SPHINGID MOTHS OF BOTEL TOBAGO

CHENG-SHING LIN
National Museum of Natural Science, Taichung, Taiwan 40419, R.O.C.

ABSTRACT—Fourteen species of Sphingidae (Lepidoptera) are reported from Botel Tobago, Taiwan: *Psilogramma increta, Leucophlebia lineata, Acosmeryx anceus, Gurelca hyas, Macroglossum corythus luteata, Hippotion velox, H. boerhaviae, Theretra clotho clotho, T. latreilli lucasi, T. nessus, T. pinastrina pinastrina, T. boisduvali, T. rhesus, Rhyncholaba acteus. Acosmeryx anceus* and *T. rhesus* are new records for Taiwan. Diagnostic characters. distribution, and known food plants are given. Adults and male genitalia are figured.

INTRODUCTION

"Botel Tobago", or Orchid Island is a small mountainous island located in the Pacific Ocean southeast of Taiwan. It is composed of volcanic rocks and coral, and occupies an area of 48 square km. Potassium-argon radiometric dating of volcanic rocks indicates that volcanic activity occured in the Early Miocene to Early Pliocene (ca. 5.5 to 3.7 m.y.) (Richard, et al.,1986).

This island is situated in Wallacea, the rich and biogeographically interesting region between continents of Asia and Australia. Previously studied aspects of both flora and fauna are very similar to those of the Philippine Islands. (Diakonoff, 1967; Chang, 1986).

Zoogeographic studies of Botel Tobago have included mammals, birds, terrestrial mollusks, amphibians, reptiles, fresh-water fish. Kato (1932) report 12 species of Odonata, 12 species of Homoptera in 11 genera. Kano (1932c) reported 49 species of butterflies. Eski (1932) reported 21 species of Hemiptera of the island. Kano (1932b) also studied the distribution and zoogeography of pachyrhynchid weevils on the island. Although moth surveys of similar endemic regions have been popular in recent years, few have been published.

The following preliminary report on the Sphingidae of Botel Tobago is based on a short survey period, and is presented as a basis for further study of the island's fauna. Photographs of the adults and figures of their male genitalia are presented to facilitate future identification. Food plants for each species are listed, based on records from other regions.

MATERIALS AND METHODS

This survey is primarily based on recently collected specimens in the National Museum of Natural Science, Taichung, Taiwan. Collections by the author were made from August 22 to 30, 1988, with light trap using ultraviolet fluorescent illumination. Collections were made near Chung-Ai Bridge of Fu-Tou-Po. Additonal Material was examined from the collection of the United States National Museum, Smithsonian Institution, Washington, D.C..Those collections were made from July 16-20, 1980, by Dr. Donald Davis at 2 km southwest Houtou Narrow Valley.

RESULTS

The following sphingid species were recorded from Botel Tobago.

1. ***Psilogramma increta*** Walker, 1864.
   Materials examined: Orchid Island, July 16-20, 1980(Davis).
   Distribution: Taiwan, China, Korea, Japan, Indochian, Borneo, Srilanca, Australia, New Guinea.
   Food plants: *Campsis, Clytostoma, Pandorea, Tecoma, Spathodea* ect. (Bignoniaceae), *Lonicera* (Caprifoliaceae), *Cotoneaster* (Rosaceae), Oleaceae, Scrophulariaceae, Verbenaceae (Moulds, 1981).
   Syringa, Ligustrum, Fraxinus (Oleaceae), *Paulownia* (Scrophu-

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lariaceae), (Chu & Wang, 1980).

Comment:Chang (1981) and Hsu (1982) reported that *Radermachia* (Bignoniaceae), *Sambucus* (Caprifoliaceae), *Duchesnea, Osteomeles, Prunus, Rhaphiolepis, Rubus* (Rosaceae), *Jasminum, Linociera, Osmanthus* (Oleaceae), *Limnophila, Mazus, Scoparia, Torenia, Vandelliy, Veronica* (Scophulariaceae), *Callicarpa, Clerodendron, Phyla, Premna, Stachytarpheta, Vitex* (Verbenaceae) are found on Botel tobago.

