

A CATALOGUE OF PHILIPPINE HYMENOPTERA, WITH
DESCRIPTIONS OF NEW SPECIES.

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In 1885, Don Ramon Jordana published in Madrid a work entitled "Bosquejo geográfico é histórico-natural del Archipiélago Filipino," in which he tabulated all the species then known to belong to the Philippine fauna. The order *Hymenoptera* was very poorly represented, no more than some thirty species being given as having been met with in the Philippines and none of these were characteristic. Ten years later, on the occasion of the exposition which was held in Manila in 1895, Father Castro de Elera, O. P., published another catalogue of the fauna of the Islands, which he entitled "Catálogo sistemático de toda la fauna de Filipinas conocida hasta el presente." This work is much more pretentious and complete than that of Señor Jordana, though it is somewhat marred by the inclusion of many exotic forms which were contained in the Museum of the University of Saint Thomas; and although Father Elerã explains this in the subtitle and notes the exotic species in the body of the work, still, unless one has this constantly before one's mind, the impression is gained that the number of Philippine species is greater than it really is. In the catalogue of the *Hymenoptera* which is given in the second volume, pages 238-247, Father Elera enumerates fifty-four species as representing the known Philippine insects of this order. This is not quite correct, as he had inadvertently overlooked a paper published by Professor Emery in the Annals of the Entomological Society of France in 1893 in which forty-one species of ants are recorded from the Island of Luzon, principally from Manila and Antipolo.

This then brought the *Hymenoptera* known in the Archipelago up to the year 1895 to the number of ninety-five.

In 1903, Rev. William Stanton, S. J., at that time Assistant Director of the Philippine Weather Bureau, began to study in his spare time the *Hymenoptera* which he collected in the garden attached to the Observatory. He discovered many forms which he did not recognize, and, being unable to classify them owing to the lack of literature on the subject, he sent his specimens to Dr. William Ashmead, of the National Museum, Washington, who found that the great majority of the species were entirely new to science and that almost all the remainder were not before recorded from the Islands.

Father Stanton continued the work till April, 1904, when he was obliged to return to the United States, but in the short time he had been collecting he had discovered no less than five new genera and sixty-eight new species.

The descriptions of the earlier of these new species were published by Dr. Ashmead in the *Journal of the New York Entomological Society* and of the later collections in the *Canadian Entomologist* and the *Proceedings of the United States National Museum*.

When Father Stanton left the Philippines, the writer continued his work and as a consequence the number of new genera and new species has greatly increased; in fact, from December to June, which constitutes the best collecting season, the average of new species was one per day and of new genera three every two months.

The number of species in the adjoined catalogue is 458. Many are included which were not contained in Dr. Ashmead's check list, as he had apparently overlooked several recorded by Kohl, Ritsema, and Radoszowski, while species not before recorded from the Philippines are being constantly discovered. However, this number does not represent the complete hymenopterous fauna, for the writer has in his possession some thirty-nine new species which have not as yet been described, while the Entomological section of the Bureau of Science has many more undescribed forms.

After the name of the species discovered since 1903 I have placed the name of the collector and in the case of those found by Father Stanton and the writer, M. O., to show that they were obtained from the garden of the Manila Observatory. At the end of the catalogue will be found a list of some of the hosts from which a few of the new species were bred in the Observatory.

Superfamily III. **VESPOIDEA.**

Family XXVII. **CEROPALIDÆ.**

SUBFAMILY III. **APORINÆ.**

Tribe I. **ANOPLINI.**

TACHYPOMPIUS Ashmead.

Tachypompilus ashmeadii sp. nov. ♀ Length, 14-16 millimeters. Head, thorax, and part of abdomen black, last 3 segments of abdomen brick red, covered with sparse pubescence, the pubescence consisting of straight, longish hairs; head smooth, pronotum lightly rugose, scutellum, metanotum and abdomen finely punctate, shining. Clypeus truncate, smooth. Scape stout, first joint of flagellum twice as long as the second, front face long, with a deep medial furrow. Anterior face of metathorax convex, posterior face concave with the angles obtusely dentate. Wings hyaline with nervules fuscous, median and submedian cells of equal length. Three cubital cells, first almost triangular, second quadrangular and third very large; hind tibia sparsely armed with spines, first joint of hind tarsi as long again as any of the rest, claws reddish. Manila.

Family XXXI. CHRYSIDIDÆ.

Subfamily II. CHRYSIDINÆ.

CHRYSIS Linn.

