

NEW INSECT PEST AND HOST PLANT RECORDS IN THE TERRITORY OF PAPUA AND NEW GUINEA

By J. J. H. SZENT-IVANY.*

INTRODUCTION.

NEARLY all insect pests, recorded and published from the Territory of Papua and New Guinea up to about the middle of the year 1954 were listed in a technical paper of the South Pacific Commission, compiled by L. J. Dumbleton (3). Some more insects of cultivated plants were mentioned in papers written by J. H. Ardley, J. H. Barrett, J. W. Barrie, E. B. Britton, G. S. Dun, J. L. Gressitt, Sir Guy A. K. Marshall, N. C. E. Miller, J. J. H. Szent-Ivany and J. S. Womersley in the years 1954-58 (See Bibliography: Nos. 1-2, 4-14).

In the present publication 101 new economic records are listed, that is new as far as the author can ascertain. Some of these represent new host plant records, others new insect pest records for the Territory of Papua and New Guinea or for the whole area of the South Pacific Commission. (See the map on the cover of Dumbleton's above-mentioned paper). A few of these have a wide area of distribution, some of them (mainly the stored product pests) are almost cosmopolitan. But they are listed because to the best of the author's knowledge they have not yet been recorded in New Guinea as economic species. Some other insects mentioned in this paper have been known as agricultural pests in New Guinea for many years, but they are quoted under the wrong names in all previous publications. Some species were identified by the author in Port Moresby but the bulk of the material was examined by overseas specialists.

The insect orders, the families within the orders, genera within the families and the species within the genera are listed in alphabetical order. The name of the collector or collectors is given in brackets. Apart from a few Mecopodidae, Coccidae and Formicidae, none of the listed species are considered major or serious pests.

The names of the host plants are printed between inverted commas.

Appreciation should be expressed for the identification of specimens to Dr. W. J. Hall and Mr. E. O. Pearson, the retiring and

newly-appointed Director of the Commonwealth Institute of Entomology (London), to the specialists of the Commonwealth Institute and the British Museum (London), to Dr. E. Hardy and Miss A. Adachi of the University of Hawaii (Honolulu), to Mr. F. Gay of the C.S.I.R.O. (Canberra), to Dr. J. L. Gressitt of the Bernice P. Bishop Museum (Honolulu), to Mr. A. May of the Queensland State Department of Agriculture and Stock (Toowoomba), to Dr. C. Willemse of Eygelshoven (Holland) and to Professor E. O. Wilson of Harvard University (Cambridge, U.S.A.). Also to all those who collected the insects, thus enriching the entomological collections of the Department of Agriculture, Port Moresby, and contributing new data to our knowledge of economic insects in Papua and New Guinea.

List of New Records.

COLEOPTERA.

BOSTRYCHIDAE (AMBROSIA BEETLES).

- (1) *Rhizopertha dominica* F. Stored Wheatmeal. Port Moresby. (Coll. M. Wraight.)

BRENTHIDAE.

- (2) *Miolispa novae-guineensis* Guer. "Hevea brasiliensis". Feeding on the petioles and on the growing point of rubber seedlings. Sangara Estate, Northern District of Papua. (Coll. W. A. Van den Berk.)
- (3) *Miolispa* sp. nr. *aruensis* Kln. Same as the previous species.
- (4) *Miolispa* sp. nr. *papuana* Kln. "Crotalaria anagyroides, Hevea brasiliensis". On the petioles of rubber seedlings and on the flowers of "Crotalaria". Rubber Experiment Station Bisianumu, Central District of Papua (1,500 feet above sea level). (Coll. J. J. H. Szent-Ivany.)

CASSIDIDAE (TURTLE SHELL BEETLES).

- (5) *Aspidomorpha australasiae* Boisd. "Ipomoea batatas". (Sweet Potato). Leaves. Port Moresby, Central District of Papua. (Coll. J. J. H. Szent-Ivany.)
- (6) *Aspidomorpha quadriradiata* Boh. "Ipomoea batatas". Fatmilak Village, East Coast of New Ireland. (Coll. J. J. H. Szent-Ivany.)
- (7) *Aspidomorpha socia* Montr. "Ipomoea batatas". Lowlands Agricultural Experiment Station, Keravat, New Britain. (Coll. J. J. H. Szent-Ivany.)

