

SBM
1016

M.
A.
O.



THE
TYPES OF PROCTOTRUPOIDEA
(HYMENOPTERA)
IN THE BRITISH MUSEUM
(NATURAL HISTORY)
AND IN THE HOPE DEPARTMENT
OF ENTOMOLOGY, OXFORD

L. MASNER

BULLETIN OF
THE BRITISH MUSEUM (NATURAL HISTORY)
ENTOMOLOGY

Supplement 1

LONDON : 1965

F

THE
TYPES OF PROCTOTRUPOIDEA
(HYMENOPTERA)
IN THE BRITISH MUSEUM
(NATURAL HISTORY)
AND IN THE HOPE DEPARTMENT
OF ENTOMOLOGY, OXFORD



BY

L. MASNER *msf.*

Institute of Entomology, Czechoslovak Academy of Science, Prague

BULLETIN OF
THE BRITISH MUSEUM (NATURAL HISTORY) *K.*
ENTOMOLOGY Supplement 1

LONDON : 1965

THE BULLETIN OF THE BRITISH MUSEUM
(NATURAL HISTORY), *instituted in 1949, is
issued in five series corresponding to the Departments
of the Museum, and an Historical series.*

*Parts will appear at irregular intervals as they become
ready. Volumes will contain about three or four
hundred pages, and will not necessarily be completed
within one calendar year.*

*In 1965 a separate supplementary series of longer
papers was instituted, numbered serially for each
Department.*

*This paper is Supplement No. 1 of the Entomological
series. The abbreviated titles of periodicals cited follow
those of the World List of Scientific Periodicals.*

© Trustees of the British Museum (Natural History) 1965

TRUSTEES OF
THE BRITISH MUSEUM (NATURAL HISTORY)

Issued March 1965

Price Fifty Shillings

THE TYPES OF PROCTOTRUPOIDEA (HYMENOPTERA) IN THE BRITISH MUSEUM (NAT. HIST.) AND THE HOPE DEPARTMENT OF ENTOMOLOGY (OXFORD)

By LUBOMIR MASNER

CONTENTS

	<i>Page</i>
SYNOPSIS	3
PREFACE	3
INTRODUCTION	4
ACKNOWLEDGEMENTS	5
Family <i>Proctotrupidae</i>	5
Family <i>Ceraphronidae</i>	10
Subfamily <i>Ceraphroninae</i>	10
Subfamily <i>Megaspilinae</i>	14
Family <i>Diapriidae</i>	22
Subfamily <i>Diapriinae</i>	22
Subfamily <i>Ambositrinae</i>	47
Subfamily <i>Belytinae</i>	48
Family <i>Scelionidae</i>	67
Subfamily <i>Scelioninae</i>	67
Subfamily <i>Teleasinae</i>	98
Subfamily <i>Telenominae</i>	108
Family <i>Platygasteridae</i>	129
Subfamily <i>Inostemminae</i>	129
Subfamily <i>Platygasterinae</i>	132
INDEX TO NEW NAMES	144
INDEX TO SUPERSPECIFIC NAMES	144
INDEX TO TRIVIAL NAMES	146

SYNOPSIS

The types of 780 species have been examined ; 24 of Proctotrupidae, 76 of Ceraphronidae, 256 of Diapriidae, 341 of Scelionidae and 84 of Platygasteridae. This paper is not merely a list of types but includes various nomenclatorial changes, new combinations, much synonymy, various new names and the selection of lectotypes.

PREFACE

THE types of numerous Proctotrupoid-species are scattered all over the world in various museums, institutions and, last but not least, also in private collections. The types of European species, in particular, are preserved in various places. This is, of course, a considerable disadvantage and an obstacle to taxonomic research.

The location of certain old collections is known and we can presume that they contain types. This is true of the Förster, Haliday, Thomson, Walker and Westwood collections. Unfortunately, most of the European species were described by Kieffer and it is known that he did not keep any special private collection. His types are deposited, unrecognised, in many museums and a good deal of work is needed to recover them and establish their validity.

The importance of studying types is becoming more and more necessary, particularly in groups that are insufficiently known from the taxonomic point of view. It is obvious that the primary task is to recognise, revise and establish the "old" species rather than describe new ones. To achieve this aim, the first step is to make lists of types available for all students. I agree with the conclusions of Kerrich (1960) concerning the state of our knowledge of the parasitic Hymenoptera but am convinced that the problem of types is of the greatest importance for the essential improvement of the taxonomy of this group of insects.

INTRODUCTION

During the autumn of 1961 I had the opportunity of working in the British Museum (Nat. Hist.) and the Hope Department of Entomology at Oxford. These institutions, especially the first, possess a considerable number of types of Procturoidea. In London I found many Kieffer types of hitherto unknown location. My aim was to examine the whole of the material at my disposal and to publish a list of the types it contained. There were, of course, various difficulties to overcome, particularly with regard to the selection of lectotypes, since most of the species were represented only by syntypes.

Because of the regular exchange of material between Walker and Haliday, the types of some of Walker's species are now in the Haliday collection. This refers to species of *Telenomus* and *Teleas* (= *Trimorus* Förster) described by him as well as to a few species of Platygasteridae.

Since Haliday's collection was not examined by me in its entirety but is now being studied by M. R. W. de V. Graham, I have preferred not to include in the present list the types contained in this collection; a list of them will be published later by Dr. Graham.

Altogether, the types of 780 species have been examined: 24 of Proctrupidae, 76 of Ceraphronidae, 256 of Diapriidae, 341 of Scelionidae and 84 of Platygasteridae. Genera and species are arranged alphabetically.

In the collections of the British Museum I found certain specimens marked as types. Since these "types" represent nothing but MS names, they are omitted from the present list.

This paper is not a mere list of types but includes also various nomenclatorial changes as well as other data considered to be useful. Several genera and many species were wrongly placed systematically. The reader will therefore find many new combinations, much synonymy and various new names. For each holotype (or paratypes if the species is represented only by these), I quote full data as given on the labels attached to the specimen. The number of paratypes and the state of

preservation of the holotype is also given. Generic synonymy is based exclusively on an examination of type material. Only new synonymy, or synonymy relevant to the present list, is given.

The expression "BMNH type-label" refers to type-labels used throughout the Dept. of Entomology, British Museum (Nat. Hist.). These have a red margin for holotypes and a yellow margin for paratypes (cotypes). Types of species described by Walker have a label with a green margin. The symbols "BMNH" and "OUM" indicate that the type is preserved in the collection of the British Museum (Nat. Hist.) or the Oxford University Museum (Hope Department of Entomology) respectively.

ACKNOWLEDGEMENTS

Thanks are expressed to the staff of the British Museum (Natural History) and Commonwealth Institute of Entomology, particularly to Mr. O. E. Pearson, Mr. J. F. Perkins, Mr. J. P. Doncaster, Mr. G. E. J. Nixon, Mr. G. J. Kerrich ; further to Prof. Dr. G. Varley and Dr. M. R. W. de V. Graham of the Hope Department of Entomology (Oxford). Thanks are also extended to the staff of the Commonwealth Institute of Biological Control, European Laboratory Delémont (Switzerland).

Family PROCTOTRUPIDAE

CODRUS Panzer, 1801

(*EXALLONYX* Kieffer, 1904)

Codrus antillarum (Ashmead, 1900) **comb. n.**

Proctotrypes antillarum Ashmead, 1900. *Trans. ent. Soc. Lond.* : 240.

Grand Etang (Windward side), 1900 ft., Grenada, W.I., H. H. Smith ; *Proctotrypes antillarum* Ashm. ♂ Type. (BMNH).

Head broken off. Although without BMNH type-label, this specimen is considered the holotype.

Codrus borneanus (Cameron, 1912) **comb. n.**

Proctotrypes borneanus Cameron, 1912. *Soc. ent.* **27** : 64.

BMNH type-label ; Ap. 2 ; Kuching, Nov. 1906 JN ; P. Cameron Coll. 1914-110 ; *Proctotrypes borneanus* Cam. Type Borneo. (♀, BMNH).

Codrus confusus (Nixon, 1938) **comb. n.**

Exallonyx confusus Nixon, 1938. *Trans. R. ent. Soc. Lond.* **87** : 441.

BMNH type-label "Lectotype" ; Devon, Torquay Dist., Aug. 1929. G. Nixon ; Brit. Mus. 1938-81 ; *Exallonyx confusus* Nix., ♀ ; lectotype selected by L. Masner, 1961. (BMNH).

***Codrus curtigena* (Nixon, 1938) comb. n.**

Exallonyx curtigena Nixon, 1938. *Trans. R. ent. Soc. Lond.* **87** : 441.

BMNH type-label ; Ashtead, 16.8.30 ; Brit. Mus. 1938-81 ; *Exallonyx curtigena* Nixon, 1938, holotype ♀. (BMNH).

***Codrus fumipennis* var. *donisthorpei* (Kieffer, 1908) comb. n.**

Exallonyx fumipennis var. *donisthorpei* Kieffer, 1908, in André, *Spec. Hym. Eur. Alg.* **10** : 339.

Wallasey, October 1904 ; BMNH type-label ; *Exallonyx fumipennis* v. *Donisthorpei*. (♂ BMNH).

***Codrus gracilis* (Nixon, 1938) comb. n.**

Exallonyx gracilis Nixon, 1938. *Trans. R. ent. Soc. Lond.* **87** : 440.

BMNH type-label ; Surrey, Ashtead, 25.VIII.1929, G. Nixon ; *Exallonyx gracilis* Nixon, 1938. Type ♀. (BMNH).

Left antenna broken off.

***Codrus hyalinipennis* (Morley, 1922) comb. n.**

Proctotrypes hyalinipennis Morley, 1922. *Entomologist*, **55** : 157.

BMNH type-label "Type C.M.XI.17" ; Named by Claude Morley *Proctotrypes hyalinipennis* Morl. sp. nov. ♀. Type XI.17 ; 16.XI.95, swept thistles B.W. ; 2 det. A.J.C. ; *hyalinipennatus* (!) ; Morley's coll. (BMNH).

***Codrus niger* var. *pallidistigma* (Morley, 1922) comb. n.**

Exallonyx niger var. *pallidistigma* Morley, 1922. *Entomologist* **55** : 182.

8.VI.02 Wicken Vil. ; BMNH type-label "Type VAR." ; *pallidistigmaticalis* ?Auct. ; 7 det. A.J.C. ; *niger* var. *pallidistigma* ; Morley's coll. (♀, BMNH).

***Codrus orientalis* (Dodd, 1920) comb. n.**

Exallonyx orientalis Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 365.

Shillong 9.03 ; BMNH type-label ; Assam, R. Turner. 1905-125 ; *Exallonyx orientalis* Dodd type. (♀, BMNH).

***Codrus wasmanni* var. *socialis* (Kieffer, 1908) comb. n.**

Exallonyx wasmanni var. *socialis* Kieffer in André, 1908. *Spec. Hym. Eur. Alg.* **10** : 328.

BMNH type-label ; Wellington College, 27.IX.1901 ; *Exallonyx wasmanni* var. *socialis*. (♀, BMNH).

CRYPTOSERPUS Kieffer, 1907***Cryptoserphus cumaeus*** Nixon, 1938

Cryptoserphus cumaeus Nixon, 1938. *Trans. R. ent. Soc. Lond.* **87** : 462.

BMNH type-label ; Co. Sligo, Trawallua, 24-29.7.1933, G. Nixon ; Brit. Mus. 1938-81 ; *Cryptoserphus cumaeus* Nixon, 1938, Holotype ♀. (BMNH).

Cryptoserphus hawaiiensis (Ashmead, 1901) **comb. n.**

Proctotrypes hawaiiensis Ashmead in 1901. *Fauna Hawaii* **1** : 294.

BMNH type-label "Type H.T." ; Kona, Hawaii, 2-3000 ft., Perkins, V.1892 ; Sandwich Is. 1912-215 ; *Proctotrypes hawaiiensis* Ashm. ♀, Type. (BMNH).

Two females on a label, arrow-head indicates the holotype (L. Masner, 1961). Two additional females (no paratypes).

Cryptoserphus nitens (Dodd, 1920) **comb. n.**

Proctotrupes nitens Dodd, 1920. *Trans. Ent. Soc. Lond.* **1919** : 364.

BMNH type-label ; S.W. Australia, Yallingup, Nov. 1913, R. E. Turner, 1914-190 ; *Proctotrupes nitens* Dodd ♀. (BMNH).

Left antenna broken off apically. Male allotype from the same locality (partially destroyed).

Cryptoserphus perkinsi Nixon, 1942

Cryptoserphus perkinsi Nixon, 1942. *Entomologist*, **75** : 197.

BMNH type-label ; England, Surrey, Weybridge, 27.X.1940, G. E. J. Nixon ; Pres. by Imp. Inst. Ent. B.M. 1942-65 ; *Cryptoserphus perkinsi* Nixon, 1942. ♀ Type. (BMNH).

Six male paratypes.

Cryptoserphus turneri (Dodd, 1920) **comb. n.**

Proctotrupes turneri Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 363.

BMNH type-label ; Mt. Wellington, S. Tasmania, 2-6 Apl. 1913 ; 2300 ft., R. E. Turner, 1913-212 ; *Proctotrypes* (!) *turneri* Dodd ♀ Type. (BMNH).

DISOGMUS Förster, 1856***Disogmus torvus*** Whittaker, 1930

Disogmus torvus Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 68.

BMNH type-label ; red label "Type" ; Chilliwack, B.C., 14.5.27, Coll. O.W. ; 3185 *Disogmus torvus* Whitt. ♀ Det. O. Whittaker. (BMNH).

One male (allotype).

OXYSERPHUS Masner, 1961***Oxyserphus maculipennis*** (Cameron, 1888)

Proctotrupes maculipennis Cameron, 1888. *Mem. Manchr. lit. phil. Soc.* (IV) **1** : 175.

BMNH type-label ; Cameron 99-30 ; *Proctotrupes maculipennis* Cam. Type New Zealand. (♂, BMNH).

Unique ; flagellum broken off, some legs missing, hind right wing off.

PARACODRUS Kieffer, 1907***Paracodrus bethyliformis*** Kieffer, 1907

Paracodrus bethyliformis Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 275.

177 ; BMNH type-label ; P. Cameron coll. 1914-110 ; *Codrus bethyliformis* Kieff. (note : the latter is not Kieffer's but Waterston's handwriting) ; *Paracodrus apterogynus* Hal., pale or faded ♀ G. Nixon det. (BMNH).

? real type.

PHAENOSERPHUS Kieffer, 1908

(= *Carabiphagus* Morley, 1929)

Phaenoserphus chittii (Morley, 1922)

Proctotrypes chittii Morley, 1922. *Entomologist*, **55** : 159.

9.IX.05 ; BMNH type-label "Type C.M." ; *longipes* A.J.C. ; sp. nov. A.J.C. ; Named by Claude Morley *Proctotrypes Chittii* sp. nov. ♀ Type 5.XI.1917. (BMNH).

Phaenoserphus dubiosus Nixon, 1938

Phaenoserphus dubiosus Nixon, 1938. *Trans. R. ent. Soc. Lond.* **87** : 454.

BMNH type-label "Holotype" ; Surrey, Weybridge, G. E. J. Nixon, Sept. 1936 ; Brit. Mus., 1938-81 ; *Phaenoserphus dubiosus* Nixon 1938, ♀ Holotype. (BMNH).

Allotype (male), paratypes (1♀ + 1♂).

Phaenoserphus vexator Nixon, 1938

Phaenoserphus vexator Nixon, 1938. *Trans. R. ent. Soc. Lond.* **87** : 456.

BMNH type-label ; Surrey, Weybridge, G. E. J. Nixon, Sept. 1936 ; *Phaenoserphus vexator* Nixon, 1938, ♀ Holotype. (BMNH).

PROCTOTRUPES Latreille, 1796

(= **PROCTOTRYPES** Agassiz, 1846 – emendation ; **SERPHTUS** Schrank, 1870)

Proctotrypes antillarum Ashmead, 1900 – see **Codrus** Panz.

Proctotrypes borneanus Cameron, 1912 – see **Codrus** Panz.

Proctotrypes chittii Morley, 1922 – see **Phaenoserphus** Kieffer.

Proctotrypes gravidator partipes Dodd, 1920 – see **Proctotrupes partipes**
Dodd, 1920.

Proctotrupes gravidator var. **petiolaris** (Kieffer, 1908) **comb. n.**

Serphus gravidator var. *petiolaris* Kieffer in André, 1908. *Spec. Hym. Eur. Alg.* **10** : 297.

178 ; Scotland, Thornhill ; BMNH type-label ; *Serphus gravidator* v. *petiolaris*,
K. ; P. Cameron Coll., 1914–110. (♀, BMNH).

Slightly damaged (left wing and a part of left antenna broken off). Unique.

Proctotrypes hawaiiensis Ashmead, 1901 – see **Cryptoserphus** Kieff.

Proctotrypes hyalinipennis Morley, 1922 – see **Codrus** Panz.

Proctotrupes intrudens F. Smith, 1878

Proctotrupes intrudens F. Smith, 1878. *Trans. ent. Soc. Lond.* **1878** : 5.

New Zeal. ; BMNH type-label ; *Proctotrupes intrudens* Sm. (type). (♂, BMNH).

Proctotrupes maculipennis Cameron, 1888 – see **Oxyserphus** Msn.

Proctotrupes nitens Dodd, 1920 – see **Cryptoserphus** Kieff.

Proctotrupes partipes Dodd, 1920 **stat. n.**

Proctotrupes gravidator v. *partipes* Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 365.

BMNH type-label ; Kashmir, 5000 ft., 4.01 ; C. G. Nurse, 1913–139 ; *Procto-*
trypes (!) *gravidator partipes* Dodd ♂. (BMNH).

Antennae broken off apically, hind right wing as well as some legs missing.
Apparently a good species because of lengthened petiolus, different formation of
propodeum and head. There is a female placed with the type (Waterston det.)
which represents the opposite sex (not described).

Proctotrupes turneri Dodd, 1920 – see **Cryptoserphus** Kieff.

Family **CERAPHRONIDAE**Subfamily **CERAPHRONINAE****APHANOGMUS** Thomson, 1858***Aphanogmus canadensis*** Whittaker, 1930

Aphanogmus canadensis Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 131.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 8.VI.28, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 3542 *Aphanogmus canadensis* Whitt. ♂ Det. O. Whittaker. (♂, BMNH).

Unique.

Aphanogmus cylindricornis Parr, 1960

Aphanogmus cylindricornis Parr, 1960. *Trans. Soc. Brit. Ent.* **14** : 120.

BMNH type-label ; white label "Type" ; Devon : Dartmoor, IX.1932, J. F. Perkins ; *Aphanogmus cylindricornis*. (♀ BMNH).

Unique.

Aphanogmus dorsalis Whittaker, 1930

Aphanogmus dorsalis Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 132.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 5.VII.28, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 3550 *Aphanogmus dorsalis* Whitt. ♀ Det. O. Whittaker. (BMNH).

Head broken off. Unique.

Aphanogmus formicarum (Kieffer, 1907)

Ceraphron formicarum Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 231.

Ceraphron formicarum ; Corbridge, 9.VI.06 ; BMNH type-label. (♀, BMNH).

Unique.

Aphanogmus furcatus Kieffer, 1907

Aphanogmus furcatus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 201.

BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 486 ; *Aphanogmus furcatus* K. ; Selected as type by G.E.J.N., 29.IX.1933. (♀, BMNH).

Unique.

Aphanogmus grenadensis Ashmead, 1896

Aphanogmus grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 789.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; BMNH type-label ; *Aphanogmus granadensis* (!) Ashm., ♀ Type. (BMNH).

Unique.

Aphanogmus insularis Ashmead, 1896

Aphanogmus insularis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 789.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 40 ; BMNH type-label ;
Aphanogmus insularis Ashm., ♀ Type. (BMNH).

Unique.

Aphanogmus subapterus Whittaker, 1930

Aphanogmus subapterus Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 130.

BMNH type-label ; Chilliwack, B.C., 13.IX.27, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 3248 *Aphanogmus subapterus* Whitt. ♀ Det. O. Whittaker. (BMNH).

Unique.

Aphanogmus venustus Parr, 1960

Aphanogmus venustus Parr, 1960. *Trans. Soc. Brit. Ent.* **14** : 116.

BMNH type-label ; white label "Type" ; England, DT : Nr. Sherford Bridge, 28.VII.1954, J. A. & R. J. Clark. BM. 1955-214 ; *Aphanogmus venustus*. (♀, BMNH).

Unique.

CERAPHRON Jurine, 1807

(= **CALLICERAS** Nees, 1834)

Ceraphron armatus Kieffer, 1907

Ceraphron armatus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 215.

BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 393 ; *Ceraphron armatus* K. Manuel ; Selected as type by G.E.J.N., 27.9.33. (♀, BMNH).

Unique.

Ceraphron borealis (Whittaker, 1930)

Calliceras boreale Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 71.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 17.IX.28, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 2538 *Calliceras boreale* Whitt. ♀ Det. O. Whittaker. (BMNH).

Unique.

Ceraphron cameroni Kieffer, 1907

Ceraphron cameroni Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 230.

BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 389 ; Selected as type by G.E.J.N. 27.IX.33 ; *Ceraphron cameroni* K., Eccles, IX. (♀, BMNH).

Partially destroyed. Unique.

Ceraphron concinnus (Whittaker, 1930)

Calliceras concinna Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 70.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 3.VI.28, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 3460 *Calliceras concinna* Whitt. ♀ (!) Det. O. Whittaker. (♂, BMNH).

Apparently a male and not female as given by Whittaker.

Ceraphron dictynna (Waterston, 1923) **comb. n.**

Calliceras dictynna Waterston, 1923. *Bull. ent. Res.* **14** : 116.

BMNH type-label "Cotype" ; *Stephanoderes hampei* Ferr., Africa, Uganda, Najunga, 24.V.21, H. Hargreaves Coll. ; *Calliceras dictynna* Waterst. ♀. (BMNH).
Unique.

Ceraphron fijiensis (Ferrière, 1933) **comb. n.**

Calliceras fijiensis Ferrière, 1933. *Stylops* **2** : 106.

BMNH type-label ; Fiji Is., Taveuni, XI.1931, R. W. Paine, Ex *Apanteles tirathabae* Par. "BL" ; Pres. by Imp. Inst. Ent., B.M. 1933-375 ; *Calliceras fijiensis* ♀ Type Ch. Ferrière. (BMNH).

No paratypes selected.

Ceraphron fuliginosi Box, 1921

Ceraphron fuliginosi Box, 1921. *Ent. Rec.* **33** : 15.

Ceraphron fuliginosi ; Woking, 14.VIII.20 ; BMNH type-label (♀, BMNH).
Unique.

Ceraphron grenadensis Ashmead, 1896

Ceraphron grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 788.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 40 ; BMNH type-label ; *Ceraphron granadensis* (!) Ashm., ♀ Type. (BMNH).

Ceraphron meridionalis Ashmead, 1894

Ceraphron meridionalis Ashmead, 1894. *J. Linn. Soc. Lond. (zool.)* **25** : 200.

Green square label without inscription ; West Indies, Smith ; BMNH type-label ; *Ceraphron meridionalis* Ashm. ♀ Type. (BMNH).

Unique. Specimen missing from the pin, some legs remaining.

Ceraphron myrmecophilus Kieffer, 1913

Ceraphron myrmecophilus Kieffer, 1913. *Brotéria* **11** : 197.

Ceraphron myrmecophilus ♂ ; bred in nest of *F. rufa* at Nethy Bridge, 12.VI.12 ; BMNH type-label "Type". (♂, BMNH).

Also one female marked as type but apparently not described.

***Ceraphron myrmicarum* Kieffer, 1913**

Ceraphron myrmicarum Kieffer, 1913. *Brotéria* **11** : 198.

Ceraphron myrmecarum (!); Buddon Wood, 3.VIII.1907 ; BMNH type-label. (♀, BMNH).

Unique.

***Ceraphron nigraticeps* Kieffer, 1907**

Ceraphron nigraticeps Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 251.

BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 394 ; *Ceraphron nigraticeps* K., Linlithgow, VIII ; Selected as type by G.E.J.N., 27.IX.33. (♀, BMNH).

Unique.

***Ceraphron nigrellicept* Kieffer, 1907**

Ceraphron nigrellicept Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 247.

BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 396 ; *Ceraphron nigrellicept* K. ; Selected as type by G. E. J. Nixon, 29.IX.1933. (♀, BMNH).

***Ceraphron politifrons* Ashmead, 1896**

Ceraphron politifrons Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 789.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; BMNH type-label ; *Ceraphron politifrons* Ashm., ♀ Type ; W. Indies, 99-331. (BMNH).

***Ceraphron rugosifrons* Ashmead, 1896**

Ceraphron rugosifrons Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 788.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 40 ; BMNH type-label ; *Ceraphron rugosifrons* Ashm. ♀ Type. (BMNH).

Unique.

***Ceraphron saxatilis* Kieffer, 1912**

Ceraphron saxatilis Kieffer, 1912. *Trans. Linn. Soc. Lond. (zool.)* **15** (2) : 50.

Mahe, '08-9. Seychelles Exp. 81 ; *Ceraphron saxatilis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).

Unique.

***Ceraphron scoticus* Kieffer, 1907**

Ceraphron scoticus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 214.

BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 391 ; *Ceraphron noticus* (!) K., Cambuslang ; Selected as type by G.E.J.N., 27.IX.33. (♀, BMNH).

Unique.

***Ceraphron spinifer* Kieffer, 1907**

Ceraphron spinifer Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 222.

BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 390 ; Selected as type by G.E.J.N., 27.IX.33 ; *Ceraphron spinifer* K., Moffat V. (♀, BMNH).
One more female marked by Kieffer.

***Ceraphron subopacus* Ashmead, 1896**

Ceraphron subopacus Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 788.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; BMNH type-label ; *Ceraphron subopacus* Ashm. ; ♀ Type ; W. Indies, 99-331. (BMNH).

***Ceraphron whittakeri* (Fouts, 1927)**

Calliceras whittakeri Fouts, 1927. *Proc. ent. Soc. Wash.* **29** : 173.

BMNH type-label "Paratype" ; red label "Paratype", Chilliwack, B.C., 11.V.26, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; *Calliceras whittakeri* Fouts ♂. (Paratype BMNH).

One female paratype from same locality (swept 14.V.26).

Subfamily **MEGASPILINAE*****CONOSTIGMUS* Dahlbom, 1858*****Conostigmus apterus* Kieffer, 1907**

Conostigmus apterus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 88.

Cameron Coll. 1909-182 ; BMNH type-label "Lectotype L.M." ; *Conostigmus apterus* K. ; 335 ; Selected as lectotype by L. Masner, 21.XI.61. (♂, BMNH).
Unique.

***Conostigmus britannicus* Kieffer, 1907**

Conostigmus britannicus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 154.

Mugdock ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 336 ; *Conostigmus britannicus* K. ; Selected as type of *C. britannicus* K. by G.E.N., 6.I0.33. (♂, BMNH).

Two additional females.

***Conostigmus brunneipes* Dodd, 1920**

Conostigmus brunneipes Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 367.

1102 ; BMNH type-label ; Madeira, Wollaston, 55.7 ; *Conostigmus brunneipes* Dodd ♀. (BMNH.)

One additional male.

***Conostigmus dubiosus* Kieffer, 1907**

Conostigmus dubiosus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 152.

Clober ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 356 ; *Conostigmus dubiosus* K. ; Selected as type of *C. dubiosus* K. by G.E.J.N., 6.10.33. (♀, BMNH).

One additional female.

***Conostigmus fasciatipennis* Kieffer, 1907**

Conostigmus fasciatipennis Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 135.

BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 484 ; *Conostigmus fasciatipennis* K. ; Selected as type of *C. fasciatipennis* K. by G.E.J.N., 6.10.33. (♂, BMNH).

Unique.

***Conostigmus formicarum* Kieffer, 1914**

Conostigmus formicarum Kieffer, 1914. *Bull. Soc. ent. Fr.* : 114.

Conostigmus formicarum ♀ ; New Forest, 22.VII.12 ; BMNH type-label. (♀, BMNH).

One allotype ♂ (BMNH).

***Conostigmus humilis* Kieffer, 1907**

Conostigmus humilis Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 90.

Manchester ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 325 ; Selected as type of *C. humilis* K. by G.E.J.N., 5.10.33 ; *Conostigmus humilis* K. (♀, BMNH).

Unique.

***Conostigmus lentus* Kieffer, 1907**

Conostigmus lentus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 114.

Dumfries ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 481 ; *Conostigmus lentus* K. ; Selected as type of *C. lentus* K. by G.E.J.N., 5.10.33. (♀, BMNH).

Unique.

***Conostigmus leptothorax* Kieffer, 1907**

Conostigmus leptothorax Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 91.

Chaldon, Surrey ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 327 ; *Conostigmus leptothorax* K. ; Selected as type of *C. leptothorax* K. by G.E.J.N., 5.10.33. (♀, BMNH).

Unique.

***Conostigmus levifrons* Kieffer, 1907**

Conostigmus levifrons Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 109.

Mugdock, 6.VIII. ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 334 ; *Conostigmus levifrons* K. ; Selected as type of *C. levifrons* K. by G.E.J.N., 5.10.33. (♀, BMNH).

Unique.

***Conostigmus lineatifrons* Kieffer, 1907**

Conostigmus lineatifrons Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 108.

Manchester ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 322 ; *Conostigmus lineatifrons* K. ; Selected as type of *C. lineatifrons* K. by G.E.J.N., 5.10.33. (♀, BMNH).

Unique.

***Conostigmus lucidus* Kieffer, 1907**

Conostigmus lucidus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 163.

Bishopton ; Cameron Coll. 1909-182 ; BMNH type-label "Lectotype L.M." ; *Conostigmus lucidus* K. ; 360 ; Selected as lectotype by L. Masner, 23.XI.61. (♀, BMNH).

One additional female.

***Conostigmus mullensis* (Cameron, 1881)**

Megaspilus mullensis Cameron, 1881. *Trans. ent. Soc. Lond.* **1881** : 558.

Ben More, Mull ; BMNH type-label ; Cameron Coll. 1905-192 ; *Megaspilus mullensis* Cam. Type, Mull. (♂, BMNH).

Unique. Antennae broken off apically.

***Conostigmus myrmecobius* Kieffer, 1913**

Conostigmus myrmecobia Kieffer, 1913. *Brotéria*, **11** : 198.

Conostigmus myrmecobia (!) ; Weybridge, July 8th 1904 ; BMNH type-label. (♂, BMNH).

Unique.

***Conostigmus nigriventris* Kieffer, 1907**

Conostigmus nigriventris Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 125.

Cameron Coll. 1909-182 ; 342 ; BMNH type-label "Lectotype L.M." ; *Conostigmus nigriventris* K. ; Selected as lectotype by L. Masner, 23.XI.61. (♀, BMNH).

Unique.

Conostigmus parvulus (Wollaston, 1858)

Ceraphron parvulum Wollaston, 1858. *Ann. Mag. nat. Hist.* **1** (3) : 26.

BMNH type-label ; Madeira, Wollaston, 55.7. ; *Ceraphron parvulum* W. (♀, BMNH).

Three additional females.

Conostigmus planifrons Kieffer, 1907

Conostigmus planifrons Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 153.

Ballantrae ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 485 ; *Conostigmus planifrons* K. ; Selected as type of *C. planifrons* K. by G.E.J.N., 6.10.33. (♂, BMNH).

Unique.

Conostigmus pulchellus Whittaker, 1930

Conostigmus pulchellus Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 133.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 30.IX.29, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; *Conostigmus pulchellus* Whitt. ♂ Det. O. Whittaker. (BMNH).

Unique.

Conostigmus punctatifrons, Kieffer, 1907

Conostigmus punctatifrons Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 109.

Claddich ; Cameron Coll. 1909-182 ; BMNH type-label "Lectotype L.M." ; *Conostigmus punctatifrons* K. ; Selected as lectotype by L. Masner, 21.XI.1961. (♀, BMNH).

Unique.

Conostigmus punctulatus (Cameron, 1881)

Megaspilus punctulatus Cameron, 1881. *Trans. ent. Soc. Lond.* **1881** : 557.

Dalry ; BMNH type-label ; *Megaspilus punctulatus* Cam. Type, Ayrshire ; Cameron Coll. 1905-192. (♀, BMNH).

Unique.

Conostigmus rhopalophorus Kieffer, 1907

Conostigmus rhopalophorus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 101.

Cameron Coll. 1909-182 ; BMNH type-label "Lectotype L.M." ; 103 ; *Conostigmus rhopalophorus* K. ; Selected as lectotype by L. Masner, 21.XI.1961. (♀, BMNH).

Unique.

***Conostigmus rodhaini* Bequaert, 1913**

Conostigmus rodhaini Bequaert, 1913. *Rev. Zool. afr.* **2** : 255.

BMNH type-label "Cotype"; ex pupa *Glossina palpalis*; Belgian Congo, Bulsama, 24.VI.11, J. Bequaert Coll.; *Conostigmus Rodhaini* J. Beq. (♀ cotype, BMNH).

Unique.

***Conostigmus rufescens* Kieffer, 1907**

Conostigmus rufescens Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 95.

BMNH type-label "Type G.N."; Cameron Coll. 1909-182; *Conostigmus rufescens* K.; Selected as type of *C. rufescens* K. by G.E.J.N., 5.10.33. (♀, BMNH).

Five additional females.

***Conostigmus ruficollis* Kieffer, 1907**

Conostigmus ruficollis Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 110.

Clober; BMNH type-label "Type G.N."; Cameron Coll. 1909-182; 110; *Conostigmus ruficollis* K.; Selected as type of *C. ruficollis* K. by G.E.J.N., 5.10.33. (♀, BMNH).

One additional female.

***Conostigmus scabriventris* Kieffer, 1907**

Conostigmus scabriventris Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 107.

BMNH type-label "Type G.N."; Cameron Coll. 1909-182; 112; Selected as type of *C. scabriventris* K. by G.E.J.N., 5.10.33. (♀, BMNH).

Five additional females.

***Conostigmus seychellensis* Kieffer, 1912**

Conostigmus seychellensis Kieffer, 1912. *Trans. Linn. Soc. Lond. (zool.)* **15** : 50.

26; Silhouette, '08 Seychelles Exp.; *Conostigmus seychellensis* J. J. Kieffer Type; blue label "Type"; BMNH type-label; Seychelle Islands, Percy Sladen Trust Expedition 1913-170. (♂ BMNH).

Unique.

***Conostigmus subfilicornis* Kieffer, 1907**

Conostigmus subfilicornis Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 121.

Bishopton; BMNH type-label "Type G.N."; Cameron Coll. 1909-182; 353; Selected as type of *C. subfilicornis* K. by G.E.J.N., 5.10.33. (♀, BMNH).

Six additional specimens.

***Conostigmus terrestris* Dodd, 1920**

Conostigmus terrestris Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 368.

BMNH type-label ; Victoria, Australia, C. French, 1912-491 ; *Conostigmus terrestris* Dodd Type. (♀, BMNH).

Unique.

***Conostigmus versicolor* Kieffer, 1907**

Conostigmus versicolor Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 93.

Mugdock 6.VIII ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 329 ; *Conostigmus versicolor* K. ; Selected as type for *C. versicolor* K. by G.E.J.N., 5.10.33. (♀, BMNH).

***Conostigmus wollastoni* Dodd, 1920**

Conostigmus wollastoni Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 367.

Pl ; BMNH type-label ; St. Helena, Wollaston, 77.104 ; *Conostigmus wollastoni* Dodd ♀ Type. (BMNH).

One additional female. Belongs most probably to *Lygocerus* Först.

LAGYNODES Förster, 1840***Lagynodes xanthus* Whittaker, 1930**

Lagynodes xanthus Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 72.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 10.VI.28, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 3555, *Lagynodes xanthus* Whitt. ♀ Det. O. Whittaker. (BMNH).

Two additional female paratypes (caught 18.VII.29 and 17.IX.29 from typical locality).

LYGOCERUS Förster, 1856***Lygocerus aphidivorus* Kieffer, 1907**

Lygocerus aphidivorus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 50.

Kelvin, 10/6 ; Cameron Coll. 1909-182 ; BMNH type-label "Lectotype L.M." ; *Lygocerus aphidivorus* Kieff. Det. L. Masner 1961 ; Selected as lectotype by L. Masner, 21.XI.1961. (♀, BMNH).

In addition, one male and one female.

***Lygocerus bicolor* Kieffer, 1907**

Lygocerus bicolor Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 62.

Galloway ; Cameron Coll. 1909-182 ; 380 ; BMNH type-label "Lectotype L.M." ; *Lygocerus bicolor* K. ; Selected as lectotype by L. Masner, 21.XI.1961. (♀, BMNH).

One additional female.

***Lygocerus breadalbimensis* Kieffer, 1907**

Lygocerus breadalbimensis Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 54.

BMNH type-label ; Cameron Coll. 1909-182 ; 104 ; *Megaspilus breadalbimensis* Cam. type, Ben Lawers, at a height of 3960 feet, running over stone with No. 1 ; *breadalbimensis* (Cam.) K. ; *Lygocerus breadalbimensis* Cam. K. (♀, BMNH).

Unique.

***Lygocerus cameroni* Kieffer, 1907**

Lygocerus cameroni Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 57.

York ; Cameron Coll. 1909-182 ; 384 ; *Lygocerus cameroni* K. ; BMNH type-label "Lectotype L.M." ; Selected as lectotype by L. Masner, 21.XI.61. (♀, BMNH).

One additional female.

***Lygocerus frenalis* Kieffer, 1907**

Lygocerus frenalis Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 48.

Loch Libo ; Cameron Coll. 1909-182 ; *Lygocerus frenalis* K. ; 482 ; BMNH type-label "Lectotype L.M." ; Selected as lectotype by L. Masner, 21.XI.61. (♂, BMNH).

Unique. Right antenna broken off.

***Lygocerus fusciventris* Kieffer, 1907**

Lygocerus fusciventris Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 47.

Cameron Coll. 1909-182 ; *Lygocerus fusciventris* K. ; 374 ; BMNH type-label "Lectotype L.M." ; Selected as lectotype by L. Masner, 21.XI.61. (♂, BMNH).

Unique.

***Lygocerus rectangularis* Kieffer, 1907**

Lygocerus rectangularis Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 45.

Dumfries ; Dumfries ; 372 ; *Lygocerus rectangularis* K. ; BMNH type-label "Lectotype L.M." ; Cameron Coll. 1909-302 ; Determined by Dr. Kieffer ; Selected as lectotype by L. Masner, 21.XI.61. (♂, BMNH).

In addition, three males and two females.

Lygocerus rufiventris Kieffer, 1907

Lygocerus rufiventris Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 45.

439 ; *Lygocerus rufiventris* K. ; BMNH type-label "Lectotype L.M." ; Cameron Coll. 1910-302 ; Determined by Dr. Kieffer ; Selected as lectotype by L. Masner, 21.XI.61. (♀, BMNH).

One additional male.

Lygocerus semiramosus Kieffer 1907

Lygocerus semiramosus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 38.

Cadder ; Cameron Coll. 1909-182 ; 373 ; BMNH type-label "Lectotype L.M." ; *Lygocerus semiramosus* K. ; Selected as lectotype by L. Masner, 21.XI.61. (♂, BMNH).

Unique.

Lygocerus sordidipes Kieffer, 1907

Lygocerus sordidipes Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 63.

Bonar ; Cameron Coll. 1909-182 ; 483 ; *Lygocerus sordidipes* K. ; BMNH type-label "Lectotype L.M." ; Selected as lectotype by L. Masner, 21.XI.61. (♀, BMNH).

Unique.

Lygocerus subquadratus Kieffer, 1907

Lygocerus subquadratus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 42.

Clober, 13.V. ; Cameron Coll. 1909-182 ; 375 ; BMNH type-label "Lectotype L.M." ; *Lygocerus subquadratus* K. ; Selected as lectotype by L. Masner, 21.XI.61. (♂, BMNH).

Unique.

MEGASPILUS Westwood, 1829***Megaspilus dux*** (Curtis, 1829)

Ceraphron dux Curtis, 1829. *Brit. Ent.* **3** : 249.

BMNH type-label ; Dux ; *Ceraphron dux*, Curt. (♀, BMNH).

One additional male.

Megaspilus mandibularis Dodd, 1920

Megaspilus mandibularis Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 366.

BMNH type-label "Type H.T." ; Bundaberg, Qd., Austr., 1904 ; *Megaspilus mandibularis* Dodd ♀. (BMNH).

One additional female.

***Megaspilus rufimanus* Kieffer, 1907**

Megaspilus rufimanus Kieffer in André, 1907. *Spec. Hym. Eur. Alg.* **10** : 72.

Kingussie ; Cameron Coll. 1909-182 ; BMNH type-label "Lectotype L.M." ; 338 ; *Megaspilus rufimanus* K. ; Selected as lectotype by L. Masner, 25.XI.61. (♀, BMNH).

Unique.

TRICHOSTERESIS Förster, 1856***Trichosteresis vitripennis* Whittaker, 1930**

Trichosteresis vitripennis Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 72.

BMNH type-label ; red label "Type" ; Chilliwack, B.C., 16.VI.27, Coll. O.W. ; Canada ; O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 3118, *Trichosteresis vitripennis* Whitt. ♀ Det. O. Whittaker. (BMNH).

Unique.

Family **DIAPRIIDAE**Subfamily **DIAPRIINAE*****ABOTHROPRIA* Kieffer, 1913*****Abothropria lloydi* Ferrière, 1935**

Abothropria lloydi Ferrière, 1935. *Mitt. schweiz. ent. Ges.* **16** : 338.

BMNH type-label ; Tanganyika, Bugambwa, 7.VI.1933, J. E. M. Lloyd ; Ex *Glossina palpalis* pup. ; Pres. by Imp. Inst. Ent., B.M. 1935-231 ; *Abothropria lloydi* Ch. Ferrière ♀ Type. (BMNH).

Fourteen paratypes (♀♀, ♂♂).

ACANTHOPRIA Ashmead, 1896***Acanthopria crassicornis* Ashmead, 1896**

Acanthopria crassicornis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 804.

St. John's Riv. (Leeward side), Grenada, W.I., H. H. Smith, 19 ; BMNH type-label "Type H.T." ; *Acanthopria crassicornis* Ashm. ♀ Type. (BMNH).

Two more males, one of them labelled as type.

***Acanthopria triangularis* (Ashmead, 1896) comb. n.**

Tropidopria triangularis Ashmead, 1896. *J. Linn. Soc. Lond. (Zool.)* **25** : 249.

St. Vincent, W. I., H. H. Smith ; *Tropidopria triangularis* Ashm. ♂. Selected as lectotype by L. Masner, 22.XI.1961. (♂, BMNH).

ACIDOPRIA Kieffer, 1913***Acidopria spinosiceps*** Dodd, 1920

Acidopria spinosiceps Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 380.

BMNH type-label ; Kuching, J. H., P. Cameron Coll. 1914-110 ; *Brachyaulax erythrocerus* Cam. Type, Borneo ; *Acidopria spinosiceps* Dodd ♀ Type. (BMNH).

Unique. The club is not abrupt.

ANEURHYNCHUS Westwood, 1832***Aneurhynchus galesiformis*** Westwood, 1832

Aneurhynchus galesiformis Westwood, 1832. *Phil. Mag.* **1** : 129.

Rose label "Aneurhynchus Westw. in *Phil. Mag.* ; rose label "galesiformis Westw. ; 11 June 26 Chelsea ; Selected as lectotype by L. Masner, 4.XII.61. (♂, OUM).

Pinned. One additional pinned male.

Aneurhynchus indicus Dodd, 1920

Aneurhynchus indicus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 382.

BMNH type-label ; Kangra Valley, 4500 ft., Apr. 1899, Dudgeon ; Punjab, G. C. Dudgeon, 1903-37 ; *Aneurhynchus indicus* Dodd ♀. (BMNH).

Unique.

Aneurhynchus obliquus Kieffer, 1911

Aneurhynchus obliquus Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 827.

Dumf. ; BMNH type-label ; 437 ; Cameron Coll. 1910-55 ; *obliquus* K. (♂, BMNH).

One additional male.

ASOLENOPSISIA Kieffer, 1921***Asolenopsia schwarzmaieri*** Borgmeier, 1939

Asolenopsia schwarzmaieri Borgmeier, 1939. *Rev. Ent. Rio de J.* **10** : 542.

Campinas goyas E. pseudops 686 4.2.36 ; red label "Cotypus" ; Campinas Goiás Schwarzmaier ; *Asolenopsia schwarzmaieri* Borgm. Paratype det. Borgmeier ; Brit. Mus. 1950-553. (♀ paratype, BMNH).

BAKERIA Kieffer, 1905***Bakeria rugosa*** Dodd, 1920

Bakeria rugosa Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 377.

Omiteme, Guerrero, 8000 ft., Aug., H. H. Smith ; Godman-Salvin Coll. 1904-1 ; BMNH type-label ; *Bakeria rugosa* Dodd ♀. (BMNH).

Unique. Left fore-wing and right hind wing broken off. Most probably represents a new genus.

BASALYS Westwood, 1833***Basalys atricrus*** (Kieffer, 1911) **comb. n.**

Loxotropa atricrus Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 941.

BMNH type-label ; 458 ; Cameron Coll. 1910-55 ; atricrus K. (♂, BMNH).
One other male, named by Kieffer.

Basalys collaris Kieffer, 1911

Basalys collaris Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 903.

York ; BMNH type-label ; 225 ; Cameron Coll. 1910-55 ; Collaris K. (♀, BMNH).

Unique.

Basalys fumipennis Westwood, 1833

Basalys fumipennis Westwood, 1833. *Phil. Mag.* **3** : 343.

Cb July 3 ; *Diapria striolata* Esnb ; Differs from *D. striolata* in not having pitchy legs & pitchy brown antenna. Similar except 4th joint of antenna being more nodose in *D. striolata* ; *Basalys fumipennis* Westw. Mnr. Lewis ; Selected as lectotype by L. Masner 4.XII.61. (♂, OUM).

Remaining specimens belong to *Basalys* Westw. (part.) and other Diapriid genera.

Basalys rufiscapus Kieffer, 1911 – see ***Loxotropa*** Först.***Basalys scotica*** (Kieffer, 1911) **comb. n.**

Loxotropa scotica Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 942.

BMNH type-label ; 462 ; Cameron Coll. 1910-55 ; scotica K. (♂, BMNH).
Two additional males.

CALOGALESUS Kieffer, 1912***Calogalesus parvulus*** Kieffer, 1912

Calogalesus parvulus Kieffer in Wytsman, 1912. *Genera Insectorum*, **124** : 43.

BMNH type-label "Type H.T." ; Mahe, '08-9 Seychelles Exp. ; *Calogalesus parvulus* J. J. Kieffer, Type ; blue label "Type". (♀, BMNH).

Unique. Parapsidal furrows present !

DIAPRIA Latreille, 1796

(= **TROPIDOPRIA** Ashmead, 1893)

Diapria tetratoma Kieffer, 1911 – see ***Trichopria*** Ashm.

ENTOMACIS Förster, 1856(= **SCHIZOPRIA** Kieffer, 1912 **syn. n.**)**Entomacis curticornis** Kieffer, 1912*Entomacis curticornis* Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 70.

97 ; Mahe, '08-09 Seychelles Exp. ; *Entomacis curticornis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).

One additional female.

Entomacis fallax (Kieffer, 1912) **comb. n.***Schizopria fallax* Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 68.

103 ; Silhouette, '08 Seychelles Exp. ; *Schizopria fallax* J. J. Kieffer Type ; red label "Figured specimen" ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Two additional females.

Entomacis flaviclava (Kieffer, 1912) **comb. n.***Schizopria flaviclava* Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 69.

High jungle, 126 ; Silhouette '08 Seychelles Exp. ; *Schizopria flaviclava* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Unique.

Entomacis latipennis (Ashmead, 1894)*Hemilexis latipennis* Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 244.

1800 feet ; square black label ; St. Vincent, W.I., H. H. Smith ; BMNH type-label "Type H.T." ; *Hemilexis latipennis* Ashm. ♂ Type. (BMNH).

Unique. Type lost from the pin.

HEMILEXODES Ashmead, 1893***Hemilexodes paucisetis*** (Dodd, 1920) – see ***Spilomicrus*** Westw.**HOPLOPRIA** Ashmead, 1893***Hoplopria affinis*** Dodd, 1920*Hoplopria affinis* Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 375.

Teapa, Tabasco, March, H.H.S. ; Godman-Salvin Coll. 1904-1 ; BMNH type-label "Type H.T." ; *Hoplopria affinis* Dodd ♀. (BMNH).

One female from the same locality cited as cotype by Dodd but not marked as such.

Hoplopria aterrима Dodd, 1920*Hoplopria aterrима* Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 373.

BMNH type-label "Lectotype by L. Masner"; Kuching, J. H.; P. Cameron Coll. 1914-110; *Brachyaulax striaticollis* Cam. Type Borneo; *Hoplopria aterrима* Dodd ♀; Selected as lectotype by L. Masner 25.XI.61. (♀, BMNH).

One male marked by Dodd also as type (i.e. allotype).

Hoplopria canaliculata (Cameron, 1888)*Paramesius canaliculatus* Cameron, 1888. *Biol. Centr. Amer. Hym.* **1** : 439.

Cordova; Mexico Salle Coll.; BMNH type-label "Type H.T."; B.C.A. Hymen. I. *Paramesius canaliculatus* Cam.; *Paramesius canaliculatus* Cam. Type. (♀, BMNH).

Unique.

Hoplopria fasciatipennis (Cameron, 1888)*Paramesius fasciatipennis* Cameron, 1888. *Biol. Centr. Amer. Hym.* **1** : 437.

Bugaba, Panama, Champion; BMNH type-label "Type H.T."; B. C. A. Hymen. I. *Paramesius fasciatipennis* Cam.; *Paramesius fasciatipennis* Cam. (Type). (♀, BMNH).

Two more females and one male.

Hoplopria maculipennis (Cameron, 1888)*Paramesius maculipennis* Cameron, 1888. *Biol. Centr. Amer. Hym.* **1** : 438.

Senahu, Vera Paz, Champion; BMNH type-label "Type H.T."; B. C. A. Hymen. I. *Paramesius maculipennis* Cam.; *Paramesius maculipennis* Cam. Type. (♀, BMNH).

One additional male; two females from another locality.

Hoplopria obsoleta Dodd, 1920*Hoplopria obsoleta* Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 375.

Omiteme, Guerrero, 8000 ft., Aug., H. H. Smith; Godman Salvin Coll. 1904-1; BMNH type-label "Type H.T."; *Hoplopria obsoleta* Dodd ♀. (BMNH).

Unique.

Hoplopria wallacei Dodd, 1920*Hoplopria wallacei* Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 374.

Born.; Borneo, Wallace; *Hoplopria wallacei* Dodd ♀ type; Type Hym. 44 *Hoplopria wallacei* Dodd; Hope Dept. Oxford. (♀, OUM).

Unique.

IDIOTYPA Förster, 1856(= **NEOPRIA** Dodd, 1915 **syn. n.**)**Idiotypa tinctipennis** (Cameron, 1888) **comb. n.***Spilomicrus tinctipennis* Cameron, 1888. *Biol. Centr. Amer. Hym.* **1** : 440.Bugaba Banania, Champion ; B. C. A. Hymen. I. *Spilomicrus tinctipennis* Cam. ; BMNH type-label "Type H.T." ; *Spilomicrus tinctipennis* Cam., B.C.A., ii, 440. (♀, BMNH).

Unique.

LABOLIPS Haliday, 1857***Labolips anommati*** Morley, 1931 – see ***Synacra*** Först. (Belytinae)**LOXOTROPA** Förster, 1856***Loxotropa atricrus*** Kieffer, 1911 – see ***Basalys*** Westw.***Loxotropa bifoveata*** Kieffer, 1911*Loxotropa bifoveata* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 940.BMNH type-label ; 467 ; Cameron Coll. 1910–55 ; *bifoveata* K. (♂, BMNH).
Unique.***Loxotropa ciliata*** Kieffer, 1911*Loxotropa ciliata* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 943.Dumfries ; BMNH type-label "Type G.N." ; Dumfries ; 269 ; *Loxotropa ciliata* K. ; Cameron Coll. 1910–302 ; Selected as type of *Loxotropa ciliata* K. by G.E.J.N., 1934. (♂, BMNH).***Loxotropa convexa*** Kieffer, 1911*Loxotropa convexa* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 932.BMNH type-label ; Cameron Coll. 1910–55 ; *convexa* K. (♀, BMNH).
One additional female.***Loxotropa cursitans*** Kieffer, 1911*Loxotropa cursitans* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 916.Eccles ; BMNH type-label ; 208 ; Cameron Coll. 1910–55 ; *cursitans* Kieff. (♀, BMNH).***Loxotropa donisthorpei*** Kieffer, 1913 – see ***Trichopria*** Ashm.

***Loxotropa exsul* Kieffer, 1912**

Loxotropa exsul Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 70.

Silhouette, '08 Seychelles Exp. ; *Loxotropa exsul* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-1910. (♀, BMNH).

Gaster broken off. One male also.

***Loxotropa flavidipes* (Kieffer, 1911) comb. n.**

Ceratopria flavipes Ashmead, 1895. *Proc. zool. Soc. Lond.* : 807, nec Ashmead, 1893.

Balthazar (Windward side), Grenada, W.I., H. H. Smith ; BMNH type-label "Type H.T." ; *Ceratopria flavipes* Ashm. ♀ Type. (BMNH).

Unique.

***Loxotropa formicarum* Kieffer, 1911**

Loxotropa formicarum Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 944.

Loxotropa formicarum ♂ ; Darenth Wood, 24.IX.1909 ; BMNH type-label (♂, BMNH).

Unique.

***Loxotropa fuliginosi* Box, 1921**

Loxotropa fuliginosi Box, 1921. *Ent. Rec.* **33** : 16.

Loxotropa fuliginosi ; Woking, 30.V.20 ; BMNH type-label. (♀, BMNH).

Unique.

***Loxotropa grenadae* (Kieffer, 1911) comb. n.**

Ceratopria grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 807, nec Ashmead, 1896, p. 803.

Mount Gay Est. (Leeward side), Grenada, W.I., H. H. Smith, 25 ; BMNH type-label "Type H.T." ; *Ceratopria granadensis* (!) Ashm. ♀ Type. (BMNH).

Unique.

***Loxotropa grenadensis* Ashmead, 1896**

Loxotropa grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 803.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; BMNH type-label "Type H.T." ; *Loxotropa granadensis* (!) Ashm. ♀ Type. (BMNH).

One other female belonging to *Trichopria* Ashm.

***Loxotropa longipennis* Kieffer, 1911**

Loxotropa longipennis Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 932.

Mull ; BMNH type-label ; 211 ; Cameron Coll. 1910-55 ; longipennis K. (♀, BMNH).

Unique.

***Loxotropa luctuosa* Kieffer, 1911**

Loxotropa luctuosa Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 941.

Dumfries ; BMNH type-label ; 470 ; Cameron Coll. 1910-55 ; luctuosa K. (♂, BMNH).

Unique.

***Loxotropa macroptera* Kieffer, 1911**

Loxotropa macroptera Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 929.

Loch Awe ; BMNH type-label ; 227 ; Cameron Coll. 1910-55 ; macroptera K. (♀, BMNH).

Unique.

Loxotropa morleii* Morley, 1931 – see *Trichopria* Ashm.**Loxotropa mullensis* n. n.**

Basalys rufiscapus Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 909, nec Nees, 1834, nec Haliday, 1857.

Mull ; BMNH type-label ; 243 ; Cameron Coll. 1910-55 ; rufiscapus K. (♂ BMNH).

Unique.

***Loxotropa nigricornis* var. *subterranea* Kieffer, 1911**

Loxotropa nigricornis var. *subterranea* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 939.

Loxotropa subterranea ; Blackgang Chine, Aug. 17th, 1908 ; BMNH type-label. (♂, BMNH).

Unique. Most probably belongs to *Trichopria* Ashm.

***Loxotropa pedestris* Kieffer, 1907**

Loxotropa pedestris Kieffer, 1907. *Berl. ent. Z.* **51** : 302.

Uxbridge ; BMNH type-label ; *Loxotropa pedestris* Kieffer. Named by J. J. Kieffer. (♀, BMNH).

Unique.

Loxotropa pleuralis Ashmead, 1896*Loxotropa pleuralis* Ashmead, 1896. *Proc. zool. Soc. London* **1895** : 803.

Balthazar (Windward side), Grenada, W.I., H. H. Smith ; BMNH type-label "Type H.T." ; *Loxotropa pleuralis* Ashm. ♀ Type. (BMNH).
 Unique.

Loxotropa rufiscapa (Kieffer, 1911) – see ***Loxotropa mullensis*** n. n.

Loxotropa scotica Kieffer, 1911 – see ***Basalys*** Westw.

Loxotropa semirufa Kieffer, 1912*Loxotropa semirufa* Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 70.

19 ; Silhouette, '08 Seychelles Exp. ; *Loxotropa semirufa* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913–170. (♂, BMNH).
 Unique.

Loxotropa sulcata Kieffer, 1911*Loxotropa sulcata* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 931.

Claddich ; BMNH type-label ; 465 ; Cameron Coll. 1910–55 ; *sulcata* K. (♀, BMNH).

One additional male (named by Kieffer).

Loxotropa thoracica Ashmead, 1894*Loxotropa thoracica* Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 249.

Leeward side, St. Vincent, W.I., H. H. Smith 242 ; BMNH type-label "Type H.T." ; *Loxotropa thoracica* Ashm. ♀ Type. (BMNH).
 Unique. Head broken off.

Loxotropa tricarinata Cameron, 1912 – see ***Trichopria*** Ashm.

Loxotropa unifoveata Kieffer, 1911*Loxotropa unifoveata* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 943.

Navae ; BMNH type-label ; 527 ; Cameron Coll. 1910–55 ; *unifoveata* K. (♂, BMNH).
 Unique.

MALVINA Cameron, 1889**Malvina punctata** Cameron, 1889

Malvina punctata Cameron, 1889. *Mem. Manchv. lit. phil. Soc.* (IV) 2 : 13.

BMNH type-label ; Cameron Coll. 98-124 ; Greymouth ; *Malvina punctata* Cam. Type New Zealand ; Descr. "New Hymenoptera", *Mem. & Proc. Manchester Lit. & Philos. Soc.* (Ser. IV, Vol. 2). (♀, BMNH).

Three additional females.

Malvina quadriceps (F. Smith, 1878) **comb. n.**

Spilomicrus quadriceps F. Smith, 1878. *Trans. ent. Soc. Lond.* 1878 : 6.

New Zeal. ; BMNH type-label ; New Zeal. ; *Spilomicrus quadriceps* Sm. (Type). (♂, BMNH).

Unique.

MANTARA Dodd, 1920**Mantara bifurcata** Dodd, 1920

Mantara bifurcata Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 380.

1081 ; BMNH type-label ; Madeira, Wollaston, 55.7. ; *Mantara bifurcata* Dodd ♀. (BMNH).

One more male and female. Parapsidal furrows wanting, suture between scutellum and mesoscutum present, scutellum with a shallow pit.

MICROGALESUS Kieffer, 1912**Microgalesus quadridens** Kieffer, 1912

Microgalesus quadridens Kieffer in Wytsman, 1912. *Genera Insectorum* 124 : 43.

BMNH type-label "Type H.T." ; Mahe, '08-9 Seychelles Exp. ; *Microgalesus quadridens* J. J. Kieffer Type. (♀, BMNH).

Unique. Head broken off.

MIMOPRIA Holmgren, 1908**Mimopria barbata** Borgmeier, 1939

Mimopria barbata Borgmeier, 1939. *Rev. Ent. Rio de J.* 10 : 534.

Eciton crassicorne ; Campinas Goiás, 9.III.36, Schwarzmaier ; red label "Cotypus" ; *Mimopria barbata* Borg. Paratype det. Borgmeier ; Brit. Mus. 1950-533. (♀ paratype, BMNH).

Unique.

Mimopria comes Borgmeier, 1939

Mimopria comes Borgmeier, 1939. *Rev. Ent. Rio de J.* **10** : 532.

Campinas Goias, Schwarzmaier, 24.I.30, E. crassicornis ; red label "Cotypus" ; *Mimopria comes* Borgm. Paratype det. Borgmeier ; Brit. Mus. 1950-533. (♀ paratype, BMNH).

Unique. Head broken off.

Mimopria splendens Borgmeier, 1939

Mimopria splendens Borgmeier, 1939. *Rev. Ent. Rio de J.* **10** : 534.

Campinas Goyas (!) E. goeldii, 756, 15.4.36 ; red label "Cotypus" ; *Mimopria splendens* B. Paratype det. Borgmeier ; Brit. Mus. 1950-533. (♀ paratype, BMNH).

Unique. Pinned.

MONELATA Förster, 1856***Monelata nigra*** Whittaker, 1930

Monelata nigra Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 133.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 8.IX.29, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212, 4379, *Monelata nigra*, Whitt. ♀ Det. O. Whittaker. (♀, BMNH).

One paratype female.

NEIVAPRIA Borgmeier, 1939***Neivapria penicillata*** Borgmeier, 1939

Neivapria penicillata Borgmeier, 1939. *Rev. Ent. Rio de J.* **10** : 544.

Campinas Goyas, Schwarzmaier ; red label "Cotypus" ; *Neivapria penicillata* Borgmeier Paratype det. Borgmeier ; Brit. Mus. 1950-533. (♀ paratype, BMNH).

Unique. Head broken off.

NEUROGALESUS Kieffer, 1907***Neurogalesus carinatus*** Kieffer, 1907

Neurogalesus carinatus Kieffer, 1907. *Berl. ent. Z.* **51** : 298.

BMNH type-label ; Mackay, 3.01 ; Queensland, R. E. Turner, 1907-94. *Neurogalesus carinatus* Kieff. ♀ Type. Named by J. J. Kieffer. (♀, BMNH).

Unique. Head broken off.

NOTOXOPRIA Kieffer, 1910***Notoxopria pedissequa*** Borgmeier, 1939

Notoxopria pedissequa Borgmeier, 1939. *Rev. Ent. Rio de J.* **10** : 538.

Campinas Goyas, Schwarzmaier ; red label "Cotypus" ; *Notoxopria pedissequa* Borgm. Paratype det. Borgmeier ; Brit. Mus. 1950-533. (♀ paratype, BMNH).
Unique. Pinned.

PARAMESIUS Westwood, 1832***Paramesius dentatus*** Kieffer, 1911.

Paramesius dentatus Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 768.

Mug. 28/7 ; BMNH type-label ; 253 ; Cameron Coll., 1910-55 ; *dentatus* K. (♂, BMNH).

One additional male.

Paramesius longior Dodd, 1920

Paramesius longior Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 378.

BMNH type-label ; J. Hewitt ; J.2 ; P. Cameron Coll., 1914-110 ; *Brachyaulax rufipes* Cam. ♀ Type, Borneo ; *Paramesius longior* Dodd ♀. (♀, BMNH).

Holotype slightly damaged. One additional male.

Paramesius minor (Kieffer, 1911) **comb. n.**

Spilomicrus minor Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 791.

Dalry ; BMNH type-label ; 242 ; Cameron Coll. 1910-55 ; *minor* K. (♀, BMNH).

One additional female.

Paramesius nigricornis Kieffer, 1911

Paramesius nigricornis Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 764.

Galloway ; BMNH type-label ; 265 ; Cameron Coll. 1910-55 ; *nigricornis* K. (♀, BMNH).

Unique.

Paramesius rufipes Westwood, 1832

Paramesius rufipes Westwood, 1832. *Phil. Mag.* **1** : 129.

Selected as lectotype by L. Masner, 4.XII.61 ; rose label "Paramesius Westw. in Phil. Mag." ; R 26 ; 51 ; rose label "rufipes Westw." ; Wandsw. C. Aug. 23. (♂, OUM).

Three males and three females more.

PENTAPRIA Kieffer, 1905***Pentapria chiriquensis*** (Cameron, 1888)

Paramesius chiriquensis Cameron, 1888. *Biol. Centr. Amer. Hym.* **1** : 439.

V. de Chiriqui, 8000 ft., Champion ; B. C. A. Hymen. I. *Paramesius chiriquensis* Cam. ; BMNH type-label "Type H.T." ; *Paramesius chiriquensis* Cam. p. 439. (♀, BMNH).

Unique.

PHILOLESTES Kieffer, 1922***Philolestes pronotalis*** Borgmeier, 1939

Philolestes pronotalis Borgmeier, 1922. *Rev. Ent. Rio de J.* **10** : 536.

Eciton dulcius ; Campinas Goiás, 5.XI.33, Schwarzmaier ; red label "Cotypus" ; *Philolestes pronotalis* Borgm. Paratype det Borgmeier ; Brit. Mus. 1950-533. (♀ paratype, BMNH).

Unique. Pinned.

PLATYMISCHOIDES Ashmead, 1901***Platymischoides molokaiensis*** Ashmead, 1901

Platymischoides molokaiensis Ashmead in Perkins, 1901. *Fauna Hawaii.* **1** : 296.

163 ; BMNH type-label "Type H.T." ; Molokai Mts., Perkins, IX. 1893 ; Sandwich Is. 1912-215 ; *Platymischoides molokaiensis* Ashm. ♀ Type. (BMNH).

One additional female.

PLATYMISCHUS Westwood, 1832

(= **PLANOPRIELLA** Kieffer, 1912)

Platymischus dilatatus Westwood, 1832

Platymischus dilatatus Westwood, 1832. *Phil. Mag.* **1** : 128.

G.N. 194 *dilatatus* Steph. Cat. p. 399 ; *dilatatus* Steph. (rose label) ; rose label "Platymischus Westw. in Phil. Mag. (♂, OUM).

Right antenna (joints 5-14) broken off.

Platymischus pedestris (Kieffer, 1911)

Planopria pedestris Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 896.

Planopria pedestris ; Luccombe Chine, I.VIII.1909 ; BMNH type-label.

Unique. Considered synonym of *P. dilatatus* Westw. by Pschorn (1957). Synonymy confirmed.

PSILUS Panzer, 1801(= **GALESUS** Haliday, 1829, **SCHIZOGALESUS** Kieffer, 1911)***Psilus abdominalis*** (Nixon, 1930) **comb. n.***Galesus abdominalis* Nixon, 1930. *Ann. Mag. nat. Hist.* **6** : 406.BMNH type-label ; Port St. John, Pondoland, July 10-31.1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-398 ; *Galesus abdominalis* Nixon, 1930. Type ♀ (BMNH).

One male (as type), 2 females and 1 male paratypes.

Psilus bidens (Nixon, 1930) **comb. n.***Galesus bidens* Nixon, 1930. *Ann. Mag. nat. Hist.* **6** : 403.BMNH type-label ; Mossel Bay, Cape Province, October, 1921 ; S. Africa, R. E. Turner, Brit. Mus. 1921-450 ; *Galesus bidens* Nixon, 1930. Type ♀ (BMNH).

One male (as type), 9 paratypes (♀♂).

Psilus cameroni (Kieffer, 1911) **comb. n.***Galesus cameroni* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 865.BMNH type-label ; 403 ; Cameron Coll. 1910-55 ; *Cameroni* K. (♀, BMNH).

One additional female.

Psilus cratocerus (Cameron, 1912) **comb. n.***Galesus cratocerus* Cameron, 1912. *Soc. ent.* **27** : 69.BMNH type-label ; Kuching, J. H. ; P. Cameron Coll. 1914-110 ; *Galesus cratocerus* Cam. Borneo. (♂, BMNH).

Unique. Antennae almost broken off.

Psilus difficilis (Nixon, 1930) **comb. n.***Galesus difficilis* Nixon, 1930. *Ann. Mag. nat. Hist.* (10) **6** : 410.BMNH type-label ; Mossel Bay, Cape Province, Febr. 1922 ; S. Africa, R. E. Turner, Brit. Mus. 1922-97 ; *Galesus difficilis* Nixon, 1930. ♀ Type. (BMNH).

One male (as type), 14 paratypes (♀♂).

Psilus distinctus (Nixon, 1930) **comb. n.***Galesus distinctus* Nixon, 1930. *Ann. Mag. nat. Hist.* (10) **6** : 405.BMNH type-label ; S. Africa, R. E. Turner, Brit. Mus. 1921-315 ; Mossel Bay, Cape Province, 5-31.VII.1921 ; *Galesus distinctus* Nixon, 1930. ♀ Type. (BMNH).

Unique

***Psilus fissus* (Wollaston, 1858) comb. n.**

Galesus fissus Wollaston, 1858. *Ann. nat. Hist.* **1** : 25.

BMNH type-label ; Madeira, Wollaston, 55.7 ; blue label *Galesus fissus*, W. (♀, BMNH).

In addition, four females and one male.

***Psilus gracilipes* (Kieffer, 1907) comb. n.**

Galesus gracilipes Kieffer, 1907. *Berl. ent. Z.* **51** : 302.

BMNH type-label ; *Galesus gracilipes* Kieffer, named by J. J. Kieffer ; milleri. (♂, BMNH).

Unique.

***Psilus hispanicus* (Kieffer, 1911) comb. n.**

Galesus mayeti var. *hispanicus* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 845.

Gibraltar ; BMNH type-label ; Gibraltar ; Cameron Coll. 1910-55 ; 401 ; Mayeti K. v. hispanicus K. (♀, BMNH).

Unique.

***Psilus inquisitor* (Nixon, 1930) comb. n.**

Galesus inquisitor Nixon, 1930. *Ann. Mag. nat. Hist.* (10) **6** : 404.

BMNH type-label ; Mossel Bay, Cape Province, 5-31.VII.1921 ; S. Africa, R. E. Turner, Brit. Mus. 1921-315 ; *Galesus inquisitor* Nixon, 1930. ♀ Type. (BMNH).

One male (as type), 24 paratypes (♀♂).

***Psilus longiceps* (Nixon, 1930) comb. n.**

Galesus longiceps Nixon, 1930. *Ann. Mag. nat. Hist.* (10) **6** : 410.

BMNH type-label ; Port St. John, Pondoland, Sept. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-510 ; *Galesus longiceps* Nixon, 1930. Type ♀. (BMNH).

One male (as type).

***Psilus magnificus* (Nixon, 1930) comb. n.**

Galesus magnificus Nixon, 1930. *Ann. Mag. nat. Hist.* (10) **6** : 408.

BMNH type-label ; Natal, Kloof, 1500 ft., Sept. 1926 ; S. Africa, R. E. Turner, Brit. Mus. 1926-404 ; *Galesus magnificus* Nixon, 1930. ♀ Type. (BMNH).

One female (paratype).

***Psilus modestus* (Nixon, 1930) comb. n.**

Galesus modestus Nixon, 1930. *Ann. Mag. nat. Hist.* (10) 6 : 408.

BMNH type-label ; Port St. John, Pondoland, July 10-31.1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-398 ; *Galesus modestus* Nixon. ♀ Type. (BMNH).
One female (paratype).

***Psilus muscidorum* (Dodd, 1920) comb. n.**

Galesus muscidorum Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 381.

BMNH type-label "Type H.T." ; reared from pupa found in palpalis breeding ground. Similar holes can often be found in palpalis pupae. G. D. H. Carpenter, Uganda, Aug. 10.1910 ; 1911-115 ; *Galesus muscidorum* Dodd ♀. (BMNH).
Unique.

***Psilus parvulus* (Kieffer, 1911) comb. n.**

Galesus parvulus Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* 10 : 853.

Clober ; BMNH type-label ; 407 ; Cameron Coll. 1910-55 ; *parvulus* K. (♂, BMNH).
Unique.

***Psilus punctulatus* (Kieffer, 1907) comb. n.**

Galesus punctulatus Kieffer, 1907. *Berl. ent. Z.* 51 : 301.

BMNH type-label ; blue round label "Pt. Natal, 56 63 ; *Galesus punctulatus* Kieffer. Named by J. J. Kieffer. (♂, BMNH).
Unique. Gaster broken off.

***Psilus quadridens* (Nixon, 1930) comb. n.**

Galesus quadridens Nixon, 1930. *Ann. Mag. nat. Hist.* (10) 6 : 402.

BMNH type-label ; Natal, Van Reenen, Drakensberg, 1-22.I.1927 ; S. Africa, R. E. Turner, Brit. Mus. 1927-54 ; *Galesus quadridens* Nixon, 1930. Type ♀. (BMNH).
One male (as type), 11 paratypes (♀♂).

***Psilus rectangularis* (Nixon, 1930) comb. n.**

Galesus rectangularis Nixon, 1930. *Ann. Mag. nat. Hist.* (10) 6 : 406.

BMNH type-label ; Port St. John, Pondoland, Nov. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1924-6 ; *Galesus rectangularis* Nixon, 1930, ♀ Type. (BMNH).
One male (as type), three females as paratypes.

***Psilus silvestrii* (Kieffer, 1913) comb. n.**

Galesus silvestrii Kieffer, 1913. *Boll. Lab. Zool. Portici* 7 : 91.

Olokemeji, Dec. 9/2 ; 1919-116 ; BMNH type-label "Cotype" ; *Galesus Silvestrii* Kieff. Cotypi (!). (♂ paratype, BMNH).

Two additional males.

***Psilus silvestrii* var. *nigricornis* (Nixon, 1930) comb. n.**

Galesus silvestrii var. *nigricornis* Nixon, 1930. *Ann. Mag. nat. Hist.* (10) 6 : 412.

BMNH type-label ; Mossel Bay, Cape Province, Dec. 1921 ; S. Africa, R. E. Turner, Brit. Mus. 1922-25 ; *Galesus silvestrii* Kieff. var. *nigricornis* Nixon. (♂, BMNH).

Three more males (paratypes).

***Psilus turneri* (Nixon, 1930) comb. n.**

Galesus turneri Nixon, 1930. *Ann. Mag. nat. Hist.* (10) 6 : 409.

BMNH type-label ; Port St. John, Pondoland, Oct. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-547 ; *Galesus turneri* Nixon, 1930. ♀ Type. (BMNH).

One male as type, three paratypes (♀♂).

***Psilus turneri* var. *carinaticeps* (Nixon, 1930) comb. n.**

Galesus turneri var. *carinaticeps* Nixon, 1930. *Ann. Mag. nat. Hist.* (10) 6 : 409.

BMNH type-label ; Mossel Bay, Cape Province, Oct. 1921 ; S. Africa, R. E. Turner, Brit. Mus. 1921-450 ; *Galesus turneri* v. *carinaticeps* Nixon, 1930. ♀ Type. (BMNH).

One male (as type) and one male paratype.

SPILOMICRUS* Westwood, 1832**Spilomicrus annulicornis* Kieffer, 1911**

Spilomicrus annulicornis Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* 10 : 788.

Mickleham ; BMNH type-label ; 249 ; Cameron Coll. 1910-55 ; *annulicornis* K. (♀, BMNH).

Unique.

***Spilomicrus crassiclavus* Kieffer, 1911**

Spilomicrus crassiclavus Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* 10 : 788.

Bishopston ; BMNH type-label ; 425 ; Cameron Coll. 1910-55 ; *crassiclavus* K. (♂, BMNH).

Unique. No female specimen!

***Spilomicrus integer* var. *variicornis* Kieffer, 1911**

Spilomicrus integer var. *variicornis* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 777.

BMNH type-label ; 465 ; Cameron Coll. 1910-55 ; integer K. v. ; integer var. *variicornis* (!) K. (♀, BMNH).

Unique.

Spilomicrus minor* Kieffer, 1911 – see *Paramesius* Westw.**Spilomicrus myrmecophilus* Nixon, 1947**

Spilomicrus myrmecophilus Nixon, 1947. *Ann. Mag. nat. Hist. (11)* **13** : 787.

BMNH type-label ; Mauritius, 26.X.1945, R. Mamet, 93 ; In nest of *Solenopsis mameti* Donis ; *Spilomicrus myrmecophilus* Nixon Type ♀ 1947. (BMNH).

Three additional females.

***Spilomicrus paucisetis* (Dodd, 1920) comb. n.**

Hemilexis paucisetis Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 377.

BMNH type-label ; Mt. Wellington, S. Tasmania, 12-21 Mch. 1913 ; 1,300 to 2,300 ft., R. E. Turner, 1913-212 ; *Hemilexis paucisetis* Dodd ♀. (BMNH).

Unique. Head broken off.

***Spilomicrus picicornis* (Cameron, 1913) comb. n.**

Hoplopria picicornis Cameron, 1913. *Timehri, (N.S.)* **3** : 136.

BMNH type-label ; 358 ; P. Cameron Coll. 1914-110 ; *Hoplopria picicornis* Cam. Type Br. Guiana. (♀, BMNH).

One more female. Transitional type between *Spilomicrus* Westw. and *Hoplopria* Ashm.

Spilomicrus quadriceps* F. Smith, 1878 – see *Malvina* Cam.**Spilomicrus stigmatalis* Westwood, 1832**

Spilomicrus stigmatalis Westwood, 1832. *Phil. Mag.* **1** : 129.

Spilomicrus stigmatalis ♀W, Westwood (Type), Chelsea in Windows April ; Type Hym : 32 *Spilomicrus stigmatalis* Westwood, Hope Dept. Oxford. (♀, OUM).

Unique.

***Spilomicrus tinctipennis* Cameron, 1888 – see *Idiotypa* Först.**

Spilomicrus tripartitus Kieffer, 1911

Spilomicrus tripartitus Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 792.

BMNH type-label ; 248 ; Cameron Coll. 1910-55 ; tripartitus K. (♀, BMNH).

TETRAMOPRIA Wasmann, 1899***Tetramopria donisthorpei*** Kieffer, 1911

Tetramopria donisthorpei Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 891.

Tetramopria donisthorpei ♂, Whitsand Bay, 14.IV.1909 ; BMNH type-label (♂, BMNH).

Unique.

Tetramopria donisthorpei var. ***femoralis*** Kieffer, 1911

Tetramopria donisthorpei var. *femoralis* Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 892.

Tetramopria femoralis ♂ Whitsand Bay, 16.IV.1909 ; BMNH type-label. (♂, BMNH).

Two more females.

TRICHOPRIA Ashmead, 1893

(= **PHAENOPRIA** Ashmead, 1893, **PLANOPRIA** Kieffer, 1908, **ORTHOPRIA** Kieffer, 1911, **ASHMEADOPRIA** Kieffer, 1912, **RHOPALOPRIA** Kieffer, 1912
syn. n. **NEODIAPRIA** Kieffer, 1916)

Trichopria affinis Ashmead, 1896 – see ***Trichopria neotropica*** n. n.

Trichopria angulifera (Ashmead, 1896) **comb. n.**

Phaenopria angulifera Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 810.

Balthazar (Windward side), Grenada, W.I., H. H. Smith ; BMNH type-label "Type H.T." ; *Phaenopria angulifera* Ashm. ♂ type. (BMNH).

Unique.

Trichopria balthazari (Ashmead, 1896) **comb. n.**

Phaenopria balthazari Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 811.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; BMNH type-label "Type H.T." ; *Phaenopria balthazari* Ashm. ♀ Type. (BMNH).

Unique.

Trichopria bifoveata Ashmead, 1896

Trichopria bifoveata Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 802.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; BMNH type-label "Type H.T." ; *Trichopria bifoveata* Ashm. ♀ Type. (BMNH).
Unique.

Trichopria cameroni (Kieffer, 1911) **comb. n.**

Phaenopria cameroni Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 881.

BMNH type-label ; suspecta Nees ; 231 ; Cameron Coll. 1910-55 ; Cameroni K. (♀, BMNH).

Unique. Antennae crushed but present.

Trichopria ciliaris Kieffer, 1911

Trichopria ciliaris Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 1000.

Clober, 1/6 ; BMNH type-label ; 229 ; *Diapria ciliaris* ; Cameron Coll. 1910-55 ; ciliaris K. (♀, BMNH).

Unique.

Trichopria clavatipes (Kieffer, 1911) **comb. n.**

Diapria clavatipes Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 978.

Bishopton ; BMNH type-label ; 267 ; Cameron Coll. 1910-55 ; clavatipes K. (♂, BMNH).

Unique.

Trichopria confusa n. n.

Phaenopria grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 810, nec *Trichopria grenadensis* Ashmead, 1896, p. 808.

Balthazar (Windward side), Grenada, W.I., H. H. Smith ; BMNH type-label "Type H.T." ; *Phaenopria granadensis* (!) Ashm. ♀ Type. (BMNH).

Three more females.

Trichopria conotoma (Kieffer, 1911) – see ***Xyalopria*** Kieff.

Trichopria donisthorpei (Kieffer, 1913) **comb. n.**

Loxotropa donisthorpei Kieffer, 1913. *Brotéria*, **11** : 176.

Loxotropa Donisthorpei with *Lasius flavus*, Blackgang, I. of W., 9.IX.1912 ; BMNH type-label. (♀, BMNH).

One more female.

***Trichopria fimbriata* Kieffer, 1911**

Trichopria fimbriata Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 995.

Craighton, in fungus, 22/4 ; BMNH type-label ; 270 ; Cameron Coll. 1910-55 ; fimbriata K. (♂, BMNH).

Unique.

***Trichopria flavidipes* Kieffer, 1911 – see *Loxotropa* Först.**

***Trichopria formicaria* Kieffer, 1911 – see *Trichopria sociabilis* n. n.**

***Trichopria fucicola* (Walker, 1834) comb. n.**

Psilus fucicola Walker, 1834. *Ent. Mag.* **2** : 117.

Green BMNH type-label ; *Psilus* ? *fucicola* (see M.S.) Stood under this name in old B.M. coll. ; Brit. Mus. Walker Coll. ; BMNH type-label "Lectotype L.M." ; selected as lectotype by L. Masner, 28.XI.61. (♀, BMNH).

Two more males (as types).

***Trichopria grenadae* Kieffer, 1911 – see *Loxotropa* Först.**

***Trichopria grenadensis* Ashmead, 1896**

Trichopria grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 808.

Grand Etang (Windward side), 1900 ft., Grenada, W.I., H. H. Smith, 13 ; BMNH type-label "Type H.T." ; *Trichopria granadensis* (!) Ashm. ♀ Type. (BMNH).

One more male (as type).

***Trichopria* (= *Phaenopria*) *grenadensis* (Ashmead, 1896) – see *Trichopria confusa* n. n.**

***Trichopria grenadicola* Kieffer, 1916**

Trichopria (*Planopria*) *grenadicola* Kieffer, 1916. *Das Tierreich*, **44** : 116.

Balthazar (Windward side), Grenada, W.I., H. H. Smith 20 ; BMNH type-label "Lectotype L.M." ; *Diapria granadensis* (!) Ashm. ♀ Type ; W. Indies, 99-331 ; selected as lectotype by L. Masner, XI.61. (♀, BMNH).

Two more females and one male (as types). Two females without type labels.

***Trichopria halterata* (Kieffer, 1911) comb. n.**

Phaenopria halterata Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 880.

Galloway ; BMNH type-label ; 478 ; Cameron Coll. 1910-55 ; *halterata* K. (♂, BMNH).

Unique.

***Trichopria hawaiiensis* (Ashmead, 1901) comb. n.**

Phaenopria hawaiiensis Ashmead in Perkins, 1901. *Fauna Hawaii* 1 : 296.

BMNH type-label "Type H.T." ; Molokai Mts., 5000 ft., 19-20.IX.1893, Perkins ; Sandwich Is. 1912-215 ; *Phaenopria hawaiiensis* ♀ Type. (BMNH.)

One more male (as type).

***Trichopria inaequalis* (Kieffer, 1911) comb. n.**

Diapria inaequalis Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* 10 : 956.

BMNH type-label ; 477 ; Cameron Coll. 1910-55 ; *inaequalis* K. (♀, BMNH).
Unique. Right antenna broken off apically.

***Trichopria inermis* Kieffer, 1909.**

Trichopria inermis Kieffer, 1909. *Ann. Soc. sci. Brux.* 33 : 386.

Thornhill, 6/IX ; BMNH type-label ; 238 ; Cameron Coll. 1910-55 ; *inermis* K. (♂, BMNH).

Unique.

***Trichopria lewisi* Nixon, 1940**

Trichopria lewisi Nixon, 1940. *Bull. ent. Res.* 31 : 59.

BMNH type-label ; Kenya Colony, Kabele, Ex *Glossina brevipalpis* and *G. fuscipleuris* D., E. A. Lewis ; *Trichopria lewisi* Nixon ♀ Type 1940. (♀, BMNH).

Sixty-seven paratypes (♀♂).

***Trichopria magniclavata* (Ashmead, 1896) comb. n.**

Phaenopria magniclavata Ashmead, 1896. *Proc. zool. Soc. Lond.* 1895 : 812.

Grand Etang (Windward side), Grenada, W.I., H. H. Smith, 13 ; BMNH type-label "Type H.T." ; *Phaenopria magniclavata* Ashm. ♀ Type. (BMNH).

One more female.