Chrysis miri sp. nov. ♂ Length, 6.5 millimeters. Near to *C. mendicalis* Cameron. Head, thorax, first and third abdominal segments, light metallic blue; space around ocelli, a few punctures on collar and pronotum, medial area of scutellum and second abdominal segment purple; round spot and apical margin of third segment purple, with a transverse line on basal area of second segment, dark purple.

Antennæ black, the scape in front and two basal joints of flagellum light bronze green; coxæ and femora of front legs metallic green; tibiæ slightly green; tarsi dark brown, tibia with slight cinerous pubescence; hind legs green, tarsi brownish. Head and thorax with closely set, coarse punctures, with smaller ones scattered up and down, the punctures larger on posterior portion of thorax, smaller on the abdomen and very symmetrically arranged. The ventral segments very finely punctate, with a brown medial longitudinal ridge along all the segments.

Antennæ thick, the third joint of the flagellum as long again as the second. Pronotum broad, very much rounded anteriorly, medial area of mesonotum separated from the lateral areas by longitudinal rows of purple punctures; scutellum and post-scutellum convex, posterior portion of post-scutellum very much rounded.

First abdominal segment with a medial wide and deep depression anteriorly. Apical segment of third segment with 3 teeth, one on each angle and one in the middle, the intervals between the teeth sinuate.

Family XLII. MUTILLIDÆ.

Subfamily I. MUTILLINÆ.

MUTILLA Linn.

Mutilla manilensis sp. nov. This species comes very near to *M. vicinissima* Gribodo but is differentiated by the size of the maculæ and the bands of pubescence on the third and fifth segments. ♀ Length, 7.5 millimeters. Head broader than thorax. Head and thorax coarsely, abdomen finely, punctured. Scape, femora, head posteriorly, thorax and abdomen densely pubescent. Head, antennæ, abdomen and legs black, thorax red; pubescence on abdomen cinerous, on legs and antennæ whitish.

The second abdominal segment above with 2 small, round, silvery maculæ; the third and fifth segments covered with transverse bands of silvery pubescence. The first ventral segment with a prominent longitudinal carina, the fourth and fifth segments coarsely punctate posteriorly and striated anteriorly.

Mutilla parva sp. nov. Near to *M. decora* Smith. ♀ Length, 4.5 millimeters. Head and abdomen finely, and thorax coarsely, punctate and sparsely pubescent, the pubescence consisting of thin, long, curved hairs. Eyes, large, oval; thorax very much rounded, abrupt anteriorly and with a steep slope posteriorly; head and antennæ black, except the scape which is rufous covered with whitish pubescence; legs, except the femora, and abdomen black, thorax red.

A small oval silvery-white spot in the middle above on the second abdominal segment, a transverse band of silvery-white pubescence which is interrupted medially on its posterior margin, and the third segment also covered with the white pubescence. First, third, and fourth ventral segments strongly longitudinally carinate.

CATALOGUE OF PHILIPPINE HYMENOPTERA.

Order HYMENOPTERA.

Suborder I. **Heterophaga** Ashmead.

Superfamily I. APOIDEA.

Family I. APIDÆ.

Megapis dorsata Fabricius.
zonata Smith.

Apis indica Fabricius.
mellifera Linnaeus.
nigrocincta Smith.
unicolor Latreille.

Micrapis florea Fabricius.
Trigone biroi Friese.
Melipona laeviceps Smith.

Family II. BOMBIDÆ.

Bombus mearnsi Ashmead; E. A. Mearns.

Family V. ANTHOPHORIDÆ.

Anthophora cingulata Fabricius.
zonata Linnaeus.

Family VI. NOMADIDÆ.

Crocisa emarginata Lepeletier.
lamprosoma Boisduval.
nitidula Fabricius.

Nomada lusca Smith.
philippinensis Vachal.

Nomia dimidiata Vachal.

Family VII. CERATINIDÆ.

Ceratina compacta Smith.
hieroglyphica Smith.
imperialis Ashmead; M. O.
philippinensis Ashmead; M. O.
sexmaculata Smith.
tropica Ashmead; M. O.

Allodape jucunda Smith.
minutior Ashmead; M. O.
philippinensis Ashmead; M. O.

Family VIII. XYLOCOPIDÆ.

Xylocopa aestuans Linnaeus.
adusta Perez.
amauroptera Perez.
bombiformis Smith.
bryorum Fabricius.

Xylocopa dissimilis Lepeletier.
euchlora Perez.
fuliginosa Perez.
ghiliani Gribodo.
latipes Fabricius.
occipitalis Perez.
philippinensis Smith.
sonorina Smith.
sulcifrons Perez.
rufescens Smith.
tricolor Ritsema.
trifasciata Gribodo.
vachali Perez.

Platynopoda latipes Drury.
tenuicornis Westwood.

