

A TAXONOMIC LIST OF BUTTERFLIES (LEPIDOPTERA: PAPILIONOIDEA AND HESPERIOIDEA) FROM MOUNT BANAHAO DE LUCBAN, QUEZON PROVINCE, PHILIPPINES¹

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ABSTRACT

A survey of the butterflies and skippers (Lepidoptera: Rhopalocera) of Mount Banahao de Lucban was conducted from July 1997 to December 2000. A total of 77 species under 56 genera (including one genus with two subgenera) were identified. These are distributed in 7 families, namely: Hesperioidea (1): Hesperiiidae; Papilionoidea (6): Papilionidae, Satyridae (including Amathusiinae), Nymphalidae, Danaidae, Pieridae and Lycaenidae. The best represented families are Pieridae and Nymphalidae with 14 species each. The common birdwing, *Troides rhadamantus* Lucas, which is included in Appendix II of the CITES list can still be found in the mountain particularly around the Samil area, but was sighted only twice throughout the entire study period. Notes are also given for *Caltoris* sp., *Jamides cleodus cleodus* C.&R. Felder, *Nacaduba beroe* (C.&R. Felder), *Parnara guttata* (Bremer & Grey), *Potanthus* sp., *Rapala* sp. and *Spalgis epius* (Westwood).

Key words: butterflies, Rhopalocera, *Troides rhadamantus*, Mount Banahao de Lucban

INTRODUCTION

Mount Banahao de Lucban, located 14°05'N, 121°31'E, mainly in the town of Lucban, is one of the main peaks of Mount Banahao (or Banahaw), a mountain range in Quezon Province, in the southern part of Luzon Island, Philippines. The other two main peaks are Mount Banahao de Dolores and Mount Banahao San Cristobal. In recent years, the mountain has been the focus of limited biodiversity documentation and conservation studies.

Mount Banahao de Lucban has not been studied comprehensively for its insect fauna. My view, shared by many Filipino systematic entomologists, is that the total picture of biological diversity of an area or a country is incomplete without a proper assessment of the most diverse group of organisms - the insects, mites and other arthropods. Most biodiversity studies focus mainly on the larger plants and vertebrates, the relatively well known groups of organisms, and the available sets of information are skewed towards them, leaving the insects and other invertebrates a virtual *terra incognita*.

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The project on the insect diversity of Mount Banahao de Lucban is an attempt to provide a better view and set of data on the biodiversity components of the area, as well as contribute to the efforts to give terrestrial arthropod biodiversity the recognition it deserves. Specifically, the objective is to document the mountain's insect fauna from different areas, elevations and microhabitats through collected and identified specimens and technical and/or popularly written publications. This paper on the butterflies is the first of a series on the diversity of insects in the area.

Among Philippine insects, the butterflies are one of the best studied and documented groups owing mainly to the works of Jumalon (1966, 1969, among others) and many Japanese and European lepidopterists and Baltazar's (1991) second volume of "An Inventory of Philippine Insects" dealing specifically on the Rhopalocera. Cayabyab (2000, 2001) also conducted faunistic surveys of butterflies of Mount Makiling and Mount Arayat. In particular, this paper on butterflies aims to generate basic information needed towards further biodiversity studies as well as the envisioned Butterfly Sanctuary in the reservation and a possible butterfly house near the Samil Area.

MATERIALS AND METHODS

Butterflies were collected using insect nets, identified and released. A few voucher specimens were selected for preservation. In this case, insects were killed in cyanide jars or by pressing on the thorax, pinned and spread, dried properly and labeled. Most butterflies were released alive after identification and recording. Voucher specimens were identified by consulting pertinent literature including taxonomic descriptions and pictorial guides and comparison with reference collections. Vouchers were equally shared between the Museum of Natural History of the University of the Philippines Los Baños, College, Laguna, and the School of Agriculture, Southern Luzon Polytechnic College, Lucban, Quezon.

