **12**: 407, 1924)

SCHMUTTERER, H. 1964. On knowledge of the pests and diseases of cultivated plants in Southern Somalia. *Anz. Schadlingsk.* **37**: 102–106 (*RAE* **54**: 380, 1966).

SESHADRI, S.N. 1968. Occurrence of *Xyleborus perforans* Wollaston (Scolytidae: Coleoptera) as a pest of arecanut and coconut crops. *Sci. & Cult.* **34**: 132.

SHROFF, K.D. 1919. Lists of the pests of fruit trees (including palms) in Burma. *Rep. Proc. Third Ent. Meeting*, pp. 596–600.

SILVA, Q. M.A.E. AND CAVALCANTE, R.D. 1977. *Vinsonia stellifera* Westwood 1871 (Homoptera : Coccidae), on various plants in the State of Ceara, Brazil (*RAE* **66**: 96, 1978).

SIMMONDS, H.W. 1920. Report on mission to Tahiti to investigate the parasites of the coconut scale with a view to their introduction into Fiji. *Mthly. Circ. Information Fiji Dept. Agric. Suva*, **1**: 133–138 (*RAE* **9**: 263–264, 1821).

SIMMONDS, H.W. 1922. A leaf destroying moth of coconuts in Fiji, *Agonoxena argaula* Meyrick. *Circ. Fiji. Dept. Agric. Suva*, **3**: 7–8 (*RAE* **10**: 439, 1922).

SIMMONDS, H.W. 1924. Report by the Acting Entomologist for the year 1923. *Fiji Dept. Agric. Ann. Rep. for* 1923, p. 8 (*RAE* **13:** 174, 1925).

SIMMONDS, H.W. 1924a. Report on mission to New Guinea, Bismarks, Solomons and New Hebrides. *Legislative Council, Fiji* (*RAE* **12:** 298–300, 1924).

SIMMONDS, H.W. 1925. Pests and diseases of coconut palm in the Islands of the Southern Pacific *Fiji Dept. Agric. Bull.* **16:** 31 pp. (*RAE* **14:** 103–104, 1926).

SMEE, L. 1965. Insect pests of *Cocos nucifera* in the territory of Papua and New Guinea, their habits and control. *Papua New Guin. agric. J.* **17:** 51–64 (*RAE* **55:** 390–399, 1967).

SMYTH, E.G. 1917. The white grubs injuring sugarcane in Porto Rico. 1. Life cycles of the May beetles or Melolothids. *J. Dept. Agric. Porto Rico* **1:** 47–92 (*RAE* **5:** 410–411, 1917).

SMYTH, E.G. 1917. The white grubs injuring sugarcane in Porto Rico. 1. Life histories of the May beetles (contd.) *J. Dept). Agric. Porto Rico,* **1:** 141–169.

SOMMEIJER, M.J. 1978. The distribution of some important insect pests in the eastern Caribbean. *Caribbean Pl. Prot. Comm. Trinidad,* pp. 275–285 (*RAE* **66:** 516, 1978).

SOUTH, F.W. 1914. Agricultural pests enactment No. 13 of 1913. *Agric. Bull. Fed. Malay States* **2:** 220–224 (*RAE* **2:** 479–480, 1914).

SOUTH, F.W. 1926. Annual report of the Chief Field Officer, 1925. *Malayan agric. J.* **14:** 146–. 159 (*RAE* **14:** 557, 1926).

SOUTH, F.W. AND BIRKINSHAW, F. 1924. Summary of the work of the Inspection Division for the first three quarters of 1923. *Malayan agric. J.* **12:** 32–50 (*RAE* **12:** 267, 1924).

STEHLE, H. 1935. Interest des methods biologiques dans la protection des cultures de la Guadeloupe. *Agron. Colon.* no. **214,** 98–101 (*RAE* **24:** 68–69, 1936).

STRONG, L.A. 1922. Bureau of plant quarantine. A synopsis of work for the months of March–April, May, June and July 1923. *Mthly. Bull. Cal. Dept. Agric.* **11:** 775–780 (*RAE* **11:** 52–54 1923).