2. ***Leucophlebia lineata*** Westwood, 1847.

Materials examined: Orchid Island, July 16-20, 1980 (Davis).

Distribution: Taiwan, India, Srilanca, Malaya, Java, Sumatra, Celebes, the Philippines, Tonkin, S. China.

Food plants: *Saccharum* sp. and ther other Gramineae (Rothschild & Jordan, 1903; Bell & Scott, 1937.)

Comment:Chang (1981) and Hsu (1982) reported that *Apluda, Arthraxon, Arundinella, Arundo, Bambusa, Brachiaria, Capillipedium, Cenchrus, Centotheca, Chrysopogon, Coix, Cyrtococcum, Dactyloctenium, Digitaria, Echinochloa, Eleusine, Eragrostis, Hackelochloa, Ichnanthus, Imperata, Isachne, Ischaemum, Leptochloa, Lepturus, Lophatherum, Microstegium, Milium, Miscanthus, Oplismenus, Panicum, Paspalum, Pogonatherum, Rottboellia, Sacciolepis, Setaria, Sorghum, Sporobolus, Thaumastochloa, Thuarea, Thysanolaena, Zoysia* (Gramineae) are found on Botel Tobago.

3. ***Acosmeryx anceus*** Stoll, 1781.

Materials examined: Orchid Island, July 16-20, 1980 (Davis); August 22-30, 1988 (Lin); Chianhsien, July 3-8, 1980 (Davis).

Distribution: Taiwan (new record), Oriental and Australian.

Food plants: *Nerium* (Apocynaceae), *Cissus* (Vitaceae). (Moulds, 1981).

Diagnosis character: Head and body fuscous; vertex fuscous; labial palpi prominent, anterior margin, fuscous. Eyes black, above with lash of hairs. Antennae slender, tapered, weakly hooked. 1st and 6th dorsal abdomen with fuscous bands, 2th to 5th, with V-shaped mak. Forewings brown, with fuscous sinuate line; apical angle with fuscous triangular spot. Hind wings, brown; medium with two fuscous stripes; underside of the wings, pale fuscous with sinuate line; near apical angle, with triangular spot. Ventral abdomen, ferruginous. Protarsus, grey fuscous; mid- & hind-tarsus fuscous; the rest luteous. Sacculus, with finger-like projection, with tiny teeth. Aedeagus with hook like projection.

Comment:This species is here first recorded from Taiwan. It is similar to the common Taiwan species *A. castanea,* but is easily distinguished by the presence of the yellow discal spot in *A. anceus. Cissus* (Vitaceae) are on Botel Tobago (Chang, 1981; Hsu, 1982).

4. ***Gurelca hyas*** (Walker), 1856.

Materials examined: Orchid island, July 16-20, 1980 (Davis).

Distribution: Taiwan, China, Tonkin, Malaya, Burma, India, Java, the Philippines.

Food plants: *Morinda, Paedaria* (Rubiaceae). (Bell & Scott, 1937) .

Comment:Host plants reported By Bell & Scott are found on Botel Tobago (Chang, 1981; Hsu, 1982).

5. ***Macroglossum corythus luteatam*** (Bütler), 1875.

Materaials examined: Orchid Island, July 16-20, 1980 (Davis).

Distribution: Taiwan, S. China, N. India, the Philippines, Celebes, Tonkin, Malaya, Java, Borneo, Srilanca, Moluccas, Queensland, Solomon Island. New Hebrides.

Food plants: *Morinda citrifolia* var. *bracteata, Paederia foetida* (Rubiaceae) (Bell & Scot, 1937); *Strychnos nux-vomica* (Loganiaceae) (Mell, 1922).

Comment: *Morinda, Paederia* (Rubiaceae) reported by Bell & Scott are found on Botel Tobago (Chang, 1981; Hsu, 1982).

6. ***Hippotion velox*** (Fabricius), 1793.

Materials examined: Orchid Island, July 16-20, 1980 (Davis), August, 22-30, 1988 (Lin).