***Trichopria mahensis* (Kieffer, 1912) comb. n.**

Diapria mahensis Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* 15 : 73.

Mahe, '08-9 Seychelles Exp. ; *Diapria mahensis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T.". (♀, BMNH).

Unique.

***Trichopria melanopa* (Kieffer, 1911) comb. n.**

Diapria melanopa Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* 10 : 968.

Mugdock 26/7 ; BMNH type-label ; 471 ; Cameron Coll. 1910-55 ; *melanopa* K. (♀, BMNH).

Two additional males and one female.

Trichopria melanopleura (Ashmead, 1896) – see ***Xyalopria*** Kieff.

Trichopria morleyi (Morley, 1931) **comb. n.**

Loxotropa morleyi Morley, 1931. *Entomologist* **64** : 15.

BMNH type-label "Type C.M." ; *Loxotropa Morleyi* (!) Chitty M.S. ; 3.IX.97 HE ; probably *Paramesius* ♀ undescribed TAM ; det. A.J.C. (♀, BMNH).

Unique.

Trichopria neotropica **n. n.**

Trichopria affinis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 808, nec *Phaenopria affinis* Ashmead, 1893.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; BMNH type-label "Type H.T." ; *Trichopria affinis* Ashm. ♀ Type. (BMNH).

Unique.

Trichopria nigriclavata (Ashmead, 1896) **comb. n.**

Phaenopria nigriclavata Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 811.

Chantilly Est. (Windward side), Grenada, W.I., H. H. Smith, 14 ; BMNH type-label "Type H.T." ; *Phaenopria nigriclavata* Ashm. ♀ Type. (BMNH).

Unique.

Trichopria nigricornis (Ashmead, 1896) – see ***Trichopria obscura*** **n. n.**

Trichopria nocticolor (Kieffer, 1911) **comb. n.**

Diapria nocticolor Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 977.

York ; BMNH type-label ; 266 ; Cameron Coll. 1910–55 ; *nocticolor* K. (♂, BMNH).

Unique.

Trichopria obscura **n. n.**

Phaenopria nigricornis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 810, nec *Diapria nigricornis* Thomson, 1858.

St. John's River (Leeward side), Grenada, W. I., H. H. Smith, 16 ; BMNH type-label "Type H.T." ; *Phaenopria nigricornis* Ashm. ♂ Type. (BMNH).

Unique.

Trichopria oxygaster **n. n.**

Diapria tetratoma Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 958, nec *Trichopria tetratoma* Kieffer, 1911.

Gloucester ; BMNH type-label ; 228 ; Cameron Coll. 1910–55 ; *tetratoma* K. (♀, BMNH).

Unique.

Trichopria peraffinis (Ashmead, 1896)

Diapria peraffinis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 806.

St. George (Leeward side), Grenada, W.I., H. H. Smith, 2 ; BMNH type-label "Type H.T." ; *Diapria peraffinis* Ashm. ♀ Type. (BMNH).
One male (as type).

Trichopria saxatilis (Kieffer, 1912) **comb. n.**

Diapria saxatilis Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 73.

48 Praslin, '08, Seychelles Exp. ; *Diapria saxatilis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T.". (♂, BMNH).
One female and one additional male.

Trichopria scotti (Kieffer, 1912) **comb. n.**

Diapria scotti Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 72.

67 Mahe, '08 Seychelles Exp. ; *Diapria scotti* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).
One female also.

Trichopria seychellensis (Kieffer, 1912) **comb. n.**

Diapria seychellensis Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 72.

Diapria seychellensis ♂ 22, Silhouette, '08 Seychelles Exp. ; *Diapria seychellensis* J. J. Kieffer Type ; red label "Figured specimen" ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).
One female also.

Trichopria smithi (Ashmead, 1896)

Diapria smithi Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 805.

Grenada, W.I., H. H. Smith, 51 ; BMNH type-label "Type H.T." ; *Diapria smithii* (!) Ashm. ♀ Type. (BMNH).
One other male labelled as type but belonging to *Acanthopria* Ashm.

Trichopria sociabilis **n. n.**

Trichopria formicaria Kieffer, 1911. *Bull. Soc. ent. Fr.* : 385, nec *Tropidopria formicaria* Wasmann, 1899.

Trichopria formicaria ; Box Hill, 20.V.1910 ; BMNH type-label. (♀, BMNH).
Unique.

***Trichopria subimpresa* (Kieffer, 1911) comb. n.**

Phaenopria subimpresa Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 880.

BMNH type-label ; *Diapria tritoma* ; 232 ; Cameron Coll. 1910-55 ; *subimpresa* K. (♀, BMNH).

Unique. Partially destroyed.

***Trichopria tachinidarum* Ferrière, 1933**

Trichopria tachinidarum Ferrière, 1933. *Stylops* **2** : 104.

BMNH type-label ; Java, Buitenzorg, XI.1930, R. W. Paine, Par. "V" ; Hyperparasite from puparium of Tachinid "B" of *Tirathabea*. Pres. by Imp. Inst. Ent., B.M. 1933-375, *Trichopria tachinidarum* Ch. Ferrière. ♀ Type. (BMNH).

Two males and three females (as cotypes).

Trichopria tetratoma* (Kieffer, 1911) – see *Trichopria oxygaster* n. n.**Trichopria triangularis* (Ashmead, 1896) – see *Acanthopria* Ashm.*****Trichopria tricarinata* (Cameron, 1912) comb. n.**

Loxotropa tricarinata Cameron, 1912. *Soc. ent.* **27** : 69.

BMNH type-label ; Z 13 ; Kuching, J. H. ; P. Cameron Coll. 1914-110 ; *Loxotropa 3-carinata* Cam. Type, Borneo. (♀, BMNH).

***Trichopria unicolor* (Ashmead, 1896)**

Diapria unicolor Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 806.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 38 ; BMNH type-label "Type H.T." ; *Diapria unicolor* Ashm. ♀ Type. (BMNH).

Unique.

***Trichopria variipes* (Kieffer, 1911) comb. n.**

Diapria variipes Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 967.

BMNH type-label ; 218 ; Cameron Coll. 1910-55 ; *variipes* K. (♀, BMNH).

Unique. Antennae destroyed, club remains.

***Trichopria vulgaris* (Kieffer, 1912) comb. n.**

Rhopalopria vulgaris Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 71.

95 ; Mahe, '08 Seychelles Exp. ; *Rhopalopria vulgaris* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelle Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).

Two more females and two males (paratypes).

XYALOPRIA Kieffer, 1907***Xyalopria conotoma*** (Kieffer, 1911) **comb. n.**

Diapria conotoma Kieffer in André, 1911. *Spec. Hym. Eur. Alg.* **10** : 966.

Alsasua, Spain, 30/6 ; BMNH type-label ; 475 ; Spain ; Cameron Coll. 1910-55 ; conotoma K. (♀, BMNH).

Unique.

Xyalopria melanopleura (Ashmead, 1896) **comb. n.**

Diapria melanopleura Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 806.

Balthazar (Windward side), Grenada, W.I., H. H. Smith ; BMNH type-label "Type H.T." ; *Diapria melanopleura* Ashm. ♂ Type. (BMNH).

Unique.

Xyalopria nigriceps Kieffer, 1907

Xyalopria nigriceps Kieffer, 1907. *Berl. ent. Z.* **51** : 300.

BMNH type-label ; blue round label "Rio 5921*" ; *Xyalopria nigriceps* Kieffer ; Named by J. J. Kieffer. (♀, BMNH).

Unique.

ZACRANIUM Ashmead, 1901***Zacranium oahuense*** Ashmead, 1901

Zacranium oahuense Ashmead in Perkins, 1901. *Fauna Hawaii.* **1** : 295.

29 ; BMNH type-label "Type H.T." ; Waiancee Mts., Oahu, Perkins, 4.1892 ; Sandwich Is. 1912-215 ; *Zacranium oahuense* Ashm. ♀ Type. (BMNH).

Unique.

Subfamily **AMBOSITRINAE****AMBOSITRA** Masner, 1961***Ambositra famosa*** Masner, 1961

Ambositra famosa Masner, 1961. *Mém. Inst. sci. Madagascar* **12** : 292.

Madagascar, Mt. d'Ambre, XII.1948, R. Paulian ; red label "Paratype" ; *Ambositra famosa* Masner ♀ L. Masner det. 1960. (♀ paratype, BMNH).

Left antenna partially broken off ; additional paratypes : 2 ♂, 1 ♀ : S. Africa, R. E. Turner, Brit. Mus. 1924-97 ; Port St. John, Pondoland, Jan. 1924 ; red label "Paratype" ; *Ambositra famosa* Masner, L. Masner det. 1961.

Subfamily **BELYTINAE****ACANOSEMA** Kieffer, 1908***Acanosema microcera*** (Kieffer, 1909)

Aclista microcera Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 470.

Galloway ; BMNH type-label ; Cameron Coll. 1909-182 ; 533 ; *microcera* K. ; *Aclista microcera* K. Type ♂. (BMNH).

Unique. Considered synonym of *A. nervosa* (Thoms.) by Nixon (1957).

Acanosema rufiventris (Kieffer, 1909)

Cardiopsilus rufiventris Kieffer, 1909. *Ann. Soc. sci. Brux.* **33** : 392.

Manuel ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 540 ; *rufiventris* K. ; *Cardiopsilus rufiventris* (!) K. Type ♀. (BMNH).

Unique.

Acanosema sylvana Whittaker, 1930

Acanosema sylvana Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 134.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 27.VIII.30, Coll. O.W. ; Canada ; O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; *Acanosema sylvana* Whitt. ♀ Det. O. Whittaker. (BMNH).

One male (allotype) and one male paratype.

ACLISTA Förster, 1856

(= **ANECTATA** Förster, 1856, **XENOTOMA** Förster, 1856, **ZELOTYPA** Förster, 1856, **ACORETUS** Haliday, 1857, **ACANTHOPSILUS** Kieffer, 1908)

Aclista albohirta (Dodd, 1920) **comb. n.**

Xenotoma albohirta Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 369.

BMNH type-label "Type H.T." ; Tjibodas, Java, 5000-7000 ft., Aug. 1913, Dr. Königsberger, 1913-523 ; *Xenotoma albohirta* Dodd ♀. (BMNH).

Seven additional specimens.

Aclista castaneiventris (Kieffer, 1907)

Pantoclis cameroni v. *castaneiventris* Kieffer, 1907. *Brotéria* **6** : 39.

Xenotoma castaneiventris (Kieffer) in André, 1910. *Spec. Hym. Eur. Alg.* **10** : 628.

Galloway ; BMNH type-label ; Cameron Coll. 1909-182 ; 541 ; *Xenotoma castaneiventris* K. Type, G.E.J.N., 1957 ; *Aclista rufopetiolata* Ns., G. E. J. Nixon det. 1956. (♂, BMNH).

Unique.

Aclista cilipes (Kieffer, 1907)

Pantoclis cilipes Kieffer, 1907. *Brotéria* 6 : 37.

Dumfries ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 555 ;
cilipes K. ; *Pantoclis* (= *Xenotoma*) *cilipes* K. Type ♂. (BMNH).

Unique.

Aclista clito Nixon, 1957

Aclista clito Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 73.

Sweden, Sk. Röstanga, 6.VII.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Aclista*
clito Nixon. Type ♀ 1957. (BMNH).

Four females (paratypes).

Aclista filicornis (Kieffer, 1907)

Pantoclis filicornis Kieffer, 1907. *Brotéria* 6 : 40.

Mugdock 24/5 ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ;
 557 ; *filicornis* K. ; *Pantoclis filicornis* K. by G.E.N., 18.X.34. (♀, BMNH).

Unique.

Aclista folia Nixon, 1957

Aclista folia Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 73.

BMNH type-label ; Bavaria, Oberstdorf, 12-29.VII.1936, B.M. 1938-341, G. E. J.
 Nixon ; *Aclista folia* Nixon. Type ♀ 1957. (BMNH).

Two males also.

Aclista fusciventris (Kieffer, 1907)

Pantoclis fusciventris Kieffer, 1907. *Brotéria* 6 : 34.

BMNH type-label ; *Xenotoma fusciventris* K. ; Cameron Coll. 1910-302 ;
 Determined by Dr. Kieffer ; 548 ; *Xenotoma fusciventris* Kieffer Type, G. Nixon
 det. 1950. (♂, BMNH).

Unique.

Aclista gracilicornis (Kieffer, 1910) – see ***Acropiesta*** Först.

Aclista insolita Nixon, 1957

Aclista insolita Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 66.

BMNH type-label ; Exmoor : Porlock Distr., 21.V.1934, J. F. Perkins ; *Aclista*
insolita Nixon. Type ♀, 1957. (BMNH).

Unique.

***Aclista insularis* (Kieffer, 1912) comb. n.**

Xenotoma insularis Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 76.

84 ; Mahe, '08-9 Seychelles Exp. ; *Xenotoma insularis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170.

Five additional males.

***Aclista lineare* Nixon, 1957**

Aclista lineare Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 74.

BMNH type-label ; England, Ashtead, Sr., 9.V.1931, G. E. J. Nixon ; *Aclista lineare* Nixon. Type ♀, 1957. (BMNH).

Another female.

***Aclista mycale* Nixon, 1957**

Aclista mycale Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 77.

BMNH type-label ; Sweden, Sk. Röstanga, 6.VII.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Aclista mycale* Nixon. Type ♀, 1955. (BMNH).

Four males also.

***Aclista neglecta* (Kieffer, 1907)**

Pantoclis neglecta Kieffer, 1907. *Brotéria* **6** : 36.

Kelvin, 10/5 ; BMNH type-label ; Cameron Coll. 1909-182 ; *neglecta* K. ; *Pantoclis neglecta* K. Type. (♂, BMNH).

***Aclista nigra* (Kieffer, 1907)**

Xenotoma nigra Kieffer, 1907. *Brotéria* **6** : 25.

Eccles ; BMNH type-label ; *Xenotoma nigra* K. ; 553 ; determined by Dr. Kieffer ; Cameron Coll. 1910-302 ; *Xenotoma nigra* K. Type ♀, G. E. J. Nixon det. 1954. (♀, BMNH).

Unique.

***Aclista nigrescens* (Kieffer, 1910)**

Xenotoma nigrescens Kieffer in André, 1910. *Spec. Hym. Eur. Alg.* **10** : 627.

Bonar ; BMNH type-label "G.N. Type" ; Cameron Coll. 1909-182 ; 552 ; *nigrescens* K. ; *Xenotoma nigrescens* K. Type ♀. (BMNH).

Unique.

***Aclista pleuralis* (Kieffer, 1907)**

Xenotoma pleuralis Kieffer, 1907. *Brotéria* **6** : 24.

BMNH type-label "G.N. Type" ; Cameron Coll. 1909-182 ; 551 ; *pleuralis* K. ; selected as type of *Xenotoma pleuralis* K. by G. E. J. Nixon, 17.X.34. (♀, BMNH).

Unique.

Aclista prolongata (Kieffer, 1907)*Pantoclis prolongata* Kieffer, 1907. *Brotéria* 6 : 40.

Thornhill ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; *prolongatus* K. ; selected as type of *Zelotypa prolongata* K. by G.E.J.N., 18.X.34. (♀, BMNH).

Unique.

Aclista scotica (Kieffer, 1910) – see ***Belyta*** Jur.

Aclista similis (Kieffer, 1907)*Pantoclis similis* Kieffer, 1907. *Brotéria* 6 : 37.

Thornhill, 26/5 ; BMNH type-label "G.N. Type" ; Cameron Coll. 1909-182 ; 547 ; *similis* K. ; *Xenotoma similis* K. Type G.E.J.N., 1957. (♂, BMNH).

Unique.

Aclista tristis Nixon, 1957*Aclista tristis* Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 75.

BMNH type-label ; Boxmoor, HT. 3.7.1938, R. B. Benson ; *Aclista tristis* Nixon. Type ♀. (BMNH).

Unique.

Aclista xanthopa (Cameron, 1904) **comb. n.***Zelotypa xanthopa* Cameron, 1904. *Trans. Amer. ent. Soc.* 30 : 262.

BMNH type-label ; Cameron Coll. 1904-313 ; *Zelotypa xanthopus* (!) Cam. Type, Mexico. (♀, BMNH).

Unique. Head broken off.

ACROPIESTA Förster, 1856

(= **PANTOPIESTA** Maneval, 1939)

Acropiasta flavipes Kieffer, 1909*Acropiasta flavipes* Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* 10 : 590.

Dumfries ; BMNH type-label "Type G.N." ; 281 ; Cameron Coll. 1909-182 ; *flavipes* K. (♀, BMNH).

Unique.

Acropiasta gracilicornis (Kieffer, 1910)*Xenotoma gracilicornis* Kieffer in André, 1910. *Spec. Hym. Eur. Alg.* 10 : 614.

Bonar ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; *gracilicornis* K. ; *Xenotoma gracilicornis* K. Type ♂ G. Nixon det. 1951. (BMNH).

Unique. Considered synonym of *Acropiasta flaviventris* (Thoms.) (Nixon, 1957).

***Acropiesta lysicles* Nixon, 1957**

Acropiesta lysicles Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 27.

BMNH type-label ; Sweden, Sk. Höör distr., 9.VI.1938, D.M.S.P. & J.F.P., B.M. 1938-414. (♂, BMNH).

15 more males.

Acropiesta nigriceps* Cameron, 1883 – see *Zygota* Först.**Acropiesta pulchella* Whittaker, 1930**

Acropiesta pulchella Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 75.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 8.VII.28, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 3907 *Acropiesta pulchella pulchella* Whitt. ♀ Det. O. Whittaker. (♀, BMNH).

One male (allotype), three females (paratypes).

***Acropiesta pulchella rufifrons* Whittaker, 1930**

Acropiesta pulchella rufifrons Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 76.

BMNH type-label "Paratype" ; red label "Paratype" ; Hollyburn, B.C., 2.IX.29, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 4029 *Acropiesta pulchella rufifrons* Whitt. ♂ Det. O. Whittaker. (paratype, BMNH).

One female paratype (dissected).

***Acropiesta sterope* Nixon, 1957**

Acropiesta sterope Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 27.

BMNH type-label ; Sweden, Sk. Löderup., 24.VII.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Acropiesta sterope* Nixon. Type ♂. (BMNH).

62 more males.

APRESTES* Nixon, 1957**Aprestes aberrans* Nixon, 1957**

Aprestes aberrans Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 30.

BMNH type-label ; Sweden, Sk. Ringsjö, 4.VI.1938, J.F.P., B.M. 1938-414 ; *Aprestes aberrans* Nixon. Type ♂. (BMNH).

Nine males and one female (not marked as paratypes).

BELYTA* Jurine, 1807**Belyta anthracina* Whittaker, 1931**

Belyta anthracina Whittaker, 1931. *Proc. ent. Soc. Wash.* **33** : 179.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 15.VI.1930, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 4395 *Belyta anthracina* Whitt. ♀ Det. O. Whittaker. (BMNH).

Unique.

***Belyta antipoda* (Dodd, 1920) comb. n.**

Paraclista antipoda Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 369.

BMNH type-label "Type H.T." ; Mt. Wellington, S. Tasmania, 25-26 Mch. 1913 ; 2300 ft., R. E. Turner, 1913-212 ; *Paraclista antipoda* Dodd ♀. (BMNH).
One more female (not conspecific!).

***Belyta areolata* (Kieffer, 1908) comb. n.**

Aclista areolata Kieffer in André, 1908. *Spec. Hym. Eur. Alg.* **10** : 445.

Manuel ; BMNH type-label ; Cameron Coll. 1908-182 ; *areolata* K. ; 277 ; *Aclista areolata* K. ♂ Type. (BMNH).

Unique.

***Belyta costalis* var. *obliterata* Kieffer, 1909**

Belyta costalis var. *obliterata* Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 511.

Dumfries ; BMNH type-label ; Cameron Coll. 1909-182 ; *obliterata* K. (♂, BMNH).

Unique.

***Belyta crassinervis* var. *scotica* Kieffer, 1909**

Belyta crassinervis var. *scotica* Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 509.

Dumfries ; BMNH type-label "Type G.N." ; 511 ; Cameron Coll. 1909-182 ; v. *scotica* K. ; *crassinervis* K. ; *Belyta crassinervis scotica* K. ♂ Type. G. E. J. Nixon det. 1952. (♂, BMNH).

***Belyta depressa* var. *cursitans* Kieffer, 1909**

Belyta depressa var. *cursitans* Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 486.

Bishopton ; BMNH type-label ; Cameron Coll. 1909-182 ; 508 ; *depressa* v. *cursitans* K. ; *Belyta depressa* v. *cursitans* K. Type G.N., 2.XII.49. (♀, BMNH).

Unique.

***Belyta excavata* Whittaker, 1931**

Belyta excavata Whittaker, 1931. *Proc. ent. Soc. Wash.* **33** : 180.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 2.IX.29, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 4396 *Belyta excavata* Whitt. ♀ Det. O. Whittaker. (♀, BMNH).

Two females (paratypes).

***Belyta exsul* Kieffer, 1912**

Belyta exsul Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 74.

Mahe, '08 Seychelles Exp. ; Type *Belyta exsul* J. J. Kieffer ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).

Seven more males.

***Belyta forticornis* Cameron, 1887**

Belyta forticornis Cameron, 1887. *Proc. nat. hist. Soc. Glasgow* **1** : 302.

Cad ; BMNH type-label ; Cameron Coll. 98-220 ; *Belyta forticornis* Cam. Type. (♀, BMNH).

Unique.

***Belyta lativentris* Cameron, 1887**

Belyta lativentris Cameron, 1887. *Proc. nat. hist. Soc. Glasgow* **1** : 301.

BMNH type-label ; Cameron Coll. 98-220 ; *Belyta lativentris* Cam. Type. (♀, BMNH).

Unique. Gaster broken off.

***Belyta marginalis* Kieffer, 1909**

Belyta marginalis Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 485.

Caterham, 32/6 ; BMNH type-label ; Cameron Coll. 1909-182 ; 500 ; *marginalis* K. ; *Belyta marginalis* K. Type G.N. 2.12.49. (♀, BMNH).

***Belyta modesta* Kieffer, 1909**

Belyta modesta Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 516.

Dumfries ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 280 ; *modesta* K. ; *Belyta modesta* K. Type ♂. (BMNH).

Unique.

***Belyta moniliata* Cameron, 1887**

Belyta moniliata Cameron, 1887. *Proc. nat. hist. Soc. Glasgow* **1** : 303.

Mugdock 9/8 ; BMNH type-label ; Cameron Coll. 98-220 ; *Belyta moniliata* Cam. Type. (♀, BMNH).

Unique. Antennae broken off apically.

***Belyta mullensis* Cameron, 1887**

Belyta mullensis Cameron, 1887. *Proc. nat. hist. Soc. Glasgow* **1** : 304.

Mull ; BMNH type-label ; Cameron Coll. 98-220 ; *Belyta mullensis* Cam. Type. (♂, BMNH).

Unique.

***Belyta pelias* Nixon, 1957**

Belyta pelias Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 33.

BMNH type-label ; Sweden, Sk. Höör distr., 18.VI.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Belyta pelias* Nixon. Type ♀. 1952 G. E. J. Nixon det. (♀, BMNH).

Four females (paratypes).

***Belyta sanguinea* Whittaker, 1931**

Belyta sanguinea Whittaker, 1931. *Proc. ent. Soc. Wash.* **33** : 177.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 7.IX.30., Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 4389 *Belyta sanguinea* Whitt. ♀ Det. O. Whittaker. (♀, BMNH).

One male (allotype), three females (paratypes).

***Belyta scotica* (Kieffer, 1910)**

Pantoclis proxima Kieffer, 1907. *Brotéria* **6** : 35 nec *gracilis* var. *proxima* Kieffer, 1907.

Xenotoma scotica Kieffer in André, 1910. *Spec. Hym. Eur. Alg.* **10** : 609. [n. n.]

Bonar ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 543 ; *scotica* K. ; *Pantoclis*, later *Xenotoma scotica* Kieff. *Belyta forticornis* Cam. G. E. J. Nixon det. 1956. (♂, BMNH).

Unique.

***Belyta seron* Nixon, 1957**

Belyta seron Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 32.

BMNH type-label ; Surrey : Horsley, 14.VI.1930, G. Nixon ; *Belyta seron* Nixon Type ♀, 1952. (BMNH).

Unique.

***Belyta tenuistilus* Kieffer, 1909**

Belyta tenuistilus Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 513.

Kenmuir ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 538 ; *tenuistilus* (!) K. ; *Belyta tenuistilus* K. Type. (♂, BMNH).

Unique.

BETYLA* Cameron, 1889**Betyla fulva* Cameron, 1889**

Betyla fulva Cameron, 1889. *Mem. Manchr. lit. phil. Soc.* (IV) **2** : 13.

BMNH type-label ; Cameron Coll. 98-124 ; *Betyla fulva* Cam. Type New Zealand. (♀, BMNH).

One additional female.

CARDIOPSILUS Kieffer, 1908*Cardiopsilus rufiventris* Kieffer, 1909 – see *Acanosema* Kieff.**CINETUS** Jurine, 1807***Cinetus alce*** Nixon, 1957*Cinetus alce* Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 100.

BMNH type-label ; Sweden, Sk. Höör distr., 22.VI.1938 ; D.M.S.P. & J.F.P., B.M. 1938-414 ; *Cinetus alce* Nixon. Type ♂, 1956. (BMNH).
Unique.

Cinetus aletes Nixon, 1957*Cinetus aletes* Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 100.

BMNH type-label ; Sweden, Sk. Höör distr., 9.VI.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Cinetus aletes* Nixon. Type ♂, 1956. (BMNH).
Three more males.

Cinetus ariantes Nixon, 1957*Cinetus ariantes* Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 94.

BMNH type-label ; Sweden, Sk. Höör distr., 18.VI.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Cinetus ariantes* Nixon. Type ♀, 1952. (BMNH).
Two more females (paratypes).

Cinetus cameroni Kieffer, 1910*Cinetus cameroni* Kieffer in André, 1910. *Spec. Hym. Eur. Alg.* 10 : 644.

Clydesdale ; BMNH type-label "Holotype G.N." ; Cameron Coll. 1909-182 ; 519 ; *Cinetus cameroni* K. Type ♀. (BMNH).
One male (allotype).

Cinetus elatior Nixon, 1957*Cinetus elatior* Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 93.

BMNH type-label ; Sweden, Sk. Kivik, 19.VII.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Cinetus elatior* Nixon. Type ♀, 1952, G. E. J. Nixon det. (♀, BMNH).
Three more females.

Cinetus ennius Nixon, 1957*Cinetus ennius* Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 96.

BMNH type-label ; Switzerland, Grindelwald, 7-14.VIII,1937, G. E. J. Nixon, B.M. 1938-341 ; *Cinetus ennius* Nixon. Type ♀, 1952. (BMNH).
Five more females.

Cinetus fuscipes (Kieffer, 1907)

Pantoclis fuscipes Kieffer, 1907. *Brotéria* 6 : 35.

Cad. 8/5 ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; *fuscipes* K. ; *Cinetus fuscipes* K. Type ♂. (BMNH).

Unique.

Cinetus gaus Nixon, 1957

Cinetus gaus Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 98.

BMNH type-label ; Germany, Heidelberg, 6-12.VII.1931, G. Nixon ; *Cinetus gaus* Nixon. Type ♀ 1952. (BMNH).

Two more females.

Cinetus heteropus (Kieffer, 1912) **comb. n.**

Leptorhaptus heteropus Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* 15 : 77.

84 ; Mahe, '08 Seychelles Exp. ; *Leptorhaptus heteropus* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170.

In holotype, antennae broken off. Five more males.

Cinetus ilione Nixon, 1957

Cinetus ilione Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 93.

BMNH type-label ; Sweden, Sk. Fjellfota Sjö., 7.VIII.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Cinetus ilione* Nixon. Type ♀, 1952. (BMNH).

Two more females.

Cinetus insulanus (Kieffer, 1912) **comb. n.**

Leptorhaptus insulanus Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* 15 : 77.

49 ; Mahe, '08-9 Seychelles Exp. ; *Leptorhaptus insulanus* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170.

One additional female and four males.

Cinetus iridipennis var. ***prolongatus*** Kieffer, 1910

Cinetus iridipennis var. *prolongatus* Kieffer in André, 1910. *Spec. Hym. Eur. Alg.* 10 : 646.

BMNH type-label ; Craigton Wood, Fungus, 1910 ; Cameron Coll. 1909-182 ; *Cinetus iridipennis* ssp. *prolongatus* K. Type ♀. (BMNH).

One male also.

Cinetus licus Nixon, 1957

Cinetus licus Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 101.

BMNH type-label ; Sweden, Sk. Höör distr., 5.VI.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Cinetus licus* Nix. Type ♂, 1956. (BMNH).

Nine more males.

Cinetus lysis Nixon, 1957

Cinetus lysis Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 98.

BMNH type-label ; Corsica : Vizzavona 13.VII.-5.IX.1931, M. E. Mosely ; *Cinetus lysis* Nixon. Type ♀, 1952. (BMNH).

Two more females.

Cinetus mermerus Nixon, 1957

Cinetus mermerus Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 93.

BMNH type-label ; Sweden, Sk. Höör distr., 22.VI.1938, D.M.S.P. & J.F.P., B.M. 1938-414. (♀, BMNH).

Two more females.

Cinetus princeps Nixon, 1957

Cinetus princeps Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 98.

BMNH type-label ; Co. Sligo, Trawalua, 24-29.7.1933, G. Nixon ; *Cinetus princeps* Nixon. Type ♀ 1952. (BMNH).

Unique.

Cinetus proclea Nixon, 1957

Cinetus proclea Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 98.

BMNH type-label ; Sweden, Sk. Fjellföta sjö., 7.VIII.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Cinetus proclea* Nixon. Type ♀ 1952. (BMNH).

Eight more females.

Cinetus procris Nixon, 1957

Cinetus procris Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 93.

BMNH type-label ; Germany, Heidelberg, 6-12.VII.1931, G. Nixon ; *Cinetus procris* Nixon. Type ♀ 1952 G. E. J. Nixon det. (♀, BMNH).

One more female.

Cinetus sequester Nixon, 1957

Cinetus sequester Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 93.

BMNH type-label ; England, Surrey, VIII.1938, G. E. J. Nixon ; *Cinetus sequester* Nixon. Type ♀ 1952. (BMNH).

One more female.

Cinetus simulans Nixon, 1957

Cinetus simulans Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 94.

BMNH type-label ; Switzerland, Grindelwald, 7-13.VIII.1937, G. E. J. Nixon, B.M. 1938-341 ; *Cinetus simulans* Nixon. Type ♀ 1952. (BMNH).
Unique.

Cinetus telon Nixon, 1957

Cinetus telon Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 94.

BMNH type-label ; Sweden, Sk. Höör distr., 17.VI.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; Figd. spec. ; *Cinetus telon* Nixon. Type ♀, 1952. (BMNH).
Nineteen more females.

Cinetus tristis Nixon, 1957

Cinetus tristis Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 102.

BMNH type-label ; Sweden, Sk. Löderup, 24.VII.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Cinetus tristis* Nix. Type ♂, 1956. (BMNH).

DIPHORA Förster, 1856***Diphora nearctica*** Whittaker, 1930

Diphora nearctica Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 74.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 18.VII.29 ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; *Diphora nearctica* Whitt. ♀ Det. O. Whittaker. (BMNH).
Unique.

Diphora nigriceps Kieffer, 1906

Diphora nigriceps Kieffer, 1906. *Bull. Ass. philom. Als. Lorr.* **3** : 419.

Bishopton ; BMNH type-label ; Cameron Coll. 1909-182 ; *nigriceps* K. (♀, BMNH).
Unique.

Diphora rufiventris Kieffer, 1906

Diphora rufiventris Kieffer, 1906. *Bull. Ass. philom. Als. Lorr.* **3** : 419.

Canniesburn ; BMNH type-label ; Cameron Coll. 1909-182 ; 273 ; *Diphora rufiventris* K. (♀, BMNH).
Unique.

ECCINETUS Muesebeck & Walkley, 1956(= **PROCINETUS** Kieffer, 1910 nec Förster, 1868)**Eccinetus apicalis** (Dodd, 1920) **comb. n.***Procinetus apicalis* Dodd, 1920. *Tr. ent. Soc. Lond.* **1919** : 371.BMNH type-label ; Tjibodas, Java, 5000–7000 ft., Aug. 1913, Dr. Konigsberger, 1913–523 ; *Leptorhaptus apicalis* Dodd ♀. (BMNH).

Two males also.

LEPTORHAPTUS Förster, 1856**Leptorhaptus docilis** Nixon, 1957*Leptorhaptus docilis* Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 86.BMNH type-label ; Fownhope, HF., Capler Wood, 31.V.1936, E.B.B. & J.F.P., B.M., 1936–398 ; *Leptorhaptus docilis* Nixon. Type ♀, 1954. (BMNH).

Eight more females and three males.

Leptorhaptus egregius Kieffer, 1910*Leptorhaptus egregius* Kieffer in André, 1910. *Spec. Hym. Eur. Alg.* **10** : 673.Mugdock, 11/9 ; BMNH type-label "Type G.N." ; Cameron Coll. 1909–182 ; 521 ; *egregius* K. ; type of *Leptorhaptus egregius* K., G.E.J.N., 18.X.34. (♂, BMNH).**Leptorhaptus heterocerus** Kieffer, 1907*Leptorhaptus heterocerus* Kieffer, 1907. *Brotéria* **6** : 19.Clober ; BMNH type-label "Type G.N." ; Cameron Coll. 1909–182 ; 554 ; *heterocerus* K., type of *Leptorhaptus heterocerus* K., G.E.J.N., 18.X.34. (♀, BMNH).

Unique.

Leptorhaptus heteropus Kieffer, 1912 – see **Cinetus** Jur.**Leptorhaptus insulanus** Kieffer, 1912 – see **Cinetus** Jur.**Leptorhaptus transiens** Nixon, 1957*Leptorhaptus transiens* Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 86.BMNH type-label ; Switzerland, Grindelwald, 7–13.VII.1937, G. E. J. Nixon, B.M. 1938–341 ; *Leptorhaptus transiens* Nixon. Type ♀, 1954. (BMNH).

Unique.

Leptorhaptus vacillans Nixon, 1957

Leptorhaptus vacillans Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 90.

BMNH type-label ; Sweden, Sk. Skäralid., 3.VII.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Leptorhaptus vacillans* Nixon. Type ♂, 1952. (BMNH).

Unique.

OPAZON Haliday, 1857***Opazon princeps*** Nixon, 1957

Opazon princeps Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 17.

BMNH type-label ; Staunton, G.W., High Meadow Wds., 9.VI.1936, E.B.B. & J.F.P., B.M. 1936-399 ; *Opazon princeps* Nixon. Type ♀. (BMNH).

Two more females.

OXYLABIS Förster, 1856***Oxylabis cameroni*** (Kieffer, 1909)

Aclista cameroni Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 455.

Bonar ; BMNH type-label ; Cameron Coll. 1909-182 ; 534 ; *Cameroni* K. ; *Aclista cameroni* K. Type ♂ G.E.J.N., 1950. (BMNH).

Unique.

Oxylabis wollastoni Dodd, 1920 – see ***Zygota*** Först.

PANTOCLIS Förster, 1856

Pantoclis cameroni Kieffer, 1907 – see ***Zygota*** Först.

Pantoclis dives Nixon, 1957

Pantoclis dives Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 45.

BMNH type-label ; Sharpenhoe Clappers, 8.8.54 ; *Pantoclis dives* Nixon. Type ♀. (BMNH).

Unique.

Pantoclis dolon Nixon, 1957

Pantoclis dolon Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 45.

BMNH type-label ; Sweden, Sk. Höör distr., 17.VI.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Pantoclis dolon* Nixon. Type ♀, 1952. (BMNH).

One more female.

***Pantoclis javensis* Dodd, 1920**

Pantoclis javensis Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 370.

BMNH type-label ; Tjibodas, Java, 5000–7000 ft., Aug. 1913, Dr. Konigsberger, 1913–523 ; *Pantoclis javensis* Dodd Type. (♀, BMNH).

Six more males and two females.

***Pantoclis merope* Nixon, 1957**

Pantoclis merope Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 49.

BMNH type-label ; Sweden, sk. Dalby, 23.V.1938, D.M.S.P. & J.F.P., B.M. 1938–414 ; *Pantoclis merope* Nixon. Type ♀ 1952. (BMNH).

Unique.

***Pantoclis orodes* Nixon, 1957**

Pantoclis orodes Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 49.

BMNH type-label "Type H.T." ; Switzerland, Grindelwald, 7–14.VIII.1937, G. E. J. Nixon, B.M. 1938–341 ; *Pantoclis orodes* Nixon. Type ♀ 1952. (BMNH).

Unique.

***Pantoclis rufiventris* Kieffer, 1907**

Pantoclis rufiventris Kieffer, 1907. *Brotéria*, **6** : 39.

BMNH type-label ; Bonar ; Cameron Coll. 1909–182 ; 283 ; *rufiventris* K. ; *Pantoclis rufiventris* K. Type G. E. J. Nixon det. 1951. (♀, BMNH).

***Pantoclis scotica* (Kieffer, 1909)**

Aclista scotica Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 454.

Bishopston ; BMNH type-label ; Cameron Coll. 1909–182 ; 262 ; *scotica* K. ; Type of *Aclista scotica* K. G. E. J. Nixon det. (♀, BMNH).

***Pantoclis scotti* Kieffer, 1912**

Pantoclis scotti Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 76.

16 ; Silhouette, '08 Seychelles Exp. ; *Pantoclis scotti* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913–170.

One more male.

***Pantoclis seychellensis* Kieffer, 1912**

Pantoclis seychellensis Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool)* **15** : 75.

79 ; Mahe, '08–9 Seychelles Exp. ; Type *Pantoclis seychellensis* J. J. Kieffer ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913–170. (♂, BMNH).

Four more females and three males.

Pantoclis soluta Kieffer, 1907 – see ***Zygota*** Först.

Pantoclis trisulcata Kieffer, 1907

Pantoclis trisulcata Kieffer, 1907. *Brotéria* 6 : 40.

Mugdock ; BMNH type-label "Type G.N." ; Cameron Coll. 1909–182 ; *Pantoclis trisulcata* Kieff. ; selected as type of *Pantoclis trisulcata* K. by G. E. J. Nixon, 27.3.34. (♀, BMNH).

PANTOLYTA Förster, 1856

Pantolyta anysis Nixon, 1957

Pantolyta anysis Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 19.

BMNH type-label ; England, Hampshire, Brockenhurst, 13.VI.1938, G. E. J. Nixon ; *Pantolyta anysis* Nix. Type ♀. (BMNH).

Unique.

Pantolyta incerta (Kieffer, 1908)

Psilomma incerta Kieffer in André, 1908. *Spec. Hym. Eur. Alg.* 10 : 420.

BMNH type-label "Type G.N." ; 524 ; *incerta* K. (♀, BMNH).

Unique.

PARACLISTA Kieffer, 1909

Paraclista antipoda Dodd, 1920 – see ***Belyta*** Jur.

PAROXYLABIS Kieffer, 1907

Paroxylabis spinifer Nixon, 1957

Paroxylabis spinifer Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 66.

BMNH type-label ; Surrey, Horsley, 14.VI.1930, G. Nixon ; *Paroxylabis spinifer* Nix. Type ♀. (BMNH).

PSILOMMA Förster, 1856

Psilomma dubia Kieffer, 1908

Psilomma dubia Kieffer in André, 1908. *Spec. Hym. Eur. Alg.* 10 : 426.

BMNH type-label "Type G.N." ; 497 ; Cameron Coll., 1909–182 ; *dubia* K. (♂, BMNH).

Unique.

Psilomma incerta Kieffer, 1908 – see ***Pantolyta*** Först.

RHYNCHOPSILUS Kieffer, 1908(= **BRUNNICOPHILUS** Nixon, 1931)**Rhynchopsilus donisthorpei** (Nixon, 1931)*Brunnicophilus donisthorpei* Nixon, 1931. *Ent. Rec.* **43** : 83.

BMNH type-label "Holotype" ; with *A. brunneus* Latr., Windsor Forest, VI.26, H. Donisthorpe Coll. ; *Brunnicophilus donisthorpei* Nixon ♀ 1931 Holotype. (BMNH).

One male (allotype) and 10 ♀♂ (paratypes).

SCORPIOTELEIA Ashmead, 1897**Scorpioteleia cebes** (Nixon, 1957) **comb. n.***Miota cebes* Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 104.

BMNH type-label ; Sweden, Sk. Höör distr., 11.VI.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; *Miota cebes* Nixon. Type ♀, 1952. (BMNH).

Unique. Right antenna broken off apically.

SYNACRA Förster, 1856(= **ARTIBOLUS** Haliday, 1857, **NEUROPRIA** Kieffer, 1904 ; **PARATELOPSILUS** Whittaker, 1930 – **syn. n.**)**Synacra anommati** (Morley, 1931) **comb. n.***Labolips anommati* Morley, 1931. *Entomologist* **64** : 15.

Blue label ; blue paper "Anommatus parasite ; (ex coll. A. Matthews) cf. Morlelliott Col. Parasite II 456 ; round label "Type C.M." ; "4 August 1874 with. . ." "Anommatus parasite" ; ex coll. Rev. A. Matthews ? London C.1874 cf. Tr. E. 5 1911, 456 ; *Labolips Anommati* Morl. (sp. n.) ♀ Named by Claude Morley XI.1929. (♀, BMNH).

Unique. Coll. Morley.

Synacra canadensis (Whittaker, 1930) **comb. n.***Paratelopsilus canadensis* Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 73.

BMNH type-label ; red label "Type" ; Chilliwack, B.C., 5.VI.27, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 3681 *Paratelopsilus canadensis* Whitt. ♀ Det. O. Whittaker. (♀, BMNH).

Unique.

ZYGOTA Förster, 1856

(= **ACLISTA** auct. nec Förster, 1856, **CARINIA** Kieffer, 1905, **TETRAPSILUS** Kieffer, 1908)

Zygota areolata (Kieffer, 1908) – see **Belyta** Jur.

Zygota bensoni Nixon, 1957

Zygota bensoni Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 62.

BMNH type-label ; N. Sweden : T. Lpm. Abisko, 25–30.VI.1954 ; *Zygota bensoni* Nix. Type ♂. (BMNH).

Unique.

Zygota cameroni (Kieffer, 1907)

Pantoclis cameroni Kieffer, 1907. *Brotéria* 6 : 38.

Stirling ; BMNH type-label "Type G.N." ; Cameron Coll. 1909–182 ; *Pantocles* (!) *Cameroni* K. ; type of *Pantoclis cameroni* K. G. E. J. Nixon det. 1952. (♀, BMNH).

Unique.

Zygota croton Nixon, 1957

Aclista (Zygota) croton Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 59.

BMNH type-label ; Scotland, Angus, Clova, 11–30.VI.1939, R. P. Benson. (♂, BMNH).

One female also.

Zygota dentatipes Kieffer, 1908

Aclista (Zygota) dentatipes Kieffer in André, 1908. *Spec. Hym. Eur. Alg.* 10 : 447.

Cladich ; BMNH type-label ; 278 ; *dentatipes* K. ; *Aclista (Zygota) dentatipes* K. Type ♂. (BMNH).

Unique.

Zygota excisipes Kieffer, 1908

Zygota excisipes Kieffer in André, 1908. *Spec. Hym. Eur. Alg.* 10 : 447.

Mugdock, 11/7 ; BMNH type-label "Type G.N." ; Cameron Coll. 1909–182 ; *excisipes* K. ; *Aclista excisipes* K. Type ♂. (BMNH).

Unique. Kieffer (1916) reports the type from Austria.

Zygota larides Nixon, 1957

Zygota larides Nixon, 1957. *Handb. Identif. Brit. Ins.* 8 : 62.

BMNH type-label ; Sweden, Sk. Röstanga, 4.VII.1938, D.M.S.P. & J.F.P., B.M. 1938–414 ; *Aclista larides* Nixon. Type ♂ 1952. (BMNH).

Nineteen ♀♂ (paratypes).

***Zygota loris* Nixon, 1957**

Zygota loris Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 59.

Switzerland, Bernese Oberland, Oeschinensee, 4.VIII.37, G. E. J. Nixon, B.M. 1938-341; *Aclista loris* Nixon. Type ♀ 1952. (BMNH).

Unique.

***Zygota macroneura* (Kieffer, 1909)**

Aclista macroneura Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 469.

Bonar ; Bonar ; 496 ; BMNH type-label ; *Aclista macroneura* K. ; Cameron Coll. 1910-302 ; type of *Aclista macroneura* K., G. E. J. Nixon, 1956. (♂, BMNH).

Unique.

***Zygota microcera* (Kieffer, 1909) – see *Acanosema* Kieff.**

***Zygota microtoma* (Kieffer, 1909)**

Aclista microtoma Kieffer in André, 1909. *Spec. Hym. Eur. Alg.* **10** : 453.

Galloway ; BMNH type-label ; Galloway ; Cameron Coll. 1910-302 ; 251 ; *Aclista microtoma* K. ; *Aclista microtoma* K. Type ♀. (♀, BMNH).

Unique.

***Zygota nigriceps* (Cameron, 1883)**

Acropiasta ? nigriceps Cameron, 1883. *Trans. ent. Soc. Lond.* : 195.

Gloucester, June ; BMNH type-label ; Cameron Coll. 98-220 ; *Acrolista* (!) *nigriceps* Cam. Type. (♀, BMNH).

Unique.

***Zygota praetor* Nixon, 1957**

Zygota praetor Nixon, 1957. *Handb. Identif. Brit. Ins.* **8** : 58.

Sweden, Sk. Röstanga, 7.VII.1938, D.M.S.P. & J.F.P., B.M. 1938-414 ; BMNH type-label ; *Aclista praetor* Nixon. Type ♀ 1952. (BMNH).

Ten additional ♀♂.

***Zygota scotica* (Kieffer, 1909) – see *Pantoclis* Först.**

***Zygota soluta* (Kieffer, 1907)**

Pantoclis soluta Kieffer, 1907. *Brotéria* **6** : 33.

Mugdock ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; *Pantoclis soluta* K. ; type of *Pantoclis soluta* K. by G.E.J.N., 27.3.34. (♂, BMNH).

Unique.

Zygota wollastoni (Dodd, 1920) **comb. n.**

Oxylabis wollastoni Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 372.

1435 ; BMNH type-label ; Madeira, Wollaston, 55.7 ; *Oxylabis wollastoni* Dodd ♀. (BMNH).

Three more females.

Family **SCELIONIDAE**Subfamily **SCELIONINAE**

(Subfamily **BAEINAE** not treated here as an independent group)

ANTERIS Förster, 1856

Anteris hawaiiensis Ashmead, 1901 – see p. 97

Anteris nigricornis Ashmead, 1901 – see p. 98

Anteris perkinsi Ashmead, 1901 – see p. 98

Anteris rufipes Ashmead, 1894 – see ***Govinda*** Nix

Anteris striatifrons Ashmead, 1895 – see ***Sceliacantha*** Dodd

Anteris tarsalis Ashmead, 1901 – see p. 98

BAEUS Haliday, 1833

(= **PSILOBAEUS** Kieffer, 1926 – **syn. n.**)

Baeus curvatus Kieffer, 1910

Baeus curvatus Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

Silhouette, '08 Seychelles Exp., *Baeus curvatus* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913–170. (♀, BMNH).

Unique.

BARYCONUS Förster, 1856

(= **HOPLOTELEIA** Ashmead, 1893 ; **RHACOTELEIA** Cameron, 1905 ;

APEGUSONEURA Cameron, 1912)

Baryconus africanus (Dodd, 1920) **comb. n.**

Hoploteleia africana Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 339.

BMNH type-label ; Durban, F. Muir, 1905-313 ; Sharp Coll. 1905-313 ; *Hoploteleia africana* Dodd ♂♀ (!) Type. (♀ BMNH).

Unique.

Baryconus amicus (Dodd, 1928) **comb. n.**

Hoploteleia amica Dodd, 1928. *Proc. roy. Soc. Qd.* **40** : 49.

Chinchilla, Qld., January 1928, A. P. Dodd ; BMNH type-label "Paratype" ; *Hoploteleia amica* Dodd ♀ paratype. (BMNH).

One more female.

Baryconus atripes (Dodd, 1920) **comb. n.**

Trichoteleia atripes Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 337.

Trichoteleia atripes Dodd ♀ Type ; Type Hym. : 40 *Trichoteleia atripes* Dodd, Hope Dept. Oxford. (♀, OUM).

Unique. Partially destroyed.

Baryconus dissimilis (Nixon, 1933) **comb. n.**

Hoploteleia dissimilis Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 298.

BMNH type-label "Type H.T." ; Natal, Van Reenen, Drakensberg, 1-22. I.1927 ; S. Africa, R. E. Turner, Brit. Mus. 1927-54 ; *Hoploteleia dissimilis* Nixon. Type ♂ 1933. (BMNH).

One female (allotype) and two more males.

Baryconus orthopterae (Dodd, 1920) **comb. n.**

Hoploteleia orthopterae Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 339.

BMNH type-label "Type H.T." ; Freetown, Sierra Leone, A. W. Bacot, 1915-356 ; *Hoploteleia orthopterae* Dodd ♀. (BMNH).

Four paratypes.

Baryconus pilosus (Cameron, 1905) **comb. n.**

Rhacoteleia pilosa Cameron, 1905. *Spolia zeylan.* **3** : 72.

BMNH type-label ; Peradeniya, Ceylon, 8.03 ; P. Cameron Coll. 1914-110 ; *Rhacoteleia pilosa* Cam. Type Ceylon. (♀, BMNH).

Antennae broken off apically ; four more females.

***Baryconus striolatus* (Cameron, 1912) comb. n.**

Apegusoneura striolatus Cameron, 1912. *Soc. ent.* **27** : 69.

BMNH type-label ; Kuching, J. H. ; P. Cameron Coll. 1914-110 ; *Anteris striolatus* Cameron Type Borneo. (♀, BMNH).

Unique. Head and gaster missing.

***CALOTELEA* Westwood, 1837**

(= ***CALOTELEIA*** Ashmead, 1893 – emend. ***CERATOTELEIA*** Kieffer, 1908,

LAMPROTELEIA Kieffer, 1910, ***NEUROTELEIA*** Kieffer, 1910 **syn. n.**)

***Calotelea aphrodite* (Nixon, 1933) comb. n.**

Ceratoteleia aphrodite Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 559.

BMNH type-label "Type H.T." ; Cape Province, Somerset East, 27-31.I.1931 ; S. Africa, R. E. Turner, Brit. Mus. 1931-102 ; *Ceratoteleia aphrodite* Nixon. Type ♀ 1933. (BMNH).

Calotelea dorsalis Ashmead, 1895 – see ***Probaryconus*** Kieff.

***Calotelea erana* (Nixon, 1931) comb. n.**

Ceratoteleia erana Nixon, 1931. *Eos, Madr.* **7** : 361.

BMNH type-label "Type H.T." ; Mossel Bay, Cape Province, October, 1921 ; S. Africa, R. E. Turner, Brit. Mus. 1921-450 ; *Ceratoteleia erana* Nixon Holotype ♀, 1931. (BMNH).

One male (allotype), one female (paratype) and other material. Related to *Govinda* Nix.

***Calotelea fasciatipennis* (Kieffer, 1910) comb. n.**

Lamproteleia fasciatipennis Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 293.

72 ; label with a part of fore wings and a part of hind wings ; *Lamproteleia fasciatipennis* ; Mahé '08-9 Seychelles Exp. *Lamproteleia fasciatipennis* J. J. Kieffer Type ; red label "Figured specimen" ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition, 1913-170. (♀, BMNH).

Unique.

***Calotelea gracilis* (Nixon, 1931) comb. n.**

Ceratoteleia gracilis Nixon, 1931. *Eos, Madr.* **7** : 359.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Sept. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-510 ; *Ceratoteleia gracilis* Nixon Holotype ♀ 1931. (BMNH).

One male (allotype), two females (paratypes).

***Calotelea grenadensis* Ashmead, 1896**

Caloteleia (!) grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 798.

Mount Gay Est. (Leeward side), Grenada, W.I., H. H. Smith ; 30 ; W. Indies, 99-331 ; BMNH type-label ; *Caloteleia granadensis (!)* Ashm. ♀ Type. (BMNH).
Unique.

***Calotelea heterocera* (Kieffer, 1910) comb. n.**

Neuroteleia heterocera Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 293.

Silhouette, '08 Seychelles Exp. ; *Neuroteleia heterocera* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Percy Sladen Trust Expedition, 1913-170. (♀, BMNH).

Unique.

***Calotelea leucosia* (Nixon, 1931) comb. n.**

Ceratoteleia leucosia Nixon, 1931. *Eos, Madr.* **7** : 363.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Dec. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1924-54 ; *Ceratoteleia leucosia* Nixon Holotype ♀ (BMNH).

One male (allotype) and 38 ♀♂ (paratypes).

***Calotelea mellicolor* (Nixon, 1931) comb. n.**

Ceratoteleia mellicolor Nixon, 1931. *Eos, Madr.* **7** : 357.

BMNH type-label "Type H.T." ; S. Africa, R. E. Turner, Brit. Mus. 1922-25 ; Mossel Bay, Cape Province, Dec. 1921 ; *Ceratoteleia mellicolor* Nixon Holotype ♀ 1931. (BMNH).

One male (allotype), ten females (paratypes) and other material.

***Calotelea nigriceps* Ashmead, 1900**

Caloteleia (!) nigriceps Ashmead, 1900. *Trans. ent. Soc. Lond.* **1900** : 243.

63 ; Balthazar (Windward side), Grenada, W.I., H. H. Smith ; W. Indies, 99-331 ; BMNH type-label ; *Caloteleia nigriceps* Ashm. ♀ Type. (BMNH).

One male (as type).

***Calotelea pulchripennis* (Kieffer, 1910) comb. n.**

Lamproteleia pulchripennis Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 293.

163 ; Silhouette '08 Seychelles Exp. ; *Lamproteleia pulchripennis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition. 1913-170. (♀, BMNH).

Unique.

Calotelea puncticeps Ashmead, 1894

Caloteleia (!) *puncticeps* Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 219.

St. Vincent, W.I., H. H. Smith, 238 ; W. Indies, 99-331 ; BMNH type-label ; *Caloteleia puncticeps* Ashm. ♀. (BMNH).

Unique.

Calotelea rufa (Kieffer, 1910) **comb. n.**

Neuroteleia rufa Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 293.

88 ; Mahe '08-9 Seychelles Exp. ; *Neuroteleia rufa* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170 (♂, BMNH).

One female (paratype).

Calotelea rufipes Cameron, 1913 – see ***Probaryconus cameroni*** nom. n.***Calotelea striatifrons*** Ashmead, 1896

Caloteleia (!) *striatifrons* Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 798.

Balthazar (Windward side), Grenada, W.I., H. H. Smith 20 ; W. Indies, 99-331 ; BMNH type-label ; *Caloteleia striatifrons* Ashm. ♀ Type. (BMNH).

Unique. Eyes slightly hairy.

CERATOBAEOIDES Dodd, 1913

Ceratobaeoides turneri Dodd, 1920 – see ***Idris*** Först.

CERATOBAEUS Ashmead, 1893

Ceratobaeus insularis Kieffer, 1910 – see ***Idris*** Först.

CHROMOTELEIA Ashmead, 1893***Chromoteleia nigrescens*** Dodd, 1920

Chromoteleia nigrescens Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 329.

BMNH type-label ; S.W. Australia, Yallingup, 1-12.Dec.1912, R. E. Turner ; *Chromoteleia nigrescens* Dodd ♂. (BMNH).

Unique. Dissected and partially damaged. In 1931 transferred by Dodd to *Bracalba* Dodd.

CREMASTOBAEUS Ashmead, 1893***Cremastobaeus annulipes*** Ashmead, 1896

Cremastobaeus annulipes Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 798.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 40 ; W. Indies, 99-331 ; BMNH type-label ; *Cremastobaeus annulipes* Ashm. ♂ Type. (BMNH).

Unique.

Cremastobaeus niger Ashmead, 1894

Cremastobaeus niger Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 228.

St. Vincent, W.I., H. H. Smith ; BMNH type-label ; *Cremastobaeus niger* Ashm. ♂ Type. (BMNH).

Head broken off, parapsides absent. One female (not marked as paratype).

DICHOTELEAS Kieffer, 1907***Dichoteleas rugosus*** Kieffer, 1907

Dichoteleas rugosus Kieffer, 1907. *Berl. ent. Z.* **51** : 297.

BMNH type-label ; Mackay, 10.97 ; Queensland, R. E. Turner, 1907-94 ; *Dichoteleas rugosus* Kieff. Type ♂ ; Named by J. J. Kieffer. (♂, BMNH).

Unique. Partially dissected.

DUTA Nixon, 1933***Duta tenuicornis*** (Dodd, 1920)

Holoteleia tenuicornis Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 335.

BMNH type-label ; Tjibodas, Java, 5000-7000 ft., Aug. 1913, Konigsberger, 1913-523 ; *Holoteleia tenuicornis* Dodd ♀. (BMNH).

One male and two more females.

Duta tenuicornis fragilis Nixon, 1933

Duta tenuicornis ssp. *fragilis* Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 306.

BMNH type-label "Type H.T." ; Orange Free State, Harrismith, March 1-20, 1927 ; S. Africa, R. E. Turner, Brit. Mus. 1927-147 ; *Duta tenuicornis* Dodd ssp. *fragilis* Nixon Holotype ♂ 1933. (BMNH).

Five males (paratypes).

GITA Nixon, 1933**Gita infortunata** Nixon, 1933

Gita infortunata Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 309.

BMNH type-label "Type H.T." ; Worcester, Cape Province, 27-30.III.1921 ; S. Africa, R. E. Turner, Brit. Mus. 1921-210 ; *Gita infortunata* Nixon Holotype ♀, 1933. (BMNH).

Unique. Gaster missing.

GOVINDA Nixon, 1933**Govinda incerta** Nixon, 1933

Govinda incerta Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 475.

BMNH type-label "Type H.T." ; Cape Province, Somerset East, 23-31.XII.1930 ; S. Africa, R. E. Turner, Brit. Mus. 1931-61 ; *Govinda incerta* Nixon Holotype ♂, 1933. (BMNH).

One female (allotype) and nine ♀♂ (paratypes).

Govinda mila Nixon, 1933

Govinda mila Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 472.

BMNH type-label "Type H.T." ; Cape Province, Somerset East, 1-26.I.1931, R. E. Turner, Brit. Mus. 1931-95 ; *Govinda mila* Nixon Holotype ♂ 1933. (BMNH).

One female (allotype) and 22 ♀♂ (paratypes).

Govinda nona Nixon, 1933

Govinda nona Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 467.

BMNH type-label "Type H.T." ; Mossel Bay, Cape Province, Febr. 1922 ; S. Africa, R. E. Turner, Brit. Mus. 1922-97 ; *Govinda nona* Nixon Holotype ♀, 1933. (BMNH).

One male (allotype) and 52 ♀♂ (paratypes).

Govinda rea Nixon, 1933

Govinda rea Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 470.

BMNH type-label "Type H.T." ; Queenstown, Cape Province, 3,500 ft. ; 16.I.-10.II.1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-140 ; *Govinda rea* Nixon Holotype ♂ 1933. (BMNH).

One female (allotype), one male (paratype).

***Govinda rufipes* (Ashmead, 1894) comb. n.**

Anteris rufipes Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 227.

BMNH type-label ; Mount Gay Est., (Leeward side), Grenada, W.I., H. H. Smith, 32 ; *Anteris rufipes* Ashm. ♂ Type. (BMNH).

One more female (most probably belongs to another genus).

***Govinda undina* Nixon, 1933**

Govinda undina Nixon, 1933. *Ann. Mag. nat. Hist. (10)* **12** : 476.

BMNH type-label "Type H.T." ; Cape Province, Somerset East, 1-26.I.1931 ; S. Africa, R. E. Turner, Brit. Mus., 1931-95 ; *Govinda undina* Nixon Holotype ♂, 1933. (BMNH).

One female (allotype) and five ♀♂ (paratypes).

GRYON Haliday, 1833

(= *ACOLUS* Förster, 1856, *HADRONOTUS* Förster, 1856, *PLASTOGRYON*

Kieffer, 1908, *HOLACOLUS* Kieffer, 1912, *TELENOMOIDES* Dodd, 1913,

HADRONOTELLUS Kieffer, 1917, *HADROPHANURUS* Kieffer, 1926,

HETEROGRYON Kieffer, 1926)

***Gryon agilis* (Ashmead, 1896) comb. n.**

Hadronotus agilis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 799.

BMNH type-label ; Mount Gay Est. (Leeward side), Grenada, W.I., H. H. Smith, 30 ; W. Indies, 99-331 ; *Hadronotus agilis* Ashm. ♀ Type. (BMNH).

Unique.

***Gryon antestiae* (Dodd, 1920) comb. n.**

Hadronotus antestiae Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 351.

BMNH type-label ; British East Africa ; *Hadronotus antestiae* Dodd Types (!) ; female in red circle - selected lectotype by L. Masner 9.XII.1961. (♀, BMNH).

Four females and one male.

***Gryon atrocoxalis* (Ashmead, 1896) comb. n.**

Hadronotus atrocoxalis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 799.

Mount Gay Est. (Leeward side), Grenada, W.I., H. H. Smith, 33 ; BMNH type-label ; W. Indies, 99-331 ; *Hadronotus atrocoxalis* Ashm. ♀ Type. (BMNH).

Unique.

***Gryon charon* (Nixon, 1934) comb. n.**

Hadronotus charon Nixon, 1934. *Ann. Mag. nat. Hist.* (10) **14** : 306.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, June 12-30.1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-363 ; *Hadronotus charon* Nixon 1934 Holotype ♀. (BMNH).

One male (allotype), seven ♀♂ (paratypes).

***Gryon chrysolaus* (Walker, 1839) comb. n.**

Telenomus chrysolaus Walker, 1839. *Monogr. Chalcid.* **2** : 80.

BMNH type-label ; Bahia ; *Telenomus chrysolaus* Walker ♂. (BMNH).

Unique.

***Gryon cous* (Nixon, 1934) comb. n.**

Hadronotus cous Nixon, 1934. *Ann. Mag. nat. Hist.* (10) **14** : 301.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Dec. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1924-54 ; *Hadronotus cous* Nixon Holotype ♀ 1934. (BMNH).

One male (allotype), one male (paratype).

***Gryon dasyni* (Nixon, 1934) comb. n.**

Hadronotus dasyni Nixon, 1934. *Stylops* **3** : 2.

BMNH type-label "Type H.T." ; Java, Banka, 1931, J.v.d. Vecht ; Ex eggs of *Dasynus piperis* ; Pres. by Imp. Inst. Ent., B.M. 1933-608 ; *Hadronotus dasyni* Nixon ♀ 1933 Holotype. (BMNH).

One male (allotype), ten ♀♂ (paratypes).

***Gryon dicaeus* (Walker, 1839) comb. n.**

Telenomus dicaeus Walker, 1839. *Monogr. Chalcid.* **2** : 80.

BMNH type-label ; 1314a ; Brazil, Bahia, C. Darwin ; *Telenomus dicaeus* Walker Type (J.F.P. VI.37) ; *Dicaeus*. (♂, BMNH).

Unique. Antennae broken off apically.

***Gryon divisus* (Wollaston, 1858) comb. n.**

Telenomus divisus Wollaston, 1858. *Ann. Mag. nat. Hist.* (3) **1** : 25.

Madeira, Wollaston, 55.7 ; Madeira, Wollaston, 55.7 ; BMNH type-label. (♀, BMNH).

Unique. A synonym of *Gryon misellus* Haliday, 1833 **syn. n.**

***Gryon festivus* (Kieffer, 1910) comb. n.**

Hadronotus festivus Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 293.

120 ; Mahe '08-9 Seychelles Exp. ; *Hadronotus festivus* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).

Unique.

***Gryon grenadensis* (Ashmead, 1896) comb. n.**

Hadronotus grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 800.

Mount Gay Est. ; BMNH type-label ; *Hadronotus granadensis* (!) ♂ Type. (BMNH).

Unique.

***Gryon hiberus* (Nixon, 1934) comb. n.**

Hadronotus hiberus Nixon, 1934. *Ann. Mag. nat. Hist.* (10) **14** : 299.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, July 1-9. 1923 ; S. Africa, R.E. Turner, Brit. Mus. 1923-369 ; *Hadronotus hiberus* Nixon Holotype 1934 ♀. (BMNH).

Three females (paratypes)

***Gryon homeoceri* (Nixon, 1934) comb. n.**

Hadronotus homeoceri Nixon, 1934. *Stylops* **3** : 4.

BMNH type-label ; Java, Buitenzorg, 1931, J.v.d. Vecht, Ex eggs of *Homeocerus marginellus* III ; Pres. by Imp. Inst. Ent., B.M. 1933-608 ; *Hadronotus homeoceri* Nixon Holotype ♀ 1933. (BMNH).

One male (allotype), three ♀♂ (paratypes).

***Gryon janus* (Nixon, 1934) comb. n.**

Hadronotus janus Nixon, 1934. *Ann. Mag. nat. Hist.* (10) **14** : 304.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, July 10-31 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-398 ; *Hadronotus janus* Nixon Holotype ♀ 1934. (BMNH).

One male (allotype), two males (paratypes).

***Gryon leptocorisae* (Nixon, 1934) – see *Gryon nixonii* n.n.**

***Gryon letus* (Nixon, 1934) comb. n.**

Hadronotus letus Nixon, 1934. *Ann. Mag. nat. Hist.* (10) **14** : 309.

BMNH type-label "Type H.T." ; Gold Coast, Aburi, W. H. Patterson ; *Hadronotus letus* Nixon Holotype ♀ 1933. (BMNH).

One male (allotype), 21 ♀♂ (paratypes).

***Gryon leviventris* (Cameron, 1913) – see *Trissolcus* Ashm.**

***Gryon lymantriae* (Masner, 1958) comb. n.**

Hadronotus lymantriae Masner, 1958. *Entomophaga* **3** : 39.

Slovakia mer., Beluja, 25.III.1955, Ing. M. Capek lgt. ; Ex ovulis *Lymantria dispar* (L.) ; *Hadronotus lymantriae* ♀ n. sp. Det. L. Masner, 1958 ; red label "Paratypus". (♀ paratype, BMNH).

Unique.

***Gryon myndus* (Nixon, 1934) comb. n.**

Hadronotus myndus Nixon, 1934. *Ann. Mag. nat. Hist.* (10) **14** : 309.

BMNH type-label "Type H.T." ; Mossel Bay, Cape Province, Febr. 1922 ; S. Africa, R. E. Turner, Brit. Mus. 1922–97 ; *Hadronotus myndus* Nixon, Holotype ♀ 1934. (BMNH).

One male (allotype), seven ♀♂ (paratypes).

***Gryon naevius* (Nixon, 1934) comb. n.**

Hadronotus naevius Nixon, 1934. *Ann. Mag. nat. Hist.* (10) **14** : 311.

BMNH type-label "Type H.T." ; Cape Province, Mossel Bay, VIII.1930 ; S. Africa, R. E. Turner, Brit. Mus. 1930–416 ; *Hadronotus naevius* Nixon, Holotype ♀ 1934. (BMNH).

One male (allotype), four ♀♂ (paratypes).

***Gryon nixonii* n. n.**

Hadronotus leptocorisae Nixon, 1934. *Stylops* **3** : 5, nec Howard 1885.

BMNH type label "Type H.T." ; Java, Lembang, 1931, J.v.d. Vecht, Ex eggs of *Leptocorisa acuta* IV ; *Hadronotus leptocorisae* Nixon Holotype ♀ 1933. (BMNH).

One male (allotype), four ♀♂ (paratypes).

***Gryon oophagus* (Nixon, 1934) comb. n.**

Hadronotus oophagus Nixon, 1934. *Stylops* **3** : 3.

BMNH type-label "Type H.T." ; Java, Banka, 1931, J.v.d. Vecht, Ex Coreid eggs ; Pres. by Imp. Inst. Ent., B.M. 1933–608 ; *Hadronotus oophagus* Nixon Holotype ♀ 1933. (BMNH).

One male (allotype), nine ♀♂ (paratypes).

***Gryon pisus* (Nixon, 1934) comb. n.**

Hadronotus pisus Nixon, 1934. *Ann. Mag. nat. Hist.* (10) **14** : 297.

BMNH type-label "Type H.T." ; Mossel Bay, Cape Province, Dec. 1921 ; S. Africa, R. E. Turner, Brit. Mus. 1922-25 ; *Hadronotus pisus* Nixon Holotype ♀ 1934. (BMNH).

One male (allotype), 42 ♀♂ (paratypes).

***Gryon rugosithorax* (Ashmead, 1896) comb. n.**

Hadronotus rugosithorax Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 799.

St. John's Riv. (Leeward side), Grenada, W.I., H. H. Smith ; BMNH type-label ; W. Indies, 99-331 ; *Hadronotus rugosithorax* Ashm. ♀ Type. (BMNH).

Unique.

***Gryon saxatilis* (Kieffer, 1910) comb. n.**

Hadronotus saxatilis Kieffer, 1910. *Bull. Soc. ent. Fr.* : **1910** 293.

97 ; Mahe '08 Seychelles Exp. ; Type *Hadronotus saxatilis* J. J. Kieffer ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).

Five ♀♂ (paratypes).

***Gryon subfasciatus* (Wollaston, 1858) comb. n.**

Telenomus subfasciatus Wollaston, 1858. *Ann. Mag. nat. Hist.* (3) **1** : 25.

Madeira, Wollaston, 55.7 ; BMNH type-label.

Unique. Head lost, only the antennal club remains.

HADRONOTOIDES Dodd, 1913***Hadronotoides rugostriatus* Dodd, 1920**

Hadronotoides rugostriatus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 352.

Rhomboid label "W" ; "Ceylon, Thwaites" ; *Hadronotoides rugostriatus* Dodd ♀ Type ; Type Hym. : 41 *Hadronotoides rugostriatus* Dodd, Hope Dept. Oxford. (♀, OUM).

Unique. Antennae broken off.

IDRIS Förster, 1856

(= **ACOLUS** auct., **ACOLOIDES** Howard, 1890, **PSILACOLUS** Kieffer, 1908,

PHILOPLANES, Muesebeck & Walkley, 1956)

***Idris cteatus* (Walker, 1839) comb. n.**

Telenomus cteatus Walker, 1839. *Monogr. Chalcid.* **2** : 60.

BMNH type-label ; round label 1311/a ; Tasmania, Hobart Town, Ch. Darwin ; *Telenomus cteatus* Walker ♂. (BMNH).

Unique.

***Idris diversus* (Wollaston, 1858) comb. n.**

Telenomus diversus Wollaston, 1858. *Ann. Mag. nat. Hist.* (3) **1** : 26.

1221 ; BMNH type-label ; Madeira, Wollaston, 55.7 ; *Telenomus diversus* W. (♀, BMNH).

Unique.

***Idris fascipennis* (Ashmead, 1894) comb. n.**

Acoloides fascipennis Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 215.

St. Vincent, W.I., H. H. Smith, 158 ; W. Indies, 99-331 ; BMNH type-label ; *Acoloides fascipennis* Ashm. ♀ Type. (BMNH).

Unique.

Idris flavicornis* (Wollaston, 1858) – see *Idris wollastoni* n. n.**Idris insularis* (Kieffer, 1910) comb. n.**

Ceratobaeus insularis Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

120 ; Mahe, '08-9 Seychelles Exp. ; *Ceratobaeus insularis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Unique.

***Idris lucidiceps* (Kieffer, 1910) comb. n.**

Acolus lucidiceps Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

120 ; Mahe, '08-9 ; *Acolus lucidiceps* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

One male also.

***Idris ochraceus* (Ashmead, 1894) comb. n.**

Acoloides ochraceus Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 215.

St. Vincent, W.I., H. H. Smith, 241 ; W. Indies, 99-331 ; BMNH type-label ; *Acoloides ochraceus* ♀ Type Ashm. (BMNH).

Unique.

***Idris subfuscus* (Ashmead, 1894) comb. n.**

Acoloides subfuscus Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 215.

St. Vincent, W.I., Leeward side, H. H. Smith, 201 ; BMNH type-label ; W. Indies, 99-331 ; *Acolus* (!) *subfuscus* Ashm. ♀ Type. (BMNH).
Unique.

***Idris turneri* (Dodd, 1920) comb. n.**

Ceratobaeoides turneri Dodd, 1920. *Tr. ent. Soc. Lond.* **1919** : 362.

BMNH type label ; N. Queensland, Kuranda, 1,100 ft., May 3-June 20, 1913, R. E. Turner, 1913-438 ; *Ceratobaeoides turneri* Dodd ♀. (BMNH).
Unique.

***Idris unicolor* (Kieffer, 1910) comb. n.**

Acoloides unicolor Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

120 ; Mahe, '08-9 Seychelles Exp. ; *Acoloides unicolor* J. J. Kieffer ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170.
Unique.

***Idris wollastoni* n.n.**

Telenomus flavicornis Wollaston, 1858. *Ann. Mag. nat. Hist.* (3) **1** : 26, nec *Idris flavicornis* Förster, 1856.

1220 ; BMNH type-label ; Madeira, Wollaston, 55.7 ; *Telenomus flavicornis* W. (♂, BMNH).

Unique. A synonym of *Idris diversus* (Wollaston, 1858) **syn. n.**

***Idris zonatus* (Kieffer, 1910) comb. n.**

Acolus zonatus Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

120 ; Mahe, '08-9 Seychelles Exp. ; *Acolus zonatus* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170.

One male (paratype).

LAPITHA Ashmead, 1893***Lapitha citreicoxa* Dodd, 1920**

Lapitha citreicoxa Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 330.

BMNH type-label ; Borneo, J. Hewitt, 1910-380 ; Quop, J. Hewitt ; *Acanthoteleia ruficollis* Cam. (nom. nud.) ; *Lapitha citreicoxa* Dodd. ♂ Type. (BMNH).
Two more males.

Lapitha divina Dodd, 1920

Lapitha divina Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 332.

BMNH type-label ; Tjibodas, Java, 5000-7000 ft., Aug. 1913, Dr. Konigsberger, 1913-523 ; *Lapitha divina* Dodd ♂. (BMNH).

Three more males.

Lapitha javanica Dodd, 1920

Lapitha javanica Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 331.

BMNH type-label ; Tjibodas, Java, 5000-7000 ft., Aug. 1913, Dr. Konigsberger, 1913-523 ; *Lapitha javanica* Dodd ♂. (BMNH).

Two more males.

LAPITHOIDES Nixon, 1933***Lapithoides semiramis*** Nixon, 1933

Lapithoides semiramis Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 549.

BMNH type-label "Type H.T." ; Orange F. State, Harrismith, Feb. 1927 ; S. Africa, R. E. Turner, Brit. Mus. 1927-117 ; *Lapithoides semiramis* Nixon Holotype ♂, 1933. (BMNH).

Two males (paratypes).

LEPTOTELEIA Kieffer, 1908***Leptoteleia arndti*** Dozier, 1931

Leptoteleia arndti Dozier, 1931. *Bull. Serv. techn. Dépt. Agric. Haiti*, **26** : 15.

Haiti, No. 30-97, Foud-des-Negres, Feb. 28.1930 ; H. L. Dozier Collector ; blue label "Paratype" ; on coffee criquet eggs ; *Leptoteleia arndti* Dozier Det. Dozier. (♂ paratype, BMNH).

Unique. Gaster broken off.

MACROTELEIA Westwood, 1835

(= **ROMILIUS** Walker, 1842, **TRITELEIA** Kieffer, 1906)

Macroteleia aethiops Nixon, 1931

Macroteleia aethiops Nixon, 1931. *Eos, Madr.* **7** : 368.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, April 5-30. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-286 ; *Macroteleia aethiops* Nixon Holotype ♀ 1931. (BMNH).

One male (allotype), two females and one male (paratypes).

***Macroteleia caelebs* Nixon, 1931**

Macroteleia caelebs Nixon, 1931. *Eos, Madr.* 7 : 374.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Jan. 1924 ; S. Africa, R. E. Turner, Brit. Mus. 1927-97 ; *Macroteleia caelebs* Nixon Holotype ♀ 1931. (BMNH).

Unique.

***Macroteleia cleonymoides* Westwood, 1835**

Macroteleia cleonymoides Westwood, 1835. *Proc. zool. Soc. Lond.* 3 : 70.

♀ in a red circle ; *Macroteleia Cleonymoides* (!) Westw. *Proceed. Zl. Soc.* ; blue rhomboid label "W", Mauritius Templeton. (♀, OUM).

Some more females obviously not the same species. One male most probably conspecific with the holotype.

***Macroteleia duris* (Walker, 1839) comb. n.**

Scelio duris Walker, 1839. *Monogr. Chalcid.* 2 : 61.

V.D.L. ; BMNH type-label ; *Romilius duris* ♂ Walker Type. (BMNH).
Unique. Partially destroyed.

***Macroteleia emarginata* Dodd, 1920**

Macroteleia emarginata Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 326.

BMNH type-label ; Quop, Oct. 1906 ; P. Cameron Coll. 1914-110 ; *Macroteleia flavipes* Cam. Type Borneo ; *Macroteleia emarginata* Dodd. ♀ Type. (BMNH).
Unique.

***Macroteleia erythropus* Cameron, 1907**

Macroteleia erythropus Cameron, 1907. *An. Estac. Agron. Cuba* : 277.

BMNH type-label "Type H.T." ; Havana, Cuba, Baker ; 3483 ; P. Cameron Coll. 1914-110 ; *Macroteleia erythropus* Cam. Type Havana. (♂, BMNH).

One additional female belonging to *Baryconus* Först. (= *Hoploteleia* Ashm.)

***Macroteleia flavigena* Kieffer, 1910**

Macroteleia flavigena Kieffer, 1910. *Bull. Soc. ent. Fr.* : 293.

99 ; Mahe, '08-9 Seychelles Exp. ; *Macroteleia flavigena* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Three females (paratypes).

Macroteleia gracilicornis Dodd, 1920

Macroteleia gracilicornis Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 325.

BMNH type-label ; St. Helena, Wollaston, 77.104 ; *Macroteleia gracilicornis* Dodd ♀. (BMNH).

Two males also.

Macroteleia mahensis Kieffer, 1910

Macroteleia mahensis Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 293.

65 ; Mahe, '08-9 Seychelles Exp. ; *Macroteleia mahensis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands Percy Sladen Trust Expedition 1913-170.

Unique.

Macroteleia nebrija Nixon, 1931

Macroteleia nebrija Nixon, 1931. *Eos, Madr.* **7** : 377.

BMNH type-label "Type H.T." ; Natal, Van Reenen, Drakensberg, 1-22.I.1927 ; S. Africa, R. E. Turner, Brit. Mus. 1927-54 ; *Macroteleia nebrija* Nixon Holotype ♀ 1931. (BMNH).

Unique.

***Macroteleia nixonii* n. n.**

Macroteleia unicolor Nixon, 1931. *Eos, Madr.* **7** : 371, nec Dodd, 1914.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, 1-15.April.1924 ; S. Africa, R. E. Turner, Brit. Mus. 1924-213 ; *Macroteleia unicolor* Nixon Holotype ♀ 1931. (BMNH).

One male (allotype), 34 ♀♂ (paratypes), 19 ♂♂ (other material).

Macroteleia orithyla Nixon, 1931

Macroteleia orithyla Nixon, 1931. *Eos, Madr.* **7** : 375.

BMNH type-label "Type H.T." ; Cape Province, Ceres, Jan. 1925 ; S. Africa, R. E. Turner, Brit. Mus. 1925-79 ; *Macroteleia orithyla* Nixon Holotype ♀ 1931. (BMNH).

Unique.

Macroteleia perkinsiana Dodd, 1920

Macroteleia perkinsiana Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 327.

BMNH type-label "Type H.T." ; 1919-123 ; *Macroteleia perkinsiana* Dodd ♀. (BMNH).

Two more females. Holotype partially damaged.

Macroteleia rufipes Cameron, 1905

Macroteleia rufipes Cameron in Baker, 1905. *Invert. Pacif.* 1 : 52.

BMNH type-label ; Cameron Coll. 1904-313 ; San Marcos, Nicaragua, Coll. Baker ; *Macroteleia rufipes* Cam. Type Nicaragua. (♀, BMNH).

Two more females.

Macroteleia stabilis Nixon, 1931

Macroteleia stabilis Nixon, 1931. *Eos, Madr.* 7 : 378.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, May 15-31, 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-332 ; *Macroteleia stabilis* Nixon Holotype ♂ 1931. (BMNH).

Three males (paratypes).

Macroteleia testaceinerva Cameron, 1905

Macroteleia testaceinerva Cameron in Baker, 1905. *Invert. Pacif.* 1 : 52.

BMNH type-label ; Cameron Coll. 1904-313 ; *Macroteleia testaceinerva* Cameron Panama. (♀, BMNH).

Unique.

Macroteleia unicolor Nixon, 1931 - see ***Macroteleia nixonii*** n. n.***Macroteleia versicolor*** Kieffer, 1910

Macroteleia versicolor Kieffer, 1910. *Bull. Soc. ent. Fr.* 1910 : 293.

99 ; Mahe, '08-9 Seychelles Exp. ; *Macroteleia versicolor* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170.

Two males and two females (paratypes).

MANTIBARIA Kirby, 1900

(= ***RIELIA*** Kieffer, 1910, ***RIELIOMORPHA*** Dodd, 1913)

Mantibaria anomala Kirby, 1900

Mantibaria anomala Kirby in Andrewes, 1900. *A monograph of Christmas Island*, p. 82.

Christmas I., C. W. Andrewes, 98-20 ; BMNH type-label ; *Mantibaria anomala* Kb. Type * Christmas Is., on Mantis. (♀, BMNH).

Four more females.

MERRIWA Dodd, 1920***Merriwa quadridentata*** Dodd, 1920

Merriwa quadridentata Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 332.

BMNH type-label ; Tjibodas, Java, 5000-7000 ft., Aug. 1913, Dr. Konigsberger, 1913-523 ; *Merriwa quadridentata* Dodd ♂. (BMNH).

Two more males.

NEOSCELIO Dodd, 1913***Neoscelio pulchralis*** Dodd, 1926

Neoscelio pulchralis Dodd, 1926. *Proc. Linn. Soc. N.S.W.* **51** : 376.

BMNH type-label "Paratype" ; Mt. Tambourine, Queensland, A. P. Dodd ; Queensland, Brit. Mus. 1931-201 ; *Neoscelio pulchralis* Dodd ♂ Paratype. (BMNH).

One more male.

NIXONIA Masner, 1958***Nixonia pretiosa*** Masner, 1958

Nixonia pretiosa Masner, 1958. *Proc. R. ent. Soc. Lond.*, (B) **27** : 103.

Okahandja, 13-19.I.1928 ; S.W. Africa, R. E. Turner, Brit. Mus. 1928-77 ; *Nixonia pretiosa* ♀ n. gen. n. sp. Holotype Det. L. Masner, 1958 ; red label "Holotypus". (♀, BMNH).

Unique.

ODONTACOLUS Kieffer, 1910***Odontacolus longiceps*** Kieffer, 1910

Odontacolus longiceps Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

Type, Mahé, 75 ; *Odontacolus longiceps* Kieffer ; 75 ; Mahe, 1908-9 Seychelles Exp. ; *Odontacolus longiceps* J. J. Kieffer Type ; blue label "Type" ; red label "Figured specimen" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Unique.

OETHECOCTONUS Ashmead, 1900***Oethecoctonus laticinctus*** (Ashmead, 1894)

Cacus laticinctus Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 227.

BMNH type-label ; *Cacus laticinctus* ♂ Ashm. Type ; St. Vincent, W.I., H. H. Smith, 244. (♂, BMNH).

Sixteen more ♀♂.

OPISTACANTHA Ashmead, 1893***Opistacantha bifasciata*** Dodd, 1920

Opistacantha bifasciata Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 335

Rhomboid label "W Ceylon Thwaites" ; *Opistacantha bifasciata* Dodd ♀ Type ; Type Hym. : 42 *Opistacantha bifasciata* Dodd, Hope Dept. Oxford. (♀, OUM).
Unique.

Opistacantha pallida Ashmead, 1894

Opistacantha pallida Ashmead, 1894. *J. Linn. Soc. London (Zool)*. **25** : 225.

BMNH type-label ; St. Vincent, W.I., H. H. Smith, 158 ; *Opistacantha pallida* Ashm. ♀ Type. (BMNH).
A male specimen also.

OREISCELIO Kieffner, 1910***Oreiscelio seychellensis*** Kieffer, 1910

Oreiscelio seychellensis Kieffer, 1910. *Bull. Soc. ent. Fr.* : 293.

Mahe, '08–9 Seychelles Exp. 77 ; *Oreiscelio seychellensis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913–170.

Seven females (paratypes).

