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THIS ISSUE OF *ESAKIA* REPORTS PARTIAL RESULTS OF THE FIELD SURVEY (1984) IN PAPUA NEW GUINEA AND NEW BRITAIN, SUPPORTED BY GRANT-IN-AID FOR OVERSEAS SCIENTIFIC SURVEY FROM THE JAPAN MINISTRY OF EDUCATION, SCIENCE AND CULTURE, 'NO. 59041048

BIOLOGICAL STUDIES ON INSECT SPECIES DIVERSITIES AND PRODUCTIVITIES IN THE HIGHLAND AGRICULTURAL ECOSYSTEMS OF PAPUA NEW GUINEA: A PROGRESS REPORT FOR THE YEAR 1984*

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The following is a brief progress report of the 1984 field studies conducted at Papua New Guinea and New Britain. The specific research was on the insect species diversity and productivity in the highland agricultural ecosystems. The field work for the year 1984 (April 1984-March 1985) was made by two teams, as follows :

Team A

Investigators :

Japan

Dr. Y. Hirashima, Professor of Entomology, Kyushu University.

Mr. Michitaka Chûjô, Associate Professor of Entomology, Kyushu University.

Papua New Guinea

Dr. Hywel Roberts, Senior Entomologist, Forest Research Institute, Bulolo.

Areas visited and dates :

1. Wau, Bulolo and Lae, October 17-24.
2. Buluma, New Britain, October 25-30.
3. Myola II, November l-5.
4. Port Moresby, November 6-7.

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Team B

Investigators :

Japan

Dr. Katsura Morimoto, Associate Professor of Entomology, Kyushu University.

Dr. Hiromu Kurahashi, Senior Entomologist, National Institute of Health, Tokyo.

Papua New Guinea

Dr. Hywel Roberts, Forest Research Institute, Bulolo.

Areas visited and dates :

1. Wau, Bulolo and Lae, January 23-February 3.
   Morimoto arrived at Wau on Jan. 30 and joined with Kurahashi.
2. Madang, February 4-7.
3. Buluma, New Britain, February 8-14.
4. Port Moresby, February 14-16.

Summary of results

During the year 1984, special attention was paid to the insect pests of forestry, especially those of cultivated *Eucalyptus* and others. The investigations at Madang were focused on *Agrilus opulentus* Kerremans, a serious pest of *Eucalyptus deglupta*. Biological observations on this pest will be published in a separate paper.

Beetles received special attention from three entomologists, Roberts, Morimoto and Chûjô. Morimoto collected a total of 289 species and 1,551 specimens of the weevil families Anthribidae, Belidae, Attelabidae, Apionidae, Brentidae, Curculionidae and Rhynchophoridae at 11 points in different vegetation and at various altitudes. Using the field data the diversity indices of the weevil faunae were calculated for each point by using the Morishita's index method. The values of this index were high at Wau and Mt. Kaindi (1,700-2,000 m alt.) probably due to the mixture of the low- and highland vegetation elements. High indices also indicate undisturbed ecosystems.

One of the outstanding features of the Papua New Guinean Curculionidae is that it contains a large and peculiar tribe, Celeuthetini. Weevils of this tribe are abundant on shrubs and tall grasses in man-made environments and some are serious pests of the cultivated plants.

Blow flies of the family Calliphoridae were studied by Kurahashi from the view point of medical importance. For example, *Chrysomya bezziana*, the Old World Screwworm Fly, is an

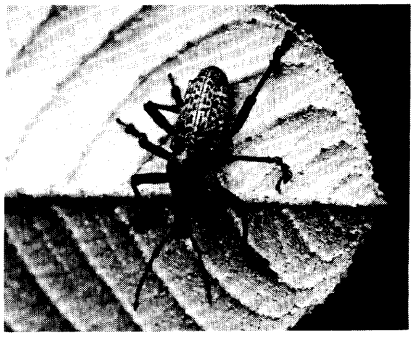

Fig. 1. *Gymnopholus* ***lichenifer*** Gressitt, an endangered weevil which is famous for the epizoic symbiosis (Gressitt, 1966). Photo by Hirashima on Mt. Kaindi (2,300 m).