Distribution: Taiwan, Ryuku, from India to Fiji.

Host plants: Araceae, Balsaminaceae, Apocynaceae, Bignoniaceae, Convolvulaceae, Dilleniaceae, Nyctaginaceae, Polygonaceae, Onagraceae, Rubiaceae, Vitaceae etc. (D'Abrera, 1986). *Pisonia* (Nytaginaceae) (Bell & Scott, 1937).

Comment: *Pisonia* (Nyctaginaceae) reported by Bell & Scott are found on Botel Tabago (Chang, 1981; Hsu, 1982).

7. ***Hippotion boerhaviae*** Fabricius, 1775.

Materials examined: Orchid Island, July 16-20, 1980 (Davis); August 22-30, 1988 (Lin).

Distribution: Taiwan, S. Japan, S. Korea, China, Tokin, Malaya, Java, Burma, Srilanca India, the Phipippines, the Solomon Island.

8. ***Theretra clotho clotho*** Drury, 1773.

Materials examined: Orchid Island, August 22-30, 1988 (Lin).

Distribution: Taiwan, S. Japan, S. Korea, China, Malaya, Java, Burma, Srilanca, India, the Philippines, Celebes, Timor.

Food plants: *Cissus* (Vitaceae); *Hibiscus* (Malvaceae) (Lin & Yeh, 1985).

Comment: *Cissus* (Vitaceae) and *Hibiscus* (Malvaceae) are found on Botel Tobago (Chang, 1981; Hsu, 1982).

9. ***Theretra latreilli lucasi*** (Walker), 1856.

Materials examined: Orchid Island, July 16-22, 1980 (Davis); August, 22-30, 1980 (Lin).

Distribution: Taiwan, the Philippines, Java, Tonkin, Malaya, Andamans, Burma, Srilanca, India, S. China, Papuasia.

Food plants: *Impatiens* (Balsaminaceae), *Vitis* (Vitaceae), *Begonia* (Begoniaceae). (Chu & Wang, 1980).

Comment: *Begonia* (Begoniaceae) are found on Botel Tobago (Chang, 1981; Hsu, 1982).

10. ***Theretra nessus*** (Drury). 1773.

Materials examined: Orchid Island, July 16-22, 1980 (Davis); August 22-30, 1980 (Lin).

Distribution: Taiwan, Japan, China, Malaya, Burma, Srilanca, India, Borneo, Australia, Papuasia.

Food plants: *Allium* (Liliaceae), *Dioscorea* (Dioscoreaceae), *Colocasia, Pinellia* (Araceae). (Chu & Wang, 1980).

Comment: *Dioscorea* (Dioscoreaceae) and *Colocasia* (Araceae) are found on Botel Tobago (Chang, 1981 & 1984; Hsu, 1982).

11. ***Theretra pinastrina pinastrina*** (Martyn), 1797.

Materials examined: Orchid Island, August 22-30, 1988 (Lin).

Distribution: Taiwan, S. China, S. Japan, Malaya, Borneo, Java, Burma, Srilanca, India, the Philippines, Papuasia.

Food plants: *Colocasia* (Araceae). (Chu & Wang, 1980).

Comment: Host plant reported by Chu & Wang are found on Botel Tobago (Chang, 1981; Hsu, 1982).

12. ***Theretra boisduvali*** Bugnion, 1839.

Materials examined: Orchid Island, August 22-30, 1988 (Lin).

Distribution: Taiwan, Srilanca, N. India, Asia Minor, Tonkin, Malaya, Java, Borneo, Lombok.

13. ***Theretra rhesus*** Boisduval, 1875.

Materials examined: Orchid Island, July 16-20, 1980 (Davis); August 22-30, 1988 (Lin); Chiahsien, July 3-8, 1980 (Davis).

Distribution: Taiwan (new record), Oriental and Australian Region to the Solomon Island.