SUBRAMANIAM, T.R., THANGAVEL, P, AND DAVID, B.V. 1975. A new species of *Amorphoidea* (Curculionidae: Coleoptera) infesting coconut inflorescence. *Curr. Sci.* **44:** 825–826.

SUSAINATHAN, P. 1924. Some important pests of the Malay Peninsula. *Rep. Pnoc. Fifth Ent. Meeting* 1923, pp. 28–33 (*RAE* **12:** 379, 1924).

SWEZEY, O.H. 1921. Some recent insect immigrants in the Hawaiian Islands. *J. Econ. Ent.* **14:** 254–258 (*RAE* **10:** 43, 1922).

SWEZEY, O.H. 1924. Notes on insect pests in Samoa. *Hawaiian Planter's Record.* **28:** 214–219 (*RAE* **12:** 272, 1924).

SWEZEY, O.H. 1934. Summary of insect conditions in Hawaii for 1933. *Insect Pest Sur. Bull.* **13:** 340–341 (*RAE* **22:** 257, 1934).

SZENT-IVANY, J.J.H. AND CATLEY, A. 1960. Notes on the distribution and economic importance of the Papuan tip-wilt bug, *Amblypelta lutescens pupuensis* Brown. (Heteroptera: Coreidae). *Papua New Guinea agric. J.* **13:** 59–65 (*RAE* **50:** 235, 1962).

TAKAHASHI, R. 1925. Some aphididae of Sumatra (Hemiptera). *Bull. Deli. Proefst. No.* **24.** 6 pp. (*RAE* **14:** 326–327, 1926).

TAKAHASHI, R. 1939. Some Aleyrodidae, Aphididae and Coccidae from Micronesia (Homoptera). *Tenthredo* **2:** 234–272 (*RAE* **28:** 68, 1940).

TAMS, W.H.T. 1930. Four moths of the family Limacodidae injurious to coconut palm. *Bull. ent. Res.* **21:** 489–490.

TAMS, W.H.T. 1953. A pest of coconut palm in Portuguese East Africa. *Bull. Brit. Mus. (Nat. Hist.) Ent.* **3:** 69–73 (*RAE* **43:** 126, 1955).

TAYLOR, T.H.C. 1937. The biological control of an insect in Fiji. 239 pp. Imperial Inst. of Ent., London.

TIMBERLAKE, P.H. 1926. New species of Hawaiian chalcid flies (Hymenoptera). *Proc. Hawaiian Ent. Soc.* 1925, **6:** 305–320 (*RAE* **14:** 544, 1926).

TJOA TJIEN, M.O. 1965. The occurrence of two strains of *Brontispa longissima* (Gestro) (Coleoptera: Hispidae) based on resistance or non-resistance to the parasite *Tetrastichus brontispae* Ferriere (Hymenoptera: Eulophidae) in Java. *Bull. ent. Res.* **55:** 609–614.

TOTHILL, J.D. 1929. A reconnaissance survey of Agricultural conditions in the British Solomon

Islands Protectorate. *F' scap fol.*, 17 pp. (*RAE* **17**: 416–417, 1929).

TSAI, J.H. 1975. Transmission studies of three suspected insect vectors of lethal yellowing of coconut palm. *FAO Pl. Prot. Bull.* **23**: 140–145.

TSAI, J.H. AND ANWAR, M. 1977. Molting and longevity of *Oncometopia nigricans* (Homoptera: Cicadellidae), a suspected vector of lethal yellowing of coconut palms on various host plants. *Florida Ent.* **60**: 105–108.

UICHANCO, L.B. 1936. Miscellaneous notes on locusts, agriculture and people in Mindanao. *Philipp. Agric.* **25**: 565–588 (*RAE* **25**: 125, 1937).

UNIVERSITY OF PUERTO RICO 1943. Biennial report of the University of Puerto Rico Agricultural Experiment Station for the fiscal years 1941 & 1942, 105 pp. (*RAE* **33**: 97, 1945).

URICH, F.W. 1913. Beetles affecting the coconut palm. *Proc. Agric. Soc. Trinidad & Tobago.* **13**: 164–167 (*RAE* **1**: 285, 1913).

URICH, F.W. 1914. Insect pests of 1913. *Bull. Dept. Agric. Trinidad and Tobago.* **13**: 101–103 (*RAE* A **2**: 459–460, 1914).

