

SOME INSECTS OF BANANA IN THE TERRITORY OF PAPUA AND NEW GUINEA

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Summary

This paper gives short notes on fourteen species of insects which are found on Banana (*Musa sapientum*) and one is recorded from *Musa textilis*. Eight of these are claimed as new economic records, three being undescribed species. All were collected within the Territory of Papua and New Guinea.

Dumbleton (1., p. 136) and Frogatt (2., p. 300) record three insects from bananas in this Territory, namely:—

I. Banana Weevil Borer (*Cosmopolites sordidus* Germ.), a tropopolitan species and regarded as "the most serious banana pest in Queensland". (5., p. 162).

II. Banana Scabmoth (*Nacoleia octasema* Meyr.), a Pyralid moth which causes extensive damage to this crop in Fiji, but is controlled to a major degree in this Territory by local parasites.

III. *Papuana laevipennis* Arrow., a Dynastid better known as the "Taro Beetle", and a major pest of this staple food of Natives of many areas. Unidentified species of *Papuana* are mentioned by Froggatt (2., p. 200) as pests of banana and he was of the opinion that in this Territory these were of more consequence than the Banana Weevil Borer.

The above are the only published records of banana pests which could be found for this Territory. This paper records various other insects which have been found associated with Banana (*Musa sapientum*) during more recent years. All are thought to represent new records.

A. Dynastidae.—

Both *Scapanes grossepunctatus* Sternb. and *Scapanes australis* Boisd. have been found boring into the pseudostems of banana plants. *S. grossepunctatus* (See Fig. 1), the indigenous Coconut Rhinoceros Beetle, was observed causing severe but sporadic damage in the Keravat area of New Britain by the senior author. Some banana plants on the Keravat River were severely

attacked but the low infestation was probably due to the abundance of alternate host plants in the surrounding rain forest.



Fig. 1.—*Scapanes grossepunctatus* Sternb. (Natural Size.)

Szent-Ivany also found *S. australis* (Fig. 2) in September, 1954, near the Mageri Agriculture School, Sogeri, Papua, at an elevation of 1,600-feet attacking isolated bananas in secondary bush adjoining monsoon forest.



Fig. 2.—*Scapanes australis* Boisd. (Natural Size.)

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S. grossepunctatus was observed by J. Richardson (July, 1955) boring into the trunk of Manila Hemp (*Musa textilis*) in the experimental blocks at Keravat.

Both *Scapanes* species attack the Coconut but the damage is not so extensive as that caused by the introduced Asiatic Rhinoceros Beetle (*Oryctes rhinoceros* L.). *Scapanes australis* is restricted to the mainland of New Guinea and *S. grossepunctatus* occurs in the Bismarck Archipelago and on Bougainville Island. The two species can be readily recognized on the size of the rimmed punctures on the elythrae. Those of the latter average 0.3 m.m. in overall diameter while those of the former average only 0.1 m.m. (See Figs. 1 and 2). This results in the elythrae of *S. australis* being much more shiny than those of the other species.

B. Melolonthidae (Cockchafers).—

Dermolepida nigrum Nonfrid. Adults were collected in large numbers on bananas in the Mekeo District in 1955. F. Arndt reported extensive chewing of this plant which is commonly grown in the Native gardens. *D. nigrum* (Fig. 3) varies from 25 to 30 m.m. in length and the colour varies, the elythrae being light to dark brownish black, and shiny except close to the margin. Nothing is known of the local breeding habits.



Fig. 3.—*Dermolepida nigrum* Nonfrid (X 1 1/4.)

C. Curculionidae.—

Apirocalus cornutus Pasc., a polyphagous weevil was found in large numbers defoliating bananas at Madang by Szent-Ivany (June 1956). Both young plants and

the flowers of older plants were attacked. Adults are susceptible to 2.5 per cent. B.H.C. dust.

D. Trypetidae.—

Strumeta musae Try., the Banana Fruit-fly has been bred from the fruit from various localities during the last few months. Adults were reared from infested fruit from Samarai, collected in May 1957 (W. Cottrell-Dormer), while this species was bred from bananas at Lae (R. W. Paine, Department of Agriculture, Fiji). Material collected at Subitana, Sogeri, Papua (1,700 feet alt.), by the junior author during the same month also yielded *S. musae*. Distribution is fairly general but populations are low.

E. Amathusiidae.—

The banana was found to be a host of the butterfly *Taenaris myops kirschi* Stgr. at Port Moresby by G. Gitti. The rapidly feeding larvae, in clusters of up to a dozen, cause gross defoliation. Many leaves were stripped to the mid-rib. The larvae fed and pupated in the cage, the adults emerging 13 or 14 days later. The full-grown larva (Fig. 4) is two inches in length. The colour may be described as a dirty greyish yellow the dorsal surface being darker than the rest. Each segment has dorsally three longitudinal lines and two bunches of rough hairs. The colour of the head may be reddish brown or black. Dorsally on the



Fig. 4.—*Taenaris myops kirschi* Stgr. (Larva; Natural Size.)



Fig. 5.—*Taenaris myops kirschi* Stgr. (Pupa; Natural Size.)