Diagnosis characters: Body and wing greenish yellow. Head and thorax, with lateral pale yellow. Antenna, with dorsal surface grey yellow, ventral surface black. Forewing, from apex to outer margin with three parallel black stripes; medium with black spot. Hind wing black, outer margin with circular yellow spot. Dorsal abdomen, with grey-yellowish stripe, lateral pale yellow; lateral 2nd abdominal segment with black spot. Sacculus with thumb-like projection, with tiny teeth. Aedeagus sclerotized, lateral with

several tiny projections.

Comment:This species is here first recorded from Taiwan. It is most similar to the common Taiwan species *Theretra latreilli lucasi,* but is easily distinguished by the basal black spot on the forewing in *T. rhesus.*

14. ***Rhyncholaba acteus*** Cramer, 1779.

Materials examined: Orchid Island, July 16-20, 1980 (Davis); August 22-30, 1988 (Lin).

Distribution: Taiwan, Ryukyu, S. China, Tonkin, Burma, Srilanca, India, Java, Moluccas.

Food plants: *Vitis* (Vitaceae); *Begonia* (Begoniaceae); *Commelina* (Commelinaceae); *Arisaema, Amorphophallus, Colocasia, Caladium bicolor* (Araceae). (Mell, 1922; Bell & Scott, 1937).

Comment:*Begonia* (Begoniaceae), *Arisaema, Colocasia* (Araceae) *Commelina* (Commelinaceae) are found on Botel Tobago (Chang, 1981, & 1984; Hsu, 1982).

DISCUSSION

In this paper a small collection of the sphingid moths are studied. There are 14 species in 8 genera recorded her for Botel Tobago, two species *(Acosmeryx anceus* and *Theretra rhesus)* are new to fauna of Taiwan. Both of them are collected in the southern part of Taiwan, but without notifying. The record of additional specimens are expected through the future extensive Studies in Botel Tobago.

Kano (1932) studied the distribution and zoogeography of pachyrrhynchid weevils and showed the fact that a line of zoogeographical demarcation can be draw between Botel Tobago and Taiwan, which cuts off the Philippine elements from Taiwan or Asiatic continent. Chang (1967) reported that the flora of Botel Tabago have much closer relationship to the Philippines than to that of Taiwan. But Liu and Yuang (1974) analyzed the vascular plants in Botel Tobago and conluded that the flora of Botel Tobago was mostly close related to that of southern Taiwan. The exact boundary between northern and souther biogeographic region is still in arguing.

Since the powerful flight ability of the sphingid moths, the geographical distribution of insects in Botel Tobago can not be discussed perfectly from the sphingid moths' distribution, unless the distribution of the other insects is also considered. Sphingid species found in southern Taiwan, but not yet recorded from Botel Tobago (Appendix 1) and Sphingid species found in the Philippines, but not yet in Taiwan (Appendix 2) may be found on Botel Tobago in the future.

Chang (1986) reported that 197 genera woody plants found in Botel Tobago, 189 genera are also found in the Philippines, while 170 genera are common to both Botel Tobago and Hengchun Penissula, 29 southern genera grow in the Philippines whose distribution terminate in Botel Tobago, while northern genera which grow in Taiwan proper only 10 terminate in Botel Tobago. The distribution of the sphingid moths may be limited by the food plant. The further study of the larval food plants in Botel Tobago may obtained some interesting facts of the sphingid moths' distribution.

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APPENDIX 1

Sphingid species and known food plants found in Southern Taiwan, but not yet recorded from Botel Tobago.