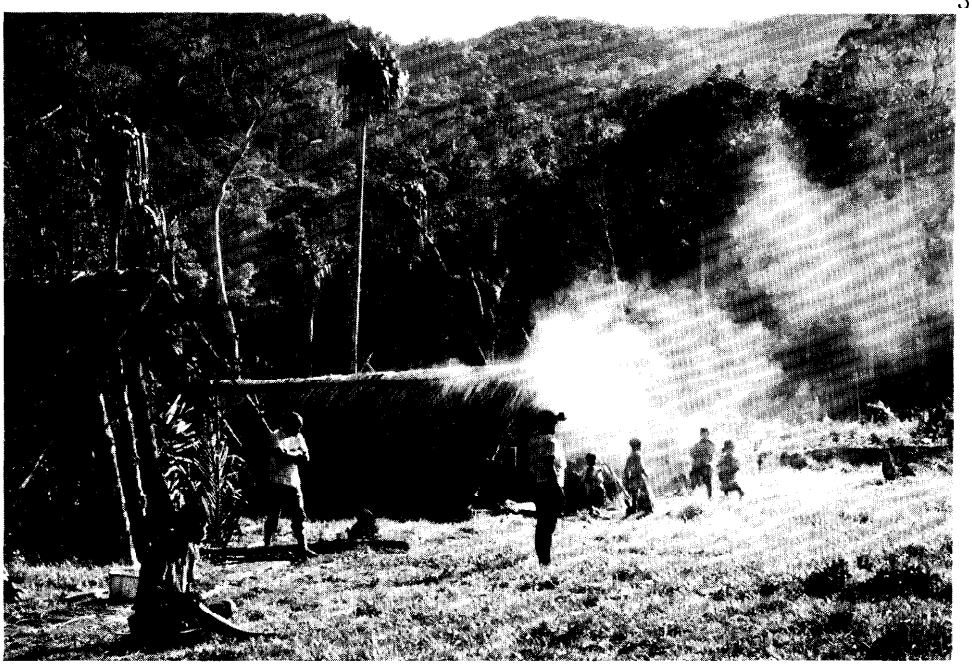

Fig. 2. A collecting site at Myola II (1,900 m). Photo by Hirashima.

Fig. 3. Moths attracted at light. Photo by Hirashima at Wau Ecology Institute, Wau (1.300 m).

obligatory parasite which causes traumatic myiasis of man and domestic animals. Since New Guinea is a screwworm-ridden country, investigations of this and other flies were extensively made.

Bees received special attention by Roberts and Hirashima. Some new species of *Palaeorhiza*, *Nomia*, and other genera were collected. The underground nest structure of *Nomia* (*Ptilonomia*) *plumosa* Michener was studied in detail by digging out its colony found at Myola II.

In this issue of ESAKIA, the following five papers are published.

1. Blow flies of medical importance in New Guinea, Bismarck Archipelago and Bougainville Island (Diptera : Calliphoridae). Part I. Genera *Calliphora*, ***Tainanina,*** *Polleniopsis* and *Melinda*, by H. Kurahashi.
2. New *Psilacrum* from the Old World (Diptera, Chloropidae), by J. W. Ismay.
3. New Platypodidae (Coleoptera) from the rain forests of Papua New Guinea, by H. Roberts.
4. A new species of the genus *Neostromboceros* Rohwer (Hymenoptera, Tenthredinidae) from New Britain, Papua New Guinea, by T. Togashi.
5. Discovery of the bee genus *Pharohylaeus* Michener from Papua New Guinea, with description of a new species (Hymenoptera, Colletidae), by Y. Hirashima and H. Roberts.

The following paper, which is based on material collected by our 1982 and 1984 field work in Papua New Guinea, was already published.

Gotô, T. 1985. A review of the Oriental genus *Rhopica*, with description of a new species from Papua New Guinea (Diptera, Phoridae). *Esakia, (23)* **: 85-92.**

Acknowledgements

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