

Insects of the Northern Mariana Islands, Micronesia, Collected During the Expedition

compiled by

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Abstract More than 300 insect species were collected during the expedition to the northern Mariana Islands; 164 species are identified at species level, 70 at generic level, and about 40 at family level. At least 46 species, including two new species, are recorded from the northern Marianas for the first time.

Key words: Northern Mariana Islands, insects.

The insect fauna of the northern Mariana Islands was reported in the series "Insects of Micronesia" published by the Bernice P. Bishop Museum from 1954 to 1972. After this series, there was no detailed report about the insect fauna there. I had an opportunity to collect insects in the northern Marianas as one of the members of the expedition conducted by the Natural History Museum and Institute, Chiba, the Department of Natural Resources (Commonwealth of the Northern Mariana Islands), and the University of Guam Marine Laboratory (USA) in 1992. Mr. Taiji Kurozumi, also one of the members of the expedition, intensively collected soil insects. Although examination of specimens has not yet been completed, here I present a preliminary report on the insects collected from these islands. A more detailed report dealing with each taxon will appear later.

Methods

Nine of the northern Mariana Islands were investigated (for detailed description of surveyed area, see Asakura *et al.*, 1994). I collected insects mainly with an insect net. Sometimes I used other methods including beating twigs and sweeping glasses. Kurozumi collected soil insects with forceps or by using the Tullgren funnel. Identification was done by specialists in each taxon (Table 1), excluding those done by me. Almost all the specimens are deposited at the Natural History Museum and Institute,

Chiba.

Results and Discussion

More than 300 species were collected during the expedition. Up to the present, 164 species are identified at species level, 70 at generic level, and about 40 at family level. Two species are described as new in this volume (Ôhara, 1994 and Terayama, 1994). Ten species may be undescribed species, and 2 undescribed subspecies. At least 46 species, including two new species, are recorded from the northern Marianas for the first time (see *Remarks* in the list below).

List of insects collected in the northern Mariana Islands

Collection data are arranged in the following order: island name: number of specimens (σ^7 : male, ♀ : female, N: nymph, L: larva, Ex(s): not specified), collection date (the year, 1992, is omitted), collector's name (S. Miyano and T. Kurozumi are abbreviated as [SM] and [TK], respectively). Identifiers other than myself are designated in parentheses after each taxonomic name. There are the cases in which several entomologists are engaged in identification in a same taxon. If so, the name of identifier who identified the most species of the taxon is noted after the taxon (e.g., order), and the name of other identifier is noted just after the name of specific group (e.g., family). Comments by identifiers are added in *Remarks*. Collection data

Table 1. A list of specialists who identified the specimens of each taxon.

Taxon	Identifier	
COLEMBOLA	Ryosaku Itoh	Showa University
DIPLURA	Osami Nakamura	Saitama Museum of Natural History
ODONATA	Syoziro Asahina	Honorary Member, National Institute of Health, Tokyo
BLATTARIA	Syoziro Asahina	Honorary Member, National Institute of Health, Tokyo
ISOPTERA	Katsura Morimoto	Kyushu University
ORTHOPTERA	Hitoshi Ishikawa	Shizuoka
DERMAPTERA	Seiroku Sakai	Daito Bunka University
THYSANOPTERA	Shuji Okajima	Tokyo University of Agriculture
HEMIPTERA		
Phyllidae	Yorio Miyatake	Osaka Museum of Natural History
Margarodidae	Shozo Kawai	Tokyo University of Agriculture
Pseudococcidae	Shozo Kawai	Tokyo University of Agriculture
others	Hitoshi Hasegawa	Tokyo
NEUROPTERA	Shigehiko Tsukaguchi	Nitshinomiya, Hyogo
COLEOPTERA		
Carabidae	Sumao Kasahara	Funabashi, Chiba
Dytiscidae	Masataka Satō	Nagoya Women's University
Histeridae	Masahiro Ōhara	Otaru Museum
Ptiliidae	Shun-Ichiro Naomi	Natural History Museum and Institute, Chiba
Staphylinidae	Shun-Ichiro Naomi	Natural History Museum and Institute, Chiba
Pselaphidae	Shuhei Nomura	Kyushu University
Scaphidiidae	Shun-Ichiro Naomi	Natural History Museum and Institute, Chiba
Lucanidae	Hiroshi Fujita	Japanese Society of Coleopterology
Scarabaeidae	Hirokazu Kobayashi	Tokyo
Buprestidae	Yoshihiko Kurosawa	Tokyo
Elateridae	Wataru Suzuki	Hosei Second Junior High School
Melyridae	Masataka Satō	Nagoya Women's University
Nitidulidae	Sadanari Hisamatsu	Matsuyama, Ehime
Phalacridae	Hiroyuki Sasaji	Fukui University
Sphindidae	Hiroyuki Sasaji	Fukui University
Cucujidae	Shun-Ichiro Naomi	Natural History Museum and Institute, Chiba
Silvanidae	Shun-Ichiro Naomi	Natural History Museum and Institute, Chiba
Cerylonidae	Hiroyuki Sasaji	Fukui University
Corylophidae (part)	Hiroyuki Sasaji	Fukui University
Corylophidae (part)	Shun-Ichiro Naomi	Natural History Museum and Institute, Chiba
Endomychidae	Shun-Ichiro Naomi	Natural History Museum and Institute, Chiba
Coccinellidae	Hiroyuki Sasaji	Fukui University
Mycetophagidae	Mutsuo Miyatake	Ehime University
Ciidae	Makoto Kawanabe	Ehime University
Oedemeridae	Mutsuo Miyatake	Ehime University
Tenebrionidae	Kimio Masumoto	Otsu Women's University
Cerambycidae	Akiko Saito	Natural History Museum and Institute, Chiba
Anthribidae (part)	Katsura Morimoto	Kyushu University
Anthribidae (part)	Shun-Ichiro Naomi	Natural History Museum and Institute, Chiba
Brentidae	Katsura Morimoto	Kyushu University
Curculionidae	Katsura Morimoto	Kyushu University
Rhynchophoridae	Katsura Morimoto	Kyushu University
Scolytidae	Akira Nobuchi	Tsukuba, Ibaraki
HYMENOPTERA		
Bethyidae	Mamoru Terayama	University of Tokyo
Formicidae	Mamoru Terayama	University of Tokyo
Eumenidae	Seiki Yamane	Kagoshima University
Vespidae	Seiki Yamane	Kagoshima University
Sphecidae	Tadashi Tano	Fukui
Halictidae	Osamu Tadauchi	Kyushu University
Megachilidae	Osamu Tadauchi	Kyushu University
Anthophoridae	Osamu Tadauchi	Kyushu University
Apidae	Osamu Tadauchi	Kyushu University
DIPTERA		
NEMATOCERA	Kazuo Tanaka	Teiso Kasei, Co. Ltd.
BRACHYCERA	Narao Fukuhara	Tsukuba, Ibaraki

are omitted for the species which are dealt with in other papers of this volume. For further details, see respective papers.

Order COLLEMBOLA

(Identified by R. Itoh)

(See Itoh, 1994 for collection data)

Family Neelidae

1. *Neelus (Megalothorax) minimus* (Willem)

Remarks. This is new to the Mariana Islands.

Family Sminthuridae

2. *Sphaeridia pumilis* (Krausbauer)

Remarks. This is new to the Mariana Islands.

3. *Sphaeridia biniserrata* (Salmon)

Remarks. This is new to the Mariana Islands.

4. *Bourletiella* sp.

Order DIPLURA

(Identified by O. Nakamura)

(See Nakamura, 1994 for collection data)

Family Campodeidae

5. Campodeinae gen. sp.

Family Parajapygidae

6. *Parajapyx (Grassjapyx)* sp.

Order ODONATA

(Identified by S. Asahina)

Family Agrionidae

7. *Ischnura aurora aurora* (Brauer)

PAGAN: 5♂, 4♀, 25. v. [SM].

Family Libellulidae

8. *Agrionoptera insignis yapensis* Lieftinck

ANATAHAN: 6♂, 1♀, 11. v. [SM]; 1♂, 1♀, 12. v. [SM].

9. *Diplacodes bipunctatus* (Brauer)

AGRIHAN: 2♂, 28. v. [SM]; 1♂, 30. v. [SM]. ANATAHAN: 4♂, 1♀, 11. v. [SM]; 3♂, 1♀, 12. v. [SM]. PAGAN: 10♂, 1♀, 25. v. [SM].

10. *Macrodiplax cora* (Brauer)

PAGAN: 1♀, 24. v. [SM]; 1♀, 25. v. [SM]; 1♂, 27. v. [SM].

11. *Pantala flavescens* (Fabricius)

ALAMAGAN: 1♂, 1♀, 9. vi. [SM].

Order EMBIOPTERA

Family Oligotomidae

12. Oligotomidae gen. sp.

AGRIHAN: 1♀, 29. v. [TK]. ANATAHAN: 1♂, 1♀, 2L, 12. v. [TK].