*Entomologist, Department of Agriculture, Stock and Fisheries, Port Moresby.

- (8) *Metronia papuana* Spaeth. "*Ipomoea batatas*". Various villages along the East Coast of New Ireland. (Coll. J. J. H. Szent-Ivany.)

CERAMBYCIDAE (LONGICORN BEETLES.)

- (9) *Glenea lefebueri* Guen. "*Theobroma cacao*". In native Cacao Grove near Madang, New Guinea. Stemborer. (Coll. J. Healy.)
- (10) *Hoplocerambyx severus* Pasc. "*Anisoptera*" sp. Stemborer. Department of Forests Area, Lae, New Guinea. (Coll. S. J. Colwell.)

COCCINELLIDAE (LADYBIRDS).

- (11) *Epilachna guttatopustulata tricineta* Montr. "*Solanum melongena*" (Egg Plant). Leaves. Brown River, Central District of Papua. Department of Forests Area. (Coll. J. J. H. Szent-Ivany.)
- (12) *Epilachna philippinensis* Dieke. Same as the previous species.
- (13) *Epilachna signatipennis* Boisd. Same as the previous two species. Defoliation by the three *Epilachna* spp. very severe.

CUCUJIDAE.

- (14) *Oryzaephilus surinamensis* (L.). Port Moresby, Papua. Copra. (Coll. W. L. Conroy.)

CURCULIONIDAE (WEEVILS).

- (15) *Apiocalus cornutus* Pasc. "*Camellia sinensis*" (Tea). Foliage. Government Tea Plantation Garaina, Morobe District of New Guinea. (Coll. J. J. H. Szent-Ivany.)
- "*Coffea robusta*". Foliage. Kapurakambo Plantation, Igara Plantation, Northern District of Papua. (Coll. J. J. H. Szent-Ivany.)
- "*Hevea brasiliensis*". Foliage. Rubber Experiment Station, Bisianumu, Central District of Papua. Sangara Estate, Northern District of Papua. (Coll. J. J. H. Szent-Ivany.)
- "*Persea gratissima*" (Avocado Pear). Kaitaki Estate, Javerere Plantation, Central District of Papua (Coll. C. Sefton and J. J. H. Szent-Ivany.)
- (16) *Elytrocheilus coeruleus* Pasc. "*Theobroma cacao*". Foliage. Mamoo Plantation, Northern District of Papua. (Coll. G. Pritchard.)
- (17) *Eupholus schonherri* Guer. var. "*Theobroma cacao*". Foliage. Mamoo Plantation, Northern District of Papua. (Coll. G. Pritchard.)
- (18) *Idiopsis caerulea* Fst. "*Hevea brasiliensis*". Foliage of seedlings. Rubber Experiment Station, Bisianumu, Central District of Papua. (Coll. J. J. H. Szent-Ivany.)
- (19) *Idiopsis grisea* Fst. "*Hevea brasiliensis*". Foliage of seedlings. Rubber Experiment Station, Bisianumu. (Coll. A. Himson.)
- "*Zinnia elegans*". Port Moresby. Ornamental garden. (Coll. W. Chester.)
- (20) *Oribius cruciatus* Fst. "*Coffea arabica*". Foliage. Gurukor Plantation, Morobe District of New Guinea. (Coll. J. H. Ardley and J. J. H. Szent-Ivany.)
- (21) *Pantorhytes quadripustulatus* Gestro. "*Theobroma cacao*". Stemborer. Kusaun Village, Sepik District of New Guinea. (Coll. K. G. R. Newton.)

- (22) *Rhinoscapha thomsoni* Waterh. "*Hevea brasiliensis*, *Theobroma cacao*". Foliage. Sangara Estate Northern District of Papua. (Coll. J. J. H. Szent-Ivany.)

GALERUCIDAE.

- (23) *Aulacophora wallacei* Baly. "*Crotalaria anagyroides*". Foliage. Goroka, Wallis Plantation. Eastern Highlands of New Guinea. (Coll. J. H. Barrett.)
- (24) *Macrima armata* Baly. "*Crotalaria anagyroides*". Foliage. Goroka, Eastern Highlands of New Guinea. (Coll. J. H. Barrett.)