1. ***Acherontia styx medusa*** Bütler, 1877.
   Distribution: Taiwan, China, Japan, Malaya, Java, The Philippines, New Guinea.
   Food plants: *Nicotiana, Solanum* (Solanaceae), *Sesamum* (Pedaliaceae), Leguminosae, Oleaceae, Verbenaceae, Bignoniaceae, Caprifoliaceae. (Chu & Wang, 1980).
   Comment: *Solanum* (Solanaceae) are found on Botel Tobago (Chang, 1981).
2. ***Acherontia lachesis*** Fabricius, 1798.
   Distribution: Taiwan, N. India, Srilanca, S. Molucca, the Philippines.
   Food plants: *Nicotiana, Solanum, Lyctium* (Solanaceae), *Catalpa* (Bignoniaceae), *Viburnum* (Caprifoliaceae), *Paulownia* (Scrophulariaceae), *Cannabis* (Moraceae), Oleaceae, Verbenaceae, Labiatae. (Chu & Wang, 1980).
   Comment: *Solanum* (Solanaceae) are found on Botel Tobago (Chang, 1981).
3. ***Agrius convolvuli*** (L.), 1758.
   Distribution: Eastern Hemisphere.
   Food plants: *Tetragonia* (Aizoaceaee), *Vigna* (Leguminosae), *Ipomaea* (Convolvulaceae), *Nicotiana* (Solanaceae) (Chu & Wang, 1980).
   Comment: *Tetragonia* (Aizoaceae), *Vigna* (Leguminosae), *Ipomaea* (Convolvulaceae) are found on Botel Tabago (Chang, 1981).
4. ***Dolbina inexacta*** (Walker), 1856.
   Distribution: Taiwan, S. China, N. & S. India.
   Food plant: *Olea dioca, Linociera malabarica, Ligustrum robustum* (Oleaceae) (Bell & Scott, 1937). *Ligustrum lucidum, Fraxinus, Osmanthus, Fragrans* (Oleaceae) (Mell, 1922).
   Comment: *Linociera, Osmanthus* (Oleaceae) are found on Botel Tobago (Chang, 1981).
5. *Oxyambulyx ochracea* (Bütler), 1885.

Distribution: Taiwan, Japan, Korea, China to E. Himalaya.
Food plants: *Poupartia Fordii (=Spondias axillaris)* (Anacardiaceae) (Mell, 1922).

6. ***Clanis bilineata formosana*** Gehler, 1941.
Distribution: Taiwan, N. & S. China, Korea, Japan, N. & S. India, Sumatra.
Food plants: *Cassia, Lespedeza, Glycine, Robinia* (Leguminosae). (Chu & Wang, 1980).
Comment: *Lespedeza* (Leguminosae) are found on Botel Tobago (Chang, 1981).

7. ***Polyptychus chinensis*** Rothschild & Jordan, 1908.
Distribution: Taiwan, S. China.
Food plants: *Cordia, Ehretia* (Boraginaceae) (Chu & Wang, 1980).
Comment:*Cordia, Ehretia* (Boraginaceae) are found on Botel Tobago (Chang, 1981).

8. ***Marumba sperchius horizna*** Clark, 1937.
Distribution: Taiwan, N. & S. China, Japan, Korea, Sumatra, Assam, N. W. India.
Food plants: *Carya* (Juglandaceae), *Castanea* (Fagaceae), *Eriobotrya* (Rosaceae) (Chu & Wang, 1980).

9. ***Marumba dyras*** (Walker), 1856.
Distribution: Taiwan, China, India.
Food plants: *Tilia* (Tiliaceae) (Chu & Wang, 1980).

10. ***Daphnis hypothous hypothous*** (Cramer) 1780.
Distribution: Taiwan, China, E. & S. India, Srilanca, Malaya, Moluccas, Queensland, New Guinea.
Food plants: *Cinchona, Wendlandia, Uncaria* (Rubiaceae) (Chu & Wang, 1980).
Comment: *Uncaria* (Rubiaceae) are found on Botel Tobago (Chang, 1981).

11. ***Acomeryx castanea*** Rothschild & Jordan, 1903.
Distribution: Taiwan, C. & S. China, Japan.
Food plants: *Cissus, Cayratia, Quinaria* (Vitaceae) (Chu & Wang, 1980).
Comment: *Cissus, Cayratia* (Vitaceae) are found on Botel Tobago (Chang, 1981).

12. ***Macroglossum pyrrhostictum*** (Bütler), 1875.
Distribution: Taiwan, Japan, Korea, China, Indochina, Malaya, Srilanca, India.
Food plants: *Paederia* (Rubiaceae) (Mell, 1922; Bell & Scott, 1937).
Comment: *Paederia* (Rubiaceae) are found on Botel Tobago (Chang, 1981).