Order BLATTARIA

(Identified by S. Asahina)

Family Pycnoscelidae

13. *Pycnoscelus indica* (Fabricius)

AGRIHAN: 1♀, 1N, 29. v. [SM]. ALAMAGAN: 1♀, 5N, 9. vi. [SM]; 2N, 9. vi. [TK]. ANATAHAN: 1N, 11. v. [SM]; 1N, 11. v. [TK]; 1N, 13. v. [SM]. GUGUAN: 1N, 17. v. [TK]. PAGAN: 1♀, 1N, 24. v. [SM]; 5N, 24. v. [TK]. SARIGAN: 1N, 15. v. [TK]; 1♀, 16. v. [TK]. URACAS: 1N, 6. vi. [TK].

Family Blattidae

14. *Periplaneta americana* (Linnaeus)

PAGAN: 1♂, 24. v. [SM].

15. *Periplaneta australasiae* (Fabricius)

ANATAHAN: 1N, 12. v. [SM]; 2N, 13. v. [SM]. PAGAN: 1♀, 24. v. [SM]; 1N, 25. v. [SM].

16. Blattidae gen. sp. (*Cutilia soror* Br.v.W. ?)

SARIGAN: 1N, 15. v. [SM].

Family Blattellidae

17. *Blattella lituricollis* (Walker)

PAGAN: 1♀, 1N, 24. v. [SM]; 1♀, 27. v. [SM].

18. *Onychostylus notulatus* (Stål)

AGRIHAN: 1N, 28. v. [SM]; 1N, 29. v. [SM]; 1♂, 30. v. [SM]. ALAMAGAN: 2♀, 19. v. [SM]. MAUG, EAST: 1N, 4. v. [SM]. PAGAN: 1♀, 25. v. [SM]. SARIGAN: 1N, 15. v. [SM].

19. Blattellidae gen. sp. 1

AGRIHAN: 1♂, 29. v. [SM]

20. Blattellidae gen. sp. 2

ANATAHAN: 1♂, 11. v. [SM].

Order MANTODEA

Family Mantidae

21. Mantidae gen. sp. 1

PAGAN: 1♀, 24. v. [SM]; 1♀, 27. v. [SM].

Order ISOPTERA

(Identified by K. Morimoto)

Family Kalotermitidae

22. *Cryptotermes domesticus* (Haviland)

AGRIHAN: 13 Exs, 29. v. [SM]. ANATAHAN: 52 Exs, 13. v. [SM]. GUGUAN: 5 Exs, 17. v. [SM]. Papan: 6 Exs, 24. v. [SM]. SARIGAN: 1 Ex, 15. v. [SM].

Family Rhinotermitidae

23. *Prorhinotermes inopinatus* Silvestri

AGRIHAN: 13 Exs, 28. v. [SM]; 5 Exs, 28. v. [TK]; 2 Exs, 31. v. [TK]. ANATAHAN: 2 Exs, 11. v. [SM]; 1 Ex, 12. v. [SM]. PAGAN: 2 Exs, 24. v. [TK].

Order ORTHOPTERA

(Identified by H. Ishikawa)

Family Gryllidae

24. *Polionemobius* sp.

AGRIHAN: 4♂, 3♀, 1N, 28. v. [SM]. ALAMAGAN: 1♂, 9. vi. [SM]. GUGUAN: 1N, 18. v. [SM].

Family Trigonidiidae

25. *Anaxipha* sp.

AGRIHAN: 1♀, 30. v. [SM]. ANATAHAN: 1♀, 11. v. [SM].

26. *Trigonidium* sp.

AGRIHAN: 2♀, 30. v. [SM].

Family Mogoplistidae

27. *Ornebius* sp.

AGRIHAN: 1N, 29. v. [SM]. ANATAHAN: 1♀, 2N, 11. v. [SM]; 1♀, 2N, 13. v. [SM]. GUGUAN: 1♀, 1N, 17. v. [SM]; 1N, 18. v. [SM]. MAUG, EAST: 1N, 2. vi. [SM]; 1N, 4. vi. [SM]. MAUG, NORTH: 2♂, 2♀, 3. vi. [SM]. SARIGAN: 2N, 16. v. [SM].

Family Tettigoniidae

28. *Phaneroptera furcifera* Stål

ANATAHAN: 1♀, 11. v. [SM]; 1♂, 13. v. [SM].

29. *Euconocephalus pallidus* (Redtenbacher)

ALAMAGAN: 1♀, 19. v. [SM].

30. *Phisis* sp.

ALAMAGAN: 1♂, 19. v. [SM].

Family Acrididae

31. *Aiolopus thalassinus tamulus* (Fabricius)

AGRIHAN: 4♂, 2♀, 1N, 30. v. [SM]. ALAMAGAN: 1♂, 3♀, 1N, 19. v. [SM]; 2♂, 9. vi. [SM]. ANATAHAN: 4♂, 11. v. [SM]. GUGUAN: 1N, 17. v. [SM]. PAGAN: 3♂, 1♀, 24. v. [SM]; 1♂, 25. v. [SM]; 2♂, 27. v. [SM].

32. *Locusta migratoria* (Linnaeus)

ANATAHAN: 1♀, 13. v. [SM]. ASUNCION: 1♂, 7. vi. [SM]. GUGUAN: 1♂, 17. v. [SM]. MAUG, EAST: 1♂, 1♀, 2. vi. [SM]. PAGAN: 2♀, 24. v. [SM]; 1♀, 25. v. [SM]. URACAS: 2♀, 6. vi. [SM].

33. *Acrididae* gen. sp.

AGRIHAN: 1N, 29. v. [SM]; 1♀, 31. v. [SM]. ANATAHAN: 1♂, 12. v. [SM]; 2♂, 2♀, 13. v. [SM]. MAUG, EAST: 2♂, 2. vi. [SM].

34. *Stenocatantops splendens* (Thunberg)

ANATAHAN: 2♂, 1♀, 11. v. [SM].

Family Tetrigidae

35. *Euparatettix* sp.

GUGUAN: 1♂, 17. v. [SM].

Order PHASMIDA

Family Phasmatidae

36. *Acanthograeffea denticulata* (Redtenbacher)

ALAMAGAN: 1♀, 9. vi. [TK]. ANATAHAN: 1♂, 11. v. [SM]. SARIGAN: 2♂, 2♀, 2 Eggs, 16. v. [SM].

Order DERMAPTERA

(Identified by S. Sakai)

Family Anisolabididae

37. *Euborellia annulipes* (Lucas)

ALAMAGAN: 1♂, 1♀, 9. vi. [SM]. ASUNCION: 1♀, 7. vi. [TK]. MAUG, EAST: 1♀, 5. vi. [TK]. SARIGAN: 1 Ex, 16. v. [SM].

Family Spongiphoridae

38. *Paralabella curvicauda* (Motschulsky)

AGRIHAN: 1♀, 28. v. [TK]; 2♂, 2♀, 4N, 29. v. [TK]. ALAMAGAN: 1♀, 4N, 19. v. [TK]. ANATAHAN: 2N, 11. v. [TK].

Family Chelisochidae

39. *Chelisoches morio* (Fabricius)
AGRIHAN: 1N, 28. v. [SM]; 2♂, 1 ♀, 7N, 29. v. [SM].

Order THYSANOPTERA

(Identified by S. Okajima)

Family Thripidae

40. *Pseudodendrothrips* sp.
SARIGAN: 1♂, 15. v. [TK].

Family Phlaeothripidae

41. *Allothrips* sp.
PAGAN: 5♂, 1 ♀, 24. v. [TK].
42. *Dexiothrips madrasensis* (Anauthakris-
hnan)
ANATAHAN: 1 ♀, 11. v. [TK]; 1 ♀, 13. v. [TK]. PAGAN: 1♂, 3 ♀, 25. v. [TK].
43. *Nesothrips lativentris* (Karny)
GUGUAN: 1 ♀, 17. v. [SM].
44. *Nesothrips* sp.
GUGUAN: 2♂, 17. v. [SM].
45. *Haplothrips pallescens* (Hood)
ANATAHAN: 3♂, 5 ♀, 13. v. [SM].

Order HEMIPTERA

(Identified by H. Hasegawa)

Family Delphacidae

46. *Ugys anatahani* Fennah
GUGUAN: 2 Exs, 17. v. [SM]; 1 Ex, 18. v. [SM].
MAUG, EAST: 2 Exs, 2. vi. [SM]. MAUG,
NORTH: 1 Ex, 3. vi. [SM].
47. *Toya propinqua* (Fieber)
AGRIHAN: 3 Exs, 30. v. [SM]. URACAS: 26
Exs, 6. vi. [SM].

Family Aphrophoridae

48. *Lallemandana phalerata* Synave
GUGUAN: 1 Ex, 17. v. [TK].