NITIDULIDAE.

- (25) *Carpophilus dimidiatus* F. Stored Wheatmeal. Port Moresby. (Coll. M. Wraight.)

TENEBRIONIDAE.

- (26) *Tribolium confusum* Duval. Stored Wheatmeal. Port Moresby. (Coll. M. Wraight.)

DIPTERA.

SARCOPHAGIDAE (FLESHFLIES).

- (27) *Sarcophaga* (s.l.) sp. "*Hevea brasiliensis*". Secondary pest in rubber seeds planted in the nursery after primary attack by the ant *Pheidologeton* sp. Kaitaki Estate, Central District of Papua. (Coll. J. J. H. Szent-Ivany.)

TRYPETIDAE (FRUITFLIES).

- (28) *Enoplopteron hieroglyphicum* de Meij. "*Musa sapientum*" (Banana). Agricultural Experiment Station, Buba, Morobe District, New Guinea. (Coll. J. H. Ardley.)
- (29) *Strumeta byroniae* (Tyron). "*Capsicum*" sp. ("Bird's Eye Chilli"). Samarai, Milne Bay District. (Coll. K. S. Cole.). New record on Solanaceae and new distribution record. In the Australian Zoogeographical Region it was previously known only from Queensland and Netherlands New Guinea. Known host plants: "*Cucurbitaceae*" and "*Passifloraceae*". (Information from Mr. A. May.)

HEMIPTERA—HETEROPTERA

LYGAEIDAE (CHINCHBUGS).

- (30) *Astacops villicus* (Stal.) "*Colocasia*" sp. (Native Taro) and "*Xanthosoma*" sp. ("Kong Kong Taro"). Leaves. Bainyik, Sepik District of New Guinea. Native garden. (Coll. J. J. H. Szent-Ivany.)

MIRIDAE (CAPSIDS).

- (31) *Halticus tibialis* Reut "*Phaseolus vulgaris*, *P. calcaratus*, *Crotalaria anagyroides*, *C. striata*, *C. retusa*, *Desmodium*" sp. Lowlands Agricultural Experiment Station, Keravat, New Britain. (Coll. R. J. Van Velsen.)
- (32) *Hyalopeplus* sp. "*Crotalaria anagyroides*". Kunai Creek Plantation, Wau, Morobe District of New Guinea, 4,000 feet above sea level. (Coll. J. H. Ardley.)

PENTATOMIDAE (SHIELDBUGS).

- (33) *Coptosoma concinnula* Walk. "*Poinciana regia*". Foliage. Agricultural Station, Madang, New Guinea. (Coll. J. J. H. Szent-Ivany.)

- (34) *Coptosoma pygmaeum* Mont. "Pueraria phaseoloides, Phaseolus" sp. Covercrops in Coconut Plantation. Kapsu Plantation, East Coast of New Ireland. (Coll. J. J. H. Szent-Ivany.)

HEMIPTERA—HOMOPTERA

APHIDAE.

- (35) *Aphis gossypii* Glover. "Malva parviflora". Port Moresby. (Coll. J. H. Barrett.)
- (36) *Brachicaudus* sp.? *helichrysi* Kalt. "Crotalaria anagyroides". Lowlands Agricultural Experiment Station, Keravat, New Britain. (Coll. R. J. Van Velsen.)
- (37) *Tetraneura hirsuta* Barker. Gramineae (Grass). Roots. Kainantu Airstrip, Eastern Highlands of New Guinea. (Coll. J. H. Barrett.)

COCCIDAE.