RESULTS AND DISCUSSION

A survey of the butterflies and skippers (Lepidoptera: Rhopalocera) of Mount Banahao de Lucban was conducted from July 1997 to December 2000. The results total to around 85 species. Of these, 77 species under 56 genera were identified. These include one genus with two subgenera. The 77 species are distributed in 7 families, namely: Hesperioidea (1): HesperIIDae; Papilionoidea (6): Papilionidae, Satyridae (including Amathusiinae), Nymphalidae, Danaidae, Pieridae and Lycaenidae. The best represented families are Pieridae and Nymphalidae with 14 species each. These are followed by Papilionidae and HesperIIDae with 12 each, Satyridae 10, Lycaenidae 8 and Danaidae 7. More species would have been identified and included had literature and/or better specimens been available for some Lycaenidae, Satyridae and HesperIIDae.

The following checklist includes all the species collected and/or observed from the area. All are identified to species or subspecies level, except for 3, which are only down to generic level. Nomenclature especially generic assignments of certain species and suprageneric classification (superfamily, family, subfamily, tribe and genus-group) followed those of Baltazar (1991).

**TAXONOMIC LIST OF THE RHOPALOCERA
OF MOUNT BANAHAO DE LUCBAN**

I. Superfamily PAPILIONOIDEA

i. Family PAPILIONIDAE

Subfamily PAPILIONINAE

Tribe PAPILIONINI

A. Genus *Chilasa* Moore

1. *Chilasa clytia palephates* (Westwood)

B. Genus *Papilio* Linnaeus

2. *Papilio alphenor ledebouria* Eschscholtz
3. *Papilio daedalus daedalus* C.&R. Felder
4. *Papilio demoleus libanius* Fruhstorfer
5. *Papilio rumanzovia* Eschscholtz

Tribe LEPTOCIRCINI

C. Genus *Graphium* Scopoli

6. *Graphium agamemnon* (Linnaeus)
7. *Graphium eurypylus gordion* (C.&R. Felder)
8. *Graphium sarpedon sarpedon* (Linnaeus)

D. Genus *Lamproptera* G.R. Gray

9. *Lamproptera meges decius* (C.&R. Felder)

Tribe TROIDINI

E. Genus *Pachliopta* Reakirt

10. *Pachliopta kotzebuea kotzebuea* (Eschscholtz)
11. *Pachliopta mariae almae* (Semper)

F. Genus *Troides* Hübner

12. *Troides rhadamantus* (Lucas)

ii. Family PIERIDAE
Subfamily PIERINAE

G. Genus *Appias* Hübner

13. *Appias albina semperi* (Moore)
14. *Appias lyncida andrea* (Eschscholtz)
15. *Appias nephele nephele* (Hewitson)

H. Genus *Cepora* Billberg

16. *Cepora iudith olga* (Eschscholtz)

I. Genus *Delias* Hübner

17. *Delias henningia henningia* (Eschscholtz)
18. *Delias hyparete luzonensis* (C.&R. Felder)

J. Genus *Hebomoia* Hübner

19. *Hebomoia glaucippe philippensis* (Wallace)

K. Genus *Leptosia* Hübner

20. *Leptosia nina georgi* Fruhstorfer

L. Genus *Pareronia* Bingham

21. *Pareronia boebora boebers* (Eschscholtz)

Subfamily COLIADINAE

M. Genus *Catopsilia* Hübner

22. *Catopsilia pomona pomona* Fabricius
23. *Catopsilia pyranthe pyranthe* Linnaeus
24. *Catopsilia scylla cornelia* Fabricius

N. Genus *Eurema* Hübner

25. *Eurema hecabe hecabe* (Linnaeus)

O. Genus *Gandaca* Moore

26. *Gandaca harina mindanaensis* Fruhstorfer

iii. Family DANAIDAE

P. Genus *Danaus* Kluk

a. Subgenus *Anosia* Hübner

27. *Danaus (Anosia) chrysippus* (Linnaeus)

b. Subgenus *Salatura* Moore

28. *Danaus (Salatura) genutia adnana* (Swinhoe)

29. *Danaus (Salatura) melanippus edmondii* Lesson

Q. Genus *Euploea* Fabricius

30. *Euploea mulciber dufresne* (Godart)

31. *Euploea swainson swainson* (Godart)

R. Genus *Ideopsis* Moore

32. *Ideopsis juvena manillana* (Moore)