Family Typhlocybidae

49. *Empoasca* sp.
ANATAHAN: 1 Ex, 11. v. [SM].
50. *Typhlocybidae* gen. spp. (2–3 species)
AGRIHAN: 1 Ex, 30. v. [SM]. ALAMAGAN: 1
Ex, 16. v. [SM]. ANATAHAN: 1 Ex, 13. v. [SM].

Family Deltocephalidae

51. *Orosius argenlatus* (Evans)
ANATAHAN: 1 Ex, 11. v. [SM]. URACAS: 15
Exs, 6. vi. [SM].
52. *Orosius lotophagorum* Kirkaldy
GUGUAN: 5 Exs, 17. v. [SM].
53. *Balclutha rufofasciata* Merino
PAGAN: 3 Exs, 24. v. [SM].
54. *Deltocephalus subviridis* (Metcalf)?
AGRIHAN: 1 Ex, 30. v. [SM].
55. *Deltocephalus (Insulanus) hospes* (Kirk-
aldy)
AGRIHAN: 2 Exs, 30. v. [SM].
56. *Exitianus indicus* (Distant)
URACAS: 3 Exs, 6. vi. [SM].

Family Margarodidae

(Identified by S. Kawai)

57. *Icerya aegyptiaca* (Douglas)?
AGRIHAN: 3 N, 29. v. [TK]. ALAMAGAN:
13 ♀, 9. vi. [SM]. GUGUAN: 2 ♀, 17. v. [SM]; 3 ♀,
18. v. [SM].
58. *Icerya seychellarum* (Westwood)?
AGRIHAN: 8 ♀, 28. v. [SM].

Family Pseudococcidae

(Identified by S. Kawai)

59. *Pseudococcidae* gen. sp.
ASUNCION: 1 ♀, 1. vi. [TK]. GUGUAN: 1 ♀,
17. v. [SM]. SARIGAN: 1 ♀, 15. v. [TK].

Family Miridae

60. *Deraeocoris gumensis* Usinger?
GUGUAN: 1 Ex, 17. v. [SM].
61. *Creontiades pallidifer* (Walker)
AGRIHAN: 1 Ex, 30. v. [SM]. ANATAHAN:
20 Exs, 11. v. [SM]. ASUNCION: 2 Exs, 7. vi.
[SM]. MAUG, EAST: 3 Exs, 2. vi. [SM].
URACAS: 6 Exs, 6. vi. [SM].
62. *Lygocoris kusaiensis* Carvalho?
PAGAN: 1 Ex, 24. v. [SM].
63. *Lygocoris* sp. near *kusaiensis* Carvalho
MAUG, EAST: 2 Exs, 2. vi. [SM].
64. *Taylorilygus pallidulus* (Blanchard)
PAGAN: 3 Exs, 24. v. [SM].
65. *Trigonotylus dohertyi* (Distant)
ANATAHAN: 1 Ex, 11. v. [SM]; 4 Exs, 13. v.
[SM].
66. *Campylomma breviceps* Usinger

PAGAN: 4 Exs, 24. v. [SM].

67. *Campylomma lividicornis* Reuter

PAGAN: 1 Ex, 24. v. [SM].

Family Nabidae

68. *Nabis nigrolineatus* (Distant)

AGRIHAN: 1 Ex, 13. v. [SM]; 7 Exs, 30. v. [SM]. ALAMAGAN: 1 Ex, 19. v. [SM]. ANATAHAN: 1 Ex, 13. v. [SM]. ASUNCION: 19 Exs, 7. vi. [SM]. GUGUAN: 1 Ex, 17. v. [SM]. MAUG, EAST: 7 Exs, 2. vi. [SM]; 2 Exs, 4. vi. [SM].

Family Reduviidae

69. *Scadra rufidens* Stål

ANATAHAN: 1 Ex, 11. v. [SM].

Family Lygaeidae

70. *Graptostethus nigriceps* Stål

AGRIHAN: 2 Exs, 30. v. [SM].

71. *Nysius caledoniae* Distant

AGRIHAN: 7 Exs, 28. v. [SM]. ASUNCION: 2 Exs, 7. vi. [SM]. GUGUAN: 12 Exs, 17. v. [SM]. MAUG, EAST: 1 Ex, 4. vi. [SM].

72. *Nysius pulchellus* Stål

ANATAHAN: 1 Ex, 11. v. [SM]. MAUG, EAST: 1 Ex, 2. vi. [SM]. URACAS: 29 Exs, 6. vi. [SM].

73. *Pachybrachius nigriceps* (Dallas)

PAGAN: 2 Exs, 24. v. [SM].

74. *Paromius gracilis* (Ramber)

ANATAHAN: 1 Ex, 11. v. [SM].

Family Alydidae

75. *Melanacanthus marginoguttatus* Distant

ANATAHAN: 6 Exs, 11. v. [SM]. GUGUAN: 1 Ex, 17. v. [SM].

Family Coreidae

76. *Physomerus grossipes* (Fabricius)

AGRIHAN: 1 Ex, 31. v. [SM].

Family Plataspidae

77. *Brachyplatys subaeneus* Westwood

ASUNCION: 1 Ex, 7. vi. [SM]. GUGUAN: 1 Ex, 17. v. [TK]. MAUG, EAST: 2 Exs, 4. vi. [SM].

78. *Coptosoma xanthogramma* White

ANATAHAN: 5 Exs, 11. v. [SM]; 4 Exs, 12. v. [SM]; 10 Exs, 13. v. [SM]. ASUNCION: 1 Ex, 1. vi. [SM]. GUGUAN: 16 Exs, 17. v. [SM]. SARIGAN: 29 Exs, 15. v. [SM].

Family Pentatomidae

79. *Bulbostethus transversalis* Ruckes

ANATAHAN: 1 Ex, 13. v. [SM]. SARIGAN: 1 Ex, 15. v. [SM].

80. *Nezara viridula* (Linnaeus)

AGRIHAN: 2 Exs, 30. v. [SM]. ALAMAGAN: 1 Ex, 9. vi. [SM].

81. *Pegala laevis* Bergroth

GUGUAN: 1 Ex, 17. v. [SM]. SARIGAN: 1 Ex, 15. v. [SM].

82. *Piezodorus hybneri* (Gmelin)

PAGAN: 7 Exs, 24. v. [SM].

Order NEUROPTERA

(Identified by S. Tsukaguchi)

Family Chrysopidae

83. *Plesiochrysa oceanica* (Walker)

ANATAHAN: 1 ♀, 13. v. [SM]. SARIGAN: 3 ♀, 16. v. [SM].

84. *Chrysoperla krakatauensis* Tsukaguchi

PAGAN: 1 ♀, 24. v. [SM]; 2 ♂, 1 ♀, 27. v. [SM].

85. *Mallada alcestes* (Banks)

ANATAHAN: 1 ♀, 11. v. [SM].

86. *Mallada basalis* (Walker)

ASUNCION: 1 ♀, 1. vi. [SM]. GUGUAN: 1 ♀, 18. v. [SM]. SARIGAN: 3 ♀, 15. v. [SM].

Family Myrmeleontidae

87. *Myrmeleontini* gen. sp.

ALAMAGAN: 4N, 19. v. [SM]. SARIGAN: 1N, 15. v. [SM].

Order COLEOPTERA

Family Carabidae

(Identified by S. Kasahara)

(See Kasahara, 1994 for collection data)

88. *Tachys brachys* Andrewes

Remarks. This is new to the Mariana Islands.

89. *Stenolophus smaragdulus* (Fabricius)

Remarks. This is new to the northern Mariana Islands.

90. *Aephnidius opaculus* (Zimmermann)

Remarks. This is new to the northern Mariana Islands.

Family Dytiscidae

(Identified by M. Satô)

91. *Rhantus pulverosus* (Stephens)
ANATAHAN: 5 Exs, 11. v. [SM].

Family Histeridae

(Identified by M. Ôhara)

(See Ôhara, 1994 for collection data)

92. *Platysoma (Platylister) sp.*
Remarks. This is a new species. See Ôhara (1994) for description.

Family Ptiliidae

(Identified by S. I. Naomi)

93. *Acrotrichis sp.*
AGRIHAN: 1 Ex, 28. v. [TK]; 9 Exs, 29. v. [TK]; 2 Exs, 31. v. [TK]. ANATAHAN: 4 Exs, 11. v. [TK]. ASUNCION: 4 Exs, 1. vi. [TK].

Family Staphylinidae

(Identified by S. I. Naomi)

94. *Anotylus sp.*
ANATAHAN: 1 Ex, 12. v. [TK].
95. *Carpelimus sp.*
ANATAHAN: 1 Ex, 11.v. [TK].
96. *Edaphus sp.*
AGRIHAN: 2 Exs, 28. v. [TK]. ANATAHAN: 1 Ex, 12. v. [TK].
97. *Astenus sp.*
ASUNCION: 1 Ex, 7. vi. [TK].
98. *Medon sp. 1*
AGRIHAN: 6 Exs, 29. v. [TK]. SARIGAN: 1 Ex, 15. v. [TK].
99. *Medon sp. 2*
MAUG, EAST: 1 Ex, 2. vi. [TK].
100. *Scopaeus sp. 1*
ALAMAGAN: 2 Exs, 19. v. [TK]. ANATAHAN: 3 Exs, 11. v. [TK]; 2 Exs, 13. v. [TK].
101. *Scopaeus sp. 2*
AGRIHAN: 1 Ex, 29. v. [TK].
102. *Philonthus sp.*
GUGUAN: 1 Ex, 17. v. [TK].