- (38) *Antonina graminis* (Mask.) Gramineae. Roots. Vaimaru Airstrip, Western District of Papua. (Coll. A. R. W. Litchfield.)
- (39) *Aonidiella citrina* (Coq.) "Citrus paradisi" (Grapefruit). Banz, Western Highlands of New Guinea. (Coll. J. J. H. Szent-Ivany.)
- "Citrus aurantium" (Orange). Laloki Estate, Central District of Papua. Heavy infestation on fruit. (Coll. W. L. Conroy and R. E. McCormac.)
- Laloki Quarantine Station. (Coll. J. J. H. Szent-Ivany.)
- Wau, Morobe District, New Guinea, 3,400 feet above sea level. Fruit. (Coll. D. Shaw and J. J. H. Szent-Ivany.)
- (40) *Aulacaspis* sp. "Rosa" sp. Stem. Port Moresby. Ornamental Garden. (Coll. Mrs. H. E. Maloney.)
- (41) *Chrysomphalus dictyospermi* (Morg.) "Cocos nucifera". On the fronds of semi-mature palms, attacked by Dynastids. Yarpas Village, Sepik District. (Coll. M. J. White.)
- (42) *Coccus viridis* (Green). "Camellia sinensis" (Tea). Kararka Tea Plantation, Eastern Highlands of New Guinea. (Coll. A. J. Schindler.)
- "Gardenia" sp. Leaves, branches. Port Moresby. (D. De Graff.)
- (43) *Dysmicoccus brevipes* (Ckll.) "Oryza sativa" (Rice). Very dense populations on rice roots at the farm of the Roman Catholic Mission, Kanosia, Central District of Papua. (Coll. J. Vanderiet.)
- (44) *Eriochiton* sp. "Anona muricata" (Soursop). Lowlands Agricultural Experiment Station, Keravat, New Britain. (Coll. J. H. Ardley.)
- "Theobroma cacao". Cleanwater Plantation, Baining, New Britain. (Coll. J. H. Ardley.)
- (45) *Farinococcus simmondsi* Lg. "Cocos nucifera". Tomalabatt Plantation, Tatau Island, Tabar Group, New Ireland, District. (Coll. J. J. H. Szent-Ivany.)
- Mentioned earlier as *Pseudococcus simmondsi* Lg. ? Also known from the British Solomon Islands.
- (46) *Ferrisia virgata* (Ckll.) "Albizia" sp. Branches. Kinjibi Plantation, Western Highlands of New Guinea. Lunapieve Plantation. Eastern Highlands of New Guinea. (Coll. J. J. H. Szent-Ivany.)
- "Coffea robusta". Leaves and branches heavily attacked. Tamauai Plantation, Maprik Subdistrict, Sepik District, New Guinea. (Coll. J. J. H. Szent-Ivany.)

"Hevea brasiliensis". Only a few seedlings infested in the rubber nursery at Koiraki Estate, Central District of Papua. (Coll. C. Sefton.)

"Phaseolus" sp. Port Moresby. (Coll. J. H. Barrett.)

"Plumeria" sp. (Frangipani). Port Moresby. (Coll. D. Shaw.)

(47) *Furcaspis* sp. "Pandanus" sp. Port Moresby. (Coll. J. H. Barrett.)

(48) *Ichnaspis longirostris* (Sign.) "Cocos nucifera". Leaves, Numa Numa Plantation, Bougainville District, New Guinea. (Coll. A. E. Charles.)

(49) *Leucaniodiaspis* sp. "Cocos nucifera". Fronds of mature palms. Aroa Plantation, Central District of Papua. (Coll. J. H. Barrett.)

(50) *Maconellicoccus hirsutus* (Green) "Erythrina indica" (Shade tree in cacao plantation). On the growing point of young trees. Mamoo Plantation, Northern District of Papua. (Coll. J. J. H. Szent-Ivany.)

"Hibiscus rosa sinensis". Serious pest in Port Moresby ornamental gardens. (Coll. J. H. Barrett, D. De Graff and J. J. H. Szent-Ivany)

"Tectona grandis" (Teak). Seedlings attacked in the nursery of the Department of Forests at Port Moresby. (Coll. J. J. H. Szent-Ivany.)

"Theobroma cacao". On the growing point of young cacao trees, retarded in growth also by various Coleopterons, mainly *Apirocalus cornutus* Pasc. and other Celeuthetini weevils. Esambo Plantation, Northern District of Papua. (Coll. F. C. Henderson and J. J. H. Szent-Ivany.)

(51) *Nipaeococcus* sp. "Tamara" sp. Port Moresby. (Coll. J. H. Barrett.)

(52) *Paralecanium* sp. "Pandanus" sp. Chwasing, Morobe District of New Guinea. (Coll. R. W. Paine.)

(53) *Parlatoria proteus* Curtis. "Dendrobium" sp. (Orchidaceae). Port Moresby. (Coll. D. Shaw.)