Oreiscelio turneri Nixon, 1933

Oreiscelio (!) turneri Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 294.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, May 1924 ; S. Africa, R. E. Turner, Brit. Mus. 1924–289 ; *Oreiscelio turneri* Nixon Holotype ♀ 1933. (BMNH).

One male (allotype), 18 ♀♂ (paratypes).

PARABAEUS Kieffer, 1910***Parabaeus ruficornis*** Kieffer, 1910

Parabaeus ruficornis Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

120 ; Mahe, '08 Seychelles Exp. ; *Parabaeus ruficornis* J. J. Kieffer Type ; blue label "Type" ; red label "Figured specimen" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913–170. (♀, BMNH).

Unique.

PARASCELIO Dodd, 1920***Parascelio undulatus*** Dodd, 1920

Parascelio undulatus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 341.

Frontera, Tabasco, Jan., H.H.S., Godman-Salvin Coll. 1904-I ; BMNH type-label ; *Parascelio undulatus* Dodd ♀. (BMNH).

Unique. Antennae broken off. Closely related to *Cremastobaeus* Ashm.

PARATRIMORUS Kieffer, 1908

(= **OXYPHANURUS** Kieffer, 1926 **syn. n.**)

Paratrimorus atriceps Kieffer, 1910

Paratrimorus atriceps Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

22 ; Silhouette, '08 Seychelles Exp. ; *Paratrimorus atriceps* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

One female (paratype).

Paratrimorus charmus (Walker, 1839) **comb. n.**

Telenomus charmus Walker, 1839. *Monogr. Chalcid.* **2** : 59.

BMNH type-label ; K.G.S. 1360b ; *Anteris charmus* Walker Type. (♀, BMNH).
Unique.

Paratrimorus cyclops Nixon, 1933

Paratrimorus cyclops Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 317.

BMNH type-label "Type H.T." ; Mossel Bay, Cape Province ; S. Africa, R. E. Turner, Brit. Mus. 1921-353 ; *Paratrimorus cyclops* Nixon Holotype ♀ 1933. (BMNH).

One male (allotype), two females (paratypes).

Paratrimorus flebilis Nixon, 1933

Paratrimorus flebilis Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 319.

BMNH type-label "Type H.T." ; Zululand, Eshowe, 6-31.V.1926 ; S. Africa, R. E. Turner, Brit. Mus. 1926-232 ; *Paratrimorus flebilis* Nixon Holotype ♀, 1933. (BMNH).

One male (allotype), five ♀♂ (paratypes).

***Paratrimorus pinguis* Nixon, 1933**

Paratrimorus pinguis Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 314.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Jan. 1924 ; S. Africa, R. E. Turner, Brit. Mus. 1924-97 ; *Paratrimorus pinguis* Nixon Holotype ♀, 1933. (BMNH).

One male (allotype), 25 ♀♂ (paratypes).

PARIDRIS Kieffer, 1908

(= **PARANTERIS** Kieffer, 1910 **syn. n.**)

***Paridris densiclava* (Kieffer, 1910) comb. n.**

Paranteris densiclava Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 293.

BMNH type-label "Type H.T." ; Mahe, '08-9 Seychelles Exp. ; *Paranteris densiclava* J. J. Kieffer Type ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Unique.

***Paridris flaviclava* (Kieffer, 1910) comb. n.**

Paranteris flaviclava Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 292.

200 ; Mahe, '08-9 Seychelles Expedition ; *Paranteris flaviclava* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170.

One more female.

***Paridris nigriclava* (Kieffer, 1910) comb. n.**

Paranteris nigriclava Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 292.

84 ; Mahe, '08-9 Seychelles Exp. ; Type ; *Paranteris nigriclava* J. J. Kieffer ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Two more females and five males.

***Paridris nigraticeps* (Kieffer, 1910) comb. n.**

Paranteris nigraticeps Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 292.

200 ; Mahe, '08-9 Seychelles Exp. ; Type *Paranteris nigraticeps* J. J. Kieffer ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Three males and two females (paratypes).

***Paridris nitidiceps* (Kieffer, 1910) comb. n.**

Paranteris nitidiceps Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 292.

36 ; Mahe, '08-9 Seychelles Exp. ; *Paranteris nitidiceps* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).

Two males and one female (paratypes).

***Paridris striatigena* (Kieffer, 1910) comb. n.**

Paranteris striatigena Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 292.

BMNH type-label "Type H.T." ; Silhouette, '08 Seychelles Exp. ; *Paranteris striatigena* J. J. Kieffer Type ; Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Unique. Considered synonym of *P. nigraticeps* (Kieff.) by Nixon (1933).

***Paridris tenuis* (Nixon, 1933) comb. n.**

Paranteris tenuis Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 556.

BMNH type-label "Type H.T." ; Cape Province, Somerset East, 27-31.I.1931 ; S. Africa, R. E. Turner, Brit. Mus., 1931-102 ; *Paranteris tenuis* Nixon Holotype ♀, 1933. (BMNH).

One male (allotype), 13 ♀♂ (paratypes).

PEGOTELEIA Kieffer, 1926***Pegoteleia caloptera* (Kieffer, 1910)**

Baryconus calopterus Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

84 ; Mahe '08-9 Seychelles Exp. ; *Baryconus calopterus* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Unique.

PLESIOBAEUS Kieffer, 1913***Plesiobaeus hospes* Kieffer, 1913**

Plesiobaeus hospes Kieffer in André, 1913. *Spec. Hym. Eur. Alg.* **11** : 283.

Plesiobaeus hospes K. ; Box Hill, with *F. fusca* 13.IV.11 ; BMNH type-label.

Unique.

PROBARYCONUS Kieffer, 1908

(= **BARYCONUS** auct. nec Förster, 1856, **AMBLYCONUS** Kieffer, 1913 **syn. n.**)

Probaryconus cameroni n. n.

Caloteleia rufipes Cameron, 1913. *Indian For. Rec.* **4** : 103, nec Kieffer, 1908.

BMNH type-label ; P. Cameron Coll. 1914-110 ; I.F.R., at light, Dehra Dun, 5-9-10, U.S. Iyer ; *Caloteleia rufipes* Cam., Type Dehra Dun. (♀, BMNH).

Unique.

Probaryconus dorsalis (Ashmead, 1896) **comb. n.**

Caloteleia dorsalis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 797.

Balthazar (Windward side), Grenada, W. I., H. H. Smith, 34 ; W. Indies, 99-331 ; BMNH type-label ; *Caloteleia dorsalis* Ashm. ♀ Type. (BMNH).

Unique.

Probaryconus dubius (Nixon, 1931) **comb. n.**

Procacus dubius Nixon, 1931. *Eos, Madr.* **7** : 365.

BMNH type-label "Type H.T." ; S. Africa, R. E. Turner, Brit. Mus. 1923-45 ; Aliwal North, Cape Province, Dec. 1922 ; *Procacus dubius* Nixon, Holotype ♀ 1931. (BMNH).

One male (allotype), 24 ♀♂ (paratypes) and other material.

Probaryconus minor (Wollaston, 1858)

Scelio minor Wollaston, 1858. *Ann. Mag. nat. Hist.* (3) **1** : 26.

1202 ; BMNH type-label ; Madeira, Wollaston, 55.7 ; blue label "Scelio minor W.". (♀, BMNH).

13 males and 5 more females.

Probaryconus pictus (Dodd, 1920) **comb. n.**

Baryconus pictus Dodd, 1920. *Tr. ent. Soc. Lond.* **1919** : 335.

Rhomboid label "W Ceylon Thwaites" ; *Baryconus pictus* Dodd ♀ type ; Type Hym. : 43 *Baryconus pictus* Dodd, Hope Dept. Oxford. (♀, OUM).

Unique.

Probaryconus rufipes (Cameron, 1913) – see **P. cameroni n. n.**

PROCACUS Kieffer, 1910

Procacus dubius Nixon, 1931 – see **Probaryconus** Kieff.

PROSAPEGUS Kieffer, 1908***Prosapegus atrellus*** Dodd, 1920

Prosapegus atrellus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 322.

Round label "M" ; *Prosapegus atrellus* Dodd ♀ Type ; Type Hym. : 36 1/3
Prosapegus atrellus Dodd, Hope Dept. Oxford. (♀, OUM).

Two males as cotypes in OUM ; one male as cotype in BMNH.

Prosapegus glorianus Dodd, 1920

Prosapegus glorianus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 324.

BMNH type-label "Type H.T." ; Fiji, Suva, 1.05., RCCP ; *Prosapegus glorianus*
 Dodd ♂. (BMNH).

Unique. Dissected.

Prosapegus metatarsalis Dodd, 1920

Prosapegus metatarsalis Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 323.

Round label "Aru" ; *Prosapegus metatarsalis* Dodd Type ♂ ; Type Hym. :
 37 1/2 *Prosapegus metatarsalis* Dodd, Hope Dept. Oxford. (♂, OUM).

Antennae broken off apically. One more male as cotype in OUM.

Prosapegus violaceus Dodd, 1920

Prosapegus violaceus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 321.

Blue round label "New Guinea" ; BMNH type-label ; *Chromoteleia violacea*
 Dodd. ♂ Type. (BMNH).

One female (cotype) in OUM.

PSILOTELEIA Kieffer, 1910***Psiloteleia atra*** Kieffer, 1910

Psiloteleia atra Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 293.

103 ; Silhouette, '08 Seychelles Exp. *Psiloteleia atra* J. J. Kieffer Type ; blue
 label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen
 Trust Expedition 1913-170. (♀, BMNH).

One male also (paratype).

SCELIACANTHA Dodd, 1913***Sceliacantha subplana*** Dodd, 1920

Sceliacantha subplana Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 336.

Rhomboid label "W Ceylon Thwaites" ; *Sceliacantha subplana* Dodd ♀ Type ;
 Type Hym. : 33 *Sceliacantha subplana* Dodd, Hope Dept. Oxford. (♀, OUM).

Unique. Partially damaged.

***Sceliacantha striatifrons* (Ashmead, 1895) comb. n.**

Anteris striatifrons Ashmead, 1895. *Proc. zool. Soc. Lond.* : 798.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; BMNH type-label ; W. Indies, 99-331 ; *Anteris striatifrons* Ashm. ♀ Type. (BMNH).
Unique.

***SCELIO* Latreille, 1805**

(= ***ENNEASCELIO*** Kieffer, 1910)

***Scelio antorides* Nixon, 1958**

Scelio antorides Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 305.

BMNH type-label ; Mossel Bay, Cape Province, May, 1921 ; S. Africa, R. E. Turner, *Brit. Mus.* 1921-248 ; *Scelio antorides* Nixon. Type ♀ 1957. (BMNH).
Seven additional ♀♂.

***Scelio bipartitus* Kieffer, 1907**

Scelio bipartitus Kieffer, 1907. *Berl. ent. Z.* **51** : 296.

BMNH type-label ; Mackay, 4. 00 ; 1118 ; Queensland, R. E. Turner, 1907-94 ; *Scelio bipartitus* Kieff. Type ♂. (BMNH).
One female and one more male.

***Scelio chapmanni* Nixon, 1958**

Scelio chapmanni Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 311.

BMNH type-label ; bred from grasshopper, Kafukola, Rukwa Rift, Tanganyika, 27-XI-56, R. F. Chapman (!) 4001 ; Ex Acridiid eggs ; *Scelio chapmanni* Nixon. Type ♀. (BMNH).
Unique.

***Scelio cheops* Nixon, 1958**

Scelio cheops Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 315.

BMNH type-label ; French Sudan, Central Flood Plain of Niger R., I-III.1956, G. Popov, Ex Acridiid eggs ; C.I.E. Coll. 14777 A/502 ; Ex *Eupreocnemis senegalensis* ; *Scelio cheops* Nixon. Type ♀. (BMNH).
Five more females.

***Scelio corion* Nixon, 1958**

Scelio corion Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 305.

BMNH type-label ; French Sudan, Central Flood Plain of Niger R., I-III.1956, G. Popov, Ex Acridiid eggs, C.I.E. Coll. 14777, 766 ; *Scelio corion* Nix. Type ♀ ; Ex eggs of *Sherifuria harringtoni* Uv. (♀, BMNH).
Antennae broken off. Eleven more ♀♀.

Scelio crassellus Dodd, 1920

Scelio crassellus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 343.

BMNH type-label ; Kuching, J. H. ; P. Cameron Coll. 1914-110 ; Z₃ ; *Scelio crassellus* Dodd. ♀ Type ; *Rhopaloscelio rufipes* Cam. Type Borneo. (♀, BMNH).
Unique. Head broken off.

Scelio erythropoda Cameron, 1888

Scelio erythropoda Cameron, 1888. *Biol. Centr.-Amer., Hym.* **1** : 436.

BMNH type-label "Type H.T." ; Cerro Zunil, 4-9000 ft., Champion ; B.C.A. Hymen I. *Scelio erythropoda* Cam. ; *Scelio erythropoda* Cam. Type. (♀, BMNH).
Four more females.

Scelio erythropus Dodd, 1920

Scelio erythropus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 345.

5137 ; BMNH type-label ; Adelaide River, 92-4 ; *Scelio erythropus* Dodd. ♀ Type. (BMNH).
Unique.

Scelio exaratus (Kieffer, 1910)

Enneascelio exaratus Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 293.

E. exaratus 29 ; 29 Silhouette, '08 Seychelles Exp. ; *Enneascelio exaratus* J. J. Kieffer Type ; red label "Figured specimen" ; blue label "Type" ; BMNH type-label "Type H.T." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).
Unique.

Scelio gaudens Nixon, 1958

Scelio gaudens Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 309.

BMNH type-label ; French Sudan, Central Flood Plain of Niger R., I-III.1956, G. Popov, Ex Acridiid eggs, C.I.E. Coll. 14777 A/378 ; Ex *Eupreocnemis senegalensis* ; *Scelio gaudens* Nixon. Type ♀. (BMNH).
47 ♀♂ additional material.

Scelio gobar Walker, 1839

Scelio gobar Walker, 1839. *Monogr. Chalcid.* **2** : 61.

Round label "1307/a" V.D.L. ; BMNH type-label ; *Scelio gobar* Walker ♂. (BMNH).
Two females also.

Scelio habilis Nixon, 1958

Scelio habilis Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 306.

BMNH type-label ; Mossel Bay, Cape Province, Febr. 1922 ; S. Africa, R. E. Turner, Brit. Mus. 1922-97 ; *Scelio habilis* Nixon. Type ♀ 1957. (BMNH).

Four more specimens.

Scelio javanica Roepke, 1916

Scelio javanica Roepke, 1916. *Tijdschr. Ent.* **59** : 163.

BMNH type-label "Cotype" ; W. Roepke ; Salahiga, Java, e.C. 1915 ; Pres. Imp. Inst. Ent., Brit. Mus. 1922-80 ; *Scelio javanica* Roepke ; Cotype! (♀ paratype, BMNH).

Six females (paratypes).

Scelio marbis Nixon, 1958

Scelio marbis Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 306.

BMNH type-label ; Queenstown, Cape Province, 3500 ft., 16.I.-10.II.1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-140 ; *Scelio marbis* Nixon. Type ♀, 1957. (BMNH).

Seven more specimens.

Scelio melanogaster Dodd, 1920

Scelio melanogaster Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 347.

BMNH type-label ; Mackay, 5.97 ; 993 ; *Scelio melanogaster* Dodd ♀. (BMNH). Unique.

Scelio minor Wollaston, 1858 – see ***Probaryconus*** Kieff.

Scelio popovi Nixon, 1958

Scelio popovi Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 309.

BMNH type-label ; Oman, E. Arabia, Ras al Kheima, 9.VI.1957, G. Popov, Ex *Acrotylus* sp. 2 ; *Scelio popovi* Nixon. Type ♀. (BMNH).

90 ♀♂ as material.

Scelio princeps Nixon, 1958

Scelio princeps Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 305.

BMNH type-label ; Eritrea, Wakhiro, 8.XI.56, D. J. Greathead, D 16 ; Ex eggs of *Catantops axillaris* ; *Scelio princeps* Nixon. Type ♀. (BMNH).

25 more specimens.

***Scelio semisanguineus* var. *nigrocinctus* Dodd, 1920**

Scelio semisanguineus var. *nigrocinctus* Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 346.

BMNH type-label ; S.W. Australia, Yallingup, 1-12 Dec. 1913, R. E. Turner, 1914-190 ; *Scelio semisanguineus nigrocinctus* Dodd ♀. (BMNH).

Dissected, antennae lost.

***Scelio subpolitus* Dodd, 1920**

Scelio subpolitus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 344.

Round label "M" ; *Scelio subpolitus* Dodd ♂ Type ; Type Hym. : 38 *Scelio subpolitus* Dodd, Hope Dept. Oxford. (♂, OUM).

Unique. Antennae broken off apically.

***Scelio taylori* Nixon, 1958**

Scelio taylori Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 313.

BMNH type-label ; Uganda, Toro ; 1941, T. H. C. Taylor ; *Scelio taylori* Nixon. Type ♀. (BMNH).

One more female.

***Scelio tristis* Nixon, 1958**

Scelio tristis Nixon, 1958. *Trans. R. ent. Soc. Lond.* **110** : 314.

BMNH type-label ; Uganda, Ruwenzori, 6000 ft. ; VIII.1941, T. H. C. Taylor ; *Scelio tristis* Nixon. Type ♀. (BMNH).

Unique.

***Scelio uvarovi* Ogloblin, 1927**

Scelio uvarovi Ogloblin, 1927. *Bull. ent. Res.* **17** : 393.

BMNH type-label "Paratype" ; 12.VIII.1925, Priluky Poltava, S.W. Russia, Lukjanovic coll. Paratype ; Bred from eggs of *Locusta migratoria danica* (L.) Uvar. ; *Scelio uvarovi* n. sp. Det. Dr. A. Ogloblin ; Pres. by Imp. Bur. Ent., Brit. Mus. 1927-87. (♀, paratype, BMNH).

Unique.

***Scelio wallacei* Dodd, 1920**

Scelio wallacei Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 344.

Round label "N" ; *Scelio wallacei* Dodd ♂ ; Type Hym. : 39 *Scelio wallacei* Dodd, Hope Dept. Oxford. (♂, OUM).

Unique. Antennae broken off apically.

Scelio zolotarevskyi Ferrière, 1930

Scelio zolotarevskyi Ferrière, 1930. *Bull. ent. Res.* **21** : 42.

BMNH type-label ; Madagascar, Ejeda, 18.II.1928, Zolotarevsky ; Ex eggs of *Locusta migratoroides* ; Pres. by Imp. Inst. Ent., Brit. Mus. 1931-140 ; *Scelio zolotarevskyi* sp. n. Ch. Ferrière det. type ♀. (BMNH).

Seven more females (paratypes).

SCELIOMORPHA Ashmead, 1893***Sceliomorpha ceylonensis*** Dodd, 1920

Sceliomorpha ceylonensis Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 349.

BMNH type-label ; Ceylon, Thwaites, 67-25 ; *Sceliomorpha ceylonensis* Dodd. ♀ Type. (BMNH).

Two more females.

Sceliomorpha flavipes Kieffer, 1907

Sceliomorpha flavipes Kieffer, 1907. *Berl. ent. Z.* **51** : 296.

BMNH type-label ; Mackay, 2.08 ; Queensland, R. E. Turner, 1907-94 ; *Sceliomorpha flavipes* ♀ Type Kieff. Named by J. J. Kieffer. (♀, BMNH).

Unique.

Sceliomorpha mirella Dodd, 1920

Sceliomorpha mirella Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 349.

BMNH type-label ; S.W. Australia, Yallingup, 1-12. Dec. 1913, R. E. Turner, 1914-190 ; *Sceliomorpha mirella* Dodd ♀. (BMNH).

Five ♀♂ (paratypes).

SHREEMANA Nixon, 1933***Shreemana sera*** Nixon, 1933

Shreemana sera Nixon, 1933. *Ann. Mag. nat. Hist.* (10) **12** : 300.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Jan. 1924 ; S. Africa, R. E. Turner, Brit. Mus. 1924-97 ; *Shreemana sera* Nixon Holotype ♂ 1933. (BMNH).

One female (allotype), four paratypes.

SPARASION Latreille, 1802***Sparasion albopilosellus*** Cameron, 1906

Sparasion albopilosellus Cameron, 1906. *J. Bombay nat. Hist. Soc.* **17** : 98.

BMNH type-label ; BMNH type-label "Lectotype L.M." ; Quetta, 5.03 ; P. Cameron Coll. 1914-110 ; *Sparasion albopilosellus* Cam. Type India ; Selected as lectotype of *S. albopilosellus* Cam. by L. Masner 1961. (♂ BMNH).

One more male (pinned) as type.

***Sparasion formosum* Kieffer, 1910**

Sparasion formosum Kieffer, 1910. *Bull. Soc. ent. Fr.* : 311.

Round label "M"; Morly Island, Malaya; 1903-297; BMNH type-label; *Sparasion formosum* Kieff.; Determined by Dr. Kieffer. (♂, BMNH).

Unique; pinned.

***Sparasion sinense* Walker, 1852**

Sparasion sinense Walker, 1852. *Ann. Mag. nat. Hist.* (2) 10 : 46.

Round label "China"; BMNH type-label; *Sparasion sinense* Walker Type. (♀, BMNH).

Thorax crushed. One male also.

THELEPTE Nixon, 1931***Thelepte serapis* Nixon, 1931**

Thelepte serapis Nixon, 1931. *Eos, Madr.* 7 : 379.

BMNH type-label "Type H.T."; Port St. John, Pondoland, June 1-11.1923; S. Africa, R. E. Turner, Brit. Mus. 1923-341; *Thelepte serapis* Nixon Holotype ♀ 1931. (BMNH).

One male (allotype), nine ♀♀ (paratypes).

TRICHOTELEIA Kieffer, 1910

***Trichoteleia atripes* Dodd, 1920 - see *Baryconus* Först.**

VARDHANA Nixon, 1933***Vardhana selene* Nixon, 1933**

Vardhana selene Nixon, 1933. *Ann. Mag. nat. Hist.* (10) 12 : 320.

BMNH type-label "Type H.T."; Port St. John, Pondoland, 1-15 April 1924; S. Africa, R. E. Turner, Brit. Mus. 1924-213; *Vardhana selene* Nixon Holotype ♀ 1933. (BMNH).

One male (allotype), 19 ♀♂ (paratypes).

The following four species described by Ashmead (1901) in *Anteris* Först. and classified by Kieffer (1908) in *Prosanteris* Kieff. are included in this provisional group since their generic classification was unclear to the author.

***Anteris hawaiiensis* Ashmead, 1901**

Anteris hawaiiensis Ashmead in Perkins, 1901. *Fauna Hawaii.* 1 : 298.

Type; BMNH type-label "Type H.T."; Sandwich Is., 1912-215; Lanai, 3000 ft., Perkins, 1.1894; *Anteris hawaiiensis* Ashm. ♀ Type. (BMNH).

Unique.

Anteris nigricornis Ashmead, 1901

Anteris nigricornis Ashmead in Perkins, 1901. *Fauna Hawaii*. 1 : 297.

BMNH type-label "Type H.T." ; Sandwich Is., 1912-215 ; Lanai, 3000 ft., Jan. 1894 ; *Anteris nigricornis* Ashm. ♀ Type. (BMNH).

Unique.

Anteris perkinsi Ashmead, 1901

Anteris perkinsi Ashmead in Perkins, 1901. *Fauna Hawaii*. 1 : 298.

BMNH type-label "Type H.T." ; Makaweli, 2000 ft., 1.1897 ; Sandwich Is., 1912-215 ; *Anteris perkinsi*. ♀ Type. (BMNH).

Unique.

Anteris tarsalis Ashmead, 1901

Anteris tarsalis Ashmead in Perkins, 1901. *Fauna Hawaii*. 1 : 298.

BMNH type-label "Type H.T." ; Koholuamano, Kauai, 4000 ft., Perkins, IV.1895 ; *Anteris tarsalis* ♀ type Ashm. (BMNH).

Unique.

Subfamily **TELEASINAE*****GRYONOIDES*** Dodd, 1920***Gryonoides glabriceps*** Dodd, 1920

Gryonoides glabriceps Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 361.

Teapa, Tabasco, March, H.H.S. ; Godman-Salvin Coll. 1904-1 ; BMNH type-label ; *Gryonoides glabriceps* Dodd ♂. (BMNH).

One more male (paratype).

Gryonoides pulchellus Dodd, 1920

Gryonoides pulchellus Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 361.

Teapa, Tabasco, Jan. H.H.S. ; Godman-Salvin Coll. 1904-1 ; BMNH type-label ; *Gryonoides pulchellus* Dodd ♀. (BMNH).

Unique.

Gryonoides scutellaris Dodd, 1920

Gryonoides scutellaris Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 362.

Atoyac, Vera Cruz, May, H.H.S. ; Godman-Salvin Coll. 1904-1 ; BMNH type-label ; *Gryonoides scutellaris* Dodd Type. (♂, BMNH).

Left antenna broken off. One male (paratype).

MACROGRYON Nixon, 1936**Macrogyron caelebs** Nixon, 1936

Macrogyron caelebs Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 189.

BMNH type-label "Type H.T." ; Nyasaland, Fort Johnston, II.1922, Crawling on sand, 347, Dr. W. A. Lamborn ; Pres. by Imp. Inst. Ent., B.M. 1936-560 ; *Macrogyron caelebs* Nixon ♀ Holotype 1936. (BMNH).

Unique. Pinned ; antennae almost broken off.

Macrogyron echion Nixon, 1936

Macrogyron echion Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 190.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Dec. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1925-54 ; *Macrogyron echion* Nixon ♂ Holotype 1936. (BMNH).

Six males (paratypes).

Macrogyron pluto Nixon, 1936

Macrogyron pluto Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 185.

BMNH type-label "Type H.T." ; E. Cape Province, Katberg, 4000 ft., XII.1932 ; S. Africa, R. E. Turner, Brit. Mus. 1933-69 ; *Macrogyron pluto* Nixon ♂ Holotype 1936. (BMNH).

23 males (paratypes).

TELEAS Latreille, 1809**Teleas brasilas** Walker, 1836

Teleas brasilas Walker, 1836. *Ent. Mag.* **3** : 365.

Teleas brasilas Wk. ; "Stood under this name in old B.M. Collection (Rearranged 1928 J.W.)" ; BMNH type-label ; *Brasilas* Wk. ; BMNH type-label "Lectotype L.M." ; Selected as lectotype of *T. brasilas* Walker by L. Masner 1961. (♂, BMNH).

One more male.

Teleas incertus (Nixon, 1936) **comb. n.**

Hoplogryon incertus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 183.

BMNH type-label "Type H.T." ; Aliwal North, Cape Province, 4350 ft., 1-13.I. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-70 ; *Hoplogryon incertus* Nixon ♀ Holotype 1936. (BMNH).

One male (allotype), 23 ♀♂ (paratypes).

Teleas lamellatus Szabó, 1956

Teleas lamellatus Szabó, 1956. *Ann. hist. nat. Mus. hung.* **7** : 155.

Red triangular label "Cotypus" ; Perkáta Hu., 1954 VIII. ; Zugó. Fürk. eld leg. : J. B. Szabó ; *Teleas lamellatus* J. B. Szabó 1955 ♀ det. J. B. Szabó ; Pres. by Com. Inst. Ent., B.M. 1955-508. (♀ paratype, BMNH).

Unique.

Teleas myrmecobius Kieffer, 1910

Teleas myrmecobius Kieffer, 1910. *Boll. Lab. Zool. Portici* **4** : 344.

Teleas myrmecobius ♂ ; Darenth Wood, July 3, 1909. (♂, BMNH).

Unique.

TRIMORUS Förster, 1856

(= **HOPLOGRYON** Ashmead, 1893 ; **HEMIMORUS** Cameron, 1912 ; **PARAGRYON** Kieffer, 1908 **syn. n.** ; **TRICHASIUS** Provancher, 1887 **syn. n.**)

Trimorus agilis (Kieffer, 1908) **comb. n.**

Hoplogryon agilis Kieffer, 1908. *Ann. Soc. sci. Brux.* **32** : 230.

Eccles ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; *Hoplogryon agilis* K. ; Selected as type of *Hoplogryon agilis* K. by G.E.N., 14.2.34. (♀, BMNH).

Unique.

Trimorus amphiarus (Nixon, 1936) **comb. n.**

Hoplogryon amphiarus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 176.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, July 10-31 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-398 ; *Hoplogryon amphiarus* Nixon ♀ Holotype 1936. (BMNH).

Unique.

Trimorus atys Nixon, 1936

Trimorus atys Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 121.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, April 5-30, 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-286 ; *Trimorus atys* Nixon ♀ Holotype 1936. (BMNH).

One male (allotype) and one female (paratype).

Trimorus baciliger (Kieffer, 1908) **comb. n.**

Hoplogryon baciliger Kieffer, 1908. *Ann. Soc. sci. Brux.* **32** : 218.

BMNH type-label "Type G.N." ; Ben Clibrich ; Cameron Coll. 1909-182 ; 183 ; Selected as type ♂ of *Hoplogryon baciliger* K. by G.E.N., 14.2.34. (♂, BMNH).

Three females also.

***Trimorus basicinctus* (Ashmead, 1896) comb. n.**

Gryon basicinctus Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 796.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 40 ; W. Indies, 99-331 ; label "Type" ; *Gryon basicinctus* Ashm. ♀ Type. (BMNH).

Unique. Almost totally destroyed.

***Trimorus cameroni* (Kieffer, 1908) comb. n.**

Hoplogryon cameroni Kieffer, 1908. *Ann. Soc. sci. Brux.* **32** : 235.

Dumfries ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 123 ; *Hoplogryon Cameroni* K. ; Selected as type ♂ of *Hoplogryon cameroni* K. by G.E.N., 19.2.34. (♂, BMNH).

Two more males.

***Trimorus carinifrons* (Kieffer, 1908) comb. n.**

Hoplogryon carinifrons Kieffer, 1908. *Ann. Soc. sci. Brux.* **32** : 220.

Bonar ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 298 ; Selected as type ♀ of *Hoplogryon carinifrons* K. by G.E.N., 15.2.34. (BMNH).

Unique.

***Trimorus carus* (Nixon, 1936) comb. n.**

Hoplogryon carus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 174.

BMNH type-label "Type H.T." ; Kloof, Natal, 1.4.27, L. Bevis ; Brit. Mus. 1936-562 ; *Hoplogryon carus* Nixon ♂ Holotype 1936. (BMNH).

***Trimorus clavicornis* (Cameron, 1912) comb. n.**

Hemimorus clavicornis Cameron, 1912. *Soc. ent.* **27** : 77.

BMNH type-label ; Kuching, J. H. ; P. Cameron Coll. 1914-110 ; *Hemimorus clavicornis* Cam. Type. (♀, BMNH).

Unique. Antennae broken off.

***Trimorus codrus* (Nixon, 1936) comb. n.**

Hoplogryon codrus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 163.

BMNH type-label "Type H.T." ; Aliwal North, Cape Province, Dec. 1922 ; S. Africa, R. E. Turner, Brit. Mus. 1923-45 ; *Hoplogryon codrus* Nixon ♀ Holotype 1936. (BMNH).

Unique.

***Trimorus condensus* Dodd, 1930**

Trimorus condensus Dodd, 1930. *Proc. Linn. Soc. N.S.W.* **55** : 75.

BMNH type-label "Paratype" ; Mt. Tambourine, Queensland, A. P. Dodd ; Queensland, Brit. Mus. 1931-201 ; *Trimorus condensus* Dodd ♀ Paratype. (BMNH).

Unique.

***Trimorus crassispinus* Dodd, 1930**

Trimorus crassispinus Dodd, 1930. *Proc. Linn. Soc. N.S.W.* **55** : 71.

BMNH type-label "Paratype" ; Mt. Tambourine, Queensland, A. P. Dodd ; Queensland, Brit. Mus. 1931-201 ; *Trimorus crassispinus* Dodd ♀ Paratype. (BMNH).

Unique.

***Trimorus cursor* (Kieffer, 1908) comb. n.**

Hoplogryon cursor Kieffer, 1908. *Ann. Soc. sci. Brux.* **32** : 204.

Thornhill, in Sphagnum, IV ; Cameron Coll. 1909-182 ; BMNH type-label "Lectotype L.M." ; 203 ; *Hoplogryon cursor* K. ; Selected as lectotype of *H. cursor* Kieff. by L. Masner 1961 ; the type specimen is in a red circle. (♀, BMNH).

One more female (on the same card).

***Trimorus cyclops* (Nixon, 1936) comb. n.**

Hoplogryon cyclops Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 179.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Sept. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-510 ; *Hoplogryon cyclops* Nixon 1936 ♀ Holotype. (BMNH).

One male (allotype), 18 ♀♂ (paratypes).

***Trimorus flavibasis* (Kieffer, 1926) comb. n.**

Hoplogryon flavibasis Kieffer, 1926. *Das Tierreich*, **48** : 219 ; = *Hoplogryon pallipes* Ashmead, 1895 nec Thomson, 1859)

Mount Gay Est. (Leeward side), Grenada, W.I., H. H. Smith, 26 ; W. Indies, 99-331 ; *Hoplogryon pallipes* Ashm. ♀ type. (BMNH).

Unique.

***Trimorus fons* (Nixon, 1936) comb. n.**

Hoplogryon fons Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 171.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Dec. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1924-54 ; *Hoplogryon fons* Nixon ♂ Holotype 1936. (BMNH).

Unique.

Trimorus incertus* (Nixon, 1936) – see *Teleas* Latr.**Trimorus iphias* Nixon, 1936**

Trimorus iphias Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 116.

BMNH type-label "Type H.T." ; Port St. John, Pondoland ; S. Africa, R. E. Turner, Brit. Mus. 1924-109 ; *Trimorus iphias* Nixon Holotype ♀ 1936. (BMNH).

One male (allotype), four males (paratypes).

***Trimorus laius* (Nixon, 1936) comb. n.**

Hoplogryon laius Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 178.

BMNH type-label "Type H.T." ; Cape Province, Somerset East, October 1930 ; S.W. Africa, R. E. Turner, Brit. Mus. 1930-561 ; *Hoplogryon laius* Nixon ♀ Holotype 1936. (BMNH).

One male (allotype), seven ♀♂ (paratypes).

***Trimorus levigena* (Kieffer, 1908) comb. n.**

Hoplogryon levigena Kieffer, 1908. *Ann. Soc. sci. Brux.* **32** : 231.

Galloway ; Cameron Coll. 1909-182 ; BMNH type-label ; 127 ; *Hoplogryon levigena* K. (♂, BMNH).

Unique.

***Trimorus lollius* (Nixon, 1936) comb. n.**

Hoplogryon lollius Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 127.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Jan. 1924 ; S. Africa, R. E. Turner, Brit. Mus. 1924-97 ; *Hoplogryon lollius* Nixon ♀ Holotype 1936. (BMNH).

Seven females (paratypes).

***Trimorus magnes* (Nixon, 1936) comb. n.**

Hoplogryon magnes Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 137.

BMNH type-label "Type H.T." ; Ceres, Cape Province, Nov. 1920 ; S. Africa, R. E. Turner, Brit. Mus. 1920-497 ; *Hoplogryon magnes* Nixon ♀ Holotype 1936. (BMNH).

One female (paratype), two females (other material).

***Trimorus marsyas* (Nixon, 1936) comb. n.**

Hoplogryon marsyas Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 131.

BMNH type-label "Type H.T." ; E. Cape Province, Katberg, 1-13.XI.1932 ; S. Africa, R. E. Turner, Brit. Mus. 1932-551 ; *Hoplogryon marsyas* Nixon ♀ Holotype 1936. (BMNH).

One female (paratype).

***Trimorus micropterus* (Kieffer, 1908) comb. n.**

Hoplogryon micropterus Kieffer, 1908. *Ann. Soc. Sci. Brux.* **32** : 221.

Eccles, in haystack ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 129 ; Selected as type of ♀ *Hoplogryon micropterus* K. by G.E.N., 15.2.34. (♀, BMNH).

Two more females.

***Trimorus myrmecobius* (Kieffer, 1910) comb. n.**

Hoplogryon myrmecobius Kieffer, 1910. *Boll. Lab. Zool. Portici* 4 : 344.

Hoplogryon myrmecobius ♀ ; Darenth Wood, 3.VII.1909 ; BMNH type-label. (♀, BMNH).

Unique.

***Trimorus myrmecophilus* (Kieffer, 1910) comb. n.**

Paragryon myrmecophilus Kieffer, 1910. *Boll. Lab. Zool. Portici* 4 : 343.

Paragryon myrmecophilus ; Bradgate Park, May 3, 1909 ; BMNH type-label. (♀, BMNH).

Unique.

***Trimorus nephele* Nixon, 1936**

Trimorus nephele Nixon, 1936. *Ann. Mag. nat. Hist.* (10) 17 : 119.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, May 1-14.1923 ; S. Africa, R. E. Turner, *Brit. Mus.* 1923-307 ; *Trimorus nephele* Nixon ♀ Holotype, 1936. (BMNH).

Three females (paratypes).

***Trimorus nigerrimus* (Kieffer, 1908) comb. n.**

Hoplogryon nigerrimus Kieffer, 1908. *Ann. Soc. sci. Brux.* 32 : 227.

Clober ; BMNH type-label "Type G.N." ; Cameron Coll. 1909-182 ; 202 ; *Hoplogryon nigerrimus* K. ; Selected as ♀ type of *Hoplogryon nigerrimus* K. by G.E.J.N., 15.2.34. (♀, BMNH).

Unique.

***Trimorus ninus* (Nixon, 1936)**

Hoplogryon ninus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) 17 : 133.

BMNH type-label "Type H.T." ; Orange Free State, Harrismith, March 1-20, 1927 ; S. Africa, R. E. Turner, *Brit. Mus.* 1927-147 ; *Hoplogryon ninus* Nixon ♀ Holotype 1936. (BMNH).

Unique. Right antenna broken off.

***Trimorus nomius* (Nixon, 1936) comb. n.**

Hoplogryon nomius Nixon, 1936. *Ann. Mag. nat. Hist.* (10) 17 : 134.

BMNH type-label "Paratype" ; Kenya, Suam fishing hut, Mt. Elgon, Vers Est. 2400 m. ; Museum de Paris, Mission de l'Omo, C. Arambourg, P. A. Chappuis and R. Jeannel, 1932-33 ; *Hoplogryon nomius* Nixon Paratype ♀ 1936 ; *Brit. Mus.* 1936-561. (♀, paratype, BMNH).

Unique.

***Trimorus oecleus* (Nixon, 1936) comb. n.**

Hoplogryon oecleus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) 17 : 139.

BMNH type-label "Type H.T." ; Cape Province ; Somerset East, 1-26.I.1931 ; S. Africa, R. E. Turner, Brit. Mus. 1931-95 ; *Hoplogryon oecleus* Nixon ♀ Holotype 1936. (BMNH).

Three females (paratypes).

***Trimorus orion* (Nixon, 1936) comb. n.**

Hoplogryon orion Nixon, 1936. *Ann. Mag. nat. Hist.* (10) 17 : 130.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Jan. 1924 ; S. Africa, R. E. Turner, Brit. Mus. 1924-97 ; *Hoplogryon orion* Nixon ♀ Holotype 1936. (BMNH).

One male (allotype), 5 ♀♂ (paratypes).

***Trimorus paris* (Nixon, 1936) comb. n.**

Hoplogryon paris Nixon, 1936. *Ann. Mag. nat. Hist.* (10) 17 : 177.

BMNH type-label "Type H.T." ; Cape Province, Somerset East, October 1930 ; S. Africa, R. E. Turner, Brit. Mus. 1930-561 ; *Hoplogryon paris* Nixon ♀ Holotype 1936. (BMNH).

Two females (paratypes).

***Trimorus pilosiceps* (Dodd, 1920) comb. n.**

Hoplogryon pilosiceps Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 358.

BMNH type-label ; Tjibodas, Java, 5000-7000 ft., Aug. 1913, Dr. Konigsberger, 1913-523 ; *Hoplogryon pilosiceps* Dodd ♂. (BMNH).

Type dissected. One more male.

***Trimorus politiceps* Dodd, 1920**

Trimorus politiceps Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 359.

BMNH type-label ; Tjibodas, Java, 5000-7000 ft., Aug. 1913, Dr. Konigsberger, 1913-523 ; *Trimorus politiceps* Dodd ♂. (BMNH).

Unique ; dissected.

***Trimorus politus* Dodd, 1920**

Trimorus politus Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 360.

Tjibodas, Java, 5000-7000 ft., Aug. 1913, Dr. Konigsberger, 1913-523 ; *Trimorus politus* Dodd ♂. (BMNH).

Unique.

***Trimorus pylus* (Nixon, 1936) comb. n.**

Hoplogryon pylus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 164.

BMNH type-label "Type H.T." ; Cape Town, Milnerton, Feb. 1926 ; S. Africa, R. E. Turner, Brit. Mus. 1926-119 ; *Hoplogryon pylus* Nixon ♀ Holotype 1936. (BMNH).

Unique.

***Trimorus rotundus* (Dodd, 1920) comb. n.**

Hoplogryon rotundus Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 358.

1654 ; BMNH type-label ; Madeira, Wollaston, 55.7. ; *Hoplogryon rotundus* Dodd. (♀, BMNH).

Unique.

***Trimorus rufonotatus* (Kieffer, 1908) comb. n.**

Hoplogryon rufonotatus Kieffer, 1908. *Ann. Soc. sci. Brux.* **32** : 220.

Thornhill, 11. VIII ; BMNH type-label "Type G.N." ; Cameron Coll. 1908-182 ; 133 ; *Hoplogryon rufonotus* (!) K. ; Selected as type of *Hoplogryon rufonotatus* K. by G.E.N., 14.2.34. (♀, BMNH).

Five more females.

***Trimorus scep sis* (Nixon, 1936) comb. n.**

Hoplogryon scep sis Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 140.

BMNH type-label "Type H.T." ; Natal : Van Reenen, Drakensberg, 55-6500 ft. '26 ; S. Africa, R. E. Turner, Brit. Mus. 1926-461 ; *Hoplogryon scep sis* Nixon ♀ Holotype 1936. (BMNH).

Unique.

***Trimorus schoeneus* (Nixon, 1936) comb. n.**

Hoplogryon schoeneus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 161.

BMNH type-label "Type H.T." ; E. Cape Province, Katberg, 4000 ft., Oct. 1932 ; S. Africa, R. E. Turner, Brit. Mus. 1932-521 ; *Hoplogryon schoeneus* ♀ Holotype 1936. (BMNH).

Unique.

***Trimorus sejus* (Nixon, 1936) comb. n.**

Hoplogryon sejus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 181.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Sept. 1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-510 ; *Hoplogryon sejus* Nixon ♂ Holotype 1936. (BMNH).

Unique.

***Trimorus sperches* (Nixon, 1936) comb. n.**

Hoplogryon sperches Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 165.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Jan. 1924 ; S. Africa, R. E. Turner, Brit. Mus. 1924-97 ; *Hoplogryon sperches* Nixon ♂ Holotype 1936. (BMNH).

Two males (paratypes).

***Trimorus striatigena* (Kieffer, 1908) comb. n.**

Hoplogryon striatigena Kieffer, 1908. *Ann. Soc. sci. Brux.* **32** : 231.

Bishopston ; Cameron Coll. 1909-182 ; BMNH type-label "Lectotype L.M." ; *Hoplogryon striatigena* K. ; Selected as lectotype of *H. striatigena* Kieffer by L. Masner 1961. (♂ BMNH).

No spine on metanotum in holotype. Two more males.

***Trimorus sublineatus* (Ashmead, 1894) comb. n.**

Prosacantha sublineata Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 214.

Leeward side, St. Vincent, W.I., H. H. Smith, 228 ; BMNH type-label ; W. Indies, 99-331 ; *Prosacantha sublineata* Ashm. ♂ Type. (BMNH).

Unique. Actually two males more!

***Trimorus thoas* (Nixon, 1936) comb. n.**

Hoplogryon thoas Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 169.

BMNH type-label "Type H.T." ; Natal : Van Reenen, Drakensberg, 1-22.I. 1927 ; S. Africa, R. E. Turner, Brit. Mus. 1927-54 ; *Hoplogryon thoas* Nixon ♂ Holotype 1936. (BMNH).

Unique.

***Trimorus tiresias* (Nixon, 1936) comb. n.**

Hoplogryon tiresias Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 172.

BMNH type-label "Type H.T." ; Mossel Bay, Cape Province, June, 1921 ; S. Africa, R. E. Turner, Brit. Mus. 1921-294 ; *Hoplogryon tiresias* Nixon ♂ Holotype 1936. (BMNH).

Two more males.

***Trimorus tityrus* (Nixon, 1936) comb. n.**

Hoplogryon tityrus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 164.

BMNH type-label "Type H.T." ; Natal : Van Reenen, Drakensberg, 1-22.I. 1927 ; S. Africa, R. E. Turner, Brit. Mus. 1927-54 ; *Hoplogryon tityrus* Nixon ♂ Holotype 1936. (BMNH).

One more male.

***Trimorus uranus* (Nixon, 1936) comb. n.**

Hoplogryon uranus Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 167.

BMNH type-label "Type H.T." ; Cape Province, Somerset East, October 1930 ; S. Africa, R. E. Turner, Brit. Mus. 1930-561 ; *Hoplogryon uranus* Nixon ♂ Holotype 1936. (BMNH).

Three males (paratypes).

Subfamily **TELENOMINAE*****EUMICROSOMA* Gahan, 1913**

(= ***NARDO*** Nixon, 1938 **syn. n.** ; ***SZELENYIELLA*** Szabó, 1957 **syn. n.**

***Eumicrosoma cumaeus* (Nixon, 1938) comb. n.**

Nardo cumaeus Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **1** : 279.

BMNH type-label ; India, Lyallpur, Punjab, IX.1936, R. Nath, Ex eggs of *Macropes excavatus* ; *Nardo cumaeus* Nixon ♀ Holotype 1938 ; Pres. by Imp. Inst. Ent., Brit. Mus. 1939-222. (♀ BMNH).

One male (allotype), 34 ♀♂ (paratypes).

***Eumicrosoma phaeax* (Nixon, 1938) comb. n.**

Nardo phaeax Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **1** : 283.

BMNH type-label ; India, Punjab, Lyallpur, IX.1936, R. Nath, Ex eggs of *Macropes excavatus* ; *Nardo phaeax* Nixon ♀ Holotype 1938 ; Pres. by Imp. Inst. Ent., Brit. Mus. 1939-222. (♀, BMNH).

One male (allotype), 24 ♀♂ (paratypes).

NIRUPAMA* Nixon, 1935**Nirupama auge* Nixon, 1935**

Nirupama auge Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 94.

BMNH type-label "Type H.T." ; Ex Hemipteron ; Gold Coast, Afwerase, 31.I.1922, W. H. Patterson ; *Nirupama auge* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., Brit. Mus. 1936-224. (♀, BMNH).

One male (allotype), 19 ♀♂ (paratypes).

***Nirupama morpheus* Nixon, 1935**

Nirupama morpheus Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 93.

BMNH type-label "Type H.T." ; Ex Hemipteron ; Gold Coast, Afwerase 31.I.1922, W. H. Patterson ; *Nirupama morpheus* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., Brit. Mus. 1936-224. (♀, BMNH).

One male (allotype), 17 ♀♂ (paratypes).

PLATYTELENOMUS Dodd, 1914***Platytelenomus busseolae*** (Gahan, 1922) **comb. n.**

Telenomus busseolae Gahan, 1922. *Proc. U.S. Nat. Mus.* **61** : 23.

Egg. par. *Busseola fusca* Hamp. ; C. W. Mally, Jan. 3, 1919 ; Cedara, Natal, S. Afr. ; red label "Paratype No. 24971 U.S.N.M. ; Pres. by Imp. Inst. Ent., Brit. Mus. 1937-721 ; *Telenomus* (*Prophanurus*) *busseolae* Gahan. (♀ paratype, BMNH).

One male and one more female (paratypes), and other material.

Platytelenomus hylas Nixon, 1935

Platytelenomus hylas Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 74.

BMNH type-label "Type H.T." ; Ex eggs of *Sesamia cretica* ; Brit. Sudan, Shendi, XII.1929-I.1930, J. W. Cowland ; *Platytelenomus hylas* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., Brit. Mus. 1936-224. (♀, BMNH).

One male (allotype), 9 card-mounts with numerous ♀♂ (paratypes).

TELENOMUS Haliday, 1833

(= **HEMISIUS** Westwood, 1833 ; **AHOLCUS** Kieffer, 1913 ;

PHANURUS Thomson, 1860)***Telenomus adenyus*** Nixon, 1937

Telenomus (*Aholcus*) *adenyus* Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 122.

BMNH type-label "Holotype" ; Ceylon, Paradenya, 12.VII.1928, Dr. J. C. Hutson, Eggs of *Lepidopteron* on lima beans, 6796 ; Pres. by Imp. Inst. Ent., B.M. 1937-721 ; *T.* (*Aholcus*) *adenyus* Nixon ♀ Holotype, 1937. (BMNH).

One male (allotype), 5 females (paratypes).

Telenomus albitarsis Ashmead, 1896

Telenomus albitarsis Ashmead, 1896. *Proc. zool. Soc. London* **1895** : 795.

Mount Gay Est., (Leeward side), Grenada, W.I., H. H. Smith, 26 ; W. Indies, 99-331 ; BMNH type-label ; *Telenomus albitarsis* Ashm. ♀ Type. (BMNH).

One male (allotype), 1 ♀ and 1♂ as material.

Telenomus aleus Nixon, 1935

Telenomus aleus Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 81.

Uganda, Kampala, 29.VIII.1929, Ex eggs of *Notodontia*, G. L. R. Hancock, 0325 ; *Telenomus aleus* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., B.M. 1936-224. (♀, BMNH).

One male (allotype), 25 ♀♂ (paratypes).

***Telenomus amazonicus* Cameron, 1891**

Telenomus amazonicus Cameron, 1891. *Mem. Manchv. lit. phil. Soc.* (4) **4** : 190.

BMNH type-label ; Cameron Coll. 98-124 ; *Telenomus amazonicus* Cam. Type ; Amazona. (♂, BMNH).

Unique. Antennae broken off.

***Telenomus anates* Nixon, 1937**

Telenomus anates Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **19** : 388.

BMNH type-label ; Tanganyika, T. Moshi, 15.V.1933, Ex Geometrid larva (!) on Vangueria, 1064, A. H. Ritchie ; *Telenomus anates* Nixon ♀ Holotype 1937 ; Pres. by Imp. Inst. Ent., B.M. 1937-721. (♀ BMNH).

One male (allotype), 28 ♀♂ (material).

***Telenomus atripes* Cameron, 1913**

Telenomus atripes Cameron, 1913. *Timehri* **3** : 134.

BMNH type-label ; Parasites of eggs of a Noctuid (cutworm) ; 102 ; P. Cameron Coll. 1914-110 ; *Telenomus atripes* Cam. Type Br. Guiana, ex eggs of a Noctuid. (♂, BMNH).

Holotype in a red circle ; five more males.

Telenomus atys* Nixon, 1935 – see *Trissolcus* Ashm.**Telenomus attaci* Nixon, 1937**

Telenomus attaci Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 456.

BMNH type-label "Holotype" ; Malaya, Kuala Lumpur, 19.III.1925, Entom. Div., per G. H. Corbett, *Attacus atlas* L. (ova) 2244 ; *Telenomus attaci* Nixon ♀ Holotype 1937 ; Pres. by Imp. Inst. Ent., B.M. 1937-721. (♀ BMNH).

One male (allotype), 5 females (paratypes) and other material.

Telenomus barrowi* Dodd, 1920 – see *Trissolcus* Ashm.**Telenomus basalis* Wollaston, 1858 – see *Trissolcus* Ashm.*****Telenomus benefactor* Crawford, 1911**

Telenomus benefactor Crawford, 1911. *Proc. U.S. nat. Mus.* **40** : 439.

Gebelein, Egypt. Soudan, Ex eggs *Tabanus taenida* ; H. H. King, 14.7.09 ; red label "Type" ; BMNH type-label ; *Telenomus benefactor* Crwfd. ♂ Type ; 1912-122. (BMNH).

Gaster broken off. One male (allotype), damaged, only thorax left ; three females (paratypes) and mass of other material.

***Telenomus brimo* Nixon, 1935**

Telenomus brimo Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 78.

BMNH type-label "Type H.T." ; Uganda, Kinyala, 24.XII.1929, H. Hargreaves, Ex eggs of *Nesce convolvuli* ; *Telenomus brimo* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., B.M. 1936-224. (♀, BMNH).

One male (allotype), 1♀ and 1♂ (paratypes).

***Telenomus busseolae* Gahan, 1922** – see ***Platytenomus* Dodd**

***Telenomus charmus* Walker, 1839** – see ***Paratrimorus* Kieffer**

***Telenomus chrysolaus* Walker, 1839** – see ***Gryon* Haliday**

***Telenomus codrus* Nixon, 1935**

Telenomus codrus Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 83.

BMNH type-label "Type H.T." ; Ex yellow Lepidopterous eggs on *Erythrena* sp. leaf ; Uganda, Kampala, 16.VII.1927, H. Hargreaves ; *Telenomus codrus* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., B.M. 1936-224. (♀, BMNH).

One male (allotype), 6 ♀♂ (paratypes).

***Telenomus connectans* Ashmead, 1896**

Telenomus connectans Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 792.

Mount Gay Est. (Leeward side), Grenada, W.I., H. H. Smith, 21 ; W. Indies, 99-331 ; BMNH type-label ; red label "Lectotype L.M." ; *Telenomus connectans* Ashm. ♀ Type ; Selected as lectotype of *T. connectans* Ashm. by L. Masner 1961. (♀, BMNH).

Six males as types, 11 ♀♂ as materials.

***Telenomus consimilis* Ashmead, 1896**

Telenomus consimilis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 791.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 40 ; BMNH type-label ; *Telenomus consimilis* Ashm. ♀ Type ; W. Indies, 99-331. (♀, BMNH).

Unique.

***Telenomus convergens* Ashmead, 1896**

Telenomus convergens Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 795.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; W. Indies, 99-331 ; BMNH type-label ; red label "Lectotype L.M." ; *Telenomus convergens* Ashm. ♀ Type ; Selected as lectotype of *T. convergens* Ashm. by L. Masner 1961 (♀, BMNH).

One female and two males as types, 6 ♀♂ (other material).

***Telenomus crassiclava* Nixon, 1940**

Telenomus crassiclava Nixon, 1940. *Ann. Mag. nat. Hist.* (11) **6** : 501.

BMNH type-label ; W. Indies, St. Lucia, 11.XII.1938, R. G. Fennah ; *Telenomus crassiclava* Nixon. Type ♀ 1940. (BMNH).

15 ♀♂ (paratypes).

Telenomus cteatus* Walker, 1839 – see *Idris* Förster**Telenomus cybele* Nixon, 1935**

Telenomus cybele Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 77.

BMNH type-label “Type H.T.” ; Uganda, Kampala, IX.1921, H. Hargreaves. Ex eggs of Saturniid ? No. 1086 ; *Telenomus cybele* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., B.M. 1936–224. (♀, BMNH).

One male (allotype), 21 ♀♂ (paratypes).

***Telenomus cyrus* Nixon, 1937**

Telenomus cyrus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 448.

BMNH type-label “Holotype” ; Java, Lembang, 1931, Dr. P.v.d. Goot. Ex eggs of *Nezara viridula* V ; Pres. by Imp. Inst. Ent., B.M. 1933–608 ; *Telenomus cyrus* Nixon ♀ Holotype 1937. (BMNH).

Five females (paratypes) and other material.

***Telenomus demodoci* Nixon, 1936**

Telenomus demodoci Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **17** : 564.

BMNH type-label “Type H.T.” ; Ex eggs of *Papilio demodocus* ; Uganda, Kampala, 20.XI.1929 H.H. ; Pres. by Imp. Inst. Ent., B.M. 1936–707 ; *Telenomus demodoci* Nixon Holotype ♀ 1936. (BMNH).

One male (allotype), three females (paratypes) and other material.

Telenomus dicaeus* Walker, 1839 – see *Gryon* Haliday**Telenomus dignoides* Nixon, 1937**

Telenomus dignoides Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 463.

BMNH type-label “Holotype” ; W. Java, Cheribon Sugar E.S., Jan. 1937 ; Ex eggs of *Scirpophaga auriflua* var. *intacta* Sm. ; *Telenomus dignoides* Nixon ♀ Holotype, 1937. (BMNH).

One male (allotype), two females (paratypes) and other material.

Telenomus dignus (Gahan, 1925)

Phanurus dignus Gahan, 1925. *Philipp. J. Sci.* **27** : 108.

Ex eggs of *Schoenobius incertellus* ; Los Banos, Luzon, P.T. ; A. Rowan Coll. ; red label "Paratype No. 26774 U.S.N.M. ; *Phanurus dignus* Gahan ♀ ; Brit. Mus. 1936-739. (♀ paratype, BMNH).

One male (paratype) and other material.

Telenomus dilophonotae Cameron, 1913

Telenomus dilophonotae Cameron, 1913. *Timehri* **3** : 133.

BMNH type-label ; from eggs of hawk moth *Dilophonta* ; 347 ; P. Cameron Coll. 1914-110 ; *Telenomus dilophonotae* Cam. Type Br. Guiana. (♀, BMNH).

Type in a red frame 1♂ and 2 more ♀♀.

Telenomus diversus Wollaston, 1858 – see ***Idris*** Förster

Telenomus divisus Wollaston, 1858 – see ***Gryon*** Haliday

Telenomus flavicornis Wollaston, 1858 – see ***Idris*** Förster

Telenomus frenchi Dodd, 1920

Telenomus frenchi Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 357.

Victoria, Australia, C. French, 1912-491 (4x) ; BMNH type-label ; *Telenomus frenchi* Dodd. ♀ type. (BMNH).

Four females, the type in a red circle ; two females more.

Telenomus fuscicornis Ashmead, 1896

Telenomus fuscicornis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 794.

Mount Gay Est. (Leeward side), Grenada, W.I., H. H. Smith, 26 ; W. Indies, 99-331 ; BMNH type-label ; *Telenomus fuscicornis* Ashm. ♀ Type. (BMNH).

One male (allotype), three females (other material).

Telenomus gowdeyi Crawford, 1911

Telenomus gowdeyi Crawford, 1911. *Proc. U.S. nat. Mus.* **40** : 441.

Ex eggs *Anaphe infracta* ; Entebbe, Uganda, C. C. Gowdey coll. ; red label "Paratype" ; Uganda, C. C. Gowdey, 1911-250. (♀ paratype, BMNH).

14 ♂♂ (paratypes) and other material.

Telenomus grenadensis Ashmead, 1896

Telenomus grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 791.

Mount Gay Est. (Leeward side), Grenada, W.I., H. H. Smith, 31 ; W. Indies, 99-331 ; *Telenomus granadensis* (!) ♀ Type Ashm. ; BMNH type-label "Lectotype L.M." ; selected as lectotype of *T. grenadensis* Ashm. by L. Masner 1961. (♀, BMNH).

One female as type, two more females.

Telenomus hyperion Nixon, 1935

Telenomus hyperion Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 81.

BMNH type-label "Type H.T." ; Sudan, Khartoum, 16.III.1931, Dr. W. Bedford. Ex eggs of *Anodiasa obsoleta* C 9900 ; *Telenomus hyperion* Nixon Holotype ♀, 1935 ; Pres. by Imp. Inst. Ent., B.M. 1936-224. (♀, BMNH).

One male (allotype), 9 ♀♂ (paratypes), and other material.

Telenomus iphias Nixon, 1935

Telenomus iphias Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 91.

BMNH type-label "Type H.T." ; Uganda, Kampala, 12.XII.1929, H. Hargreaves. Ex eggs of *Harpacton tristis* St. ; *Telenomus iphias* Nixon Holotype ♀, 1935 ; Pres. by Imp. Inst. Ent., B.M. 1936-224. (♀, BMNH).

One male (allotype), 7 ♀♂ (paratypes) and other material.

Telenomus incommodus Nixon, 1937

Telenomus (Aholcus) incommodus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 123.

BMNH type-label "Type H.T." ; Malaya, Batu Gajah, 30.III.1929 ; Entom. Div., G. H. Corbett. Ex host 5943, 5986 ; Pres. by Imp. Inst. Ent., B.M. 1937-721 ; *T. (Aholcus) incommodus* Nixon ♀ Holotype 1937. (BMNH).

One male (allotype), 4 ♀♂ (paratypes) and other material.

Telenomus kingi Crawford, 1911

Telenomus kingi Crawford, 1911. *Proc. U.S. nat. Mus.* **40** : 440.

Ex eggs *Tabanus kingi* ; Khor Arbat, Egypt. Sudan, H. H. King, 13.IV.10 ; red label "Type" ; BMNH type-label ; *Telenomus kingi* Cwfd. Type ; 1912-122. (♀, BMNH).

Two females (paratypes).

Telenomus latifrons Ashmead, 1896

Telenomus latifrons Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 793.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 40 ; W. Indies, 99-331 ; BMNH type-label ; BMNH type-label "Lectotype L.M." ; *Telenomus latifrons* Ashm. ♀ Type ; Selected as lectotype of *T. latifrons* Ashm. by L. Masner 1961. (♀, BMNH).

One female, one male as types, three specimens as other material.

***Telenomus lelus* Nixon, 1937**

Telenomus lelus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 450.

BMNH type-label "Holotype" ; Fed. Malay States, Kuala Lumpur, 11.1.1921, Ex ova indet. on grass, Dr. W. A. Lamborn, 50 ; Pres. by Imp. Inst. Ent., B.M. 1937-721 ; *Telenomus lelus* Nixon ♀ Holotype 1937. (BMNH).

Two females (paratypes).

***Telenomus longiclavatus* Ashmead, 1896**

Telenomus longiclavatus Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 792.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; W. Indies, 99-331 ; BMNH type-label ; *Telenomus longiclavata* (!) ♀ Type Ashm. (BMNH).

Unique, gaster broken off.

***Telenomus longiventris* (Cameron, 1913)**

Phanurus longiventris Cameron, 1913. *Timehri* **3** : 132.

BMNH type-label ; from egg-sac of Mantid? ; 338 ; P. Cameron Coll. 1914-110 ; *Phanurus longiventris* Cam. Type Br. Guiana. (♀, BMNH).

One male also.

***Telenomus lucullus* Nixon, 1937**

Telenomus lucullus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 451.

BMNH type-label "Holotype" ; Java, 1926, T. H. C. Taylor ; Pres. by Imp. Inst. Ent., B.M. 1937-721 ; *Telenomus lucullus* Nixon ♀ Holotype 1937. (BMNH).

Two females (paratypes).

***Telenomus luteipes* Ashmead, 1896**

Telenomus luteipes Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 793.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 34 ; W. Indies, 99-331 ; BMNH type-label ; *Telenomus luteipes* Ashm. ♀ Type. (BMNH).

One male (allotype) and one female.

***Telenomus maderensis* Wollaston, 1858** – see ***Trissolcus* Ashm.**

***Telenomus magniclavus* Ashmead, 1894**

Telenomus magniclavus Ashmead, 1894. *J. Linn. Soc. London (Zool.)* **25** : 205.

Grand Etang (Windward side). 1900 ft., Grenada, W.I., H. H. Smith, 13 ; W. Indies, 99-331 ; BMNH type-label ; *Telenomus magniclavus* Ashm. ♂ Type ; 1893-78. (♂, BMNH).

Gaster broken off. Five ♀♂ as additional material.

***Telenomus mahensis* Kieffer, 1910**

Telenomus mahensis Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

117 ; Mahe '08-9, Seychelles Exp. ; *Telenomus mahensis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).

Right antenna broken off. One female (paratype) ? doubtfully associated.

***Telenomus manolus* Nixon, 1937**

Telenomus manolus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 454.

BMNH type-label "Holotype" ; Malaya, 13.VIII.1935, G. H. Corbett. Ex eggs of Lep. on *Coffea* sp. ; Pres. by Imp. Inst. Ent., B.M. 1937-721 ; *Telenomus manolus* Nixon 1937 ♀ Holotype. (BMNH).

One male (allotype) without gaster, 4 ♀♀ (paratypes) and other material.

***Telenomus medius* Ashmead, 1894**

Telenomus medius Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 207.

Green label ; St. Vincent, W. Indies, H. H. Smith ; W. Indies, 99-331 ; BMNH type-label ; *Telenomus medius* Ashm. ♀ Type Unique. (BMNH).

Unique.

***Telenomus melanogaster* Cameron, 1891**

Telenomus melanogaster Cameron, 1891. *Mem. Manchr. lit. phil. Soc.* (4) **4** : 189.

BMNH type-label ; P. Cameron Coll. 1914-1110 ; *Telenomus melanogaster* Cam. Type, Amazonic, ex bug eggs. (♀, BMNH).

Type in a red circle + three females.

***Telenomus minutus* (Westwood, 1833)**

Hemisius minutus Westwood, 1833. *Phil. Mag.* 2 (3) : 445.

123 ; *Hemisius minutus* Westw. *Phil. Mag.* ; round label "Holotype O.U.M." ; Type Hym. : 24 *Hemisius minutus* Westwood Hope Dept. Oxford. (♀, OUM).

Unique.

***Telenomus molorchus* Nixon, 1937**

Telenomus (Aholcus) molorchus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 117.

BMNH type-label "Holotype" ; Ceylon, Pussellawa, 22.XI.20, Ex eggs of *Lenodora vittata*, Dr. J. C. Hutson, 4750 ; Pres. by Imp. Inst. Ent., B.M. 1937-721 ; T. (*Aholcus*) *molorchus* Nixon Holotype ♀ 1937. (BMNH).

One male (allotype), 5 females (paratypes) + 39 ♀♂ (other material).

***Telenomus myrmidon* Kieffer, 1910**

Telenomus myrmidon Kieffer, 1910. *Bull. Soc. ent. Fr.* 1910 : 294.

120 ; *Telenomus myrmidon* J. J. Kieffer Paratype ; BMNH type-label "Neotype L.M." ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170 ; Neotype of *T. myrmidon* Kieff. by L. Masner 1961. (♀ neotype, BMNH).

Holotype lost from the label ; six ♀♂ (paratypes).

***Telenomus narolus* Nixon, 1937**

Telenomus narolus Nixon, 1937. *Ann. Mag. nat. Hist. (10)* 19 : 389.

BMNH type-label ; Uganda, Kampala, 17.XI.1915, C. C. Gowdey, 1080 ; *Telenomus narolus* Nixon ♀ Holotype 1937 ; Pres. by Imp. Instl Ent., B.M. 1937-721. (♀, BMNH).

One male (allotype), 12 ♀♂ (other material).

***Telenomus nephele* Nixon, 1935**

Telenomus nephele Nixon, 1935. *Trans. R. ent. Soc. Lond.* 83 : 88.

BMNH type-label "Type H.T." ; Nyassaland, Maiwale, Em. 2.i.1932, Dr. W. A. Lamborn. Ex ? moth egg mass on grass ; *Telenomus nephele* Nixon Holotype ♀, 1935 ; Pres. by Imp. Inst. Ent., B.M. 1936-224. (♀, BMNH).

One male (allotype), 7 ♀♂ (paratypes).

***Telenomus nigriclavatus* Ashmead, 1896**

Telenomus nigriclavatus Ashmead, 1896. *Proc. zool. Soc. Lond.* 1895 : 794.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 40 ; W. Indies, 99-331 ; BMNH type-label ; *Telenomus nigriclavatus* Ashm. ♀ Type. (♀, BMNH).

Four females as other material.

***Telenomus nigrocoxalis* Ashmead, 1894**

Telenomus nigrocoxalis Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* 25 : 211.

St. Vincent, W.I., H. H. Smith, 210 ; W. Indies, 99-331 ; BMNH type-label ; *Telenomus nigrocoxalis* ♀ Ashm. Type Unique. (♀, BMNH).

Unique ; antennae partially broken off.

***Telenomus numitor* Nixon, 1935**

Telenomus numitor Nixon, 1935. *Trans. R. ent. Soc. Lond.* 83 : 79.

BMNH type-label "Type H.T." ; Ex eggs of *Gonimbrasia tyrreha* (Saturniidae) ; Ac.E.L.H.H. S. Africa, Cape Prov., Dohre, XII.1921, H. K. Munro ; *Telenomus numitor* Nixon Holotype ♀ 1935. (♀, BMNH).

Gaster broken off. One male (allotype), 15 ♀♂ (paratypes).

***Telenomus ochus* Nixon, 1938**

Telenomus ochus Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **1** : 590.

BMNH type-label "Holotype" ; E. Sumatra, Asahan, 50-60 m., Negaga Estate Gambir pflanzung, F. Schneider, 1934-36 ; *Telenomus ochus* Nixon ♀ Holotype, 1938 ; Pres. by Imp. Inst. Ent., B.M. 1939-222. (♀, BMNH).

One male (allotype), 7 ♀♀ (paratypes).

***Telenomus olynthus* Nixon, 1938**

Telenomus olynthus Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **1** : 586.

East Sumatra, Asahan, 50-60 m. F. Schneider, 1934-36, from Gambir-pests A. III 3 ; BMNH type-label ; Pres. by Imp. Inst. Ent., B.M. 1939-222 ; *Telenomus olynthus* Nixon ♀ H. type 1936. (BMNH).

One male (allotype).

***Telenomus otones* Nixon, 1940**

Telenomus otones Nixon, 1940. *Ann. Mag. nat. Hist.* (11) **6** : 510.

BMNH type-label ; Ex Lep. eggs ; India, Namkum, Ranchi, 24. 1938, Ind. Lac Rech. Inst. ; 1939-76 ; *Telenomus otones* Nixon Type ♀, 1940. (♀, BMNH).

Five females (paratypes).

***Telenomus pectoralis* Ashmead, 1894**

Telenomus pectoralis Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 206.

St. Vincent, W.I., H. H. Smith, 207 ; W. Indies, 99-331 ; BMNH type-label ; *Telenomus pectoralis* Ashm. ♂ Unique. (BMNH).

Unique ; one other female apparently not belonging here.

***Telenomus pegasus* Nixon, 1940**

Telenomus pegasus Nixon, 1940. *Ann. Mag. nat. Hist.* (11) **6** : 508.

BMNH type-label ; Ex eggs of Lep. on Lac hosts ; India, Namkum, Ranchi, 24.I.38, Ind. Lac Res. Inst. ; *Telenomus pegasus* Nixon 1940. ♀ Type. (BMNH). 16 ♀♀ (paratypes).

***Telenomus periparetus* Nixon, 1938**

Telenomus periparetus Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **1** : 588.

BMNH type-label ; East Sumatra, Asahan, 50-60 m., F. Schneider, 1934-36, from Gambir-pests 13/1035 ; *Telenomus periparetus* Nixon ♀ Holotype, 1938 ; Pres. by Imp. Inst. Ent., B.M., 1939-222. (♀, BMNH).

One male (allotype), 23 ♀♂ (paratypes).

***Telenomus perplexus* Nixon, 1937**

Telenomus perplexus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 470.

BMNH type-label "Holotype" ; Malaya, Ulu Sali, 16.5.1935, G. H. Corbett, Lepidop. eggs 0253 ; *Telenomus perplexus* Nixon, ♀ Holotype 1937 ; Pres. by Imp. Inst. Ent., B.M. 1937-721. (♀, BMNH).

One male (allotype), 3 ♀♀ (paratypes).

***Telenomus phegeus* Nixon, 1938**

Telenomus (Aholcus) phegeus Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **1** : 284.

BMNH type-label ; South Africa, E. Transvaal, Vosmans Beacon and Hendricksdal, 27.IV.1937, F. G. C. Jooke, 2069 ; Pres. by Imp. Inst. Ent., B.M. 1939-222 ; *Telenomus (Aholcus) phegeus* Nixon Holotype ♀, 1938. (♀, BMNH).

50 ♀♀ (paratypes)

***Telenomus piceipes* Dodd, 1920 – see *Trissolcus* Ashm.**

***Telenomus polycrates* Nixon, 1935**

Telenomus polycrates Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 79.

BMNH type-label "Type H.T." ; British Sudan, Wad Medani, 24.XI.1927, H. B. Johnston, Well. T. R. Labs., parasite on eggs of *Deiopeia pulchella* pest of *Cajanus indicus* ; *Telenomus polycrates* Nixon Holotype ♀, 1935 ; Pres. by Imp. Inst. Ent., B.M. 1936-224. (♀, BMNH).

One male (allotype), 10 ♀♂ (paratypes).

***Telenomus pontus* Nixon, 1937**

Telenomus pontus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 469.

BMNH type-label "Holotype" ; Solomon Isl., Guadalcanal, 14.VIII.1934, R. A. Lever ; *Telenomus pontus* Nixon ♀ Holotype, 1937. (BMNH).

One male (allotype), 2 ♀♀ (paratypes).

***Telenomus procas* Nixon, 1935**

Telenomus procas Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 78.

BMNH type-label "Type H.T." ; British Sudan, Wad Medani, 24.XI.1927, H. B. Johnston, Well. T. R. Labs., parasitic on eggs of *Deiopeia pulchella* a pest of *Cajanus indicus* 4241 ; *Telenomus procas* Nixon Holotype ♀, 1935 ; Pres. by Imp. Inst. Ent., B.M. 1936-224. (♀, BMNH).

One male (allotype), 15 ♀♂ (paratypes), and other material.

***Telenomus proditor* Nixon, 1937**

Telenomus proditor Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 456.

Dehra Dun, U.P., S. N. Chatterjee, 20.IX.1929 ; Ex moth eggs laid on *G. arborea* ; 817 ; Pres. by Imp. Inst. Ent., B.M. 1937-721 ; *Telenomus proditor* Nixon ♀ Holotype 1937. (BMNH).

Five females (paratypes) and other material.

***Telenomus pulchricornis* Cameron, 1913**

Telenomus pulchricornis Cameron, 1913. *Timehri* **3** : 133.

BMNH type-label ; From eggs of plant bug ; 3114 ; P. Cameron Coll. 1914-110 ; *Telenomus pulchricornis* Cam. Type Br. Guiana, ex eggs of bug. (♀, BMNH).

Type in a red semicircle, and one more female.

***Telenomus pylades* Nixon, 1935**

Telenomus pylades Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 89.

BMNH type-label "Type H.T." ; Uganda, Kampala, 12.XII.1929, H. Hargreaves, ex eggs of *Harpacton tristis* St. ; *Telenomus pylades* Nixon Holotype ♀, 1935 ; Pres. by Imp. Inst., B.M. 1936-224. (♀, BMNH).

One male (allotype), 29 ♀♂ (paratypes) and other material.

***Telenomus pylus* Nixon, 1935**

Telenomus pylus Nixon, 1937. *Trans. R. ent. Soc. Lond.* **83** : 83.

BMNH type-label "Type H.T." ; Cape Province, Mossel Bay, VI-VII.1930 ; S. Africa, R. E. Turner, Brit. Mus. 1930-402 ; *Telenomus pylus* Nixon Holotype ♀ 1935. (BMNH).

One male (allotype), 9 ♀♂ (paratypes).

***Telenomus pyramus* Nixon, 1935**

Telenomus pyramus Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 86.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, June 12-30.1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-363 ; *Telenomus pyramus* Nixon Holotype ♀ 1935. (BMNH).

Nine more females.

***Telenomus remus* Nixon, 1937**

Telenomus remus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 471.

BMNH type-label "Holotype" ; Malaya, Ulu Gomtak, 12.XI.1929, Entom. Div., per G. H. Corbett. Egg mass of ? Spodoptera 6489 ; *Telenomus remus* Nixon ♀ Holotype 1937. (BMNH).

One male (allotype) and a mass of other material.

Telenomus rowani (Gahan, 1925)

Phanurus rowani Gahan, 1925. *Philipp. J. Sci.* **27** : 106.

Ex eggs of *Schoenobius incertellus* ; Los Banos, Luzon P. ; A. Rowan Coll. ; red label "Paratype No. 26773 U.S.N.M." ; Pres. by Imp. Inst. Ent., B.M., 1937-721
Phanurus rowani Gahan. (♀ paratype, BMNH).

One male (paratype) and other material.

Telenomus sciron Nixon, 1935

Telenomus sciron Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 84.

BMNH type-label "Type H.T." ; Uganda, ex eggs on *Crotohana* sp. ; *Telenomus sciron* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., B.M., 1936-224. ♀, BMNH).

One male (allotype), 5 ♀♂ (paratypes) and other material.

Telenomus seychellensis Kieffer, 1910

Telenomus seychellensis Kieffer, 1910. *Bull. Soc. ent. Fr.* **1910** : 294.

97 ; Mahe, '08-9 Seychelles Exp. ; Type *Telenomus seychellensis* J. J. Kieffer ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Six ♀♂ (paratypes). Intermediate between *Telenomus* and *Trissolcus*.

Telenomus sorus Nixon, 1937

Telenomus sorus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 458.

BMNH type-label "Holotype" ; Malaya, Parit Buntar, 10.XI.1931, H. T. Pagden ; Ex ova of *Philo* 8182 ; Pres. by Imp. Inst. Ent., B.M., 1937-721 ; *Telenomus sorus* Nixon 1937 ♀ Holotype. (BMNH).

Seven females (paratypes).

Telenomus stigis Nixon, 1937

Telenomus (Aholcus) stigis Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 125.

BMNH type-label "Holotype" ; Malaya, Kuala Lumpur, 4.IX.1924 ; Ex eggs of *Acherontia styx*, B. A. R. Gabes, and G. H. Corbett, 1592 ; Pres. by Imp. Inst. Ent., B.M., 1937-721 ; *T. (Aholcus) stigis* Nixon ♀ Holotype 1937. (BMNH).

One male (allotype), 5 ♀♂ (paratypes) and other material.

Telenomus striaticeps Dodd, 1920 – see ***Trissolcus*** Ashm.

Telenomus subfasciatus Wollaston, 1858 – see ***Gryon*** Hal.

***Telenomus talaus* Nixon, 1937**

Telenomus (Aholcus) talaus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 127.

BMNH type-label "Type H.T." ; Malaya, Kuala Lumpur, 6.III.1925, Entom. Div., per G. H. Corbett, *Papilio agamemnon* L. (ova) 2199 ; Pres. by Imp. Inst. Ent., B.M., 1937-721 ; *T. (Aholcus) talaus* Nixon ♀ Holotype 1937. (BMNH).

One male (allotype), 3 ♀♀ (paratypes) and 10 ♂♂ (other material).

***Telenomus thestor* Nixon, 1935**

Telenomus thestor Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 79.

Uganda, Kampala, 16.VI.1930, H. Hargreaves ; Ex eggs of Lepidop. on "Mukala" ; *Telenomus thestor* Nixon, 1935 Holotype ♀ ; Pres. by Imp. Inst. Ent., B.M., 1936-224. (♀, BMNH).

One male (allotype), 41 ♀♂ (paratypes).

***Telenomus thoas* Nixon, 1935**

Telenomus thoas Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 78.

BMNH type-label "Type H.T." ; Ex *Pyrhocalcia iphis* Drury, injurious to leaves of coconut and other plants ; Gold Coast, Aburi, 15.XI.1921, W. H. Patterson ; *Telenomus thoas* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., B.M., 1936-224. (♀, BMNH).

One male (allotype), 35 ♀♂ (paratypes) and other material.

***Telenomus tirathabae* Ferrière, 1933**

Telenomus tirathabae Ferrière, 1933. *Stylops* **2** : 106.

BMNH type-label ; Bred from eggs of *Tirathaba* sp. (Par. "N" of my list) ; Pres. by Imp. Inst. Ent., B.M., 1933-375 ; *Telenomus tirathabae* Ch. Ferrière ♀ Type. (BMNH).

Ten cotypes, and a mass of material on a card.

***Telenomus tityrus* Nixon, 1935**

Telenomus tityrus Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 85.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, June 1-11.1923 ; S. Africa, R. E. Turner, *Brit. Mus.* 1923-341 ; *Telenomus tityrus* Nixon 1935 Holotype ♀. (BMNH).

Unique.

***Telenomus transversiceps* Nixon, 1940**

Telenomus transversiceps Nixon, 1940. *Ann. Mag. nat. Hist.* (11) **6** : 506.

BMNH type-label ; Ex Lep. eggs on Lac hosts ; India, Namkum, Ranchi, 24.I.1938, Ind. Lac Res. Inst. ; *Telenomus transversiceps* Nixon Type ♀ 1940 ; Pres. by Imp. Inst. Ent., B.M., 1941-22. (♀, BMNH).

Three ♀♀ (paratypes).

***Telenomus triptus* Nixon, 1937**

Telenomus triptus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 452.

BMNH type-label "Holotype" ; Malaya, Kajang, N. C. E. Miller, 22.I.1929, per G. H. Corbett, 5767 ; Pres. by Imp. Inst. Ent., B.M., 1937-721 ; *Telenomus triptus* Nixon ♀ Holotype 1937. (BMNH).

One male (allotype), 2 ♀♀ (paratypes) and other material.

***Telenomus truncativentris* Dodd, 1920**

Telenomus truncativentris Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 353.

BMNH type-label ; Brit. East Africa ; 1919-109 ; *Telenomus truncativentris* Dodd Types. (♀, BMNH).

Type in a red circle, + three more ♀♀. A synonym of *T. seychellensis* Kieff.

***Telenomus turbatae* Nixon, 1937**

Telenomus (Aholcus) turbatae Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 121.

BMNH type-label "Holotype" ; Malaya, Kuala Lumpur, 5.II.1926, Entom. Div., per G. H. Corbett, *Orgyia limbata* Butl. (ova) 3087 ; Pres. by Imp. Inst. Ent., B.M., 1937-721 ; *T. (Aholcus) turbatae* Nixon ♀ Holotype 1937. (BMNH).

One male (allotype), and other material.

***Telenomus ullyetti* Nixon, 1936**

Telenomus ullyetti Nixon, 1936. *Ann. Mag. nat. Hist.* (10) **20** : 563.

BMNH type-label "Type H.T." ; Ex eggs of *Heliothis obsoleta* Fabr. from beans ; S. Africa, E. Transvaal, Jonetti, 10-21.IX.1930, G. C. Ulyett, F. S. Parsons, T. S. Taylor, 1021 ; 4882 ; Pres. by Imp. Inst. Ent., B.M., 1936-707. (♀, BMNH).

One male (allotype), 10 ♂♂ (paratypes) and other material.

***Telenomus ulusalus* Nixon, 1937**

Telenomus (Aholcus) ulusalus Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **20** : 119.

BMNH type-label "Type H.T." ; Malaya, Ulu Sali Rd., 16.5.1935, G. H. Corbett, Lepidopt. eggs ; Pres. by Imp. Inst. Ent., B.M., 1937-721 ; *T. (Aholcus) ulusalus* Nixon ♀ Holotype 1937. (BMNH).

One male (allotype), 2 ♀♀ (paratypes) and a card with numerous paratypes and other material.

***Telenomus urios* Nixon, 1938**

Telenomus (Aholcus) urios Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **1** : 591.

BMNH type-label ; 0943, Malaya, Prov. Wellesley, 19.5.1936, Entom. Div. Agric. Dept. ; *Telenomus (Aholcus) urios* Nixon ♀ Holotype 1938. (BMNH).

One male (allotype), one female (paratype).

***Telenomus usipetes* Nixon, 1938**

Telenomus usipetes Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **1** : 584.

BMNH type-label ; Parasite on *H. machaeralis* egg ; Pyinmana, Burma, M. H. Desai Coll., 23.IX.1934 ; *Telenomus usipetes* Nixon Type ♀ 1938 ; Pres. by Imp. Inst. Ent., B.M., 1941-22. (♀, BMNH).

One male (allotype), 20 ♀♂ (paratypes).

TRISSOLCUS Ashmead, 1893

(= **ASOLCUS** Nakagawa, 1900, **IMMSIA** Cameron, 1913,

MICROPHANURUS Kieffer, 1926)***Trissolcus aloysiisabaudiae* (Fouts, 1930) comb. n.**

Microphanurus aloysii-sabaudiae Fouts, 1930. *Boll. Soc. ent. ital.* **62** : 118.

BMNH type-label "Cotype" ; ex eggs of *Nezara* ; Somalia It. Mer. V. Duca Abruzzi, III-1926, Miss. Ent. Paoli ; Pres. by Imp. Inst. Ent., B.M. 1931-367 ; *Microphanurus aloysii-sabaudiae* Fouts. (♀ cotype, BMNH).

Five males, one female and other material.

***Trissolcus artabazus* (Nixon, 1938) comb. n.**

Microphanurus artabazus Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **2** : 131.

BMNH type-label ; Malaya, Setapah, 13.X.1921, Entom. Div., per G. H. Corbett, *Scotinophora* sp. (ova) 1858 ; *Microphanurus artabazus* Nixon Holotype ♀ 1938 ; Pres. by Imp. Inst. Ent., B.M., 1939-222. (♀, BMNH).

One male (allotype), 8 ♀♂ (other material).