Family IX. MEGACHILIDÆ.

Megachile atrata Smith.
clotho Smith.
hera Bingham.
lachesis Smith.
laticeps Smith.
robbii Ashmead; M. L. Robb.
Ctenoplectra vagaus Cockerell.

Family X. STELLIDÆ.

Coelioxys manilae Ashmead; M. O.
philippinensis Bingham.

Family XII. ANDRENIDÆ.

Hoplonomia quadrifasciata Ashmead; M. O.
Paranomia stantoni Ashmead; M. O.
Haliectus manilae Ashmead; M. O.
robbii Ashmead; M. L. Robb.

Family XIV. PROSOPIDÆ.

Prosopis tagala Ashmead; C. S. Banks.

Superfamily II. SPHECOIDEA.

Family XV. OXYBELIDÆ.

Notoglossa banksi Ashmead; C. S. Banks.

Family XVI. CRABRONIDÆ.

Subfamily III. CRABRONINÆ.

Crabro quadriceps Bingham.
venans Kohl.

Subfamily IV. RHOPALINÆ.

Dasyproctus philippinensis Ashmead;
M. O.

Rhopalum albocollaris Ashmead; M. O.

Family XVII. PEMPHREDONIDÆ.

Psen algii Ashmead; M. O.

Family XVIII. BEMBICIDÆ.

Bembex borrei Handlsh.
melancolica Smith.

Family XIX. LARRIDÆ.

Subfamily I. LARRINÆ.

Notogonia laboriosa Smith.
manilae Ashmead; M. O.
subtessalata Smith.

Larra aurata Fabricius.

Threosphex stantoni Ashmead; M. O.

Subfamily IV. PISONINÆ.

Pison lagunae Ashmead; M. O.; P. L.
Stangl.

punctatus Ashmead; M. O.

Pisonitus argenteus Ashmead; P. L.
Stangl.

Pisonoides browni Ashmead; M. O.

Family XX. PHILANTHIDÆ.

Subfamily I. CERCERINÆ.

Cerceris vafra Bingham.

Family XXI. TRYPOXYLIDÆ.

Trypoxylon bicolor Smith.
elongatum Ashmead; M. O.
philippinensis Ashmead;
M. O.

Family XXII. MELLINIDÆ.

Megalomma quadricinctum Ashmead;
M. O.

Family XXV. SPHECIDÆ.

Subfamily I. SPHECINÆ.

Sphex argentata Dahlbom.
aurulentus Fabricius.
(a) var. ferrugineus Lepeletier.
(b) var. lineolus Lepeletier.
sericeus Fabricius.
sulciscuta Gribodo.
splendidus Kohl.
umbrosus Christ.
(a) var. plumbiferus Costa.
(b) var. rufipennis Fabricius.

Chlorion lobatum Fabricius.

Subfamily II. AMMOPHILINÆ.

Ammophila atripes Smith.
coronata Costa.
superciliaris Saussure.

Subfamily III. SCELIPHRONINÆ.

Sceliphron bengalensis Dahlbom.
madraspatanum Fabricius.
var. conspicillatum Costa.
violaceum Fabricius.

Chalybion violaceum Dahlbom.

Family AMPULICIDÆ.

Subfamily AMPULICINÆ.

Ampulex compressa Fabricius.
laevigata Kohl.
sonneratii Kohl.

Superfamily III. VESPOIDEA.

Family XXVII. CEROPALIDÆ.

Subfamily I. PEPSINÆ.

Salius flavus Fabricius.
graphicus Smith.
pulchripennis Smith.
Hemipepsis tagala Gribodo.
Pallosoma fulgidipennis Saussure.
Pseudosalius bipartitus Lepeletier.
Caligurgus sericosoma Smith.

Subfamily II. AGENINÆ.

Macromeris argentifrons Smith.
splendida Lepeletier.
violacea Lepeletier.

Pseudagenia femorata Ashmead; M. O.
imitator Ashmead; M. O.
rufofemorata Ashmead;
 M. O.
unifasciata Ashmead; M. O.
Spilopompilus stantoni Ashmead; M. O.
Agenia cingulata Ashmead; M. O.

Subfamily III. APORINÆ
 (*Pompilinae*).

Tribe I. *Anopliini*.

Tachypompilus ashmeadii Brown; M. O.

Family XXVIII. VESPIDÆ.

Subfamily I. VESPINÆ.

Vespa analis Fabricius.
annulata Smith.
cineta Fabricius.
deusta Lepeletier.
luctuosa Saussure.
nigripennis Saussure.
philippinensis Saussure.
Provespa dorylloidea Saussure.