Family Pselaphidae

(Identified by S. Nomura)

103. *Mayetia sp.*
AGRIHAN: 3 Exs, 29. v. [TK].
Remarks. This is new to the northern Mariana Islands.

Family Scaphidiidae

(Identified by S. I. Naomi)

104. *Scaphisoma sp.*
GUGUAN: 2 Exs, 17. v. [TK].

Family Lucanidae

(Identified by H. Fujita)

105. *Figulus integricollis* Thomson
AGRIHAN: 2 Exs, 29. v. [SM]. ANATAHAN: 11 Exs, 12. v. [SM]; 1 Ex, 13. v. [SM].

Family Scarabaeidae

(Identified by H. Kobayashi)

106. *Aphodius lividus* (Olivier)
PAGAN: 3 Exs, 24. v. [SM].
Distribution: This is a common world-wide species. At the present time, it was recorded from most of Mariana islands.
107. *Adoretus sinicus* Burmeister
PAGAN: 4 Exs, 24. v. [SM]; 1 Ex, 31. v. [SM].
Distribution: This is another species widely distributed by commerce and well established in Marianas and Palaus. It was originally native to China and has spread to many localities in the Pacific.

Family Buprestidae

(Identified by Y. Kurosawa)

108. *Cyphogastra auripennis* E. Saunders subsp.
AGRIHAN: 9 Exs, 30. v. [SM].
Remarks. This may be an undescribed subspecies.

Family Elateridae

(Identified by W. Suzuki)

109. *Lacon modestus* (Boisduval)
SARIGAN: 1 Ex, 16. v. [SM].
110. *Monocrepidius pallipes* Eschscholtz
AGRIHAN: 11 Exs, 30. v. [SM]. ALAMAGAN: 2 Exs, 9. vi. [SM]; 1 Ex, 19. v. [SM].
Remarks. This is new to the northern Mariana Islands.
111. *Prodorasterius sp.*
PAGAN: 3 Exs, 24. v. [SM].
Remarks. This is new to the northern Mariana Islands.

Family Melyridae
(Identified by M. Satô)

112. *Laius* sp.

AGRIHAN: 1 Ex, 31. v. [SM].

Family Nitidulidae
(Identified by S. Hisamatsu)

113. *Carpophilus contegens* (Walker)

AGRIHAN: 5♂, 2♀, 30. v. [SM].

114. *Conotelus mexicanus* Murray

GUGUAN: 1♂, 1♀, 17. v. [SM]; 1♀, 18. v. [SM].

Remarks. This is new to the northern Mariana Islands, and probably an artificially introduced species.

Family Phalacridae
(Identified by H. Sasaji)

115. Phalacridae gen. sp.

GUGUAN: 2 Exs, 18. v. [SM].

Family Sphindidae
(Identified by H. Sasaji)

116. Sphindidae gen. sp.

MAUG, EAST: 2 Exs, 2. vi. [SM].

Family Cucujidae
(Identified by S. I. Naomi)

117. *Cryptolestes ferrugineus* (Stephens)

SARIGAN: 3 Exs, 15. v. [SM].

Family Silvanidae
(Identified by S. I. Naomi)

118. *Mananus concinnulus* (Walker)

MAUG, EAST: 1 Ex, 5. vi. [TK].

Family Cerylonidae
(Identified by H. Sasaji)

119. *Euxestus* sp.

AGRIHAN: 1 Ex, 29. v. [TK].

Family Corylophidae
(Identified by H. Sasaji)

120. *Alloparmulus rugosus* (Matthews)?

(Identified by S. I. Naomi)

ALAMAGAN: 1 Ex, 9. vi. [SM]. GUGUAN: 1 Ex, 17. v. [SM].

121. *Parmulus* sp.

GUGUAN: 1 Ex, 18. v. [SM].

Family Endomychidae
(Identified by S. I. Naomi)

122. *Trochoideus desjardinsi* (Guerin-Meneville)

PAGAN: 1 Ex, 24. v. [SM].

Family Coccinellidae
(Identified by H. Sasaji)

123. *Nephus roepkei* (Fleuter)

AGRIHAN: 1 Ex, 30. v. [SM]. GUGUAN: 3 Exs, 17. v. [SM]. MAUG, EAST: 1 Ex, 4. vi. [SM]. MAUG, NORTH: 11 Exs, 3. vi. [SM]. MAUG, WEST: 22 Exs, 5. vi. [SM]. SARIGAN: 1 Ex, 16. v. [SM].

124. *Scymnus (Scymnus) nigrosutularis* H. Kamiya

MAUG, NORTH: 3 Exs, 2–3. vi. [SM].

125. *Chilocorus* sp. aff. *nigritus* (Fabricius)

ANATAHAN: 1 Ex, 13. v. [SM].

126. *Harmonia octomaculata* (Fabricius)

SARIGAN: 1 Ex, 16. v. [SM].

127. *Olla v-nigrum* (Mulsant)

AGRIHAN: 1 Ex, 30. v. [SM].

128. *Coccinella transversalis* Fabricius

ALAMAGAN: 1 Ex, 9. vi. [SM]. ANATAHAN: 1 Ex, 11. v. [SM]. MAUG, WEST: 1 Ex, 5. vi. [SM].

129. *Cheilomenes sexmaculata* (Fabricius)

ALAMAGAN: 3 Exs, 19. v. [SM]; 4 Exs, 9. vi. [SM]. ANATAHAN: 6 Exs, 11–13. v. [SM]. GUGUAN: 2 Exs, 17. v. [SM]; 1 Ex, 18. v. [SM].

130. *Coelophora inaequalis* (Fabricius)

AGRIHAN: 3 Exs, 30–31. v. [SM]. ANATAHAN: 7 Exs, 11–13. v. [SM]. GUGUAN: 1 Ex, 17. v. [SM]. SARIGAN: 4 Exs, 15. v. [SM].

Family Mycetophagidae
(Identified by M. Miyatake)

131. *Litargus vestitus* Sharp

ALAMAGAN: 1 Ex, 9. vi. [SM]. GUGUAN: 3 Exs, 17. v. [SM]. MAUG, EAST: 3 Exs, 4. vi. [SM]. SARIGAN: 1 Ex, 15. v. [SM].

Family Ciidae
(Identified by M. Kawanabe)

132. *Cis* sp.

SARIGAN: 1♀, 15. v. [TK].

133. *Ceracis* sp.

SARIGAN: 1♂, 15. v. [TK].

134. *Orophini* gen. sp.

SARIGAN: 1 ♀, 15. v. [TK].

Remarks. This may be an undescribed species assigned to a new genus.

Family Oedemeridae

(Identified by M. Miyatake)

135. *Eobia* sp.

AGRIHAN: 1 Ex, 29. v. [SM]. GUGUAN: 41 Exs, 17. v. [SM].

136. *Asclerini* gen. sp.

ASUNCION: 1 ♂, 1. vi. [SM].

Remarks. This may be an undescribed species assigned to a new genus.

Family Tenebrionidae

(Identified by K. Masumoto)

137. *Gonocephalum adpressiforme* Kaszab

ALAMAGAN: 3 Exs, 19. v. [SM]. ANATAHAN: 1 Ex, 13. v. [SM]. PAGAN: 1 Ex, 24. v. [SM].

138. *Gonocephalum* sp.

MAUG, EAST: 2 Exs, 2. vi. [SM]. PAGAN: 1 Ex, 24. v. [SM].

139. *Schizomma neckeri* Kulzer

SARIGAN: 1 Ex, 15. v. [SM].

Family Cerambycidae

(Identified by A. Saito)

(See Saito, 1994 for collection data)

140. *Pterolophia* (*Pterolophia*) *bigibbera* (Newman)

Remarks. This is new to the northern Mariana Islands.

141. *Prosoplus marianarum* Aurivillius

142. *Ropica palauana* (Matsushita)

Remarks. This is new to the northern Mariana Islands.

143. *Sybra anatahana* Gressitt

144. *Phloeopsis meridiana* (Ohbayashi)

145. *Micronesiella mariana* (Gressitt)

Family Anthribidae

(Identified by K. Morimoto)

146. *Araecerus vieillardii* (Montrouzier)

ALAMAGAN: 1 Ex, 9. vi. [SM]. ANATAHAN: 2 Exs, 11. v. [SM]; 1 Ex, 12. v. [SM]. ASUNCION: 1 Ex, 7. vi. [SM]. GUGUAN: 2 Exs, 17. v. [SM]; 2 Exs, 18. v. [SM]. MAUG, EAST: 1 Ex, 2. vi. [SM]; 10 Exs, 4. vi. [SM]. MAUG, NORTH: 9 Exs, 3. vi.