***Trissolcus atys* (Nixon, 1935) comb. n.**

Telenomus atys Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 86.

BMNH type-label "Type H.T." ; Uganda, Kampala, IX.1930, H. Hargreaves ; ex eggs of *Phrydocus hystrix* Germ. ; *Telenomus atys* Nixon Holotype ♀ 1935 ; Pres. by Imp. Inst. Ent., B.M., 1936-224. (♀, BMNH).

One male (allotype), 10 ♀♂ (paratypes) and other material.

***Trissolcus barrowi* (Dodd, 1920) comb. n.**

Telenomus barrowi Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 356.

Dalhousie, 11.8.06, this fly was bred out of the egg of a hawk moth ; N.W. India, Dalhousie, H. J. W. Barrow, 11.VIII.06, 1907-44. (♀, BMNH).

Unique. Partially damaged.

***Trissolcus basalis* (Wollaston, 1858) comb. n.**

Telenomus basalis Wollaston, 1858. *Ann. Mag. nat. Hist.* (3) **1** : 25.

BMNH type-label "Type H.T." ; Madeira, Wollaston, 55.7. ; *Telenomus basalis* W. (written on a blue label) ; conspecific with *T. maderensis* Wollast. G.E.N., V.1933. (♀, BMNH).

Five females from Madeira (Wollaston) and a lot of other material.

***Trissolcus biblis* (Nixon, 1943) comb. n.**

Microphanurus biblis Nixon, 1943. *Bull. ent. Res.* **34** : 140.

BMNH type-label ; S. Africa, R. E. Turner, Brit. Mus., 1926-404 ; Natal : Kloof, 1500 ft., Sept. 1926 ; *Microphanurus biblis* Nixon Type ♀ (1943). (BMNH).
One female (paratype).

***Trissolcus carinifrons* (Cameron, 1913) comb. n.**

Immsia carinifrons Cameron, 1913. *Indian For. Rec.* (1912) **4** : 104.

BMNH type-label ; I.F.R.I., V. S. Iyer, Dehra Dun, 3-8-10 ; P. Cameron Coll. 1911-110 ; *Immsia carinifrons* Cam. Type Dehra Dun. (♀, BMNH).

Type slightly damaged ; four females more.

***Trissolcus crotius* (Nixon, 1936) comb. n.**

Microphanurus crotius Nixon, 1936. *Proc. R. ent. Soc. Lond.* (B) **5** : 131.

BMNH type-label "Type H.T." ; Uganda, Kampala, 20.XI.1929, H.H. ; Ex bug eggs on sweet potato leaf ; *Microphanurus crotius* Nixon ♀ Holotype 1936 ; Pres. by Imp. Inst. Ent., B.M., 1936-767. (♀, BMNH).

Unique. Antennae partially broken.

***Trissolcus danaus* (Nixon, 1935) comb. n.**

Microphanurus danaus Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 104.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Aug. 15-31.1923 ; S. Africa, R. E. Turner, Brit. Mus., 1923-463 ; *Microphanurus danaus* Nixon Holotype ♀, 1935. (BMNH).

One female (paratype).

***Trissolcus enceladus* (Nixon, 1935) comb. n.**

Microphanurus enceladus Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 99.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, Dec. 1923 ; S. Africa, R. E. Turner, Brit. Mus., 1924-54 ; *Microphanurus enceladus* Nixon Holotype ♀ 1935. (BMNH).

Four ♀♂ (!) (paratypes).

***Trissolcus larides* (Nixon, 1943) comb. n.**

Microphanurus larides Nixon, 1943. *Bull. ent. Res.* **34** : 141.

BMNH type-label ; Senegal, Bambey, 31.V.1939, J. Risbec, Ex eggs of Pentatomid ; *Microphanurus larides* Nixon Type ♀ 1943. (BMNH).

Four ♀♂ (!) (other material).

***Trissolcus laticeps* Ashmead, 1894**

Trissolcus laticeps Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 212.

St. Vincent, W.I., H. H. Smith, 216 ; W. Indies, 99-331 ; BMNH type-label ; *Trissolcus laticeps* Ashmead. ♀ Type. (BMNH).

Three females (other material).

***Trissolcus leviventris* (Cameron, 1913) comb. n.**

Hadronotus leviventris Cameron, 1913. *Timehri* **3** : 135.

BMNH type-label ; from eggs of a plant bug ; P. Cameron Coll. 1914-110 ; *Hadronotus leviventris* Cam. Br. Guiana. (♀, BMNH).

Type in a red semicircle ; one more female (partially damaged).

***Trissolcus maderensis* (Wollaston, 1858) comb. n.**

Telenomus maderensis Wollaston, 1858. *Ann. Mag. nat. Hist.* (3) **1** : 25.

BMNH type-label ; *Telenomus maderensis* W. ; Madeira, Wollaston, 55.7. (♂, BMNH).

Unique.

***Trissolcus maro* (Nixon, 1935) comb. n.**

Microphanurus maro Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 99.

BMNH type-label "Type H.T." ; Ceres, Cape Province, 2-21.III.1921 ; S. Africa, R. E. Turner, Brit. Mus., 1921-150 ; *Microphanurus maro* Nixon Holotype ♀ 1935. (BMNH).

39 ♀♂ (!) (paratypes) and other material.

***Trissolcus menecles* (Nixon, 1935) comb. n.**

Microphanurus menecles Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 98.

BMNH type-label "Type H.T." ; Mossel Bay, Cape Province, January, 1922 ; S. Africa, R. E. Turner, Brit. Mus., 1922-67 ; *Microphanurus menecles* Nixon Holotype ♀ 1935. (BMNH).

11 ♀♂ (!) (paratypes) and other material.

***Trissolcus mopsus* (Nixon, 1935) comb. n.**

Microphanurus mopsus Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 97.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, June 12-30.1923 ; S. Africa, R. E. Turner, Brit. Mus. 1923-363 ; *Microphanurus mopsus* Nixon Holotype ♀ 1935. (BMNH).

Three females (paratypes), one male (other material).

***Trissolcus orontes* (Nixon, 1935) comb. n.**

Microphanurus orontes Nixon, 1935. *Trans. R. ent. Soc. Lond.* **83** : 102.

BMNH type-label "Type H.T." ; Port St. John, Pondoland, July 10-31.1923 ; S. Africa, R. E. Turner, Brit. Mus., 1923-398 ; *Microphanurus orontes* Nixon Holotype ♀ 1935. (BMNH).

One female (paratype) and other material.

***Trissolcus painei* (Ferrière, 1933) comb. n.**

Microphanurus painei Ferrière, 1933. *Stylops* **2** : 108.

BMNH type-label ; Solomon Is., Gavutu, IX.1928, R. W. Paine, No. 2 Parasite "A" of eggs of *Axiagastus campbelli* Dist. ; Pres. by Imp. Inst. Ent., B.M. 1933-375 ; *Microphanurus painei* Ferrière ♀ Type. (BMNH).

16 ♀♂ (!) (cotypes).

***Trissolcus piceipes* (Dodd, 1920) comb. n.**

Telenomus piceipes Dodd, 1920. *Trans. ent. Soc. Lond.* **1919** : 354.

BMNH type-label ; Brit. East Africa ; 1919-109 ; *Telenomus piceipes* Dodd. (♀, BMNH).

Type in a red circle ; three more ♀♂.

***Trissolcus priapus* (Nixon, 1938) comb. n.**

Microphanurus priapus Nixon, 1938. *Ann. Mag. nat. Hist.* (11) **2** : 133.

BMNH type-label ; Java, Buitenzorg, 1937, J. S. Phillips, Ex *Chrysocoris atricapilla* CO ; *Microphanurus priapus* Nixon Holotype ♀ 1938 ; Pres. by Imp. Inst. Ent., B.M., 1939-222. (♀, BMNH).

20 females (additional material).

***Trissolcus sipius* (Nixon, 1936) comb. n.**

Microphanurus sipius Nixon, 1936. *Proc. R. ent. Soc. Lond.* (B) **5** : 133.

BMNH type-label "Type H.T." ; Kenya Colony, Kiambu ; 26.11.1931, R. H. Le Pelley, Ex *Nezara viridula* 381 ; *Microphanurus sipius* Nixon ♀ Holotype 1936 ; Pres. by Imp. Inst. Ent., B.M., 1936-707. (♀, BMNH).

Nine females (paratypes).

***Trissolcus stoicus* (Nixon, 1938) comb. n.**

Microphanurus stoicus Nixon, 1938. *Ann. Mag. nat. Hist.* (11) 2 : 135.

BMNH type-label ; Malay Peninsula, 16.6.32, Pahang, 8720, G. H. Corbett ; Ex ova 8719 Rhynchota ; *Microphanurus stoicus* Nixon. Type ♀ 1938. (BMNH).
Six females (paratypes).

***Trissolcus striaticeps* (Dodd, 1920) comb. n.**

Telenomus striaticeps Dodd, 1920. *Trans. ent. Soc. Lond.* 1919 : 355.

BMNH type-label ; Mt. Mlanje, Nyasaland, S. A. Neave ; 1919-109 ; *Telenomus striaticeps* Dodd. (♀, BMNH).

Holotype in a red circle ; three more females and a card with other material.

***Trissolcus sulmo* (Nixon, 1938) comb. n.**

Microphanurus sulmo Nixon, 1938. *Ann. Mag. nat. Hist.* (11) 2 : 126.

BMNH type-label ; Ceylon, Talawakelle, 1932, C. B. R. King, Ex eggs of *Canthecona robusta* No. 24 ; *Microphanurus sulmo* Nixon Holotype 1938 ; Pres. by Imp. Inst. Ent., B.M., 1939-222. (♀, BMNH).

Nine females (paratypes).

***Trissolcus suranus* (Nixon, 1936) comb. n.**

Microphanurus suranus Nixon, 1936. *Proc. R. ent. Soc. Lond.* (B) 5 : 132.

BMNH type-label "Type H.T." ; 1002, Uganda, Kampala, 6.VI.1916, C. C. Gowdey ; *Microphanurus suranus* Nixon ♀ Holotype 1936 ; Pres. by Imp. Inst. Ent., B.M., 1936-707. (♀, BMNH).

Three females (paratypes) and other material.

***Trissolcus trophonius* (Nixon, 1938) comb. n.**

Microphanurus trophonius Nixon, 1938. *Ann. Mag. nat. Hist.* (11) 2 : 127.

BMNH type-label ; Sumatra, OK, Asahan, 50-60 m., Negaga Est. Gambirpflanzung, Schneider, 1934-36 ; X/1058 ; *Microphanurus trophonius* Nixon Holotype ♀ 1938. (BMNH).

Two more females (other material).

***Trissolcus vindicius* (Nixon, 1938) comb. n.**

Microphanurus vindicius Nixon, 1938. *Ann. Mag. nat. Hist.* (11) 2 : 128.

BMNH type-label ; Java, Wonogiri distr., 2000 ft., 1937, J. S. Phillips ; Ex eggs of *Dasynus manihotis* CO ; *Microphanurus vindicius* Nixon Type ♀ 1938 ; Pres. by Imp. Inst. Ent., B.M., 1939-222. (♀, BMNH).

Six more females (other material).

Family **PLATYGASTERIDAE**Subfamily **INOSTEMMINAE****ALLOTROPA** Förster, 1856***Allotropia burrelli*** Muesebeck, 1943

Allotropia burrelli Muesebeck, 1943. *Bull. Brooklyn ent. Soc.* **37** : 171.

Ex *Pseudococcus comstocki*; Berryville, Va.; 8-23-40, G. Haeussler; red label "Paratype No. 56441 U.S.N.M."; *Allotropia burrelli* Mues. det. Muesebeck; Pres. by Imp. Inst. Ent., B.M., 1947-23. (♀ paratype, BMNH).

Five ♀♂ (paratypes) and other material.

Allotropia citri Muesebeck, 1954

Allotropia citri Muesebeck, 1954. *Bull. Brooklyn ent. Soc.* **49** : 18.

Ex *Planococcus citri* So. China Rd. lab. Albany Calif. Agr. 52 52-4240; red label "Paratype No. 62212 USNM"; *Allotropia citri* Mues. ♂ det. Mues. (♂ paratype, BMNH).

Three ♀♂ (paratypes).

Allotropia convexifrons Muesebeck, 1943

Allotropia convexifrons Muesebeck, 1943. *Bull. Brooklyn ent. Soc.* **37** : 171.

Palestine, XI.1938, Dr. Percellan; from N. Bergen, USA, ex *Pseudococcus* 351; red label "Paratype No. 56442 U.S.N.M."; *Allotropia convexifrons* Mues. det. Mues.; Pres. by Imp. Inst. Ent., B.M., 1947-23. (♀ paratype, BMNH).

Five ♀♂ (paratypes) and other material.

Allotropia scutellata Muesebeck, 1954

Allotropia scutellata Muesebeck, 1954. *Bull. Brooklyn ent. Soc.* **49** : 19.

Ex *Pseudococcus*, *Moquilla tomentosa* Rosaceae; Sao Paulo, Brazil, Parker Berry, SAPL, 1003-60 45 13018; red label "Paratype No. 62213 USNM"; *Allotropia scutellata* ♂ Mues. det. Mues. (♂ paratype, BMNH).

Three ♀♂ (paratypes).

Allotropia utilis Muesebeck, 1939

Allotropia utilis Muesebeck, 1939. *Canad. Ent.* **71** : 158.

Ex *Pseudococcus aceris*; Berwick, N.S., 28-V-34, F. G. Gilliat; red label "Paratype No. 53068 USNM"; *Allotropia utilis* Mues. ♂ det. Mues. (♂ paratype, BMNH).

Three ♀♂ (paratypes).

INOSTEMMA Haliday, 1833***Inostemma lycon*** Walker, 1835

Inostemma lycon Walker, 1835. *Ent. Mag.* **3** : 269.

BMNH type-label ; Lycon Wk. ; *Inostemma lycon* Wk. – Stood under this name in old B.M. Collection (Rearranged 1928, J.W.). (♀, BMNH).

Unique.

Inostemma melicerata Walker, 1835

Inostemma melicerata Walker, 1835. *Ent. Mag.* **3** : 269.

BMNH type-label ; Melicerata Wk. ; *Inostemma melicerata* Wk. – Stood under this name in old B.M. Collection (Rearranged 1928 J.W.). (♀, BMNH).

Unique.

Inostemma menippus Walker, 1835

Inostemma menippus Walker, 1835. *Ent. Mag.* **3** : 270.

Inostemma menippus Wk. – Stood under this name in old B.M. Collection (Rearranged 1928 J.W.) ; Menippus Wk. ; BMNH type-label. (♀, BMNH).

Unique.

Inostemma walkeri Kieffer, 1914

Inostemma walkeri Kieffer in André, 1914. *Spec. Hym. Eur. Alg.* **11** : 384.

940 ; *Inostemma bosicii* Wk. ; Boscii ; BMNH type-label "Lectotype L.M." Selected lectotype of *I. walkeri* Kieff. by L. Masner 7.XII.1961. (♀, BMNH).

Left antenna broken off. Two more ♀♀ and two ♂♂.

IPHITRACHELUS Walker, 1835***Iphitrachelus gracilis*** Masner, 1957

Iphitrachelus gracilis Masner, 1957. *Acta Soc. ent. Bohem. (Csl.)* **54** : 5.

Bohemia, c. Revnice, IX.57, L. Masner lgt. ; Collected on *Vinca minor* L. – evergreen ; *Iphitrachelus gracilis* Msn. ♀ Det. L. Masner, 1957 ; red label "Paratype". (♀ paratype, BMNH).

One more male (other material).

ISOSTASIUS Förster, 1856

(= **MONOCRITA** Förster, 1856, **TRISINOSTEMMA** Kieffer, 1914 **syn. n.**)

Isostasius atinas (Walker, 1835) **comb. n.**

Inostemma atinas Walker, 1835. *Ent. Mag.* **3** : 272.

Inostemma atinas Wk. ; *Atinas* Wk. ; BMNH type-label ; Stood under this name in old B.M. Collection (Rearranged 1928 J.W.). (♀, BMNH).

Unique.

Isostasius braesius (Walker, 1839) **comb. n.**

Inostemma braesia Walker, 1839. *Monogr. Chalcid.* **2** : 58.

BMNH type-label ; 1308a ; Tasmania, C. Darwin ; *Inostemma braesia* Walker Type J.F.P. VI.1937 ; *Braesia*. (♀, BMNH).

Unique.

Isostasius scrutator (Walker, 1835)

Inostemma scrutator Walker, 1835. *Ent. Mag.* **3** : 271.

Dsvgns. 6852 ; Rearranged 1928 J.W. ; *Inostemma scrutator* ; 5 *scrutator* ; BMNH type-label "Lectotype L.M. ; Selected as lectotype of *I. scrutator* Walk. by L. Masner 7.XII.1961. (♀ BMNH).

One more female.

METACLISIS Förster, 1856

(= **PARINOSTEMMA** Kieffer, 1914 **syn. n.**)

Metaclisis quinda (Walker, 1842) **comb. n.**

Inostemma quinda Walker, 1842, *Ann. Mag. nat. Hist.* **10** : 273.

BMNH type-label ; 1309a ; Valdivia, C. Darwin ; *Inostemma quinda* Walker Type J.F.P. VI.1937 ; *Quinda*. (♀, BMNH).

Unique.

NASDIA Nixon, 1942***Nasdia prosper*** Nixon, 1942

Nasdia prosper Nixon, 1942. *Ann. Mag. nat. Hist.* (11) **1** : 278.

BMNH type-label ; Fiji Islands, Lami, 10.VIII.1940, R. A. Lever, H. 407 Ex Pseudococcus ; *Nasdia prosper* Nixon. Type ♀ 1942 ; Pres. by Imp. Inst. Ent., B.M., 1942-62. (♀, BMNH).

31 ♀♂ (paratypes). Classified by Nixon (1942) in *Telenominae*.

PLATYSTASIUS Nixon, 1937(= **ANOPEDIELLA** Sundholm, 1956)**Platystasius othus** Nixon, 1937*Platystasius othus* Nixon, 1937. *Ann. Mag. nat. Hist.* (10) **19** : 375.BMNH type-label ; Portici, 30-VIII-1935 ; 5 ; *Platystasius othus* Nixon ♂♀ Types 1936. (♀, BMNH).

Holotype (female) in a red circle.

Platystasius strangaliophagus Nixon, 1937*Platystasius strangaliophagus* Nixon, 1937. *Ann. Mag. nat. Hist.* (11) **19** : 372.BMNH type-label ; Glengarriff, Cork, July ; From eggs of *Strangalia aurulenta* F. July 7 1925 ; *Platystasius strangaliophagus* Nixon ♀ Type 1937 ; *Platystasius transversus* Th. comb. n. A. Sundholm det. (♀, BMNH).

Unique.

Subfamily **PLATYGASTERINAE****AMBLYASPIS** Förster, 1856**Amblyaspis brunnea** Ashmead, 1896*Amblyaspis brunnea* Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 801.Balthazar (Windward side), Grenada, W.I., H. H. Smith, 37 ; W. Indies, 99-331 ; BMNH type-label "Type H.T." ; *Amblyaspis brunneus* (!) Ashm. ♀ Type. (BMNH).

One more female.

Amblyaspis furius (Walker, 1835)*Platygaster furius* Walker, 1835. *Ent. Mag.* **3** : 234.*Platygaster furius* Wk. ; Stood under this name in old B.M. Collection (Re-arranged 1928 J.W.) ; *Furius* Wk. ; BMNH type-label. (♀, BMNH).

Unique.

Amblyaspis lasiophila Kieffer, 1913*Amblyaspis lasiophila* Kieffer, 1913. *Brotéria* **11** : 189.*Amblyaspis lasiophilus* (!) ; *L. fuliginosus*, Darenth Wood, 26.V.11 ; BMNH type-label. (♀, BMNH).

Unique.

Amblyaspis otreus (Walker, 1835)*Platygaster otreus* Walker, 1835. *Ent. Mag.* **3** : 236.*Platygaster otreus* Wk. ; Stood under this name in old B.M. Collection (Re-arranged 1928 J.W.) ; *Otreus* Wk. ; BMNH type-label. (♂, BMNH).

Unique.

Amblyaspis prorsa (Walker, 1835)

Platygaster prorsa Walker, 1835. *Ent. Mag.* **3** : 237.

Platygaster prorsa Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928 J.W.) ; *Prorsa* Wk. ; BMNH type-label. (♂, BMNH).

Unique.

Amblyaspis ruficornis Ashmead, 1895

Amblyaspis ruficornis Ashmead, 1895. *Proc. zool. Soc. Lond.* : 801.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 40 ; W. Indies, 99-331 ; BMNH type-label "Type H.T." ; *Amblyaspis ruficornis* Ashm. ♀ Type. (BMNH).

Unique.

Amblyaspis scutellaris var. ***hyalina*** Kieffer, 1914

Amblyaspis scutellaris hyalina Kieffer in Andre, 1914. *Spec. Hym. Eur. Alg.* **11** : 398.

Amblyaspis scutellaris v. *hyalinus* (!) ; Darenth Wood, Sept. 1910 ; BMNH type-label. (♀, BMNH).

Unique.

AMITUS Haldeman, 1850***Amitus arcturus*** Whittaker, 1930

Amitus arcturus Whittaker, 1930. *Proc. ent. Soc. Wash.* **32** : 69.

BMNH type-label ; red label "Type" ; Hollyburn, B.C., 3.VII.29, Coll. O.W. ; Canada : O. Whittaker Coll., per W. H. Storey, B.M. 1947-212 ; 4292 *Amitus arcturus* Whitt. ♀ Det. O. Whittaker. (BMNH).

One male (allotype), two females (paratypes).

ISOCYBUS Förster, 1856***Isocybus erato*** (Walker, 1835)

Platygaster erato Walker, 1835. *Ent. Mag.* **3** : 241.

Platygaster erato Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928 J.W.) ; *Erato* Wk. ; BMNH type-label.

Unique. Pinned, gaster broken off.

Isocybus matuta (Walker, 1835)

Platygaster matuta Walker, 1835. *Ent. Mag.* **3** : 241.

Platygaster matuta Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928 J.W.) ; *Matuta* Wk. ; BMNH type-label. (♂, BMNH).

Unique.

LEPTACIS Förster, 1856

(= **TRICHOLEPTACIS** Kieffer, 1914, **PROSAMBLYASPIS** Kieffer, 1926
syn. n.)

Leptacis flavosignata (Kieffer, 1911) **comb. n.**

Amblyaspis flavosignatus (!) Kieffer, 1911. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 78.

20 ; 20 Silhouette, '08 Seychelles Exp. ; *Amblyaspis flavosignatus* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♂, BMNH).

Unique.

Leptacis grenadensis (Ashmead, 1894)

Amblyaspis grenadensis Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 234.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; W. Indies, 99-331 ; BMNH type-label "Type H.T." ; *Amblyaspis granadensis* (!) Ashm. ♂ Type. (BMNH).

Unique.

Leptacis nice (Walker, 1835)

Platygaster nice Walker, 1835. *Ent. Mag.* **3** : 222.

Platygaster nice Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; Nice Wk. ; BMNH type-label. (♂, BMNH).

Unique. Head and most of the mesoscutum broken off.

Leptacis nigricornis (Ashmead, 1894)

Amblyaspis nigricornis Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 234.

Leeward side, St. Vincent, W.I., H. H. Smith, 68 ; W. Indies, 99-331 ; BMNH type-label "Type H.T." ; *Amblyaspis nigricornis* Ashm. ♀ Type. Unique. (BMNH)

Unique.

Leptacis ozines (Walker, 1835) **comb. n.**

Platygaster ozines Walker, 1835. *Ent. Mag.* **3** : 230.

Platygaster ozines Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; Ozines Wk. ; BMNH type-label ; Placed in *Synopeas* by K. but really *Leptacis* (Nixon's handwriting). (♀, BMNH).

Unique.

Leptacis tipulae (Kirby, 1798)

Ichneumon tipulae Kirby, 1798. *Tr. Linn. Soc. Lond. (Zool.)* 4 : 232.

Platygaster tipulae K. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; round label "Type" ; BMNH type-label "Neotype L.M." ; Neotype of *Ichneumon tipulae* Kirby, 1798 L. Masner 12.XII.1961. (♀ Neotype, BMNH).

One more female (as type).

Leptacis xanthochroa (Ashmead, 1896)

Amblyaspis xanthochroa Ashmead, 1896. *Proc. zool. Soc. Lond.* 1895 : 800.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 37 ; W. Indies, 99-331 ; BMNH type-label "Type H.T." ; *Amblyaspis xanthochroa* Ashm. ♀ Type. (BMNH).

One more female (scutellar spine broken off).

PIESTOPLEURA Förster, 1856***Piestopleura catillus*** (Walker, 1835)

Platygaster catillus Walker, 1835. *Ent. Mag.* 3 : 219.

Platygaster catillus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Catillus* Wlk (!) ; BMNH type-label. (♀, BMNH).

Unique.

PLATYGASTER Latreille, 1809

(= **MISOCYCLOPS** Kieffer, 1914, **PROSACTOGASTER** Kieffer, 1914,

PAREPIMECES Kieffer, 1926 **syn. n.**)

Platygaster athenaeus Walker, 1839 – see ***Synopeas*** Först.

Platygaster attenuatus Haliday, 1831

Platygaster attenuatus Haliday in Curtis, 1831. *Brit. Ent.* 8 : 309.

939 ; *Platygaster attenuatus* Hal. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *attenuatus* Hal. ; BMNH type-label. (♀, BMNH).

Unique.

Platygaster automenes Walker, 1839

Platygaster automenes Walker, 1839. *Monogr. Chalcid.* 2 : 77.

BMNH type-label ; 1316a ; Brazil, Bahia, Ch. Darwin ; *Platygaster automenes* Walker Type ; *Automenes*. (♂, BMNH).

Unique.

Platygaster chrysippus Walker, 1835*Platygaster chrysippus* Walker, 1835. *Ent. Mag.* **3** : 250.

Platygaster chrysippus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Chrysippus* Wk. ; BMNH type-label. (♀, BMNH).
Unique.

Platygaster craterus Walker, 1835 – see ***Synoeps*** Först.***Platygaster cyrsilus*** Walker, 1835*Platygaster cyrsilus* Walker, 1835. *Ent. Mag.* **3** : 247.

Platygaster cyrsilus (!) Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Cyrsilus* Wk. ; BMNH type-label. (♀, BMNH).
One more female.

Platygaster demades Walker, 1835*Platygaster demades* Walker, 1835. *Ent. Mag.* **3** : 249.

Platygaster demades Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Demades* Wk. ; BMNH type-label. (♀, BMNH).
One female more.

Platygaster dubia (Ashmead, 1894) **comb. n.***Synoeps dubius* Ashmead, 1894. *J. Linn. Soc. Lond. (Zool.)* **25** : 239.

Leeward side, St. Vincent, W.I., H. H. Smith, 201 ; W. Indies, 99–331 ; BMNH type-label "Type H.T." ; *Synoeps dubius* Ashm. ♂ Type Unique. (BMNH).
Unique.

Platygaster elissa Walker, 1839*Platygaster elissa* Walker, 1839. *Monogr. Chalcid.* **2** : 56.

BMNH type-label ; 1323a ; Australia, King George's Sound, C. Darwin ; *Platygaster elissa* Wlk. (!) ; Type J.F.P. 1937 ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Elissa*. (♂, BMNH).
Unique.

Platygaster ensifer (Westwood, 1833) **comb. n.***Epimeces ensifer* Westwood, 1833. *Mag. nat. Hist.* **6** : 421.

Ensifer Westw. M.N.H. ; *Epimeces*. (♀, OUM).
Unique.

Platygaster evadne Walker, 1835

Platygaster evadne Walker, 1835. *Ent. Mag.* **3** : 257.

Platygaster evadne Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Evadne* Wk. ; BMNH type-label. (♂, BMNH).

One more female (different species).

Platygaster gorgo Walker, 1839

Platygaster gorgo Walker, 1839. *Monogr. Chalcid.* **2** : 56.

BMNH type-label "Type 1321a" ; Tasmania, Hobart Town, C. Darwin ; *Platygaster gorgo* Wk. J.F.P. 1937 Type ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Gorgo*. (♀, BMNH).

Unique.

Platygaster isus Walker, 1839 – see ***Synopeas*** Först.

Platygaster leda Walker, 1839 – see ***Synopeas*** Först.

Platygaster mahensis Kieffer, 1912

Platygaster mahensis Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 79.

120 ; Mahe '08–9 Seychelles Exp. ; *Platygaster mahensis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Percy Sladen Trust Expedition 1913–170. (♀, BMNH).

Unique. Partially destroyed.

Platygaster munitus Walker, 1835

Platygaster munitus Walker, 1835. *Ent. Mag.* **3** : 246.

Platygaster munitus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *munitus* Wk. ; BMNH type-label. (♀, BMNH).

Unique.

Platygaster nydia Walker, 1835 – see ***Synopeas*** Först.

Platygaster oebalus Walker, 1835

Platygaster oebalus Walker, 1835. *Ent. Mag.* **3** : 249.

Platygaster oebalus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Oebalus* Wk. ; BMNH type-label. (♀, BMNH).

Unique.

Platygaster olorus Walker, 1835

Platygaster olorus Walker, 1835. *Ent. Mag.* **3** : 255.

Platygaster olorus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Olorus* Wk. ; BMNH type-label. (♂, BMNH).

Unique.

Platygaster orus Walker, 1835

Platygaster orus Walker, 1835. *Ent. Mag.* **3** : 254.

Platygaster orus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Orus* Wk. ; BMNH type-label ; BMNH type-label "Lectotype L.M." ; Selected as lectotype of *P. orus* Walk. by L. Masner 8.XII.1961. (♀, BMNH).

One more male (as type), and two specimens from Walker's collection.

Platygaster oscus Walker, 1835

Platygaster oscus Walker, 1835. *Ent. Mag.* **3** : 259.

Platygaster oscus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Oscus* Wk. ; BMNH type-label. (♀, BMNH).

One more male.

Platygaster ozines Walker, 1835 – see ***Leptacis*** Först.***Platygaster pedasus*** Walker, 1835

Platygaster pedasus Walker, 1835. *Ent. Mag.* **3** : 265.

Platygaster pedasus Wlk. (!) ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Pedasus* Wk. ; BMNH type-label. (♂, BMNH).

Unique.

Platygaster pelias Walker, 1835

Platygaster pelias Walker, 1835. *Ent. Mag.* **3** : 248.

Platygaster pelias Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Pelias* Wk. ; BMNH type-label.

Unique.

Platygaster pleuron Walker, 1835

Platygaster pleuron Walker, 1835. *Ent. Mag.* **3** : 253.

Platygaster pleuron Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Pleuron* Wk. ; BMNH type-label ; BMNH type-label "Lectotype L.M." ; Selected as lectotype of *P. pleuron* Walk. by L. Masner 8.XII.1961. (♀, BMNH).

One more male (as type) and one male (additional material).

Platygaster plotinus Walker, 1835

Platygaster plotinus Walker, 1835. *Ent. Mag.* **3** : 265.

Platygaster plotinus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Plotinus* Wk. ; BMNH type-label. (♂, BMNH).

Unique.

Platygaster sagana Walker, 1835

Platygaster sagana Walker, 1835. *Ent. Mag.* **3** : 267.

Platygaster sagana Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Sagana* Wk. ; BMNH type-label. (♀, BMNH).

Unique.

Platygaster seychellensis Kieffer, 1912 – see *Synopeas* Först.***Platygaster sonchis*** Walker, 1835

Platygaster sonchis Walker, 1835. *Ent. Mag.* **3** : 253.

Platygaster sonchis Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Sonchis* Wk. ; BMNH type-label. (♂, BMNH).

Unique.

Platygaster sterope Walker, 1835

Platygaster sterope Walker, 1835. *Ent. Mag.* **3** : 256.

Platygaster sterope Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Sterope* Wk. ; BMNH type-label. (♀, BMNH).

Unique.

Platygaster taras Walker, 1835

Platygaster taras Walker, 1835. *Ent. Mag.* **3** : 253.

Platygaster taras Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Taras* Wk. ; BMNH type-label ; BMNH type-label "Lectotype L.M." ; Selected as lectotype of *P. taras* Walk. by L. Masner 8.XII.1961. (♀, BMNH).

Four more ♀♂ (as types).

Platygaster thersippus Walker, 1839 – see *Synopeas* Först.***Platygaster tisas*** Walker, 1835

Platygaster tisas Walker, 1835. *Ent. Mag.* **3** : 247.

Platygaster tisas Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Tisas* Wk. ; BMNH type-label. (♀, BMNH).

Unique.

Platygaster vestinus Walker, 1835*Platygaster vestinus* Walker, 1835. *Ent. Mag.* **3** : 260.

Platygaster vestinus Wk. ; Stood under this name in old B.M. Collection (Re-arranged 1928, J.W.) ; *Vestinus* Wk. ; BMNH type-label. (♀, BMNH).

Unique.

Platygaster xenarchus Walker, 1839 – see ***Synopeas*** Först.***Platygaster zethus*** Walker, 1839*Platygaster zethus* Walker, 1839. *Monogr. Chalcid.* **2** : 78.

BMNH type-label ; 1314a ; Brazil, Bahia, C. Darwin ; *Platygaster zethus* Walker Type lost (J.F.P. VI.1937) ; *Zethus*. (♂, BMNH).

Type lost. Unique.

SACTOGASTER Förster, 1856***Sactogaster ventralis*** (Westwood, 1833)*Epimeces ventralis* Westwood, 1833. *Mag. nat. Hist.* **6** : 421.

Ventralis W. ; *Epimeces*. (♀, OUM).

Unique. Flagellum broken off.

SYNOPEAS Förster, 1856

(= ***ECTADIUS*** Förster, 1856 ; ***POLYMECUS*** Förster, 1856)

Synopeas abaris (Walker, 1835)*Platygaster abaris* Walker, 1835. *Ent. Mag.* **3** : 230.

Platygaster abaris Wk. ; Stood under this name in old B.M. Collection (Re-arranged 1928, J.W.) ; *Abaris* Wk. ; BMNH type-label. (♂, BMNH).

Unique.

Synopeas athenaeus (Walker, 1839) **comb. n.***Platygaster athenaeus* Walker, 1839. *Monogr. Chalcid.* **2** : 77.

BMNH type-label ; 1315a ; Brazil, Bahia, C. Darwin ; *Platygaster athenaeus* Walker Type lost (J.F.P., VI. 1937). (♀, BMNH).

Type lost from the label but most probably belonging to *Synopeas* Först.

Synopeas bifoveatus (Kieffer, 1912)*Amblyaspis bifoveatus* Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 79.

88 ; Mahe, '08 Seychelles Exp. ; *Amblyaspis bifoveatus* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Unique.

***Synopeas craterus* (Walker, 1835) comb. n.**

Platygaster craterus Walker, 1835. *Ent. Mag.* **3** : 224.

Platygaster craterus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Craterus* Wk. ; BMNH type-label. (♀, BMNH).
Unique.

Synopeas dubius* Ashmead, 1894 – see *Platygaster* Latr.**Synopeas flavipes* Ashmead, 1896**

Synopeas flavipes Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 802.

Mount Gay Est. (Leeward side), Grenada, W.I., H. H. Smith, 31 ; W. Indies, 99–331 ; BMNH type-label “Type H.T.” ; *Synopeas flavipes* Ashm. ♀ Type. (BMNH).

One male (allotype).

***Synopeas fuscicola* Box, 1921**

Synopeas fuscicola Box, 1921. *Ent. Rec.* **33** : 16.

Synopeas fuscicola ; Barmouth, VI.06 ; BMNH type-label. (♀, BMNH).
Unique.

***Synopeas grenadensis* (Ashmead, 1896) comb. n.**

Polymecus grenadensis Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 802.

Grand Etang (Windward side), 1900 ft., Grenada, W.I., H. H. Smith, 13 ; W. Indies, 99–331 ; BMNH type-label “Type H.T.” ; *Polymecus grenadensis* Ashm. ♀ Type. (BMNH).

One more female doubtfully referred hereto.

***Synopeas isus* (Walker, 1839) comb. n.**

Platygaster isus Walker, 1839. *Monogr. Chalcid.* **2** : 56.

BMNH type-label ; 1322a ; Tasmania, C. Darwin ; *Platygaster isus* Wk. J.F.P. VI.31 ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Isus* Wk. (♀, BMNH).

Unique.

***Synopeas larides* (Walker, 1835)**

Platygaster larides Walker, 1835. *Ent. Mag.* **3** : 232.

Platygaster larides Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928 J.W.) ; *Larides* Wk. ; BMNH type-label. (♂, BMNH).

Unique.

***Synopeas leda* (Walker, 1839) comb. n.**

Platygaster leda Walker, 1839. *Monogr. Chalcid.* **2** : 57.

BMNH type-label ; 1327a ; Tasmania, Hobart Town, C. Darwin ; *Platygaster leda* Wk. Type J.F.P. 1937 ; Stood under this name in old B.M. Collection (Rearranged 1928 J.W.) ; *Leda*. (♀, BMNH).

Unique.

***Synopeas macrurus* (Ashmead, 1896) comb. n.**

Polymecus macrurus Ashmead, 1896. *Proc. zool. Soc. Lond.* **1895** : 801.

Balthazar (Windward side), Grenada, W.I., H. H. Smith, 20 ; W. Indies, 99-331 ; BMNH type-label "Type H.T." ; *Polymecus macrurus* Ashm. ♀ Type. (BMNH).

Unique.

***Synopeas nydia* (Walker, 1835) comb. n.**

Platygaster nydia Walker, 1835. *Ent. Mag.* **3** : 221.

Platygaster nydia Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; BMNH type-label. (♀, BMNH).

Unique.

***Synopeas rhanis* (Walker, 1835)**

Platygaster rhanis Walker, 1835. *Ent. Mag.* **3** : 225.

Platygaster rhanis Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Rhanis* Wk. ; BMNH type-label. (♀, BMNH).

Unique ; gaster broken off.

***Synopeas seychellensis* (Kieffer, 1912) comb. n.**

Platygaster seychellensis Kieffer, 1912. *Trans. Linn. Soc. Lond. (Zool.)* **15** : 79.

100 ; Silhouette, '08 Seychelles Exp. ; *Platygaster seychellensis* J. J. Kieffer Type ; blue label "Type" ; BMNH type-label ; Seychelles Islands, Percy Sladen Trust Expedition 1913-170. (♀, BMNH).

Unique.

***Synopeas sosis* (Walker, 1835)**

Platygaster sosis Walker, 1835. *Ent. Mag.* **3** : 225.

Platygaster sosis Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Sosis* Wk. ; BMNH type-label ; BMNH type-label "Lectotype L.M." ; Selected as lectotype of *Platygaster sosis* Walker 1835 ♂ by L. Masner 13.XII.1961. (BMNH).

One more male (as type).

***Synoeps thersippus* (Walker, 1839) comb. n.**

Platygaster thersippus Walker, 1839. *Monogr. Chalcid.* **2** : 79.

BMNH type-label ; Brazil, Bahia, C. Darwin ; *Platygaster thersippus* Walk. Type (J.F.P., VI.1937) ; *thersippus*. (♀, BMNH).
Unique.

***Synoeps trebius* (Walker, 1835) comb. n.**

Platygaster trebius Walker, 1835. *Ent. Mag.* **3** : 231.

Platygaster trebius Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Trebius* Wk. ; BMNH type-label. (♂, BMNH).
Unique.

***Synoeps xenarchus* (Walker, 1839) comb. n.**

Platygaster xenarchus Walker, 1839. *Monogr. Chalcid.* **2** : 79.

BMNH type-label ; Brazil, Bahia, C. Darwin ; 1319a ; *Platygaster xenarchus* Walker Type (J.F.P., 1937) ; *xenarchus*. (♂, BMNH).
Unique.

TRICHACIS* Förster, 1856**Trichacis didas* (Walker, 1835)**

Platygaster didas Walker, 1835. *Ent. Mag.* **3** : 240.

Platygaster didas Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Didas* Wk. ; BMNH type-label. (♀, BMNH).
Unique.

***Trichacis pisis* (Walker, 1835)**

Platygaster pisis Walker, 1835. *Ent. Mag.* **3** : 239.

Platygaster pisis Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Pisis* Wk. ; BMNH type-label. (♀, BMNH).
One more male.

***Trichacis remulus* (Walker, 1835)**

Platygaster remulus Walker, 1835. *Ent. Mag.* **3** : 239.

Platygaster remulus Wk. ; Stood under this name in old B.M. Collection (Rearranged 1928, J.W.) ; *Remulus* Wk. ; BMNH type-label. (♀, BMNH).
Unique.

INDEX TO NEW NAMES

- cameroni, Probaryconus, 90
 confusa, Trichopria, 41
 mullensis, Loxotropa, 29
 neotropica, Trichopria, 44
 nixonii, Gryon, 77
 nixonii, Macroteleia, 83
 obscura, Trichopria, 44
 oxygaster, Trichopria, 44
 sociabilis, Trichopria, 45
 wollastoni, Idris, 80

INDEX TO SUPERSPECIFIC NAMES

(Valid names are in roman type, synonyms in italics)

- Abothropria Kieff., 22
 Acanosema Kieff., 48
 Acanthopria Ashm., 22
Acanthopsilus Kieff., 48
 Acidopria Kieff., 23
Aclista auct., 65
 Aclista Först., 48
Acoloides How., 78
Acolus auct., 78
 Acolus Först., 74
Acoretus Hal., 48
 Acropiesta Först., 51
Aholcus Kieff., 109
 Allotropa Först., 129
 Amblyaspis Först., 132
Amblyconus Kieff., 90
 Ambositra Msn., 47
 Ambositrinae, 47
 Amitus Hald., 133
Aneclata Först., 48
 Aneurhynchus Westw., 23
Anopediella Sundh., 132
 Anteris Först., 67, 97, 98
Apegusoneura Cam., 68
 Aphanogmus Thoms., 10
 Aprestes Nix., 52
Artibolus Hal., 64
Ashmeadopria Kieff., 40
Asolcus Nak., 124
 Asolenopsia Kieff., 23
 Baeinae, 67
 Baeus Hal., 67
 Bakeria Kieff., 23
Baryconus auct., 90
 Baryconus Först., 68
 Basalys Westw., 24
 Belyta Jur., 52
 Belytinae, 48
 Betyla Cam., 55
Brunnicophilus Nix., 64
 Calogalesus Kieff., 24
Calliceras Nees, 11
 Calotelea Westw., 69
Caloteleia Ashm., 69
Carabiphagus Morl., 8
 Cardiopsilus Kieff., 56
Carinia Kieff., 65
 Ceraphron Jur., 11
 Ceraphronidae, 10
 Ceraphroninae, 10
 Ceratobaeoides Dodd, 71
 Ceratobaeus Ashm., 71
Ceratoteleia Kieff., 69
 Chromoteleia Ashm., 71
 Cinetus Jur., 56
 Codrus Panz., 5
 Conostigmus Dahlb., 14
 Cremastobaeus Ashm., 72
 Cryptoserphus Kieff., 7
 Diapria Latr., 24
 Diapriidae, 22
 Diapriinae, 22
 Dichoteleas Kieff., 72
 Diphora Först., 59
 Disogmus Först., 7
 Duta Nix., 72
 Eccinetus Mues. & Walkl., 60
Ectadius Först., 140
Enneascelio Kieff., 92
 Entomacis Först., 25
 Eumicrosoma Gah., 108
Exallonyx Kieff., 5
 Galesus Hal., 35
 Gita Nix., 73
 Govinda Nix., 73
 Gryon Hal., 74
 Gryonoides Dodd, 98

- Hadronotellus* Kieff., 74
Hadronotoides Dodd, 78
Hadronotus Först., 74
Hadrophanurus Kieff., 74
Hemilexodes Ashm., 25
Hemimorus Cam., 100
Hemisius Westw., 109
Heterogryon Kieff., 74
Holacolus Kieff., 74
Hoplogryon Ashm., 100
Hoplopria Ashm., 25
Hoploteleia Ashm., 68
- Idiotypa* Först., 27
Idris Först., 78
Immsia Cam., 124
Inostemma Hal., 130
Inostemminae, 129
Iphitrachelus Walk., 130
Isocybus Först., 133
Isostasius Först., 130
- Labolips* Hal., 27
Lagynodes Först., 19
Lamproteleia Kieff., 69
Lapitha Ashm., 80
Lapithoides Nix., 81
Leptacis Först., 134
Leptorhaptus Först., 60
Leptoteleia Kieff., 81
Loxotropa Först., 27
Lygocerus Först., 19
- Macrogryon* Nix., 99
Macroteleia Westw., 81
Malvina Cam., 31
Mantara Dodd., 31
Mantibaria Kby., 84
Megaspilinae, 14
Megaspilus Westw., 21
Merriwa Dodd, 85
Metaclisis Först., 131
Microgalesus Kieff., 31
Microphanurus Kieff., 124
Mimopria Holmgr., 31
Misocyclops Kieff., 135
Monelata Först., 32
Monocrita Först., 130
- Nardo* Nix., 108
Nasdia Nix., 131
- Neivapria* Borgm., 32
Neodiapria Kieff., 40
Neopria Dodd, 27
Neoscelio Dodd, 85
Neurogalesus Kieff., 32
Neuropria Kieff., 64
Neuroteleia Kieff., 69
Nirupama Nix., 108
Nixonia Msn., 85
Notoxopria Kieff., 33
- Odontacolus* Kieff., 85
Oethecoctonus Ashm., 85
Opazon Hal., 61
Opistacantha Ashm., 86
Oreiscelio Kieff., 86
Orthopria Kieff., 40
Oxylabis Först., 61
Oxyphanurus Kieff., 87
Oxyserphus Msn., 8
- Pantoclis* Först., 61
Pantolyta Först., 63
Pantopieta Manev., 51
Parabaeus Kieff., 86
Paraclista Kieff., 63
Paracodrus Kieff., 8
Paragryon Kieff., 100
Paramesius Westw., 33
Paranteris Kieff., 88
Parascelio Dodd., 87
Paratelopsilus Whitt., 64
Paratrimorus Kieff., 87
Parepimeces Kieff., 135
Paridris Kieff., 88
Parinostemma Kieff., 131
Paroxylabis Kieff., 63
Pegoteleia Kieff., 89
Pentapria Kieff., 34
Phaenopria Ashm., 40
Phaenoserphus Kieff., 8
Phanurus Thoms., 109
Philolestes Kieff., 34
Philoplanes Mues. & Walkl., 78
Piestopleura Först., 135
Planopria Kieff., 40
Planopriella Kieff., 34
Plastogryon Kieff., 74
Platygaster Latr., 135
Platygasteridae, 129
Platygasterinae, 132
Platymischoides Ash., 34

Platymischus Westw., 34
 Platystasius Nix., 132
 Platytelenomus Dodd., 109
 Plesiobaeus Kieff., 89
Polymecus Först., 140
 Probaryconus Kieff., 90
 Procacus Kieff., 90
Procinetus Kieff., 60
 Proctotrupes Latr., 9
 Proctotrupidae, 5
Proctotrypes Agassiz, 9
Prosactogaster Kieff., 135
Prosamblyaspis Kieff., 134
 Prosapegus Kieff., 91
Psilacolus Kieff., 78
Psilobaeus Kieff., 67
 Psilomma Först., 63
 Psiloteleia Kieff., 91
 Psilus Panz., 35

Rhacoteleia Cam., 68
Rhopalopria Kieff., 40
 Rhynchopsilus Kieff., 64
Rielia Kieff., 84
Rieliomorpha Dodd, 84
Romilius Walk., 81

Sactogaster Först., 140
 Sceliacantha Dodd, 91
 Scelio Latr., 92
 Sceliomorpha Ashm., 96
 Scelionidae, 67
 Scelioninae, 67
Schizogalesus Kieff., 35
Schizopria Kieff., 25
 Scorpioteleia Ashm., 64

Serphus Schrank, 9
 Shreemena Nix., 96
 Sparasion Latr., 96
 Spilomicrus Westw., 38
 Synacra Först., 64
 Synopeas Först., 140
Szelényiella Szabó, 108

Teleas Latr., 99
 Teleasinae, 98
 Telenominae, 108
Telenomoides Dodd, 74
 Telenomus Hal., 109
 Tetramopria Wasm., 40
Tetrapsilus Kieff., 65
 Thelepte Nix., 97
 Trichacis Först., 143
Trichasius Prov., 100
Tricholeptacis Kieff., 134
 Trichopria Ashm., 40
 Trichosteresis Först., 22
 Trichoteleia Kieff., 97
 Trimorus Först., 100
Trisinostemma Kieff., 130
 Trissolcus Ashm., 124
Triteleia Kieff., 81
Tropidopria Ashm., 24

Vardhana Nix., 97

Xenotoma Först., 48
 Xyalopria Kieff., 47

Zacranium Ashm., 47
Zelotypha Först., 48
 Zygota Först., 65

INDEX TO TRIVIAL NAMES

(Species represented only in paratypes /cotypes/ are marked with an asterisk; homonyms in italics)

abaris (Walk.), Synopeas, 140
 abdominalis (Nix.), Psilus, 35
 aberrans Nix., Aprestes, 52
 adenyus Nix., Telenomus, 109
 aethiops Nix., Macroteleia, 81
 affinis Dodd, Hoplopria, 25
affinis Ashm., Trichopria, 40, 44
 africanus (Dodd), Baryconus, 68
 agilis (Ashm.), Gryon, 74

agilis (Kieff.), Trimorus, 100
 albitarsis Ashm., Telenomus, 109
 albohirta (Dodd), Aclista, 48
 albopilosellus Cam., Sparasion, 96
 alce Nix., Cinetus, 56
 aletes Nix., Cinetus, 56
 aleus Nix., Telenomus, 109
 *aloysiisabaudiae (Fouts), Trissolcus, 124
 amazonicus Cam., Telenomus, 110
 *amicus (Dodd), Baryconus, 68

- amphiarus* (Nix.), *Trimorus*, 100
anates Nix., *Telenomus*, 110
angulifera (Ashm.), *Trichopria*, 40
annulicornis Kieff., *Spilomicrus*, 38
annulipes Ashm., *Cremastobaeus*, 72
anomala Kirby, *Mantibaria*, 84
anommati (Morl.), *Synacra*, 64
antestiae (Dodd), *Gryon*, 74
anthracina Whitt., *Belyta*, 52
antillarum (Ashm.), *Codrus*, 5
antipoda (Dodd), *Belyta*, 53
antorides Nix., *Scelio*, 92
ansysis Nix., *Pantolyta*, 63
aphidivorus Kieff., *Lygocerus*, 19
aphrodite (Nix.), *Calotelea*, 69
apicalis (Dodd), *Eccinetus*, 60
apterus Kieff., *Conostigmus*, 14
arcturus Whitt., *Amitus*, 133
areolata (Kieff.), *Belyta*, 53
ariantes Nix., *Cinetus*, 56
armatus Kieff., *Ceraphron*, 11
**arndti* Dozier, *Leptoteleia*, 81
artabazus (Nix.), *Trissolcus*, 124
aterrima Dodd, *Hoplopria*, 26
athenaeus (Walk.), *Synopeas*, 140
atinas (Walk.), *Isostasius*, 131
atra Kieff., *Psiloteleia*, 91
atrellus Dodd, *Prosapegus*, 91
atriceps Kieff., *Paratrimorus*, 87
atricrus (Kieff.), *Basalys*, 24
atripes (Dodd), *Baryconus*, 68
atripes Cam., *Telenomus*, 110
atrocoxalis (Ashm.), *Gryon*, 74
attaci Nix., *Telenomus*, 110
attenuatus Hal., *Platygaster*, 135
atys Nix., *Trimorus*, 100
atys (Nix.), *Trissolcus*, 124
auge Nix., *Nirupama*, 108
automenes Walk., *Platygaster*, 135

baciliger (Kieff.), *Trimorus*, 100
balthazari (Ashm.), *Trichopria*, 40
**barbata* Borgm., *Mimopria*, 31
barrowi (Dodd), *Trissolcus*, 124
basalis (Woll.), *Trissolcus*, 125
basicinctus (Ashm.), *Trimorus*, 101
benefactor Crawf., *Telenomus*, 110
bensoni Nix., *Zygota*, 65
bethyliformis Kieff., *Paracodrus*, 8
biblis (Nix.), *Trissolcus*, 125
bicolor Kieff., *Lygocerus*, 20
bidens (Nix.), *Psilus*, 35

bifasciata Dodd, *Opistacantha*, 86
bifoveata Kieff., *Loxotropa*, 27
bifoveata Ashm., *Trichopria*, 41
bifoveatus (Kieff.), *Synopeas*, 140
bifurcata Dodd, *Mantara*, 31
bipartitus Kieff., *Scelio*, 92
borealis (Whitt.), *Ceraphron*, 11
borneanus (Cam.), *Codrus*, 5
braesius (Walk.), *Isostasius*, 131
brasilas Walk., *Teleas*, 99
breadalbimensis Kieff., *Lygocerus*, 20
brimo Nix., *Telenomus*, 111
britannicus Kieff., *Conostigmus*, 14
bruneipes Dodd, *Conostigmus*, 14
brunnea Ashm., *Amblyaspis*, 132
**burrelli* Mues., *Allotropa*, 129
busseolae (Gah.), *Platytelenomus*, 109

caelebs Nix., *Macrogryon*, 99
caelebs Nix., *Macroteleia*, 82
caloptera (Kieff.), *Pegoteleia*, 89
cameroni Kieff., *Ceraphron*, 11
cameroni Kieff., *Cinetus*, 56
cameroni Kieff., *Lygocerus*, 20
cameroni (Kieff.), *Oxylabis*, 61
cameroni Msn., *Probaryconus*, 90
cameroni (Kieff.), *Psilus*, 35
cameroni (Kieff.), *Trichopria*, 41
cameroni (Kieff.), *Trimorus*, 101
cameroni (Kieff.), *Zygota*, 65
canadensis Whitt., *Aphanogmus*, 10
canadensis (Whitt.), *Synacra*, 64
canaliculata (Cam.), *Hoplopria*, 26
carinatus Kieff., *Neurogalesus*, 32
carinifrons (Kieff.), *Trimorus*, 101
carinifrons (Cam.), *Trissolcus*, 125
carus (Nix.), *Trimorus*, 101
castaneiventris (Kieff.), *Aclista*, 48
catillus (Walk.), *Piestopleura*, 135
cebes (Nix.), *Scorpioteleia*, 64
ceylonensis Dodd, *Sceliomorpha*, 96
chapmanni Nix., *Scelio*, 92
charmus (Walk.), *Paratrimorus*, 87
charon (Nix.), *Gryon*, 75
cheops Nix., *Scelio*, 92
chiriquensis (Cam.), *Pentapria*, 34
chittii (Morl.), *Phaenoserphus*, 8
chrysippus Walk., *Platygaster*, 136
chrysolaeus (Walk.), *Gryon*, 75
ciliaris Kieff., *Trichopria*, 41
ciliata Kieff., *Loxotropa*, 27
cilipes (Kieff.), *Aclista*, 49

- citreicoxa Dodd, Lapitha, 80
 *citri Mues., Allotropa, 129
 clavatipes (Kieff.), Trichopria, 41
 clavicornis (Cam.), Trimorus, 101
 cleonymoides Westw., Macroteleia, 82
 clito Nix., Aclista, 49
 codrus Nix., Telenomus, 111
 codrus (Nix.), Trimorus, 101
 collaris Kieff., Basalys, 24
 *comes Borgm., Mimopria, 32
 concinnus (Whitt.), Ceraphron, 12
 *condensus Dodd, Trimorus, 101
 confusa Msn., Trichopria, 41
 confusus (Nix.), Codrus, 5
 connectans Ashm., Telenomus, 111
 conotoma (Kieff.), Xyalopria, 47
 consimilis Ashm., Telenomus, 111
 convergens Ashm., Telenomus, 111
 convexa Kieff., Loxotropa, 27
 *convexifrons Mues., Allotropa, 129
 corion Nix., Scelio, 92
 costalis v. obliterata Kieff., Belyta, 153
 cous (Nix.), Gryon, 75
 crassellus Dodd, Scelio, 93
 crassiclava Nix., Telenomus, 112
 crassiclavus Kieff., Spilomicrus, 38
 crassicornis Ashm., Acanthopria, 22
 crassinervis v. scotica Kieff., Belyta, 53
 *crassispinus Dodd, Trimorus, 102
 craterus (Walk.), Synopeas, 141
 cratocerus (Cam.), Psilus, 35
 crotius (Nix.), Trissolcus, 125
 croton Nix., Zygota, 65
 cteatus (Walk.), Idris, 79
 cumaeus Nix., Cryptoserphus, 7
 cumaeus (Nix.), Eumicrosoma, 108
 cursitans Kieff., Loxotropa, 27
 cursor (Kieff.), Trimorus, 102
 curticornis Kieff., Entomacis, 25
 curtigena (Nix.), Codrus, 6
 curvatus Kieff., Baeus, 67
 cybele Nix., Telenomus, 112
 cyclops Nix., Paratrimorus, 87
 cyclops (Nix.), Trimorus, 102
 cylindricornis Parr, Aphanogmus, 10
 cyrsilus Walk., Platygaster, 136
 cyrus Nix., Telenomus, 112

 danaus (Nix.), Trissolcus, 125
 dasyni (Nix.), Gryon, 75
 demades Walk., Platygaster, 136
 demodoci Nix., Telenomus, 112

 densiclava (Kieff.), Paridris, 88
 dentatipes Kieff., Zygota, 65
 dentatus Kieff., Paramesius, 33
 depressa v. cursitans Kieff., Belyta, 53
 dicaeus (Walk.), Gryon, 75
 dictynnus (Waterst.), Ceraphron, 12
 didas (Walk.), Trichacis, 143
 difficilis (Nix.), Psilus, 35
 dignoides Nix., Telenomus, 112
 *dignus (Gah.), Telenomus, 113
 dilatatus Westw., Platymischus, 34
 dilophonotae Cam., Telenomus, 113
 dissimilis (Nix.), Baryconus, 68
 distinctus (Nix.), Psilus, 35
 diversus (Woll.), Idris, 79
 dives Nix., Pantoclis, 61
 divina Dodd, Lapitha, 81
 divisus (Woll.), Gryon, 75
 docilis Nix., Leptorhaptus, 60
 dolon Nix., Pantoclis, 61
 donisthorpei (Nix.), Rhynchopsilus, 64
 donisthorpei Kieff., Tetramopria, 40
 donisthorpei v. femoralis Kieff.,
 Tetramopria, 40
 donisthorpei (Kieff.), Trichopria, 41
 dorsalis Whitt., Aphanogmus, 10
 dorsalis (Ashm.), Probaryconus, 90
 dubia (Ashm.), Platygaster, 136
 dubia Kieff., Psilomma, 63
 dubiosus Kieff., Conostigmus, 15
 dubiosus Nix., Phaenoserphus, 8
 dubius (Nix.), Probaryconus, 90
 duris (Walk.), Macroteleia, 82
 dux (Curt.), Megaspilus, 21

 echion Nix., Macrogyron, 99
 egregius Kieff., Leptorhaptus, 60
 elatior Nix., Cinetus, 56
 elissa Walk., Platygaster, 136
 emarginata Dodd, Macroteleia, 82
 enceladus (Nix.), Trissolcus, 125
 ennius Nix., Cinetus, 56
 ensifer (Westw.), Platygaster, 136
 erana (Nix.), Calotelea, 69
 erato (Walk.), Isocybus, 133
 erythropoda Cam., Scelio, 93
 erythropus Cam., Macroteleia, 82
 erythropus Dodd, Scelio, 93
 evadne Walk., Platygaster, 137
 exaratus (Kieff.), Scelio, 93
 excavata Whitt., Belyta, 53
 excisipes Kieff., Zygota, 65

- exsul* Kieff., *Belyta*, 54
exsul Kieff., *Loxotropa*, 28

fallax (Kieff.), *Entomacis*, 25
**famosa* Msn., *Ambositra*, 47
fasciatipennis (Kieff.), *Calotelea*, 69
fasciatipennis (Kieff.), *Conostigmus*, 15
fasciatipennis (Cam.), *Hoplopria*, 26
fascipennis (Ashm.), *Idris*, 79
festivus (Kieff.), *Gryon*, 76
fijiensis (Ferr.), *Ceraphron*, 12
filicornis (Kieff.), *Aclista*, 49
fimbriata Kieff., *Trichopria*, 42
fissus (Woll.), *Psilus*, 36
flavibasis (Kieff.), *Trimorus*, 102
flaviclava (Kieff.), *Entomacis*, 25
flaviclava (Kieff.), *Paridris*, 88
flavicornis Woll., *Telenomus*, 80
flavidipes (Kieff.), *Loxotropa*, 28
flavigena Kieff., *Macroteleia*, 82
flavipes Kieff., *Acropiesta*, 51
flavipes Kieff., *Scelioromorpha*, 96
flavipes Ashm., *Synopeas*, 141
flavosignata (Kieff.), *Leptacis*, 134
flebilis Nix., *Paratrimorus*, 87
folia Nix., *Aclista*, 49
fons (Nix.), *Trimorus*, 102
formicaria Kieff., *Trichopria*, 42, 45
formicarum (Kieff.), *Aphanogmus*, 10
formicarum Kieff., *Conostigmus*, 15
formicarum Kieff., *Loxotropa*, 28
formosum Kieff., *Sparasion*, 97
forticornis Cam., *Belyta*, 54
frenalis Kieff., *Lygocerus*, 20
frenchi Dodd, *Telenomus*, 113
fucicola (Walk.), *Trichopria*, 42
fuliginosi Box, *Ceraphron*, 12
fuliginosi Box, *Loxotropa*, 28
fulva Cam., *Betyla*, 55
fumipennis Westw., *Basalys*, 24
fumipennis v. *donisthorpei* (Kieff.),
Codrus, 6
furcatus Kieff., *Aphanogmus*, 10
furius (Walk.), *Amblyaspis*, 132
fuscicola Box, *Synopeas*, 141
fuscicornis Ashm., *Telenomus*, 113
fuscipes (Kieff.), *Cinetus*, 57
fusciventris Kieff., *Lygocerus*, 20
fusciventris (Kieff.), *Aclista*, 49

galesiformis Westw., *Aneurhynchus*, 23
gaudens Nix., *Scelio*, 93

gaus Nix., *Cinetus*, 57
glabriceps Dodd, *Gryonoides*, 98
glorianus Dodd, *Prosapegus*, 91
gobar Walk., *Scelio*, 93
gorgo Walk., *Platygaster*, 137
**gowdeyi* Crawf., *Telenomus*, 113
gracilicornis (Kieff.), *Acropiesta*, 51
gracilicornis Dodd, *Macroteleia*, 83
gracilipes (Kieff.), *Psilus*, 36
gracilis (Nix.), *Calotelea*, 69
gracilis (Nix.), *Codrus*, 6
**gracilis* Msn., *Iphitrachelus*, 130
gravidator v. *petiolaris* (Kieff.),
Prototrupes, 9
grenadae (Kieff.), *Loxotropa*, 28
grenadensis Ashm., *Aphanogmus*, 10
grenadensis Ashm., *Calotelea*, 70
grenadensis Ashm., *Ceraphron*, 12
grenadensis (Ashm.), *Gryon*, 76
grenadensis (Ashm.), *Leptacis*, 134
grenadensis Ashm., *Loxotropa*, 28
grenadensis Ashm., *Phaenopria*, 41, 42
grenadensis (Ashm.), *Synopeas*, 141
grenadensis Ashm., *Telenomus*, 114
grenadensis Ashm., *Trichopria*, 42
grenadicola Kieff., *Trichopria*, 42

habilis Nix., *Scelio*, 94
halterata (Kieff.), *Trichopria*, 42
hawaiiensis Ashm.,? *Anteris*, 97
hawaiiensis (Ashm.), *Cryptoserphus*, 7
hawaiiensis (Ashm.), *Trichopria*, 43
heterocera (Kieff.), *Calotelea*, 70
heterocerus Kieff., *Leptorhaptus*, 60
heteropus (Kieff.), *Cinetus*, 57
hiberus (Nix.), *Gryon*, 76
hispanicus (Kieff.), *Psilus*, 36
homeoceri (Nix.), *Gryon*, 76
hospes Kieff., *Plesiobaenus*, 89
humilis Kieff., *Conostigmus*, 15
hyalinipennis (Morl.), *Codrus*, 6
hylas Nix., *Platytelenomus*, 109
hyperion Nix., *Telenomus*, 114

ilione Nix., *Cinetus*, 57
inaequalis (Kieff.), *Trichopria*, 43
incerta Nix., *Govinda*, 73
incerta (Kieff.), *Pantolyta*, 63
incertus (Nix.), *Teles*, 99
incommodus Nix., *Telenomus*, 114
indicus Dodd, *Aneurhynchus*, 23
inermis Kieff., *Trichopria*, 43

- infortunata* Nix., Gita, 73
inquisitor (Nix.), Psilus, 36
insolita Nix., Aclista, 49
insulanus (Kieff.), Cinetus, 57
insularis (Kieff.), Aclista, 50
insularis Ashm., Aphanogmus, 11
insularis (Kieff.), Idris, 79
integer v. *variicornis* Kieff., Spilomicrus, 39
intrudens F. Smith, Proctotrupes, 9
iphias Nix., Telenomus, 114
iphias Nix., Trimorus, 102
iridipennis v. *prolongatus* Kieff., Cinetus, 57
isus (Walk.), Synopeas, 141
- janus* (Nix.), Gryon, 76
javanica Dodd, Lapitha, 81
 **javanica* Roepke, Scelio, 94
javensis Dodd, Pantoclis, 62
- kingi* Crawf., Telenomus, 114
- laius* (Nix.), Trimorus, 103
 **lamellatus* Szabó, Teleas, 100
larides (Walk.), Synopeas, 141
larides Nix., Zygota, 65
larides (Nix.), Trissolcus, 126
lasiophila Kieff., Amblyaspis, 132
laticeps Ashm., Trissolcus, 126
laticinctus (Ashm.), Oethecoctonus, 85
latifrons Ashm., Telenomus, 114
latipennis (Ashm.), Entomacis, 25
lativentris Cam., Belyta, 54
leda (Walk.), Synopeas, 142
lelus Nix., Telenomus, 115
lentus Kieff., Conostigmus, 15
leptocorisae Nix., Hadronotus, 76, 77
leptothorax Kieff., Conostigmus, 15
letus (Nix.), Gryon, 77
leucosia (Nix.), Calotelea, 70
levifrons Kieff., Conostigmus, 16
levigena (Kieff.), Trimorus, 103
leviventris (Cam.), Trissolcus, 126
lewisi Nix., Trichopria, 43
licus Nix., Cinetus, 58
lineare Nix., Aclista, 50
lineatifrons Kieff., Conostigmus, 16
lloydi Ferr., Abothropria, 22
lollius (Nix.), Trimorus, 103
longiceps Kieff., Odontacolus, 85
longiceps (Nix.), Psilus, 36
longiclavatus Ashm., Telenomus, 115
longior Dodd, Paramesius, 33
- longipennis* Kieff., Loxotropa, 29
longiventris (Cam.), Telenomus, 115
loris Nix., Zygota, 66
lucidiceps (Kieff.), Idris, 79
lucidus Kieff., Conostigmus, 16
lucullus Nix., Telenomus, 115
luctuosa Kieff., Loxotropa, 29
luteipes Ashm., Telenomus, 115
lycon Walk., Inostemma, 130
 **lymantriae* (Msn.), Gryon, 77
lysicles Nix., Acropiesta, 52
lysis Nix., Cinetus, 58
- macroneura* (Kieff.), Zygota, 66
macroptera Kieff., Loxotropa, 29
macrurus (Ashm.), Synopeas, 142
maculipennis (Cam.), Hoplopria, 26
maculipennis (Cam.), Oxyserphus, 8
maderensis (Woll.), Trissolcus, 126
magniclavata (Ashm.), Trichopria, 43
magniclavus Ashm., Telenomus, 115
magnes (Nix.), Trimorus, 103
magnificus (Nix.), Psilus, 36
mahensis Kieff., Macroteleia, 83
mahensis Kieff., Platygaster, 137
mahensis Kieff., Telenomus, 116
mahensis (Kieff.), Trichopria, 43
mandibularis Dodd, Megaspilus, 21
manolus Nix., Telenomus, 116
marbis Nix., Scelio, 94
marginalis Kieff., Belyta, 54
maro (Nix.), Trissolcus, 126
marsyas (Nix.), Trimorus, 103
matuta (Walk.), Isocybus, 133
medius Ashm., Telenomus, 116
melanogaster Dodd, Scelio, 94
melanogaster Cam., Telenomus, 116
melanopa (Kieff.), Trichopria, 43
melanopleura (Ashm.), Xyalopria, 47
melicerata Walk., Inostemma, 130
mellicolor (Nix.), Calotelea, 70
meneclis (Nix.), Trissolcus, 126
menippus Walk., Inostemma, 130
meridionalis Ashm., Ceraphron, 12
mermerus Nix., Cinetus, 58
merope Nix., Pantoclis, 62
metatarsalis Dodd, Prosapegus, 91
microcera (Kieff.), Acanosema, 48
micropterus (Kieff.), Trimorus, 103
microtoma (Kieff.), Zygota, 66
mila Nix., Govinda, 73
minor (Kieff.), Paramesius, 33

- minor (Woll.), Probaryconus, 90
 minutus (Westw.), Telenomus, 116
 mirella Dodd, Sceliomorpha, 96
 modesta Kieff., Belyta, 54
 modestus (Nix.), Psilus, 37
 molokaiensis Ashm., Platymischoides, 34
 molorchus Nix., Telenomus, 116
 moniliata Cam., Belyta, 54
 mopsus (Nix.), Trissolcus, 127
 morleii (Morl.), Trichopria, 44
 morpheus Nix., Nirupama, 108
 mullensis Cam., Belyta, 54
 mullensis (Cam.), Conostigmus, 16
 mullensis Msn., Loxotropa, 29
 munitus Walk., Platygaster, 137
 muscidorum (Dodd), Psilus, 37
 mycale Nix., Aclista, 50
 myndus (Nix.), Gryon, 77
 myrmecobius Kieff., Conostigmus, 16
 myrmecobius (Kieff.), Trimorus, 104
 myrmecobius Kieff., Teleas, 100
 myrmecophilus Kieff., Ceraphron, 12
 myrmecophilus Nix., Spilomicrus, 39
 myrmecophilus (Kieff.), Trimorus, 104
 myrmicarum Kieff., Ceraphron, 13
 myrmidon Kieff., Telenomus, 117
- narolus Nix., Telenomus, 117
 naevius (Nix.), Gryon, 77
 nearctica Whitt., Diphora, 59
 nephele Nix., Telenomus, 117
 nephele Nix., Trimorus, 104
 nebrija Nix., Macroteleia, 83
 neglecta (Kieff.), Aclista, 50
 neotropica Msn., Trichopria, 44
 nice (Walk.), Leptacis, 134
 nigra (Kieff.), Aclista, 50
 nigra Whitt., Monelata, 32
 nigriceps Kieff., Ceraphron, 13
 nigriceps (Kieff.), Paridris, 88
 niger Ashm., Cremastobaeus, 72
 niger v. pallidistigma (Morl.), Codrus, 6
 nigerrimus (Kieff.), Trimorus, 104
 nigrelliceus Kieff., Ceraphron, 13
 nigrescens (Kieff.), Aclista, 50
 nigrescens Dodd, Chromoteleia, 71
 nigriceps Ashm., Calotelea, 70
 nigriceps Kieff., Diphora, 59
 nigriceps Kieff., Xyalopria, 47
 nigriceps (Cam.), Zygota, 66
 nigriclava (Kieff.), Paridris, 88
 nigriclavata (Ashm.), Trichopria, 44
 nigriclavatus Ashm., Telenomus, 117
 nigricornis (Ashm.), Leptacis, 134
 nigricornis v. subterranea Kieff.,
 Loxotropa, 29
 nigricornis Kieff., Paramesius, 33
nigricornis Ashm., Phaenopria, 44
 nigricornis Ashm.,? Anteris, 98
 nigriventris Kieff., Conostigmus, 16
 nigrocoxalis Ashm., Telenomus, 117
 ninus (Nix.), Trimorus, 104
 nitens (Dodd), Cryptoserphus, 7
 nitidiceps (Kieff.), Paridris, 89
 nixonii Msn., Gryon, 77
 nixonii Msn., Macroteleia, 83
 nocticolor (Kieff.), Trichopria, 44
 *nomius (Nix.), Trimorus, 104
 numitor Nix., Telenomus, 117
 nona Nix., Govinda, 73
 nydia (Walk.), Synopeas, 142
- oahuense Ashm., Zacranium, 47
 obliquus Kieff., Aneurhynchus, 23
 obscura Msn., Trichopria, 44
 obsoleta Dodd, Hoplopria, 26
 ochraceus (Ashm.), Idris, 79
 ochus Nix., Telenomus, 118
 oebalus Walk., Platygaster, 137
 oecleus (Nix.), Trimorus, 105
 olorus Walk., Platygaster, 138
 olynthus Nix., Telenomus, 118
 oophagus (Nix.), Gryon, 77
 orientalis (Dodd), Codrus, 6
 orion (Nix.), Trimorus, 105
 orithyla Nix., Macroteleia, 83
 orodes Nix., Pantoclis, 62
 orontes (Nix.), Trissolcus, 127
 orthopterae (Dodd), Baryconus, 68
 orus Walk., Platygaster, 138
 othus Nix., Platystasius, 132
 otones Nix., Telenomus, 118
 otreus (Walk.), Amblyaspis, 132
 oscus Walk., Platygaster, 138
 oxygaster Msn., Trichopria, 44
 ozines (Walk.), Leptacis, 134
- painei (Ferr.), Trissolcus, 127
 pallida Ashm., Opistacantha, 86
 paris (Nix.), Trimorus, 105
 parvulus Kieff., Calogalesus, 24
 parvulus (Woll.), Conostigmus, 17
 parvulus (Kieff.), Psilus, 37
 partipes Dodd, Proctotrupes, 9

- paucisetis (Dodd), *Spilomicrus*, 39
 pectoralis Ashm., *Telenomus*, 118
 pedasus Walk., *Platygaster*, 138
 pedestris Kieff., *Loxotropa*, 29
 pedestris (Kieff.), *Platymischus*, 34
 *pedissequa Borgm., *Notoxopria*, 33
 pegasus Nix., *Telenomus*, 118
 pelias Nix., *Belyta*, 55
 pelias Walk., *Platygaster*, 138
 *penicilata Borgm., *Neivapria*, 32
 peraffinis (Ashm.), *Trichopria*, 45
 periparetus Nix., *Telenomus*, 118
 perkinsi Nix., *Cryptoserphus*, 7
 perkinsi Ashm.,? *Anteris*, 98
 perkinsiana Dodd, *Macroteleia*, 83
 perplexus Nix., *Telenomus*, 119
 phaeax (Nix.), *Eumicrosoma*, 108
 phegeus Nix., *Telenomus*, 119
 piceipes (Dodd), *Trissolcus*, 127
 picicornis (Cam.), *Spilomicrus*, 39
 pictus (Dodd), *Probaryonus*, 90
 pilosiceps (Dodd), *Trimorus*, 105
 pilosus (Cam.), *Baryconus*, 68
 pinguis Nix., *Paratrimorus*, 88
 pisis (Walk.), *Trichacis*, 143
 pisis (Nix.), *Gryon*, 78
 planifrons Kieff., *Conostigmus*, 17
 pleuralis (Kieff.), *Aclista*, 50
 pleuralis Ashm., *Loxotropa*, 30
 pleuron Walk., *Platygaster*, 138
 plotinus Walk., *Platygaster*, 139
 pluto Nix., *Macrogyron*, 99
 politiceps Dodd, *Trimorus*, 105
 politifrons Ashm., *Ceraphron*, 13
 politus Dodd, *Trimorus*, 105
 polycrates Nix., *Telenomus*, 119
 pontus Nix., *Telenomus*, 119
 popovi Nix., *Scelio*, 94
 praeter Nix., *Zygotia*, 66
 pretiosa Msn., *Nixonia*, 85
 priapus (Nix.), *Trissolcus*, 127
 princeps Nix., *Cinetus*, 58
 princeps Nix., *Opazon*, 61
 princeps Nix., *Scelio*, 94
 procas Nix., *Telenomus*, 119
 proclea Nix., *Cinetus*, 58
 procris Nix., *Cinetus*, 58
 proditor Nix., *Telenomus*, 120
 prolongata (Kieff.), *Aclista*, 51
 *pronotalis Borgm., *Philolestes*, 34
 prorsa (Walk.), *Amblyaspis*, 133
 prosper Nix., *Nasida*, 131
 pulchella Whitt., *Acropiesta*, 52
 *pulchella ssp. *rufifrons* Whitt.,
 Acropiesta, 52
 pulchellus Whitt., *Conostigmus*, 17
 pulchellus Dodd, *Gryonoides*, 98
 *pulchralis Dodd, *Neoscelio*, 85
 pulchricornis Cam., *Telenomus*, 120
 pulchripennis (Kieff.), *Calotelea*, 70
 punctata Cam., *Malvina*, 31
 punctatifrons Cam., *Conostigmus*, 17
 puncticeps Ashm., *Calotelea*, 71
 punctulatus (Cam.), *Conostigmus*, 17
 punctulatus (Kieff.), *Psilus*, 37
 pylades Nix., *Telenomus*, 120
 pylus Nix., *Telenomus*, 120
 pylus (Nix.), *Trimorus*, 106
 pyramus Nix., *Telenomus*, 120

 quadriceps (F. Smith), *Malvina*, 31
 quadridens Kieff., *Microgalesus*, 31
 quadridens (Nix.), *Psilus*, 37
 quadridentata Dodd, *Merriwa*, 85
 quinda (Walk.), *Metaclisis*, 131

 rea Nix., *Govinda*, 73
 rectangularis Kieff., *Lygocerus*, 20
 rectangularis (Nix.), *Psilus*, 37
 remulus (Walk.), *Trichacis*, 143
 remus Nix., *Telenomus*, 120
 rhanis (Walk.), *Synopeas*, 142
 rhopalophorus Kieff., *Conostigmus*, 17
 *rodhaini Beq., *Conostigmus*, 18
 rotundus (Dodd), *Trimorus*, 106
 *rowani (Gah.), *Telenomus*, 121
 rufa (Kieff.), *Calotelea*, 71
 rufescens Kieff., *Conostigmus*, 18
 ruficollis Kieff., *Conostigmus*, 18
 ruficornis Ashm., *Amblyaspis*, 133
 ruficornis Kieff., *Parabaeus*, 86
 rufifrons Whitt., *Acropiesta*, 52
 rufimanus Kieff., *Megaspilus*, 22
rufipes Cam., *Caloteleia*, 71, 90
 rufipes (Ashm.), *Govinda*, 74
 rufipes Cam., *Macroteleia*, 84
 rufipes Westw., *Paramesius*, 33
rufiscapus Kieff., *Basalus*, 24, 29
 rufiventris (Kieff.), *Acanosema*, 48
 rufiventris Kieff., *Diphora*, 59
 rufiventris Kieff., *Lygocerus*, 21
 rufiventris Kieff., *Pantoclis*, 62
 rufonotatus (Kieff.), *Trimorus*, 106
 rugosa Dodd, *Bakeria*, 23

- rugosifrons* Ashm., *Ceraphron*, 13
rugosithorax (Ashm.), *Gryon*, 78
rugostriatus Dodd., *Hadronotoides*, 78
rugosus Kieff., *Dichoteleas*, 72
- sagana* Walk., *Platygaster*, 139
sanguinea Whitt., *Belyta*, 55
saxatilis Kieff., *Ceraphron*, 13
saxatilis (Kieff.), *Gryon*, 78
saxatilis (Kieff.), *Trichopria*, 45
scabriventris Kieff., *Conostigmus*, 18
scepsis (Nix.), *Trimorus*, 106
schoeneus (Nix.), *Trimorus*, 106
**schwarzmaieri* Borgm., *Asolenopsia*, 23
sciron Nix., *Telenomus*, 121
scotica (Kieff.), *Basalys*, 24
scotica (Kieff.), *Belyta*, 55
scotica (Kieff.), *Pantoclis*, 62
scoticus Kieff., *Ceraphron*, 13
scotti Kieff., *Pantoclis*, 62
scotti (Kieff.), *Trichopria*, 45
scrutator (Walk.), *Isostasius*, 131
scutellaris Dodd, *Gryonoides*, 98
scutellaris v. *hyalina* Kieff., *Amblyaspis*, 133
**scutellata* Mues., *Allotropa*, 129
sejus (Nix.), *Trimorus*, 106
selene Nix., *Vardhana*, 97
semiramis Nix., *Lapithoides*, 81
semiramosus Kieff., *Lygocerus*, 21
semirufa Kieff., *Loxotropa*, 30
semisanguineus v. *nigrocinctus* Dodd,
Scelio, 95
sequester Nix., *Cinetus*, 58
sera Nix., *Shreemana*, 96
serapis Nix., *Thelepte*, 97
seron Nix., *Belyta*, 55
seychellensis Kieff., *Conostigmus*, 18
seychellensis Kieff., *Oreiscelio*, 86
seychellensis Kieff., *Pantoclis*, 62
seychellensis (Kieff.), *Synopeas*, 142
seychellensis Kieff., *Telenomus*, 121
seychellensis (Kieff.), *Trichopria*, 45
**silvestrii* (Kieff.), *Psilus*, 38
silvestrii v. *nigricornis* (Nix.), *Psilus*, 38
similis (Kieff.), *Aclista*, 51
simulans Nix., *Cinetus*, 59
sinense Walk., *Sparasion*, 97
sipius (Nix.), *Trissolcus*, 127
smithi (Ashm.), *Trichopria*, 45
sociabilis Msn., *Trichopria*, 45
soluta (Kieff.), *Zygota*, 66
sonchis Walk., *Platygaster*, 139
sordidipes Kieff., *Lygocerus*, 21
sorus Nix., *Telenomus*, 121
sisis (Walk.), *Synopeas*, 142
sperches (Nix.), *Trimorus*, 107
spinifer Kieff., *Ceraphron*, 14
spinifer Nix., *Paroxylabis*, 63
spinosiceps Dodd, *Acidopria*, 23
**splendens* Borgm., *Mimopria*, 32
stabilis Nix., *Macroteleia*, 84
sterope Nix., *Acropiesta*, 52
sterope Walk., *Platygaster*, 139
stigis Nix., *Telenomus*, 121
stigmatalis Westw., *Spilomicrus*, 39
stoicus (Nix.), *Trissolcus*, 128
strangaliophagus Nix., *Platystasius*, 132
striaticeps (Dodd), *Trissolcus*, 128
striatifrons Ashm., *Calotelea*, 71
striatifrons (Ashm.), *Scelicantha*, 92
striatigena (Kieff.), *Paridris*, 89
striatigena (Kieff.), *Trimorus*, 107
striolatus (Cam.), *Baryconus*, 69
subapterus Whitt., *Aphanogmus*, 11
subfasciatus (Woll.), *Gryon*, 78
subfilicornis Kieff., *Conostigmus*, 18
subfuscus (Ashm.), *Idris*, 80
subimpressa (Kieff.), *Trichopria*, 46
sublineatus (Ashm.), *Trimorus*, 107
subopacus Ashm., *Ceraphron*, 14
subquadratus Kieff., *Lygocerus*, 21
subplana Dodd, *Scelicantha*, 91
subpolitus Dodd, *Scelio*, 95
sulcata Kieff., *Loxotropa*, 30
sulmo (Nix.), *Trissolcus*, 128
suranus (Nix.), *Trissolcus*, 128
sylvana Whitt., *Acanosema*, 48
- tachinidarum* Ferr., *Trichopria*, 46
talaus Nix., *Telenomus*, 122
taras Walk., *Platygaster*, 139
tarsalis Ashm.,? *Anteris*, 98
taylori Nix., *Scelio*, 95
telon Nix., *Cinetus*, 59
tenuicornis (Dodd), *Duta*, 72
tenuicornis ssp. *fragilis* Nix., *Duta*, 72
tenuis (Nix.), *Paridris*, 89
tenuistilus Kieff., *Belyta*, 55
terrestris Dodd, *Conostigmus*, 19
testaceinerva Cam., *Macroteleia*, 84
tetratoma Kieff., *Diapria*, 24, 44
thersippus (Walk.), *Synopeas*, 143
thedor Nix., *Telenomus*, 122
thoas Nix., *Telenomus*, 122

- thoas (Nix.), Trimorus, 107
 thoracica Ashm., Loxotropa, 30
 tinctipennis (Cam.), Idiotype, 27
 tipulae (Kirby), Leptacis, 135
 tirathabae Ferr., Telenomus, 122
 tiresias (Nix.), Trimorus, 107
 tisas Walk., Platygaster, 139
 tityrus Nix., Telenomus, 122
 tityrus (Nix.), Trimorus, 107
 torvus Whitt., Disogmus, 7
 transiens Nix., Leptorhaptus, 60
 transversiceps Nix., Telenomus, 122
 trebius (Walk.), Synopeas, 143
 triangularis (Ashm.), Acanthopria, 22
 tricarinata (Cam.), Trichopria, 46
 tripartitus Kieff., Spilomicrus, 40
 triptus Nix., Telenomus, 123
 tristis Nix., Aclista, 51
 tristis Nix., Cinetus, 59
 tristis Nix., Scelio, 95
 trisulcata Kieff., Pantoclis, 63
 trophonius (Nix.), Trissolcus, 128
 truncativentris Dodd, Telenomus, 123
 turbatae Nix., Telenomus, 123
 turneri (Dodd), Cryptoserphus, 7
 turneri (Dodd), Idris, 80
 turneri Nix., Oreiscelio, 86
 turneri (Nix.), Psilus, 38
 turneri v. carinaticeps (Nix.), Psilus, 38
 ullyetti Nix., Telenomus, 123
 ulusalus Nix., Telenomus, 123
 undina Nix., Govinda, 74
 undulatus Dodd, Parascelio, 87
 unicolor (Kieff.), Idris, 80
 unicolor Nix., Macroteleia, 83
 unicolor (Ashm.), Trichopria, 46
 unifoveata Kieff., Loxotropa, 30
 uranus (Nix.), Trimorus, 108
 urios Nix., Telenomus, 123
 usipetes Nix., Telenomus, 124
 *utilis Mues., Allotropa, 129
 *uvarovi Ogl., Scelio, 95
 vacillans Nix., Leptorhaptus, 61
 variipes (Kieff.), Trichopria, 46
 venustus Parr, Aphanogmus, 11
 ventralis (Westw.), Sactogaster, 140
 versicolor Kieff., Conostigmus, 19
 versicolor Kieff., Macroteleia, 84
 vestinus Walk., Platygaster, 140
 vexator Nix., Phaenoserphus, 8
 vindicius (Nix.), Trissolcus, 128
 violaceus Dodd, Prosapegus, 91
 vitripennis Whitt., Trichosteresis, 22
 vulgaris (Kieff.), Trichopria, 46
 walkeri Kieff., Inostemma, 130
 wallacei Dodd, Hoplopria, 26
 wallacei Dodd, Scelio, 95
 wasmanni v. socialis (Kieff.), Codrus, 6
 *whittakeri (Fouts), Ceraphron, 14
 wollastoni Dodd, Conostigmus, 19
 wollastoni Msn., Idris, 80
 wollastoni (Dodd), Zygotia, 67
 xanthochroa (Ashm.), Leptacis, 135
 xanthopa (Cam.), Aclista, 51
 xanthus Whitt., Lagynodes, 19
 xenarchus (Walk.), Synopeas, 143
 zethus Walk., Platygaster, 140
 zolotarevskiy Ferr., Scelio, 96
 zonatus (Kieff.), Idris, 80





Printed in England by Staples Printers Limited at their Kettering, Northants, establishment

A. C.

A RECLASSIFICATION OF
THE TRIBE MICROGASTERINI
(HYMENOPTERA : BRACONIDAE)



G. E. J. NIXON

BULLETIN OF
THE BRITISH MUSEUM (NATURAL HISTORY)
ENTOMOLOGY SUPPLEMENT 2
LONDON : 1965

A RECLASSIFICATION OF
THE TRIBE MICROGASTERINI
(HYMENOPTERA : BRACONIDAE)



BY

G. E. J. NIXON

Commonwealth Institute of Entomology, London

BULLETIN OF
THE BRITISH MUSEUM (NATURAL HISTORY)
ENTOMOLOGY SUPPLEMENT 2
LONDON : 1965

THE BULLETIN OF THE BRITISH MUSEUM
(NATURAL HISTORY), *instituted in 1949, is
issued in five series corresponding to the Departments
of the Museum, and an Historical Series.*

*Parts will appear at irregular intervals as they become
ready. Volumes will contain about three or four
hundred pages, and will not necessarily be completed
within one calendar year.*

*In 1965 a separate supplementary series of longer
papers was instituted, numbered serially for each
Department.*

*This paper is Supplement No. 2 of the Entomo-
logical series. The abbreviated titles of periodicals cited
follow those of the World List of Scientific Periodicals.*

© Trustees of the British Museum (Natural History), 1965

TRUSTEES OF
THE BRITISH MUSEUM (NATURAL HISTORY)

Issued August, 1965

Price £6

A RECLASSIFICATION OF THE TRIBE MICROGASTERINI (HYMENOPTERA : BRACONIDAE)

By G. E. J. NIXON

	Page
INTRODUCTION AND ACKNOWLEDGEMENTS	3
TERMINOLOGY	4
THE SUBFAMILY MICROGASTERINAE	6
THE LIMITS OF THE SUBFAMILY MICROGASTERINAE	10
KEY TO GENERA AND TRIBES OF MICROGASTERINAE	11
TRIBE MICROGASTERINI	13
REFERENCES	272
INDEX	275

SYNOPSIS

The subfamily Microgasterinae is taken as being composed of two tribes, the Cardiochilini and the Microgasterini, together with a few isolated genera. Apart from a brief initial discussion of the isolated genera, the work is devoted to a study of the Microgasterini. This tribe is keyed to generic level with the inclusion of 8 new genera. The largest genus, *Apanteles*, is broken down into 44 species-groups, of which 19 are worked out to species-level. *Microgaster* of authors is divided into several genera, of which three have been lifted out of synonymy. The *Microgaster*-group of genera has received a treatment similar to that of *Apanteles*, the largest of them, *Protomicroplitis*, being split into 20 species-groups, of which 10 are keyed to species. Altogether, 360 species are dealt with.