(54) *Monophlebini* sp. "Eucalyptus papuana". Port Moresby. (Coll. F. C. Henderson.)

"Eucalyptus alba". Port Moresby. (Coll. L. Edwards.)

(55) *Planococcus citri* (Risso) "Coffea arabica". Mainly damaging flower clusters. There was a serious local outbreak in the Wau Valley in 1956/57. To date populations have been kept under the level of economic injury mainly by the Coccinellid *Cryptolaemus affinis* Crouth, introduced from the Markham Valley in 1957.

"Coffea robusta". On flower clusters under mud-tents, built by nursing ants. Damage not as serious as to "Coffea arabica" in the Wau Valley. Tamauai Plantation, Sepik District of New Guinea. (Coll. J. J. H. Szent-Ivany.)

"Camellia sinensis" (Tea). Government Tea Plantation, Garaina, Morobe District of New Guinea. (Coll. J. J. H. Szent-Ivany.)

"Leucaena glauca". Leaves and branches of shade trees in various coffee plantations in the Wau Valley, Morobe District (Coll. J. J. H. Szent-Ivany.)

"Mangifera indica" (Mango). Fruit thickly covered with mealy bugs. Port Moresby, town area. (Coll. E. Kanjiri.)

- "Theobroma cacao". Kubu Plantation, Bougainville District. (Coll. J. H. Barrett). Lowlands Agricultural Experiment Station, Keravat, New Britain. (Coll. J. H. Barrett). Mumm Plantation, near Wewak, Sepik District of New Guinea. (Coll. J. J. H. Szent-Ivany.) "Tephrosia" sp. Leaves and branches attacked. Coffee plantations in the Wau Valley. (Coll. J. J. H. Szent-Ivany.)
- (56) *Planococcus* sp. "Theobroma cacao". Lassul Plantation, Bainings, New Britain. (Coll. J. J. H. Szent-Ivany.)
- (57) *Planococcus lilacinus* (Ckll.) "Theobroma cacao". Pods. Numa Numa Plantation, Bougainville District. (Coll. J. H. Barrett.)
- (58) *Pseudococcus* sp. "Theobroma cacao". Pods. Numa Numa Plantation, Bougainville District. (Coll. J. H. Barrett). According to Dr. D. L. Williams (Commonwealth Institute of Entomology, London) who made the identification of all Coccidis mentioned in this paper, this "*Pseudococcus*" sp was also found in the British Solomon Islands on cacao.
- (59) *Saissetia coffae* (Walk.) "*Acalypha*" sp. Port Moresby. Ornamental garden. (Coll. J. Carter.)
- (60) *Saissetia nigra* (Nietn.) "*Ceiba pentandra*" (Kapok). Ornamental garden at Wakunai Aid Post, Bougainville District. (Coll. J. J. H. Szent-Ivany.)
- "*Manihot utilisima*" (Cassava, Manioc, Tapioca). Aroa Plantation, Central District of Papua. Coll. J. H. Barrett). Brown River, Central District of Papua. (Coll. D. Shaw and J. J. H. Szent-Ivany.) Ornamental "*Asparagus*" sp. Port Moresby. (Coll. D. De Graff.)
- (61) *Steatococcus samaraius* Morr. "*Cocos nucifera*". Mild attack on fronds of young palms. Kopo Plantation, Tabar Island, New Ireland District. (Coll. J. J. H. Szent-Ivany.)
- (62) *Unaspis citri* Comst. "*Citrus aurantium*" (Orange). The leaves of the orange trees attacked by this Coccus were partly covered with a coccophagous fungus ("*Septobasidium*" sp. (Det. D. Shaw). Poligolo Plantation, nr. Rigo, Papua. (Coll. E. W. Casey.)
- ISOPTERA (TERMITES).
- (63) *Microtermes biroi* (Desm.) "*Cocos nucifera*". Lassul Plantation, New Britain (Coll. J. J. H. Szent-Ivany). Aroa Plantation, Central District of Papua. (Coll. J. H. Barrett.)