Subfamily II. POLISTINÆ.

Polistella manilensis Saussure.
Polistes dubius Saussure.
hebraeus Fabricius.
philippinensis Saussure.
Icaria cagayanensis Ashmead; M. O.
philippinensis Saussure.
speciosa Saussure.

Family XXIX. EUMENIDÆ.

Subfamily IV. EUMENINÆ.

Eumenes conica Fabricius.
curvata Saussure.
fulvipennis Smith.
gracilis Saussure.
pomiformis Fabricius.
Rhynchium argentatum Fabricius.
atrum Saussure.
Lionotus dyscherus Saussure.
punctum Saussure.
xanthozonatus Ashmead; M. O.
Ancistrocerus bizonatus Boisduval.
Odynerus punctum Saussure.

Family XXXI. CHRYSISIDÆ.

Subfamily II. CHRYSISIDÆ.

Stilbum cyanurum Fabricius.
amethystinum Fabricius.
splendidum Fabricius.
Chrysis fuscipennis Brullé.
miri Brown; M. O.
oculata Fabricius.
var. sumptuosa Gribodo.
triacantha Moscardy.
Trichrysis aspera Brullé.
Hedychrum stantoni Ashmead; M. O.

Family XXXII. BETHYLIDÆ.

Subfamily I. BETHYLINÆ.

Dissomphalis tibialis Ashmead; M. O.
Epyris tagala Ashmead; C. S. Banks.
Giniozus philippinensis Ashmead; M. O.

Subfamily II. DRYININÆ.

Dryinus brownii Ashmead; M. O.
stantoni Ashmead; M. O.

Family XXXIII. TRYGONALIDÆ.

Trigonalys lachrymosa Westwood.

Family XXXVI. SCOLIIDÆ.

Discolia aureipennis Lepeletier.
erratica Smith.
modesta Smith.
Scolia aurulenta Smith.
capitata Guerin.
grossa Fabricius.
manilae Ashmead; M. O.
modesta Smith.
procera Illiger.
var. bimaculata Gribodo.
pseudoforaminata Gribodo.
quadrifasciata Fabricius.
quadripustulata Fabricius.
rubiginosa Fabricius.
scutellaris Gribodo.
whiteheadii Bingham.

Subfamily II. ELIDINÆ.

Elis albicollis Christ.
annulata Fabricius.
aureicollis Lepeletier.
aurulenta Smith.
grossa Smith.
luctuosa Smith.
quadrifasciata Fabricius.
reticulata Cameron.
Liacos analis Fabricius.

Family XXXVII. TIPHIIDÆ.

Tiphia compressa Smith.
intrudens Smith.

Family XLII. MUTILLIDÆ.

Subfamily II. MUTILLINÆ.

Mutilla accedens Sichel.
analis Lepeletier.
dimidiata Lepeletier.
discreta Cameron.
luzonica Radoszhowski.
maculosofasciata Saussure.
manilensis Brown; M. O.
parva Brown; M. O.
philippinensis Smith.
semperi Ashmead; M. O.
suspiciosa Smith.
Trogaspidia bicolor Ashmead; C. S.
 Banks.
minor Ashmead; C. S.
 Banks.

Superfamily IV. FORMICOIDEA.

Family XLIV. PONERIDÆ.

Subfamily I. PONERINÆ.

Ponera luteipes Mayr.
Microponera nigriceps Ashmead; M. O.

Subfamily II. PACHYCONDYLINÆ.

Diacamma geometricum.
 var. viridipurpureum Emery.
 versicolor Smith.
Odontoponera denticulata Smith.
 transversa Smith.
Bothroponera glabripes Emery.

Family XLV. ODONTOMACHUS.

Odontomachus haematodes Linnaeus.
 infandus Smith.
 papuans Emery.

Family XLVI. MYRMICIDÆ.

Subfamily I. PSEUDOMYRMICINÆ.

Sima allaborans Walker.

Subfamily II. MYRMICINÆ.

Monomorium destructor Jerdon.
Pheidole simoni Emery.
Cremastogaster bicolor Mayr.
 crassicornis Emery.
 longiclava Emery.
 ochracea Mayr.
 semperi Emery.
 simoni Emery.
Pheidologeton diversus Jerdon.
 pygmaeus Emery.
 var. albipes Emery.
Plagiolepis longipes Jerdon.
Tetramorium guinensis Talrimis.
 pacificum Mayr.
 subsp. subscabrum Emery.
Solenopsis geminata Fabricius.

Family XLVIII. DOLICHODERIDÆ.

Dolichoderus bituberculatus Mayr.
 tuberculatus Mayr.
Technomyrmex albipes Smith.
Tapinoma melanocephalum Fabricius.