INTRODUCTION AND ACKNOWLEDGEMENTS

BECAUSE of their economic significance and the frequency with which they are bred from their lepidopterous hosts, the Microgasterinae have come to occupy a somewhat special position among the Braconidae. It cannot be said, however, that their classification has ever been sufficiently stable to accommodate the many hundreds of species that have been described. The weight of information concerning a new species has thus tended to shift onto knowledge of its host rather than rest securely on an awareness of what characterises the species as morphologically distinct.

This weakness was recognised by the late D. S. Wilkinson as is amply shown by the painstaking papers he published with great frequency between 1927 and 1941. The most ambitious of these were his "Revision of the Ethiopian species of *Apanteles*" which appeared in 1932 and the posthumous "Palearctic species of *Apanteles*", published in 1945.

The former of these two works is important for it embodied Wilkinson's ideas on how best the genus *Apanteles* could be subdivided for the practical purpose of finding

within its wide limits an appropriate place for the new species that passed constantly into his hands. The later monograph comprises as much as he was able to finish of his project to revise the *Apanteles* of the Palearctic region.

More recent contributions have been provided by de Saeger (1944) who worked out the Microgasterinae of the Belgian Congo, Granger (1949) who included a revision of the Microgasterinae in his work on the Braconidae of Madagascar and Telenga (1955), who has monographed the group for the U.S.S.R.

In N. America, Muesebeck has been responsible for nearly all the work that has been done on the Microgasterinae and his two major revisions (1920 and 1922) have not been superseded.

The above writers have provided the main sources from which I have culled information concerning the traditional classification of the Microgasterinae. As for the actual material on which this revision is based, I have had at my disposal the very large amount of material accumulated by Wilkinson and received by him from almost every part of the world. I have also had the added advantage of being able to study the various rich collections of Microgasterinae that have been acquired by the British Museum from various sources. And last, but by no means least, I have been immensely helped in formulating ideas about the classification of these parasites by the fine collection of Microgasterinae made by C. F. Baker in the Philippines and lent to me by the authorities of the U.S. National Museum who, in forbearing to reclaim a loan of many years' standing, have shown a patience and understanding of which I am deeply appreciative.

In addition, various entomologists have helped me. I express special thanks to Dr. C. F. W. Muesebeck of the Bureau of Entomology, U.S. National Museum for much kind help and to Mr. R. L. E. Ford for his persistence in trying to secure for me series of rare or little known species from Great Britain, by breeding them from their hosts.

Others who earn my sincere thanks are : Dr. Max Fischer (Naturhistorisches Museum, Vienna) ; Dr. Ch. Granger ; Dr. Wolter Hellén (Helsinki Museum) ; Dr. E. Papp (Bakonyi Museum, Veszprém) ; Dr. H. K. Townes.

Finally, a few words are necessary about the treatment of species. For some genera and groups of species within genera, all information about the species is given within an extended key. But in my treatment of the *ater*-group of *Apanteles* and a few other groups, most of the information is given in the text, separately from the key.

All the drawings were done by me ; they are intended to be used comparatively and without their help not much progress is likely to be made through the keys.

TERMINOLOGY

In describing the various veins and cells of the wings I have followed Rohwer and Gahan (1916). Their system has been used extensively by workers on parasitic Hymenoptera, although it finds little support in more recent studies on the homologies of the insect wing. Unfortunately, the Rohwer-Gahan system, itself an attempt to stabilise what was most useful in the original Jurinean system, has not

always been consistently applied and confusion has arisen over the application of some of the terms.

The reader is referred to Text-fig. 1 for an explanation of the wing terminology used in this work ; the modern notation is added in brackets.

The antenna is considered to consist of three parts:— *scape*, *pedicel* and *flagellum*.

A few further terms that perhaps need defining are the following:—

areola ; the enclosed median field of the propodeum and a typical feature of the *ater*- and *ultor*-groups of *Apanteles*.

areolet ; the small 2nd cubital cell (1R₂) of the typical microgasterinae fore wing ; open distally (*Apanteles*) or closed by the 2nd transverse cubital vein (2r-m) (most other genera).

costula ; the short, transverse keel that extends outwards from the lateral angle of the areola towards the propodeal spiracle.

hypopygium ; the large, apical ventrite of the female.

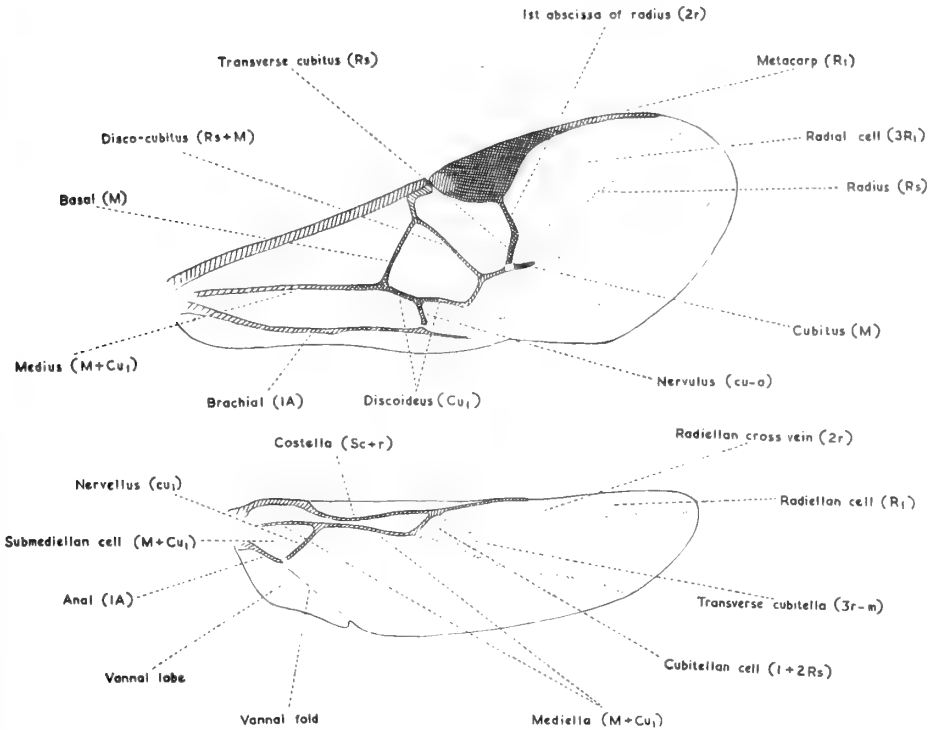


FIG. 1. *Apanteles carpatus* (Say), wings and terminology of wings.

THE SUBFAMILY MICROGASTERINAE

Telenga (1955), the most recent worker on the subfamily, divides it into three tribes :—Microgasterini, Cardiochilini and Acoeliini.

The Microgasterini, limited by Telenga to *Apanteles*, *Microgaster*, *Microplitis* and *Hygroplitis* is almost exactly coextensive with the tribe as I have interpreted it in this work.

Telenga's Cardiochilini contains the two genera, *Cardiochiles* Nees and *Asio-cardiochiles* Telenga. The subfamily Cardiochilinae is reduced to the status of a tribe but its content, though a little smaller, remains unchanged.

Szepligeti (1904) included in the Cardiochilinae only three genera : *Cardiochiles* Nees, *Toxoneuron* Say and *Psilophthalmus* Szepligeti. *Toxoneuron*, along with several other genera either unknown to Szepligeti or described after the appearance of the Genera Insectorum, has been sunk as a synonym of *Cardiochiles* by Muesebeck and Walkley (1951). *Psilophthalmus*, which I know from a single specimen (unnamed) from Peru and identified by Mrs. J. Clark in the British Museum (Natural History), is certainly close to *Cardiochiles*, though showing several uncharacteristic features.

I think Telenga is right in stressing the affinity of *Cardiochiles* s.l. with the Microgasterini by means of the tribal concept.

Telenga's Acoeliini is the least natural of the three tribes and is made up of the four genera, *Mirax* Haliday, *Myriola* Shestakov, *Dirrhope* Förster and *Adelius* Haliday.

All these genera are discussed below.

APANTELES Förster

Muesebeck (1920 : 485) expressed the belief that *Apanteles* was a homogeneous group and not susceptible of division into smaller units. He therefore placed in synonymy all the genera into which Ashmead and Viereck had attempted to break up the genus. These genera have remained in disuse ever since. Nor has Muesebeck in any of his more recent papers on *Apanteles* modified his earlier opinion.

Wilkinson (1932) divided *Apanteles* into five groups that he arbitrarily designated with the letters, A, F, S, U and M. The first four of these, as he himself admits, were essentially extensions of the four sections proposed by Marshall in 1885 for the British species. Later, Wilkinson (1934 : 155) added a sixth group to which he gave the letter G.

Wilkinson's subdivisions were used by de Saeger (1944) and Granger (1949) but not by Telenga who, nevertheless, could not avoid using the fundamental characters on which the subdivisions are based.

Of Wilkinson's groups, A and F represent for the most part natural aggregates. The others are too artificial to have taxonomic value. Group S, which Wilkinson reserved for all species having a propodeal areola, can be split into two main divisions that are convergent in that they both possess this areola or at least a vestige of it. In other respects they are widely dissimilar on a combination of characters, of which one, the shape of the vannal lobe of the hind wing, is striking and probably of philogenetic significance. This character, incidentally, is perhaps the most useful I have been

able to find in my search for a means of dividing *Apanteles* into smaller units.

Making the fullest use of the few characters offered by *Apanteles*, so far as I have been able to discover them, I have subdivided the genus into 44 species-groups. Some of these such as the *glomeratus*-group (virtually coextensive with Wilkinson's group F) are very large ; many others consist of less than half a dozen species, while several are based on a single species. These groups have, I believe, a certain homogeneity. Nevertheless, and although they emerge from an investigation of many hundreds of species from all parts of the world, they still lack that sharpness of definition that would justify generic status.

In spite of what I have just said, I am convinced that if ever so large and unwieldy a genus as *Apanteles* is going to be handled satisfactorily, a basis for generic cleavages will have to be found. The generic names exist and need only to be lifted out of synonymy. Their application, however, will require an investigation that explores more widely and deeply the world fauna than this one of mine does.

In the meantime, by making use of the species-group concept and by fully exploiting the range of structural patterns occurring within *Apanteles*, I have suggested the lines along which further investigation can, I believe, proceed.

MICROGASTER Latreille of authors

Microgaster, separated from *Microplitis*, as it has been, solely on the length of the inner spur of the hind tibia, is even more amorphous than *Apanteles*. The conclusion is inescapable that among the species lumped together in *Microgaster*, there are several evolutionary lines of descent. This is even more obvious than in *Apanteles*, partly because "*Microgaster*" species tend to be larger than species of *Apanteles*, their characters are better seen and morphological divergence seems to be sharper and more striking.

I have found it expedient to take out of synonymy the genera *Hypomicrogaster* Ashmead, *Protomicroplitis* Ashmead and *Xanthomicrogaster* Cameron and to restrict drastically the concept of *Microgaster* Latreille itself. I have also made a few genera to accommodate known species already described in *Microgaster* and a few new species that would certainly have been covered by the older interpretation of the genus.

Of the above genera, *Protomicroplitis* is by far the largest, and is abundantly represented throughout the tropics of the Old and New World. I have subdivided it into several species-groups, some of the smaller of which I have worked out to species level.

Microgaster, as subsequently redefined, is chiefly confined to the temperate regions of the Northern Hemisphere.

MICROPLITIS Förster

This, the third of the three traditional microgasterine genera, is in my opinion, the most homogeneous of them all. I have associated with it two new genera, one of

which is certainly artificial though based on a striking character while the other seems to be transitional towards the polyphyletic *Microgaster* s.l.

Snellenius Westwood, for all its bizarre appearance, represents only an extreme development of *Microplitis*.

I have made no attempt to subdivide *Microplitis* into species-groups though this will need to be done eventually.

MIRAX Haliday

The position of this genus is doubtful but there is some justification, I think, for the suggestion put forward by my colleague, Dr. J. F. Perkins, that it could be regarded as the basic member of an independent tribe within the Microgasterinae, of world-wide distribution and containing a few closely related genera.

The British Museum contains *Mirax* from all parts of the world, especially S. Africa and Brazil. I have examined these specimens and recognised several distinct species among them.

The species of *Mirax* show a remarkable uniformity in wing venation ; indeed, there is little departure from the pattern shown in Text-fig. 4. Variation occurs in the degree to which the stigma may be prolonged distally. When the distal narrowing is pronounced, the tip of the stigma tends to be more weakly pigmented than elsewhere. A differentiated metacarp is never present.

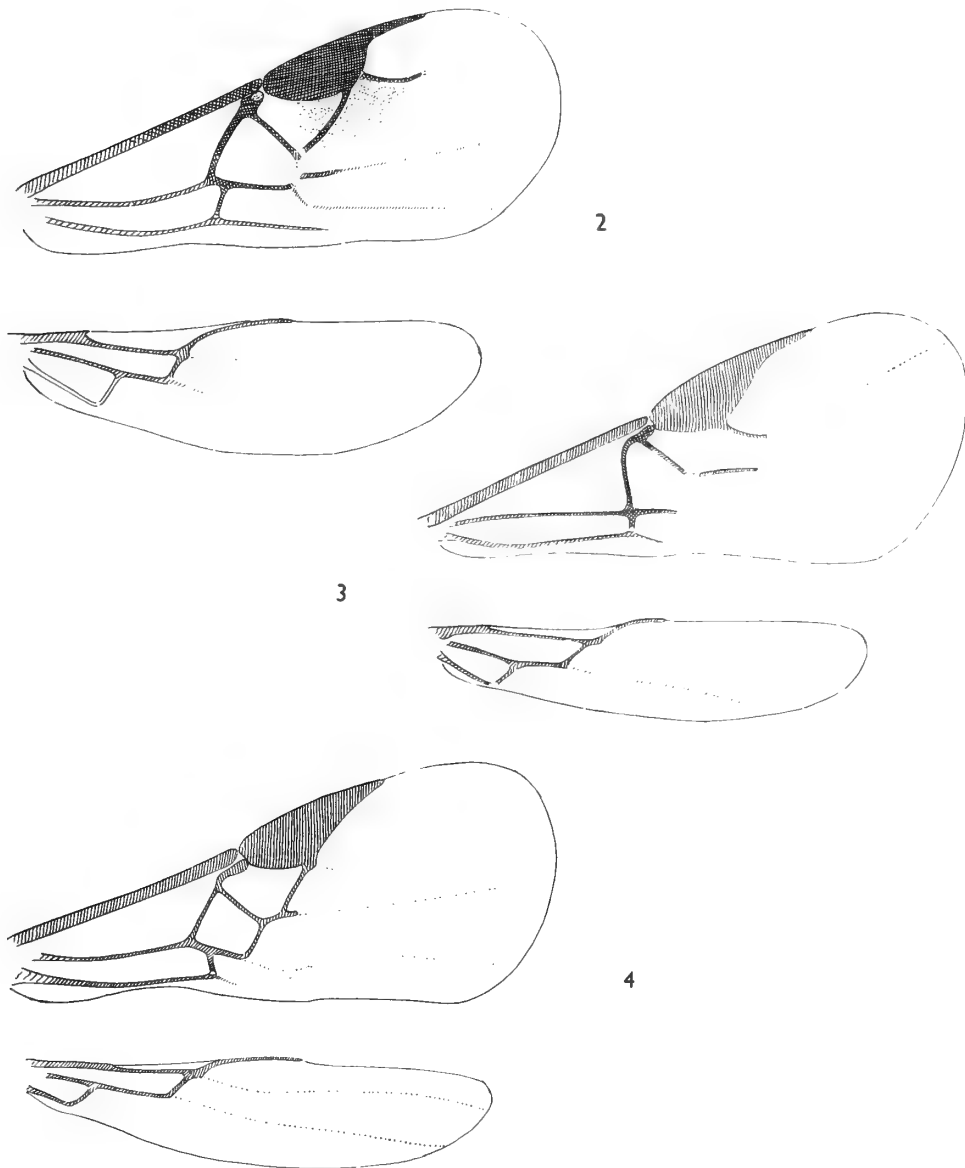
In common with the Microgasterini, *Mirax* has the spiracles of the first tergite situated on the lateral, membranous part of the segment, remote from the more heavily sclerotised, median plate.

ADELIUS Haliday = **ACOELIUS** auctt.

This genus has no obvious relationship with *Mirax* nor, in my opinion, has it any clear affinity with the Microgasterini, even at tribal level. Perkins has suggested that *Adelius* may be related to the Cheloninae, a view to which I give my support. Against it, of course, is the striking difference between the gaster of *Adelius* and that of the typical Cheloninae. The type-species, *subfasciatus* Haliday, is remarkable in having the gaster smooth, polished and with no obvious suture between tergites 1 and (2 + 3). But there exist in the British Museum a few apparently undescribed S. African species, about whose affinity with *Adelius* there can be no question at all but in which tergites 1 and (2 + 3) have become entirely rugose and separated by a well marked suture. I regard these species as belonging to de Saeger's *Paradelius*. In another unnamed S. African species, tergite (2 + 3) has become even more sculptured and lengthened and divided into its two component parts by a second rugose suture. The gaster in this species presents a strongly sclerotised carapace with two rugose sutures and concealing all the segments posterior to tergite (2 + 3). The gaster thus comes to have a deceptive resemblance to that commonly found in some of the genera of the Triaspidini (now in Blacinae, Muesebeck and Walkley, 1951).

As a source of systematic affinities the gaster is notoriously unreliable and in almost all the subfamilies of the Braconidae it is possible to find examples in which tergites 1 and (2 + 3) have become fused, enlarged and heavily, rugosely sculptured.

I have not made an exhaustive comparison of *Adelius* with the Cheloninae but apart from subtle resemblances in facies, not easily put into words, *Adelius* has the



FIGS. 2-4. Wings, ♀: 2, *Adelius subfasciatus* Haliday; 3, *Paroligoneurus* sp., near *wittei* de Saeger; 4, *Mirax leucopterae* Wilkinson.

following chelonine features :—a long, bent scape ; the flagellum, at least in the female, thickened in the middle ; the hind femur swollen and with a somewhat abrupt basal constriction.

In the few *Adelius-Paradelius* species referred to above, the venation has remained remarkably constant, except that in the species showing the highly modified, Triaspidini-like gaster, the metacarp is absent.

MYRIOLA Shestakov

Shestakov, 1932, *Zool. Anz.*, **99** : 259.

Synonymised under *Adelius* Haliday by Muesebeck and Walkley (1951).

DIRRHOPE Förster

Muesebeck (1935) considers this genus to be correctly placed in the Microgasterinae though he does not state how it stands in relation to the other genera.

I have discovered amongst the British Museum accessions three specimens from S. Africa that agree well with Muesebeck's generic description and also his figure of *Dirrhope americana* Mues. Frankly, I am unable to express a definite opinion about the position of this genus in its relationship with the other microgasterine genera and do no more than point to some of its more salient features in the key that follows later.

PAROLIGONEURUS Muesebeck

Muesebeck (1951) includes this genus in the Microgasterinae and in so doing confirms the opinion he expressed when he described it in 1931.

It seems to me that *Paroligoneurus*, like *Mirax*, covers at present a closely knit group of species, among which generic splits may later be found to be feasible. I have examined some half dozen species from S. Africa, Brazil and Queensland and found a remarkable uniformity of structure. The venation conforms closely to that shown in Text-fig. 3 ; a curious and characteristic feature of it is the costad bend in the basal vein just before its junction with the prostigma.

OLIGONEURUS Szepligeti

Szepligeti, 1902, *Természeti. Fuz.* **25** : 77.

This genus is based on a Brazilian species and little can be said about it until the type is examined. Muesebeck (1922) included it in the Microgasterinae, giving a translation of the original description. It seems reasonable to conclude that the genus is related to *Paroligoneurus*, differing from it in having hairy eyes (teste Muesebeck).

THE LIMITS OF THE SUBFAMILY MICROGASTERINAE

The observations and opinions expressed above concerning the genera traditionally accepted as belonging to the Microgasterinae reflect in some measure my own views on how the subfamily should be composed.

I consider that the Microgasterinae would be better restricted to the two tribes Microgasterini and Cardiochilini together with the genus *Mirax* which, as stated earlier on, might with justification be given tribal status. These three segregates have one important feature in common : the spiracle of the first tergite is situated on the lateral, membranous part of the tergite, remote from the sclerotised, median plate. It needs to be stressed, however, that otherwise no special resemblances unite them. Each, too, is sharply distinct from the others; nor, as far as I am aware, do they converge at any point.

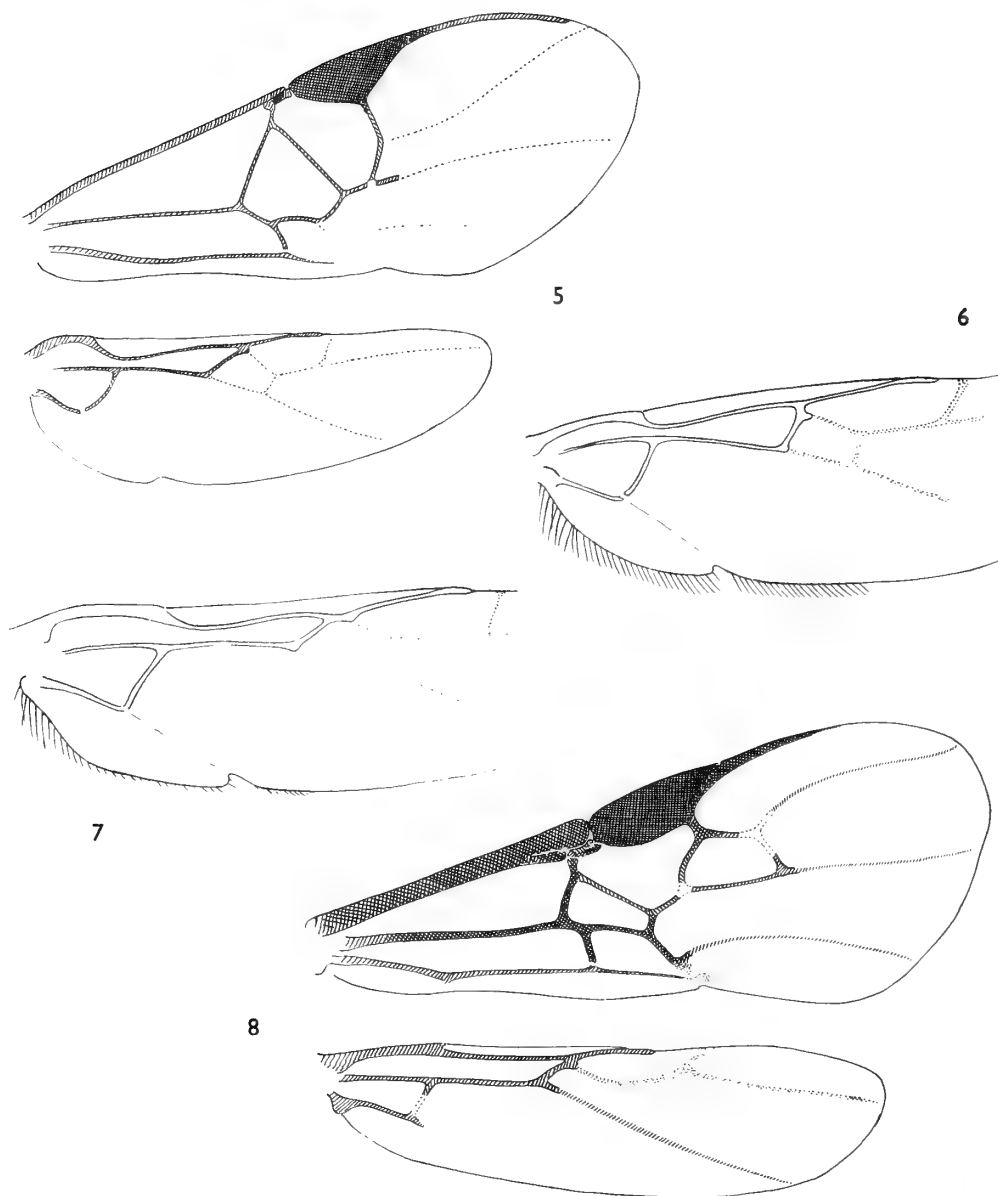
The tribe Microgasterini, numerically vastly superior to the Cardiochilini and *Mirax*, is remarkably homogeneous. Its two special features—the closed cubitellan cell and differentiated vannal lobe of the hind wing—remain constant throughout almost its entire range and, in combination with the spiracle of the first tergite, provide the essential characteristics of the tribe, and indeed of the subfamily Microgasterinae, since in my opinion the two are virtually synonymous.

The Acoelinii as represented by *Adelius* and *Paradelius* could form more fittingly a tribe within the Cheloninae. This tribe shows no close relationship with any of the Microgasterini genera.

Paroligoneurus resembles the Microgasterini only in having a reduced venation, though the reduction is not homologous in the two segregates. The finding of a new place for this genus outside the Microgasterinae and the possible raising of its status belong to the wider problem of revising the major classification of the Braconidae. Such a task will involve a survey of the world fauna, for it is ingenuous to expect that the existing subfamilies, based entirely on species of the North temperate region, can cover the enormous range of structure now known to exist within tropical Braconidae.

KEY TO GENERA AND TRIBES OF THE MICROGASTERINAE

- 1 Three cubital cells present, the 2nd always much longer than wide, the 2nd abscissa of the radius being always much longer than the 1st (Text-fig. 8) ; antenna with at least 26 segments ; notaulices always well developed.
 - Spiracle of the 1st tergite situated on the latero-tergite, as in the Microgasterini; a sharply discrete, more heavily sclerotised, median plate, such as occurs in this tribe, rarely developed ; 3rd abscissa of the radius at base characteristically concave towards the wing-edge ; inner spur of the hind tibia always longer than the length of the hind basitarsus **CARDIOCHILINI** s. str.
 - Rarely three cubital cells present and the 2nd always very small (areolet of the Microgasterini), not longer than wide, the 2nd abscissa of the radius not longer than the 1st ; notaulices rarely developed and then the antenna with not more than 18 segments 2
- 2 Hind wing with a cubitellan cell that is closed distally by a spurious vein (Text-fig. 5), (the Australian *Micropotes* and the S. African *Semionis* are exceptions) ; hind wing with a differentiated vannal lobe, limited distally by a notch, (the monobasic Brazilian *Larissimus* and *Prasmodon* are exceptions) ; vannal fold at least twice as long as the anal vein lying along it ; external, distal corner of the submediellan cell of the hind wing always remote from the edge of the wing ; 2nd cubital cell (areolet) either open or closed distally, but always small, the 2nd abscissa of the radius never longer than the 1st ; spiracle of the 1st tergite always situated on the latero-tergite, remote from the more heavily sclerotised, median plate ; antenna always with 18 segments **MICROGASTERINI**



FIGS. 5-8. Wings, ♀: 5, *Apanteles ultor* Reinhard; 6, *Protomicroplitis marginatus* (Nees); 7, *Protomicroplitis basimacula* (Cameron); 8, *Cardiochiles saltator* (F.)

- Hind wing without a closed cubitellan cell and without a differentiated vannal lobe ; external, distal corner of the submediellan cell always close to the edge of the wing ; 2nd cubital cell, if present, never in the form of a small areolet.
2nd transverse cubital vein always absent 3
- 3 Both transverse cubital veins wanting ; basal vein strongly curved just before its junction with the prostigma.
Tergite 1 with a heavily sclerotised, median plate, its spiracle set in a small prominence on the lateral edge of this plate ; hind spurs extremely short, the inner one from one fifth to one quarter as long as the hind basitarsus ; a short metacarp either absent or present ; propodeum smooth ; pedicel equal to fully half the length of the scape (much as in *Mirax*) ; no percurrent flange beneath the hind basitarsus, such as occurs in the Microgasterini **PAROLIGONEURUS** Muesebeck
- 1st transverse cubital vein present ; basal vein without this conspicuous bend 4
- 4 1st transverse cubital vein joined with the radius and cutting off a well defined 1st radial abscissa (the usual condition of the generalised braconid wing).
Scape rather long, fully twice as long as the pedicel ; propleurum laterally with a flange that overlaps the lateral edge of the pronotum ; propodeum completely areolated and with seven discrete fields ; prepectus margined, at least laterally ; inner spur of the hind tibia reaching beyond middle of hind basitarsus ; hind basitarsus with percurrent flange beneath ; tergite 1 with oblong, median, heavily sclerotised plate, on extreme edge of which is situated the spiracle (cf. *Mirax*).
. **DIRRHOPE** Förster
- 1st transverse cubital vein joined or almost joined with the stigma ; hence, not cutting off a clearly defined 1st radial abscissa 5
- 5 Antenna 14-segmented ; pedicel long in proportion to length of scape, fully two thirds as long ; occiput not margined ; tergite 1 with strongly sclerotised, discrete median plate (as in the Microgasterini) ; spiracle of 1st tergite situated on the latero-tergite, remote from the median plate ; hind spurs very short, the inner one not reaching to middle of the hind basitarsus ; fore wing without metacarp, at most the stigma somewhat prolonged distally (Text-fig. 4) ; hind tibia not swollen and not characteristically club-shaped **MIRAX** Haliday
- Antenna 20-segmented ; pedicel short in proportion to length of scape ; scape unusually long ; occiput margined ; tergite 1 without a discrete median plate ; the posterior margin of this tergite either not defined or defined by a curved furrow that reveals the tergite as being strongly transverse ; spiracle of tergite 1 situated on extreme edge of dorsal surface ; hind spurs longer, the inner one reaching beyond middle of the hind basitarsus ; metacarp short but distinct (reduced to a mere stub in an undescribed species of *Paradelius* from S. Africa) ; hind tibia strongly swollen towards apex (as in many Cheloninae).
Flagellum of female thickened medially 6
- 6 Gaster entirely smooth ; no furrow between tergites 1 and (2 + 3). Wings (Text-fig. 2) **ADELIUS** Haliday
- Gaster rugose on at least basal half ; a rugose furrow between tergites 1 and (2 + 3).
. **PARADELIUS** de Saeger

Tribe **MICROGASTERINI**

KEY TO GENERA

- 1 Areolet of the fore wing open distally, the 2nd transverse cubitus wanting 2
- Areolet of the fore wing more or less closed distally by the 2nd transverse cubitus 3
- 2 Tergite 1 and (2 + 3) enlarged and forming together a fused, heavily sclerotised,

more or less oval carapace beneath which the more apical segments are completely hidden ; a well developed prepectal margin present ; nervellus of the hind wing deeply sinuate, the submediellan cell being produced distally on the vannal lobe side.

- Apical segment of the labial palpus very long, fully twice as long as the short, thick, second segment **FORNICIA** Brullé
- Tergites 1 and (2 + 3) never thus fused to form an oval carapace ; if tergite (2 + 3) is itself enlarged to form a rugose carapace (*carbonarius*-group), then it is clearly separated from tergite 1 ; nervellus not thus sinuate, except weakly in some species of the *lacteus*-group **APANTELES** Foerster (p. 17)
- 3 Hind wing without a closed cubitellan cell, the transverse, cubitellan vein wanting. Ocelli in a high triangle, the transverse, posterior tangent to the anterior ocellus passing far in front of the posterior pair 4
- Hind wing always with a cubitellan cell, closed distally by the spurious, transverse, cubitellan vein ; hardly indicated in the Brazilian genus *Prasmodon* 5
- 4 Areolet of the fore wing very large, the 1st abscissa of the radius being much shorter than the 2nd ; eyes below very wide apart ; tergite 2 polished and with a weakly indicated, sub-triangular field ; metacarp much longer than its distance from the apex of the radial cell. S. Africa **SEMIONIS** gen. n. (p. 206)
- Areolet of the fore wing small, the 1st abscissa of the radius much longer than the 2nd ; eyes strongly convergent below, touching the clypeus, the distance between them here being at most hardly greater than the distance between a posterior ocellus and the eye-margin (Text-fig. 236) ; tergite (2 + 3) with a large, triangular median field. Australia **MIROPOTES** gen. n. (p. 200)
- 5 Nervellus of the hind wing sinuate so that the submediellan cell is produced distally on the vannal lobe side (Text-fig. 345).
Vannal lobe beyond its widest part with straight or concave edge and here without trace of a hair fringe ; cubitellan cell of the hind wing always higher than wide. 6
- Nervellus of the hind wing not sinuate and normally curved inwards on the vannal lobe side 8
- 6 Propodeum with costula and more or less distinct areola defined by very strongly raised, irregular keels ; tergite 1 very large, subquadrate, highly polished ; tergite (2 + 3) without a basal, median field, tergite 2 being defined as such and occupying the full width of the gaster (Text-fig. 235) ; scape very short (Text-fig. 253) ; inner spur of the hind tibia considerably less than half the length of the hind basitarsus. Central & S. America **DASYLAGON** Muesebeck (p. 201)
- Propodeum without a costula and without an areola though it sometimes has a very irregularly defined, margined, longitudinal furrow ; tergite 1 neither subquadrate nor highly polished ; scape longer ; inner spur of the hind tibia at least half as long as the hind basitarsus 7
- 7 Tergite 1 short, triangularly widened behind ; median field of tergite (2 + 3) co-extensive with tergite 2 and occupying the full width of the gaster ; coarsely sculptured and fully two thirds as long as the rest of the tergite ; inner spur of the hind tibia about three quarters as long as the hind basitarsus ; head, in a facial view, not lengthened ; mouth parts not lengthened, the glossa not forked. Central & S. America **XANTHOMICROGASTER** Cameron (p. 264)
- Tergite 1 elongate, not widened behind, usually markedly narrowed behind ; median field of tergite (2 + 3) not coextensive with the whole of tergite 2 and not occupying the full width of the gaster, smooth-looking and not more than half as long as the rest of the tergite ; inner spur of the hind tibia about half as long as the hind basitarsus ; head, in a facial view, lengthened or markedly triangular ; mouth parts lengthened, the glossa deeply forked (Text-fig. 254). Central & S. America
PROMICROGASTER Brues & Richardson (p. 229)

- 8 Scutellum bordered behind by a continuous polished band that medially is not always differentiated from an equally polished scutellar disc ; if, rarely, this band is interrupted at middle, then this is not caused by rugosity 14
- Scutellum without a continuous, polished band behind, the band being interrupted at middle by a rugose area that may or may not be separated from an equally rugose scutellar disc by a short, transverse lip or keel ; if the posterior band is hardly interrupted at middle (some species of *Microplitis*), then a sternaulus is present or there is at least an indication of notaulices 9
- 9 Hind coxa small, not or hardly longer than tergite 1 ; inner spur of the hind tibia never reaching beyond the middle of the hind basitarsus ; 1st abscissa of the discoideus always much shorter than the 2nd, at most about half as long ; metacarp (except in *Alloplitis*) always short, rarely as much as one and a half times longer than its distance from the apex of the radial cell 10
- Hind coxa large, conspicuously longer than tergite 1 ; inner spur of the hind tibia long, always reaching beyond the middle of the hind basitarsus (except in the *reales*-group of *Protomicroplitis* but this group has the metacarp extending almost to the apex of the radial cell) ; 1st abscissa of the discoideus distinctly more than half as long as the 2nd, usually about as long as this (except in *Buluksa*) ; metacarp rarely as short as twice its distance from the apex of the radial cell (*periander*-group of *Protomicroplitis* but this group has the propodeum flattened and polished, a condition never found in the *Microplitis*-group of genera) 13
- 10 Scutellum in the form of a large cone, directed backwards (Text-fig. 234). Philippines
PHILOPLITIS gen. n. (p. 267)
- Scutellum never with such a cone, though it may often show heavy, sometimes bizarre, sculpture 11
- 11 Propodeum of highly exaggerated form, having, in profile, two faces that, at least in the type-species, meet at an angle of distinctly less than 90 degrees ; hind tibia blackish to black ; middle lobe of the mesoscutum separated from the lateral lobes by very deep notaulices (except in *radicalis* but this species has flattened flagellar segments) ; middle lobe of the mesoscutum raised above the level of the lateral lobes, shield-shaped and narrowed behind to the thinness of a keel that divides the deep notaulic troughs ; flagellar segments strongly compressed, flattened and of very exaggerated form, as in the type-species - *vollenhovenii* - or simple, as in *philippinensis* but this last has the exaggerated thoracic structure of the genus.
SNELLENIUS Westwood (p. 270)
- Propodeum lacking this exaggerated form and without an angularly separated dorsal and posterior face ; middle lobe of the mesoscutum not thus raised above the lateral lobes nor in the form a shield with posterior keel ; if the thorax shows something of the exaggerated structure of *Snellenius* and the notaulices are much deepened, then the hind tibia is banded with white or otherwise pale-marked 12
- 12 Tergite (2 + 3) divided into its two component parts, tergite 2 being in the form of a transverse rectangle that is everywhere densely, evenly rugose, shows no trace of a differentiated median field and is at least slightly longer than tergite 3 ; propodeum without dense, coarse reticulation and its spiracle enclosed by strongly raised keels. Philippines **ALLOPLITIS** gen. n. (p. 268)
- Tergite (2 + 3) not thus sharply or not at all divided into its two component parts ; tergite 2 never of this form though sometimes with lateral rugosity ; usually with indication of a raised, or otherwise differentiated, median field ; in any case, never longer than tergite 3 ; frequently there is hardly a trace of a suture marking the separation of tergites 2 and 3.
Propodeum almost always with coarse rugosity ; wings (Text-fig. 342). Old and New World **MICROPLITIS** Förster

- 13 Tergite 3 as heavily sclerotised as 2, conspicuously dome-shaped, longer than 2 ; the two tergites together form a carapace beneath which the more apical segments are completely hidden.
 Areolet large, the 2nd transverse cubitus arising from the 2nd abscissa of the radius ; tergite 2 without a median field. Africa . **BULUKA** de Saeger (p. 265)
- Tergite 3 always smooth, polished and never with tergite 2 forming a carapace, except in the *basimacula*-group of *Protomicroplitis* but this group has the areolet very small with the 2nd transverse cubitus arising from the 1st and tergite 2 with an elongate, median field, bordered on each side by a rugose furrow. Old and New World **PROTOMICROPLITIS** Ashmead (part) (p. 234)
- 14 Mesoscutum with very deep, smooth notaulices ; median lobe of the mesoscutum raised, shield-like ; 1st abscissa of the discoideus extremely short, only about one third as long as the 2nd. Peru **PRASMODON** gen. n. (p. 205)
- Mesoscutum without notaulices except that their course may sometimes be indicated by a slight coarsening of sculpture or row of foveae (*Microgaster* spp.) ; median lobe of the mesoscutum never thus raised ; 1st abscissa of the discoideus rarely as short as this 15
- 15 Body more or less completely polished, at most with a little fine punctuation towards front of mesoscutum.
 Propodeum highly polished, its sculpture consisting at most of a medial keel ; ovipositor very short, almost hidden 16
- Body not completely polished.
 Stigma never orange-yellow (except in the *mediatus*-group of *Protomicroplitis* but this group has the propodeum coarsely rugose) ; vannal lobe with distinct apical notch 17
- 16 Tergite 2 with two divergent furrows that set off a very large, triangular area that occupies the greater part of the tergite ; vannal lobe not notched at apex and hence not defined as such ; very large species, ca. 7 mm. with orange-yellow stigma.
 Red-fulvous with dark maculated wings ; 1st abscissa of the discoideus less than half as long as the 2nd. Brazil **LARISSIMUS** gen. n. (p. 204)
- Tergite 2 with two convergent furrows that almost meet behind and then curve outwards to the lateral margin of the segment, dividing it clearly into three areas of which the median is narrowly triangular and widest in front ; vannal lobe notched at apex ; length ca. 4.5 mm. ; stigma evenly dark brown.
 Brightly coloured species with head and gaster reddish-yellow and thorax mostly black with yellowish propodeum. N. Guinea
EUTERPE-group of *Protomicroplitis* (p. 250)
- 17 Second abscissa of the mediella of the hind wing about two and a half times longer than the 1st ; 1st abscissa of the discoideus of the fore wing distinctly less than half as long as the 2nd ; claws with a close pectination of 6-8 black spines.
 Bright fulvous species ; propodeum polished with medial keel. N. Guinea
PARENION gen. n. (p. 208)
- Second abscissa of the mediella of the hind wing always much shorter in proportion to the 1st, about one and a half times longer ; 1st abscissa of the discoideus of the fore wing about as long as the 2nd or even longer (only exceptionally shorter and then the propodeum is not both polished and with medial keel) ; claws without a pectination of fine spines, though spines, sometimes stout enough to be described as teeth, less evenly spaced, are sometimes present in species of *Microgaster* but all these have a strongly rugose propodeum 18
- 18 Tergite 1 always distinctly widened towards apex, usually distinctly shorter than its apical width, rarely slightly longer ; tergite 2 not distinctly shorter than 3 and, with the exception of *Microgaster politus*, strongly rugose all over and without trace of a median field.

Second transverse cubitus always received onto the 2nd abscissa of the radius at its extreme base or interstitial with the 1st abscissa of the radius (Text-fig. 339) ; propodeum rugose, usually strongly so and with more or less distinct medial keel but never with areola ; vannal lobe beyond its widest part feebly convex and fringed with hairs throughout. Old and New World

MICROGASTER Latreille (p. 267)

- If tergite 1 is at all widened towards apex, then tergite 2 is much shorter than 3 and is virtually smooth and polished all over and the 2nd transverse cubitus is received on to the 1st transverse cubitus so that the areolet is very small 19
- 19 Median field of tergite (2 + 3) always strongly transverse, neither triangular nor subtriangular and appearing very short in comparison with the rest of the tergite beyond it.

Ovipositor always projecting freely beyond the apex of the gaster, its sheaths at least half as long as the hind tibia 20

- Median field of tergite (2 + 3) never transverse, having a pronounced triangular or subtriangular form or elongate-oval 21
- 20 Inner spur of the middle tibia much shorter than the middle basitarsus ; areolet extremely small **PROMICROGASTER** Brues & Richardson (p. 229)

- If the inner spur of the middle tibia is obviously shorter than the middle basitarsus, then the areolet is much larger or the propodeum has a median longitudinal keel **HYPOMICROGASTER** Ashmead (p. 208)

- 21 Mouth parts lengthened, the glossa deeply forked and the galea much longer than wide ; propodeum polished and without keel or areola ; hypopygium very long, membranous, tightly folded along the middle line in death ; ovipositor very long, its sheaths fully one and a half times longer than the hind tibia ; median field of tergite (2 + 3) much longer than wide **SENDAPHNE** gen. n. (p. 203)

- Mouth parts not at all lengthened, the glossa and the galea normal ; propodeum rugose, with or without a medial keel (polished and without a keel in the *tegularis*-group) ; hypopygium short (but only male of *tegularis*-group known), more or less evenly sclerotised throughout and not tightly folded along the middle line in death ; ovipositor very short, almost hidden ; median field of tergite (2 + 3) at most slightly longer than wide **PROTOMICROPLITIS** Ashmead (p. 234)

APANTELES Förster

KEY TO SPECIES-GROUPS

FEMALES

- 1 Plate of tergite 1 four to five times as long as its apical width, more or less constricted medially and deeply grooved almost to apex 2
- Plate of tergite 1 not of this shape or, if it is long and tends to be constricted medially, then it is without a percurrent groove (*pistrinariae*-group and, exceptionally, in *ater*-group) 3
- 2 Brachial vein, where it is closest to the wing-edge, separated from the wing-edge by less than its own width (Text-fig. 114) ; disc of scutellum separated from the posterior, polished band by a lip or ridge ; hind coxa above and towards apex with one or two longitudinal ridges and towards apex with many strongly raised wrinkles that form an irregular reticulation **henicopus**-group (p. 197)
- Brachial vein at its closest to the wing-edge separated from the wing-edge by fully its own width ; disc of scutellum flattened, polished and not separated from the posterior, polished band of the scutellum ; hind coxa above without longitudinal ridges though transversely ribbed towards apex.

Very large, fulvous species, ca. 5.5 mm. with deeply notched claws and wide, transverse face. New Britain **daira**-group (p. 198)

- 3 Notaulices deeply impressed as intricately rugose furrows.
 Ocelli in a high, virtually equilateral triangle. W. Indies
aciculatus-group (p. 181)
- Notaulices never impressed, though their course is very frequently indicated by a band of duller, denser, sometimes rugose, sculpture 4
- 4 Propodeum with an areola and almost always with costulae that define on each side a postero-lateral area ; if the costulae are absent and the areola is weakly defined, then the propodeum tends to be dull and sculptured all over and/or the vannal lobe beyond its widest part is concave and without trace of a hair-fringe here 5
- Propodeum rarely with trace of an areola and never with costulae ; if there is a faint indication of an areola, then the edge of the vannal lobe beyond its widest part is not concave, though it may be virtually straight here and shows the merest trace of a fringe or the fore wings are dappled 12
- 5 Edge of vannal lobe beyond its widest part usually deeply concave, the concave edge being completely free from projecting hairs ; if, rarely, this edge is virtually straight and shows an indication of a hair-fringe, then either the median field of tergite 1 is more or less coextensive with the whole surface of tergite 2 and almost as long as tergite 3 or, tergite 1 is very long, strongly narrowed posteriorly and wedge-shaped or, the costulae of the propodeum are situated anterior to middle so that the postero-lateral areas do not appear as transverse 8
- Vannal lobe beyond its widest part evenly convex and with a distinct hair-fringe throughout.
 Tergite 1 never wedge-shaped ; postero-lateral areas of the propodeum always distinctly transverse ; mesoscutum with a prevailing sculpture of sharp punctation at the posterior end of the imaginary course of the notaulices 6
- 6 Tergites 2 and 3 subequal in length.
 Tergite 1 broadly triangular, not longer than apically wide 7
- Tergites 2 and 3 not equal, 2 being shorter than 3 or, if not, then tergite 1 is distinctly longer than apically wide.
 Ovipositor sheath always projecting freely beyond the apex of the gaster. Old and New World *ultor*-group (p. 126)
- 7 Tergite 3, as well as 2, densely rugose all over ; hind spurs short, subequal, the inner one not reaching middle of hind basitarsus. N. America *bucculatricis*-group (p. 148)
- Tergite 3 polished ; tergite 2 coarsely rugose-striate ; hind spurs not subequal, the inner one much longer than the outer one and reaching the middle of the hind basitarsus.
 Ovipositor sheath hardly exerted ; 1st abscissa of the discoideus much shorter than the 2nd. Costa Rica *paradoxus*-group (p. 127)
- 8 Hypopygium short, evenly sclerotised throughout, not folded along the middle line and without trace of lateral, longitudinal creasing ; cheeks with a whitish, semi-transparent patch ; tergite 1 on its posterior, horizontal surface with a narrow, deep furrow that has strongly raised margins ; these margins unite or almost unite anteriorly to form a short, conspicuous keel. N. and S. America *nigriceps*-group (p. 126)
- Hypopygium, even if short and not readily visible in the dead insect, then at least folded along a more weakly sclerotised middle line and nearly always with distinctly lateral creasing ; if tergite 1 shows a longitudinal furrow (frequent in *ater*-group) then this is broader, less sharply defined and lacks raised, lateral margins ; cheeks without a whitish patch 9
- 9 Tergite 2 without a delimited median field, the whole tergite densely rugose-striate, and fully as long as tergite 3.
 Hind coxa and ventral surface of gaster reddish yellow and together with the almost entirely yellow hind femur in sharp contrast with the blackish hind tibia ;

- posterior transverse tangent to the anterior ocellus passing far in front of the posterior pair. Indo-oriental region **shoenobii-group** (p. 128)
- Tergite 2 with a delimited median field ; if the field is large and ill defined then this is largely through being as smooth and polished as tergite 3 ; in any case, the median field is never coextensive with the whole surface of tergite 2 and is obviously shorter than tergite 3 10
- 10 Tergite 1 narrowly wedge-shaped, its horizontal surface at least twice as long as wide across the hump (Text-fig. 183).
Vertex between the eye and the posterior ocellus never with punctures but the surface here and sometimes that of the mesoscutum often with a satin-like sheen (absent in *ater*-group except in some species with incomplete propodeal areolation) ; propodeum with complete, sharply defined areolation ; ovipositor sheath fully as long as the hind tibia. Indo-oriental region **taeniaticornis-group** (p. 120)
- Tergite 1 not obviously wedge-shaped though frequently markedly narrowed posteriorly ; horizontal part rarely more than one and a half times as long as wide across the hump and then the hind wing is broader than in the *taeniaticornis*-group 11
- 11 Face rostriform, the clypeo-facial suture lying far below a line joining the eyes below.
Mesoscutum densely, coarsely, confluent punctate, especially broadly along the course of the notaulices, at posterior end of which the surface becomes striate-punctate ; tergite 1 broad, not at all narrowed posteriorly and with a large, shallow median trough. N. America **crassicornis-group** (p. 127)
- Face not rostriform, the clypeo-facial suture lying above or virtually on this line.
A few S. African species have the face somewhat rostriform and the mouth parts lengthened but these have the areolation of the propodeum reduced to an ill defined V-shaped areola ; such species, and others having a normal face but likewise with reduced propodeal areolation, are nearly always recognisable by the concavity of the vannal lobe and the shortness of the cubitellan cell of the hind wing. Old and New World. **ater-group** (p. 25)
- 12 Tergite (2 + 3) forming a much enlarged, densely to coarsely rugose segment that completely (Philippines) or nearly completely (Europe) hides the more apical segments ; this segment is clearly notched at the lateral extremity of the well marked second suture ; propodeum polished, with medial keel.
Spp. not exceeding 1.8 mm. with concealed ovipositor and the cubitellan cell of the hind wing about three times as long as wide. Old World **carbonarius-group** (p. 147)
- Tergite (2 + 3) never as large as this and if 3 shows an amount of rugosity approaching that of 2, then the propodeum is quite differently sculptured 13
- 13 Tergite 1 narrow and with a distinct medial constriction (Text-fig. 113).
Propodeum with a flattened, steep, posterior face, rugose all over and separated from the short, linear, almost smooth upper face by a distinct cristula ; tergite 2 with a triangular, median field having base only slightly longer than sides. Africa **pistrinariae-group** (p. 138)
- Tergite 1 without a medial constriction and if long and narrow, then the tergite is gradually narrowed from base to apex and the propodeum never shows a trace of a cristula dividing it into an anterior and posterior face 14
- 14 Fore wing with a dark cloud beneath the stigma.
Propodeum either without or with a faintly indicated areola but without a trace of costulae ; its surface in greater part almost smooth ; ovipositor sheath at least as long as the hind tibia. Fiji Is., Hawaii **trifasciatus-group** (p. 124)
- Fore wing without a dark cloud beneath the stigma though the wing is frequently brownish all over 15
- 15 Vannal lobe beyond its widest part markedly concave and here without a hair-fringe (Text-fig. 131).

Tergite 1 strongly, abruptly narrowed behind, its apical width rarely as much as two thirds its greatest width, usually about half this ; head in a facial view more or less circular, except in *lacteoides* which has it distinctly triangular but this species has a strong medial keel on the propodeum and a short scape ; inner spur of the hind tibia at least half as long as the hind basitarsus. Old and New World

- merula-group** (p. 150)
- Rarely the vannal lobe with a distinctly concave, fringeless edge and then either the head in a facial view is strongly rostriform with long scape and tergite 1 is hardly narrowed behind (*lacteus*-group) or the inner spur of the hind tibia does not quite reach the middle of the hind basitarsus (*grandiculus*-group) or there is a faint trace of an areola 16
 - 16 Mouth parts modified and lengthened, the galea fully twice as long as wide and/or the head either obviously rostriform or at any rate markedly triangular in facial view. Ovipositor widely exerted ; hypopygium membranous and with numerous lateral creases ; median field of tergite 2 very short and with acute, lateral angle 17
 - Mouth parts simple, the head, in a facial view, never rostriform though it may sometimes be subtriangular 20
 - 17 Metacarp shorter than the stigma and shorter than its distance from the apex of the radial cell. Intensely black species with the wings deeply embrowned and the legs dull black throughout ; propodeum rugose with weak medial keel ; vannal lobe beyond its widest part with hardly a trace of a hair-fringe ; hind spurs blackish, the inner one about three quarters as long as the hind basitarsus. Central Europe
- vipio-group** (p. 128)
- Metacarp much longer ; wings only in the S. African *caesar*-group as dark as this and then the hind tibia is predominantly reddish 18
 - 18 Wings deeply embrowned ; metacarp hardly twice as long as its distance from the apex of the radial cell ; tergite 1 strongly narrowed behind ; inner spur of the hind tibia just reaching beyond the middle of the hind basitarsus. S. Africa
- caesar-group** (p. 129)
- Wings hyaline or milky-white ; metacarp at least three times as long as its distance from the apex of the radial cell ; tergite 1 not narrowed behind ; inner spur of the hind tibia not, or hardly, longer than the outer one and not reaching middle of the hind basitarsus 19
 - 19 Face distinctly rostriform (Text-fig. 120) ; labial and maxillary palpus of ordinary form ; vannal lobe beyond its widest part markedly concave and here without trace of a hair-fringe. Venation mostly colourless ; stigma yellowish with faintly darker border and metacarp still darker ; propodeum without a medial keel. Europe
- lacteus-group** (p. 129)
- Face triangular ; palpi highly modified, black, both pairs being clothed with adpressed hairs on posterior side but otherwise bare ; apical segment of both labial and maxillary palpus sharply tapered apically ; vannal lobe very slightly straightened out beyond its widest part but with distinct hair-fringe throughout. Inner spur of the hind tibia slightly shorter than the outer one. Europe
- longipalpis-group** (p. 181)
- 20 Vannal lobe very obviously concave beyond its widest part and hence becoming acuminate distally ; its concave edge completely without hair-fringe. Nervellus strongly incurved and much longer than the submediella (Text-fig. 180) ; ovipositor sheath about twice as long as the hind tibia. Africa. Oriental Region **grandiculus-group** (p. 166)
 - Vannal lobe at most with straight edge beyond its widest part and then the edge has distinctly projecting hairs or the nervellus is not strongly incurved and is not

- longer than the submediella (except in some species of the *metacarpalis*-group but these do not have the ovipositor sheath longer than the hind tibia) ; or the ovipositor is very short (*formosus*-group) 21
- 21 Propodeum divided by keels into two large dorsal areas that are almost as long as wide and a short, posterior, almost vertical surface that is strongly transverse and is not divided medially by the anterior keel (Text-fig. 142).
 Antenna of female with white medial band. S. Africa . . . **camma-group** (p. 131)
- Propodeum rarely thus divided by keels (*insolens*-group) and then the dorsal areas are strongly transverse 22
- 22 Propodeum with transverse keel as well as a complete, longitudinal keel ; the transverse keel situated far anterior to middle and cutting off on each side of the propodeum a strongly transverse area.
 Mesoscutum bright reddish-yellow ; face strongly, almost coarsely punctate ; cubitellan cell of the hind wing twice as long as wide ; ovipositor sheath about three quarters as long as the hind basitarsus. S. Africa . . . **insolens-group** (p. 132)
- Propodeum without the combination of a transverse and a longitudinal keel 23
- 23 Hypopygium as evenly sclerotised along the middle line as elsewhere and never with creases along each side of the middle line ; ovipositor sheath almost always short, not projecting beyond the apex of the hypopygium by a length greater than that of the 2nd segment of the hind tarsus and then it appears dagger-shaped and hairy only at tip (but cf. *hyphantriæ* of *glomeratus*-group) ; if the sheath projects freely and is long (*falcatus*-group) then the median field of tergite 2 is triangular or subtriangular and either the anterior margin of the postscutellum does not show, laterally, a small, forwards pointing projection (Text-fig. 129), or the claws are finely pectinate (*validus*-group) 24
- Hypopygium more weakly sclerotised along the middle line than elsewhere so that in the dead insect it is often infolded and tightly creased here ; on each side of the middle line it frequently shows longitudinal creases ; ovipositor sheath projecting beyond the apex of the hypopygium by a length clearly greater than that of the 2nd segment of the hind tarsus ; even if the sheath is short and approaches the length of the 2nd segment of the hind tarsus, then it is hairy throughout and never dagger-shaped ; cf. certain species of *circumscriptus*-group in which a rather short ovipositor is combined with a hypopygium that is hardly or not at all more weakly sclerotised along the middle line but the anterior margin of the postscutellum shows laterally a small, forwards pointing projection (Text-fig. 127) 36
- 24 Tergite 2 with an isolated, sharply delimited median field that is parallel-sided or widened anteriorly where it is usually narrower than the apical width of tergite 1 ; further, this median field is margined on each side by a deep, smooth to rugose furrow. Africa **mnanje-group** (p. 133)
- Tergite 2 either without a delimited median field or, if one is present, then it is always wider behind than in front.
 In *eucosmae* (Africa), belonging to the *octonavius*-group, this field is virtually elongate-rectangular but the ovipositor sheath projects, dagger-like, beyond the strongly developed hypopygium by a distance equal to the length of the 2nd segment of the hind tarsus 25
- 25 Side of pronotum without trace of a dorsal furrow or, if doubtfully indicated, then the propodeum with strong medial keel 26
- Side of pronotum with a distinct dorsal furrow (Text-fig. 125) or, if doubtfully present as in the aberrant New Zealand *demeter*, then the propodeum strongly, evenly rugose and the flagellum very short and thick 28
- 26 Propodeum dull, rugose all over and with a strong, medial keel.
 Tergite 1 elongate and at least a little narrowed behind, dull, rugose all over ; flagellum very long, thin, with the preapical segment fully twice as long as wide ;

phragma of the scutellum widely visible. Europe. N. America.

pallipes-group (p. 187)

- Propodeum on the whole smooth, usually highly polished and always without a medial keel.

Vannal lobe beyond its widest part with a straight or slightly concave edge and here often without a distinct fringe ; tergite (2 + 3) either without a median field or, if one is present, then this is obviously triangular 27

- 27 Antenna of female extremely short, shorter than the body with the preapical segment at most one and a half times longer than wide.

Highly polished spp. with short, thick legs that are predominantly reddish yellow with the hind femur always of this colour ; inner spur of the hind tibia always distinctly longer than half the hind basitarsus. Africa to Indo-australian region

congoensis-group (p. 188)

- Antenna of female normal, longer than the body, except in *papilionis* and *geometrivorus* ; all flagellar segments very obviously elongate ; preapical segment rarely as short as about one and a half times longer than wide.

Propodeum rather short, its spiracle being separated from the posterior corner by not more than three to four times its own diameter (Text-fig. 225) ; 1st abscissa of the discoideus always very distinctly shorter than the 2nd. Old and New World but mostly Africa **formosus-group** (p. 191)

- 28 Propodeum strongly to coarsely rugose ; usually showing also a large, posterior, flattened surface, bounded above, on each side, by a short, transverse cristula ; in front of each cristula is a short, transverse area that tends to be smoother than the surface elsewhere ; tergite 1 usually widened behind, never narrowed, though its apical corners are often gently, roundly constricted.

Tergite 2 with or without sulci delimiting a median field but, in any case, this tergite is at least two thirds as long as 3 ; normally, the median field of tergite 2 is strongly transverse, subrectangular and rugose ; if, rarely, it approaches a subtriangular shape and is virtually smooth, then the sides of the triangle are much shorter than the base. World-wide in distribution **glomeratus-group** (p. 133)

- If the propodeum is coarsely rugose, then tergite 1 is narrowed behind and obviously wedge-shaped or the apical segment of the front tarsus is armed with a conspicuous, lateral spine (Text-fig. 143) 29

- 29 Inner side of the apical margin of the hind tibia with a dense, silky fringe that is entirely differentiated from the normal tibial hairs.

Propodeum short, with a well defined medial keel ; propodeal spiracle enclosed by a keel at least on its posterior side ; phragma of the scutellum hidden ; ovipositor very short, almost hidden 30

- Inner side of the apical margin of the hind tibia without such a differentiated fringe though it is almost differentiated in some species of the *vitripennis*-group but in these species the propodeal keel is never enclosed, even partly, by a keel 31

- 30 Tergite 1 strongly, almost concavely narrowed from a wide base to a very narrow apex ; the keel that lies posterior to the propodeal spiracle is continued forwards diagonally across the propodeum as far as the anterior extremity of the medial keel ; 1st abscissa of the radius and the transverse cubitus forming a well defined angle at their junction ; posterior ocellus separated from the eye-margin by about twice its own diameter ; vannal lobe with distinct hair-fringe throughout. Java, Philippines **siderion-group** (p. 138)

- Tergite 1 virtually parallel-sided to where it turns over and thence narrowed to apex ; the keel that lies behind the propodeal spiracle does not extend as far as the anterior extremity of the medial keel ; no angle at the junction of the 1st abscissa of the radius and the transverse cubitus (Text-fig. 149) ; vannal lobe beyond its

widest part straight and here with distinct hair-fringe. Borneo. Philippines

merope-group (p. 139)

31 Claws finely pectinate (Text-fig. 230).

Pubescence of flagellum unusually long (Text-fig. 232) ; propodeum almost smooth ; postscutellum laterally with a small forwards pointing projection on its anterior margin (Text-fig. 127) ; ovipositor sheath two thirds as long as the hind tibia ; tergites 1 and (2 + 3) (Text-fig. 231). Europe . . . **validus-group** (p. 199)

- Claws not pectinate or if so (a rare exception in the *octonarius*-group) then the ovipositor sheath very short 32

32 Median field of tergite 2 transverse, weakly rectangular (Text-fig. 233), with the 2nd suture either markedly sinuate or if less so, then the ovipositor sheath yellow.

Ovipositor sheath widely exerted. Europe. N. America **falcatus-group** (p. 184)

- Median field of tergite 2 usually markedly triangular ; if somewhat rectangular, then the ovipositor very short.

Ovipositor almost always very short, though often projecting as a short, sharply pointed dagger ; only in a few species of the *vitripennis*-group does it project freely beyond the apex of the gaster but in these species the hypopygium has no lateral longitudinal creases and other characters of the group apply 33

33 1st abscissa of the radius and the transverse cubitus distinctly angled at their junction 34

- 1st abscissa of the radius and the transverse cubitus forming a weak, even curve at their junction (Text-fig. 157).

Propodeum, tergite 1 and the median field of tergite 2 tending to be smooth, highly polished ; edge of vannal lobe beyond its widest part more or less straight and virtually without a hair-fringe ; median field of tergite 2 never bordered with fine aciculation or striation as often occurs in the closely related *vitripennis*-group. World-wide in distribution **octonarius-group** (p. 186)

34 Tergite 1 usually broad, more or less parallel-sided to where it turns over and thence distinctly, roundly narrowed to apex ; median field of tergite 2 transverse and varying from subrectangular to subtriangular, its lateral sulcus directed towards the lateral margin, or posterior corner, of the tergite.

Apical segment of the front tarsus always with a distinct spine and opposite to it an emargination of the tarsal segment (Text-fig. 144). Europe. N. America **popularis-group** (p. 135)

- Tergite 1 on the whole long, gradually narrowed from base to apex ; median field of tergite 2 clearly and usually conspicuously triangular and its lateral sulcus directed towards the 2nd suture.

Edge of vannal lobe with well developed fringe of hairs throughout. 35

35 Antenna very short, thick, only the first and last segment of the flagellum being obviously longer than wide ; phragma of the scutellum completely concealed.

Very small sp., ca. 1.6 mm. with coarsely rugose propodeum. New Zealand **demeter-group** (p. 196)

- Antenna never short and thick, all the segments of the flagellum being obviously longer than wide ; phragma of the scutellum always clearly visible. World-wide

vitripennis-group (p. 187)

36 Tergite (2 + 3) without a delimited median field, tergite 2 being evenly rectangular, about two and a half times as wide as medially long, more or less equal in size to tergite 3 and strongly rugose all over ; tergite 3 with longitudinal rugosity covering most of its surface.

Coarse sculpture of the scutellar disc extending right to posterior tip and interrupting the posterior, polished band of the scutellum ; metacarp about one and a quarter times longer than its distance from the apex of the radial cell. N. America **terminalis-group** (p. 131)

- Tergite (2 + 3) always with some sort of delimited median field which, if it tends to be coextensive with the whole of tergite 2, is normally much shorter than 3, except in a few species of the *circumscriptus*-group with strongly sculptured 1st and 2nd tergite ; if such a median field is hardly delimited, then this is because the whole of tergite (2 + 3) is smooth and polished ; tergite 3 never with obvious sculpture, its surface having at most a dull sheen 37
- 37 Propodeum with a strong, medial keel 38
- Propodeum without such a keel 41
- 38 Polished, lateral field of the scutellum large enough to cut off between itself and the disc a long, parallel-sided, foveate groove ; ocelli in a low triangle, with the transverse, posterior tangent to the median ocellus cutting deeply into the posterior ocelli.
- Inner spur of the hind tibia very long, fully three fifths as long as the hind basitarsus. Indo-malayan region **sundanus-group** (p. 170)
- Polished, lateral field of the scutellum much smaller, short from back to front and hence cutting off between itself and the disc a rugose tongue that gradually narrows posteriorly ; ocelli in a higher triangle, the posterior, transverse tangent to the median ocellus at most touching the posterior ocelli 39
- 39 Cubitellan cell of hind wing extremely short on radiella and cubitella, hence much higher than long (so much higher than long, and thus narrow, in the *annulicornis*-group, as to be easily overlooked) 40
- Cubitellan cell less short and longer than high. America. Oriental region **nerion-group** (p. 142)
- 40 Cubitellan cell at most about one and a half times higher than long on the cubitella ; tergite 1 only slightly narrowed posteriorly, its turned over, posterior part rugose all over.
- Transverse cubitus rather long ; vannal lobe beyond its widest part straight or slightly concave and here with at most an occasional projecting hair ; median field of tergite (2 + 3) rugose, rectangular, strongly transverse ; inner spur of the hind tibia much longer than the outer one and reaching slightly beyond the middle of the hind basitarsus. Brazil. N. America **sesiae-group** (p. 144)
- Cubitellan cell at least twice as high as long (Text-fig. 130) ; tergite 1 very strongly narrowed posteriorly, almost wedge-shaped.
- At least the mesoscutum and mesopleurum yellow ; propodeum, apart from the median keel, highly polished ; inner spur of the hind tibia considerably longer than the outer one and almost reaching the middle of the hind basitarsus ; anterior declivous part of tergite 1 deeply channelled. W. Indies. Brit. Guiana **annulicornis-group** (p. 140)
- 41 Tergite 1 usually markedly narrowed to apex, long, more or less wedge-shaped.
- Vannal lobe beyond its widest part more or less straight and virtually without projecting hairs ; ovipositor sheath always longer than the hind tibia. Where tergite 1 is almost parallel-sided as in *inunctus*, only the shape of the vannal lobe separates the group from the *laevigatus*-group. Indo-oriental region **mycetophilus-group** (p. 171)
- If tergite 1 is strongly narrowed to apex (as in nearly all species of the *metacarpalis*- and *circumscriptus*-groups), then the vannal lobe has a more or less evenly convex edge which is fringed throughout ; or else the metacarp is unusually short 42
- 42 Tergite 1 strongly constricted at apex, never so long, nor so clearly wedge-shaped, as in the *mycetophilus*-group.
- Hypopygium short and rarely with longitudinal creases on each side of middle line (but cf. *murinanae*) ; median field of tergite (2 + 3) triangular, shorter than the hind tibia (but cf. *murinanae* and *dioryctriae*) ; stigma often pale but never with contrasting, pale basal spot 43

- Tergite 1 rarely narrowed towards apex and then never so strongly as above and then the ovipositor sheath is very long 44
- 43 Hind femur entirely yellow and the stigma pallid or, if femur and stigma dark, then the metacarp is fully three times as long as its distance from the apex of the radial cell ; outer side of the hind tibia with only very sparse, hardly differentiated spines and these all of one kind.
Mesoscutum with dull, satin-like sheen ; ovipositor sheath at most about two thirds as long as the hind tibia. Holarctic **circumscriptus-group** (p. 145)
- Hind femur blackish or, if flushed with paler colouring along sides, then the metacarp is hardly twice as long as its distance from the apex of the radial cell ; outer side of the hind tibia with numerous spines of two kinds.
Not readily easily separable from the *circumscriptus*-group but apparently not parasites of leaf-mining Lepidoptera as is the *circumscriptus*-group. Holarctic
metacarpalis-group (p. 148)
- 44 Eyes strongly convergent below, the distance between them across the clypeus not more than two thirds the greatest distance between them on the frons.
Metacarp very short, hardly longer than its distance from the apex of the radial cell. Europe **butalidis-group** (part) (p. 182)
- Eyes rarely convergent below and then not as close as above 45
- 45 Metacarp very short, at most about one and one third times as long as its distance from the apex of the radial cell.
Propodeum coarsely, evenly rugose ; wings markedly brownish. Europe
butalidis-group (part) (p. 182)
- Metacarp rarely as short as this and then the propodeum tends to be smooth and polished ; median field of tergite 2 strongly transverse, never triangular ; stigma frequently with pale, basal spot ; ovipositor sheath usually longer than the hind tibia. World-wide in distribution but commonest in temperate regions
laevigatus-group (p. 181)

THE *ATER*-GROUP

Group S of Wilkinson, in part.

Wilkinson's group S was very broadly based and contained many species that I now consider as belonging to the *ultor*-group.

The *ultor*-group is much more natural than the *ater*-group, from which it differs on a combination of three characters. These are :— (1) mesoscutum always with a distinct, sharp, discrete punctation and without a trace of striation or striate-punctation at the posterior end of the imaginary course of the notaulices ; (2) postero-lateral area of the propodeum distinctly transverse, whereas in the *ater*-group, if such an area is delimited at all, it is as long as, or slightly longer than, wide ; (3) vannal lobe, in sharp contrast with almost the whole of the *ater*-group, with an evenly convex edge that is fringed throughout with very short hairs.

The *ater*-group, on the other hand, lacks the homogeneity of the *ultor*-group, containing many aggregates of species that are not closely related but merge into one another through transitional forms. I have found it convenient to split off from the major group only a single, small assemblage of closely related species that I designate as the *eublemae*-subgroup ; except *upis*, these species are all African.

The *ater*-group is well represented on the American continent.

KEY TO SUBDIVISIONS OF THE *ater*-GROUP S.L. OF THE OLD WORLD

- A Propodeum with a distinct areola and a costula that, in its extension towards the lateral margin of the propodeum, forks to enclose the spiracle ; frequently only the posterior fork is present ; if the costula and its forks are virtually absent, then the surface of the propodeum still shows much coarse rugosity.

Metacarp of the fore wing much longer than its distance from the apex of the radial cell, except in *argiope* and *ippeus* **ater-group** (in part) (p. 26)

- B Propodeum with at most a feebly defined areola and never with a costula ; hence, the spiracle neither wholly nor in part enclosed by keels ; propodeum to sides of areola with a dull microsculpture or even nearly smooth, or, if rather strongly rugose (*trabea*), then the metacarp hardly one and half times longer than its distance from the apex of the radial cell.

Small, dark-legged spp. with the hind tibia deeply infuscate to blackish ; *linus* is exceptional in respect of leg colour ; gaster beyond tergite 2, that is, beyond the mid-basal field of tergite (2 + 3), always with a dull sheen

eublemmae-subgroup (p. 104)

The *ATER*-group (in part)

KEY TO SPECIES

FEMALES

- 1 Whole body yellow-fulvous.

Aberrant species not falling easily into either the *ater*- or the *ultor*-group.

Flagellum long, thick, tapered distally, bristly and with the preapical segment one and a half times longer than wide ; mesoscutum highly polished and only indistinctly punctate ; propodeum with complete areolation but the postero-lateral area distinctly transverse ; wings brownish ; metacarp extremely long ; vannal lobe with its edge beyond widest part more or less straight and fringed throughout ; ovipositor sheath as long as the hind tibia. Philippines **bakeri** Wilkinson¹

- At most the gaster pale-marked 2

- 2 Disc of scutellum strongly narrowed behind and in profile with a short, truncate or subtruncate posterior face (Text-fig. 9) ; usually with at least a trace of vaguely defined pits or punctures and often with much rugosity ; propodeum usually with complete areolation ; metacarp at least four times as long as its distance from the apex of the radial cell ; tergite 1 elongate but not evenly wedge-shaped, the distance between its median hump and apex at least as long as wide (except in *cypris*) ; median field of tergite (2 + 3) at least twice as wide as long 3

If the disc of the scutellum answers to above description, then either the propodeum shows incomplete areolation (no costula present) or the stigma is pallid (pellucid) or the median field of tergite (2 + 3) is much less transverse or tergite 1 is obviously wedge-shaped, that is, evenly narrowed from base to apex 34

- 3 Antennal scrobes greatly deepened, the excavation extending outwards and touching the eye-margin. Philippines **cavifrons** sp. n. (p. 44)

- Antennal scrobes of ordinary form, the excavation never reaching as far as the eye-margin 4

- 4 Ovipositor sheath very short, about one third as long as the hind tibia ; apical segment of front and middle tarsus much enlarged (Text-fig. 12).

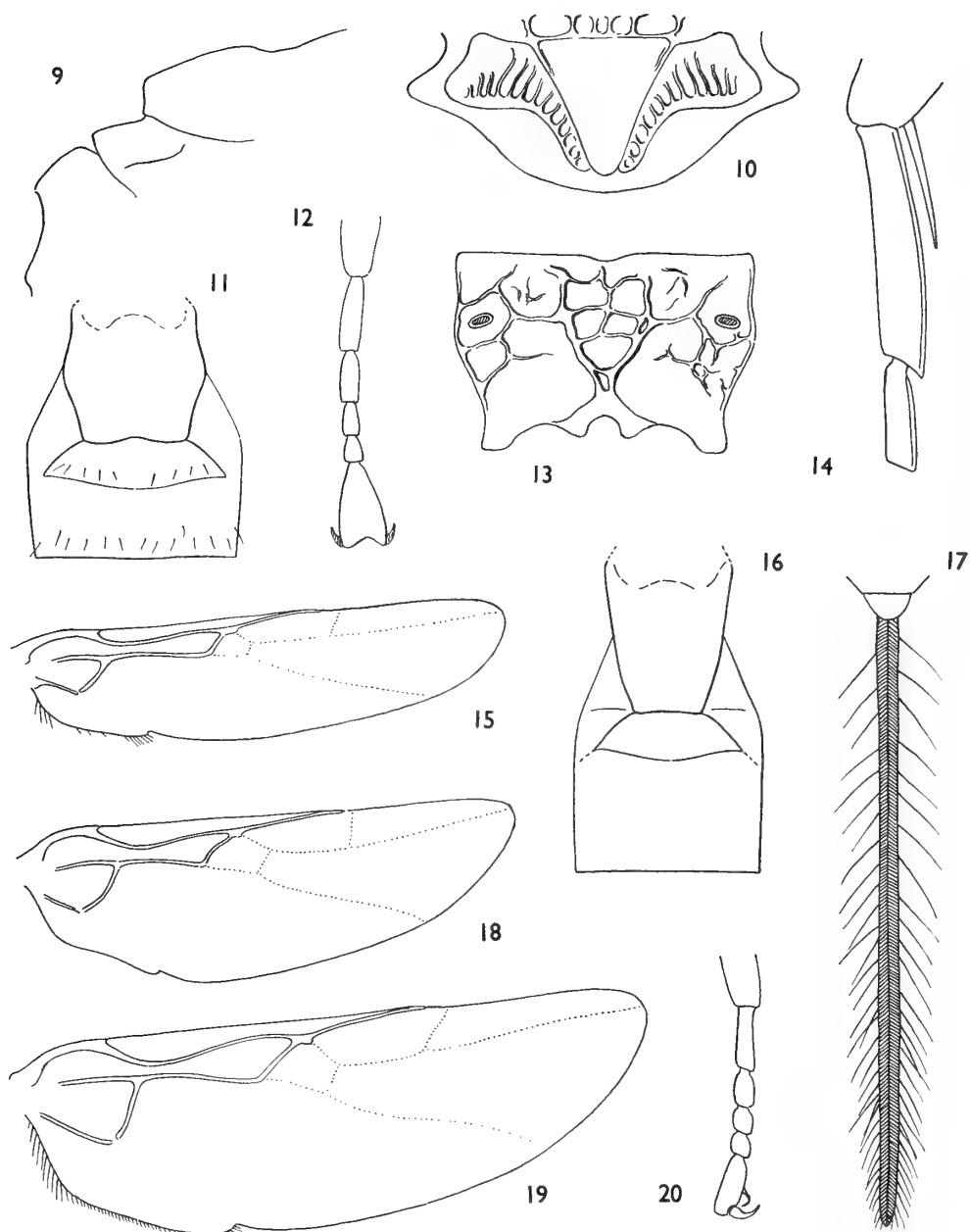
Tergite (2 + 3) yellow with the median field darker. Philippines **crius** sp. n. (p. 46)

- Ovipositor sheath at least two thirds as long as the hind tibia (about half as long in the African *arsanes* but this species has tergite (2 + 3) entirely dark) ; apical segment of front and middle tarsus not enlarged 5

¹*Apanteles bakeri* Wilkinson, 1932a 1 : 143.

Type in U.S. National Museum ; paratypes in British Museum (Nat. Hist.).

- 5 Eyes markedly convergent below (Text-fig. 27).
 Ovipositor sheath at most one and a quarter times longer than the hind tibia 6
 - Eyes not noticeably convergent below 23
- 6 Hind coxa at least in apical half extensively yellow 7
 - Hind coxa virtually blackish throughout 13
- 7 Median field of tergite (2 + 3) very acutely angled laterally at about 30 degrees and
 itself between four and five times as wide as long (Text-fig. 26).
 Hind coxa in greater part pale yellow with a tongue of infuscation extending
 forwards on outerside and sometimes almost uniting with a paler, apical spot ;
 metacarp extremely long and almost closing the radial cell (Text-fig. 22).
 Philippines *lyridice* sp. n. (p. 46)
 - Median field of tergite (2 + 3) much less acutely angled laterally, its corners angled
 at between 45 and 60 degrees ; the field itself much less transverse 8
- 8 Hind coxa entirely yellow, faintly shining and without obvious rugosity 9
 - Hind coxa with at least a small basal area of infuscation and the outer face with some
 sort of rugosity 11
- 9 Median field of tergite (2 + 3) nearly three times as wide as long, 11 : 4 ; ovipositor
 sheath nearer to three quarters as long as the hind tibia. Africa *acoris* sp. n. (p. 52)
 - Median field of tergite (2 + 3) less transverse, at most hardly more than twice as
 wide as long ; ovipositor sheath nearer to two thirds as long as the hind tibia 10
- 10 Tergite 1 distinctly widened posteriorly ; median field of tergite (2 + 3) less than
 twice as wide as long, 11 : 6 ; dull, rugulose ; dark and pale halves of the hind
 tibia less sharply contrasted. Africa *meriones* sp. n. (p. 52)
 - Tergite 1 not widened posteriorly ; median field of tergite (2 + 3) slightly more
 than twice as wide as long, shiny, almost polished ; dark and pale halves of the
 hind tibia more sharply contrasted.
 Ovipositor sheath a little shorter than in *meriones*. Africa *agatillus* sp. n. (p. 51)
- 11 Hind coxa infuscate only at extreme base ; outer side of hind coxa without rugosity
 except at extreme base.
 Hairy part of the ovipositor sheath hardly more than half as long as the hind
 tibia ; ovipositor thick, strongly curved (Text-fig. 109) ; hind femur infuscate on
 apical three fifths ; scape dark ; flagellum thin. Africa *agrus* sp. n. (p. 51)
 - Hind coxa much more darkened (but cf. *metellus*) ; side of hind coxa considerably
 rugose.
 Hind femur bright yellow on at least nearly basal half 12
- 12 Hind leg strikingly black and yellow ; hind coxa yellow on almost apical half ; hind
 femur sharply brown on rather more than apical half ; median field of tergite
 (2 + 3) less transverse, its lateral sulcus almost as long as its basal width ; head
 thicker, with temples somewhat produced backwards ; tergite (2 + 3) beyond the
 median field, yellow. Africa *menes* sp. n. (p. 51)
 - Hind leg less strikingly bicoloured ; hind coxa usually almost black but sometimes
 infuscate only at extreme base ; hind femur infuscate only at apex and then more
 especially above ; median field of tergite (2 + 3) more transverse, a lateral sulcus
 equal to hardly more than two thirds the basal width ; head less thick ; tergite
 (2 + 3) beyond the median field entirely dark.
 Ovipositor sheath slightly longer than in *menes*. Africa *metellus* sp. n. (p. 50)
- 13 Ovipositor sheath at most as long as the hind tibia 14
 - Ovipositor sheath at least slightly longer than the hind tibia 22
- 14 Punctures at posterior end of the imaginary course of the notaulices very large, more
 or less discrete and without longitudinal elements here ; the surface between
 the punctures very shiny ; hind tibia dark brown but sharply whitish on basal two
 fifths.