Fig. 6.—*Taenaris myops kirschi* Stgr. (Head of Larva; X 4.)



Fig. 7.—*Taenaris myops kirshi* Stgr. Adult male upper surface. (Natural Size.)



Fig. 8.—*Taenaris myops kirshi* Stgr. Adult male, lower surface (Natural Size.)

head are two slightly divergent "Horns" each with a coronet of spurs, a character typical of *Taenaris* larvae (Fig. 5).

The pale green coloured pupae (Fig. 6) are about 30 m.m. long and hang by the tip of the abdomen.

The adults vary both in colouration and size. The males (Figs. 7 and 8) are generally smaller than the females (Figs. 9 and 10) and may be distinguished by the presence of the scent apparatus in the anal angle of the hind wing. There is a wide range of individual variation in the propor-

tions of the greyish black and white in the wings and in the size of the eyespots. The eyespots of the hind wings are more definite on the lower surface of the wing.

The type locality is Aru Island (3., p. 423), but all other races are described from Papua. The subspecies *T.m. kirschi* is described from Port Moresby and is probably restricted to the Eucalypt Savannah and to the Monsoon Forest area of the Central District of Papua. *T. myops* has formed distinct races around Milne Bay and the adjacent islands off the eastern coast of Papua.

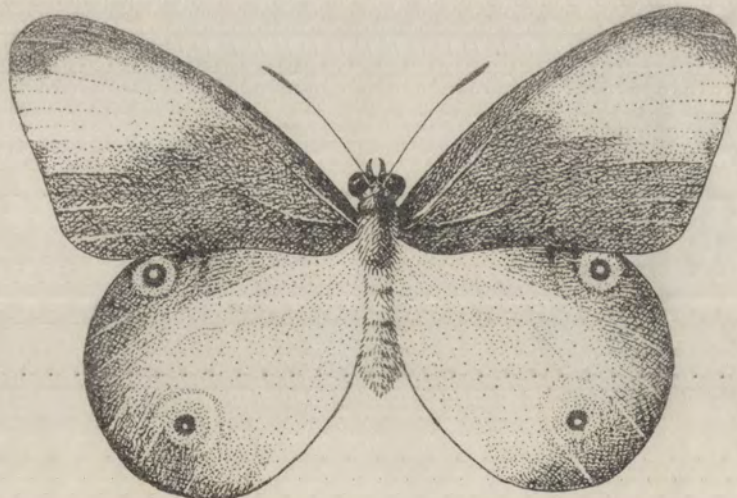


Fig. 9.—*Taenaris myops kirschi* Stgr. Adult female, upper surface. (Natural Size.)

The Genus *Taenaris* is divided into twenty species in the Papuan Region (3., p. 420) some being rare and others



Fig. 10.—*Taenaris myops kirschi*
Stgr. Adult female, lower surface.
(Natural Size.)

“common” and many species are divided into several geographical varieties. Besides *T. myops*, *T. gorge* Kirsch has been recorded from banana. It occurs in Netherlands New Guinea and in various parts of the Trust Territory. It would be of interest to know if any other Papuan species feed on *Musa* spp. As previously noted, the larvae are characteristic and the adults have the large eyespots on the lower surface of the hind wings.

F. Miridae (Capsidae).—

A small pale green Mirid was found breeding on Bananas at the Aroa River (Hisiu Beach), about 40 miles west of Port Moresby, by the junior author, in May, 1957. Colonies of up to 40 insects in all stages of development, were found on the under sides of the younger leaves. Their feeding resulted in the development of a mildly chlorotic area on the leaf. The species was not identified at the Commonwealth Institute of Entomology, London, and will probably prove to be an undescribed species (See Fig. 11).



Fig. 11.—*Miridae*, Gen., Spec. (X 16.)



Fig. 12.—Derbidae, Gen., Spec. (X 10.)

G. Tingidae (Lace Bugs).—

A species of *Stephanitis* was also found in the same area as the Mirid. Both adults and nymphs were present on the banana leaves but Barrett reports no damage attributable to this species. This also is probably undescribed.

H. Derbidae.—

Also on bananas in the Aroa River area was a species (Fig. 12) of this rather unusual family in which the wings are carried in erect position. The Commonwealth Institute of Entomology was unable to identify this also and it may represent a new species. Barrett found both nymphs and adults feeding on banana leaves.

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BIBLIOGRAPHY.

- (1) Dumbleton, L. J. "A List of Insect Pests in South Pacific Territories." South Pacific Commission Technical Paper No. 79, pp. 1-196, Noumea, New Caledonia (1954).
- (2) Froggatt, J. L. "Entomological Notes". *New Guinea Agricultural Gazette*, Volume 7, No. 4, pp. 298-300 (1941).
- (3) Fruhstorfer, H. "5. Family Amathusiidae" in Seitz A. : (Macrolepidoptera of the World. *Rhopalocera Indoaustralica*; pp. 403-452.).
- (4) Staudinger, L. "Exotische Tagfalter" 1, p. 193.
- (5) Officers of the Department of Agriculture and Stock, Brisbane, Queensland. *The Queensland Agricultural and Pastoral Handbook*. Volume 3. Insect Pests and Diseases; pp. 560 (1951).