Family XLIX. FORMICIDÆ.

Subfamily II. CAMPONOTINÆ.

Camponotus cinerascens Fabricius.
 gigas Latreille.
 nigricans Roger.
 pallidus Smith.
 platypus Roger.
 pennsylvanicus De Geer *var.*
 japonicus Mayr.
 quadrisectus Smith.
Oecophylla smaragdina Fabricius.
 var. subnitida Emery.
Calobopsis albocincta Ashmead; M. O.
 pubescens Mayr.
Dinomyrmex gigas Latreille.

Polyrhachis abdominalis Smith.
aciculata Smith.
argentina Mayr.
armata Le Guillon.
bicolor Smith.
bihamata Drury.
cyaniventrus Drury.
dives Smith.
maligna Smith.
mayri Roger.
philippinensis Smith.
pubescens Mayr.
rastellata Smith.
sexspinosa Latreille.
trinax Roger.
subsp. javana Mayr.
subsp. sayonensis Forel.

Subfamily III. FORMICINÆ.

Plagiolepis longipes Jerdon.
Aphomyrmex emeryi Ashmead; M. O.
Formica quadrisecta Smith.
rubra Fabricius.

Superfamily V. PROCTOTRYPOIDEA.

Family LIV. DIAPRIIDÆ.

Diapria manilae Ashmead; M. O.
palida Ashmead; M. O.
philippinensis Ashmead; M. O.
tagala Ashmead; M. O.
Galesus luzonicus Ashmead; M. O.

Family LV. CERAPHRONIDÆ.

Ceraphron manilae Ashmead; M. O.

Family LVI. SCELIONIDÆ.

Subfamily III. TELEASINÆ.

Prosacantha roberti Ashmead; M. O.

Subfamily IV. SCELIONINÆ.

Macroteleia manilensis Ashmead; M. O.
Opithacanta manilae Ashmead; M. O.
nigriclavata Ashmead;
 M. O.

Telenomus catacanthae Ashmead; M. O.
Hoploteleia pacifica Ashmead; M. O.
Hadronotus flavipes Ashmead; M. O.
luteipes Ashmead; M. O.
Scelio philippinensis Ashmead; M. O.

Family LVII. PLATYGASTERIDÆ.

Anopedias luzonicus Ashmead; M. O.

Superfamily VI. CYNIPOIDEA.

Family LVIII. FIGITIDÆ.

Subfamily V. EUCOELINÆ.

Pentamerocera pacifica Ashmead; M. O.

Hexamerocera kiefferi Ashmead; M. O.
philippinensis Ashmead;
 M. O.

Kleidotoma philippinensis Ashmead;
 M. O.

Subfamily VI. XYSTINÆ.

Loboscelidia rufescens Westwood.

Superfamily VII. CHALCIDOIDEA.

Family AGAONIDÆ.

Subfamily I. AGAONINÆ.

Kradibia brownii Ashmead; M. O.

Family LXI. TORYMIDÆ.

Subfamily I. IDARNINÆ.

Sycoryctes philippinensis Ashmead;
 M. O.

Philotrypesis ficicola Ashmead; M. O.

Subfamily IV. PODAGRIONINÆ.

Podagrion philippinensis Ashmead; M. O.

Subfamily V. MEGASTIGMINÆ.

Megastigmus immaculatus Ashmead;
 M. O.

Family LXII. CHALCIDIDÆ.

Subfamily I. LEUCOSPIDINÆ.

Leucospis regalis Westwood.

Subfamily II. CHALCIDINÆ.

- Chalcis albotibialis Ashmead; M. O.
 argentifrons Ashmead; M. O.
 banksi Ashmead; C. S. Banks.
 obscurata Walker.
 prodeniae Ashmead; M. O.
 pulchripes Holmgren.
 xerxena Walker.
- Stomatocera sulcata Ashmead; M. O.
 Arretocera stantoni Ashmead; M. O.
 Neochalcis tarsalis Walker.
- Haltichella ludlowae Ashmead; Miss
 C. S. Ludlow.
 nasuta Holmgren.
 validicornis Holmgren.
- Dirhinus anthracia Walker.
 auratus Ashmead; M. O.

Family LXIII. EURYTOMIDÆ.

- Eurytoma albotibialis Ashmead; C. S.
 Banks.
 banksi Ashmead; C. S.
 Banks.
 carinatifrons Ashmead; M. O.
 manilae Ashmead; M. O.
 systolodes Ashmead; M. O.

Family LXV. EUCHARIDÆ.

- Chalcera aegineta Walker.
 nasua Walker.