13. *Rhagastis mongoliana* (Bütler), 1875.
Distribution: Taiwan, S. & N. China, Korea, Japan.
Food plants: *Berberis* (Berberidaceae), *Impatiens* (Balsaminaceae), *Cissus, Parthenocissus, Vitis* (Vitaceae) (Chu & Wang, 1980.

14. ***Rhagastis binoculata*** Matsumura, 1909.
Distribution: Taiwan.

15. ***Chechenena minor*** (Bütler), 1875.
Distribution: Taiwan, S. China, Thailand, Malaya, N. India.
Food plants: *Polygonum* (Polygonaceae) (Chu & Wang, 1980).
Comment:Host plant reported by Chu & Wang are found on Botel Tobago (Chang, 1981).

APPENDIX 2

Sphingid species found in the Philippines, but not yet in Taiwan.

1. ***Meganoton rufescens*** Bütler, 1875.
Distribution: N. India, Andamans to the Philippines (Mindanao, Sulu Is.).
Food plants: *Kigelia pinnata, Spathodea campanulata* (Bignoniaceae) (Moulds, 1984).

2. ***Amplypterus panopus*** Cramer, 1779.
Distribution: N. W. India to Ceylon, Andamans, Sundaland, the Philippines, Sulawesi.
Food plants: *Mangifera* (Anacardiaceae), *Durio* (Boranbacaceae), *Calophyllum inophyllum* (Guttiferae) (D'Abrera, 1986).
Comment:*Calophyllum* (Guttiferae) are found on Botel Tobago (Chang, 1981).

3. ***Oxyambulyx liturata*** Bütler, 1875.
Distribution: China, India, The Philippines, Indonesia.
Food plants: *Melia* (Meliaceae), *Juglans* (Juglandaceae). (Chu & Wang, 1980).
Comment:*Juglans* (Juglandaceae) are found on Botel Tobago (Chang, 1981).

4. ***Oxyambulyx obliterata*** Rothschild, 1920.
Distribution: Sundaland, the Philippines.
Food plants: *Quercus* (Fagaceae) (Barlow, 1982), Anacardiaceae (Roesler & Kuppers, 1977).