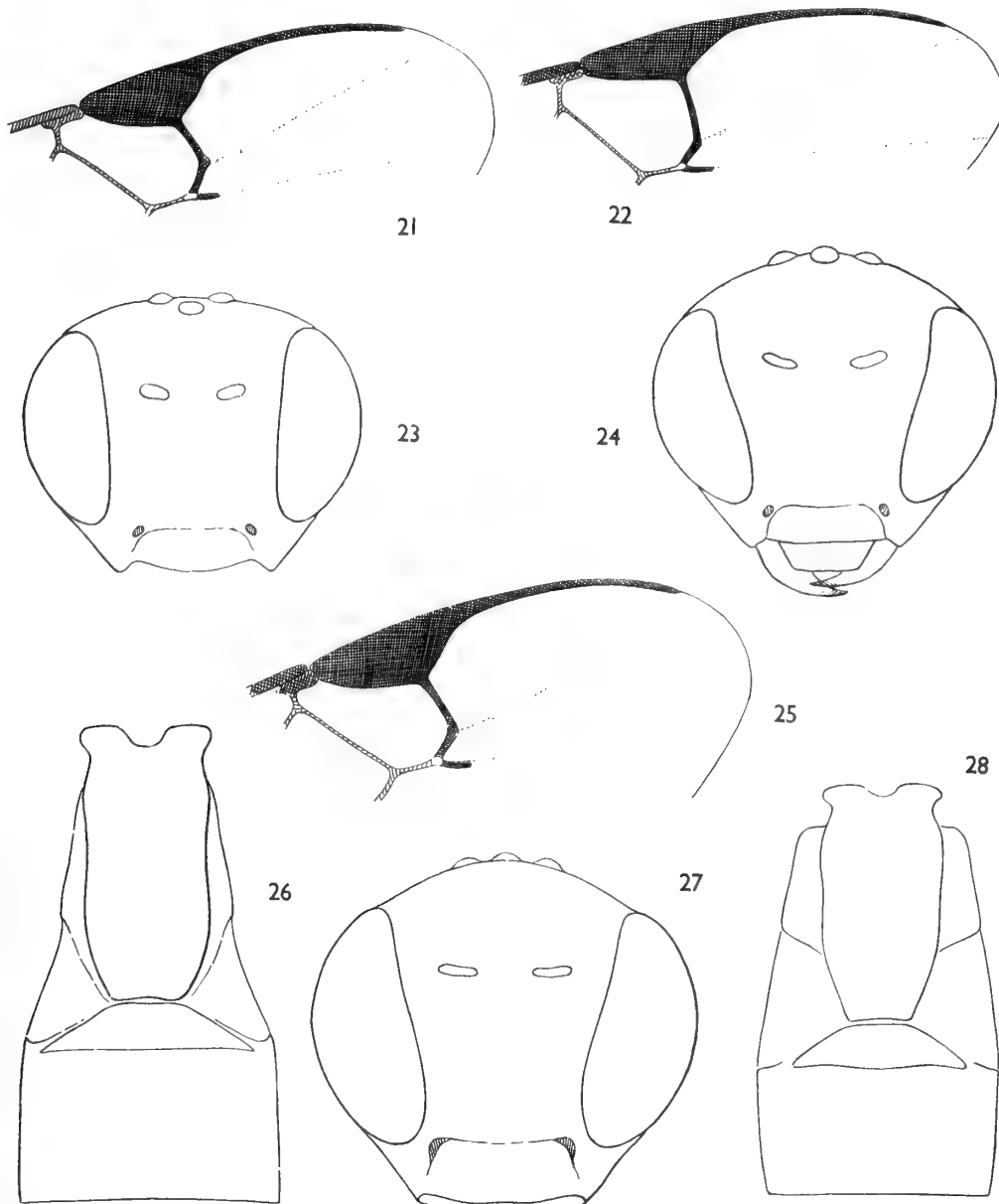


FIGS. 9-20. *Apanteles*, ♀: 9, *opacus* (Ashmead), scutellum, lateral; 10, *niceppe* sp. n., scutellum, dorsal; 11, *painei* sp. n., basal tergites; 12, *crius* sp. n., front tarsus; 13, *niceppe* sp. n., propodeum; 14, *isander* sp. n., hind basitarsus; 15, *saravus* sp. n., hind wing; 16, *angaleti* Muesebeck, basal tergites; 17, *adveus* sp. n., ovipositor sheath, from above; 18, *syleptae* Ferrière, hind wing; 19, *agamedes* sp. n., hind wing; 20, *ater* (Ratzeburg), front tarsus.

- Large sp., ca. 3.5 mm. without ovipositor ; wings markedly brownish with the metacarp fully six times as long as its distance from the apex of the radial cell.
New Guinea *anodaphus* sp. n. (p. 47)
- 15 - Punctures at posterior end of notaulic courses either not distinguishable as such because of general rugosity or else smaller and mixed with longitudinal elements to form striate-punctation 15
- Ovipositor sheath very short, about half as long as the hind tibia.
Hind femur infusate throughout ; front tarsal segment 5 with modified, spine-like hair ; propodeum sharply areolated, the three posterior fields strongly polished. Africa *arsanes* sp. n. (p. 52)
- 16 - Ovipositor sheath at least two thirds as long as the hind tibia 16
- Mesoscutum and disc of the scutellum having a dull appearance owing to coarse, more or less even rugosity and without shiny striation at the posterior end of the notaulic courses ; hind coxa dull, rugulose.
Hind femur infusate 17
- 17 - Mesoscutum and disc of scutellum having a shiny appearance in spite of heavy sculpture and with shiny striate-punctation at the posterior end of the notaulic courses ; hind coxa on the whole very shiny 20
- Disc of scutellum everywhere with unusually deep, discrete punctures ; dull, more narrowed behind and more convex here ; 1st abscissa of the radius very obliquely placed on the stigma.
Eyes very strongly convergent below ; areolation of the propodeum not sharply emphasised. Africa *nycon* sp. n. (p. 53)
- 18 - Disc of scutellum densely rugose or striate-punctate but without emphasis on a punctate element ; 1st abscissa of the radius placed more nearly at right angles to the stigma 18
- Frons and vertex quite dull, finely rugose ; areolation of propodeum reduced, the costula sometimes not defined ; eyes strongly convergent below ; hind tibia pale only at extreme base. Africa *inaron* sp. n. (p. 53)
- 19 - Frons and vertex shiny even if showing feeble rugosity ; areolation of the propodeum complete, the costula well defined ; eyes less strongly convergent ; hind tibia yellow on fully basal half 19
- Metacarp about four times as long as its distance from the apex of the radial cell ; antenna hardly as long as the body, thin, with the preapical segment about one and a half times longer than wide ; hind coxa dull, evenly, finely, densely rugose. Africa to India, including Mediterranean region *hemara* sp. n. (p. 58)
- 20 - Metacarp almost closing the radial cell, at least seven times as long as its distance from the apex of the radial cell ; antenna long, powerful, fully as long as the body with the preapical segment only about one and a quarter times longer than wide.
Median field of tergite (2 + 3) less transverse, about two and a half times longer than wide. Africa *sisis* sp. n. (p. 57)
- Tergite I markedly narrowed behind, its horizontal part considerably longer than wide.
Median field of tergite (2 + 3) sharply angled laterally at about 30 degrees 21
- 21 - Tergite I not or hardly narrowed behind, its horizontal part having a quadrate appearance and very slightly wider than long, ca. 11 : 10 ; ovipositor strongly downcurved throughout its entire length. Indo-oriental region *cypris* sp. n. (p. 47)
- Vertex between the posterior ocellus and the eye-margin shining and virtually unsculptured ; temples with only a trace of sculpture ; tergite (2 + 3) usually darkened ; hind wing narrower. Indo-oriental region *opacus* Ashmead (p. 44)
- Vertex here duller and distinctly rugose ; temples with considerable rugosity ; tergite (2 + 3), including the median field, yellow or reddish-yellow ; hind wing broader. Philippines *mamitus* sp. n. (p. 45)

- 22 Ocelli in a higher triangle, the distance between the posterior pair slightly less than twice the diameter of the median ocellus ; hind femur bright yellow on about basal quarter ; tergite (2 + 3) yellow, apart from the median field which is darker ; stigma dark throughout. Philippines *niceppe* sp. n. (p. 45)
- Ocelli in a lower triangle, the distance between the posterior pair being fully twice the diameter of the median ocellus ; hind femur infuscate right to base ; tergite (2 + 3) infuscate virtually all over ; stigma with pale basal spot, not very distinct. Indo-oriental region *significans* Walker (p. 45)
- 23 Hind femur entirely bright reddish yellow.
Hairs of the ovipositor sheath short, not upstanding 24
- Hind femur infuscate at least on apical half 26
- 24 Hind tarsus infuscate, except the basitarsus which is sharply pale at base ; segment 4 of the hind tarsus, measured below, hardly shorter than 5.
Ovipositor sheath about as long as the hind tibia. Indo-oriental region
diocles sp. n. (p. 48)
- Hind tarsus yellowish, with at most the apex of the hind basitarsus infuscate ; segment 4 of the hind tarsus, thus measured, distinctly shorter than 5.
Horizontal surface of tergite 1 with broad, more or less smooth, medial trough. 25
- 25 Tergite 1 markedly narrowed behind ; ovipositor sheath hardly longer than the hind tibia ; sculpture of the mesopleurum consisting of coarse rugosity ; frons and vertex with much coarse sculpture . Philippines *dores* sp. n. (p. 49)
- Tergite 1 virtually not narrowed behind ; ovipositor sheath fully one and one third times longer than the hind tibia ; sculpture of mesopleurum becoming simple punctation posteriorly ; at least the space between the posterior ocellus and the eye-margin almost smooth and polished. Indo-oriental region
salutifer Wilkinson (p. 48)
- 26 Disc of scutellum dull, closely reticulate-punctate, without any indication of striation, its sculpture exactly like that of the posterior part of the mesoscutum ; very narrow behind and here almost conically raised.
Ovipositor sheath hardly as long as the hind tibia. Africa *antilla* sp. n. (p. 54)
- Disc of the scutellum shiny, feebly punctate or vaguely striate-punctate and its appearance, on the whole, in sharp contrast with the sculpture of the posterior part of the mesoscutum 27
- 27 Ovipositor sheath not or hardly longer than the hind tibia 28
- Ovipositor sheath distinctly longer than the hind tibia 30
- 28 Tergite 1 dull, coarsely, evenly reticulate-rugose ; median field of tergite (2 + 3) equally rugose ; abscissa 1 of the radius very obliquely placed on the stigma (Text-fig. 21). Africa *abdera* sp. n. (p. 50)
- Tergite 1 much more weakly sculptured, shiny and with a more or less clearly defined, longitudinal smooth trough on its horizontal part ; abscissa 1 of the radius placed at right angles to the stigma 29
- 29 Length about 3 mm. without ovipositor ; wings clear hyaline ; hind wing markedly broad (Text-fig. 18). Africa *syleptae* Ferrière (p. 59)
- Length about 2 mm. without ovipositor ; wings faintly brownish ; hind wing decidedly narrow. Philippines *coedicius* sp. n. (p. 46)
- 30 Hind tibia yellow on basal half and more or less in sharp contrast with the infuscate apical part ; hind trochanters yellow.
Disc of scutellum polished and with hardly a trace of punctation ; ovipositor sheath hardly one and a quarter times longer than the hind tibia 31
- Hind tibia less sharply yellow on basal half or clearly paler only at extreme base ; hind trochanters dark 32
- 31 Hind femur infuscate throughout ; tergite 1 narrow but parallel-sided ; median

field of tergite (2 + 3) not very transverse, about three times as wide as long ; hind coxa dull, rugulose. Africa **mycerinus** sp. n. (fig. 57)



FIGS. 21-28. *Apanteles*, ♀: 21, *abdera* sp. n., front wing, part; 22, *lyridice* sp. n., same; 23, *anatole* sp. n., head, from in front; 24, *metellus* sp. n., same; 25, *novatus* sp. n., front wing; 26, *lyridice* sp. n., basal tergites; 27, *lyridice* sp. n., head, from in front; 28, *mamitus* sp. n., basal tergites.

- Hind femur with infusate cloud only on apical half, more extensive above ; tergite 1 markedly narrowed behind, almost wedge-shaped ; median field of tergite (2 + 3) more transverse, more acutely angled laterally ; hind coxa in greater part polished, shining. Africa **novatus** sp. n. (fig. 57)
- 32 Disc of scutellum superficially striate-punctate ; hairs of the median cell colourless.
Wing glass-clear ; hind wing broad, the length of the 2nd abscissa of the mediella clearly shorter than the distance between its distal extremity and the apex of the vannal lobe as in *syleptae* (Text-fig. 18) ; hind coxa dull, with satin-like sheen. Mauritius **faustina** sp. n. (p. 58)
- Disc of scutellum weakly punctate towards sides ; hairs of the median cell distinctly darkened 33
- 33 Hind tibia pale only at extreme base ; hind tarsus not slender, the basitarsus somewhat wide with conspicuous ventral keel (Text-fig. 14) ; 1st abscissa of the discoideus not at all shorter than the 2nd ; 2nd abscissa of the discoideus more curved ; ovipositor sheath about one and a half times longer than the hind tibia. Africa **isander** sp. n. (p. 59)
- Hind tibia less darkened, the paler basal suffusion extending almost halfway ; hind tarsus very slender, the basitarsus not at all widened and with quite inconspicuous ventral keel ; 1st abscissa of the discoideus distinctly shorter than the 2nd ; 2nd abscissa of the discoideus less curved ; ovipositor sheath about one and a quarter times longer than the hind tibia.
Fore wing brownish ; hind wing rather narrow. Africa **raesus** sp. n. (p. 59)
- 34 Tergite 1 elongate, gradually narrowed from base to apex, hence wedge-shaped ; (Text-fig. 78) its horizontal part distinctly to considerably longer than wide ; claws strongly developed, strongly curved (Text-fig. 77).
Hind femur entirely or almost entirely yellow ; areolation of propodeum strong, complete 35
- Tergite 1 rarely as long as this and then the claws are smaller and less well developed 37
- 35 Mesoscutum shiny, with sharp punctuation, but broadly along the middle the punctuation is absent, leaving the surface more shiny and more polished.
Disc of scutellum polished, impunctate. Philippines **vacillans** sp. n. (p. 91)
- Mesoscutum dull and with dense punctuation that does not fade out along the middle line 36
- 36 Claws less well developed ; disc of scutellum virtually impunctate ; ovipositor sheath as long as the hind tibia. Philippines **dissimile** sp. n. (p. 93)
- Claws more strongly developed (as in *vacillans*) ; disc of scutellum distinctly punctate, more conically raised behind than in *dissimile* ; ovipositor sheath fully one and a quarter times longer than the hind tibia, appearing considerably longer. Philippines **cestius** sp. n. (p. 93)
- 37 Median field of tergite (2 + 3) at most twice as wide as long.
Stigma entirely dark 38
- Median field of tergite (2 + 3) always more transverse than this or, if not, then stigma pellucid 40
- 38 Disc of scutellum distinctly punctate or irregularly pitted, its posterior tip narrowed and with subtruncate posterior face ; hind femur yellow ; median field of tergite (2 + 3) about one and two thirds wider than long ; flagellum of ordinary form 39
- Disc of scutellum polished, posteriorly flattened and without a subtruncate, posterior face ; hind femur in greater part infusate ; median field of tergite (2 + 3) about one and one third times wider than long, polished ; antenna shorter than the body ; flagellum tapering towards apex, clothed with conspicuous, bristly pubescence. Africa **chalconelas** sp. n. (p. 60)
- 39 Hind coxa yellow ; median field of tergite (2 + 3) very coarsely rugose ; disc of

- scutellum with a few, large, ill defined pits or punctures ; tergite 1 hardly narrowed to apex. Fiji Is. *hymeniae* Wilkinson (p. 86)
- Hind coxa blackish ; median field of tergite (2 + 3) faintly dull, with scattered, obsolescent punctures ; disc of scutellum confusedly punctate ; tergite 1 quite strongly narrowed to apex. Malaya *medon* sp. n. (p. 90)
- 40 Ovipositor sheath not or hardly longer than the hind basitarsus 41
- Ovipositor at least distinctly longer than the hind basitarsus, usually much longer . 47
- 41 Tergite 1 abruptly narrowed from where it turns over to apex, the median field of tergite (2 + 3) hence very sharply angled laterally at less than 45 degrees and a lateral sulcus fully equal to the apical width of tergite 1 ; areolation of propodeum reduced or almost absent.
- Metacarp not more than four times as long as its distance from the apex of the radial cell 42
- Tergite 1 only slightly narrowed posteriorly or, if strongly so, then the areolation of the propodeum is complete 43
- 42 Costula of propodeum present ; tergite 1 beyond the median field setose all over ; stigma evenly brownish ; ovipositor sheath so short as to be virtually concealed ; no angle between the 1st abscissa of the radius and the transverse cubitus ; tergite 1 rugose. Malaya *prosymna* sp. n. (p. 98)
- Costula absent ; tergite 1 beyond the median field with its setae reduced and more or less restricted to a row along apical margin ; stigma pallid or at most pale brownish with a darker border ; ovipositor sheath projecting more freely than above ; tergite 1 almost smooth, highly polished. Indo-oriental region
- 43 1st abscissa of the discoideus forming with the nervulus virtually a straight line. *javensis* Rohwer (p. 98)
- Temples very coarsely rugose ; disc of scutellum with large punctures along sides ; tergite 1 short, more or less parallel-sided 44
- 1st abscissa of the discoideus forming with the nervulus an angle at their junction 45
- 44 Stigma pallid ; costula very sharply defined. Indo-oriental region *folia* sp. n. (p. 99)
- Stigma evenly dark brown ; costula more or less wanting *folia* var.? (p. 99)
- 45 Segment 4 of the hind tarsus, measured below, very distinctly shorter than 5 ; metacarp rather short, about three times as long as its distance from the apex of the radial cell ; hind wing broad, the 2nd abscissa of the mediella being very distinctly shorter than the distance between its distal extremity and the apex of the vannal lobe. Malaya *demades* sp. n. (p. 99)
- Segment 4 of the hind tarsus hardly shorter than 5 ; metacarp fully six times as long as its distance from the apex of the radial cell ; hind wing narrower, the 2nd abscissa of the mediella being less obviously shorter than the distance between its distal extremity and the apex of the vannal lobe 46
- 46 Wings not markedly hyaline, the setae dark and the stigma not very pale ; median field of tergite (2 + 3) about two and a half times wider than long (Text-fig. 86) ; inner spur of the hind tibia powerful, reaching distinctly beyond the middle of the hind basitarsus. Philippines *crates* sp. n. (p. 100)
- Wings markedly hyaline, the setae, at least proximal to the areolet, virtually colourless ; median field of tergite (2 + 3) fully four times as wide as long and acutely angled laterally ; inner spur of the hind tibia weak, hardly reaching the middle of the hind basitarsus. Philippines *sartamus* sp. n. (p. 100)
- 47 Ovipositor sheath much shorter than the hind tibia.
- Small spp. ca. 2 mm. without ovipositor 48
- Ovipositor sheath at least about three quarters as long as the hind tibia 52
- 48 Stigma pallid with a faintly darker border 49
- Stigma evenly brown.
- Mesoscutum very shiny in spite of its strong punctation ; distance between the

- posterior ocelli distinctly less than the distance between one of them and the eye-margin ; ovipositor sheath about two thirds as long as the hind tibia. Fiji Is.
- daimenes* sp. n. (p. 100)
- 49 Metacarp hardly twice as long as its distance from the apex of the radial cell.
Costula of propodeum absent. Thailand *despectus* sp. n. (p. 103)
- Metacarp at least four times as long as its distance from the apex of the radial cell 50
- 50 Vertex behind the ocelli, and the temples, closely sculptured and dull, the surface sharply contrasting with the polished occiput ; mesoscutum dull, closely, sharply punctate and, seen slightly from in front, appearing silvery owing to close, dense pubescence ; metacarp about four times as long as its distance from the apex of the radial cell. New Guinea *painei* sp. n. (p. 101)
- Vertex and temples more finely sculptured, shiny and not so sharply contrasting with the polished occiput ; mesoscutum much more shiny in spite of its punctation and completely lacking this silvery-grey appearance ; metacarp between five and six times longer than its distance from the apex of the radial cell 51
- 51 Legs, except coxae, virtually entirely yellow ; metacarp about five times as long as its distance from the apex of the radial cell ; ovipositor thick, with abrupt apical attenuation (Text-fig. 83) ; hypopygium evenly sclerotised all over and without lateral creases. Malaya *scultena* sp. n. (p. 101)
- Legs, in addition to the coxae, with at least the hind femur and apical half of the hind tibia deeply infuscate ; metacarp about six times as long as its distance from the apex of the radial cell ; ovipositor less thick and with hardly a trace of such an apical attenuation ; hypopygium membranous at sides and here with longitudinal creases. Fiji Is. *aglaus* sp. n. (p. 66)
- 52 Stigma pallid with a darker border (yellowish in *ater*) 53
- Stigma evenly brown or at most with pale basal spot 84
- 53 Median field of tergite (2 + 3) long, subrectangular, about one and a half times as wide apically as long medially (Text-fig. 80).
Temples very coarsely rugose-punctate ; ovipositor sheath about twice as long as the hind tibia. Java *dictys* sp. n. (p. 90)
- Median field of tergite (2 + 3) never as long as this, at least about twice as wide as long but usually much more transverse 54
- 54 Disc of scutellum with strong punctation at least laterally ; sometimes almost rugose-striate along sides ; strongly narrowed behind and here almost conically raised.
Head coarsely rugose between the posterior ocellus and the eye-margin ; ovipositor sheath about as long as the hind tibia ; costula of the propodeum distinct throughout 55
- Disc of scutellum rarely with as much rugosity as this and then either the costula of the propodeum is absent or ill defined, or the ovipositor sheath is still longer 56
- 55 Hind femur and hind tibia entirely yellow ; cubitellan cell of the hind wing about as long as high ; hairs of the ovipositor sheath all very short and dense ; ovipositor sheath very slightly longer than the hind tibia. Malaya *lanassa* sp. n. (p. 86)
- Hind femur entirely, and the hind tibia at apex, infuscate ; cubitellan cell of the hind wing obviously higher than long ; hairs of the ovipositor sheath longer and more upstanding ; ovipositor sheath as long as the hind tibia. Malaya *goron* sp. n. (p. 89)
- 56 Costula of the propodeum virtually absent 57
- Costula of the propodeum more or less distinctly defined or at least a distinct keel enclosing the spiracle behind 71
- 57 Vertex immediately behind the ocelli with a wide, shallow furrow, which is faintly dull by reason of microscopic, transverse aciculation and which extends longitudinally halfway down the occiput.

- Vertex and temples dull, coarsely rugose-punctate to rugose-reticulate ; tergite 1 not at all narrowed behind. Indo-oriental region . . . *phycodis* Viereck (p. 79)
- Vertex here without such a furrow 58
- 58 Vertex and temples very coarsely rugose-punctate, almost thimble-punctate.
Tergite 1 distinctly to strongly narrowed behind ; hind femur entirely dark ; hind wing broad 59
- Vertex and temples without such coarse sculpture, though the surface may be a little dull and rugulose 61
- 59 Metacarp hardly four times as long as its distance from the apex of the radial cell ; tergite 1 less narrowed behind ; median field of tergite (2 + 3) much less sharply angled laterally, angled at about 45 degrees (Text-fig. 72) ; disc of scutellum highly polished, slightly more narrowed and slightly more conically raised behind ; mesoscutum somewhat shiny in spite of its punctation ; median cell of fore wing very sparsely setose.
Cubitella and mediella of the hind wing unusually widely separated from each other (Text-fig. 76). Indo-oriental region *leptoura* Cameron (p. 88)
- Metacarp at least six times as long as its distance from the apex of the radial cell ; tergite 1 more strongly narrowed behind ; median field of tergite (2 + 3) very sharply angled laterally at about 30 degrees ; disc of scutellum flattened and with vague punctation ; behind, less conically raised and less narrowed ; mesoscutum markedly dull by reason of very dense, coarse punctation 60
- 60 Face coarsely and characteristically rugose-punctate ; ovipositor sheath about one and a half times longer than the hind tibia ; segments 2-5 of the hind tarsus reddish yellow. Philippines *eriphyle* sp. n. (p. 78)
- Face shiny and with only faint traces of punctation but with traces of rugosity towards the antennal sockets ; ovipositor sheath about one and a quarter times longer than the hind tibia ; segments 2-4 of the hind tarsus dark brown and segment 5 yellowish. Philippines *orus* sp. n. (p. 78)
- 61 Edge of vannal lobe virtually not concave ; median field of tergite (2 + 3) distinctly more than half as long as the rest of the tergite.
Costula of the propodeum more or less absent but the three posterior fields showing as highly polished areas ; tergite 1 short, parallel-sided. Philippines *tulis* sp. n. (p. 77)
- Vannal lobe distinctly concave ; median field of tergite (2 + 3) not more than half as long as the rest of the tergite 62
- 62 Head unusually strongly transverse and sharply cut away behind the eyes (Text-fig. 70) ; temples smooth-looking but with vague satin-like sheen.
Ovipositor sheath about one and a half times longer than the hind tibia ; ovipositor itself straight and rather thick. Pakistan *telon* sp. n. (p. 88)
- Head not unusually strongly transverse and not sharply cut away behind the eyes ; temples with distinct though not strong rugose-punctation or fine, even rugosity but in any case without a satin-like sheen 63
- 63 Ovipositor sheath about one and a half times longer than the hind tibia.
Disc of scutellum highly polished 64
- Ovipositor sheath at most about one and one third times longer than the hind tibia 66
- 64 Mesoscutum as long as broad ; tergite 1 virtually parallel-sided ; segments 16-17 of the antenna very distinctly longer than wide.
Face distinctly punctate. Indo-oriental region *araeceri* Wilkinson (p. 76)
- Mesoscutum distinctly transverse ; tergite 1 at least slightly narrowed behind ; segments 16-17 of the antenna not or hardly longer than wide 65
- 65 Thicker spines along the upper part of outer side of hind tibia weaker, less outstanding and not densely crowded ; disc of scutellum somewhat characteristically flattened and widened behind ; tergite 1 markedly narrowed behind (Text-fig. 16), its

- sculpture fine and that within the median hollowed out part on horizontal surface almost scaly-reticulate ; propodeum with fine, dull, even sculpture ; areola hardly defined. India **angaleti** Muesebeck (p. 76)
- Thicker spines along the upper part of outer side of hind tibia strong, sharp, densely crowded ; disc of scutellum narrower behind ; tergite 1 hardly narrowed behind ; propodeum smoother, more shiny. Philippines **nephereus** sp. n. (p. 76)
- 66 Entire head, including a large area immediately behind the ocelli dull and appearing greyish owing to excessively fine pubescence superimposed on a fine rugosity ; mesoscutum completely dull owing to extremely fine, dense, rugose-punctuation ; disc of scutellum flattened and rather wide behind with somewhat coarse, uneven punctuation. Philippines **cebes** sp. n. (p. 80)
- Head of ordinary appearance and shiny black though with distinct rugosity at temples ; mesoscutum not so evenly dull as this ; disc of scutellum polished except for faint trace of sculpture along sides 67
- 67 Tergite 1 hardly narrowed behind, almost parallel-sided ; ovipositor not, or hardly, longer than the hind tibia 68
- Tergite 1 very distinctly narrowed behind (not so much in *murcia*) ; ovipositor sheath at least about one and a quarter times longer than the hind tibia 69
- 68 Ovipositor sheath distinctly longer than the hind tibia ; spines along upper part of outer side of hind tibia more numerous, closer ; distance between the posterior ocelli not greater than the distance between one of them and the eye-margin. India **tachardiae** Cameron (p. 72)
- Ovipositor sheath not longer than the hind tibia ; spines along upper part of outer side of hind tibia sparser, finer, less close ; distance between the posterior ocelli distinctly greater than the distance between one of them and the eye-margin. India **machaeralis** Wilkinson (p. 72)
- 69 Propodeum on each side of the areola polished, smooth, there being no trace of an areola or keel behind the spiracle ; ovipositor sheath about one and a quarter times longer than the hind tibia. India **importunus** Wilkinson (p. 73)
- Propodeum on each side of the areola (this often poorly defined) with rugosity at least in the place normally occupied by the costula ; ovipositor sheath fully one and one third times longer than the hind tibia 70
- 70 Upper part of the convexity of the mesopleurum with more distinctly discrete punctuation on a polished, smooth surface ; face very distinctly but rather finely punctate ; ovipositor very thin ; horizontal part of tergite 1 longer than wide. India **oritias** sp. n. (p. 68)
- Upper part of the convexity of the mesopleurum with coarse rugose-punctuation on a rather dull surface ; face much less distinctly punctate ; ovipositor a little thicker ; horizontal part of tergite 1 slightly transverse. Malaya **murcia** sp. n. (p. 73)
- 71 Temples shiny, almost smooth.
Antenna about as long as the body ; hind wing narrow ; propodeum with complete, sharp areolation ; tergite 1 long, narrow 72
- Temples rugulose and usually dull 73
- 72 Hind tibia and hind tarsus evenly brownish ; spines of the outer side of the hind tibia virtually not differentiated into two types and all of them sparse ; hind spurs rather short, the inner one hardly longer than the outer one ; ovipositor sheath fully as long as the hind tibia ; vannal lobe not concave, its edge with an occasional projecting hair (Text-fig. 15) ; head deep from back to front. Philippines **saravus** sp. n. (p. 81)
- Hind tibia yellowish on more than basal half ; hind basitarsus yellowish at base ; spines of the outer side of the hind tibia differentiated into two types, much denser than in *saravus* ; hind spurs longer, the inner one much longer than the outer one ;

- ovipositor sheath about three quarters as long as the hind tibia ; vannal lobe distinctly concave, without projecting hairs. Philippines *coedicius* sp. n. (p. 46)
- 73 Mesoscutum unusually coarsely rugose, the lines of the notaulices broad and very coarsely punctate-rugose.
Head above with coarse shiny sculpture but the temples without clear punctation ; ovipositor sheath slightly shorter than the hind tibia. China
florus sp. n. (p. 49)
- Mesoscutum showing normal rugosity, the lines of the notaulices not as coarsely rugose as this, or if the sculpture appears to approach the condition found in *florus*, then the ovipositor sheath is much longer (*ortia*) 74
- 74 Ovipositor unusually thick (Text-fig. 56), straight except at apex ; median field of tergite (2 + 3) highly polished, hardly twice as wide as long.
Mesoscutum almost evenly reticulate-punctate ; ovipositor sheath almost one and a half times longer than the hind tibia. Solomons *ortia* sp. n. (p. 81)
- Ovipositor never as straight as this, nor as thick ; if markedly thickened (*clita*), then more or less curved throughout ; median field of tergite (2 + 3) more transverse than this 75
- 75 Tergite I hardly narrowed behind (Text-fig. 42) 76
- Tergite I very distinctly narrowed behind.
Median field of tergite (2 + 3) very short, with sharply angled lateral corners ; hind femur deeply infuscate 79
- 76 Hind femur bright yellow ; hind tibia almost whitish yellow with faint apical infuscation ; median and submedian cells of the fore wing very densely setose, the setae obviously brown ; small sp. ca. 2.4 mm. without ovipositor.
1st abscissa of the radius and the transverse cubitus subequal, rather thick and angled at their junction. Malaya *psenes* sp. n. (p. 80)
- Hind femur blackish throughout ; hind tibia much darker, being infuscate at least on apical half ; median and submedian cells more sparsely setose, the setae on the whole pale to colourless ; larger spp., ca. 2.8 mm. without ovipositor 77
- 77 Entire hind tarsus blackened ; punctation at posterior end of notaulic course very strong and without obvious longitudinal elements
Vertex behind the ocelli rather strongly rugose and with faint traces of transverse aciculation ; metacarp about four times as long as its distance from the apex of the radial cell. Queensland *oenone* sp. n. (p. 69)
- At least segments 2-4 of the hind tarsus yellow ; punctation at posterior end of notaulic course much finer and mixed with longitudinal elements 78
- 78 Apical segment of the hind tarsus reddish yellow ; metacarp about five times as long as its distance from the apex of the radial cell ; tergite I almost smooth, strongly shining ; ovipositor sheath distinctly longer than the hind tibia ; ovipositor very thin. Malaya *contemptus* sp. n. (p. 72)
- Apical segment of the hind tarsus blackened ; metacarp about four times as long as its distance from the apex of the radial cell ; at least the horizontal surface of tergite I quite strongly rugose ; ovipositor sheath not longer than the hind tibia ; ovipositor thicker. India *sauros* sp. n. (p. 70)
- 79 Vertex behind the ocelli with extremely fine, on the whole smooth, transverse aciculation.
Ovipositor considerably thickened (Text-fig. 53) ; ovipositor sheath slightly longer than the hind tibia. India *clita* sp. n. (p. 67)
- Vertex here rugose and with at most faint traces of broken, transverse aciculation and then the ovipositor sheath is very distinctly longer than the hind tibia 80
- 80 Tergite I highly polished, its horizontal surface strongly narrowed to apex and virtually without trace of sculpture.

- Very small sp., ca. 1.8 mm. without ovipositor ; costula of propodeum wanting ; ovipositor sheath not longer than the hind tibia. Sumatra . *schneideri* sp. n. (p. 103)
- Tergite 1 always considerably sculptured.
Larger spp., at least 2.2 mm. without ovipositor. 81
- 81 Antenna shorter, with the preapical segments very tightly articulated and segments 16-17 not longer than wide ; thicker spines of the outer side of the hind tibia short and somewhat blunt.
Vertex behind the ocelli almost smooth ; ovipositor sheath very slightly longer than the hind tibia. Philippines *smerdis* sp. n. (p. 68)
- Antenna longer, with the preapical segments less tightly articulated and segments 16-17 distinctly longer than wide ; thicker spines of the outer side of the hind tibia longer, sharply pointed 82
- 82 Ovipositor sheath very distinctly longer than the hind tibia ; mesoscutum duller ; hind spurs longer and thicker ; temples more strongly sculptured ; areolation of propodeum weak with costula poorly indicated.
Hind tarsus infuscate throughout. India *cerberus* sp. n. (p. 69)
- Ovipositor sheath a little shorter than the hind tibia ; mesoscutum shiny, its sculpture superficial ; hind spurs shorter ; temples less strongly sculptured ; areolation of propodeum somewhat weaker with the costula still more poorly defined 83
- 83 Stigma more or less evenly brownish-yellow ; front tarsus very short, segment 2 being hardly longer than wide ; front tarsal segment 5 with a distinct spine (Text-fig. 20) ; head less transverse ; temples more finely roughened, with dull, satin-like-sheen. Europe *ater* Ratzeburg (p. 74)
- Stigma pellucid ; front tarsus normal, segment 2 being very obviously longer than wide ; front tarsal segment 5 without a spine ; head more transverse ; temples more noticeably roughened. Indo-oriental region *taragamae* Viereck (p. 66)
- 84 Vannal lobe beyond its widest part not in the least concave and with a complete or almost complete fringe of hairs, or at any rate, with a few projecting hairs (except *racilla*) 85
- Vannal lobe beyond its widest part more or less distinctly concave and here without trace of a fringe of hairs or even an occasional projecting hair, except at apex.
The vannal lobe is hardly concave in *adreus* but this species has strongly shortened flagellum 97
- 85 Hind wing narrow, the length of the 2nd abscissa of the mediella about equal to the distance between its distal extremity and the apex of the vannal lobe (Text-fig. 15).
Cubitellan cell of the hind wing very distinctly longer than wide ; wings distinctly brownish ; median cell evenly and densely setose all over 86
- Hind wing broader, the 2nd abscissa of the mediella not longer than the distance between its distal extremity and the apex of the vannal lobe (Text-fig. 19).
Wings hyaline or nearly so ; vannal lobe roundly angled at its widest part ; tergite 1 large, broad, not or hardly narrowed behind, densely, evenly rugose ; disc of scutellum punctate towards sides 95
- 86 Metacarp short, between two and two and a half times longer than its distance from the apex of the radial cell (Text-fig. 31).
Ocelli in a high triangle, the transverse, posterior tangent to the anterior ocellus not touching the posterior pair ; mesoscutum heavily punctate, the punctures less crowded and with shiny interspaces along the middle line ; virtually no trace of longitudinal elements at the posterior end of the notaulic courses. Africa to Australia and the Philippines *argiope* sp. n. (p. 85)
- Metacarp longer, at least three times as long as its distance from the apex of the radial cell 87

- 87 Edge of vannal lobe beyond its widest part with a more or less complete fringe of hairs.
 Face with distinct punctation 88
- Edge of vannal lobe beyond its widest part with at most a few hardly visible, slightly projecting hairs.
 Hind coxa in greater part infusate 89
- 88 Face dull, densely and very obviously punctate ; ocelli in a high triangle, the transverse, posterior tangent to the median ocellus passing far in front of the hind pair ; hind coxa blackish ; punctures densely crowded along the notaulic courses and forming dull bands. China *dryas* sp. n. (p. 85)
- Face shiny and with only a faint punctation ; ocelli in a lower triangle, this tangent almost touching the posterior pair ; hind coxa yellow ; these punctures, though slightly larger than elsewhere on the mesoscutum, much less crowded and not forming dull bands along the notaulic courses. New Hebrides *coretas* sp. n. (p. 85)
- 89 Mesopleurum in the oblique direction sufficiently hollowed out to form a discrete, linear sternaulus 90
- Mesopleurum in the oblique direction merely hollowed out in the manner common to most species.
 Head from above almost subquadrate ; posterior end of the notaulic courses indicated by a zone of shiny striate-punctation ; stigma brownish-yellow. Philippines *saravus* sp. n. (p. 81)
- 90 Mesoscutum shiny with a heavy, discrete punctation.
 Face smooth, shining ; vertex around the ocelli highly polished ; sternaulus showing traces of rugosity towards the wing insertions 91
- Mesoscutum much more densely punctate, duller, the punctures so crowded on anterior half as to render the surface, at first sight, finely rugose.
 Sternaulus much more sharply discrete and rugose more or less throughout 93
- 91 Metacarp between four and five times as long as its distance from the apex of the radial cell 92
- Metacarp fully six times as long as its distance from the apex of the radial cell.
 Eyes large, close together on face ; hind femur and hind tibia reddish yellow ; hind tibia faintly infusate at apex. Borneo *usipetes* sp. n. (p. 81)
- 92 Punctures of mesoscutum unusually large for the size of the insect, hardly more crowded at posterior end of notaulic courses and here tending to fade out ; eyes markedly convergent.
 Hairs of the ovipositor sheath standing out almost at right angles. New Hebrides *stenotelas* sp. n. (p. 82)
- Punctures of mesoscutum smaller and closer but the general surface much as in *stenotelas*, very shiny with the punctures tending to fade out posteriorly ; eyes considerably less convergent.
 Ocelli in a slightly lower triangle, the posterior tangent to the anterior ocellus almost touching the posterior pair. New Hebrides *pisenor* sp. n. (p. 82)
- 93 Antenna as long as the body ; face shining, impunctate ; hind coxa yellowish on apical half. Philippines *elagabalus* sp. n. (p. 84)
- Antenna shorter than the body, face finely punctate ; hind coxa infusate throughout.
 Apical segments of antenna closely articulated, the flagellum decidedly thick 94
- 94 Stigma broad (Text-fig. 63) ; eyes normal ; face paler around the antennal insertions. W. Indies. Africa. Malaya *piceoventris* Muesebeck (p. 82)
- Stigma normal ; eyes considerably narrowed (Text-fig. 60) ; face evenly darkened. British Isles *trachalus* sp. n. (p. 84)
- 95 Propodeum with complete areolation, the costula strongly developed ; vannal lobe beyond its widest part with complete, though extremely short fringe (Text-fig. 19).

- Hind femur yellow except for faint apical infuscation ; hind tibia sharply blackened at tip ; disc of scutellum thickly punctate, the punctures smaller towards sides. Mauritius *agamedes* sp. n. (p. 91)
- Propodeum without complete areolation, the costula not or hardly distinguishable from the surrounding rugae ; vannal lobe beyond its widest part at first sight bare, at most with widely separated, minute, projecting hairs.
Mesoscutum with dull, densely rugose sculpture and without longitudinal elements at the posterior end of the notaulic courses 96
- 96 Hind femur bright yellow but becoming infuscate towards apex above ; ovipositor sheath shorter, nearer to one and one third times longer than the hind tibia ; mesopleurum with a more sharply defined, more extensively rugose sternaulus ; hind tibia with more extensive apical infuscation ; edge of vannal lobe with an occasional projecting hair. Africa *anatole* sp. n. (p. 54)
- Hind femur reddish-yellow with only the merest trace of apical infuscation ; ovipositor sheath longer, nearer to one and half times longer than the hind tibia ; mesopleurum with a less sharply discrete, less rugose sternaulus ; hind tibia infuscate only at extreme apex ; edge of vannal lobe without trace of projecting hairs. Africa *racilla* sp. n. (p. 55)
- 97 Antenna exceptionally short, hardly longer than head plus thorax and with segments 12–17 almost transverse.
Areolation of the propodeum incomplete, the costula wanting 98
- Antenna never as short as this, at least segment 12 being clearly longer than wide 99
- 98 A brownish cloud beneath the stigma ; ovipositor sheath about two thirds as long as the hind tibia ; ovipositor with abrupt apical constriction (Text-fig. 67).
Sumatra *aglaope* sp. n. (p. 61)
- No such cloud beneath the stigma ; ovipositor sheath much longer than the hind tibia ; ovipositor without an obvious apical constriction. Africa
adreus sp. n. (p. 61)
- 99 Ocelli in a high triangle, the transverse, posterior tangent to the anterior ocellus not touching the posterior pair.
Hind wing narrow ; areolation of propodeum incomplete or more or less wanting 100
- Ocelli in a low triangle, the posterior tangent to the anterior ocellus cutting or, at any rate, virtually touching the posterior pair 103
- 100 Propodeum dull, densely rugose all over and without areolation, there being no smoothing of the surface to indicate the posterolateral areas and hardly a trace of an areola ; hind femur yellow ; face dull, sharply punctate.
Tergites (2 + 3)–6 thickly hairy all over. Queensland *aper* sp. n. (p. 62)
- Propodeum much less dull, the postero-lateral areas being more or less indicated by a fading out of sculpture and the areola sharply defined ; hind femur blackish or brownish ; face shiny, impunctate 101
- 101 Tergites (2 + 3)–6 with hairs reduced more to less to a single row ; abscissa 1 of the radius more or less at right angles to the stigma ; mesopleurum without rugose sternaulus ; hind femur virtually black 102
- Tergites (2 + 3)–6 hairy all over ; abscissa 1 of the radius very obliquely placed on the stigma ; mesopleurum with wide, trough-like sternaulus filled with irregular striation ; hind femur brown. Africa *parsodes* sp. n. (p. 60)
- 102 Ovipositor sheath markedly longer than the hind tibia ; cubitellan cell of the hind wing longer, more or less parallel-sided ; antenna longer, segment 14 being about twice as long as wide. Queensland *vala* sp. n. (p. 62)
- Ovipositor sheath hardly as long as the hind tibia ; cubitellan cell of the hind wing shorter, distinctly narrowed apically ; antenna shorter, segment 14 being about one and one third times longer than wide. Queensland *fundulus* sp. n. (p. 64)
- 103 Tergite 1 long, narrow, strongly narrowed distally, its horizontal part at least one

and a half times longer than its middle width (across hump).

Disc of scutellum strongly narrowed behind, its tip subtruncate in profile (cf. text-fig. 9) ; areolation of propodeum strong, complete ; hind femur blackish .

- 104 - If the shape of tergite 1 approaches above description, then either the costula of the propodeum is more or less wanting or the hind femur is yellow 105
- 104 Disc of scutellum varying from confusedly punctate to quite densely striate-punctate ; spiracle of propodeum of normal size, its longer diameter not more than half the length of the fork of the costula enclosing it behind. Indo-oriental region
significans Walker (p. 45)
- Disc of scutellum highly polished ; spiracle of the propodeum large, its longer diameter more than half the length of the fork of the costula enclosing it behind.
Temples strongly rugose-punctate. Java *erse* sp. n. (p. 89)
- 105 Hind femur entirely yellow or at most with apical infuscation 106
- Hind femur blackish or (rarely) reddish-brown III
- 106 Vertex between the ocelli and the eye-margin very strongly punctate, almost thimble-punctate.
Face very sharply punctate 107
- Vertex here with at most feeble punctation, not describable as thimble-punctation . 109
- 107 Tergite 1 virtually not narrowed behind ; a lateral sulcus of the median field of tergite (2 + 3) less than half as long as the apical width of tergite 1.
Ovipositor sheath about one and a half times longer than the hind tibia ; disc of scutellum a little dull and with ill defined punctation, especially towards sides.
Africa *rutilans* sp. n. (p. 55)
- Tergite 1 distinctly narrowed behind ; lateral sulcus of the median field of tergite (2 + 3) at least half as long as the apical width of tergite 1.
Lateral corners of the median field of tergite (2 + 3) sharply angled at about 30 degrees 108
- 108 Hind tibia and hind tarsus entirely yellow ; venation not unusually darkened ; flagellum of ordinary form, not bristly ; antennal segment 15 about one and a half times longer than wide ; flange beneath the hind tarsal segments not deep and not conspicuous. India *rugiceps* Wilkinson (p. 94)
- Hind tibia infuscate at apex and the hind tarsus infuscate more or less throughout ; venation very dark ; flagellum conspicuously bristly ; antenna long, tapering with segment 15 fully twice as long as wide ; flange beneath the hind tarsal segments deep and conspicuous.
Disc of scutellum sharply punctate, except medially. Philippines
townesi sp. n. (p. 79)
- 109 Tergite 1 strongly, abruptly narrowed to apex, shiny and only feebly sculptured ; wings markedly and evenly embrowned ; spines along upper part of outer side of hind tibia short, stubby, very dense (Text-fig. 30).
Ovipositor sheath hardly one and a quarter times longer than the hind tibia.
Java *cocotis* Wilkinson (p. 94)
- Tergite 1 more or less parallel-sided, its horizontal part with considerable rugosity ; wings hyaline or nearly so ; spines here long, finer and not dense 110
- 110 Propodeum with three polished fields, its areolation more or less complete ; horizontal part of tergite 1 with a broad, smooth trough ; wings hyaline with the setae of the median cell colourless. Indo-oriental region . *salutifer* Wilkinson (p. 48)
- Propodeum dull, considerably rugose, lacking these polished fields because the costulae are wanting ; horizontal part of tergite 1 without a median, smooth trough ; wings faintly brownish, the setae of the median cell darkened.
Philippines *chloris* sp. n. (p. 77)
- 111 Tergite 1 not or hardly narrowed behind, more or less quadrate or even slightly widened behind 112

- Tergite 1 obviously narrowed behind 117
- 112 Postero-lateral area of the propodeum bounded laterally by a fine keel that runs almost parallel with the true lateral margin; these two keels enclose a narrow, longitudinal area (Text-fig. 61).
 Antenna short; mesoscutum densely punctate and posteriorly with two large, dull zones of denser sculpture; mesopleurum with deep, rugose-striate sternaulus; tergite 1 large, subquadrate (Text-fig. 59). Cosmopolitan
carpatus Say (p. 75)
- Postero-lateral area of the propodeum without such a keel 113
- 113 Metacarp only a little longer than its distance from the apex of the radial cell; propodeum very smooth-looking and without areolation; at most a weakly indicated areola present; punctuation of the mesoscutum very weak.
 Ovipositor sheath a little shorter than the hind tibia. Australia
ippeus sp. n. (p. 96)
- Metacarp much longer than its distance from the apex of the radial cell; propodeum with costula present even if weak; if not, then surface with coarse rugosity or strong, irregular rugae everywhere; mesoscutum with sharp punctuation; this punctuation sometimes coarse and strong 114
- 114 Temples very sharply thimble-punctate.
 Gaster with dull, satin-like sheen; ovipositor sheath wide, slightly shorter than the hind tibia; tergite 1 short, subquadrate. India. Java *aristaeus* sp. n. (p. 95)
- Temples shining and with at most an obsolescent punctuation 115
- 115 Gaster beyond tergite 1 highly polished; tergites (2 + 3)-6 with hairs reduced virtually to a single row; a weakly rugose-costate groove extends downwards from the dorsal furrow of the mesopleurum into the mesopleural depression 116
- Gaster lacking this polished appearance, having a satin-like sheen; tergites (2 + 3)-6 with hairs scattered more or less all over their surface; no such groove present on mesopleurum.
 Horizontal part of tergite 1 transverse; median field of tergite (2 + 3) from four to five times as wide as long. Africa. Philippines *cyprionides* sp. n. (p. 48)
- 116 Punctures on anterior part of mesopleurum large, subconfluent; 1st abscissa of the discoideus slightly longer than the 2nd; antenna longer, segments 16-17 being slightly longer than wide; stigma wider; metacarp slightly shorter. Australia
persephone sp. n. (p. 65)
- Punctures on anterior part of mesopleurum smaller, sharper and discrete; 1st abscissa of the discoideus very slightly shorter than the 2nd; antenna slightly shorter, segments 16-17 being almost transverse; stigma narrower; metacarp slightly longer (Text-fig. 65). Solomon Is. Fiji Is. *pertiades* sp. n. (p. 64)
- 117 Propodeum with complete areolation or, if the costula is hardly indicated, then the ovipositor sheath is fully as long as the hind tibia. 118
- Propodeum without complete areolation, there being virtually no trace of a costula or, if one is feebly indicated, then the sheath of the ovipositor is distinctly shorter than the hind tibia 120
- 118 Mesoscutum dull, densely, evenly punctate; disc of scutellum with large, shallow, indistinct punctures; antenna longer with segments 16-17 obviously longer than wide; spines on the outer side of the hind tibia sparse and not noticeably reddish. Philippines *assis* sp. n. (p. 96)
- Mesoscutum more shiny, its punctuation less dense; disc of scutellum virtually polished and impunctate; antenna short, thick, with segments 16-17 not longer than wide; spines along upper part of outer side of hind tibia strong, reddish, very dense.
 Stigma unusually broad (Text-fig. 66) 119
- 119 Middle lobe of the mesoscutum very strongly shining, its punctuation along the

- middle line, especially posteriorly, tending to fade out; costula of propodeum strongly developed; median field of tergite (2 + 3) less transverse (Text-fig. 46).
Indo-oriental region *tirathabae* Wilkinson (p. 65)
- Middle lobe of the mesoscutum less shining, densely punctate all over; costula of the propodeum more or less wanting; median field of tergite (2 + 3) more transverse. Cosmopolitan *galleriae* Wilkinson (p. 75)
- 120 The polished black occipital region reaches as far as the posterior ocelli (not even a zone of pubescence behind the ocelli); thicker spines along upper part of outer side of hind tibia short, stubby, deeply reddish.
Hind tibia and hind tarsus virtually black throughout; ovipositor sheath about one and a half times longer than the hind tibia; ovipositor itself very thin.
Philippines *galatea* sp. n. (p. 97)
- The polished or smooth-looking occipital region is separated from the posterior ocelli by a zone of sculpture, sometimes very fine, or at any rate, by a zone of pubescence; thicker spines along upper part of outer side of hind tibia more upstanding, not stubby 121
- 121 Propodeum on each side of the areola polished, and virtually smooth; without rugae in the place normally occupied by the costula 122
- Propodeum on each side of the areola with numerous rugae 123
- 122 Temples and vertex behind the ocelli with sharp punctuation, the punctures immediately adjacent to the impunctate occiput particularly sharp and discrete; occipital region dull with a satin-like sheen; ovipositor sheath hardly one and a quarter times longer than the hind tibia. Ceylon. Philippines *dotus* sp. n. (p. 94)
- Temples finely roughened; vertex behind the ocelli almost as smooth as the occipital region except for fine pubescence; occipital region polished black; ovipositor sheath hardly one and a quarter times longer than the hind tibia.
Africa *sagax* Wilkinson (p. 73)
- 123 Vertex between the ocelli and the eye-margin and also the temples, almost thimble-punctate 124
- Vertex at most finely roughened; temples at most with fine rugosity 125
- 124 Ovipositor sheath about one and a half times longer than the hind tibia; hind tarsus with segments 2–5 reddish yellow. Philippines . . . *eriphyle* sp. n. (p. 78)
- Ovipositor sheath about as long as the hind tibia; hind tarsus deeply infuscate throughout.
Hind wing less broad. Sumatra *tigasis* sp. n. (p. 78)
- 125 Vertex behind the ocelli with fine, transverse aciculation, the width of the aciculate area in the longitudinal direction being about equal to the distance between the posterior ocelli.
Ovipositor unusually thick, its sheath distinctly longer than the hind tibia; costula of the propodeum hardly or not at all indicated. India
. *metagenes* sp. n. (p. 67)
- Vertex behind the ocelli never thus aciculated 126
- 126 Ovipositor sheath nearly one and a half times longer than the hind tibia.
An irregularly costate furrow extends downwards from the area of rugosity beneath the wing insertions into the mesopleural depression 127
- Ovipositor sheath distinctly shorter than the hind tibia.
Small sp., ca. 2 mm.; ovipositor thick with well marked apical constriction.
India *stennos* sp. n. (p. 68)
- 127 Antenna thick with segments 15–17 square in outline; disc of scutellum rather wide and flattened behind; hind tarsus not particularly long and thin. Sumatra
. *ariovistus* sp. n. (p. 97)
- Antenna not at all thick, slightly tapered towards apex and with segments 15–17 distinctly longer than wide; disc of scutellum narrower behind, less flattened

here ; hind tarsus unusually long and thin, about one and half times longer than the hind tibia.

Metacarp slightly shorter than in *arivovistus*. Malaya . . . *solox* sp. n. (p. 97)

Apanteles cavifrons sp. n.

♂ ♀. Hind femur dull brownish red with the hind tibia reddish on basal two thirds but becoming as dark apically as the femur.

♀. Vertex between the posterior ocellus and the eye-margin shining and almost smooth. Eyes fairly strongly convergent, as in *lyridice* (cf. Text-fig. 27). Antenna about as long as the body with segment 17 fully one and one third times longer than wide.

Mesoscutum dull, coarsely punctate ; posterior end of notaulic course virtually without longitudinal elements. Scutellum closely, almost coarsely punctate. Areolation of the propodeum very strong. Setae of the medial cell dense, brown ; metacarp at least six times longer than its distance from the apex of the radial cell, almost closing the radial cell. Hind coxa shiny, almost smooth.

Median field of tergite (2 + 3) angled laterally at about 30 degrees. Ovipositor sheath slightly shorter than the hind tibia.

Length: ca. 3.3 mm. without ovipositor.

PHILIPPINES : Los Baños, 8 ♀♀, one the *TYPE*, 8 ♂♂ ; Luzon, Mt. Makiling, 1 ♀, 1 ♂. (All *Baker*).

Type in the U.S. National Museum.

A most distinct species on account of the structure of the frons ; in no other species of *Apanteles* have I met with such an excavation.

Apanteles opacus (Ashmead)

Urogaster opacus Ashmead, 1905 : 118.

Apanteles opacus (Ashmead) Wilkinson, 1928a : 128.

♀. Tergite (2 + 3) darkened all over (Philippines) but sometimes markedly yellow (Sandakan, India, Buitenzorg, I. of Penang, Japan). Only basal quarter of hind femur yellow in specimens from Philippines ; more than half yellow (India and Japan) and almost entirely yellow in a single female from I. of Penang.

Face shining and only with very superficial punctation.

Mesoscutum rather shiny in spite of its strong punctation ; course of notaulices showing as a coarsely rugose band that posteriorly widens into an area of conspicuous striate-punctation. Disc of scutellum shiny and covered with ill defined pits. Hind wing decidedly narrow ; stigma less elongate than in *cavifrons*.

Hairy part of ovipositor sheath about three quarters as long as the hind tibia.

Length: 3 mm. without ovipositor.

PHILIPPINES : Los Baños ; Luzon, Mt. Makiling & Mt. Limay ; Mindanao, Surigao ; Davao ; Manila. MALAYA : I. of Penang. JAPAN : Kobe. 24 ♀♀. (All coll. *Baker*). INDIA : United Provinces, Dehra Dun, x.1935, 3 ♀♀, bred from *Pachyzancla stultalis* ; Mysore, Bangalore, 1 ♀, bred from *Pericallia ricini*. JAVA : Buitenzorg, 1 ♀, bred from larva on *Amaranthus*.

Type in U.S. National Museum.

Host : *Pachyzancla stultalis* Walker (Pyrilidae) ; *Pericallia ricini* F. (Arctiidae).

In general appearance this species is exactly like *cavifrons*.

***Apanteles mamitus* sp. n.**

♀. Could be confused only with *opacus* to which it is very closely related.

The brown hind femur is pale at extreme base as in the majority of the examples of *opacus* I have examined. The wings are more nearly hyaline with the hind wing clearly broader.

Face much more distinctly punctate than in *opacus*.

Tergite 1 considerably narrower (Text-fig. 28). Sheath of ovipositor shorter, about two thirds as long as the hind tibia.

PHILIPPINES : Angono, Rizal, 11.i.1953, 1 ♀, the *TYPE*, (*M. & D. Townes*) ; Luzon, Mt. Makiling, 1 ♀, (*Baker*) ; Manila, 1 ♀, (*Brown*).

Type in Coll. Townes.

The most obvious character for separating this species from *opacus* seems to be its narrower first tergite.

***Apanteles niceppe* sp. n.**

♀. In general appearance this species is more like *mamitus* than *opacus*, though it is very closely related to both. It may be compared with *opacus* as follows:

Eyes showing the same degree of convergence as in *opacus* and with equally shiny, very weakly punctate face.

Scutellum (Text-fig. 10).

Posterior corners of propodeum showing as more prominent, slightly more widened projections (Text-fig. 13). Hind wing slightly broader.

Tergite 1 narrower, its horizontal surface more noticeably channelled ; the furrow sharply margined, especially anteriorly. Ovipositor sheath fully as long as the hind tibia.

PHILIPPINES : Benaue, Mt. Prov. 1.i.1954, 2 ♀♀, one the *TYPE*, 30.xii.1953, 1 ♀, (*M. & D. Townes*).

Type in Coll. Townes.

This species resembles *mamitus* in colour but differs from it in lacking the rugosity of the temples and in having a much longer ovipositor.

***Apanteles significans* (Walker)**

Microgaster significans Walker, 1860 : 308.

Apanteles significans (Walker) Wilkinson, 1932 : 337. [In key]

♀. Closely related to *opacus* and its allies.

Eyes as convergent below as in *opacus* but the face with more distinct punctuation. Wings glassy hyaline with the setae of the medial cell colourless.

Mesoscutum a little less shining ; posterior end of notaulic courses with less evident longitudinal elements. Disc of scutellum usually strongly striate-punctate, more especially towards sides. Hind wing decidedly broader ; metacarp of fore wing not reaching so close to the apex of the radial cell ; abscissa 1 of the radius much longer than the transverse cubitus and not angled at its junction with this.

Tergite 1 considerably more narrowed behind, its horizontal part longer and with only a very feeble median channel, sometimes hardly indicated.

INDIA. PAKISTAN. CEYLON. MALAYA : Singapore. PHILIPPINES : Los Baños, Luzon, Mindañao.

Type in the British Museum (Nat. Hist.).

Host : *Sylepta derogata* Fab. (Pyraustidae).

Like *opacus* and its close allies, this species has the mesosternum deeply channelled with its lobes convex on each side of the channel.

A. significans bears a strong resemblance to the African *syleptae*, which parasitises the same host. It differs from *syleptae* as follows :— Eyes more distinctly convergent below ; face distinctly punctate ; 1st abscissa of the radius much longer in proportion to the length of the transverse cubitus ; ovipositor sheath a little longer.

Apanteles coedicius sp. n.

♀. May be compared with *opacus* as follows:—

Eyes hardly convergent. Face broad, shiny, almost polished and with only a trace of very superficial punctation. Segment 17 of the antenna about one and half times longer than wide.

Mesoscutum appearing contrastingly dull by comparison with the smooth, shiny top of head ; duller, more evenly and closely punctate than in *opacus*. Disc of scutellum polished and with virtually no trace of punctation. Stigma slightly more elongate than in *opacus* and metacarp reaching even closer to apex of radial cell.

Length: ca. 2 mm. without ovipositor.

PHILIPPINES : Los Baños, 1 ♀, the *TYPE*, (*Baker*).

Type in U.S. National Museum.

The smallest of the species allied to *opacus*. Apart from size and duller mesoscutum, extremely like *opacus*.

Apanteles lyridice sp. n.

♀. Hind femur yellow but darkened above on about apical half ; hind tibia dark brown but paler beneath towards base and with complete pale basal ring ; hind tarsus brown throughout. Tergite (2 + 3) in great part yellow but the median field dark brown with median patch of infuscation adjacent to it posteriorly.

Head deep from back to front, smooth above and with faint satin-like sheen. Eyes strongly convergent (Text-fig. 27). Face smooth and with hardly a trace of punctation. Antenna long with segment 17 about one and half times longer than wide.

Sculpture of mesoscutum and disc of scutellum hardly different from that of *opacus*, less dull than in both *cavifrons* and *crius*. Propodeum with the complete, strongly developed areolation typical of the species grouped around *opacus*. Hind coxa smooth, unsculptured.

Ovipositor sheath about two thirds as long as the hind tibia.

PHILIPPINES : Ilong, Mt. Halcon, 4,500 ft., Mdro. Or., 11.v.1954, 2 ♀♀, one the *TYPE*, 6.v.1954, 1 ♀, (*M. & D. Townes*).

Type in Coll. Townes.

A most distinct species on colour alone.

Apanteles crius sp. n.

♀. In spite of its very short ovipositor and enlarged apical tarsal segment on front and middle legs (Text-fig. 12), this species is closely related to the *opacus* group of species.

The very shiny, smooth-looking hind coxa is yellow beneath on apical half ; the hind femur is infusate except for a yellow base as in *opacus*.

Head from above deeper than in *opacus* and exactly as in *cavifrons*. Eyes slightly more convergent below than in either *opacus* or *cavifrons* but the face shiny and smooth-looking as in *cavifrons*.

Tergite 1 exactly as in *niceppe* (cf. Text-fig. 28).

PHILIPPINES : Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*).

Type in U.S. National Museum.

An aberrant but most distinct species on the characters given in the key.

Apanteles anodaphus sp. n.

♂♀. Legs predominantly dark ; hind femur blackish ; hind basitarsus whitish yellow at base. Gaster yellow at base beneath.

♀. Face shiny but coarsely and indistinctly punctate. Vertex between the ocelli and the eye-margin shiny but distinctly punctate. Flagellum somewhat bristly, weakly tapered to apex, decidedly long and with the preapical segment about one and a half times longer than wide.

Mesoscutum strongly shining, strongly punctate ; punctures almost confluent along the course of the notaulices but more or less discrete behind and here surface without trace of striation. Scutellum strongly shining and with traces of punctation along sides. Areolation of propodeum strong, as in *opacus* and close allies. Anterior half of mesopleurum very shiny, coarsely, confluent punctate. Abscissa 1 of the radius about three times as long as the transverse cubitus ; hind wing rather narrow.

Tergite 1 about two and a half times longer than wide, parallel-sided, its horizontal surface striate-rugose and with narrow, medial channel that, in front, narrows to a very strongly raised keel. Enclosed area of tergite 2 about three times as wide apically as long ; its basal width twice as long as a lateral sulcus.

♂. Like female except that enclosed area of tergite 2 is a little less transverse.

N. GUINEA : Papua, Kokodana, 1200 ft., iv.1933, 1 ♀, the *TYPE*, viii, 1 ♂, ix, 4 ♂♂, (*L. E. Cheesman*).

Type in the British Museum (Nat. Hist.).

Clearly allied to *opacus* and its relatives, this species is distinct on account of its dark wings and shiny, heavily punctate mesoscutum.

Apanteles cypris sp. n.

♀. Differs essentially from *opacus* in having tergite 1 shorter, wider and not or hardly narrowed behind ; the median field of tergite (2 + 3) is, in consequence, more transverse (Text-fig. 39).

Disc of scutellum distinctly punctate but the punctures more obvious on anterior half.

Tergite 1 with a distinct longitudinal channel, margined along each side. Ovipositor sheath about three quarters as long as the hind tibia.

PHILIPPINES : Manila, 11 ♀♀, one the *TYPE*, (*R. Brown*) ; Luzon, Mt. Makiling, 4 ♀♀ ; Los Baños, 2 ♀♀ ; Mt. Banahao, 1 ♀, (*All Baker*). MALAYA : Singapore, 2 ♀♀, (*Baker*).

Type in the U.S. National Museum.

Characterized by the shape of the first tergite and the strongly curved ovipositor (cf. following species).

Apanteles cyprionides sp. n.

♀. Extremely close to *cypris* and perhaps not really distinct from it. It differs chiefly from *cypris* in the shape of the first tergite and in this one respect is less close to *opacus* than is *cypris*.

Disc of scutellum smooth, polished with no trace of punctuation. Surface of mesoscutum decidedly more shiny.

Tergite 1 shorter than in *cypris* and slightly more quadrate, its surface smooth and with hardly a trace of a longitudinal channel. The ovipositor is strongly curved just as in *cypris*.

PHILIPPINES : Los Baños, 3 ♀♀, one the *TYPE*, (*Baker*) ; Luzon, Mt. Makiling, 2 ♀♀ ; Manila, 2 ♀♀ ; Mindanao, Iligan, 1 ♀. MALAYA : Singapore, 5 ♀♀, (All *Baker*). S. AFRICA : Port St. John, Pondoland, 5-30.iv.1925, 1 ♀, (*R. E. Turner*).

Type in U.S. National Museum.

I can find no difference between the single female from S. Africa and the oriental series that would justify specific separation. In the African specimen, however, tergite 1 is slightly shorter and slightly more widened apically. The ovipositor shows the same characteristic curvature as occurs in the oriental forms.

Apanteles diocles sp. n.

♀. Hind tibia paler yellow than the hind femur, infuscate at extreme apex.

Head above shiny, polished ; only very faint rugosity at temples. Face shiny, with satin-like sheen. Eyes virtually not convergent. Antenna as long as the body with segment 17 about two and a half times longer than wide.

Mesoscutum closely punctate and shiny between the punctures ; the general surface of the mesoscutum appears shiny rather than dull. Disc of the scutellum almost smooth and with feeble punctuation along sides. Areolation of propodeum sharp and well developed ; the three posterior areas highly polished and almost smooth. Hind coxa smooth except for traces of punctuation along upper edge. Setae of the fore wing faintly brownish ; metacarp fully six times as long as its distance from the apex of the radial cell.

Tergite 1 distinctly narrowed behind. Median field of tergite (2 + 3) smooth, shining, slightly longer in proportion to the rest of the tergite than in *opacus* and its close allies (Text-fig. 75), angled laterally at about 45 degrees.

INDIA : United Provinces, Dehra Dun, 31.vii.1934, 1 ♀, the *TYPE*, ex *Sylepta lunalis*, (*S. N. Chatterjee*). SUMATRA : Fort de Kock, 920 m., 1925, 1 ♀, (*Jacobson*).

PHILIPPINES : Los Baños, 2 ♀♀, (*Baker*).

Type in British Museum (Nat. Hist.).

Host : *Sylepta lunalis* Guenée. (Pyraustidae).

The specimen from Sumatra has the hind coxa yellowish towards apical third and the hind femur darkened above towards apex and the hind tibia more extensively blackened at tip than in typical examples.

This species is essentially characterized by the shortness of the apical segment of the hind leg in relation to segment 4.

Apanteles salutifer Wilkinson

Apanteles salutifer Wilkinson, 1931a : 77.

♀. Hind tibia yellow almost throughout, with hardly a trace of apical infuscation ; hind tarsal segment 1 yellowish on fully basal half.

Face somewhat wide, very distinctly punctate, especially towards the antennal sockets. Eyes hardly convergent. Occiput and temples quite strongly rugose though the sculpture almost fades out between the posterior ocellus and the eye-margin. Antenna as long as the body.

Mesoscutum on each side of the middle line, strongly shining between its rather large, sharp punctures; a large area at the posterior end of the notaulic course striate-punctate. Disc of scutellum highly shining and with traces of large, but very ill defined punctures that towards sides become mixed with longitudinal rugosity. Sculpture of mesopleurum consisting of punctuation rather than simple rugosity. Costula of propodeum usually broken and ill defined. Metacarp a little shorter in proportion to its distance from the apex of the radial cell than in *diocles*.

Tergite 1 and (2 + 3) (Text-fig. 74); horizontal part of tergite 1 with fairly distinct, polished, medial trough.

SIAM. BURMA. CHINA.

Type in British Museum (Nat. Hist.).

The series from China has the hind wing very slightly less wide than the two series from Siam and Burma and the ovipositor slightly shorter. In spite of these differences I think that only one species is present.

A. salutifer is largely characterized by the colour of its hind femora, combined with the shape of tergite 1 and the long ovipositor.

Apanteles dores sp. n.

♀. Related to both *diocles* and *salutifer* and in many respects intermediate between those two species.

Hind tibia, like the hind femur, reddish yellow, but tipped with infuscation; slightly more than basal half of hind tarsus 1, reddish yellow. Scape reddish yellow except for darkened apical rim.

Head above more rugose than in *salutifer* and much more rugose than in *diocles*. Width of face and its punctuation as in *salutifer*.

Surface of mesoscutum dull by comparison with that of *diocles* and *salutifer*; punctuation similar to that of *salutifer* with dull interspaces. Disc of scutellum with stronger punctuation than in *salutifer* and more conically narrowed behind. Mesopleurum coarsely rugose with punctures clearly in evidence only at extreme posterior limit of sculptured zone. Propodeum distinctly longer than in *diocles*, hardly longer than in *salutifer*; costula weak but distinct; three posterior areas highly polished. Metacarp very long, fully six times as long as its distance from the apex of the radial cell.

Tergite 1 with large, smooth areas and polished medial trough. Median field of tergite (2 + 3) as in *diocles*.

BORNEO: Sandakan, 1 ♀, the *TYPE*, (*Baker*).

Type in U.S. National Museum.

This species is largely characterized by the dullness of the mesoscutal sculpture.

Apanteles florus sp. n.

♀. Hind femur yellowish brown; hind tibia still paler with faint apical infuscation.

Frons and vertex with coarse, glistening rugosity; sculpture of temples finer but without trace of punctuation. Face strongly shining, smooth. Eyes not at all convergent. Antenna as long as the body; more apical segments rather loosely articulated, the preapical segment fully one and a half times longer than wide; flagellum somewhat bristly.

Propodeum rather long (Text-fig. 52) ; its areolation on the whole sharp, distinct, the three fields strongly shining and smooth-looking. Anterior part of mesopleurum with coarse rugosity. Median cell with long, sparse setae ; stigma pale medially but not strikingly pellucid ; hind wing rather broad.

Tergite 1 hardly narrowed behind, its horizontal part with broad, ill defined, almost smooth trough ; elsewhere with vague, coarse, shiny striation. Ovipositor sheath very slightly shorter than the hind tibia ; ovipositor rather thick (Text-fig. 50).

Length: 2.5 mm. without ovipositor.

CHINA : Canton, 15 ♀♀, one the *TYPE*, 2 ♂♂, (*W. E. Hoffman*).

Type in British Museum (Nat. Hist.).

Characterized essentially by the coarse sculpture of the top of the head and of the mesoscutum. In all other respects the species is extremely like *salutifer* to which it is naturally related.

Apanteles abdera sp. n.

♀. Hind coxa and hind femur entirely dark ; hind tibia darkened on rather more than apical half ; hind tarsus infusate throughout ; hind trochanter yellow.

Head rather deep from back to front ; temples with only very feeble rugosity ; vertex between the posterior ocellus and eye-margin smooth except for satin-like sheen. Face smooth, shining, with hardly a trace of punctation. Antenna as long as the body ; segment 17 about one and one third times longer than wide ; flagellum slightly thickened towards apex.

Mesoscutum densely punctate ; the punctures, on the whole, large and sharply defined, with the usual crowding along the course of the notaulices ; at posterior end of nataulic course, the surface is rather finely striate-punctate. Disc of scutellum smooth, shining, virtually unsculptured. Areolation of propodeum strong, complete. Hind coxa markedly rugose on outer face. Metacarp hardly more than four times as long as its distance from the apex of the radial cell ; hind wing narrow.

Ovipositor sheath slightly shorter than the hind tibia ; seen from above, its hairs long and upstanding.

Length: ca. 2.6 mm. without ovipositor.

AFRICA : Cape Province, Mossel Bay, ix.1924, *TYPE* ♀, (*R. E. Turner*), 52 other females from Mossel Bay. Three females (Natal, Transkei, Umtata ; Pondoland, Port St. John) agree with the Mossel Bay material except that the median field of tergite (2 + 3) is slightly less transverse in the Port St. John specimens.

Type in the British Museum (Nat. Hist.).

Apanteles metellus sp. n.

♀. Closely related to *abdera* and like that species having outer side of hind coxa considerably rugose. May be compared with *abdera* as follows:—

Eyes markedly convergent (Text-fig. 24).

Apart from having the legs much more brightly coloured, the antennal scape is also in greater part yellowish.

Mesoscutum duller, its punctation finer, especially on each side of the middle line. Disc of scutellum with distinct traces of punctation, especially along sides. Wings glassy clear ; abscissa 1 of the radius less obliquely placed on the stigma and slightly longer in proportion to the length of the first transverse cubitus.

Hairy part of ovipositor sheath hardly more than two thirds as long as the hind tibia.

S. AFRICA : Cape Province, Mossel Bay, vi.1921, *TYPE* ♀, (*R. E. Turner*) ; Somerset East (2 out of 3 examples have the hind coxa almost entirely yellow) ; Natal, Van Reenen and Weenen ; Orange Free State, Harrismith ; Basutoland, Mamathes. (Thirty-three examples from the above localities but most from Mossel Bay). Tanganyika ; Mt. Meru, 6,500 ft., 1 ♀, Ngong, 1 ♀.

Type in the British Museum (Nat. Hist.).

A single female (S. W. Africa, Okahandja) has the hind femur darkened on apical two thirds. One female out of four from Port St. John has the apical infuscation of the hind femur extending as a dark flush over nearly apical half but more weakly below.

Apanteles menes sp. n.

♀. Another species with eyes as convergent below as in *metellus*. The two species are strikingly alike.

The face is very slightly roughened whereas in *metellus* it is completely smooth.

Abscissa 1 of the radius is slightly shorter in proportion to the length of the 1st transverse cubitus than in *metellus* and the junction of these two veins is more distinctly angled ; in this respect, *menes* is more like *abdera* than *metellus*.

S. AFRICA : Pondoland, Port St. John, 5-30.iv.1923, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

Apanteles agrus sp. n.

♀. Another species with convergent eyes. These are more convergent than in *metellus* but the face is equally smooth.

The appearance of the mesoscutum and scutellar disc is virtually indistinguishable from that of *metellus*. Rugosity of mesopleurum changing to fine striation posteriorly ; this change is hardly indicated in *metellus*. Metacarp very long, almost closing the radial cell.

S. AFRICA : Cape Province, Mossel Bay, xii.1921, 1 ♀, (*R.E. Turner*) ; Pondoland ; Port St. John, v.1924, 1 ♀, the *TYPE*, (*R.E.T.*).

Type in the British Museum (Nat. Hist.).

The essential characters of this species are the short, thick, strongly curved ovipositor and the very short ovipositor sheath.

Apanteles agatillus sp. n.

♀. Very closely related to *metellus* and its close allies. Apart from having the hind coxa entirely yellow and smooth, it differs from *metellus* as follows:—

Scape entirely dark. Apart from the median field, the whole of tergite (2 + 3) is bright yellow in the type.

Eyes very slightly less convergent and the face distinctly roughened.

Scutellar disc smooth, polished. Metacarp a little longer. Tergite 1 narrower and less coarsely sculptured. Median field of tergite (2 + 3) shiny, almost polished. Ovipositor sheath slightly longer.

S. AFRICA : Pondoland, Port St. John, 5-30.iv.1923, 2 ♀♀, one the *TYPE*, (R.E. Turner).

Type in the British Museum (Nat. Hist.).

Apanteles meriones sp. n.

♀. Another species closely related to *metellus* and its allies and because of its entirely yellow, smooth, hind coxa closest to *agatillus*.

Scape yellow except for darker apical rim.

Eyes as convergent below as in *metellus* and *agatillus* but face smooth. Antenna broken but segment 15 about one and half times longer than wide; flagellum with somewhat bristly pubescence, as in *agatillus*; in *metellus*, this pubescence is closer, more adpressed.

Disc of scutellum smooth, polished, somewhat convex, as in *agatillus*. Propodeum with numerous strong rugae but the costula virtually not defined. Metacarp slightly longer than in *metellus*.

Tergite 1 and median field of tergite (2 + 3), (Text-fig. 36). Ovipositor sheath about three quarters as long as the hind tibia, that is, longer than in both *metellus* and *agatillus*.

S. AFRICA : Natal; Kloof, 1,500 ft., viii.1926, 1 ♀, the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

Apanteles acoris sp. n.

♀. Scale pale to yellowish.

Eyes convergent as in *metellus*. Face distinctly roughened. Antenna as long as the body with the pubescence of the flagellum rather long, and somewhat bristly; the flagellum is slightly thicker than in *metellus*.

Disc of scutellum more convex than in *metellus*; strongly shining and more or less smooth; exactly as in *agatillus* and *meriones*. Propodeum with strong, very well defined areolation.

Tergite 1 not so densely rugose as in *metellus* but with a fairly well defined, broad, shallow furrow on its horizontal part.

S. AFRICA : Cape Province, Katberg, 4,000 ft., xii.1932, 2 ♀♀, one the *TYPE*, x.1932, 1 ♀, (R. E. Turner).

Type in British Museum (Nat. Hist.).

On account of the entirely yellow hind coxa this species could be confused only with *meriones* and *agatillus*. Of these two it more closely resembles *agatillus* and indeed may not really be distinct from that species. The only difference of value seems to be the more transverse median field of *acoris* and its slightly longer ovipositor sheath.

Apanteles arsanes sp. n.

♀. A species chiefly characterized by the very short ovipositor sheath.

Scape black. Hind tibia becoming gradually infuscate on about apical third on outer side but more abruptly darkened on inner side.

Eyes as convergent as in *metellus* (cf. Text-fig. 24). Face faintly roughened. Head more transverse than in *metellus* and its close allies but the space between the posterior ocelli and the eye-margin equally smooth and shiny. Antenna as long as the body with the preapical segment about one and half times longer than wide.

Mesoscutum rather dull and altogether with finer sculpture than in *metellus*. Disc of scutellum somewhat dull and superficially punctate-rugose. The blackened hind coxa is markedly roughened on outer side; hind spurs strong, with the inner one almost twice as long as the outer one.

Tergite 1 hardly narrowed behind. Median field of tergite (2 + 3) about four times as wide as long.

Length: ca. 2.8 mm. without ovipositor.

AFRICA: Kenya, Kiambu, 2 ♀♀, one the *TYPE*, 2 ♂♂, bred 20.xii.1930, from *Odites artigena* (R. H. Le Pelley); Ruiri, Komassie Est., 3 ♀♀, 4 ♂♂, v.1957, (*D. I. McCrae*).

Type in British Museum (Nat. Hist.).

Host: *Odites artigena* Meyrick (Xylorictidae).

Apanteles nycon sp. n.

♀. Legs on the whole dark; hind coxa, hind and middle femur, deeply infusate; hind tibia becoming dull reddish yellow on basal half.

Eyes very strongly convergent below, more so than in *metellus* (cf. Text-fig. 24). Face somewhat dull, with superficial punctation. Antenna almost as long as the body, rather thin and with the preapical segment about one and one third times longer than wide. Frons and vertex between the posterior ocellus and the eye-margin almost polished.

Mesoscutum dull, coarsely punctate-rugose. Middle field of side of pronotum dull, scaly-reticulate. Posterior part of mesopleurum almost everywhere with very fine aciculation. Metacarp rather short, about three and a half times as long as its distance from the apex of the radial cell.

Tergite 1 slightly widened behind, coarsely, densely rugose. Median field of tergite (2 + 3) about three times as wide as long. Ovipositor sheath almost as long as the hind tibia.

Length: 3 mm. without ovipositor.

S. AFRICA: Cape Province, George, 15—17.xi.1921, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

A very distinctive species, characterized by the heavily punctate disc of the scutellum combined with the obliquely placed first abscissa of the radius. Closest to *antilla* from which it differs in having convergent eyes.

Apanteles inaron sp. n.

♀. Having convergent eyes, this species may be compared with *nycon*, from which it differs as follows:—

Legs darker, the whole of the hind leg deeply infusate except that the hind tibia is pale at extreme base.

Frons and vertex dull, finely rugose, the space between the posterior ocellus and the eye-margin not at all shining. Face smooth. Eyes slightly less convergent and not impressed on each side of clypeus at lowest point of eye (rather a feature of *nycon*). Antenna slightly thinner with the preapical segment about one and a half times longer than wide.

Mesoscutum more finely, densely sculptured, the notaulic bands so much widened, that on posterior half of mesoscutum they unite to form a very large, characteristically dull area. Propodeum densely rugose but the areolation tending to lack definition and the costula

sometimes hardly indicated. Metacarp longer than in *nycon*.

Ovipositor sheath as long as the hind tibia.

S. AFRICA : Cape Province, Somerset East, 1-26.i.1921, 1 ♀, the *TYPE*, x & xi. 1930, 2 ♀♀ ; Pondoland, Port St. John, x & xii, 2 ♀♀, (all *R. E. Turner*).

Type in British Museum (Nat. Hist.).

Apanteles antilla sp. n.

♀. Closely resembles *nycon* in the sculpture of the mesoscutum and of the disc of the scutellum. It differs from *nycon* in not having convergent eyes and may be further compared with that species as follows:—

As in *nycon*, the frons and that part of the vertex between the posterior ocellus and the eye-margin are smooth, shining. Ocelli smaller and in a higher triangle, the posterior transverse tangent to the anterior ocellus passing clearly in front of the posterior ocelli. Although the antenna is broken, the fourteen existing segments indicate clearly that it is longer and thinner than in *nycon*.

Disc of scutellum closely punctate-reticulate. Both fore and hind wing narrower, decidedly brownish, median cell of fore wing densely setose ; 1st abscissa of the radius hardly longer than the transverse cubitus, the two veins strongly angled at their junction ; metacarp slightly longer than in *nycon*, the radial cell itself being longer and more narrow.

Tergite 1 dull, densely rugose all over, without indication of a longitudinal depression on its horizontal part.

S. AFRICA : Cape Province, Swellendam, xi. 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in British Museum (Nat. Hist.).

This species has the hind leg long and thin ; the hind tarsus appears particularly thin, partly because, in profile, the keel beneath the segments is hardly visible.