Family LXVI. MISCOGASTERIDÆ.

Subfamily III. MISCOGASTERINÆ.

- Omerocerus pallidipes Ashmead; M. O.
 Nesotoxeuma petiolata Ashmead; M. O.

Family LXVII. CLEONYMIDÆ.

Subfamily II. CLEONYMINÆ.

- Epistenia ania Walker.
 feretius Walker.

Family LXVIII. ENCYRTIDÆ.

Subfamily I. EUPELMINÆ.

- Metapelma gloriosa Westwood.
 Calosoter amenetus Walker.

- Anastatus cyaneicollis Ashmead; M. O.
 stantoni Ashmead; M. O.
 Eupelmus albipes Ashmead; M. O.

Subfamily II. ENCYRTINÆ.

- Taftia prodeniae Ashmead; M. O.
 Howardiella tarsata Ashmead; M. O.
 Ooencyrtus papilionis Ashmead; M. O.
 Coccidencyrtus manilae Ashmead; M. O.
 Aphidencyrtus pallidipes Ashmead;
 M. O.
 Aphycus albiclavatus Ashmead; M. O.
 Apterencyrtus pulchricornis Ashmead;
 M. O.
 Exoristobia philippinensis Ashmead;
 M. O.

Family LXIX. PTEROMALIDÆ.

Subfamily IV. SPALANGIINÆ.

- Nesospalangia aptera Ashmead; M. O.

Family LXX. ELASMIDÆ.

- Elasmus philippinensis Ashmead; M. O.

Family LXXI. EULOPHIDÆ.

Subfamily I. ENTEDONINÆ.

- Closterocerus brownii Ashmead; M. O.
 Asecodes elasmii Ashmead; M. O.

Subfamily II. APHELININÆ.

- Aspidiotiphagus aleyrodis Ashmead;
 M. O.

Subfamily III. TETRASTICHINÆ.

- Tetrastichus flavobasalis Ashmead; M. O.
 philippinensis Ashmead;
 M. O.
 Tetrastichoides brownii Ashmead; M. O.
 manilensis Ashmead;
 M. O.
 Ceranisus incertus Ashmead; M. O.
 Gyrolasia tagala Ashmead; M. O.
 Hyperteles flavipes Ashmead; M. O.

Subfamily IV. ELACHERTINÆ.

- Nesolynx flavipes Ashmead; M. O.
 Euplectrus manilae Ashmead; M. O.
 philippinensis Ashmead;
 M. O.

Superfamily VIII. ICHNEUMONOIDEA.

Family LXXIV. EVANIIDÆ.

Subfamily I. EVANIDINÆ.

Evania annulipes Ashmead; M. O.
appendigaster Linnaeus.
impressa Schletterer.
verrucosa Schletterer.

Family LXXVI. ICHNEUMONIDÆ.

Subfamily I. ICHNEUMONINÆ.

Tribe II. *Ichneumonini*.

Cratichneumon manilae Ashmead; M. O.
Elasmognatha cephalotes Ashmead;
 M. O.

Subfamily II. CRYPTINÆ.

Tribe II. *Phygadeuonini*.

Apsilops nigriceps Ashmead; M. O.
Isotima albicincta Ashmead; M. O.
albifrons Ashmead; M. O.
cineticornis Ashmead; M. O.

Tribe III. *Hemitelini*.

Chriodes oculatus Ashmead; M. O.
Strepsimallus bicinctus Ashmead; M. O.
Paraphylax fasciatipennis Ashmead;
 M. O.

flavus Ashmead; M. O.

Acanthohemiteles benjamini Ashmead;
 M. O.

Astomaspis metathoracica Ashmead;
 M. O.

Microcryptus praepes Bingham.

Otaustes alboannulus Ashmead; M. O.

Bathythrix striatus Ashmead; M. O.

Diatora prodeniae Ashmead; M. O.

Tribe VI. *Cryptini*.

Agrothereutes albicoxis Ashmead; M. O.
albipalpis Ashmead; M. O.
nigritarsis Ashmead;
 M. O.
unifasciatus Ashmead;
 M. O.

Agrothereutes verticalis Ashmead; M. O.
Chromocryptus albomaculatus Ash-
 mead; M. O.

Tribe VII. *Mesostenini*.

Mesostenus leucozonatus Ashmead;
 M. O.

Mesostenoideus literatus Brullé.

octozonatus Ashmead;
 M. O.

Subfamily III. PIMPLINÆ.

Tribe III. *Lissonotini*.

Atropha clypearia Ashmead; M. O.

Amauromorpha metathoracica Ash-
 mead; M. O.

Tribe IV. *Pimplini*.