- (64) *Nasutitermes novarum-hebridarum* (N. and K. Holmgren) "*Cocos nucifera*". Aroa ("Pig") Island near Kieta, Bougainville District. Large number of palms attacked, mainly those hit by lightning or by shells during the war. (Coll. J. J. H. Szent-Ivany.)
- (65) *Neotermes* sp. "Theobroma cacao". Lowlands Agricultural Experiment Station, Keravat, New Britain. (Coll. J. H. Barrett.)
- HYMENOPTERA.
- FORMICIDAE (ANTS).
- (66) *Aphaenogaster pythia* Forel. Damaging airstrip at Kainantu, Eastern Highlands of New Guinea. (Coll. J. H. Barrett). (Species determined by Dr. M. R. Smith.)
- (67) *Diacamma rugosum* (Le Guilou). Same as the previous species. (Determined by Dr. E. O. Wilson.)
- (68) *Iridomyrmex scrutator* (Fr. Smith) aff. Nursing *Planococcus citri* (Risso), Mealy Bug damaging "*Coffea arabica*". Wau Valley, Morobe District. (Coll. J. J. H. Szent-Ivany.)
- (69) *Iridomyrmex* sp. Nursing *Maconellicoccus hirsutus* (Green), Mealy Bug damaging "*Erythrina*" and "Cacao" trees. Mamoo Plantation, Northern District of Papua. (Coll. J. J. H. Szent-Ivany.)
- (70) *Monomorium* (*Parholcomyrme*) *destructor* (Jerdon). Damaging electric installation at Aroa Plantation, Central District of Papua (Coll. J. H. Barrett) and in Port Moresby (Coll. J. J. H. Szent-Ivany). Causing serious damage to underground cable by boring into the polythene sheet cover of the cable at Port Moresby. (Coll. V. Hodgson and T. Oliver.)
- (71) *Nylanderia bourbonica* Forel aff. Nursing *Planococcus citri* (Risso) on "*Coffea arabica*" in the Wau Valley. Tent building species. (Coll. J. J. H. Szent-Ivany.)
- (72) *Paratrechina* (*Nylanderia*) sp. Causing damage to airstrip at Menyama, Morobe District of New Guinea. (Coll. J. H. Ardley.)
- (73) *Pheidologeton* sp. "*Hevea brasiliensis*". Feeding on planted rubber seeds in a nursery. Koitaki Estate, Central District of Papua. (Coll. J. J. H. Szent-Ivany.)
- LEPIDOPTERA.
- ARCTIIDAE (TIGERMOTHS).
- (74) *Uthetesia lothrix* Cram. "*Crotalaria anagyroides*". Laloki Quarantine Station and Port Moresby, Central District of Papua. (Coll. J. J. H. Szent-Ivany.)
- HESPERIIDAE (SKIPPER BUTTERFLIES).
- (75) *Cephenes* sp. near *mosely* Butl. "*Cocos nucifera*". Commonest "Coconut Skipper Butterfly" in the Port Moresby area. It is able to cause severe defoliation to young ornamented palms, if they are not regularly sprayed. (Coll. J. H. Barrett and J. J. H. Szent-Ivany.)
- LIMACODIDAE (CUPMOTHS).
- (76) *Scopelodes ursina* Butler. "*Coffea robusta*". Foliage. Lowlands Agricultural Experiment Station, Keravat. (Coll. K. Newton.)
- LYMANTRIIDAE (TUSOCK MOTHS).
- (77) *Dasychira horsfieldi* Saund. subsp.? "*Arachis hypogaea*" (Peanut). Wewak, Sepik District. (Coll. J. J. H. Szent-Ivany.)
- "Theobroma cacao". Foliage. Awala Plantation, Northern District of Papua. (Coll. C. Searle and J. J. H. Szent-Ivany.)
- (78) *Orgyia postica* Walk. "*Coffea arabica*". Foliage. Wau, Morobe District. (Coll. J. J. H. Szent-Ivany.)
- NOCTUIDAE (OWLET MOTHS).
- (79) *Achaea janata* L. "*Ipomoea batatas*" (Sweet Potato). Leaves. Embi Plantation (Eriama Estate), Northern District of Papua. (Coll. J. J. H. Szent-Ivany.)

(80) *Heliothis assulta* Gr. "Zea mais". Port Moresby. (Coll. J. J. H. Szent-Ivany.)