URICH, F.W. 1915. The coconut butterfly *Brassolis sophorae. Bull. Dept. Agric. Trinidad & Tobago* **14**: 172 (*RAE* **4**: 30, 1915).

URICH, F.W. 1915a. Insects affecting the coconut palm in Trinidad. *Bull. Dept. Agric. Trinidad & Tabago* **15**: 200–203 (*RAE* **4**: 93–94, 1916).

URICH, F.W. 1918. Thrips, black ants and other insect pests of cacao in Grenada, with a note on Coconut Disease. *Rept. presented to the Govt.* of *Grenada Trinidad*, 23 pp. (*RAE* **6**: 496–497).

USDA, 1977. Coccoidea new to Puerto Rico, *Co-operative Plant Pest Report* **3**: 11 (*RAE* **66**: 660, 1978).

UVAROV, B.P. 1924. A new long-horned grasshopper damaging coconut palms in New Britain. *Bull. ent. Res.* **15**: 35–36.

VANDERBERG, S.R. 1926. Report of the Entomologist. *Rept. Guam. Agric. Expt. Sta.* 1925, pp. 17–20 (*RAE* **15**: 417–418, 1927).

VAN DER GOOT, P. 1935. Diseases and pests of cultivated plants in Netherlands Indies in 1933. *Meded. Inst. Plziekt. No.* 84, 79 pp. (*RAE* **23**: 560, 1935).

VAN DER GOOT, P. 1935a. Diseases and pests of cultivated plants in the Netherlands Indies in 1934. *Meded. Inst. Plziekt. No.* **85**, 95 pp. (*RAE* **24**: 208, 1936).

VAN DINTHER, J.B.M. 1956. Insects of coconut palm in Suriname. *Bull. Landl. Proefst. Suriname No.* **69** 27 pp. (*RAE* **46**: 406, 1958).

VAN HALL C.J.J. 1918. Diseases and pests of cultivated plants in the Dutch East Indies in 1917. *Meded. Laboratorium voor Plantenziekten, Buitenzorg No.* **33**, 42 pp. (*RAE* **6**: 349–350, 1918).

VAN HALL C.J.J. 1924. Diseases and pests of cultivated plants in the Dutch East Indies in 1923. *Meded. Inst. Plantenziekten*, No. **64**: 47 pp. (*RAE* **12**: 572, 1924).

VANDERPLANK, F.L. 1954. Field experience with spray nozzles in the tropics. *World Crops* **6**: 488–490.

VAN HEURN, P.C. 1919. Verslag van der Directeur 1 Juli 1918–30 June 1919. *Meded. Algem. Proefst. A.V.R.O.S., Medan, Algem. Ser. no.* 7, 66 pp. (*RAE* **8**: 538, 192).

VAYSSIERE, P. 1965. Seventeenth International Symposium on Phytopharmacy and Phytiatry, 4th May, 1965. *Meded. Landb. Hogesch. Opzoek. Stns. Gent.* **30**: 1571–1576 (*RAE* **54**: 575–578, 1966).

VAN ZWALUWENBURG, R.H. 1916. Report of the Entomologist. *Rept. Porto Rico Agric. Expt. Sta.* 1915, Washington, pp. 42–45 (*RAE* **5**: 227, 1916).

VENKITASUBBAN, C.S. 1938. Pests on coconuts in the State. *Dept. Agric. ent. ser. Bull. Cochin*, **4**: 1–20.

VESEY-FITZGERALD, D. 1938. Entomology. *Rep. Dep. Agric. Seychelles* 1937, pp. 22–24 (*RAE* **27**: 335–336, 1939).

VESEY-FITZGERALD, D. 1941. Some insects of economic importance in Seychelles. *Bull. ent. Res.* **32**: 153–160 (*RAE* **30**: 214, 1942).

VINSON, J. 1963. On the recent appearence of a harmful Lamellicorn, *Oryctes rhinoceros* in Maurtius. *Rev. agric. sucr. Maurice* **42**: 173–180 (*RAE* **52**: 90, 1964).

WALTERS, E.A. 1926. Control of insect pests. *Rept. Agric. Dept., St. Lucia*, 1924, pp. 9–10 (*RAE* **14**: 301, 1926).