Xanthopimpla kriegeri Ashmead; M. O.

Pimpla punctum Brullé.

Colpomeria flava Ashmead; M. O.

Tribe V. *Xoridiini*.

Kriegeria heptazonata Ashmead; M. O.

Subfamily IV. TRYPHONINÆ.

Tribe X. *Metopini*.

Metopius browni Ashmead; M. O.

Subfamily V. OPHIONINÆ.

Tribe II. *Ophionini*.

Enicospilus ashbyi Ashmead; Ashby.
pacificus Ashmead; M. O.

Tribe IV. *Anomalini*.

Atrometus minutus Ashmead; M. O.

Tribe IVa. *Nesomesochorini*.

Nesomesochorus oculatus Ashmead;
 M. O.

Tribe V. *Campoplegini*.

Charops longiventris Ashmead; M. O.
papilionis Ashmead; M. O.

Tribe VIII. *Mesochorini*.

Mesochorus philippinensis Ashmead;
M. O.

Tribe IX. *Porizonini*.

Leptopygus stangli Ashmead; P. L.
Stangl.

Temelucha philippinensis Ashmead;
M. O.

Tribe X. *Pristomerini*.

Pristomerus flavus Ashmead; M. O.

Family LXXVII. *ALYSIIDÆ*.Subfamily II. *ALYSIINÆ*.Tribe I. *Alysiini*.

Aclisis pleuralis Ashmead; M. O.

Goniarcha malayensis Ashmead; M. O.

Tribe II. *Alloenini*.

Asobara försteri Ashmead; M. O.

Family LXXXVIII. *BRACONIDÆ*.Subfamily IV. *METEORINÆ*.

Meteorus bacoorensis Ashmead; P. L.
Stangl.

brownii Ashmead; M. O.

Subfamily V. *MACROCENTRINÆ*.Tribe I. *Macrocentrini*.

Macrocentrus philippinensis Ashmead;
M. O.

Subfamily VI. *HELCONINÆ*.Tribe I. *Helconini*.

Euscelinus manilae Ashmead; M. O.

Cenocoelius albitarsis Ashmead; M. O.

Subfamily VIII. *SIGALPHINÆ*.

Fornicia annulipes Ashmead; M. O.

Subfamily IX. *CHELONINÆ*.

Chelonus albicinctus Ashmead; M. O.

semihyalinus Ashmead; M. O.

Phanerotoma albiscapa Ashmead; M. O.

philippinensis Ashmead;
M. O.

Subfamily X. *AGATHIDINÆ*.Tribe I. *Agathidini*.

Cremnops collaris Ashmead; M. O.

Tribe II. *Microdini*.

Stantonia flava Ashmead; M. O.

Subfamily XI. *CARDIOCHILINÆ*.

Cardiochiles philippinensis Ashmead;
M. O.

Subfamily XII. *MICROGASTERINÆ*.

Glyptapanteles manilae Ashmead; M. O.

Apanteles manilae Ashmead; M. O.

philippinensis Ashmead; M. O.

Urogaster albinervis Ashmead; M. O.

opacus Ashmead; M. O.

philippinensis Ashmead; M. O.

stantoni Ashmead; M. O.

Microplitis manilae Ashmead; M. O.

philippinensis Ashmead;

M. O.

Pseudapanteles agilis Ashmead; M. O.

Subfamily XIV. *OPIINÆ*.

Eurytenes nanus Ashmead; M. O.

Opius eurytenoides Ashmead; M. O.

deceptor Ashmead; M. O.

philippinensis Ashmead; M. O.

Biosteres longicaudatus Ashmead; M. O.

Subfamily *BRACONINÆ*.Tribe II. *Braconini*.

Bracon alguéi Ashmead; M. O.

banksi Ashmead; Banks.

ricinicola Ashmead; M. O.

tresignatus Kirby.

vau Ashmead; M. O.

Microbracon luteipes Ashmead; M. O.
Habrobracon rugosiventris Ashmead;
 M. O.

Iphiaulax deceptor Smith.
luteifrons Brullé.
nigifrons Brullé.

Hemiglypus flavus Ashmead; M. O.

Tribe III. *Euurobraconini*.

Brownius armatus Ashmead; M. O.

Subfamily XVI. RHOGADINÆ.

Tribe II. *Rhyssalini*.

Rhyssalus unicolor Ashmead; M. O.

Tribe III. *Rhogadini*.

Rhogas melanosoma Ashmead; M. O.
pacificus Ashmead; M. O.

Tribe IV. *Doryctini*.

Ischiogonus philippinensis Ashmead;
 M. O.

Tribe V. *Hecabolini*.