(81) *Plusia chalcites* Esp. "Arachis hypogaea" (Peanut). Wewak, Sepik District of New Guinea. (Coll. M. J. White.)

(82) *Polydesma umbricola* Boisd. "Samanea saman" (Raintree). Port Moresby. Park. (Coll. J. J. H. Szent-Ivany.)

(83) *Tiracola plagiata* Walk. "Hevea brasiliensis, Ipomoea batatas, Manihot utilisima" and various indigenous trees of the "weed-line" in young rubber plantation. The larvae of this species were moving in "swarm lines" from the rainforest to a young rubber plantation ("army worms") completely defoliating the rubber stocks, and the plants of the "weed-line". ("Alstonia" sp. and others). From the rubber plantation they moved into a block of Sweet Potato and Cassava, causing complete defoliation. However, they left untouched the "Pueraria phaselloides" covercrop, planted in a part of the rubber block. Ninoa Plantation, Central District of Papua. (Coll. J. Lukin and J. J. H. Szent-Ivany.)

PIERIDAE.

(84) *Catopsilia crocale flava* Butl. "Cassia fistula, Cassia alata". Causes very severe defoliation of "Cassia" sp. in some years in the Port Moresby town area. Almost complete defoliation of "Cassia fistula" was observed in the Wau Valley and in the ornamental gardens of Madang, New Guinea. A mass migration of fertile females in the Wau Valley was seen in November, 1954.

"Tectona grandis" (Teak). A few larvae were found feeding on the leaves of teak seedlings in the nursery of the Department of Forests at Port Moresby. (Coll. J. J. H. Szent-Ivany.)

(85) *Catopsilia pomona* F. subsp.? "Cassia fistula". Foliage. Port Moresby. (Coll. J. J. H. Szent-Ivany.)

PYRALIDAE.

(86) *Agathodes* sp. near *ostentalis* Hb. "Theobroma cacao". Lowlands Agricultural Experiment Station, Keravat, New Britain. (Coll. J. H. Ardley and G. S. Dun.)

"Erythrina indica". Foliage. Mamoo Plantation, Northern District of Papua. (Coll. J. J. H. Szent-Ivany.)

According to an information from Dr. E. G. Munroe (Science Service, Department of Agriculture, Ottawa) the common *Agathodes* in the Papuan Region represents a new species.

(87) *Corcyra cephalonica* Stt. Stored Wheatmeal. Port Moresby. (Coll. M. Wraight). Stored white rice, Samarai, Milne Bay District. (Coll. M. Luby). A larva was found also feeding in the galls, caused by the rust "Uromycladium" sp. on "Albizia" sp., planted as shade tree in coffee plantations in the Central Highlands of New Guinea. (Coll. J. B. McAdam.)

PSYCHIDAE (BAGMOTHS).

(88) *Hyalartia* sp. near *dinavaensis* B. Bak. "Psidium guajava" (Guava). Kokopo, New Britain. Complete defoliation of Guava trees. (Coll. W. Ryder.)

SPHINGIDAE (HAWKMOTHS).

(89) *Deilephila placida* Walk. "Plumeria" sp. (Frangipani). Leaves. Port Moresby. (Coll. Miss M. A. McGrath and J. J. H. Szent-Ivany.)

(90) *Herse convolvuli* subsp.? "Ipomoea" sp. ("Morning-glory"). Feeding on the foliage. Port Moresby. Ornamental garden. (Coll. J. J. H. Szent-Ivany.)

(91) *Theretra nessus* Dry. "Dioscorea" sp. (Yam). Foliage. Port Moresby, Central District of Papua; and Lae, Morobe District of New Guinea. (Coll. J. J. H. Szent-Ivany.)

(92) *Theretra oldenlandiae* F. "Impatiens" sp. (Balsam). Larvae defoliating leaves in ornamental garden. (Coll. Mrs. M. L. Szent-Ivany.)

TORTRICIDAE (LEAFROLLERS).

(93) *Homona coffearia* (Nietn.) "Camellia sinensis" (Tea). Government Tea Plantation, Garaina, Morobe District. Low percentage of parasitism by a Tachinid. Larvae and pupae were collected by the author and the parasites were bred in the Entomological Laboratory of Mr. R. S. Paine at Lae, while the author was studying the ecology of rice and peanut pests in the Sepik District. Appreciation should be expressed to Mr. Paine for his helpful assistance.