S. Genus *Parantica* Moore

33. *Parantica luzonensis luzonensis* (C.&R. Felder)

iv. Family SATYRIDAE

Subfamily SATYRINAE

T. Genus *Melanitis* Fabricius

34. *Melanitis leda leda* Linnaeus

U. Genus *Mycalesis* Hübner

35. *Mycalesis ita ita* (C.&R. Felder)

36. *Mycalesis mineus philippina* (Moore)

37. *Mycalesis tagala tagala* C.&R. Felder

V. Genus *Ragadia* Westwood

38. *Ragadia luzonia luzonia* C.&R. Felder

W. Genus *Ypthima* Hübner

39. *Ypthima stelleri stelleri* (Eschscholtz)

X. Genus *Zethera* Felder

40. *Zethera pimplea* Erichson

Subfamily AMATHUSIINAE**Tribe AMATHUSIINI**Y. Genus *Amathusia* Fabricius

- 41.
- Amathusia phidippus pollicaris*
- Butler

Z. Genus *Discophora* Boisduval

- 42.
- Discophora ogina ogina*
- (Godart)

AA. Genus *Faunis* Hübner

- 43.
- Faunis phaon phaon*
- (Erichson)

v. Family NYMPHALIDAE**Subfamily HELICONIINAE**BB. Genus *Cethosia* Fabricius

- 44.
- Cethosia biblis insularis*
- C.&R. Felder

Subfamily MARPESIINAECC. Genus *Cyrestis* Boisduval

- 45.
- Cyrestis maenalis maenalis*
- Erichson

Subfamily NYMPHALINAEDD. Genus *Doleschallia* C.&R. Felder

- 46.
- Doleschallia bisaltide philippinensis*
- Fruhstorfer

EE. Genus *Hypolimnas* Hübner

- 47.
- Hypolimnas anomala anomala*
- (Wallace)

- 48.
- Hypolimnas bolina philippensis*
- (Butler)

FF. Genus *Junonia* Hübner

- 49.
- Junonia almana almana*
- (Linnaeus)

- 50.
- Junonia hedonia ida*
- (Cramer)

GG. Genus *Rhinopalpa* Felder

- 51.
- Rhinopalpa polynice stratonice*
- (C.&R. Felder)

Subfamily LIMENITIDINAE**Tribe LIMENITIDINI**HH. Genus *Neptis* Fabricius52. *Neptis mindorana ilocana* C.&R. FelderII. Genus *Phaedyma* Felder53. *Phaedyma columella eremita* C.&R. Felder**Tribe PARTHENINI**JJ. Genus *Parthenos* Hübner54. *Parthenos sylvia philippensis* Fruhstorfer**Tribe EUTHALIINI**KK. Genus *Tanaecia* Butler55. *Tanaecia calliphorus calliphorus* (C.&R. Felder)**Subfamily ARGYNNINAE**LL. Genus *Phalanta* Horsfield56. *Phalanta phalanta phalanta* (Drury)MM. Genus *Vindula* Hemming57. *Vindula dejone dejone* (Erichson)**vi. Family LYCAENIDAE****Subfamily THECLINAE****Tribe ARHOPALINI**NN. Genus *Arhopala* Boisduval58. *Arhopala aronya aronya* (Hewitson)**Tribe POLYOMMATINI**OO. Genus *Euchrysops* Butler59. *Euchrysops cnejus* (Fabricius)PP. Genus *Jamides* Hübner60. *Jamides cleodus cleodus* C.&R. Felder

QQ. Genus *Nacaduba* Moore

61. *Nacaduba beroe* (C.&R. Felder)

Tribe HYPOLYCAENINI

RR. Genus *Hypolycaena* C.&R. Felder

62. *Hypolycaena ithna* Hewitson

63. *Hypolycaena sipylus tharrytas* C.&R. Felder

Tribe DEUDORIGINI

SS. Genus *Rapala* Moore

64. *Rapala* sp.

Subfamily MILETINAE

Tribe MILETINI

TT. Genus *Spalgis* Moore

65. *Spalgis epius* (Westwood)

II. Superfamily HESPERIOIDEA

vii. Family HESPERIIDAE

Subfamily RHOPALOCAMPTINAE

UU. Genus *Bibasis* Moore

66. *Bibasis gomata lorquini* (Mabille)

Subfamily HESPERIINAE

GEGENES Group

VV. Genus *Caltoris* Swinhoe

67. *Caltoris* sp.