[SM]. MAUG, WEST: 1 Ex, 5. vi. [SM]. SARIGAN: 2 Exs, 15. v. [SM].

Distribution. Oceania (from the Philippines to Mangareva).

147. *Jordanthribus* sp.

GUGUAN: 2 Exs, 18. v. [SM]. MAUG, WEST: 8 Exs, 5. vi. [SM].

Remarks. This may be an undescribed species.

148. *Mauia subnotatus* (Boheman)

ASUNCION: 1 Ex, 7. vi. [SM].

149. *Notioxenus nitidus* Morimoto (Identified by S. I. Naomi)

AGRIHAN: 1 Ex, 30. v. [SM]. GUGUAN: 1 Ex, 18. v. [SM]. MAUG, EAST: 1 Ex, 2. vi. [TK]; 12 Exs, 4. vi. [SM]. MAUG, WEST: 3 Exs, 5. vi. [SM]. SARIGAN: 1 Ex, 15. v. [SM].

Family Brentidae

(Identified by K. Morimoto)

150. *Cylas formicarius* (Fabricius)

ASUNCION: 1 Ex, 7. vi. [SM].

Family Curculionidae

(Identified by K. Morimoto)

151. *Lochothetes* sp. 1

ANATAHAN: 1 Ex, 11. v. [SM]; 1 Ex, 12. v. [SM].

Remarks. This may be an undescribed species.

152. *Lochothetes* sp. 2

ALAMAGAN: 1 Ex, 9. vi. [SM]. GUGUAN: 6 Exs, 17. v. [SM]; 1 Ex, 17. v. [TK].

Remarks. This may be an undescribed species.

153. *Lochothetes* sp. 3

AGRIHAN: 2 Exs, 28. v. [SM]; 2 Exs, 29. v. [SM]; 2 Exs, 30. v. [SM]; 6 Exs, 31. v. [SM].

Remarks. This may be an undescribed species.

154. *Lochothetes* sp. 4

ASUNCION: 1 Ex, 1. vi. [SM]; 15 Exs, 7. vi. [SM].

Remarks. This may be an undescribed species.

155. *Lochothetes* sp. 5

MAUG, EAST: 3 Exs, 4. vi. [SM]. MAUG, NORTH: 2 Exs, 3. vi. [SM].

Remarks. This may be an undescribed species.

156. *Lochothetes* sp. 6

URACAS: 15 Exs, 6. vi. [SM]; 2 Exs, 6. vi. [TK].

Remarks. This may be an undescribed species.

157. *Vitidis guamae* Zimmerman

GUGUAN: 9 Exs, 17. v. [SM].

Distribution. Guam.

158. *Hypurus bertrandti* (Perris)

URACAS: 1 Ex, 6. vi. [SM].

159. *Amorphoidea lata* Motschulsky

ANATAHAN: 1 Ex, 11. v. [SM]; 1 Ex, 12. v. [SM].

Distribution. India, Philippines.

160. *Cylindrotrypetes suffusus* Zimmerman

GUGUAN: 24 Exs, 18. v. [SM].

Distribution. Guam.

161. *Camptorhinus dorsalis* (Boisduval)

PAGAN: 3 Exs, 24. v. [SM]; 1 Ex, 27. v. [SM].

162. *Microcryptorhynchus* sp. 1

MAUG, NORTH: 3 Exs, 3. vi. [SM]. MAUG, WEST: 1 Ex, 5. vi. [SM]. SARIGAN: 7 Exs, 15. v. [SM].

163. *Microcryptorhynchus* sp. 2

ALAMAGAN: 1 Ex, 19. v. [SM]. ANATAHAN: 1 Ex, 13. v. [SM]. PAGAN: 1 Ex, 25. v. [SM]. SARIGAN: 6 Exs, 15. v. [SM]; 1 Ex, 15. v. [TK].

164. *Anaballus amplicolis* (Fairmaire)

PAGAN: 1 Ex, 25. v. [TK].

Distribution. Polynesia, New Caledonia, Guam.

165. *Menectetorus setulosus* (Boheman)

ANATAHAN: 2 Exs, 13. v. [SM].

Distribution. Guam.

166. *Deaelus tuberosus* Zimmerman

AGRIHAN: 1 Ex, 31. v. [SM]. ALAMAGAN: 1 Ex, 19. v. [SM]. GUGUAN: 1 Ex, 18. v. [SM]. MAUG, EAST: 2 Exs, 2. vi. [SM]. MAUG, NORTH: 1 Ex, 3. vi. [SM]. MAUG, WEST: 1 Ex, 5. vi. [SM]. SARIGAN: 19 Exs, 15. v. [SM]; 2 Exs, 15. v. [TK].

Distribution. Guam.

167. *Stenotrupis tenuis* Zimmerman

GUGUAN: 1 Ex, 18. v. [SM].

Distribution. Guam.

168. *Choerorhinodes marshalli* Zimmerman

MAUG, EAST: 2 Exs, 4. vi. [SM].

Distribution. Guam.

169. *Isodryotribus* sp.

MAUG, EAST: 1 Ex, 2. vi. [TK]. 1 Ex, 4. vi. [SM]. MAUG, NORTH: 1 Ex, 3. vi. [SM]. MAUG, WEST: 5 Exs, 5. vi. [TK].

Remarks. This may be an undescribed species.

170. *Cossonus* sp.

AGRIHAN: 23 Exs, 28. v. [SM].

Family Rhynchophoridae

(Identified by K. Morimoto)

171. *Rhabdoscelus obscurus* (Boisduval)

AGRIHAN: 1 Ex, 29. v. [SM]. ALAMAGAN: 3 Exs, 9. vi. [SM].

Distribution. Oceania, New Guinea, Celebes, Aru, Buru, Mysol, Japan (Ogasawara).

Family Scolytidae

(Identified by A. Nobuchi)

172. *Cryphalus* sp.

GUGUAN: 4 Exs, 17. v. [SM]. MAUG, EAST: 2 Exs, 4. vi. [SM]. SARIGAN: 42 Exs, 15. v. [SM].

173. *Poecilips advena* Blandford

AGRIHAN: 1 Ex, 29. v. [TK].

Remarks. This is probably the most widely distributed species of the genus, and has been recorded from Japan (Kyushu, Bonin Is.), the Caroline Is., Samoa, Truk Is., Palau Is., Hawaii, Fiji, Philippines, Java, Malaya, Sarawak, India, Tropical Africa, and Cuba. The adult bores into the fruit, seeds, and sometimes stems under the bark of various dicotyledonous trees.

174. *Xyleborus volvulus* (Fabricius) (= *X. torquatus* Eichhoff, = *X. badius* Eichhoff)

SARIGAN: 1 Ex, 15. v. [TK]; 1 Ex, 16. v. [SM].

Remarks. This species is widely distributed in the tropics and subtropics, and extending northwards as far as Japan (Honshu?, Shikoku?, Kyushu, Ryukyu Is.). J. Murayama recorded this species from Honshu and Shikoku. However, the specimens from Honshu and Shikoku, which are labelled as "*Xyleborus badius* Eichhoff det. by J. Murayama" are undoubtedly a different species, i.e. *X. saxeni* Ratzeburg. This polygamous ambrosia beetle breeds in cut, fallen, or dying trees of many species.

175. *Xyleborus affinis* Eichhoff (= *X. mascarensis* Eichhoff)

AGRIHAN: 1 Ex, 29. v. [TK].

Remarks. This species is distributed as widely as *X. volvulus*, and is now almost cosmo-

politan in the tropics and subtropics. It has not been collected in Japan. The adult female bores into newly cut, or dying logs of various trees.

Order HYMENOPTERA

Family Eucharitidae

176. *Schizaspidia chamorro* Yasumatu

GUGUAN: 1♂, 17. v. [SM]; 1♂, 1♀, 18. v. [SM]. SARIGAN: 1♂, 15. v. [SM].

Remarks. According to Watanabe (1958), this species is new to the northern Mariana Islands, and female of this species is recorded for the first time.

Family Bethylidae

(Identified by M. Terayama)

(See Terayama, 1994 for collection data)

177. *Goniozus* sp.

Remarks. This is a new species. See Terayama (1994) for description.

Family Formicidae

(Identified by M. Terayama)

(See Terayama, M., S. Miyano, and T. Kurozumi, 1994 for collection data)

178. *Ponera* sp. A

179. *Ponera* sp. B

180. *Hypoponera punctatissima* (Roger)

181. *Anochetus graeffei* Mayr

182. *Odontomachus simillimus* Fr. Smith

183. *Platyletia parallela* (Fr. Smith)

184. *Tetramorium tonganum* Mayr

185. *Tetramorium lanuginosum* Mayr

186. *Tetramorium simillimum* (Fr. Smith)

187. *Tetramorium bicarinatum* (Nylander)

188. *Cardiocondyla wroughtonii* (Forel)

189. *Cardiocondyla emeryi* Forel

190. *Monomorium destructor* (Jerdon)

191. *Monomorium floricola* (Jerdon)

192. *Monomorium fossulatum* Emery

193. *Monomorium chinense* Santschi

194. *Pheidole fervens* Fr. Smith

195. *Pheidole* sp. A

196. *Pheidole* sp. B

197. *Vollenhovia* sp.