Hecabolus ruficeps Ashmead; M. O.
rufrocinctus Ashmead; M. O.

Subfamily XVII. SPATHINÆ.

Tribe I. *Pambolini*.

Monolexis manilensis Ashmead; M. O.

Tribe III. *Spathiini*.

Spathius fuscipennis Ashmead; M. O.
philippinensis Ashmead; M. O.

Family LXXIX. STEPHANIDÆ.

Stephanus coronator Fabricius.
indicus Westwood.
nigricaudatus Sichel.
sulcifrons Schletterer.
tarsatus Schletterer.
unicolor Sichel.

Suborder II. **Phytophaga** Ashmead.

Superfamily IX. SIRICOIDEA.

Family LXX. ORYSSIDÆ.

Oryssus maculipennis Smith.

Family LXXXI. SIRICIDÆ.

Tremex nigricollis Westwood.

Superfamily X. SELANDRIIDÆ.

Paraselandria imitatrix Ashmead; M. O.
Senoclia albocoerulea Bingham.

SOME OF THE PHILIPPINE HYMENOPTERA BRED IN THE MANILA
 OBSERVATORY, WITH HOSTS.

1. HYMENOPTERA.

PARASITES.	HOSTS.
<i>Sycorytes philippinensis</i> Ashm.	<i>Kradibia brownii</i> Ashm.
<i>Philierypesis ficicola</i> Ashm.	<i>Kradibia brownii</i> Ashm.
<i>Closterocerus brownii</i> Ashm.	<i>Euplectrus manilae</i> Ashm.
<i>Nesolynx flavipes</i> Ashm.	<i>Microplitis philippinensis</i> Ashm.
<i>Asecodes elasmii</i> Ashm.	<i>Elasmus philippinensis</i> Ashm.

2. DIPTERA.

<i>Anopediastus luzonicus</i> Ashm.	<i>Lasioptera</i> sp.
<i>Exoristobia philippinensis</i> Ashm.	<i>Exorista</i> dispar.

3. LEPIDOPTERA.

PARASITES.	HOSTS.
<i>Chalcis albotibialis</i> Ashm.	<i>Erionota thrax</i> Linn.
<i>Chalcis banksi</i> Ashm.	<i>Ticera castanea</i> Sevinhoe.
<i>Chalcis prodeniae</i> Ashm.	<i>Prodenia</i> sp.
<i>Anastatus stantoni</i> Ashm.	<i>Padraona chrisozona</i> Plotz.
<i>Eurytoma manilae</i> Ashm.	Eggs of <i>Attacus atlas</i> Linn.
<i>Taftia prodeniae</i> Ashm.	<i>Prodenia littoralis</i> Boisd.
<i>Ooencyrtus papilionis</i> Ashm.	Eggs of <i>Papilio alphenor</i> Cram.
<i>Coccidencyrtus manilae</i> Ashm.	<i>Plusia eriosoma</i> Doubl.
<i>Exoristobia philippinensis</i> Ashm.	<i>Orgyia postica</i> Walk.
<i>Euplectrus manilae</i> Ashm.	<i>Papilio alphenor</i> Cram.
<i>Euplectrus philippinensis</i> Ashm.	<i>Eucleid</i> sp.
<i>Charops longiventris</i> Ashm.	<i>Papilio rumanzovia</i> Esch.
<i>Charops papilionis</i> Ashm.	<i>Papilio agamemnon</i> Linn.
<i>Meteorus brownii</i> Ashm.	Noctuid sp.
<i>Apanteles philippinensis</i> Ashm.	<i>Plusia eriosoma</i> Doubl.
<i>Apanteles stantoni</i> Ashm.	<i>Pieris ida</i> Cram.
<i>Urogaster philippinensis</i> Ashm.	<i>Parasa lorquini</i> Reak.
<i>Urogaster stantoni</i> Ashm.	Tortricid sp.
<i>Microplitis manilae</i> Ashm.	<i>Prodenia littoralis</i> Boisd.
<i>Microplitis philippinensis</i> Ashm.	<i>Melopsilus acteus</i> Cram.
	<i>Chaerocampa oldenlandiae</i> Fab.
<i>Rhyssalus unicolor</i> Ashm.	Tineid sp.

4. HEMIPTERA.

<i>Hadronotus philippinensis</i> Ashm.	Eggs of <i>Leptoglossus membranaceus</i> Fabr.
<i>Telenomus catacantha</i> Ashm.	<i>Catacanthus cerrenoi</i> Le Guillon.
<i>Aspidiotiphagus aleyrodis</i> Ashm.	<i>Aleyrodes</i> sp.