5. ***Oxyambulyx tattina*** Jordan, 1919.
   Distribution: Malaya, Sumatra, Borneo, the Philippines.
6. ***Oxyambulyx staudingeri*** Rothschild, 1894.
   Distribution: the Philippines (Luzon, Mindanao).
7. ***Oxyambulyx canescens*** Walker, 1864.
   Distribution: Andamans, Indo-China, Sundaland, the Philippines (Mindanao).
8. ***Oxyambulyx subocellata*** Felder, 1874.
   Distribution: Srilanca, India, to Indo-China, Sundaland, China, the Philippines (Luzon, Mt. Makilling).
   Food plants: Anacardiaceae (D'Abrera, 1986), *Canarium* (Burseraceae) (Chu & Wang, 1980).
9. ***Polyptychus trilineatus*** Moore, 1888.
   Distribution: China, India, the Philippines (Luzon, Mindanao), Srilanca.
   Food plants: *Cordia* (Boraginaceae) (D, Abrera, 1986). Ehretia (Boraginaceae) (Chu & Wang, 1980).
   Comment:*Cordia, Ehretia* (Boraginaceae) are found on Botel Tobago (Chang, 1981).
10. ***Marumba amboinicus*** Felder, 1862.
    Distribution: S. & N. Moluccas, the Philippines (Luzon), Sulawesi.
11. ***Cypa claggi*** Clark, 1935.
    Distribution: the Philippines.
12. ***Cephonodes lifuensis*** Rothschild & Jordan, 1894.
    Distribution: New Calendonia, Lifu, New Hebrides, the Philippines.
13. ***Sataspes tagalica*** Boisduval, 1875.
    Distribution: Burma to Sundaland, the Philippines, China.
    Food plants: Leguminosae (Roessler & Kuppers, 1977). *Vitis* (Vitaceae) (Chu & Wang, 1980).
14. ***Gnathothlibus erotus*** Cramer, 1777.
    Distribution: Srilanca, Andamans, Nicobars, Sumatra, Java, Borneo, Sulawesi, the Philippines.
    Food plants: *Cayratia, Cissus, Parthenocissus, Vitis* (Vitaceae), Rubiaceae, Melastomaceae, Escalloniaceae, Dilleniaceae and Convolvulaceae. (Moulds, 1981). *Ochrosia opositifolia* (Apocynaceae), *Morinda citrifolia* (Rubiaceae) (Holloway, 1979).
    Comment: *Cayratia, Cissus* (Vitaceae), *Morinda* (Rubiaceae) are found on Botel Tobago (Chang, 1981).
15. ***Daphnis placida*** Walker, 1856.
    Distribution: Andamans, Sundaland to the Philippines to N. Australia, New Hebrides and New Caledonia, Solomon Is., Fiji, Samoa, China.
16. ***Acosmeryx sericeus*** Walker, 1856.
    Distribution: N. India, Sikkim, Bhutan, Assam to the Philippines, China.
    Food plants: *Vitis* (Vitaceae), *Actinidia* (Actinidiaceae) (Chu & Wang, 1980).
17. ***Acosmeryx socrates*** Boisduval, 1875.
    Distribution: India, Srilanca to Sundaland, the Philippines.
    Food plants: Vitaceae, Ampelidaceae, Dillenicaceae, Pictinidiaceaea (D'Abrera, 1986).
18. ***Gehlenia falcata*** Hayes, 1963.
    Distribution: Malaya, Sumatra, the Philippines.
19. ***Panacra busiris*** Walker, 1856.
    Distribution: India to Indo-China, Sundaland, the Philippines.
    Food plants: Araceae, Amaryllidaceae (D'Abrera, 1986).
20. ***Enpinanga assamensis*** Walker, 1856.
    Distribution: Assam, Malaya, Borneo, the Philippines, Sumatra.
21. ***Macroglossum avicula*** Boisduval, 1875.
    Distribution: Sundaland, Palawan, the Philippines.
22. ***Macroglossum caldum*** Jordan, 1926.
    Distribution: New Guinea, the Philippines (Baguio, Luzon).
23. ***Macroglossum prometheus*** Boisduval, 1875.
    Distribution: Srilanca, India to Sundaland, the Philippines, N. S. Queensland.
24. ***Macroglossum aquila*** Boisduval, 1875.
    Distribution: N. India, Sikkim to Sundland, the Philippines.
25. ***Macroglossum hemichroma*** Buter, 1875.
    Distribution: N. India to Sundaland, the Philippines.
26. ***Theretra manilae*** Clark, 1922.
    Distribution: The Philippines (Luzon, Leyte).
27. ***Theretra brunnea*** Semper, 1896.
    Distribution: Buru, the Moluccas, New Guinea, the Philippines.
28. ***Cechenena aegrota*** Bütler, 1875.
    Distribution: N. India to Sundaland, the Philippines.

29. ***Cechenena helops*** Walker, 1856.
Distribution: India, Assam to Sundaland, the Philippines.
30. ***Cechenena pollax*** Boisduval, 1892.
Distribution: Sumatra, Java, the Philippines.
Food plants: *Saurauja* (Actinidiaceae) (Diehl, 1980).
Comment: *Saurauja* (Actinidiaceae) are found on Botel Tobago (Chang, 1981).

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1 *Acosmeryx anceus,* male.