WW. Genus *Parnara* Moore

68. *Parnara naso bada* Moore

69. *Parnara guttata* (Bremer & Grey)

XX. Genus *Pelopidas* Walker

70. *Pelopidas mathias mathias* (Fabricius)

PLASTINGIA GroupYY. Genus *Erionota* Mabille71. *Erionota thrax thrax* (Linnaeus)ZZ. Genus *Gangara* Moore72. *Gangara thyraxis philippensis* FruhstorferAAA. Genus *Pyroneura* Eliot73. *Pyroneura liburnia liburnia* (Hewitson)**TARACTROCERA Group**BBB. Genus *Potanthus* Scudder74. *Potanthus* sp.CCC. Genus *Taractrocera* Butler75. *Taractrocera ziclea ziclea* (Plötz)**Subfamily PYRGINAE****TAGIADES Group**DDD. Genus *Tagiades* Hübner76. *Tagiades japetus titus* Plötz77. *Tagiades trebellius martinus* Plötz**MISCELLANEOUS NOTES*****Caltoris* sp.**

Baltazar (1991) listed three species of *Caltoris*, namely *C. bromus bromus* Leech, *C. philippina philippina* (Herrich-Schaeffer) and *C. cormasa* (Hewitson). The single specimen collected appears to be none of these three species but is possibly close to *C. cahira* Moore.

***Jamides cleodus cleodus* C.&R. Felder**

There are two fairly morphologically close subspecies of *Jamides cleodus* C.&R. Felder that are both known to occur on Luzon island. These are *J. c. cleodus*, which has also been reported from Taiwan and *J. c. semperi* (Fruhstorfer) of Luzon and Polillo. The few specimens observed in Mount Banahao de Lucban are only tentatively assigned to the nominal and more widespread subspecies. More collections and comparison with types may confirm this.

***Nacaduba beroe* (C.&R. Felder)**

Only the nominal subspecies of *Nacaduba beroe* (C.&R. Felder) was included in Baltazar's (1991) inventory. However, the individuals encountered in Mount Banahao de Lucban differ slightly in wing pattern. Whether they represent an undescribed subspecies of *N. beroe* remains to be confirmed by more specimens, a study of infraspecific variation in *N. beroe* and comparison with types.

***Parnara guttata* (Bremer & Grey)**

Parnara guttata (Bremer & Grey), as emended, is used in this list instead of *P. guttatus*.

***Potanthus* sp.**

Baltazar (1991) listed the following *Potanthus* spp.: *P. hetaerus hetaerus* (Mabille), *P. mingo mingo* (Edwards), *P. omaha omaha* (Edwards), *P. pava lesbia* (Evans) and *P. taxilus alpha* (Evans). The specimens encountered represent one of them, most probably *P. m. mingo*.

***Rapala* sp.**

The species of *Rapala* occurring on Mount Banahao de Lucban is probably *R. caerulescens* (Staudinger) or one very close to it. However, more detailed study and examination are still needed to confirm this.

***Spalgis epius* (Westwood)**

There are four taxa of *Spalgis* listed in Baltazar's (1991) Rhopalocera inventory. They are *Spalgis takanamii* Eliot from Mount Apo in Mindanao, and the three subspecies of *Spalgis epius* (Westwood), namely, *S. e. georgi* Fruhstorfer from Bohol, *S. e. semperi* Fruhstorfer from Luzon, and *S. e. strigatus* Fruhstorfer from Cebu, Mindanao, Tawi-tawi and Palawan. The subspecies occurring on Mount Banahao de Lucban is probably *S. e. semperi*, but further studies are needed to determine the subspecies and extent of intra-specific variation of these dull-colored but important naturally occurring control agents of mealybugs.

***Troides rhadamantus* Lucas**

This species, known as the common birdwing, is listed in Appendix II of CITES list. We have observed a few pairs of this species on the mountain particularly around the Samil area, hovering among the vegetation surrounding the campsite. However, they were sighted only twice throughout the entire study period.

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