XYLORYCTIDAE.

(94) *Cryptophaga setiotricha* Meyr. "Samanea saman" (Raintree). Serious pest of ornamental trees in the Port Moresby town area. The larvae feed in the tissues of the stem and the thicker branches. Many branches of affected raintrees are killed as a result of extensive injury by this species. (Coll. D. De Graff and J. J. H. Szent-Ivany.)

"Cassia fistula". Larvae found in the stem of young trees (Coll. E. Kanjiri.)

"Casuarina" sp. Larvae found in the branches of Casuarina trees in the ornamental garden of Taurama Barracks, Port Moresby. (Coll. E. Kanjiri.)

ZIGAENIDAE (BURNETS).

(95) *Leptotyganeta gracilis* Jordan. "Pandanus" sp. Cocoons found on the leaves of Pandanus. (Coll. R. S. Paine). This species is very closely related to *Levuana tridescens* Baker, the well-known pest of coconuts in Fiji.

ORTHOPTERA.

MECOPODIDAE.

REMARK.—The following three species were previously known and mentioned in all economic entomological publications (See the list of these in Dumbleton's paper, Bibl. No. 2) under the name of "Sexava" spp. Dr. C. Willemse, who received some material collected by J. H. Ardley in the Admiralty Islands, in New Ireland and New Hanover, found they represented two new species of the Genus *Segestidea*, Bolyar, I. and one new species of the new Genus *Eumossula* Willemse. The description of the new Genus and the three new species was published by Dr. Willemse in April, 1957 (15). Further specimens of Mecopodidae, found on coconuts in Papua and New Guinea, were forwarded to Dr. Willemse by the author in May and June, 1958. This included a new species of the Genus *Pseudoniscara*. The distribution of the four species damaging coconut and African oilpalm in the Territory of Papua and New Guinea is given below:

- (96) *Eumossula gracilis* Willemse. "Cocos nucifera". Fangalava Plantation, New Ireland District (Coll. J. H. Ardley). Masahet Island, Mahuri Island, Lihir Group, New Ireland District (Coll. J. J. H. Szent-Ivany). Agricultural Experiment Station, Bubia, Morobe District of New Guinea (Coll. J. J. H. Szent-Ivany.)

"*Elaeis guineensis*" (African oilpalm). Agricultural Experiment Station, Bubia, Morobe District of New Guinea. Lowlands Agricultural Experiment Station, Keravat, New Britain. (Coll. J. J. H. Szent-Ivany.)

- (97) *Segestidea hanoverana* Willemse "Cocos nucifera". Metakabul Plantation, New Hanover. (Coll. J. H. Ardley and J. J. H. Szent-Ivany). Teripax Plantation, Tatau Island, Tabar Group, New Ireland District (Coll. J. J. H. Szent-Ivany.)
- (98) *Segestidea insulana* Willemse. "Cocos nucifera". Pak Island, Lou Island, Lorengau (Manus District) (Coll. J. H. Ardley). Masahet Island, Lihir Group, New Ireland District. (Coll. J. J. H. Szent-Ivany.)
- (99) *Pseudoniscara szentia* Willemse* (Cocos nucifera". Uamai Village, Kerema District, Papua. (Coll. S. Mai.)

PHASMIDAE (STICK INSECTS).

- (100) *Angaliale maculata* Oliv. Wide spread minor pest of Cacao on the Gazelle Peninsula of New Britain. (Coll. G. S. Dun.)

THYSANOPTERA.

- (101) *Taeniothrips nigricornis* (Schmutz) "Crotalaria anagyroides". Lowlands Agricultural Experiment Station, Keravat, New Britain. (Coll. R. J. Van Velsen.)

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* According to Dr. Willemse, this is a species of the family Conocephalidae (subfamily Agroecinae). (See Dr. C. Willemse: "On some Tettigonioidae injurious to Coconut Palms". *Naturhistorisch Maandblad* 47e Jrg. No. 9-10, 31.10.1958. pp. 122-125).

† Due to publication delay, some papers were printed considerably later than the dates of the periodicals indicated.

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