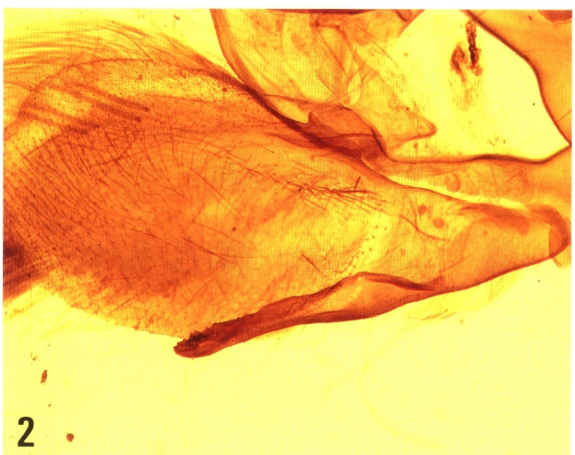
2-3 *Acosmeryx anceus,* male genitalia.

4 *Theretra rhesus,* male.

5-6 *Theretra rhesus,* male genitalia.

1

4



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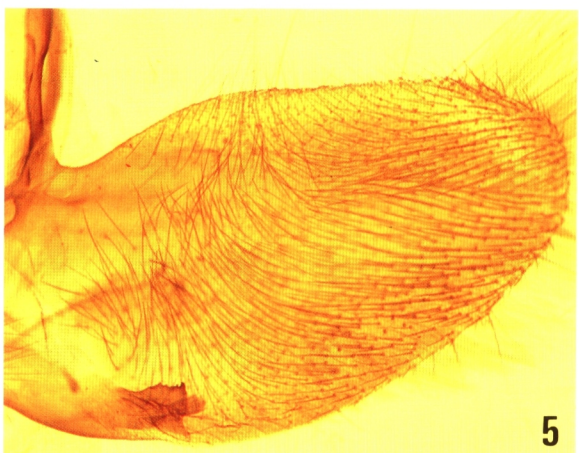

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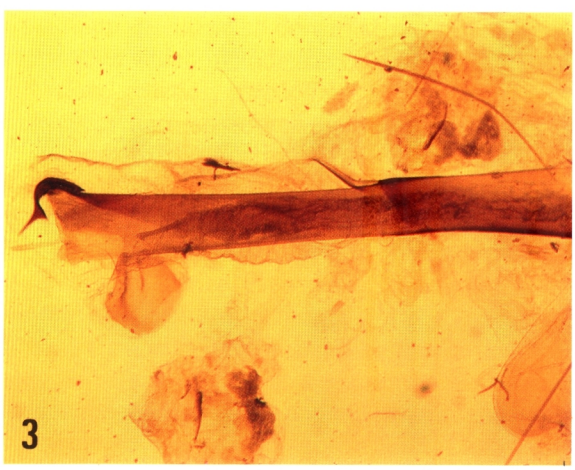

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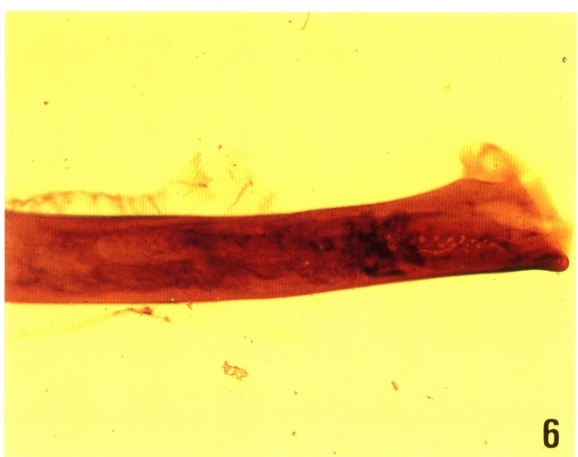

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蘭嶼的天蛾

林政行

摘 要

蘭嶼的天蛾，經分類整理共有八屬十四種，分別是*Psilogramma increta, Leucophlebia lineata, Acosmeryx anceus, Gurelca hyas, Macroglossum corythus luteata, Hippotion velox, H. boerhaviae, Theretra clotho clotho, T. latreilli lucasi, T. nessus, T. pinastrina pinastrina, T. boisduvali, T. rhesus, Rhyncholaba acteus*。其中*A. anceus, T. rhesus*,是新記錄種。本文除描述其形態特徵，分布及幼蟲之食料植物，並附新記錄種及雄性生殖器照片以供參考。