198. *Strumigenys rogeri* Emery

199. *Quadristruma emmae* (Emery)

200. *Tapinoma melanocephalum* (Fabricius)

201. *Tapinoma* sp.

202. *Iridomyrmex* sp.

203. *Paratrechina bourbonica* (Forel)

204. *Paratrechina longicornis* (Latreille)

205. *Paratrechina* sp.

206. *Anoplolepis longipes* (Jerdon)

207. *Camponotus chloroticus* Emery

208. *Camponotus* sp.

Remarks. All species of Formicidae excluding *Odontomachus simillimus* Fr. Smith and *Tapinoma melanocephalum* (Fabricius) are new to the northern Mariana Islands.

Family Eumenidae

(Identified by Sk. Yamane)

209. *Delta esuriens* (Fabricius) subsp.

AGRIHAN: 1♂, 29. v. [SM]; 8♂, 3♀, 30. v. [SM]. ALAMAGAN: 1♂, 19. v. [SM]; 2♀, 9. vi. [SM]. GUGUAN: 3♂, 18. v. [SM]. PAGAN: 2♂, 1♀, 24. v. [SM]; 1♀, 25. v. [SM]; 1♂, 1♀, 27. v. [SM].

210. *Delta pyriforme* (Fabricius) subsp.

ANATAHAN: 1♀, 12. v. [SM].

211. *Rhynchium quinquecinctum brunneum* (Fabricius)

ALAMAGAN: 1♂, 19. v. [SM]; 1♂, 9. vi. [SM]. ANATAHAN: 1♂, 11. v. [SM]; 1♀, 13. v. [SM]. SARIGAN: 2♀, 16. v. [SM].

212. *Subancistrocerus* sp.

AGRIHAN: 4♂, 1♀, 30. v. [SM]. ALAMAGAN: 1♂, 19. v. [SM]. ASUNCION: 6♂, 1. vi. [SM]. GUGUAN: 1♂, 17. v. [SM]; 15♂, 2♀, 18. v. [SM]. MAUG, EAST: 2♂, 2. vi. [SM]; 1♀, 4. vi. [SM]. MAUG, NORTH: 8♂, 3. vi. [SM]. MAUG, WEST: 6♂, 5. vi. [SM]. PAGAN: 1♂, 24. v. [SM]. SARIGAN: 8♂, 1♀, 15. v. [SM].

213. *Eumenidae* gen. sp.

ALAMAGAN: 1♂, 19. v. [SM]; 1♂, 9. vi. [SM]. ANATAHAN: 1♂, 11. v. [SM]. GUGUAN: 1♀, 17. v. [SM]; 7♂, 2♀, 18. v. [SM]. MAUG, EAST: 5♂, 2. vi. [SM]. PAGAN: 1♂, 24. v. [SM].

Family Vespidae

(Identified by Sk. Yamane)

214. *Polistes olivaceus* (de Geer)

AGRIHAN: 1♀, 29. v. [M]. PAGAN: 4♀, 24. v. [M]; 1♀, 25. v. [M].

215. *Polistes stigma* (Fabricius)

ANATAHAN: 2♂, 2♀, 11. v. [M].

216. *Ropalidia marginata sundaica* Vecht

AGRIHAN: 1♂, 1♀, 28. v. [M]; 1♀, 29. v. [M]; 1♂, 2♀, 30. v. [M]; 1♀, 31. v. [M]. ALAMAGAN: 2♀, 19. v. [M]. ANATAHAN: 8♂, 5♀, 11. v. [M]; 1♂, 1♀, 12. v. [M]; 2♂, 2♀, 13. v. [M]; 2♂, 14. v. [M]. ASUNCION: 2♂, 7. v. [M]. GUGUAN: 3♂, 3♀, 17. v. [M]; 1♂, 18. v. [M]. MAUG, EAST: 2♂, 1♀, 2. vi. [M]; 1♀, 4. vi. [M]. MAUG, NORTH: 1♂, 1♀, 3. vi. [M]. MAUG, WEST: 4♂, 1♀, 5. vi. [M]. PAGAN: 3♂, 3♀, 25. v. [M]. SARIGAN: 16♂, 2♀, 15. v. [M].

Family Sphecidae

(Identified by T. Tano)

217. *Chalybion bengalense* (Dahlbom)

PAGAN: 1♂, 1♀, 24. v. [SM]; 1♀, 25. v. [SM]; 3♀, 27. v. [SM].

218. *Larra* sp.

On the ship: 1♀, 10. v. [SM].

219. *Liris aurulentus* (Fabricius)

PAGAN: 1♀, 24. v. [SM]; 2♀, 25. v. [SM].

220. *Liris* sp. 1

AGRIHAN: 2♂, 1♀, 29. v. [SM]. ANATAHAN: 1♂, 1♀, 11. v. [SM]. GUGUAN: 2♂, 18. v. [SM]. MAUG, EAST: 1♂, 2♀, 2. vi. [SM]. MAUG, NORTH: 16♂, 3♀, 3. vi. [SM]. MAUG, WEST: 2♂, 3♀, 5. vi. [SM].

221. *Liris* sp. 2

MAUG, WEST: 1♀, 5. vi. [TK].

222. *Tachysphex* sp.

AGRIHAN: 1♀, 29. v. [SM]. ALAMAGAN: 1♂, 1♀, 19. v. [SM]; 2♂, 9. vi. [SM].

223. *Pison punctifrons* Shuckard

AGRIHAN: 8♂, 7♀, 30. v. [SM]. ALAMAGAN: 1♀, 9. vi. [SM].

224. *Trypoxylon thaianum* Tsuneki subsp.

PAGAN: 1♀, 24. v. [SM]; 2♀, 27. v. [SM].

225. *Dicranorhina ritsemae* Ritsema subsp.

ALAMAGAN: 3♂, 9. vi. [SM]. ANATAHAN: 1♂, 11. v. [SM]. GUGUAN: 1♂, 18. v. [SM].

Remarks. This may be an undescribed subspecies.

Family Halictidae

(Identified by O. Tadauchi)

226. *Homalictus vexator* (Krombein)

AGRIHAN: 5 Exs, 28. v. [SM]; 37 Exs, 31. v. [SM]; GUGUAN: 15 Exs, 17. v. [SM]; 25 Exs, 18. v. [SM]. PAGAN: 1 Ex, 27. v. [SM].

Family Megachilidae

(Identified by O. Tadauchi)

227. *Lithurge scabrous* (Smith)

GUGUAN: 4 Exs, 17. v. [SM]; 1 Ex, 18. v. [SM]; MAUG, EAST: 3 Exs, 2. vi. [SM].

228. *Megachile fullawayi* Cockerell

AGRIHAN: 1 Ex, 28. v. [SM]; 3 Exs, 30. v. [SM]; 1 Ex, 31. v. [SM]. ANATAHAN: 1 Ex, 11. v. [SM]. MAUG, EAST: 4 Exs, 2. vi. [SM]; 2 Exs, 4. vi. [SM]. MAUG, NORTH: 1 Ex, 3. vi. [SM].

229. *Megachile laticeps* Smith

AGRIHAN: 5 Exs, 28. v. [SM]; 4 Exs, 29. v. [SM]; 6 Exs, 30. v. [SM]; 2 Exs, 31. v. [SM]. ALAMAGAN: 5 Exs, 19. v. [SM]. ANATAHAN: 5 Exs, 11. v. [SM]. PAGAN: 1 Ex, 24. v. [SM].

Family Apidae

(Identified by O. Tadauchi)

230. *Apis mellifera* Linnaeus

PAGAN: 2 Exs, 24. v. [SM].

Order DIPTERA

Suborder NEMATOCERA

(Identified by K. Tanaka)

Family Culicidae

231. *Aedes (Stegomyia) albopictus* Skuse

AGRIHAN: 6♂, 1♀, 29. v. [SM](*) ; 1♀, 29. v. [TK]; 1♀, 31. v. [TK]. GUGUAN: 3♀, 17. v. [TK]; 1♂, 18. v. [SM].

Remarks. (*) Male genitalia were dissected out from 2 of the 6 male specimens, and the claspettes and the other parts of the genitalia were separately mounted by balsam.

232. *Aedes (Stegomyia) pandani* Stone?

ALAMAGAN: 1♀ (in poor condition), 19. v. [SM].

233. *Aedes (Aedimorphus) nocturnus* Theobald

ANATAHAN: 50 L, 12. v. [SM].