WALTERS, E.A. 1931. Control of insect pests. *Rep. Agric. Dept. St.* Lucia 1930, p. 5 (*RAE* **20:** 14, 1932).

WALTERS, E.A. 1937. Entomological investigations. *Rep. Dep. Agric. St. Lucia* 1936, pp. 29–30 (*RAE* **26:** 121, 1938).

WATERS, H. 1977. A technique for the location of plant hopper feeding probes using labial imprints. *Ann. App. Biol.* **85:** 309–311. (*RAE* **65:** 1330, 1977).

WATSON, J.R. 1920. An apparently new *Haplothrips* from Cuba. *Florida Entomologist* Gainesville, **4:** 7 and 12 (*RAE* **8:** 474, 1920).

WATSON, J.R. 1926. Two new Thysanoptera from Cuba. *Florida Ent.* **9:** 53–55 (*RAE* **14:** 240, 1926).

WATSON, J.R. 1926a. Additions to the Thysanoptera of Cuba. *Mem. Soc. Cubana Hist. nat.* "Felipe Poey" **7:** 46–47 (*RAE* **14:** 439, 1926).

WAY, M.J. 1953. Studies on *Theraptus* sp. (Coreidae) the cause of the gumming disease of coconuts in East Africa. *Bull. ent. Res.* **44:** 657–667.

WAY, M.J. 1954. Studies on *Theraptus* sp. (Coreidae) the cause of the gumming disease of coconuts in East Africa. *Bull. ent. Res.* **44:** 657–667.

WILLIAMS, D.J. 1969. A new species of *Parlagena* McKenzie attacking coconut trees in Trinidad Homoptera, Coccoidea, Diaspididae). *Bull. ent. Res.* **59:** 97–99.

WILLEMSE, C. 1958. On some Tettigonioidea injurious to coconut palms. *Natuurh. Maandbl.* **47:** 122–125 (*RAE* **47:** 464, 1959).

WILLEMSE, F. 1970. A new species of the *Valanga* complex from the Gilbert Islands (*Orthoptera:* Cyrtacanthacridinae). *Natuurh. Genoot. Limburg* **20:** 99–101 (*RAE* **59:** 517, 1971).

WOLCOTT, G.N. 1924. Insectae Portoricensis. A preliminary annotated check–list of the insects of Puerto Rico with descriptions of some new species. *J. Dept. Agric. Puerto Rico.* **7:** 313 pp. (*RAE* **12:** 251, 1924).

WOLCOTT, G.N. 1926. Insect pests in Haiti. *Internat. Rev. Sci. & Pract. Agric. N.S.* **4:** 187–189 (*RAE* **14:** 337, 1925).

WOLCOTT, G.N. 1936 "Insectae Borinquenses." A revised annotated checklist of the insects of Puerto Rico with a host plant index by J.I. Otero. *J. Agric. Univ. P.R.* **20**, 627 pp. (*RAE* 24: 768, 1936).

YOUNG, A.M. 1977. Notes on the defoliation of coconut palm *Cocos nucifera* by the butterfly *Opsiphanes quiteria quirinus* in north eastern Costa Rica (Lepidoptera: Brassolidae). *Deutsche Entomologische Zeitschrift* **24:** 353–365 (*RAE* **66:** 446, 1978).

ZACHER, F. 1913. Pests of the coconut palm in the South Sea Islands. *Arbeit* K. *Biol. Anst. Land-und Forstwirtschaft Berlin.* **9:** 73–119 (*RAE* **2:** 2–3, 1914).

ZACHER, F. 1915. New and little known plant pests from our colonies. *Zeitscher. f. angew. Entom., Berlin* **2:** 422–426 (*RAE* **8:** 254, 1920).

ZOLOTAREVSKY, B. 1929. Le lutte antiacridienne a Madagascar. *Agron. Colon.* Nos. **139-140,** pp. 193–199 & 230–233 (*RAE* **18:** 27, 1930).

ZULUAGA, C.I., AND SANCHEZ, P.A., 1971. The scale or excoriation of coconut fruits *Cocos nucifera* L. in Columbia. *Acta Agronomica* **21:** 133–139 (*RAE* **60:** 443–44, 1972).