Apanteles anatole sp. n.

♀. A species with short first abscissa of radius and because of this, together with the dull, strongly rugose mesoscutum in whose sculpture no longitudinal elements occur at posterior end of notaulic course, probably more closely related to *nycon*, *inaron* and *antilla* than to the species clustering around *metellus*. It differs from the first three mentioned species in having a much longer ovipositor.

Hind femur in greater part yellow, with infuscation at apex above (Somerset East) or infuscate all over upper surface (Milnerton).

Eyes hardly convergent below (Text-fig. 23). Face with superficial punctation. Frons and vertex faintly dull ; space between posterior ocellus and eye-margin faintly roughened and with a satin-like sheen. Antenna about as long as the body with the preapical segment fully one and one third times longer than wide.

Mesoscutum dull, densely rugose-punctate ; notaulic courses broadening behind to form two large, still duller patches that virtually unite. Propodeum thickly covered with rugae but the costula not defined. Hind coxa extremely finely roughened on outer side with a satin-like sheen ; above with close rugose-punctation. Wings hyaline ; vannal lobe not in the least concave beyond its widest part and here with an occasional projecting hair.

Tergite 1 rather short and broad, much more like that of *inaron* than that of *nycon* and *antilla* (Text-fig. 33) ; its horizontal part with an ill defined longitudinal furrow.

S. AFRICA : Cape Province, Somerset East, x.1930, 4 ♀♀, one the *TYPE*, (*R. E. Turner*) ; Milnerton, 14-28.xii.1925, 2 ♀♀, (*R.E.T.*).

Type in the British Museum (Nat. Hist.).

On shape of basal tergites and absence of complete propodeal areolation most closely related to *inaron* but differing strikingly from that species by having non-convergent eyes. In *inaron*, the vannal lobe beyond its widest part is almost as straight as in *anatole* but the wing edge here never shows the occasional projecting hair as does *anatole*. This difference should be accepted with caution. The rugose sternaulus is an important secondary character for recognising *anatole*.

Apanteles racilla sp. n.

♀. Hind femur bright reddish yellow with the faintest touch of infuscation at apex above ; hind tibia reddish yellow but tipped with infuscation.

Eyes not noticeably convergent below. Face with superficial but fairly distinct punctation. Frons with some fine rugosity (fine aciculation encircling scrobes) ; space between posterior ocellus and eye-margin almost smooth.

Sculpture of mesoscutum much as in *anatole* but more clearly punctate with faint indication of longitudinal elements at posterior end of notaulic course. Disc of scutellum flat, weakly punctate but the punctures closer towards sides. Propodeum densely covered with rugae but the costula not clearly defined. Wings glass-clear ; setae of median and submedian cells sparse, colourless and widely absent along medius side of cells. Hind coxa dull with satin-like sheen and fine punctures along upper edge.

Tergite 1 large, subquadrate (Text-fig. 29). Median field of tergite (2 + 3) very strongly transverse and only about one quarter as long as the rest of the tergite beyond it.

S. AFRICA : Cape Province, Matjesfontein, 14-27.xi.1928, 1 ♀, the TYPE, 1-18. xii.1928, 1 ♀, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

Largely characterized by the shape of the median field of tergite (2 + 3) ; this field is more transverse than in any other African species known to me. Among the oriental species, both *cypris* and *cyprioides* have the basal tergites showing an approach to the shape occurring in *racilla* but both these species have a distinctly concave vannal lobe, complete propodeal areolation and much shorter ovipositor. Their relationship with *racilla* is probably not very close.

Apanteles rutilans sp. n.

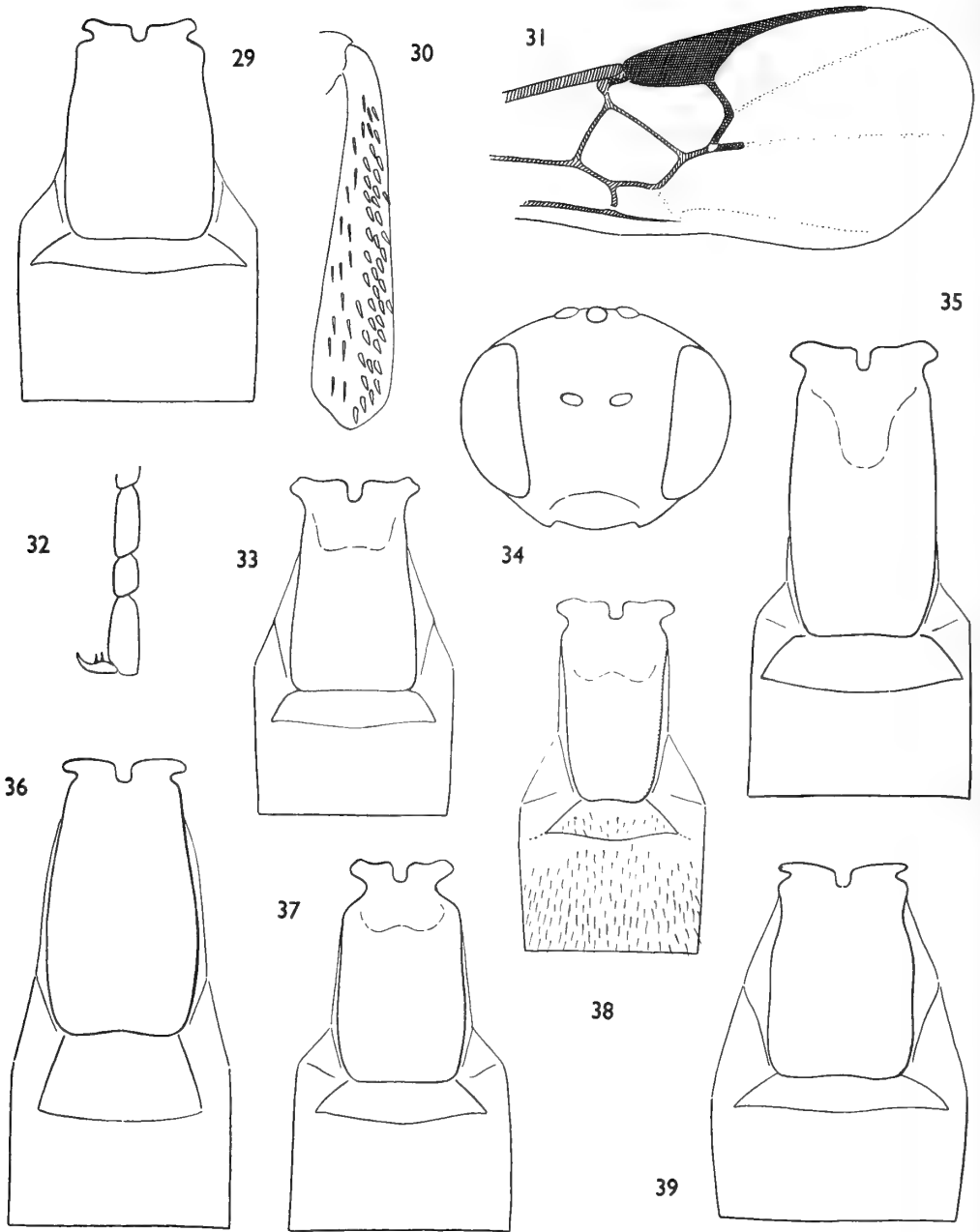
♀. Here is a species with legs coloured as in *racilla* except that the hind tibia is rather more extensively infuscated at tip.

Eyes not convergent. Face dull, conspicuously punctate, almost rugose-punctate. The thimble-punctation of the vertex and temples is very strong and in sharp contrast with the semi-circular dorsal intrusion of the faintly dull, but smooth occiput. The antennal scrobes are sharply separated from the dull, punctate frons by being abruptly deeper and filled with shiny, concentric aciculation.

Disc of scutellum faintly dull and indistinctly punctate, the punctures larger towards front and sides. Mesopleurum with distinct, rugose sternaulus. Hind coxa dull, with satin-like sheen ; its outer, upper face densely punctate. Setae of the fore wing darkened.

Tergite 1 and (2 + 3), (Text-fig. 37).

E. AFRICA : Naivasha, vii.1936, 1 ♀, the TYPE, (*H. J. A. Turner*).



FIGS. 29-39. *Apanteles*, ♀: 29, *racilla* sp. n., basal tergites; 30, *cocotis* Wilkinson, hind tibia; 31, *argiope* sp. n., fore wing; 32, *phycodis* Viereck, apical three segments of hind tarsus; 33, *anatole* sp. n., basal tergites; 34, *stenotelas* sp. n., head, from in front; 35, *isander* sp. n., basal tergites; 36, *meriones* sp. n., same; 37, *rutilans* sp. n., same; 38, *argiope* sp. n., same; 39, *cypris* sp. n., same.

Type in British Museum (Nat. Hist.).

Different from all the other African species on sculpture of head alone and not closely related to any of the oriental species.

***Apanteles mycerinus* sp. n.**

♀. Legs, on the whole, rather bright yellow, but the hind coxa, hind femur and apical half of hind tibia deeply infusate.

Eyes virtually not convergent. Face smooth and more or less polished. Vertex between the posterior ocellus and the eye-margin smooth, with faint satin-like sheen. Temples with only faint rugosity. Antenna slightly shorter than the body; segment 17 about one and one third times longer than wide.

Sculpture of mesoscutum predominantly one of punctation with indication of longitudinal elements at posterior end of notaulic course; surface moderately shiny but general sculpture not at all characteristic. Sternaulus wanting. Outer side of hind tibia with band of thick, close spines along upper edge. Wings faintly brownish; 1st abscissa of the radius and the transverse cubitus hardly angled at their junction.

Tergite 1 anteriorly with a sculpture of rather weak striate-punctation.

S. AFRICA: Pondoland, Port St. John, 5-30.iv.1923, 2 ♀♀, one the *TYPE*, xi.1923, 1 ♀, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

This species could be confused only with the following species, *novatus* sp.n.

***Apanteles novatus* sp. n.**

♀. Closely related to *mycerinus* with which it may be compared as follows:—

Antenna as long as the body, thicker, but with the preapical segment relatively shorter, nearer to one and one quarter times longer than wide.

Mesoscutum with slightly less close punctation and the surface between the punctures considerably more shiny; between the notaulic courses, behind, there is a narrow, polished, wedge-shaped area, absent in *mycerinus*. Sculpture of anterior part of mesopleurum becoming simple, discrete punctation posteriorly. Sternum smooth, polished; in *mycerinus* it is faintly dull. Wings slightly darker; abscissa 1 of the radius more obliquely placed on the stigma (Text-fig. 25); 1st abscissa of radius and the transverse cubitus more distinctly angled at their junction; metacarp very slightly longer.

S. AFRICA: Pondoland, Port St. John, 16-28.iv.1924, 2 ♀♀, one the *TYPE*, ix.1923, 1 ♀, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

***Apanteles sosis* sp. n.**

♀. On the shape of the basal tergites, related to *novatus* and *mycerinus* but differing from both these species in having the eyes distinctly convergent below, the disc of the scutellum heavily punctate-rugose and the hind femur blackish throughout.

Frons and vertex markedly roughened but shiny; scrobes with fine concentric aciculation. Antenna as long as the body and like that of *novatus*.

Mesoscutum somewhat dull, closely punctate-rugose and without longitudinal elements at posterior end of notaulic course. First abscissa of radius placed at right angles to stigma and

slightly longer in proportion to the length of the transverse cubitus than in *mycerinus* and *novatus*.

The median field of tergite (2 + 3) is less transverse than in either of the above two species and is not more than twice as long as wide. The shape and general appearance of tergite 1 is exactly like that of *mycerinus*.

S. AFRICA : Pondoland, Port St. John, 1-9.vii.1923, 1 ♀, the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

Apanteles hemara sp. n.

♀. A species characterized essentially by its strongly sculptured hind coxa and the densely rugose sculpture of the mesoscutum and of the disc of the scutellum.

The pale parts of the legs are, on the whole, bright yellowish.

Face distinctly roughened. The median field of tergite (2 + 3) is as rugose as tergite 1 (Text-fig. 47). Ovipositor sheath a little longer than the hind tibia.

INDIA : United Provinces, Dehra Dun, 3-6.vii.1928, 4 ♀♀, one the *TYPE*, 1 ♂ ex *Hymenia fascialis* (S. N. Chatterjee) : Dehra Dun, series from *Pachyzancla stultalis*. AFRICA : Senegal, ex lepidopterous larva on *Coleus nardus* ; Pondoland, Port St. John ; Natal, Weenen ; Mauritius. AUSTRALIA : F.C.T., Molonglor. EUROPE : Italy.

Type in the British Museum (Nat. Hist.).

Host : *Hymenia fascialis* Stoll (*recurvalis* F. =) (Pyralidae). *Pachyzancla stultalis* Walker (Pyralidae).

Having such a wide distribution, this species must surely have been already described. I have, however, been unable to find an existing name for it.

Apanteles faustina sp. n.

♀. Hind femur entirely infuscate ; hind tibia becoming infuscate after middle, passing from yellow at base through reddish yellow to deep infuscation.

Eyes hardly convergent below. Face smooth, with faint satin-like sheen. Vertex between the posterior ocellus and the eye-margin almost polished. Antenna a little shorter than the body, thin, with the preapical segment about one and one third times longer than wide.

Mesoscutum and disc of scutellum slightly less densely sculptured and hence a little less dull than in *hemara*. The posterior part of the mesopleurum is finely, rather vaguely aciculate. Hind wing considerably broader than in *hemara*.

Shape and sculpture of basal tergites as in *hemara* (cf. Text-fig. 47). Ovipositor sheath about one and a quarter times longer than the hind tibia.

MAURITIUS : Réduit, 9.iv.1945, 1 ♀, the *TYPE*, 12.vi.1945, 1 ♀, both bred from *Nacoleia praeteritalis*.

Type in the British Museum (Nat. Hist.).

Host : *Nacoleia praeteritalis* Walker (Pyraustidae).

Clearly belongs to the *metellus* complex of species and needs to be carefully distinguished from *syleptae* Ferrière.

Apanteles syleptae Ferrière

Apanteles syleptae Ferrière, 1925, in Vayssière & Mimeur : 261.

Apanteles syleptae Ferrière ; Wilkinson, 1932 : 318.

♀. This is a species with glass-clear wings and the venation proximal to the areolet colourless with the setae of the median cell equally colourless. Having a rather broad hind wing it comes close to *faustina*, from which it differs chiefly in having a shorter ovipositor.

Face smooth, polished, with satin-like sheen, as in *faustina*.

Mesoscutum and disc of scutellum as in *faustina*. Hind coxa shiny but with rugosity and some striation on outer side but lacking the satin-like sheen of *faustina* (this difference may be of little value).

AFRICA : Tanganyika ; Kenya ; Gold Coast ; Nigeria.

Type in the British Museum (Nat. Hist.).

Host : *Sylepta derogata* Fab. (Pyraustidae).

Having a certain amount of fine striation at posterior end of the notaulic courses, this species is different from *hemara*, from which species it otherwise differs by the same characters as separate *faustina* from *hemara*.

Apanteles isander sp. n.

♀. A rather large, (ca. 3.3 mm. without ovipositor), dark-legged species with entirely blackish gaster.

Eyes not convergent below. Face smooth but dull owing to a rather intense, satin-like sheen. Vertex between the posterior ocellus and the eye-margin faintly dull and rugulose. Scrobes with fine concentric aciculation. The head is more transverse than in *metellus* and its close allies. Antenna rather short with the preapical segment hardly longer than wide.

Mesoscutum dull, densely, rather finely punctate. Notaulic course showing as a dull band that posteriorly widens but does not show longitudinal elements. Rugosity of mesopleurum changing to fine aciculation posteriorly ; this aciculation covers most of what is normally a polished surface. Propodeum with strongly delimited, almost polished areola but without distinct costula. Spines along upper part of outer side of hind tibia short and stubby and sharply differentiated from the finer spines adjacent to them.

Tergite 1 dull, finely, densely and on the whole very evenly rugose ; median field of tergite (2 + 3) strongly transverse (Text-fig. 35).

S. AFRICA : Cape Province, Mossel Bay, x.1921, 8 ♀♀, one the TYPE, (R. E. Turner), 7-14.xi.1921, 2 ♀♀, (R.E.T.).

Type in the British Museum (Nat. Hist.).

Apanteles raesus sp. n.

♀. A smaller, more delicately built species than *isander* from which it differs by little more than the characters given in the key.

Frons and vertex more finely sculptured, almost smooth and polished except for satin-like sheen. Scrobes with hardly a trace of aciculation. Antenna thinner ; characteristically thin with the preapical segment nearer to one and half times longer than wide.

Mesoscutum less dull, the punctate element of its sculpture much more in evidence. Propodeum with fewer raised rugae but the costula distinct. Wings narrower ; medial cell of the fore wing very densely and finely setose. Thicker spines on outer side of hind tibia sparser but longer and more pointed.

Tergite 1 relatively smaller, more finely sculptured and slightly more shiny.
Length: ca. 2.8 mm. without ovipositor.

S. AFRICA : Cape Province, Katberg, 19-26.ii.1933, 1 ♀, the *TYPE*, Matjesfontein, 7-13.xi.1928, 2 ♀♀ ; Mossel Bay, 15-iii-20.iv.1932, 1 ♀, (all *R. E. Turner*) ; Basutoland, Mamathes, 27.iv.1947, 1 ♀, (*C. Jacot-Guillarmod*).

Type in the British Museum (Nat. Hist.).

The hind spurs of this rather poorly characterized species are somewhat short, the inner one not reaching the middle of the basal tarsal segment. The pubescence of the flagellum is extremely short and gives the flagellum a faintly greyish appearance.

Apanteles parsodes sp. n.

♀. Front and middle femur pale brown ; hind femur darker.

Eyes not convergent. Face highly polished. Frons and vertex more or less smooth, faintly dull and with a satin-like sheen. Ocelli rather large ; a hind ocellus distant from the eye-margin by hardly twice its own diameter. Antenna about as long as the body, with segment 17 hardly longer than wide.

Mesoscutum showing the usual punctate sculpture but the surface decidedly shiny and the punctuation somewhat blurred. Disc of scutellum convex, smooth, polished, somewhat wide behind in comparison with the *metellus* complex of species and not at all truncate here ; suture between mesoscutum and disc of scutellum somewhat shallow and finely foveate. Hind coxa polished and virtually smooth. Metacarp about nine times as long as its distance from the apex of the radial cell, almost closing the radial cell ; edge of vannal lobe virtually straight. Spines along upper edge of hind tibia numerous, sharply pointed ; hind spurs rather short, the inner one not quite reaching middle of basal tarsal segment.

Tergite 1 fairly strongly narrowed from where it turns over to apex, dull and extremely finely, evenly rugose. Ovipositor sheath slightly longer than the hind tibia.

S. AFRICA : Cape Province, Mossel Bay, vi-vii.1930, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

Distinctive among African species on account of the high ocellar triangle. The obliquely placed first abscissa of the radius in combination with the long metacarp, shape and sculpture of tergite 1, probably largely characterize this species. It has little in common with the *metellus* complex of species, differing from it in not having the disc of the scutellum so strongly narrowed behind.

Apanteles chalcomelas sp. n.

♀. In spite of the scutellar disc which is wide and flattened behind, I regard this species as a typical member of the *metellus* complex though remarkably distinct on account of its short, tapering flagellum with its bristly pubescence in combination with the weakly transverse median field of tergite (2 + 3).

Hind tibia sharply yellow on rather more than basal half.

Head deep from back to front. Frons and vertex smooth, polished, except for faint satin-like sheen. Eyes not convergent.

Mesoscutum strongly shining, especially along middle on posterior half where the punctures tend to fade out ; very distinct striation at posterior end of notaulic course. Propodeum with

more or less complete areolation. Sculpture of anterior part of mesopleurum changing to clear punctation behind.

Ovipositor sheath about two thirds as long as the hind tibia.

S. AFRICA : Pondoland, Port St. John, 16-28.iv.1924, 1 ♀, the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

On the shape of the basal tergites and appearance of the mesoscutum and disc of scutellum, this species is probably fairly closely related to *mycerinus* but there is no likelihood of confusing it with that species.

Apanteles adreus sp. n.

♀. Probably fairly closely related to *parsodes* but abundantly distinct from that species as well as from all others I include in this synopsis. May be compared with *parsodes* as follows:—

The legs have the same obscure yellowish brown appearance.

Frons and vertex smooth as in *parsodes* but lacking a satin-like sheen. Ocelli smaller, the distance between a posterior ocellus and the eye-margin being fully two and a half times longer than the diameter of the ocellus. Flagellum thick, its pubescence upstanding but dense and hardly bristly.

Disc of the scutellum decidedly flat, highly polished. Propodeum with very incomplete areolation; the areola itself defined only below; no trace of a costula. Anterior part of mesopleurum shiny and feebly rugose-punctate; sternaulus less sharply discrete, represented by a smooth, broad, oval furrow which above shows some rugose-striation. Venation less dark, the wings more glassy; stigma a little broader and the metacarp shorter, above five times as long as its distance from the apex of the radial cell; 1st abscissa of the radius placed almost at right angles to the stigma. Spines along upper edge of outer side of hind tibia finer, less conspicuous and virtually absent on posterior half.

Tergite 1 a little wider than in *parsodes*, its horizontal surface shorter but the sculpture essentially similar. Ovipositor sheath about one and one third times longer than the hind tibia, clothed with long upstanding hairs (Text-fig. 17).

S. AFRICA : Cape Province, Mossel Bay, vi.1921, 1 ♀, the *TYPE*, x.1921, 1 ♀, i.1922, 1 ♀, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

A most distinct species on account of the structure of the flagellum. Perhaps related to the Sumatran *aglaope* though abundantly distinct from that species. Not at all closely related to *chalcomelas* in spite of having curiously short, thickened antennae like that species.

Apanteles aglaope sp. n.

♀. Legs brownish; hind tibia becoming dingy yellowish on basal half. Wings faintly brownish in addition to the sub-stigmal cloud.

Eyes large but not convergent; face hence rather small, much smaller than in *adreus*. Antenna hardly distinguishable from that of *adreus*. Ocelli in a low triangle, the transverse posterior tangent to the anterior ocellus touching or even slightly cutting the posterior pair.

Disc of scutellum somewhat convex, shiny, strongly narrowed behind and obscurely punctate towards sides. Posterior, polished part of mesopleurum without delimited sternaulus. Edge of vannal lobe distinctly concave.

Basal tergites and ovipositor (Text-figs. 64 and 67).

♂. The wings without a brown stain behind the stigma ; altogether paler but the stigma remains dark brown.

SUMATRA : Fort de Kock, iv.1921, 10 ♀♀, one the *TYPE*, 3 ♂♂, (*Jacobson*).

Type in the British Museum (Nat. Hist.).

Evidently a gregarious parasite, having emerged from white, papery cocoons, loosely heaped together.

This species is largely characterized by the short, thick ovipositor with its apical constriction.

Apanteles aper sp. n.

♀. A species with the ocelli in a high triangle and in general appearance not at all typical of the *ater*-group largely because the intricately rugose propodeum shows nothing of the areolate pattern normally present or at least indicated.

Hind tibia, like hind femur, rich yellow throughout.

Head rather large. Scrobes shiny and with aciculation. Face with a dense, conspicuous punctation. Space between a posterior ocellus and the eye-margin shiny and virtually smooth. Antennae broken but 14 segments present in one antenna ; flagellum thin with rather long, upstanding pubescence ; antennal segment 14 fully twice as long as wide.

Mesoscutum somewhat shiny, its punctation sharp, distinct ; a distinct striate-punctate area at posterior end of notaulic course. Disc of scutellum rather strongly narrowed behind ; polished but with a few large punctures towards sides. Median cell of the fore wing densely setose ; abscissa 1 of the radius rather obliquely placed on the stigma and not at all longer than the transverse cubitus ; metacarp about five times as long as its distance from the apex of the radial cell. Hind coxa smooth except for a small area of close punctation above at base.

Tergite 1 rather broad, shiny and rugose all over. Ovipositor sheath about three quarters as long as the hind tibia.

AUSTRALIA : S.E. Queensland, Tambourine Mts., 18-25.v.1935, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

Apanteles vala sp. n.

♀. Paler parts of the legs obscurely yellowish.

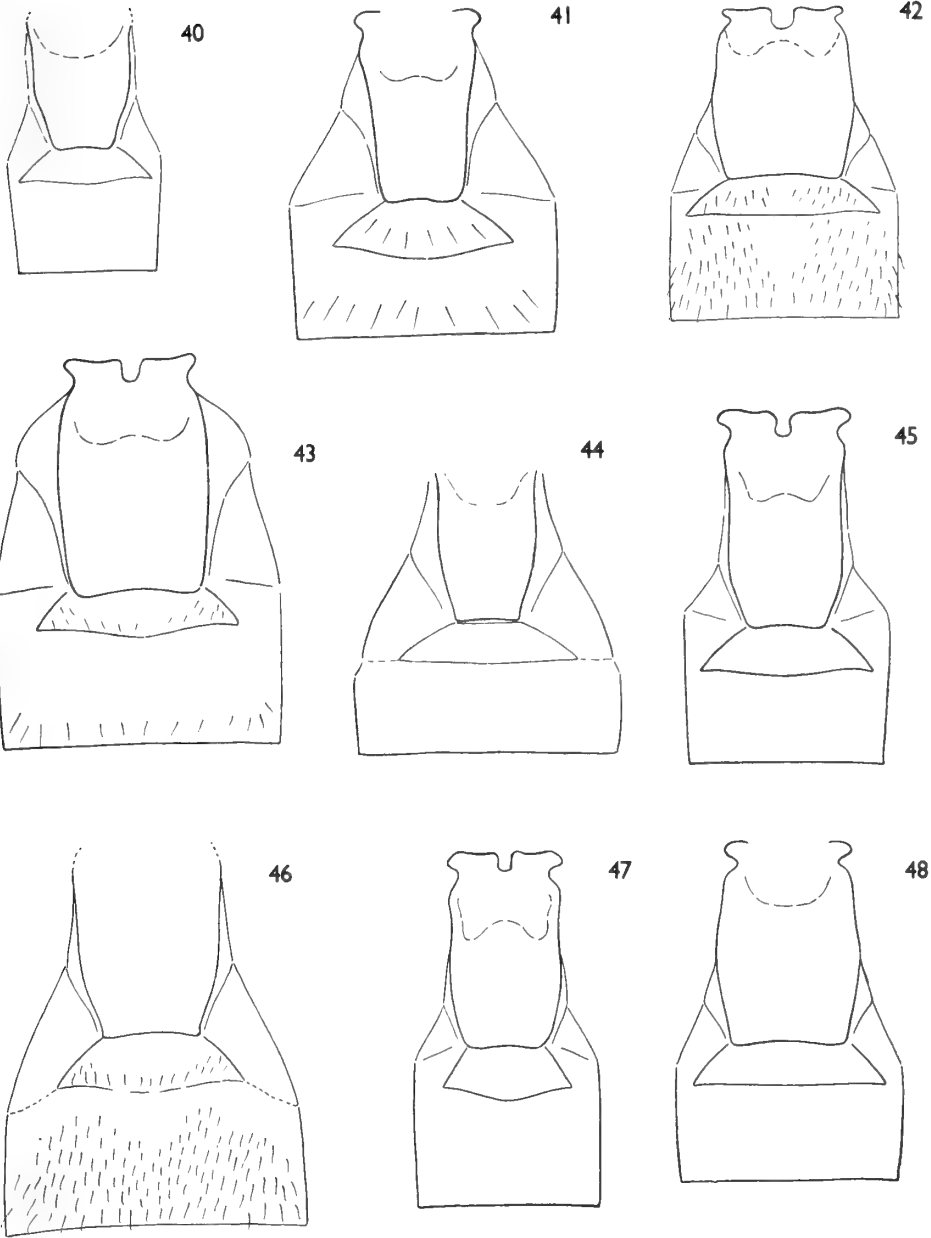
Eyes not convergent. Face smooth, shiny. Antenna slightly longer than the body ; flagellum thin with the preapical segment about one and a half times longer than wide.

Lateral lobe of mesoscutum on outer side of broad, densely rugose notaulic band showing, at least on posterior half of mesoscutum, as a polished strip with a few large, scattered punctures ; no conspicuous striate element at posterior end of notaulic course. Disc of scutellum highly polished, weakly convex and with a few, hardly noticeable punctures at each anterior corner. Three posterior surfaces of propodeum indicated by surface being highly polished and almost smooth. An area of fine striate-rugosity extends downwards obliquely into the smooth, posterior depression of the mesopleurum from the dorsal groove of the mesopleurum. Median cell of the fore wing with brown, rather sparse setae that tend to be widely absent along the medius side of the cell. Inner spur of the hind tibia rather long and distinctly reaching beyond the middle of the basal tarsal segment.

Tergite 1 and median field of tergite (2 + 3), (Text-fig. 41).

Length: ca. 2.7 mm. without ovipositor.

AUSTRALIA : S.E. Queensland, Tambourine Mts., 11-17.v.1935, 1 ♀, the *TYPE*, (*R. E. Turner*).



FIGS. 40-48. Basal tergites of *Apanteles*, ♀: 40, *sagax* Wilkinson; 41, *vala* sp. n.; 42, *psenes* sp. n.; 43, *pertiades* sp. n.; 44, *cocotis* Wilkinson; 45, *ater* (Ratzeburg); 46, *tirathabae* Wilkinson; 47, *hemara* sp. n.; 48, *oenone* sp. n.

Type in the British Museum (Nat. Hist.).

It is difficult to say what is characteristic about this species since I know of no other with which it could be readily confused. The narrow cubitellan cell of the hind wing is probably characteristic of a group of species but it certainly helps to distinguish *vala* from the species included in this synopsis.

Apanteles fundulus sp. n.

♀. Apart from the characters given in the key, this species differs at once from *vala* in the shape and sculpture of the 1st tergite; this is very weakly sculptured, almost smooth-looking and with a discrete oval trough on its horizontal part; and more narrowed behind than in *vala* (cf. Text-fig. 41); tergite 1 is almost coarsely rugose in *vala* and has no median trough.

Paler parts of the legs less obscurely yellowish; hind tibia with only very weak apical infuscation.

Eyes not convergent. Face highly polished. Preapical segment of the antenna about one and one third times longer than wide.

Lateral lobe of the mesoscutum showing a narrow, polished zone as in *vala*. Propodeum duller because of more raised rugosities; costula faintly indicated. Anterior part of mesopleurum strongly shining, and indistinctly punctate. Inner spur of the hind tibia shorter than in *vala*, hardly reaching middle of basal tarsal segment.

Length: 2 mm. without ovipositor, a smaller species than *vala*.

AUSTRALIA: S.E. Queensland, Tambourine Mts., 1-9.v.1935, 2 ♀♀, one the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

Both this species and *vala* are essentially characterized by the reduction of the gastral setae to a single row on the tergites. A similar reduction occurs in two other species known to me, namely *pertiades* (Solomons and Fiji) and *persephone* (W. Australia), both of which come in a different part of the key because of having the ocelli in a lower triangle. It is probable that these four species belong to the same species-complex.

Apanteles pertiades sp. n.

♀. A dark-legged species with highly polished gaster. Hind femur entirely dark brown; hind tibia dark brown but pallid on basal quarter; hind tarsus infuscate throughout.

Eyes not convergent. Face strongly shining and with only indistinct, superficial punctation. Temples shiny and with superficial rugulosity. Antenna rather thick, slightly shorter than the body; segments 16-17 square in outline.

Mesoscutum strongly shining, its punctation sharp and, on the whole, discrete; almost no longitudinal elements mixed with the large punctures at posterior end of notaulic course. Scutellar disc highly polished, somewhat broad and flattened behind. Anterior part of mesopleurum very shiny, sharply, discretely punctate. Setae of the median cell long, sparse, widely absent along median side of cell. Outer side of the hind coxa polished, smooth. Hind spurs rather short, the inner one hardly reaching middle of basal tarsal segment.

Tergite 1 shiny, coarsely rugose (Text-fig. 43). Ovipositor sheath as long as the hind tibia; seen from above, clothed with long, upstanding hairs (Text-fig. 62); ovipositor rather thick.

SOLOMONS: 7 ♀♀, one the *TYPE*, 2 ♂♂, ex *Tirathaba rufivena* (R. A. Lever).
N. GUINEA: Port Moresby, 1 ♀, 1 ♂, ex *Tirathaba rufivena* (T. H. C. Taylor).

Type in the British Museum (Nat. Hist.).

Host : *Tirathaba rufivena* Walker (Galleriidae).

Important for the recognition of this species is the sculpture of the mesopleurum. It is closely related to *persephone*. Also related to *pertiades* on most characters is *tirathabae*, a species which differs from *pertiades*, however, in having tergite 1 strongly narrowed behind and the setae of the gaster much more numerous.

Apanteles persephone sp. n.

♀. Apart from the differences given in the key, differs from *pertiades* as follows:—

Antenna thinner, slightly shorter in proportion to the length of the body. Sculpture of temples slightly stronger and the frons with a slightly clearer indication of weak punctation.

Punctures of mesoscutum unusually large but the interspaces shiny as in *pertiades*. Hind tibia becoming gradually infuscate towards middle but the infuscation less intense than in *pertiades*; reddish rather than dark brown.

Ovipositor sheath very slightly longer; ovipositor thinner.

W. AUSTRALIA : Yanchep, 3–19.xii.1935, 1 ♀, the TYPE, (R. E. Turner); Dongarra, 11–28.x.1935, 1 ♀, (R.E.T.).

Type in the British Museum (Nat. Hist.).

This species is essentially characterized by the unusually coarse punctation of mesoscutum and mesopleurum.

Apanteles tirathabae Wilkinson

Apanteles tirathabae Wilkinson, 1928b : 202.

♀. Closely related to *pertiades* and differing from it as follows:—

Legs paler, more reddish; hind femur brownish rather than blackish; hind tibia becoming infuscate after about middle.

Mesoscutum more shiny, its punctation finer and tending to become finer, almost obsolescent on posterior half of middle lobe; posterior end of notaulic course with a small zone of striate-punctation. No clearly discrete line of sculpture extending downwards from the dorsal groove of the mesopleurum into the smooth, oblique depression. Areolation of propodeum stronger, the three posterior areas shiny and almost polished. Inner spur of the hind tibia slightly longer in relation to the outer one and reaching virtually the middle of the basal tarsal segment; spines along upper part of outer side of hind tibia thicker, denser, more numerous and altogether more conspicuous than in *pertiades*.

Tergite 1, by comparison with that of *pertiades*, strongly narrowed to apex (Text-fig. 46). Tergites (2 + 3)–6 more or less setose all over. Ovipositor sheath slightly longer.

MALAYA : Sepang, type locality (recorded as probably parasitic on *Tirathaba rufivena*). JAVA : long series in B.M. (N.H.) from *Tirathaba mundella*. FIJI : (no host data).

Type in the British Museum (Nat. Hist.).

Host : *Tirathaba rufivena* Walker, *Tirathaba mundella* Walker (Galleriidae).

Needs to be carefully distinguished from *pertiades* but certainly distinct from that species. Also closely related to *galleriae*.

Apanteles aglaus sp. n.

♀. In spite of having a pallid stigma, this species is, I think, fairly closely related to *pertiades*, having like that species tergite 1 not at all narrowed behind, the anterior part of the mesopleurum with sharp, discrete punctation and a line of rugosity extending downwards into the posterior depression of the mesopleurum from the subalar groove.

Eyes not at all convergent. Face smooth, impunctate and with a satin-like sheen. Vertex between the posterior ocellus and the eye-margin with distinct rugose-punctation. Temples quite strongly rugose-punctate. Antenna broken but evidently rather thin, with segment 13 almost twice as long as wide.

Mesoscutum weakly shiny and with a very fine punctation which is weaker on the middle lobe, leaving the surface here slightly more shiny. Disc of scutellum smooth, polished. Wings glass clear; median cell very sparsely setose. Propodeum having a rugose appearance; areolation not well defined; costula distinct but not sharply defined owing to surrounding rugosities. Outer side of hind coxa smooth, with satin-like sheen; hind tibia rather sharply reddish yellow on rather more than basal half; hind spurs reddish yellow, short, the inner one hardly reaching to middle of hind basal segment.

Tergite 1 almost parallel-sided, dull, rugose. Tergites (2 + 3)–6 with setae reduced almost to a single row on each tergite. Ovipositor sheath about two thirds as long as the hind tibia.

Length: ca. 2.5 mm. without ovipositor.

FIJI: Suva, 19.ii.1941, 1 ♀, the TYPE, (R. A. Lever).

Type in the British Museum (Nat. Hist.).

A poorly characterized species. Probably important for its recognition is the punctate anterior part of the mesopleurum in combination with the short ovipositor.

Apanteles taragamae Viereck

Apanteles (Apanteles) taragamae Viereck, 1912: 140.

Apanteles (Apanteles) plusiae Viereck, 1913: 557. [Syn. due to Gahan].

Apanteles homonae Rohwer, 1922: 53. [Syn. due to Gahan].

Apanteles taragamae Viereck; Wilkinson, 1928a: 132.

♀. Hind femur uniformly infusate. Stigma pallid with a darker border.

Eyes not convergent. Face strongly shining, superficially impunctate. Vertex between the posterior ocellus and the eye-margin dull and finely rugose; immediately behind the ocelli there is the merest trace of transverse aciculation. Antenna rather short; segments 14–17 hardly longer than wide, somewhat loosely articulated, decidedly shiny and clothed with rather bristly pubescence.

Mesoscutum shiny, its punctation fine and somewhat blurred; posterior end of notaulic course very distinctly striate-punctate. Disc of scutellum highly polished, not particularly strongly narrowed behind and not conically raised here. Anterior part of mesopleurum shiny, with a coarse but very indistinct, confused punctation. Costula of the propodeum and its forks usually more or less clearly defined; the fields of the propodeum on the whole shiny and polished in spite of scattered rugosities. Hind spurs weak with the inner hardly reaching the middle of the basal tarsal segment. Metacarp rather short, about four times as long as its distance from the apex of the radial cell.

Tergite 1 always narrowed behind though the degree of narrowing is subject to considerable variation. Ovipositor sheath distinctly a little shorter than the hind tibia; ovipositor not unusually thick.

Length: ca. 2.8 mm. without ovipositor.

CEYLON. CHINA. INDIA. SIAM. JAVA. NEW GUINEA. PHILIPPINES.

Type in the U.S. National Museum.

Host : *Diacrisia obliqua* Walker (Arctiidae) (India). *Eucosma critica* (Eucosmidae) Meyrick, (India). *Cirphis unipunctata* Haworth (Phalaenidae) (Siam). *Margaronia indica* Saunders (Pyraustidae) (Ceylon & New Guinea). A gregarious parasite, making white, papery cocoons, loosely heaped together.

In well preserved specimens, the apical antenna segments have a characteristic shiny, bristly appearance. If these segments are collapsed, they appear longer and due allowance must be made for this.

A. taragamae can be taken as the typical representative of a complex of indo-oriental species that closely resemble one another. These species are, in fact, some of the most typical members of the *ater*-group, *taragamae* itself being very like the palearctic *ater*. As a complex, they are far removed from the predominantly African *metellus*-complex though they grade into it through a number of transitional species.

Apanteles clita sp. n.

♀. Extremely like *taragamae*, differing from it chiefly in having fine, but distinct transverse aciculation behind the ocelli, a slightly narrower hind wing and the ovipositor considerably thicker (Text-fig. 53). Other differences are as follows:—

Apical segments of the antenna very slightly more elongate and lacking the shiny, bristly appearance of *taragamae*. Metacarp a little longer, nearer to six times as long as its distance from the apex of the radial cell. Costula of the propodeum less distinct; postero-lateral areas with more raised rugosities and hence less outstanding; propodeum altogether a little longer than in *taragamae*.

Tergite I relatively longer and narrower.

Size as in *taragamae*.

INDIA : Pusa, Bihar, viii.1935, 8 ♀♀, one the TYPE, ex *Sylepta lunalis*; 15.ix. 1919, 8 ♀♀, 1 ♂, ex *Bocchoris artificialis*; United Provinces, Dehra Dun, series ex larva defoliating *Vitis vinifera*.

Type in the British Museum (Nat. Hist.).

Host : *Sylepta lunalis* Guenée (Pyrilidae); *Bocchoris artificialis* Lederer (Pyrilidae).

A gregarious species, spinning an elongate, tightly woven mass of cocoons, covered with silk.

Apanteles metagenes sp. n.

♀. This species is extremely like *clita*, having fine aciculation behind the ocelli, an ovipositor sheath of similar length and a thickened ovipositor. It differs from *taragamae* by the same characters as separate *clita* from *taragamae*.

The wings of *metagenes* are faintly darkened and the stigma is more or less evenly brown; the venation is pigmented (hardly so in *clita*) and the setae dark and easy to see. The ovipositor is even thicker than in *clita* and is a characteristic feature of the species (cf. Text-fig. 53). Costula of the propodeum wanting.

INDIA : Madras, Nilambur, vii–viii., large series including the TYPE, ♀, bred from Pyralid larva defoliating *Leea*.

Type in the British Museum (Nat. Hist.).

Gregarious, making an elongate mass of cocoons, enveloping host larva. Perhaps only a variety of *clita*.

Apanteles oritias sp. n.

Another species belonging to the *taragamae*-complex and differing from the species so far included in this complex only on a combination of very few characters.

♀. It may be compared with *taragamae* as follows:—

Face very distinctly, finely, closely punctate. Antenna a little shorter, with the apical segments more tightly articulated, lacking the shiny appearance of *taragamae* and with only normal, indistinct pubescence. No aciculation behind the ocelli.

Disc of scutellum slightly more flattened behind. Propodeum densely, rather evenly rugose, without trace of costula and with very poorly defined areola. Wings exactly as in *taragamae*. Mesopleurum with a slightly more distinct punctation in front.

Ovipositor sheath distinctly longer than the hind tibia. Ovipositor thin (Text-fig. 51).

Length: 2.5 mm. without ovipositor.

INDIA : United Provinces, Dehra Dun, Lachiwala, 5.vii.1937, 2 ♀♀, one the *TYPE*, 1 ♂, labelled "ex *Ficus* fruits", (*G. D. Bhasin*). CHINA : Changhing, 2 ♀♀, 2 ♂♂; these Chinese specimens have the hind tibia pale only at extreme base, whereas in the type series the basal half of the hind tibia is yellowish.

Type in the British Museum (Nat. Hist.).

Apanteles stenos sp. n.

Another species related to *taragamae* and its allies but differing from all of them in having a shorter ovipositor sheath with a short, thick ovipositor, constricted at apex (Text-fig. 84).

♀. May be compared with *taragamae* as follows:—

Antenna shorter, thinner with segments 16–17 distinctly a little longer than wide. Vertex behind the ocelli almost smooth. Mesoscutum behind showing as a zone of large, contiguous punctures among which there are no longitudinal elements. Stigma of fore wing entirely dark. Tergite 1 a little narrower than in *taragamae* and smoother.

Length: 2 mm. without ovipositor, smaller than any of the species so far mentioned as being related to *taragamae*.

INDIA : United Provinces, Dehra Dun, 6 ♀♀, one the *TYPE*, bred 28.iv.1937, from *Hysipyla robusta* in sack-bands on *Cedrella toona*. INDO-CHINA ; Phnompenh, ii.1951, 1 ♀, (*R. Paulian*).

Type in the British Museum (Nat. Hist.).

Host : *Hysipyla robusta* Moore (Phycitidae).

In the type-series, the costula of the propodeum is sometimes absent, sometimes present. It is absent in the female from Indo-China.

Apanteles smerdis sp. n.

♀. Extremely like *taragamae* with which it may be compared as follows:—

Hind tarsus deeply infusate throughout.

Vertex immediately behind the ocelli shiny, with a few rugulosities but no trace of aciculation.

Temples more strongly rugose. Antenna more obviously shorter than the body with the apical segments very closely articulated ; segments 16-17 hardly longer than wide ; pubescence of flagellum extremely fine and quite inconspicuous.

Mesoscutum with a stronger, more even punctation. Disc of scutellum more narrowed behind and almost conically raised here. Costula of propodeum wanting. Thicker spines along upper part of outer side of hind tibia shorter and blunter. Metacarp a little longer in proportion to its distance from the apex of the radial cell.

Tergite 1 more sharply narrowed behind. Median field of tergite (2 + 3) unusually small. Ovipositor sheath fully as long as the hind tibia ; ovipositor slightly thinner than in *taragamae*. Length: 2.5 mm. without ovipositor.

PHILIPPINES : Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*).
Type in the U.S. National Museum.

Apanteles cerberus sp. n.

A large, more heavily built and more strongly sculptured species than *taragamae* and transitional between the *taragamae*-complex of species and the oriental species of the *metellus*-complex as represented by *opacus*.

♀. Hind coxa, hind trochanter, and hind femur entirely dark ; hind tibia almost blackish on apical half but becoming rather bright yellowish on basal half ; hind tarsus infusate, except base of segment 1.

Eyes not convergent. Face shiny but with coarse, indistinct rugose-punctation towards sides. Frons and vertex with some sort of rugosity everywhere ; behind the ocelli there are distinct traces of transverse aciculation. Antenna hardly shorter than the body ; rather thick, segment 17 being about one and a quarter times longer than wide.

Mesoscutum somewhat dull, densely punctate ; notaulic course showing as a dull, rugose band with hardly a trace of longitudinal elements at its posterior end. Disc of scutellum rather strongly narrowed behind, polished, weakly convex and with a few punctures towards sides and front. Areolation of propodeum complete. Anterior part of mesopleurum coarsely rugose ; towards posterior depression the surface shows simple punctation and some striation. Setae of the median cell colourless ; metacarp about four and a half times as long as its distance from the apex of the radial cell ; hind wing broad, the 2nd abscissa of the mediella distinctly shorter than the distance between its distal extremity and the apex of the vannal lobe.

Tergite 1 showing the same degree of apical narrowing as in *taragamae*. Ovipositor sheath about one and a quarter times longer than the hind tibia.

Length: 2.8 mm. without ovipositor.

INDIA : S. Coorg, Tithimatti, 30.x.1942, 2 ♀♀, one the *TYPE*, bred from *Hapalia ochracialis*, defoliating *Embelia robusta*.

Type in the British Museum (Nat. Hist.).

Host : *Hapalia ochracialis* Walker (Pyraustidae).

This species differs from *metagenes* in having a thinner ovipositor and pellucid stigma and from *oritias* in having a strongly areolated propodeum, *inter alia*. The broad hind wings are an important feature for its recognition.

Apanteles oenone sp. n.

Closely related to the species of the *taragamae* complex but differing from them all in having tergite 1 virtually quadrate.

♀. A very dark-legged species with the hind coxa, hind femur and hind trochaner almost black ; hind tibia equally dark except for a pale basal quarter.

Eyes not convergent. Face smooth, shining, with faint satin-like sheen. Frons and vertex with some sort of rugosity everywhere ; the rugulosity behind the ocelli shows no transverse elements in the type but there is a faint trace of transverse aciculation in the paratype. Antenna hardly as long as the body, rather thin and with the preapical segment about one and a quarter times longer than wide.

Mesoscutum shiny, rather heavily punctate and with a dull, more coarsely punctate zone at the posterior end of the notaulic course in which there is hardly a trace of longitudinal elements. Disc of scutellum smooth, polished. Propodeum rather short, with the costula more or less distinct, as in *taragamae*. Anterior part of the mesopleurum shiny, with large, contiguous punctures but towards tegulae simply rugose. Setae of the median cell colourless ; metacarp about four times longer than its distance from the apex of the radial cell ; hind wing rather broad, as in *taragamae*.

Tergite 1 strongly rugose all over (Text-fig. 48). Ovipositor sheath as long as the hind tibia. Length: 2.8 mm. without ovipositor.

AUSTRALIA : Queensland, Ayr, 15.vi.1949, 2 ♀♀, *TYPE* and paratype, bred from *Earias huegeli* (W.A.S.).

Type in the British Museum (Nat. Hist.).

Host : *Earias huegeli* Rogenhoffer (Phalaenidae).

Largely characterized by the strongly punctate, shiny mesoscutum and the shape of the first tergite.

Apanteles sauros sp. n.

♀. Hardly distinguishable from *oenone*, except on colour of hind legs. May be compared with *oenone* as follows:—

Hind tibia yellowish on basal half ; segments 2-4 of the hind tarsus dirty whitish yellow as is also the base of segment 1. Face with a trace of blurred punctation on each side above. Antenna thinner and relatively a little longer. Mesoscutum as shiny as in *oenone* but with a slightly finer punctation. Tergite 1 less strongly sculptured and slightly narrowed behind.

INDIA : Rawalpindi, 13.ii.1959, 1 ♀, the *TYPE*, ex larva of *Zizyphia* sp. Probably a solitary parasite.

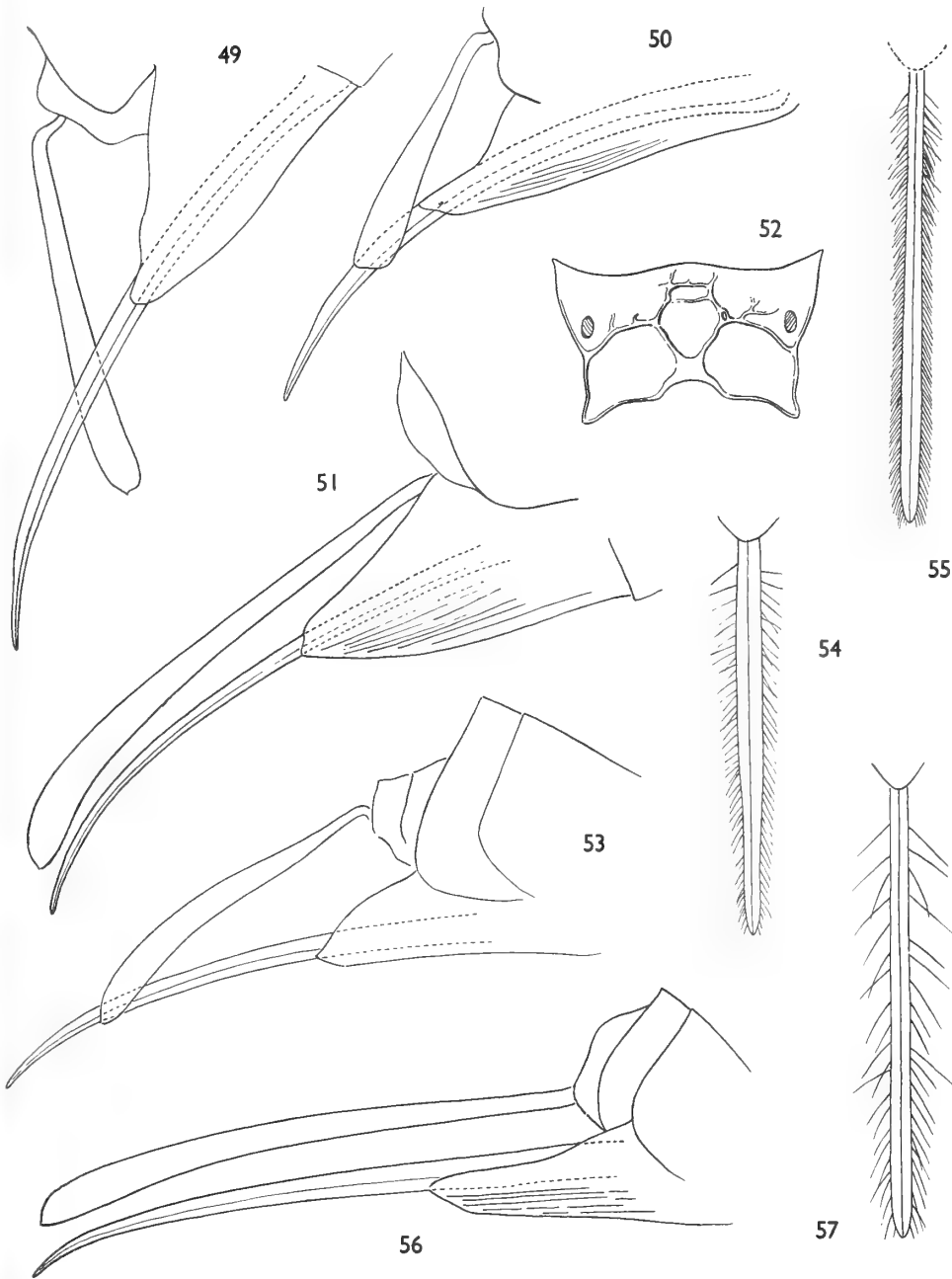
I have named as this species two females (Coimbatore, bred from *Eucelis* sp. (Olethreutidae) on Red Gram, 29.xi.1936) which agree well with the type female except that the hind leg is not so strikingly bicoloured.

Type in the British Museum (Nat. Hist.).

Host : *Zizyphia* sp. (Gelechiidae).

Were it not for its thinner antenna, and differently shaped first tergite, this species would be virtually indistinguishable from *taragamae*. The dull, sculptured frons and vertex are typical of all the species clustering around *taragamae*. The vertex behind the ocelli is without any trace of transverse aciculation.

Apanteles oenone and *sauros* may be merely local forms of the same species.



FIGS. 49-57. *Apanteles*, ♀: 49, *sagax* Wilkinson, ovipositor, lateral; 50, *florus* sp. n., same; 51, *oritias* sp. n., same; 52, *florus* sp. n., propodeum; 53, *clita* sp. n., ovipositor, lateral; 54, *importunus* Wilkinson, ovipositor sheath, from above; 55, *contemptus* sp. n., same; 56, *ortia* sp. n., ovipositor, lateral; 57, *saravus* sp. n., ovipositor sheath, from above.

***Apanteles contemptus* sp. n.**

Here is another species closely related to *oenone* on account of having tergite I not narrowed posteriorly but distinct from it on a number of significant characters.

♀. The main differences have been given in the key ; there is little to add.

Frons and vertex much more finely sculptured than in *oenone*. Punctuation of mesoscutum much finer. Spines of the outer side of the hind tibia less obviously differentiated into two types. Ovipositor sheath distinctly a little longer than the hind tibia ; seen from above, the hairs of the sheath are short and dense (Text-fig. 55) ; in *oenone* and *sauros* they are longer and more upstanding.

MALAYA : Singapore, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

***Apanteles machaeralis* Wilkinson**

Apanteles machaeralis Wilkinson, 1928 : 123.

This species and the next (*tachardiae*) are essentially characterized by having tergite I virtually not narrowed behind and the propodeum without areolation apart from a weakly defined areola.

♀. Paler parts of the legs straw-yellow.

Frons and vertex faintly dull and very finely sculptured. Antenna hardly as long as the body, the more apical segments closely articulated, with segment 17 about one and a quarter times longer than wide ; pubescence of flagellum extremely fine.

Mesoscutum somewhat dull, its punctuation very fine and rather indistinct ; notaulic course showing as a dull, rugose band ; posteriorly the two bands are widened to form two large, contiguous areas of rugose-punctuation in which there are no longitudinal elements. Propodeum without trace of either costula or keels encircling the spiracle. Anterior part of mesopleurum dull, rugose, without punctuation. Metacarp rather short, about three times as long as its distance from the apex of the radial cell.

INDIA.

Type in the British Museum (Nat. Hist.).

Host : *Hapalia machaeralis* Walker (Pyraustidae).

This species and *sauros* are very much alike but *machaeralis* has the antenna slightly shorter and slightly thicker, the mesoscutum duller and more finely sculptured and the basal segment of the hind tarsus much more extensively yellow ; in *sauros* the yellow is restricted to the basal quarter. The ovipositor of *machaeralis* is distinctly shorter than that of *sauros*.

***Apanteles tachardiae* Cameron**

Apanteles tachardiae Cameron, 1913 : 19.

Apanteles tachardiae Cameron ; Wilkinson, 1928 : 119.

The differences between this species and *machaeralis* have been adequately given in the key. There is very little to add.

♀. The paler parts of the legs are reddish rather than yellow (as in *machaeralis*). The metacarp is slightly longer.

INDIA.

Type in the British Museum (Nat. Hist.).

Host : Some Lepidopteron associated with lac.

This species differs from *sauros* by much the same characters as separate *machaeralis* from *sauros* except that the ovipositor of *tachardiae* and *sauros* are of the same length relative to the hind tibia.

Apanteles murcia sp. n.

♀. A further species with tergite 1 large and only weakly narrowed behind. Hind tibia reddish yellow and infuscate over slightly more than basal third.

Frons and vertex faintly dull and weakly sculptured, as in *machaeralis* and *tachardiae*. Antenna broken but to judge from the 14 existing segments clearly shorter than the body ; segment 14 about one and one third times longer than wide. Vertex behind the ocelli without trace of transverse aciculation.

Sculpture of mesoscutum as in *taragamae*, *clita* and closely related species. Disc of scutellum polished and rather wide behind. Propodeum short, rugose, with virtually no trace of a costula and the areola only weakly indicated. Metacarp about four times as long as its distance from the apex of the radial cell.

Horizontal surface of tergite 1 dull, with a fine, almost shagreened sculpture. At least distal half of ovipositor sheath, seen from above, with dense adpressed pubescence.

Length: ca. 2.5 mm. without ovipositor.

MALAYA : Singapore, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

Characterized essentially by the shape and sculpture of the first tergite, and the short pubescence of the ovipositor sheath.

Apanteles importunus Wilkinson

Apanteles importunus Wilkinson, 1928 : 120.

♀. A species belonging to the *taragamae*-complex, differing from *taragamae* chiefly in having the sides of the propodeum remarkably free from sculpture.

No trace of aciculation behind the ocelli. Apical segments of antenna lacking the bristly appearance seen in *taragamae*. Ovipositor exactly as in *taragamae*, and showing no trace of an apical constriction, but a little longer ; the sheath clothed with shorter, less outstanding hairs (Text-fig. 54).

INDIA.

Type in the British Museum (Nat. Hist.).

Host : A species of *Nephopteryx* (Pyralidae) defoliating *Cassia fistula*. Recorded by Wilkinson as a solitary parasite, but possibly only on the evidence of a single cocoon being mounted with each specimen in the type series.

Characterized by the highly polished surface of propodeum on each side of the weakly defined areola and complete absence of costula.

Apanteles sagax Wilkinson

Apanteles sagax Wilkinson, 1929a : 111.

Clearly a member of the *taragamae*-complex of species but distinct on account of the

highly reduced areolation of the propodeum. This might cause the species to be confused with members of the *eublemmae*-subgroup, except that these have a dull appearance, whereas *sagax* is essentially a shiny looking species.

♀. Hind femur dark brown to black ; hind tibia whitish or yellowish on about basal quarter. Wings markedly hyaline.

Antenna rather short with the preapical segment about one and a quarter times longer than wide.

Sculpture of mesoscutum fine and indefinite, with the lines of the notaulices showing as duller, rugose bands, each of which terminates behind as a zone of delicate striate-punctuation, though the striate element is far from distinct. Propodeum rather long ; areola of propodeum in the form of an indistinct V, the surface on each side of which is strongly shining and more or less smooth. Metacarp about four times as long as its distance from the apex of the radial cell.

Tergite 1 and median field of tergite (2 + 3) (Text-fig. 40). Ovipositor decidedly thick (Text-fig. 49)

Length: 2.2-2.5 mm. without ovipositor.

TROPICAL AFRICA.

Type in the British Museum (Nat. Hist.).

Host : A gregarious parasite of *Sylepta derogata* Fab. (Pyraustidae).

This species is only distantly related to the other African species parasitizing *Sylepta derogata*, *A. syleptae* Ferrière, which has complete propodeal areolation and a rugose scutellar disc.

Apanteles ater (Ratzeburg)

Microgaster carbonarius Ratzeburg, 1848 [nec Wesmael, 1837] : 52.

Microgaster ater Ratzeburg, 1852 : 56 [n.n.].

Apanteles ater (Ratzeburg) Wilkinson, 1945 : 197.

♀. A dark-legged species ; the hind tibia becomes faintly paler on basal half. Stigma very pale brownish yellow with faintly darker border ; sometimes merely pallid with yellowish tint.

Face shining, smooth but often with faint satin-like sheen. Frons above and the vertex between the ocelli and the eye-margin smooth but slightly dull. Antenna shorter than the body, rather thick with at least segments 15-17 only very slightly longer than wide.

Mesoscutum somewhat shiny but duller and more finely, more sharply punctate in front ; a distinct zone of fine striate-punctuation at the posterior end of the notaulic courses. Disc of scutellum polished. Areolation of propodeum reduced ; costula at most feebly indicated but a more or less distinct oblique keel lies behind the spiracle. Spines of the outer side of the hind tibia weak, sparse, hardly differentiated into two types ; front tarsal segment 5 with a distinct spine (Text-fig. 20). Metacarp about four times as long as its distance from the apex of the radial cell.

Tergite 1 always distinctly narrowed behind, its horizontal surface dull and rugose but not strongly so (Text-fig. 45). Ovipositor sheath about three quarters as long as the hind tibia.

Length: 2.2-2.7 mm. without ovipositor.

EUROPE.

Host : *Cacoecia podana* Scopoli (Tortricidae) ; *Hyponomeuta malinellus* Zeller (Hyponomeutidae). *Notocelia uddmanniana* L. (Eucosmidae). *Cheimatobia brumata* L. (Geometridae). A gregarious parasite.

The small spine on the front tarsus is a very important feature of this species and a sure aid towards its recognition. I have not come across a similar spine in any

other species of the *ater*-group though I do not exclude the possibility of having overlooked such a spine. It occurs frequently in species belonging to other groups of *Apanteles*.

Dr. V. Tobias of Leningrad has kindly presented the British Museum (Nat. Hist.) with a series of three females and one male which I consider to be *ater*, though the specimens differ from the W. European examples in having the stigma pellucid, that is, whitish with a darker border, such as occurs in the European *xanthostigma* Haliday; *xanthostigma*, however, lacks the spine on the front tarsus. The three Russian females were bred gregariously from *Cacoecia xylosteana* L.

In most respects *ater* is closely related to the species I refer to as the *taragamae*-complex.

Apanteles galleriae Wilkinson

Apanteles galleriae Wilkinson, 1932a : 139.

As pointed out by Wilkinson, this species is very close to his *tirathabae*. The main differences have been given in couplet 119 of the key.

♀. Legs, on the whole, redder, the hind coxa being distinctly reddish brown.

Face slightly more transverse but equally shiny. At the posterior end of the notaulic course is a small zone of dull, rugose-punctation in which there are no obvious longitudinal elements (quite different from *tirathabae*). Stigma (Text-fig. 66).

EUROPE. INDIA : Bangalore, 1 ♀, (with hind coxa almost black).

Host : *Galleria mellonella* L. (Galleriidae).

Both this species and *tirathabae* have the stigma unusually broad and the hind tibia densely spinose.

Apanteles carpatus (Say)

Microgaster carpata Say, 1836-37 : 263.

Apanteles carpatus (Say) Muesebeck, 1920 : 515.

This species is somewhat aberrant within the *ater*-group s.l. on account of the shape of tergite 1 (Text-fig. 59) and the presence of the extra propodeal keel (Text-fig. 61).

♀. Hind femur varying from yellowish- or reddish-brown to almost black.

Antenna segments 15-17 almost square in outline.

Costula of the propodeum weak to absent. Outer, upper surface of hind coxa dull, strongly rugose ; spines of outer side of hind tibia numerous but blunt. Stigma broad (Text-fig. 1).

Tergite 1 sometimes distinctly widened behind.

COSMOPOLITAN.

Host : *Tinea pellionella* L. and *Trichophaga tapetzella* L. (both hosts recorded for U.S.A. by Muesebeck, 1920), *Tineola biselliella* Hübner, *Tinea fuscipunctella* Haworth, (Tineidae).

This species could be confused with *piceoventris* but this last has no extra propodeal keel, a narrower first tergite and a differently shaped vannal lobe.

***Apanteles angaleti* Muesebeck**

Apanteles angaleti Muesebeck, 1956 : 61.

♀. A dark-legged species with the hind tibia becoming gradually paler proximal to middle ; except for the base of the first segment, the hind tarsus is deeply infusate throughout.

Eyes not convergent. Face shiny and with traces of very superficial punctation. Frons and vertex faintly dull with fine rugosity ; the rugosity extensive behind the ocelli but no trace of aciculation here. Antenna clearly shorter than the body with the more apical segments closely articulated.

Mesoscutum faintly shining and with fine punctation similar to that of such species as *tachardiae* and *machaeralis*, not at all characteristic. Disc of scutellum polished, somewhat flattened and rather wide behind. Areolation of propodeum reduced to a very ill defined areola. Metacarp fully five times as long as its distance from the apex of the radial cell.

Tergites 1 and (2 + 3), (Text-fig. 16). Ovipositor rather thin.

Length: 2.8 mm. without ovipositor.

PAKISTAN : Phularwan. INDIA : Karnal (type loc.). SUMATRA : Fort de Kock.
Type in U.S. National Museum.

Host : *Sylepta derogata* F. (Pyraustidae) : *Pectinophora gossypiella* Saunders (Gelechiidae).

Being completely without trace of costulae, the propodeum of this species is characteristic ; on the whole, it presents a dull, rather finely sculptured surface which, on each side of the arms of the areola tends to become smoother and shows vague, transverse striation. Sculpture of the propodeum very similar to that of the first tergite.

Transitional between the species of the *taragamae*-complex with their narrowed first tergite, and *machaeralis* and *tachardiae* with their reduced propodeal areolation.

The long ovipositor is an important character for the recognition of the species.

***Apanteles nephereus* sp. n.**

♀. Very like the previous species—*angaleti*. There is very little to add to what has already been given in the key.

Antenna shorter, only about two thirds as long as the body ; segments 16–17 square in outline.

Mesoscutum slightly less transverse. Suture between disc of scutellum and mesoscutum costate ; in *angaleti* it appears to consist of a row of foveae but the specific difference is not strong. Disc of scutellum slightly more narrowed behind. Propodeum smooth. Sculpture of anterior part of mesopleurum consisting of coarse but distinct punctation ; in *angaleti*, the surface here shows simple rugosity. Metacarp very slightly shorter. Hairs of the ovipositor sheath as in *angaleti*.

PHILIPPINES : Los Baños, 1 ♀, the TYPE, (Baker).

Type in the U.S. National Museum.

***Apanteles araeceri* Wilkinson**

Apanteles araeceri Wilkinson, 1928a : 118.

♀. Wings less hyaline than in *taragamae* and its allies ; setae distinctly brownish.

Eyes not convergent. Face somewhat flattened, its punctation strong. Mesoscutum somewhat dull, strongly and rather coarsely punctate. Tergite 1 not narrowed behind.

JAVA (type locality). MALAYA : I. of Penang, 1 ♀, (*Baker*).

Type in the British Museum (Nat. Hist.).

Host : Recorded by Wilkinson as having been bred from *Araecerus fasciculatus* de Geer (Coleoptera, Anthribidae). This host needs verification.

The appearance of the mesoscutum is somewhat characteristic and this, in combination with the shape of the first tergite and long, thin ovipositor, makes the species distinctive. I know of no species with which *araeceri* could easily be confused though it shows some affinity with the following species, *chloris*.

Apanteles chloris sp. n.

♀. Hind coxa brown, becoming yellowish at tip ; hind femur entirely yellow ; hind tibia yellow with infuscate tip. Stigma evenly brown.

Head in a facial view somewhat transverse. Face itself transverse, dull, densely, rather shallowly punctate. Vertex between the ocelli and the eye-margin, and the temples, faintly shiny, almost with satin-like sheen ; weakly punctate to rugose-punctate. Antenna about as long as the body, rather thin, with the preapical segment fully one and a half times longer than wide.

Mesoscutum closely, densely punctate ; the sculpture has an even appearance and there is hardly a trace of longitudinal elements at the posterior end of the imaginary course of the notaulices. Disc of scutellum shiny, strongly narrowed behind and with scattered punctures of irregular shape. Propodeum dull, rugose, with areola but without clearly indicated costula. Spines of the outer side of the hind tibia sparse, fine.

Tergite 1 about one and a third times longer than its medial width, hardly narrowed behind ; virtually no furrow on its posterior horizontal part which is dull and rather finely rugose (Text-fig. 79). Ovipositor sheath very slightly longer than the hind tibia, its hairs not at all upstanding.

Length: ca. 3 mm. without ovipositor.

PHILIPPINES : Mindañao, Surigao, 2 ♀♀, one the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

This species has much in common with *araeceri*, resembling that species in the sculpture of the propodeum and the shape of the basal tergites. It differs from *araeceri* at once in having a shorter ovipositor sheath, more evenly sculptured mesoscutum and longer apical flagellar segments.

Apanteles tulis sp. n.

♀. Hind tibia becoming paler on about basal third ; hind tarsus infuscate more or less throughout. Wings hardly hyaline, the setae brownish.

Eyes not convergent. Face shiny with a satin-like sheen. Frons and vertex with satin-like sheen. Temples almost rugose-punctate. Antenna broken but to judge from the ten existing segments, probably not much shorter than the body. Disc of scutellum polished, moderately wide behind. Costula of the propodeum very faintly indicated, the area posterior to it highly shining, almost polished, as is also the areola. Metacarp between four and five times as long as its distance from the apex of the radial cell.

Ovipositor sheath about one and one third times longer than the hind tibia, its hairs even in length and at least on basal two thirds, semi-erect.

Length: ca. 2.6 mm. without ovipositor.

PHILIPPINES : Island of Basilan, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

Perhaps related to *araeceri* on the shape of the first tergite. Not a very distinctive looking species but probably characterized to some extent by the length of the median field of tergite (2 + 3) in relation to the length of the rest of the tergite.

Apanteles orus sp. n.

This species is like *leptoura* in having a strongly sculptured head.

♀. Hind tibia deeply infusate almost throughout, only very faintly paler at extreme base. Setae of the fore wing slightly darker. Antenna broken but evidently long, with segment 15 twice as long as wide.

PHILIPPINES : Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

Apanteles eriphyle sp. n.

♀. Another species with coarsely rugose-punctate frons and vertex, more closely resembling *orus* than *leptoura* on account of the sculpture of the mesoscutum, long metacarp and strongly narrowed first tergite.

Stigma almost evenly brown.

Head thicker from back to front than in *orus*. Antenna as long as the body, somewhat tapering towards apex, with segment 14 about two and a half times longer than wide ; flagellum rather bristly. Spines of the outer side of the hind tibia more numerous and more upstanding than in *orus*. Ovipositor sheath downcurved towards apex, clothed densely with short, almost adpressed hairs ; these hairs are slightly more erect in *orus*.

PHILIPPINES : Los Baños, 2 ♀♀, one the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

I have no doubts about the specific validity of *eriphyle* and *orus*. Neither of them is easily confused with any other species dealt with in this paper.

Apanteles tigasis sp. n.

♀. Another species related to *orus* and *eriphyle* as well as to the *leptoura*-complex but differs from all these species in the combination of entirely dark stigma and narrower hind wing.

Hind femur brown ; hind tibia becoming yellowish on rather more than basal half ; hind tarsus deeply infusate throughout.

Face and clypeus much flattened ; face with large, somewhat irregular punctures that are more crowded towards the middle line. Antenna broken but the existing segments indicate a decidedly bristly flagellum.

Mesoscutum sharply punctate ; the punctures fairly large and well separated ; at posterior end of notaulic course is a distinct zone of striate-punctation. Disc of scutellum rather strongly narrowed behind, polished and virtually without trace of sculpture. Propodeum rather short, with the costula weakly indicated ; postero-lateral areas distinctly transverse. Hind tarsus with distinctly bristly appearance.

Horizontal part of tergite 1 dull, owing to microscopic surface sculpture and covered with oblong punctures ; a deep, medial furrow present.

SUMATRA : Fort de Kock, 920 m. 1925, 1 ♀, the *TYPE*, (*Jacobson*).

Type in the British Museum (Nat. Hist.).

Apanteles townesi sp. n.

♀. This species is related to *eriphyle* and *orus* but differs from them in the combination of heavily blackened stigma and an ovipositor sheath that is not longer than the hind tibia. In this combination of characters it approaches closely *tigasis* with which it may be compared as follows:—

Hind femur reddish-yellow except for apical infuscation that covers slightly more than distal quarter. Hind tarsus less deeply infuscate.

Face and clypeus having the same flattened appearance as in *tigasis* but the punctation of the face finer and more even. Head slightly less transverse and the punctation of the vertex and temples stronger.

Punctation of mesoscutum stronger, the general surface duller and with clearer indication of microscopic surface sculpture. Disc of scutellum conspicuously punctate around sides. Black setae of the fore wing particularly conspicuous, giving the wing almost a bristly appearance; these setae are especially conspicuous along the costal margin. Flange beneath the hind tarsus much deeper and more conspicuous than in *tigasis*.

PHILIPPINES: Negros or., Mt. Canlaon, 29.iv.1953, 1 ♀, the *TYPE*, (*H. M. & D. Townes*).

Type in Coll. Townes.

The furrow between the mesocutum and the disc of the scutellum is much wider and deeper in this species than in *orus* and *eriphyle*, in which two species it tends to be shallowly foveate rather than costate. *A. tigasis* has this furrow much as in *townesi*.

Apanteles phycodis Viereck

Apanteles (Apanteles) phycodis Viereck, 1913: 557.

Apanteles phycodis Viereck; Wilkinson, 1928a: 117.

♀. Hind femur yellow; hind tibia yellow tipped with infuscation. Wings glass-clear; setae of the median cell colourless.

Eyes not convergent. Face dull, closely punctate. Frons above, vertex and temples dull, closely, evenly rugose-punctate to rugose-reticulate. Occiput behind the ocelli with a broad, longitudinal furrow that extends upwards between the ocelli and above is finely, transversely striate. Antenna distinctly shorter than the body, the preapical segment hardly one and a quarter times longer than wide.

Mesoscutum shiny but its punctation strong, almost coarse, with distinct striate-punctation at posterior end of notaulic course. Disc of scutellum coarsely punctate but becoming striate-punctate towards sides. Propodeum with much coarse rugosity; the areola narrow or even slightly constricted below and formed by very irregular keels; triangular in outline with its anterior corners subtly prominent; costula hardly indicated. Mesopleurum with strong, almost discrete punctation all over; surface of mesopleurum with an unusually large area of pubescence, only a small zone medially against the posterior margin being hairless. First abscissa of the radius rather strongly oblique and forming with the transverse cubitus an even curve; metacarp nearly four times as long as its distance from the apex of the radial cell. Thicker spines along upper part of outer side of hind tibia extremely sparse; hind tarsal segment 4 very short in comparison with segment 5 (Text-fig. 32).

Tergite 1 large, parallel-sided or even slightly widened behind, its horizontal surface covered with coarse, shiny, rugosity. Ovipositor sheath about one and one third times longer than the hind tibia, with numerous long, upstanding hairs as well as short ones.

Length: ca. 3 mm. without ovipositor.

INDIA : Bangalore (type locality) ; Coimbatore, 12.x.1923, 2 ♀♀, bred from *Phycodes radiata* on *Ficus bengalensis* (in B.M.N.H.) ; Samalbat, 25.x.1927, 1 ♀, 1 ♂, bred from *Phycodes* sp. (V. T. Rao).

Type in the U.S. National Museum.

Host : *Phycodes radiata* Ochs. (Glyphipterygidae).

A most distinct species on account of the structure of the vertex, propodeum and first tergite.

Apanteles cebes sp. n.

♀. Legs yellowish brown ; hind tibia showing a hardly noticeable increase in infuscation towards apex.

Eyes not convergent, wide apart on the face. Face dull, finely, closely punctate. Antenna about three quarters as long as the body, thick, imperceptibly thickened apically, with the more apical segments closely articulated and segments 16-17 very slightly transverse ; the flagellum appears faintly greyish owing to an excessively fine, adpressed pubescence.

Propodeum short, dull, with considerable fine rugosity ; in one specimen out of three, a costula is faintly indicated. Median cell very densely setose, though the setae are more or less colourless, hard to see ; metacarp fully five times as long as its distance from the apex of the radial cell. Thicker spines along upper part of outer side of hind tibia rather sparse, not sharply differentiated from the finer spines adjacent to them.

Horizontal part of tergite 1 polished medially, indistinctly punctate towards sides. Ovipositor sheath very slightly longer than the hind tibia, ca. 25 : 23 and, except at base, closed only with short, almost adpressed hairs.

Length: 2.5 mm. without ovipositor.

PHILIPPINES : Baguio, Benguet, 3 ♀♀, one the *TYPE*, (Baker).

Type in U.S. National Museum.

A subtly distinctive species and somewhat isolated. It is largely characterized by the appearance of the head combined with the thick antenna. The densely setose median cell is also important for its recognition. I am inclined to think that it comes closer to the *leptoura*-group than to the *taragamae*-complex.

Apanteles psenes sp. n.

♀. Hind tarsus very pale yellow, the segments with faint apical infuscation.

Face impunctate but with satin-like sheen. Frons, vertex and temples hardly roughened but dull and with a satin-like sheen. Antenna rather thin, with segments 16-17 very slightly longer than wide ; in one of the two females, the flagellum, being not at all shrunken, shows a hardly perceptible apical thickening.

Propodeum completely but rather weakly areolated. Fore wing faintly brownish ; medial cell densely setose all over, the setae dark ; hind wing rather narrow.

Tergite 1 (Text-fig. 42), coarsely rugose. Ovipositor sheath slightly longer than the hind tibia.

Length: 2.4 mm. without ovipositor.

MALAYA : Parit Buntar, 2 ♀♀, one the *TYPE*, 4 ♂♂, 9.xii.1930, (G. H. Corbett).

Type in the British Museum (Nat. Hist.).

A distinctive little species, largely characterized by the sculpture of the head in combination with the very pale legs. Not closely related to the *taragamae*-complex of species.

***Apanteles ortia* sp. n.**

♀. Hind tibia yellowish brown, becoming a little paler towards base.

Eyes not convergent. Face smooth, shining. Upper part of frons and vertex dull and rather strongly rugose. Scape yellowish; antenna almost as long as the body with segment 17 about one and a half times longer than wide.

Mesoscutum with decidedly coarse rugose-punctuation. Disc of scutellum polished. Propodeum having a densely rugose appearance; areola weakly defined and costula also very weak. Seen from the side, the thorax is somewhat flattened dorso-ventrally and is elongate by comparison with *salutifer* and *florus*.

Tergite 1 narrow, distinctly a little narrowed behind.

Length: ca. 3 mm. without ovipositor.

SOLOMON IS : Ugi I., 6.v.1934, 11 ♀, one the *TYPE*, 1 ♂, (*R. A. Lever*).

Type in the British Museum (Nat. Hist.).

This is a gregarious parasite, making thin, papery cocoons, loosely heaped together. It is characterized by the polished, weakly transverse median field of tergite (2 + 3) and the long, thick ovipositor. Seems to be fairly closely related to *salutifer* and *florus* but is distinct from these species, *inter alia*, on the shape of the basal tergites of the gaster.

***Apanteles saravus* sp. n.**

♀. Legs obscure brownish throughout. Wings faintly brownish; stigma pale brownish yellow with a faintly darker border; venation similarly coloured.

Face smooth, shining, impunctate.

Notaulic course behind showing striate-punctuation. Areolation of propodeum on the whole sharply defined; keels bounding the areola particularly sharp. Median cell densely setose all over; metacarp fully six times as long as its distance from the apex of the radial cell. Inner spur of the hind tibia hardly longer than the outer one.

Ovipositor sheath about as long as the hind tibia, its hairs long, upstanding (Text-fig. 57).

Length: ca. 2.33 mm. without ovipositor.

PHILIPPINES : Imugin, N. Viscaya, 5 ♀♀, one the *TYPE*; Luzon, Mt. Makiling, 1 ♀, (all *Baker*).

Type in the U.S. National Museum.

This species appears to belong to a small complex, not perhaps very closely knit, occurring in the Indo-Australian region and essentially characterized by certain details of wing structure. The wings are markedly brownish and have their setae brown and easy to see; the median cell is densely setose all over; the hind wing is narrow, with the cubitellan cell somewhat elongate (Text-fig. 15).

The sparseness of noticeably thicker spines along the upper surface of the hind tibia is a useful aid to the recognition of *saravus*.

***Apanteles usipetes* sp. n.**

♀. Like *saravus*, this species has the ocelli in a low triangle with the transverse tangent to the anterior ocellus virtually touching the posterior pair. Differs from *saravus* as follows:—

Legs paler with the hind femur dingy yellow.

Eyes larger and closer together on the face. Antenna very slightly thickened apically with the

preapical segment hardly one and a quarter times longer than wide ; this segment is nearer to one and half times longer than wide in *saravus*.

Punctuation of mesoscutum tending to fade out posteriorly but the punctures on posterior half larger and further apart than those in front ; no trace of striate-punctuation at posterior end of notaulic course. Mesopleurum with distinctly discrete sternaulus, faintly roughened ; in *saravus*, this part shows merely the normal depression.

Ovipositor sheath about one and a quarter times longer than the hind tibia, the hairs upstanding and not quite so long as in *saravus* (cf. Text-fig. 57).

BORNEO : Sandakan, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

Apanteles pisenor sp. n.

♀. The main differences between this species and *stenotelas* have been indicated in the key. The difference in the punctuation of the mesoscutum is striking and on this character alone, confusion between the two species is unlikely.

The antennae of the single specimen of *pisenor* are broken but the 15 segments existing in the right antenna indicate that the antenna is fully as long as the body, very slightly thickened towards apex and with segment 15 virtually square in outline.

Length: ca. 2.3 mm. without ovipositor.

NEW HEBRIDES : Banks I., Vanua Lava, x.1929, 1 ♀, the *TYPE*, (*L. E. Cheesman*).

Type in the British Museum (Nat. Hist.).

This species is also very like *usipetes* but the eyes are further apart, the punctuation of the mesoscutum is closer and tergite 1 is only slightly narrowed behind. In *usipetes*, tergite 1 is rather strongly narrowed behind and the median field of tergite (2 + 3) is less transverse than in *pisenor*.

Apanteles stenotelas sp. n.

♀. A most distinctive species on account of its small size combined with the large markedly discrete punctures of the mesoscutum.

Head from in front (Text-fig. 34). Hind wing narrower than in the allied species (cf. Text-fig. 15).

Length: ca. 1.9 mm. without ovipositor.

NEW HEBRIDES : Espiritu Santo, 2 ♀♀, one the *TYPE*, 5 ♂♂, bred from *Hymenia recurvalis*, (*R. A. Lever*).

Type in the British Museum (Nat. Hist.).

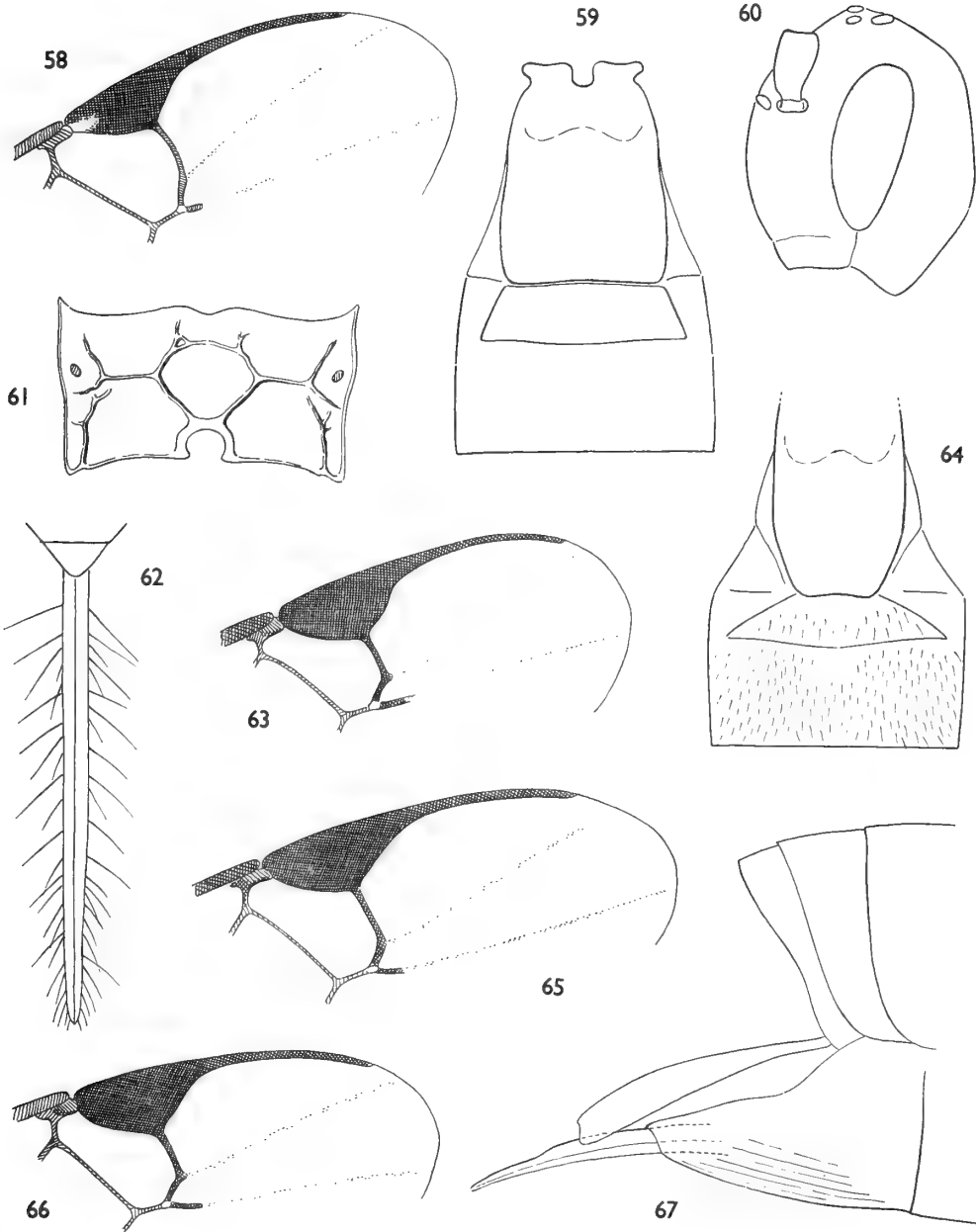
Host : *Hymenia recurvalis* F. (Pyralidae).