Remarks. This species has been regarded as a synonym or a subspecies of *Aedes (Aedimorphus) vexans* Meigen, but it deserves to be treated as a distinct species. It is distributed over the tropics from the Indian Subcontinent to the South Pacific.

Suborder BRACHYCERA
(Identified by N. Fukuhara)

Family Stratiomyidae

234. *Hermetia* sp.

AGRIHAN: 2 Exs, 31. v. [SM].

Family Asilidae

235. *Asilidae* gen. sp.

AGRIHAN: 1 Ex, 31. v. [SM]. GUGUAN: 2 Exs, 18. v. [SM].

Family Empididae

236. *Empididae* gen. sp.

MAUG, EAST: 1 Ex, 2. vi. [SM]. MAUG, NORTH: 3 Exs, 3. vi. [SM].

Family Dolichopodidae

237. *Chrysosomatinae* gen. spp. (2–3 spp. ?)

AGRIHAN: 1 Ex, 28. v. [SM]; 2 Exs, 30. v. [SM]. ANATAHAN: 3 Exs, 11. v. [SM]. ASUNCION: 2 Exs, 1. vi. [SM]; 1 Ex, 7. vi. [SM]. GUGUAN: 1 Ex, 17. v. [SM]; 7 Exs, 18. v. [SM]. MAUG, EAST: 2 Exs, 2. vi. [SM]. MAUG, NORTH: 2 Exs, 3. vi. [SM].

Family Pipunculidae

238. *Pipunculidae* gen. sp.

MAUG, EAST: 1 Ex, 4. vi. [SM].

Family Syrphidae

239. *Syrphidae* gen. spp. (2 spp. ?)

AGRIHAN: 1 Ex, 28. v. [SM]; 1 Ex, 30. v. [SM]; 1 Ex, 31. v. [SM]. GUGUAN: 1 Ex, 17. v. [SM]. MAUG, NORTH: 1 Ex, 3. vi. [SM]. SARIGAN: 1 Ex, 31. v. [SM].

Family Tephritidae

240. *Bactrocera ochrosiae* (Malloch)

(See Miyano, 1994 for the collection data)

241. *Tephritidae* gen. spp. (2 spp. ?)

ANATAHAN: 2 Exs, 11. v. [SM]. GUGUAN: 1 Ex, 17. v. [SM].

Family Otitidae

242. *Otitidae* gen. sp. 1

ANATAHAN: 1 Ex, 11. v. [SM].

243. *Otitidae* gen. sp. 2

AGRIHAN: 4 Exs, 29. v. [SM]; 1 Ex, 30. v.

[SM]. ANATAHAN: 8 Exs, 11. v. [SM]. PAGAN: 1 Ex, 27. v. [SM].

Family Lauxaniidae

244. *Lauxaniidae* gen. sp.

AGRIHAN: 1 Ex, 28. v. [SM]; 1 Ex, 30. v. [SM]. ANATAHAN: 2 Exs, 11. v. [SM]; 8 Exs, 12. v. [SM]; 4 Exs, 13. v. [SM]. ASUNCION: 1 Ex, 1. vi. [SM]. GUGUAN: 3 Exs, 17. v. [SM]; 4 Exs, 18. v. [SM]. MAUG, EAST: 1 Ex, 4. vi. [SM]. MAUG, WEST: 1 Ex, 5. vi. [SM]. SARIGAN: 2 Exs, 15. v. [SM]; 1 Ex, 16. v. [SM].

Family Lonchaeidae

245. *Lonchaeidae* gen. spp. (2–3 spp. ?)

AGRIHAN: 1 Ex, 30. v. [SM]. ANATAHAN: 3 Exs, 11. v. [SM]; 1 Ex, 13. v. [SM]. ASUNCION: 2 Exs, 1. vi. [SM]. GUGUAN: 4 Exs, 17. v. [SM]; 14 Exs, 18. v. [SM]. MAUG, EAST: 1 Ex, 4. vi. [SM]. MAUG, NORTH: 4 Exs, 3. vi. [SM]. PAGAN: 1 Ex, 27. v. [SM]. URACAS: 2 Exs, 6. vi. [SM].

Family Milichiidae

246. *Milichiidae* gen. sp.

AGRIHAN: 1 Ex, 30. v. [SM].

Family Chloropidae

247. *Chloropidae* gen. spp. (2–3 spp. ?)

GUGUAN: 2 Exs, 17. v. [SM]. MAUG, EAST: 2 Exs, 2. vi. [SM]. MAUG, NORTH: 6 Exs, 3. vi. [SM]. MAUG, WEST: 5 Exs, 5. vi. [SM]. SARIGAN: 5 Exs, 16. v. [SM]. URACAS: 13 Exs, 6. vi. [SM].

Family Drosophilidae

248. *Drosophilidae* gen. sp.

AGRIHAN: 5 Exs, 29. v. [SM]. GUGUAN: 1 Ex, 18. v. [SM]. SARIGAN: 15 Exs, 16. v. [SM].

Family Sphaeroceridae

249. *Sphaeroceridae* gen. sp.

AGRIHAN: 6 Exs, 29. v. [SM].

Family Scathophagidae

250. *Scathophagidae* (?) gen. sp.

SARIGAN: 1 Ex, 16. v. [SM].

Family Muscidae

251. *Musca sorbens* Wiedemann

AGRIHAN: 1♂, 2♀, 28. v. [SM]; 24♂, 43♀, 29. v. [SM]; 4♂, 8♀, 30. v. [SM]; 2♂, 4♀, 31. v. [SM]. ALAMAGAN: 1♂, 3♀, 19. v. [SM]; 1♂, 1♀, 9. vi. [SM]. ANATAHAN: 19♂, 23♀, 11. v. [SM]; 1♂, 3♀, 13. v. [SM]. PAGAN: 1♂, 2♀, 24. v. [SM]; 6♀, 27. v. [SM].

252. *Atherigona* sp.

MAUG, EAST: 1♀, 2. vi. [SM]. MAUG, NORTH: 1♀, 3. vi. [SM].

253. *Coenosia* gen. sp.

ANATAHAN: 1♂, 12. v. [SM]; 1♀, 11. v. [SM].

Family Calliphoridae

254. *Chrysomya* sp. 1

SARIGAN: 1 Ex, 16. v. [SM].

255. *Chrysomya* sp. 2

MAUG, NORTH: 1 Ex, 3. vi. [SM].

256. *Lucilia* sp. 1

GUGUAN: 1 Ex, 17. v. [SM].

257. *Lucilia* sp. 2

MAUG, NORTH: 1 Ex, 3. vi. [SM].

Family Sarcophagidae

258. *Sarcophagidae* gen. sp.

AGRIHAN: 7 Exs, 29. v. [SM]; 1 Ex, 30. v. [SM]. ANATAHAN: 4 Exs, 11. v. [SM]. ASUNCION: 1 Ex, 7. vi. [SM]. MAUG, EAST: 1 Ex, 2. vi. [SM]. PAGAN: 3 Exs, 27. v. [SM].

Family Tachinidae

259. *Siphonina* sp.

AGRIHAN: 1 Ex, 30. v. [SM].

260. *Tachinidae* gen. spp. (2 spp. ?)

AGRIHAN: 1 Ex, 30. v. [SM]. GUGUAN: 2 Exs, 18. v. [SM].

Order LEPIDOPTERA

Family Hesperidae

261. *Badamia exclamatoris* (Fabricius)

AGRIHAN: 1♂, 30. v. [SM]. ALAMAGAN: 1♂, 19. v. [SM]. ANATAHAN: 1♂, 1♀, 13. v. [SM]. PAGAN: 3♂, 24. v. [SM]; 1♀, 27. v. [SM]. SARIGAN: 2♂, 15. v. [SM].

Family Papilionidae

262. *Papilio polytes* Linnaeus subsp.

AGRIHAN: 1♂, 1♀, 30. v. [SM]. ALAMAGAN: 1♂, 9. vi. [SM]. ANATAHAN: 2♂, 1♀, 11.

v. [SM]. PAGAN: 1♂, 1♀, 24. v. [SM]. SARIGAN: 1♂, 15. v. [SM].

Family Pieridae

263. *Eurema* sp.

AGRIHAN: 1♂, 2♀, 30. v. [SM].

Family Danaidae

264. *Euploea eunice* (Quoy) subsp.

AGRIHAN: 5♂, 30. v. [SM]. ALAMAGAN: 3♂, 19. v. [SM]. ANATAHAN: 3♂, 11. v. [SM]; 1♂, 12. v. [SM]; 1♂, 2♀, 13. v. [SM]; 4♂, 14. v. [SM]. PAGAN: 5♂, 24. v. [SM]; 17♂, 27. v. [SM].

Family Nymphalidae

265. *Hypolimnys anomala* Wallace subsp.

AGRIHAN: 1♂, 30. v. [SM]. ALAMAGAN: 5♂, 3♀, 19. v. [SM].

266. *Hypolimnys bolina* (Linnaeus) subsp.

AGRIHAN: 3♂, 3♀, 30. v. [SM]. ALAMAGAN: 3♂, 19. v. [SM]. ANATAHAN: 3♀, 11. v. [SM]; 1♂, 12. v. [SM]; 1♂, 1♀, 13. v. [SM]; 2♂, 14. v. [SM]. GUGUAN: 1♂, 17. v. [SM]; 1♀, 18. v. [SM].

Family Satyridae

267. *Melanitis leda* (Linnaeus) subsp.

AGRIHAN: 1♂, 31. v. [SM]. ALAMAGAN: 1♀, 19. v. [SM]; 1♂, 9. vi. [SM]. ANATAHAN: 3♂, 1♀, 11. v. [SM]; 1♂, 13. v. [SM]. PAGAN: 1♂, 24. v. [SM].

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Appendix

Some insects were collected on Saipan and Rota, the southern Mariana Islands, Micronesia. They were also examined by the specialists in Table 1. They are listed below.

Order ODONATA

(Identified by S. Asahina)

Family Agrionidae

1. *Ischnura aurora aurora* (Brauer)
SAIPAN: 1♂, 1♀, 9. v. [SM].

Family Libellulidae

2. *Diplacodes bipunctatus* (Brauer)
SAIPAN: 2♂, 1♀, 9. v. [SM].
3. *Tholymis tillarga* (Fabricius)
ROTA: 1N, 13. vi. [SM].
4. *Tramea transmarina euryale* Selys
ROTA: 3♂, 13. vi. [SM].

Order BLATTARIA

(Identified by S. Asahina)

Family Pycnoscelidae

5. *Pycnoscelus indica* (Fabricius)
ROTA: 8♀, 6N, 13. vi. [SM].

Order MANTODEA

Family Mantidae

6. *Mantidae* gen. sp. 2
ROTA: 1♀, 13. vi. [SM]. SAIPAN: 1♂, 9. v. [SM].

Order ORTHOPTERA

(Identified by H. Ishikawa)

Family Gryllidae

7. *Anaxipha* sp.
ROTA: 1♀, 13. vi. [SM]. SAIPAN: 1♀, 7. v. [SM].

Family Tettigoniidae

8. *Phaneroptera furcifera* Stål
ROTA: 2♂, 13. vi. [SM]. SAIPAN: 2♂, 2♀, 9. v. [SM]; 1♂, 21. v. [SM].

Family Acrididae

9. *Aiolopus thalassinus tamulus* (Fabricius)
SAIPAN: 1♂, 7. v. [SM].
10. *Stenocatantops splendens* (Thunberg)
SAIPAN: 1♂, 9. v. [SM].

Order HEMIPTERA

(Identified by H. Hasegawa)

Family Psyllidae

(Identified by Y. Miyatake)

11. *Heteropsylla cubata* Crawford
SAIPAN: 6♂, 3♀, 8. v. [SM].

Family Notonectidae

12. *Anisops* sp.
ROTA: 1 Ex, 13. vi. [SM].

Family Aradidae

13. *Mezira micronesica* Esaki et Matsuda
ROTA: 1 Ex, 13. vi. [SM].

Family Coreidae

14. *Physomerus grossipes* (Fabricius)
ROTA: 2 Exs, 13. vi. [SM]. SAIPAN: 2 Exs, 21.
v. [SM].

Order NEUROPTERA

(Identified by S. Tsukaguchi)

Family Chrysopidae

15. *Plesiochrysa oceanica* (Walker)
SAIPAN: 2♂, 9. v. [SM].

Order COLEOPTERA

Family Carabidae

(Identified by S. Kasahara)
(See Kasahara, 1994 for collection data)

16. *Parena nigrolineata* (Chaudoir) (Aff.
subsp. *nipponensis* Habu)
Remarks. This is new to the Micronesia.

Family Lucanidae

(Identified by H. Fujita)

17. *Figulus integricollis* Thomson
ROTA: 37 Exs, 13. vi. [SM].

Family Scarabaeidae

(Identified by H. Kobayashi)

18. *Adoretus sinicus* Burmeister
SAIPAN: 1 Ex, 8. v. [SM].
19. *Protaetia orientalis* (Gory et Percheron)
SAIPAN: 1 Ex, 7. v. [SM].

Remarks. This species has a wide distribution, and is also further divided into various ways in each area. This specimen has a rather small sized body and strong lustre, with somewhat characteristic features. However, it cannot be determined what subspecies it is or whether it is new to science.

Family Coccinellidae

(Identified by H. Sasaji)

20. *Sticholotis ruficeps* Weise
ROTA: 2 Exs, 13. vi. [SM].
21. *Exochomus* sp.
SAIPAN: 6 Exs, 7–9. v. [SM].

Family Tenebrionidae

(Identified by K. Masumoto)

22. *Uloma picicornis* Fairmaire?
ROTA: 3 Exs, 13. vi. [SM].
23. *Amarygmus* sp.
ROTA: 1 Ex, 13. vi. [SM].

Order HYMENOPTERA

Family Formicidae

(Identified by M. Terayama)
(See Terayama, M., S. Miyano, and
T. Kurozumi, 1994 for collection data)

24. *Odontomachus simillimus* Fr. Smith
25. *Iridomyrmex* sp.
26. *Paratrechina bourbonica* (Forel)
27. *Paratrechina longicornis* (Latreille)
28. *Anoplolepis longipes* (Jerdon)

Family Eumenidae

(Identified by Sk. Yamane)

29. *Delta esuriens* (Fabricius) subsp.
SAIPAN: 1♂, 1♀, 7. v. [SM]; 1♂, 4♀, 9. v.
[SM]; 2♂, 21. v. [SM].
30. *Delta pyriforme* (Fabricius) subsp.
ROTA: 1♀, 13. vi. [SM]. SAIPAN: 3♀, 7. v.
[SM]; 2♀, 9. v. [SM].

31. *Rhynchium quinquecinctum brunneum*
(Fabricius)

ROTA: 1♂4♀, 13. vi. [SM].

Family Vespidae

(Identified by Sk. Yamane)

32. *Polistes stigma* (Fabricius)

SAIPAN: 2♀, 9. v. [M].

33. *Ropalidia marginata sundaica* Vecht

ROTA: 2♀, 13. vi. [M].

Family Sphecidae

(Identified by T. Tano)

34. *Chalybion bengalense* (Dahlbom)

SAIPAN: 3♂, 6♀, 8. v. [SM]; 1♂, 9. v. [SM].

35. *Tachysphex* sp.

SAIPAN: 1♀, 8. v. [SM].

36. *Pison* sp.

ROTA: 1♀, 13. vi. [SM].

37. *Trypoxylon thaianum* Tsuneki subsp.

SAIPAN: 1♂, 8. v. [SM].

Family Halictidae

(Identified by O. Tadauchi)

38. *Lasioglossum* sp.

ROTA: 3 Exs, 13. vi. [SM].

Remarks. This is an undescribed species.

Family Anthophoridae

(Identified by O. Tadauchi)

39. *Xylocopa brasilianorum varipuncta*
Patton

SAIPAN: 3 Exs, 21. v. [SM].

Family Apidae

(Identified by O. Tadauchi)

40. *Apis mellifera* Linnaeus

ROTA: 4 Exs, 13. vi. [SM]. SAIPAN: 1 Ex, 7. v. [SM], 1 Ex, 21. v. [SM].

Order DIPTERA

Suborder BRACHYCERA

(Identified by N. Fukuhara)

Family Syrphidae

41. Syrphidae gen. sp.

ROTA: 1 Ex, 13. vi. [SM]. SAIPAN: 1 Ex, 9. v. [SM].

Family Agromyzidae

42. Agromyzidae gen. sp.

SAIPAN: 1 Ex, 9. v. [SM].

Family Chloropidae

43. Chloropidae gen. sp.

SAIPAN: 1 Ex, 9. v. [SM].

Family Ephydriidae

44. *Psilopa* sp.

SAIPAN: 4 Exs, 9. v. [SM].

Family Muscidae

45. *Atherigona* sp.

ROTA: 1 Ex, 13. vi. [SM].

Family Calliphoridae

46. *Chrysomya* sp. 1

SAIPAN: 21. v. [SM].

47. *Lucilia* sp. 1

ROTA: 4 Exs, 13. vi. [SM].

Order LEPIDOPTERA

Family Pieridae

48. *Catopsilia pomona* (Fabricius)

SAIPAN: 1♂, 5. v. [SM].

49. *Eurema* sp.

SAIPAN: 4♂, 3♀, 5. v. [SM]; 2♂, 21. v. [SM].

Family Danaidae

50. *Euploea eunice* (Quoy) subsp.

SAIPAN: 1♂, 9. v. [SM]; 3♂, 21. v. [SM].

Family Nymphalidae

51. *Hypolimnas bolina* (Linnaeus) subsp.

SAIPAN: 1♂, 5. v. [SM]; 1♀, 21. v. [SM].