Apanteles piceoventris Muesebeck

Urogaster solitarius Ashmead, 1900, [nec Ratzeburg, 1844] : 287 [n. n.].

Apanteles piceoventris Muesebeck, 1920 : 515.

♀. Rather far removed from the preceding species (*saravus*, *usipetes*, *pisenor*, *stenotelas*) and subtly distinctive with its rather short, decidedly thick antenna and deep, rugose, sharply discrete sternaulus.



FIGS. 58-67. *Apanteles*, ♀: 58, *significans* (Walker), fore wing, part; 59, *carpatus* (Say), basal tergites; 60, *trachalus* sp. n., head, three quarter view, lateral; 61, *carpatus* (Say), propodeum; 62, *pertiades* sp. n., ovipositor sheath, from above; 63, *piceoventris* Muesebeck, fore wing, part; 64, *aglaope* sp. n., basal tergites; 65, *pertiades* sp. n., fore wing, part; 66, *galleriae* Wilkinson, same; 67, *aglaope* sp. n., ovipositor, lateral.

Legs yellowish to brownish yellow without any sharply darkened areas.

Wings nearly hyaline ; a distinct angle between the first abscissa of the radius and the transverse cubitus ; stigma rather broad (Text-fig. 63). Propodeum without sharp areolation but showing considerable rugosity ; costula and areola poorly defined. Upper surface of hind coxa dull, rugose, the sculpture changing to longitudinal striation towards trochanter.

Ovipositor sheath about as long as the hind tibia, its hairs long, upstanding.

Length: ca. 2.5 mm. without ovipositor.

W. INDIES : Grenada (type loc.). AFRICA : Zanzibar, i-ii.1925, 1 ♀, (*H. J. Snell*) ; Gold Coast, Accra, viii.1920, 1 ♀, (*A. Ingram*). FIJI IS : Toga, vii.1952, 1 ♀, (*R. A. Lever*). MALAYA : 1 ♀, bred from *Doloessa viridis* in stored rice and bran.

Type in the British Museum (Nat. Hist.).

Host : *Doloessa viridis* Zeller (Pyralidae).

This is evidently a pantropical species associated with stored products.

Apanteles trachalus sp. n.

♀. Closely resembles *piceovenstris* with which it may be compared as follows:—

Face entirely black. Legs darker, brownish rather than yellowish. Gaster, as in *piceovenstris*, brownish rather than blackish.

Head deeper from back to front. Eyes (Text-fig. 60).

Antenna a little longer ; 3-4 basal segments of flagellum very slightly widened apically so that the flagellum at base does not appear so evenly cylindrical as in *piceovenstris*.

Sternaulus shorter, oblong-oval, less sharply discrete and more coarsely rugose.

ENGLAND : Lancs., Baston Dock, 12.xi.1941, 1 ♀, the *TYPE*, bred probably from larva of *Endrosis lactella* on peas and beans (*J. A. Freeman*) ; Liverpool, 6 ♀♀, found associated with *Endrosis* ; London, Victoria Docks, 1 ♀, in association with *Plodia interpunctella* and *Endrosis sarcitrella*. SCOTLAND : Glasgow, 4 ♀♀, found in association with *Borkhausenia pseudopretella*. WALES : Glamorgan, 3 ♀♀, N. IRELAND : Belfast, 8 ♀♀.

Type in the British Museum (Nat. Hist.).

Host : Associated with the following pests of stored products:— *Borkhausenia pseudopretella* Stainton, *Endrosis lactella* Schiffermueller, *Endrosis sarcitrella* L. (Oecophoridae) ; *Ephestia kühniella* Zeller, *Plodia interpunctella* Hübner (Phycitidae). Actual host preferences not yet established.

This is probably a species introduced to Great Britain. It is closely related to *piceovenstris* but it easily separated from it by the two characters given in the key.

Apanteles elagabalus sp. n.

♀. There is little to add to what has already been given in the key. Species much more closely related to *pisenor* and *usipetes* than to *piceovenstris* and *trachalus*, having the face smooth and shining.

Hind tibia deep yellow, rather sharply darkened on apical third. Metacarp about seven times as long as its distance from the apex of the radial cell ; radial cell narrower than in *piceovenstris* and stigma also narrower. Hind coxa above almost smooth. Ovipositor sheath distinctly a little longer than the hind tibia.

PHILIPPINES : Benaue, Mt. Prov. 31.xii.1943, 1 ♀, the *TYPE*, (*H. K. & D. Townes*).

Type in Coll. Townes.

***Apanteles coretas* sp. n.**

♀. Distinct on account of the clearly fringed vannal lobe. Hind femur bright yellow but the hind coxa deeply infuscate throughout. Wings very noticeably brownish ; stigma yellowish brown.

Top of head, including temples, highly polished and in very sharp contrast with the closely punctate, but shiny mesoscutum. At posterior end of notaulic course, the punctures become large and somewhat separated but there is no trace of longitudinal elements. Propodeum very strongly, almost coarsely areolated ; the strength of the areolation of the propodeum reminds more of the species of the *metellus*-complex than those clustering around *saravus*. Metacarp about five times as long as its distance from the apex of the radial cell.

Ovipositor sheath slightly longer than the hind tibia.

NEW HEBRIDES : Santo, viii-ix.1929, 1 ♀, the *TYPE*, (*L. E. Cheesman*).

Type in the British Museum (Nat. Hist.).

***Apanteles argiope* sp. n.**

♀. This is an aberrant member of the *metellus*-complex of species and is essentially characterized by the short metacarp in combination with the form of the vannal lobe ; beyond its widest part, the vannal lobe has a virtually straight edge with sparse projecting hairs along almost its entire length.

Legs on the whole dark with the hind femur brown throughout ; hind tibia becoming yellowish brown on about basal third. Wings markedly brownish.

Face shiny but distinctly, densely punctate. Antenna rather short, the preapical segment hardly longer than wide.

Disc of scutellum shiny and almost impunctate. Propodeum very coarsely rugose, the areola deep, large ; costula irregular and not always clearly defined. Abscissa 1 of the radius leaving stigma markedly distal to middle and very obliquely placed on the stigma (Text-fig. 31).

Gaster thickly pubescent. Tergites 1 and (2 + 3), (Text-fig. 38). Ovipositor sheath as long as the hind tibia.

Length: ca. 2.8 mm. without ovipositor.

S. AFRICA : Cape Province, numerous examples, all females, one the *TYPE*, Mossel Bay, 10.i.1939, (*R. E. Turner*).

AUSTRALIA : S.E. Queensland, Tambourine Mts., 1 ♀, (this female has about basal two thirds of hind femur reddish yellow).

MALAYA : Kuala Lumpur, 1 ♀ ; Singapore, 1 ♂, I. of Penang, 1 ♀.

CELEBES. FIJI IS : Tonga, 2 ♀♀, one ex *Crociodolonia* sp.

NEW HEBRIDES. PHILIPPINES : Luzon, Mt. Makiling, 3 ♀♀, 7 ♂♂.

Type in the British Museum (Nat. Hist.).

The African examples seem to have the metacarp slightly shorter in relation to its distance from the apex of the radial cell than the Indo-Australian specimens.

***Apanteles dryas* sp. n.**

♀. In having a weakly fringed vannal lobe and in the shape of the head, the sculpture of the mesoscutum and propodeum, this species is rather closely related to *argiope*. It differs from *argiope* as follows:—

Legs more brightly coloured, the hind femur reddish yellow on fully basal half. Tergite (2 + 3) beyond the median field largely yellowish though infuscate medially. Wings less brownish.

Face quite dull, densely, finely punctate.

Punctuation of mesoscutum coarser. Areolation of propodeum stronger, more sharply defined. Wings relatively a little broader; metacarp about three and a half times longer than its distance from the apex of the radial cell.

Tergite 1 a little broader and more coarsely sculptured.

CHINA : Pekin, 2 ♀♀, one the *TYPE*, 1 ♂, labelled "on aster and polygonum", 1 ♀, 2 ♂♂, labelled "from Polygonum", (*N. Gist Gee Coll.*).

Type in the U.S. National Museum.

Apanteles hymeniae Wilkinson

Apanteles hymeniae Wilkinson, 1935 : 267.

♀. An aberrant species of the *metellus*-complex, characterized essentially by the weakly transverse, heavily rugose median field of tergite (2 + 3) and the bright yellow legs.

Antennal scape yellow except for a darkened rim. Top of head smooth, polished. The large eyes are distinctly though not strongly convergent below. Areolation of propodeum very strong. Ovipositor sheath about two thirds as long as the hind tibia.

Length: ca. 3 mm. without ovipositor.

FIJI Is.

Type in the British Museum (Nat. Hist.).

Host : *Hymenia fascialis* Stoll, now *recurvalis* F. (Pyrilidae) on silver beet.

This is a most distinct species, especially on account of the shape and coarse sculpture of the median field of tergite (2 + 3). I know of no other species with which it could be confused.

Apanteles lanassa sp. n.

♀. Hind tarsus as yellow as the hind tibia.

Eyes not convergent. Face dull, rather strongly punctate; the punctuation coarser beneath each antennal socket. Antenna almost as long as the body, rather thin and with the preapical segment fully one and half times longer than wide.

Disc of scutellum coarsely punctate towards sides. Metacarp about five times as long as its distance from the apex of the radial cell; hind wing broad.

Tergite 1 distinctly a little narrowed behind, its horizontal part shiny, strongly rugose with a smooth, medial trough. Median field of tergite (2 + 3) not strongly transverse, smooth, polished. Ovipositor considerably thickened.

Length: ca. 3 mm. without ovipositor.

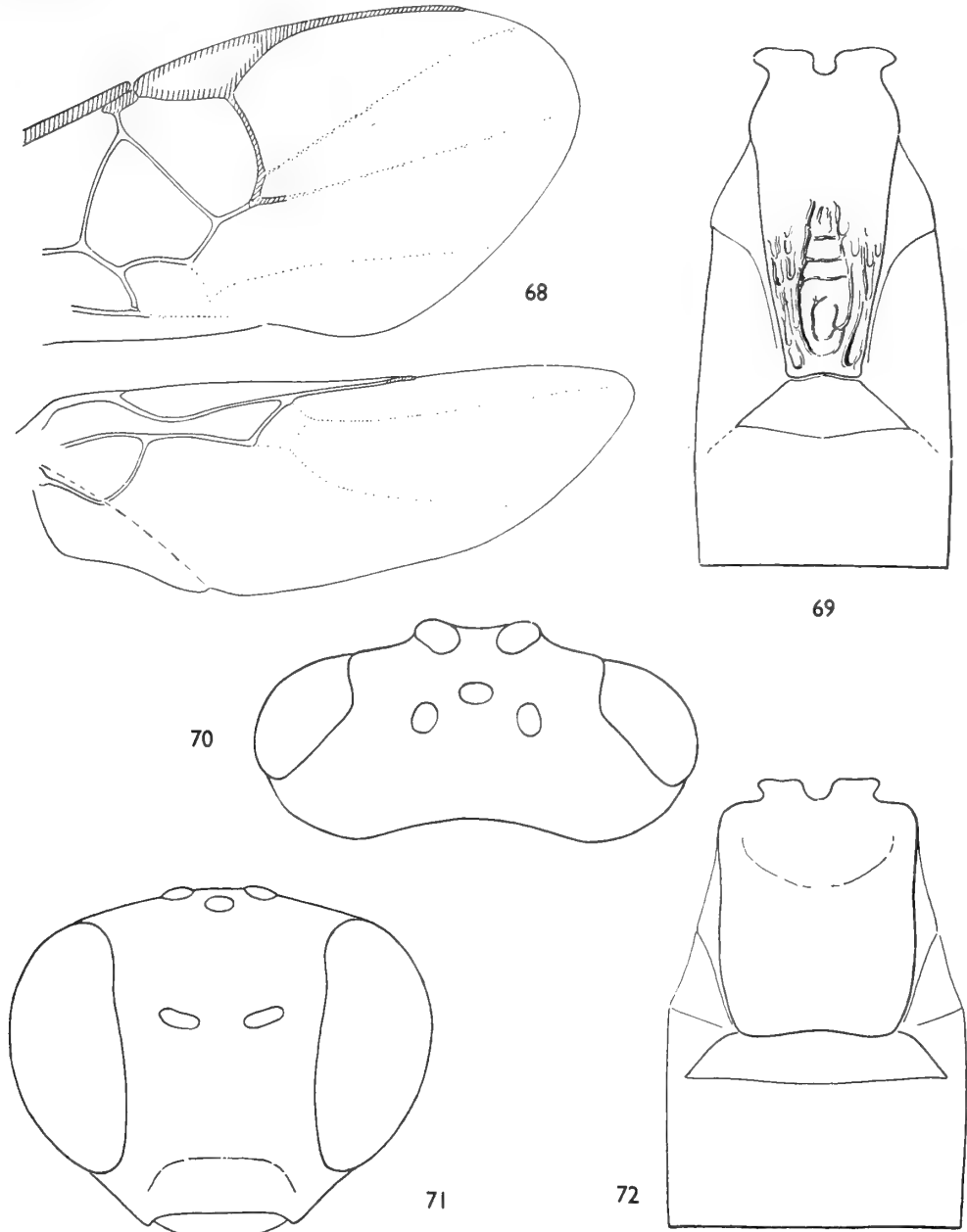
MALAYA : Kuala Lumpur, 1 ♀, the *TYPE*, bred 30.vi.1925, from *Sylepta derogata*, (*G. H. Corbett*).

Type in the British Museum (Nat. Hist.).

Host : *Sylepta derogata* F. (Pyraustidae).

This species seems to be fairly closely related to the African *syleptae* which is also a parasite of *Sylepta derogata* but the differences between them are certainly of specific value. Apart from obvious differences in colour, *syleptae* has the top of the head almost smooth; finer, more extensive sculpture on disc of scutellum, a more

transverse median field on tergite (2 + 3) and a very slightly thinner ovipositor. In many respects, *lanassa* is also related to *dores* but there is an easily appreciated difference in the much longer metacarp of *dores*.



FIGS. 68-72. *Apanteles*, ♀: 68, *goron* sp. n., wings; 69, *erse* sp. n., basal tergites; 70, *telon* sp. n., head, from above; 71, *erse* sp. n., head, from in front; 72, *leptoura* Cameron, basal tergites.

Apanteles telon sp. n.

♀. A distinctive species, characterized largely by its strongly transverse head with its smooth-looking, only faintly dull upper surface (Text-fig. 70).

Hind femur and apical two thirds of hind tibia infusate.

Face shiny, distinctly but rather superficially punctate. Antenna broken in all specimens but the 15 segments existing in one female indicate an antenna that is almost as long as the body, rather thin and with segment 15 fully twice as long as wide.

Middle lobe of the mesoscutum shiny in spite of its strong punctation. Posterior end of the notaulic course showing as a zone of conspicuous striate-punctation. Disc of scutellum highly polished and with a few inconspicuous punctures along sides. Areolation of the propodeum reduced; costula wanting; posterior areas showing much raised rugosity. Venation of fore wing as in *goron* (cf. Text-fig. 68); abscissa 1 of the radius very long, about twice as long as the transverse cubitus and forming with it an even curve; hind wing a little narrower than in *goron*.

Tergite 1 distinctly narrowed behind, dull, evenly rugose and without smooth, medial trough. Hairs of the ovipositor sheath not upstanding.

Length: ca. 3.8 mm. without ovipositor.

PAKISTAN: Punjab, Multan, Ghazighat, iii.1929, 4 ♀♀, one the *TYPE*, 1 ♂, bred from branches of *Tamarix dioica*, (*R. N. Malthur*).

Type in the British Museum (Nat. Hist.).

This large species is somewhat aberrant on the shape of the head. This, together with the reduced areolation of the propodeum, provide the two most essential features for its recognition.

Apanteles leptoura Cameron

Apanteles leptoura Cameron, 1909: 43.

Apanteles leptoura Cameron; Wilkinson, 1928a: 117.

♀. Hind femur infusate but sometimes flushed with paler colouring towards base; hind tibia reddish yellow, tipped with infuscation on apical quarter.

Frons above, vertex and temples dull, rather coarsely punctate to rugose-punctate. Face dull, closely, rather coarsely punctate. Antenna a little shorter than the body, rather weak for the size of the insect; segment 17 about one and one third times longer than wide.

Punctation of the mesoscutum sharp, distinct; punctures along the course of the notaulices larger and more crowded than elsewhere; although the punctures at the posterior end of the notaulices are arranged in rows, the longitudinal element here is not well marked. Disc of scutellum polished and rather strongly narrowed behind. Propodeum with much reduced areolation, the areola very poorly defined; the upper part of the propodeum is dull, closely and densely rugose and its pubescence much shorter and less conspicuous than in *telon*. Costella and mediella of the hind wing far apart; the hind wing as broad as in *goron* and slightly broader than in *telon* (Text-fig. 76). Hind coxa, especially above, dull, considerably roughened and with some punctation.

Basal tergites (Text-fig. 72).

Ovipositor sheath about one and one quarter times longer than the hind tibia; ovipositor rather strongly curved. Setae of tergites 4-6 reduced more or less to a single row.

Length: ca. 3.6 mm. without ovipositor.

CEYLON: (type locality). MALAYA: Selangor, Kepong, i.vi.1947 2 ♀♀; Selangor, Setapak, 8.x.1947, 1 ♀; Perak, 14.x.1948, 2 ♀♀, 1 ♂.

Type in the British Museum (Nat. Hist.).

Host: Type recorded from *Tortrix* larva in stems of dadap.

Besides being related to *telon*, this species is also very closely related to *goron*, differing from it mainly in having the disc of the scutellum polished and the areolation of the propodeum reduced.

Apanteles goron sp. n.

♀. The relationship of this species with *leptoura* has been touched on above.

Shape of head as in *leptoura* but the punctuation of the face coarser.

Punctuation of the mesoscutum coarser, altogether less discrete. Disc of scutellum covered with pits and depressions and becoming almost rugose-striate towards. Fore wing (Text-fig. 68); hind wing broad as in *leptoura* but the costella and the mediella closer together (Text-fig. 68). Costula of propodeum distinct.

Ovipositor sheath slightly shorter. Setae of the upper surface of tergites 4-6 much more widely distributed.

MALAYA: Kuala Lumpur, 6.xii.1923, 3 ♀♀, one the *TYPE*, 1 ♂, bred from *Sylepta derogata*, (G. H. Corbett).

Type in the British Museum (Nat. Hist.).

Host: *Sylepta derogata* F. (Pyraustidae).

The three large species *goron*, *leptoura* and *telon*, seem to form a closely knit complex, largely characterized by the glass-clear wings, pellucid stigma and, by comparison with the somewhat ill assorted species of the *metellus*-complex, a rather strongly transverse head and the upper part of the propodeum dull and densely rugose. A reduced or weakened propodeal areolation seems also to be a feature of the complex. Nevertheless, the characters that bind these three species together are subtle and not easily expressed on paper.

Apanteles erse sp. n.

♀. A species with dark brown stigma. Hind femur entirely infusate; hind tibia becoming darkened distal to middle.

Head almost as transverse as in *telon*. Eyes not convergent but large and close together on the face (Text-fig. 71). Face shiny and with only superficial punctuation. Antenna almost as long as the body, rather thick, the preapical segment about one and one third times longer than wide.

Sculpture of the mesoscutum like that of *telon*. Propodeum with strong areolation, its general surface shiny and smooth-looking. First abscissa of the radius very obliquely placed on the stigma; stigma decidedly broad; hind wing broad but not quite so broad as in *goron* (cf. Text-fig. 68).

Tergite 1 (Text-fig. 69); its horizontal surface shows an ill defined longitudinal trough. Hairs of the ovipositor sheath rather long; ovipositor sheath hardly one and one quarter times longer than the hind tibia.

Length: ca. 3.5 mm. without ovipositor.

JAVA: Buitenzorg, x.1932, 11 ♀♀, one the *TYPE*, 13 ♂♂ (these males have pellucid stigma) bred from *Nacoleia octasema* (now *Lamprosema*), (T. H. C. Taylor).

N. BORNEO: Jesselton, 3.vi.1959, 1 ♀, 1 ♂, ex *N. octasema*, (C. K. Shang). W.

TIMOR: Soba, xi.1959, 1 ♀, ex *N. octasema*, (R. W. Paine).

Type in the British Museum (Nat. Hist.).

Host : *Lamprosema octasema* Meyrick (Pyraustidae).

A very distinctive species on the shape and general appearance of the first tergite. Possibly an aberrant member of the *metellus*-complex, from which complex it could be excluded only on the shape of the first tergite.

Apanteles medon sp. n.

♀. A species characterized by the weakly transverse median field of tergite (2 + 3). In general facies and in regard to the shape of the first tergite, *medon* is much like *erse* with which it may be compared as follows:—

Hind tibia yellow like the hind femur but tipped with infuscation.

Head considerably less transverse than in *erse* and the eyes smaller. Face somewhat dull, rather strongly and irregularly punctate.

Mesoscutum dull, with an even, coarse punctation, almost rugose-punctation that leaves the course of the notaulices unemphasised. Propodeum less sharply areolated; anterior dorsal areas dull, rugose and more pubescent. Stigma narrower, the 1st abscissa of the radius longer in proportion to the transverse cubitus (Text-fig. 73). Mesopleurum with a more extensive, duller and more discrete punctation. Inner spur of the hind tibia longer and stronger than in *erse*.

Ovipositor sheath slightly shorter but still a little longer than the hind tibia.

MALAYA : Serdang, 6.v.1930, 1 ♀, the TYPE, (N. C. Miller).

Type in the British Museum (Nat. Hist.).

A most distinct species, characterized by the shape of the basal tergites of the gaster, combined with the broad hind wings and coarse sculpture of mesoscutum.

Apanteles dictys sp. n.

♀. Another species with weakly transverse median field of tergite (2 + 3) and long 1st abscissa of the radius but much more distinctive than either *erse* or *medon*. It may be compared with these species as follows:—

Wings glass-clear with colourless setae and pellucid stigma.

Head rather small, its upper surface coarsely and characteristically rugose-punctate. Face coarsely rugose-punctate, slightly more so than in *medon*. Antenna about three quarters as long as the body, rather thin and with the preapical segment nearly one and a half times longer than wide.

Mesoscutum duller than in *erse* but its punctation still sharp and distinct with the course of the notaulices indicated by a band of coarser rugose-punctation; the mesoscutal sculpture is very different in general appearance from that of *medon*. Disc of scutellum more shiny than in *medon*, its punctures restricted more to the sides of the sclerite. Propodeum with complete areolation but the dorsal areas much less transverse than in *medon* and slightly less transverse and more rugose than in *erse*. Hind wing less narrow than in both *erse* and *medon*.

Tergite 1 very narrow but not narrowed behind (Text-fig. 80). Ovipositor sheath longer than in either *erse* or *medon*, about twice as long as the hind tibia.

Length: ca. 4 mm. without ovipositor.

JAVA : Buitenzorg, ii.1937, 1 ♀, the TYPE, 1 ♂, iv.1937, 2 ♀♀, (Tjo Tjien Mo); Tjipetir, x.1936, 1 ♀, 1 ♂, (J. V. D. Vecht).

Type in the British Museum (Nat. Hist.).

Host : *Maruca amboinalis* Felder (Pyralidae).

An extremely distinctive species. I know of no other with which it could be confused.

***Apanteles agamedes* sp. n.**

♀. Hind tarsus dark brown with the basal segment white at base.

Eyes virtually not convergent. Face with a fine but quite distinct punctation. Antenna almost as long as the body, rather thin and with the preapical segment fully one and one third times longer than wide. Vertex between the posterior ocellus and the eye-margin faintly dull and with fine punctation.

Mesoscutum dull rather than shiny, its punctation very sharply discrete ; at posterior end of notaulic course, the punctures become larger but there is virtually no trace of longitudinal elements. Stigma pallid on nearly basal half ; hind wing (Text-fig. 19).

Tergite 1 densely rugose all over and without trace of a longitudinal furrow on its horizontal part. Median field of tergite (2 + 3) as strongly rugose as tergite 1 ; tergite (2 + 3) beyond the median field with a pale spot at each anterior corner. Ovipositor sheath about one and a third times longer than the hind tibia, clothed only with very short hairs.

Length: 3 mm. without ovipositor.

MAURITIUS : iii.1951, 2 ♀♀, one the *TYPE*, bred from *Phycita* sp. on *Lantana*, (*S. Felix*) ; Reduit, 20.xi.1944, 1 ♀, labelled " ex Carot ", (*A. Moutia*).

Type in the British Museum (Nat. Hist.).

Host : *Phycita* sp. (Pyralidae).

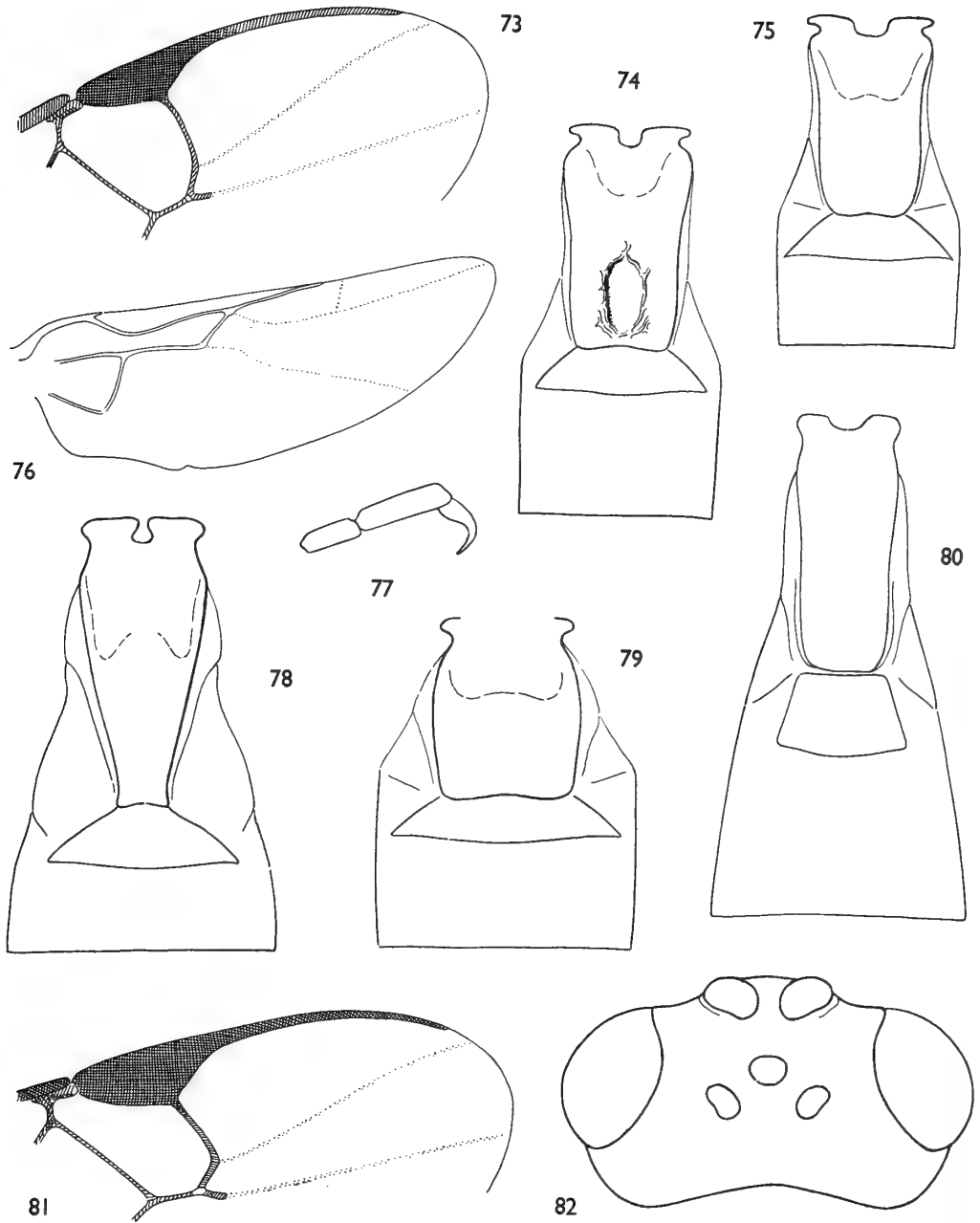
On account of the fringed vannal lobe, the shape and sculpture of the first tergite and the subtle nature of the mesoscutal punctation, this species must be regarded as aberrant within the *ater*-group s.l. and in many respects has more in common, perhaps, with certain members of the *ultor*-group, as represented by a number of species known to me from S. Africa and so far undescribed. The species of the *ultor*-group, however, all tend to have the postero-lateral areas of the propodeum decidedly transverse whereas in *agamedes* these areas are as long as wide. The edge of the vannal lobe in *agamedes* is quite straight beyond its widest part ; in the *ultor*-group, this edge tends to be evenly convex and the cubitellan cell is longer.

***Apanteles vacillans* sp. n.**

♀. Hind femur reddish with an extremely faint trace of apical infuscation ; hind tibia reddish yellow tipped with infuscation ; hind tarsus infuscate throughout.

Eyes large, not convergent but close together on the face, much as in *erse*, (cf. Text-fig. 71). Head from above (Text-fig. 82). Distance between posterior ocellus and eye-margin less than twice the longer diameter of the ocellus. Face shiny, weakly punctate. Vertex between ocelli and eye-margin shiny and with only faint trace of punctation. Antenna about as long as the body, thick and with the preapical segment about one and a quarter times longer than wide.

Mesoscutum characteristically sculptured, highly polished along the middle with the punctures fading out ; on posterior half of middle lobe the smooth area becomes more extensive ; posterior end of notaulic course marked by a zone of striate-punctation. Disc of scutellum highly polished and strongly narrowed behind. Propodeum rather short but completely, strongly areolated, its various fields shiny and smooth-looking. Metacarp very long, almost closing the radial cell (Text-fig. 81) ; 1st abscissa of the radius very obliquely placed on the evenly dark brown stigma. Hind femur rather thick ; spines along upper edge of hind tibiae very numerous, close.



FIGS. 73-82. *Apanteles*, ♀: 73, *medon* sp. n., fore wing, part; 74, *salutifer* Wilkinson, basal tergites; 75, *diocles* sp. n., same; 76, *leptoura* Cameron, hind wing; 77, *vacillans* sp. n., hind claw; 78, *dissimile* sp. n., basal tergites; 79, *chloris* sp. n., same; 80, *dictys* sp. n., same; 81, *vacillans* sp. n., fore wing, part; 82, *vacillans* sp. n., head, from above.

Tergite 1 strongly narrowed behind, but not so much as in the two following species (cf. Text-fig. 72). Median field of tergite (2 + 3) angled laterally at about 45 degrees. Ovipositor sheath hardly one and a quarter times longer than the hind tibia, its sheaths clothed with long up-standing hairs.

Length: ca. 3.5 mm. without ovipositor.

PHILIPPINES : Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

This is a heavily built species, characterized essentially by the fading out medially of the mesoscutal sculpture.

Apanteles cestius sp. n.

♀. May be compared with *vacillans* as follows:—

Hind coxa becoming yellow on distal half ; hind tarsus only weakly infusate.

Distance between the posterior ocellus and the eye-margin only very slightly greater than the longer diameter of the ocellus, the eye slightly nearer to the ocellus than in *vacillans*. Face virtually without trace of punctation. Head less transverse (cf. Text-fig. 82). Antenna very long and powerful, longer than the body with segment 16 about twice as long as wide.

Mesoscutum decidedly dull by comparison with *vacillans* ; posterior end of notaulic course somewhat depressed with the punctures large here but without trace of longitudinal elements. Propodeum slightly longer, very strongly areolated ; the areola itself deeply hollowed out and almost polished. First abscissa of the radius almost at right angles to the stigma ; hind wing narrow ; as in *vacillans*, the metacarp is extremely long and almost closes the radial cell. Spines along upper edge of hind tibia finer and sparser ; hind femur less thick. Mesopleurum in front with a closer, finer punctation.

Length: ca. 3.5 mm. without ovipositor.

PHILIPPINES : Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

This species is abundantly distinct from *vacillans* on the sculpture of the mesoscutum. Specifically it is distinct on the length of the antenna. I regard it as transitional between the *ater*-group s.l. and the much smaller *taeniaticornis*-group, also dealt with in this paper.

Apanteles dissimile sp. n.

♀. Differs from *cestius* as follows:—

The hind coxa is entirely dark but the colour of the legs is otherwise similar in the two species.

Face completely smooth except for a faint satin-like sheen. Antenna shorter with segment 16 only about one and a third times longer than wide.

Sculpture of mesoscutum much more typical of the *ater*-group s.l. ; at the posterior end of the notaulic course, the punctures are arranged in such a way as to form a small zone of distinct striate-punctation.

Tergite 1 more narrowed behind (Text-fig. 78).

PHILIPPINES : Mindanao, Davao, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

In the form of the first tergite of the gaster, this species is even more transitional towards the *taeniaticornis*-group than *cestius*.

***Apanteles rugiceps* Wilkinson**

Apanteles rugiceps Wilkinson, 1934a : 148.

♀. Legs, excluding the coxae, bright reddish yellow.

Face strongly, very distinctly punctate. Frons above, vertex and temples strongly, coarsely rugose-punctate. Occipital region highly polished. Antenna about as long as the body with the preapical segment about one and third times longer than wide.

Disc of scutellum polished, smooth, except for a few punctures along sides. Propodeum with much reduced areolation; no trace of a costula but there is a short, oblique keel behind the spiracle. Segment 4 of the hind tarsus not noticeably shorter than segment 5. Hind wing rather narrow; metacarp hardly five times as long as its distance from the apex of the radial cell.

Tergite 1 markedly narrowed apically, smooth-looking but dull with vague rugulosity and scattered punctures. Ovipositor sheath about one and a quarter times longer than the hind tibia, markedly falcate at apex as is also the thin ovipositor; the sheaths of the ovipositor are clothed with extremely short, more or less adpressed hairs.

Length: ca. 2.8 mm. without ovipositor.

INDIA : Assam.

Type in the British Museum (Nat. Hist.).

This species seems to be characterized by the strongly sculptured head in combination with the bright yellow legs. Otherwise there is nothing particularly distinctive about it.

***Apanteles cocotis* Wilkinson**

Apanteles cocotis Wilkinson, 1934a : 152.

♀. Hind femur reddish yellow; hind tibia reddish yellow, with faint infuscation at tip.

Face shiny, virtually smooth. Top of head, including temples, very shiny, almost smooth. The highly polished occipital region reaches as far as the ocelli. Antenna about as long as the body, with the preapical segment one and one third times longer than wide.

Mesoscutum shiny, its punctuation, on the whole, fine. Areolation of the propodeum not strong; costula weak and in some specimens more or less absent. Median cell of the fore wing densely pubescent all over; metacarp very long, fully seven times as long as its distance from the apex of the radial cell; abscissa 1 of the radius somewhat obliquely placed on the stigma and a well marked angle between it and the transverse cubitus. Basal tergites (Text-fig. 44).

Ovipositor rather thick.

Length: ca. 2.3 mm. without ovipositor.

JAVA : Buitenzorg.

Type in the British Museum (Nat. Hist.).

Host : Said to have been bred from male coconut flowers.

A distinctive species on the combination of dark wings and densely spinose hind tibia. Related to the species of the *taragamae*-complex, though differing widely from most of these on wing characters.

***Apanteles dotus* sp. n.**

♀. A species related to *rugiceps* and intermediate between this species and *cocotis*. May be compared with *rugiceps* as follows:—

Hind femur entirely infuscate; hind tibia becoming paler on basal third. Wings faintly brownish.

Head narrower in proportion to the width of the thorax. Top of head rugose-punctate. Towards the occipital region, which shows a dull satin-like sheen, the sculpture of the vertex and temples becomes sharp, discrete punctation and the appearance of the head here is very characteristic. Face less sharply and less discretely punctate, its surface with an obvious satin-like sheen.

Mesoscutum less coarsely punctate but much more so than in *cocotis*. Disc of scutellum much more distinctly punctate. Setae of the median cell slightly denser; metacarp longer, fully seven times as long as its distance from the apex of the radial cell, as long as in *cocotis*. Propodeum lacking the short keel behind the spiracle; the surface is highly polished on each side of the areola.

Ovipositor sheath not falcate at apex; ovipositor thicker but not quite so thick nor so much curved as in *cocotis*.

CEYLON: Talawakelle, 1933, 3 ♀♀, one the TYPE, ex *Homona coffearia*, 1 ♂, (*C. B. R. King*). PHILIPPINES: Luzon, Mt. Makiling, 1 ♀, (*Baker*).

Type in the British Museum (Nat. Hist.).

Host: *Homona coffearia* Nietner (Tortricidae).

This species, together with *rugiceps* and *cocotis*, are very similar in appearance though all are easily separable. The appearance of the back of the head is very characteristic in *dotus*. This species and *rugiceps* have the concavity of the vannal lobe deeper than in *cocotis*.

Apanteles aristaeus sp. n.

♀. A thick-set, heavily built species with the hind femur entirely blackish; hind tibia deep reddish yellow with the apical third infuscate.

Head markedly narrower than the thorax. Face very strongly, sharply punctate. Frons above, vertex and temples strongly thimble-punctate; around the edge of the highly polished occiput the punctures become very sharply discrete. Antenna a little shorter than the body, thin, rather weak, with the preapical segment about one and a half times longer than wide.

Scutellar disc highly polished, wide behind and here slightly flattened. Propodeum sharply areolated but rather short with its postero-lateral areas distinctly transverse. Mesopleurum sculptured all over its median convex part, the sculpture changing to fine aciculation within the posterior depression. Wings hyaline; the hind pair rather broad; abscissa 1 of the radius almost twice as long as the transverse cubitus and forming a feeble curve with it (as in species of *goron*-complex). Hind coxa strongly rugose-punctate on outer face above.

Tergite 1 very short, subquadrate, its horizontal surface smooth-looking and almost without sculpture.

♂. Has the stigma extensively pale medially but is sculptured like the female.

Length: ca. 3 mm. without ovipositor.

INDIA: Bangalore, 25.iii.1960, 1 ♀, the TYPE, ex ? *Cydia leucostoma* on tea; Assam, v.1959, 1 ♀, ex *C. leucostoma* on tea; Tocklai Exp. Station, 1957, 1 ♀, ex *C. leucostoma* on tea, (*G. M. Das*). JAVA: Wonosari Est., 7 ♀♀, 7 ♂♂, bred viii.1937 from *Laspeyresia leucostoma*. This series from Java is made up of smaller individuals than those from India, the females, without ovipositor, being about 2.7 mm. in length.

Type in the British Museum (Nat. Hist.).

Host: *Cydia leucostoma* Meyrick (Olethreutidae), a pest of tea.

A most distinctive species, easily recognised by the shape of the first gastral tergite in combination with the small, characteristically sculptured head.

Apanteles ippeus sp. n.

♀. A dark-legged species with the hind tibia pale only on basal third and the hind tarsus blackened throughout. Wings hyaline with the stigma evenly brown and the setae of the median cell rather sparse and colourless.

Face shining and with only the merest trace of punctation. Frons above and vertex between ocellus and eye-margin shining, smooth. Temples rugose and contrasting sharply with the highly polished occipital region. Posterior ocelli far apart, the distance between them greater than that between one of them and the eye-margin, 10 : 7. Antenna a little shorter than the body with the preapical segment about one and third times longer than wide.

Disc of scutellum polished and with faint trace of punctation. Areolation of propodeum completely wanting, the areola hardly indicated and no trace of a costula ; general surface of propodeum shiny, weakly rugose. Hind tarsus slender.

Tergite 1 (Text-fig. 90), its horizontal surface with a satin-like sheen and with feeble rugosity. Ovipositor sheath about three quarters as long as the hind tibia, clothed with long upstanding hairs.

Length: ca. 2.2 mm. without ovipositor.

AUSTRALIA : Canberra, 10 ♀♀, one the *TYPE*, 7 ♂♂, bred from *Plutella maculipennis*, (*F. Wilson*).

Type in the British Museum (Nat. Hist.).

Host : *Plutella maculipennis* Curtis (Hyponomeutidae).

Very distinct on the shortness of the metacarp. Needs to be compared with the species of the *eublemmae*-subgroup in which an equally short metacarp often occurs.

Apanteles assis sp. n.

♀. Hind femur deeply infusate ; hind tibia infusate but becoming reddish yellow on basal third. Wings very faintly brownish.

Face very distinctly punctate, but the punctures, though large, not sharp. Top of head somewhat dull, the vertex between the posterior ocellus and the eye-margin with distinct rugose-punctation. Antenna as long as the body ; rather thick and with the preapical segment one and a third times longer than wide.

Mesoscutum dull, its punctation coarse and heavy ; at posterior end of notaulic course, the sculpture becomes coarse rugose-reticulation but without longitudinal elements. Disc of scutellum with coarse punctation along sides. Propodeum with complete areolation. Metacarp about four and a half times longer than its distance from the apex of the radial cell.

Ovipositor sheath slightly longer than the hind tibia ; ovipositor moderately thick.

Length: ca. 2.8 mm. without ovipositor.

PHILIPPINES : Island of Basilan, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

Perhaps fairly closely related to such species as *rugiceps* and *dotus* but differing from both of these in having the propodeum fully areolated. Not a sharply characterized species but its most significant feature seems to be the strong, dull sculpture of the mesoscutum.

***Apanteles galatea* sp. n.**

♀. A small, very dark-legged species largely characterized by an ovipositor sheath that is about one and half times longer than the hind tibia and an ovipositor that is thin and downcurved at apex.

Face polished, smooth. Frons above and vertex between the posterior ocellus and the eye-margin polished and smooth. Antenna fully as long as the body with the preapical segment fully one and a quarter times longer than wide.

Disc of scutellum somewhat flattened, polished but with a trace of punctation around sides. Propodeum with its areolation much reduced ; no costula or keel behind the spiracle.

Tergite 1 strongly narrowed behind. Hairs of tergites 4-6 at least on dorsal surface reduced more or less to a single row.

Length: 2 mm., without ovipositor.

PHILIPPINES : Mindañao, Dapitan, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

***Apanteles solox* sp. n.**

♀. A species essentially characterized by the long, hind tarsus (Text-fig. 88). Although it is coupled with *ariovistus* in the key, *solox* is actually more closely related to *dotus* and allied species.

Hind femur infusate throughout and the hind tibia pale only at extreme base ; hind tarsus more or less evenly infusate throughout.

Face shiny and virtually impunctate (cf. *rugiceps* and *dotus*). Vertex between the posterior ocellus and the eye-margin faintly dull and with a trace of obsolescent rugose-punctation. Antenna about as long as the body with preapical segment about one and a quarter times longer than wide.

General surface of mesoscutum very shiny ; punctation, especially along the middle lobe, somewhat superficial. Disc of scutellum highly polished. Areolation of propodeum greatly reduced ; neither costula nor keel behind the spiracle present. Outer side of the hind tibia particularly strongly spinose, the thicker spines much more numerous and more erect than in *dotus*. Metacarp not extending quite so close to the apex of the radial cell as in *dotus*.

Tergite 1 much as in *dotus* and *rugiceps*. Hairs of tergites 4-5 tending to be reduced to a single row at least on the dorsal surface of the tergites. Ovipositor very thin.

Length: 2.5 mm. without ovipositor.

MALAYA : Singapore, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

This species differs from *rugiceps*, *dotus* and *cocotis* in having a longer ovipositor. There are numerous other differences.

***Apanteles ariovistus* sp. n.**

♀. This species lacks the typical facies of the majority of the species of the *taragamae*-complex and is largely characterized by the possession of a somewhat large head.

Hind femur infusate throughout ; hind tibia becoming obscurely paler on about apical third. Wings very faintly brownish.

Face shining and virtually impunctate. Vertex between posterior ocellus and eye-margin almost polished.

Mesoscutum very shiny, the punctation along the middle line of each lobe tending to fade out. Suture between mesoscutum and disc of scutellum shallow, foveate rather than costate. Disc of scutellum highly polished. Areolation of propodeum much reduced ; no differentiated costula present. Hind wing rather narrow.

Tergite 1 strongly rugose. Ovipositor sheath about one and one third times longer than the hind tibia.

Length: ca. 3 mm. without ovipositor.

SUMATRA : Fort de Kock, 920m., 1924, 1 ♀, the *TYPE*, (*Jacobson*).

Type in the British Museum (Nat. Hist.).

The essential characters of this species are the thick antenna and the large head. The appearance of the meso-scutellar furrow is also rather characteristic but its value could be better appreciated if more specimens were available.

Apanteles prosymna sp. n.

♀. A small dark-legged species essentially characterized by the abrupt apical narrowing of tergite 1 with its horizontal surface, in consequence, being wider than long.

Hind legs obscure reddish brown with the hind tibia becoming paler on basal half. Stigma evenly brown.

Frons above, temples, and vertex, dull, rugulose. Face dull, faintly rugose. Antenna slightly shorter than the body, with the preapical segment about one and a third times longer than wide.

Mesoscutum shiny but with a satin-like sheen ; its punctuation fine ; posterior end of notaulic course with a large zone of striate-punctuation. Disc of scutellum polished and without sculpture.

Tergite 1 and median field of tergite (2 + 3), (Text-fig. 87).

Length: ca. 2 mm.

MALAYA : Kuala Lumpur, 15.v.1939, 15 ♀♀, one the *TYPE*, 1 ♂, bred from *Lycaenesthes emolus*.

Type in the British Museum (Nat. Hist.).

Host : *Lycaenesthes emolus* Godart (Lycaenidae).

Apanteles javensis Rohwer

Apanteles javensis Rohwer, 1918 : 567.

Apanteles javensis Rohwer ; Wilkinson, 1928a : 113.

♀. This species is closely related to *prosymna* and the main differences have been given in the key. There is little to add.

Tergite 1 is considerably narrower and its horizontal surface, in consequence, is less transverse (Text-fig. 89). The basal part of the hypopygium (hard to see!) shows fine, *transverse* aciculation.

JAVA : Buitenzorg (type locality). SIAM. CEYLON.

Type in the U.S. National Museum.

Host : *Parnara conjuncta* Herrich-Schäffer, *Parnara mathias* F. (Hesperiidae).

A series from Ceylon and another from Siam (Bangkok) differ from the two paratypes in the British Museum and the females referred to by Wilkinson in a number of small details that I am unable to evaluate on the total material available. In these two series, the females have the ocelli slightly further apart, the sculpture of the mesoscutum reduced so that the surface is strongly shining and almost smooth and the hind wing slightly narrower. These differences, however, may be correlated with a reduction in size, the females being about 1.8 mm. while the paratypes are about 2.2 mm.

Apanteles folia sp. n.

♀. A species far removed from *javensis* and *prosymna* on the shape of the first tergite.

Hind tibia reddish yellow, becoming infuscate on apical third in the type but the apical infuscation feebler and restricted to distal quarter in two females from China (Canton).

Top of head dull, strongly rugose. Face coarsely punctate, becoming duller and rugose-punctate towards antennal insertions. Antenna a little shorter than the body (broken in type), rather weak and with the preapical segment about one and quarter times longer than wide.

Mesopleurum strongly, coarsely punctate all over its median part, the sculpture extending into the depressed posterior part and here becoming vague striation. Metacarp rather short, about three times as long as its distance from the apex of the radial cell. Propodeum strongly areolated; the dorsal areas are dull, rugose and contrast sharply with the strongly shining, almost smooth, posterior fields. Hind coxa dull, considerably rugose on outer, upper face.

Horizontal part of tergite 1 about as long as wide, strongly rugose. Ovipositor sheath as long as the first segment of the hind tarsus.

Length: ca. 3 mm.

MALAYA : Ulu Sali Road, 24.xii.1924, 1 ♀, the TYPE, bred from *Spindasis lohita*. CHINA, Canton, 2 ♀♀, 1 ♂, (*Hoffman*). PHILIPPINES : Island of Basilan, 1 ♀, (*Baker*); Luzon, Mt. Makiling, 1 ♀, (hind tarsus entirely bright reddish yellow), (*Baker*).

Type in the British Museum (Nat. Hist.).

Host : *Spindasis lohita* Horsfield (Lycaenidae).

Apanteles folia sp.n., form or subspecies.

Specimens differing strikingly from the nominate form in having the stigma entirely dark brown and reduced propodeal areolation. On the material available I am not inclined to regard these differences as having specific value.

AUSTRALIA : National Park, iv.1927, 2 ♀♀, 1 ♂, bred from Lycaenid pupae, (*M. Fuller*) ; Queensland, Eidsvold, 1 ♀, 2 ♂♂, bred from *Jalmenus evagoras eubulus* Miskin (Lycaenidae).

Intermediate between this form of doubtful status and the nominate form is a single female from NEW GUINEA ; Markham Valley, 28.viii.1926, bred from *Luthrodes cleotas kaiphas* Fruhstorfer, (*J. H. Ardly*). This female has the stigma colourless in the middle with a wide, brown border ; the propodeum is exactly as in the Australian specimens.

The Australian males have the stigma as dark as in the females.

Considered as an aggregate, *folia* is a distinctive species and need not be confused with any other species dealt with in this revision.

Apanteles demades sp. n.

♀. This species is certainly related to *folia* but is much smaller, being about 2 mm. in length. It may be compared with *folia* as follows:—

Face smoother, more shiny. Top of head more finely sculptured.

Mesoscutum more finely punctate. Disc of scutellum slightly more convex, more shiny and with hardly a trace of punctation. 1st abscissa of the discoideus angled at its junction with the nervulus. Areolation of the propodeum slightly less sharp. Hind coxa almost polished on outer surface.

Tergite 1 slightly narrowed behind.

MALAYA : Kuala Lumpur, 17.v.1953, 1 ♀, the *TYPE*, 1 ♂, bred from *Selepa celtis*.
Type in the British Museum (Nat. Hist.).

Host : *Selepa celtis* Moore (Noctuidae).

I introduce this species as new with some misgivings because, apart from the small venation difference, all the differences between *demades* and *folia* could possibly be associated with the difference in size. Only further material will solve the problem.

Apanteles crates sp. n.

♀. This species differs at once from *folia* and *demades* in having a much longer metacarp, this being fully six times as long as its distance from the apex of the radial cell.

Hind femur and hind tarsus infuscate throughout ; hind tibia becoming yellowish on basal half.

Vertex between the ocelli and the eye-margin shining, almost smooth. Face shiny, very faintly roughened. Antenna fully as long as the body with the preapical segment about one and half times as long as wide.

Mesoscutum somewhat dull. Disc of scutellum with a trace of punctation towards sides. Areolation of the propodeum complete.

Tergite 1 and the median field of tergite (2 + 3), (Text-fig. 86).

Length: ca. 2.2 mm.

PHILIPPINES : Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

This little species is largely characterized by the shape of the median field of tergite (2 + 3), a feature that at once separates it from the following species—*sartamus*.

Apanteles sartamus sp. n.

♀. The differences between this species and *crates* have already been covered in the key and there is little to add.

The hind tibia is more extensively infuscate, only the basal quarter showing pale colouring. Head slightly less transverse. Tergite 1 considerably more narrowed behind.

PHILIPPINES : Los Baños, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

In the shape of the basal tergites, this species is transitional between *javensis* and its close ally *prosymna* on the one hand, and *folia* on the other.

Apanteles daimenes sp. n.

♀. Hind tibia becoming obscurely yellowish on basal half.

Face smooth, shining. Vertex between the posterior ocellus and the eye-margin shiny and almost smooth ; temples distinctly rugulose. Antenna as long as the body with the preapical segment about one and one third times longer than wide.

Hardly a trace of longitudinal elements at the posterior end of the notaulic course but the punctures here larger and closer. Disc of scutellum polished, smooth. Propodeum with almost complete areolation though the costula is not clearly defined. Hind spurs weak, the inner one not reaching beyond the middle of the basal segment of the hind tarsus ; hind tarsus rather short. Setae of the median cell long, rather sparse ; metacarp about four and a half times as long as its distance from the apex of the radial cell.

Tergite 1 short and only weakly narrowed behind. Ovipositor strongly curved and without an apical constriction.

Length: ca. 1.8 mm. without ovipositor.

FIJI Is : Koroninia, 20-21.xii.1951, 6 ♀♀, one the *TYPE*, 1 ♂, bred from larva on sweet potato, (*B. A. O'Connor*).

Type in the British Museum (Nat. Hist.).

This species is characterized by the relatively large size of the mesoscutal punctures and the shape of the ovipositor.

Apanteles scultena sp. n.

♀. At first sight like *daimenes* but at once distinguishable from that species on the shape of the ovipositor. It may be compared with *daimenes* as follows:—

Hind femur, hind tibia and hind tarsus entirely reddish yellow, though the hind femur is faintly darker than its tibia. Stigma almost colourless, pale straw-yellow.

Face distinctly but indefinitely punctate. Frons above and the vertex between the ocelli and the eye-margin dull, finely, evenly rugose. Antenna very distinctly shorter than the body with the preapical segment only about one and a quarter times longer than wide.

Mesoscutal punctation finer and denser; a distinct trace of longitudinal elements at the posterior end of the notaulic course. Propodeal areolation showing less definition; costula completely absent.

Hypopygium heavily sclerotised and without lateral creasing. Ovipositor (Text-fig. 83).

MALAYA : Clifford Road, 26.x.1939, 3 ♀♀, one the *TYPE*, 1 ♂.

Type in the British Museum (Nat. Hist.).

Apanteles painei sp. n.

♀. This species differs strikingly from both *daimenes* and *scultena* on the sculpture of the top of the head and of the mesoscutum. It may be compared with *daimenes* as follows:—

Hind tibia virtually black; only the extreme base faintly reddish. Stigma colourless with a darker border.

Vertex between the ocelli and the eye-margin as coarsely sculptured as the temples; whereas in *daimenes* the polished occipital region extends almost to the posterior ocelli, in this species there is a broad zone of dull, rugose sculpture behind the ocelli; this sculptured zone is sharply marked off from the polished occiput.

Posterior end of the notaulic courses with a large, duller area of coarser punctation; no longitudinal elements within this zone. Mesopleurum much more coarsely sculptured; a row of short, transverse costae extends downwards from beneath the wing insertions into the posterior oblique depression. Hind wing slightly broader. Costula of propodeum distinct throughout.

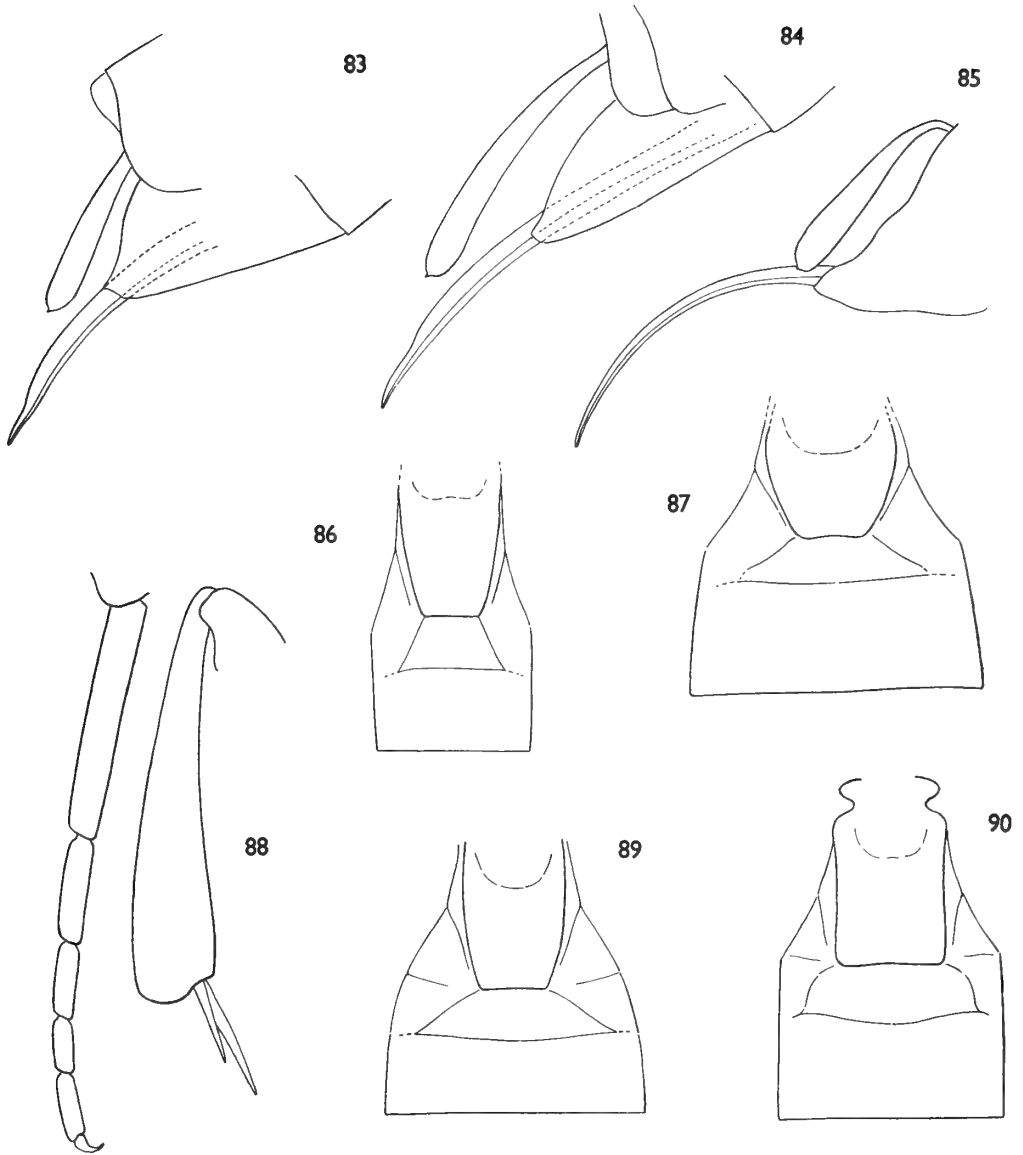
Setae of tergites (2 + 3)–6 restricted virtually to a single row; this tendency is much less noticeable in *daimenes* (Text-fig. 11). Ovipositor sheath slightly longer; ovipositor itself much as in *daimenes* but slightly thicker (cf. Text-fig. 85).

NEW GUINEA : Lae, 9 ♀♀, one the *TYPE*, 8 ♂♂, bred viii–x.1957, from *Agonoxena pyrogramma*, (*R. W. Paine*).

Type in the British Museum (Nat. Hist.).

Host : *Agonoxena pyrogramma* Meyrick (Agonoxenidae).

Differs from *scultena* on sculpture, leg colour and shape of ovipositor.



FIGS. 83-90. *Apanteles*, ♀: 83, *scultena* sp. n., ovipositor; 84, *stennos* sp. n., same; 85, *daimenes* sp. n., same; 86, *crates* sp. n., basal tergites; 87, *prosymna* sp. n., same; 88, *solox* sp. n., hind tibia and hind tarsus; 89, *javensis* Rohwer, basal tergites; 90, *ippeus* sp. n., same.

Apanteles despectus sp. n.

♀. Hind leg, including the tarsus, entirely blackish, except that the tibia is faintly paler at extreme base.

Face shiny, almost smooth. Vertex between the ocelli and the eye-margin almost smooth. Posterior ocelli rather wide apart, the distance between them fully equal to the distance between one of them and the eye-margin. Antenna as long as the body, very thin, with segment 13 much longer than 14 and the preapical segment about one and one third times longer than wide.

Mesoscutum somewhat dull, its punctation fine and not very distinct. A zone of duller sculpture marks the posterior end of the notaulic courses. Propodeum with no trace of a costula. Hind tarsus relatively long and thin.

Tergite 1 parallel-sided. Tergites thickly setose all over. Ovipositor sheath fully two thirds as long as the hind tibia; ovipositor rather thin, not strongly curved and in general appearance much as in *daimenes* (cf. Text-fig. 85).

Length: 2 mm. without ovipositor.

THAILAND: Bangkok, x.1958, 2 ♀♀, one the *TYPE*, 2 ♂♂, labelled "ex ground-nut leaf-miner".

Type in the British Museum (Nat. Hist.).

A species characterized by the very short metacarp in combination with the short ovipositor. The Australian *ippeus* has also a short metacarp and in many respects is fairly closely related to *despectus* but *ippeus* has the metacarp still shorter than in *despectus* and the ovipositor slightly longer, among other small differences.

Apanteles schneideri sp. n.

♀. Differs from *daimenes*, *painei*, *despectus* and *scullena* in having tergite 1 strongly narrowed to apex and the ovipositor sheath about as long as the hind tibia.

Legs brownish with the hind tibia becoming yellowish on basal half.

Frons above, vertex and temples finely rugose, dull. Antenna shorter than the body with segment 17 about one and a third times longer than wide and segment 13 one and a half times longer than wide and only slightly longer than 14; pubescence of flagellum rather bristly.

Punctation of mesoscutum rather strong for the size of the insect; punctures larger at posterior end of notaulic course but the surface here without longitudinal elements. Disc of scutellum smooth. Propodeum without costula. Setae of the median cell not dense. Spines of the outer side of the hind tibia unusually sparse.

Ovipositor short, thick, rather abruptly narrowed apically but less than in *scullena* (cf. Text-fig. 83); longer than in *scullena*.

EAST SUMATRA: Asahan, 1934-36, 12 ♀♀, one the *TYPE*, bred from lepidopterous pest on Gambir, (*F. Schneider*).

Type in the British Museum (Nat. Hist.).

The absence of sculpture on tergite 1 should not be accepted as absolutely diagnostic for the recognition of this species; far more important is the shape of the ovipositor.

The *EUBLEMMAE*-subgroup

KEY TO SPECIES

FEMALES

- 1 Metacarp hardly one and a half times longer than its distance from the apex of the radial cell.
 Head subtriangular, seen from in front ; mouth parts showing some degree of lengthening ; ovipositor sheath not longer than the hind tibia 2
- Metacarp at least about twice as long as its distance from the apex of the radial cell and then the ovipositor sheath is much longer than the hind tibia 6
- 2 Eyes strongly convergent below (Text-fig. 97) ; inner spur of the hind tibia fully half as long as the hind basitarsus ; disc of scutellum dull, strongly, closely punctate, except medially, its rugose posterior tip almost interrupting the posterior polished band of the scutellum *trabea* sp. n. (p. 107)
- Eyes not convergent below ; inner spur of the hind tibia distinctly less than half as long as the hind basitarsus ; disc of scutellum much less rugose 3
- 3 Setae of the 1st cubital cell very sparse, about twelve in number.
 Stigma evenly brown ; antenna as long as, or almost as long as, the body 4
- Setae of the 1st cubital cell much more numerous than this.
 Ovipositor sheath almost as long as the hind tibia 5
- 4 Ovipositor sheath hardly two thirds as long as the hind tibia ; antenna very thin, with the preapical segment about one and a half times longer than wide
rosaces sp. n. (p. 107)
- Ovipositor sheath fully as long as the hind tibia ; antenna distinctly a little thickened distally ; preapical segment hardly one and one third times longer than wide
arion sp. n. (p. 109)
- 5 Edge of vannal lobe beyond its widest part imperceptibly convex ; propodeum very shiny, almost polished ; mesoscutum weakly shining and with a very feeble sculpture but with a duller zone of rugosity at each posterior extremity of the notaulic course *eriphyses* sp. n. (p. 109)
- Edge of vannal lobe beyond its widest part straight ; propodeum finely rugose, its V-shaped areola more in evidence ; mesoscutum dull, almost coarsely rugose and with no emphasis along the course of the notaulices *patens* sp. n. (p. 110)
- 6 Face subrostriform ; ovipositor sheath about one and a half times longer than the hind tibia ; antenna very thin, with segment 14 fully twice as long as wide.
 Metacarp about twice as long as its distance from the apex of the radial cell ; stigma evenly dark brown *camirus* sp. n. (p. 110)
- If the face shows any tendency to be rostriform or subtriangular, then the ovipositor sheath is much shorter and the antenna is neither so long nor so thin 7
- 7 Head from in front distinctly subtriangular ; mouth parts lengthened.
 Setae of the median and submedian cells very sparse and widely absent along the medius side of the cells ; ovipositor sheath fully as long as the hind tibia 8
- Head from in front not subtriangular ; mouth parts not lengthened 13
- 8 Spines of the outer side of the hind tibia short, blunt, fire-red, very numerous, not upstanding ; segments 12-17 of the antenna not evenly cylindrical, being slightly swollen at apex on one side.
 Antenna distinctly shorter than the body, with segment 17 about one and one third times longer than wide *nepe* sp. n. (p. 113)
- Spines of the outer side of the hind tibia neither so short nor so blunt, nor so numerous as this, being obviously pointed and upstanding ; segments 12-17 of the antenna evenly cylindrical even if very short 9
- 9 Eyes distinctly convergent below ; at least the 1st and 2nd abscissae of the dis-

- coideus darkened and pigmented ; inner spur of the hind tibia not quite reaching the middle of the hind basitarsus.
- Stigma evenly dark brown 10
- Eyes hardly convergent below and hence wider apart on the face ; 1st and 2nd abscissae of the discoideus not obviously darkened or pigmented ; inner spur of the hind tibia reaching middle of hind basitarsus and longer compared with the outer spur than above.
- Antenna shorter than the body, with the preapical segment about one and one quarter times longer than wide 12
- 10 Tergite I virtually parallel-sided.
- Antenna as long as the body, very thin, rather abruptly narrowed beyond segment 13 *dido* sp. n. (p. 112)
- Tergite I distinctly narrowed apically 11
- 11 Antenna shorter, the preapical segment hardly one and one third times longer than wide ; setae of the radial cell becoming noticeably sparser towards the stigma ; tergite I narrower only at extreme apex ; mesoscutum appearing slightly blacker because its sculpture is less obscured by pubescence *ione* sp. n. (p. 111)
- Antenna longer, the preapical segment about one and a half times longer than wide ; setae of the radial cell not becoming so noticeably sparser towards the stigma ; tergite I narrowed from where it turns over to apex and with a narrower, deeper trough on its horizontal part ; mesoscutum appearing less black owing to a finer, denser pubescence *triareus* sp. n. (p. 112)
- 12 Ovipositor sheath as long as the hind tibia and, seen from above, clothed with long, upstanding hairs ; tergite I almost coarsely rugose, not or hardly narrowed behind ; stigma dark, with or without a still darker border ; metacarp slightly longer *eupolis* sp. n. (p. 111)
- Ovipositor sheath longer than the hind tibia, about one and one third times longer and, seen from above, with short, not upstanding hairs ; tergite I only very weakly rugulose, distinctly narrowed behind ; stigma pallid with contrasting darker border ; metacarp slightly shorter *navius* sp. n. (p. 111)
- 13 Ovipositor sheath at most one and a half times longer than the hind tibia 14
- Ovipositor sheath almost twice as long as the hind tibia 29
- 14 Metacarp short, at most only slightly more than twice as long as its distance from the apex of the radial cell.
- Stigma colourless, with darker border ; ovipositor moderately thick 15
- Metacarp longer, at least three times as long as its distance from the apex of the radial cell 18
- 15 Mesopleurum pubescent all over, at most a very small bare zone in front of the middle coxa ; mesoscutum with a very characteristic dense, silvery, pubescence that, on posterior half of the mesoscutum, becomes longer and more silky.
- Eyes not convergent 16
- Mesopleurum with a large, oblique zone that is completely free from hairs ; pubescence of the mesoscutum shorter, of normal appearance 17
- 16 Tegula ivory-white ; ovipositor sheath as long as the hind tibia, not at all falcate apically *articas* sp. n. (p. 112)
- Tegula pale brown ; ovipositor sheath fully one and a quarter times longer than the hind tibia, markedly falcate apically *mutilia* sp. n. (p. 113)
- 17 Ovipositor sheath hardly as long as the hind tibia ; eyes distinctly convergent ; inner spur of the hind tibia rather weak, not reaching beyond the middle of the hind basitarsus *lycidas* sp. n. (p. 113)
- Ovipositor sheath distinctly longer than the hind tibia ; eyes virtually not convergent ; inner spur of the hind tibia stronger, reaching distinctly beyond the middle of the basitarsus. Philippines *upis* sp. n. (p. 117)

- 18 Stigma more or less pellucid, at most with a faintly darker border 19
 - Stigma evenly brownish all over 27
- 19 Metacarp not longer than the stigma.
 Antenna very short ; 1st cubital cell very sparsely setose ; ovipositor without
 an apical constriction **nemesis** sp. n. (p. 114)
 - Metacarp distinctly longer than the stigma 20
- 20 Ovipositor sheath not longer than the hind tibia 21
 - Ovipositor sheath distinctly longer than the hind tibia 24
- 21 Antenna much shorter than the body, the four preapical segments virtually not longer
 than wide.
 Venation proximal to the areolet without trace of pigmentation ; ovipositor
 sheath about as long as the hind tibia ; ovipositor with abrupt apical constriction
nivellus sp. n. (p. 115)
 - Antenna not so strikingly shorter than the body, the four preapical segments dis-
 tinctly longer than wide 22
- 22 Lateral third of propodeum in far greater part without raised rugosities, the surface
 with dull microsculpture which has a satin-like sheen ; disc of scutellum, except
 narrowly along sides, smooth, shining ; at least the apical half of the hind tibia
 deeply infusate ; horizontal surface of tergite 1 typical of subgroup, smooth,
 with satin-like sheen 23
 - Lateral third of propodeum with numerous, raised rugosities, the surface very shiny
 and without a satin-like sheen ; disc of scutellum somewhat dull by reason of vague
 rugulosity, somewhat weaker medially ; hind tibia reddish-yellow with extreme
 tip faintly infusate ; horizontal surface of tergite 1 coarsely rugose
linus sp. n. (p. 120)
- 23 Ovipositor very thin, rather abruptly downcurved at apex (Text-fig. 105) ; hind tibia
 becoming markedly reddish-yellow proximal to middle **drupes** sp. n. (p. 115)
 - Ovipositor rather thick, evenly but weakly curved (Text-fig. 106) ; hind tibia black-
 ish, except at extreme base **eublemmae** sp. n. (p. 115)
- 24 Ovipositor thin, downcurved at apex.
 Hind tibia and hind tarsus rather short ; hind spurs short, the inner one not
 quite reaching to middle of hind basitarsus ; antenna rather short, with the pre-
 apical segment about one and one third times longer than wide 25
 - Ovipositor thick, evenly downcurved throughout but not strongly so 26
- 25 Ovipositor more abruptly downcurved at apex ; ovipositor sheath narrower (Text-
 fig. 161) ; claws of hind tarsus less well developed ; hypopygium less well
 developed and less strongly sclerotised **oscus** sp. n. (p. 116)
 - Ovipositor less abruptly downcurved at apex ; ovipositor sheath considerably
 thicker ; claws of the hind tarsus more strongly developed ; hypopygium more
 strongly developed, longer, more heavily sclerotised (Text-fig. 92)
olorus sp. n. (p. 117)
- 26 Ovipositor slightly less thick ; fore wing with more pigmentation, at least the 1st and
 2nd abscissae of the discoideus and the nervulus fully pigmented ; stigma dark,
 only faintly paler medially ; tergite 1 more strongly narrowed behind ; antenna
 markedly shorter than the body ; inner spur of the hind tibia more obviously longer
 than the 2nd segment of the hind tarsus **rhipheus** sp. n. (p. 117)
 - Ovipositor thicker (Text-fig. 108) ; fore wing glass-clear with milky tint and the
 venation proximal to the areolet without pigmentation ; stigma almost colourless,
 with thin, dark border ; tergite 1 less strongly behind ; antenna about as long as
 the body ; inner spur of the hind tibia less obviously longer than the 2nd segment
 of the hind tarsus **paralus** sp. n. (p. 117)
- 27 Mesoscutum very shiny, its sculpture superficial except for the usual coarsening of
 sculpture at the posterior end of the notaulic courses ; antenna very short, about

- as long as head plus thorax ; the four preapical segments virtually square in outline ; median cell almost bare and in distal half with about 6 setae ; ovipositor very long, about twice as long as its sheath, rather thin and abruptly downcurved in apical third (Text-fig. 102) *oroetes* sp. n. (p. 119)
- Mesoscutum dull all over, finely rugose, the notaulic courses showing as still duller bands that widen posteriorly ; antenna nearly as long as the body, with the four preapical segments distinctly longer than wide ; median cell fairly densely setose, though at first sight appearing nearly bare, the setae colourless and easily overlooked ; ovipositor much shorter, evenly and weakly curved throughout 28
- 28 Disc of scutellum more strongly, even quite strongly, rugose all over ; mesoscutum more strongly rugose, the duller bands of the notaulic courses in weaker contrast with the rest of the surface ; ocelli further apart, the distance between the anterior ocellus and a posterior ocellus almost one and a half times greater than the diameter of the posterior ocellus *hersilia* sp. n. (p. 119)
- Disc of scutellum less strongly rugose ; mesoscutum less strongly rugose, the duller bands of the notaulic courses in stronger contrast with the rest of the surface and more obviously widened posteriorly ; ocelli closer together, the distance between the anterior ocellus and a posterior ocellus not greater than the diameter of the posterior ocellus *coilus* sp. n. (p. 119)
- 29 Ovipositor very thick, straight, except at apex (Text-fig. 104) ; distance between the posterior ocelli distinctly greater than the distance between one of them and the eye-margin ; antenna much shorter than the body *alaspheus* sp. n. (p. 114)
- Ovipositor much thinner, slightly curved throughout ; this distance not at all greater than the distance between a posterior ocellus and the eye-margin ; antenna about as long as the body *evadne* sp. n. (p. 116)

Apanteles trabea sp. n.

♀. Legs entirely dark. Wings faintly tinted ; stigma pale with distinctly darker border.

Frons above, vertex and temples appearing dull and greyish owing to fine microsculpture and fine pubescence. Eyes (Text-fig. 97). Antenna a little shorter than the body, thin and with the preapical segment fully one and one third times longer than wide.

Mesoscutum evenly dull, densely, evenly rugose-punctate. Propodeum dull, strongly rugose all over ; areola not defined. Median cell of the fore wing densely setose all over ; hind wing rather narrow. Hind tarsus long, very slender.

Gaster thickly, conspicuously hairy. Tergite 1 parallel-sided, dull, finely, evenly rugose. Ovipositor sheath about three quarters as long as the hind tibia.

Length: ca. 2.5 mm. without ovipositor.

S. AFRICA : Cape Province, Mossel Bay, 6.xii.1933, 1 ♀, the *TYPE*, (*R. E. Turner*). Type in the British Museum (Nat. Hist.).

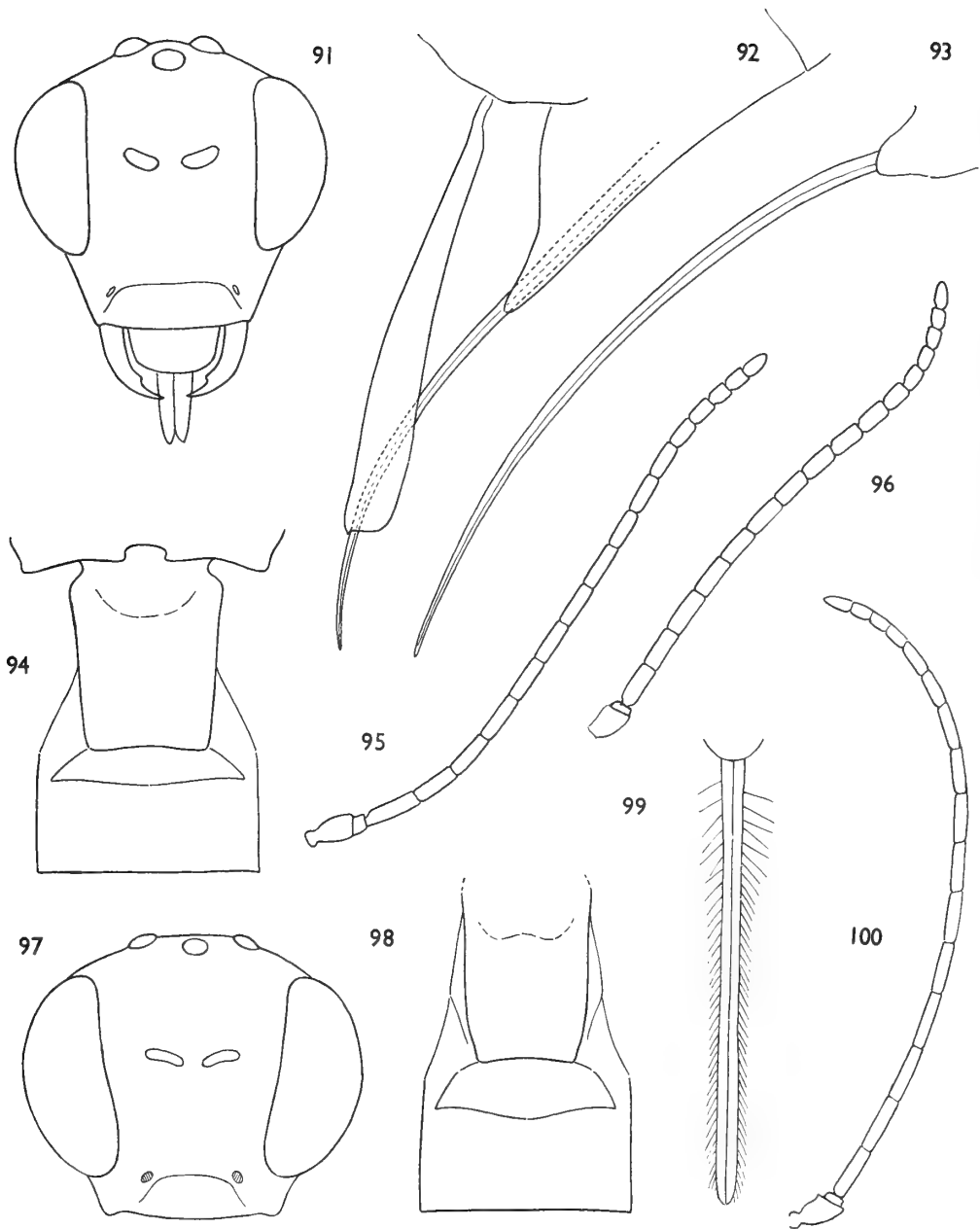
A most distinctive species on account of the short metacarp, convergent eyes and coarse thoracic sculpture.

Apanteles rosaces sp. n.

♀. Another species with the head subtriangular from in front but not at all closely related to *trabea*.

Hind tibia dark brown on apical half but becoming very faintly paler towards base ; hind tarsus dark brown throughout. Wings glass-clear but the stigma evenly brown.

Head from in front (Text-fig. 91). Eyes not at all convergent. Face shiny, smooth. Antenna fully as long as the body, very thin and with the preapical segment fully one and half times longer than wide.



FIGS. 91-100. *Apanteles*, ♀: 91, *rosaces* sp. n., head, from in front; 92, *olorus* sp. n., ovipositor; 93, *rhipheus* sp. n., same; 94, *alaspharus* sp. n., basal tergites; 95, *hersilia* sp. n., antenna; 96, *coilus* sp. n., same; 97, *trabea* sp. n., head, from in front; 98, *evadne* sp. n., basal tergites; 99, *rhipheus* sp. n., ovipositor sheath, from above; 100, *camirus* sp. n., antenna.

Mesoscutum weakly shining, finely rugose and nowhere with obvious punctation; a large patch of duller, coarser rugosity at the posterior end of the notaulic course. Disc of scutellum distinctly rugose along sides. Propodeum on each side of the weakly defined V-shaped areola strongly shining and almost smooth. Hind tibia with a series of stout spines along upper, outer surface (these are rather more numerous and more evenly spaced than in *eriophyes*). Edge of vannal lobe slightly concave.

Horizontal part of tergite 1 fairly strongly narrowed to apex (Text-fig. 103), its surface shiny, almost smooth except for a very fine surface sculpture. Ovipositor rather thick with a distinct apical constriction.

Length: ca. 2.5 mm. without ovipositor.

S.W. AFRICA: Aus, i.1930, 2 ♀♀, one the *TYPE*, 8-30.xi.1929, 1 ♀, (*R. E. Turner*).
Type in the British Museum (Nat. Hist.).

This species is largely characterized by the shortness of the ovipositor sheath; the metacarp is relatively slightly longer than in the related *eriophyes* and the wings have a particularly glassy appearance.

Apanteles arion sp. n.

♀. Very close to *rosaces* from which it differs chiefly by the characters given in the key.

Hind tibia almost as black as its femur.

Antenna of decidedly powerful build in comparison with that of *rosaces*.

Scutellum dull, punctate, though the punctures are weaker and sparser medially. Metacarp slightly longer, about one and a half times longer than its distance from the apex of the radial cell. Spines along upper, outer surface of hind tibia shorter and rather more numerous than in *rosaces*.

Tergite 1 hardly narrowed behind but its sculpture like that of *rosaces*. Ovipositor thicker, and though with a constricted apical part, shorter than in *rosaces*.

S. AFRICA: Cape Province, Matjesfontein, 14-27.xi.1928, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

This species is very closely related to *rosaces* but is certainly distinct from that species.

Apanteles eriophyes sp. n.

♀. Very closely related to *rosaces* with which it may be compared as follows:—

Stigma somewhat yellowish with a darker border; wings milky white rather than clear hyaline.

Head from in front less rostriform (cf. Text-fig. 91). Antenna considerably shorter than the body, lacking the characteristically thin appearance of *rosaces* and with the preapical segment not more than one and one third times longer than wide.

Spines of the outer side of the hind tibia slightly less numerous (not an easy difference to appreciate!).

Ovipositor thinner, without an obvious apical constriction.

Length: 2-2.4 mm. without ovipositor; on the average a slightly smaller species than *rosaces*.

S. AFRICA: Pretoria, ii.1940, series bred from *Plutella maculipennis*, 1 ♀, the *TYPE*, (*G. C. Ulyett*); Cape Province, Aliwal North; Camp's Bay; Ceres; Matjesfontein; Worcester; numerous examples (*R. E. Turner*); Basutoland, Mamathes.

Type in the British Museum (Nat. Hist.).

Host : *Plutella maculipennis* Curtis. Evidently a gregarious parasite.

The most obvious differences between this species and *rosaces* lie in the length of the antenna and of the ovipositor sheath.

Apanteles patens sp. n.

♀. This species is related to both *eriophyes* and *rosaces* on the shortness of the metacarp and in having a somewhat triangular head as seen from in front. It may be compared with these two species as follows:—

Hind tibia becoming markedly yellowish on basal half. Wings distinctly brownish.

Face dull, finely roughened. Antenna almost as long as in *rosaces* but slightly less thin and with the preapical segment about one and one third times longer than wide.

Mesoscutum duller, more coarsely sculptured than in either *rosaces* or *eriophyes*. Propodeum dull, finely sculptured all over. Median cell densely setose all over ; hind wing narrower than in *eriophyes*.

Tergite 1 shorter, almost subquadrate and, like the median field of tergite (2 + 3), dull, with a fine, almost shagreened surface ; rest of tergite (2 + 3) microscopically roughened, with a dull, satin-like sheen. Pubescence of gaster very fine and inconspicuous. Ovipositor sheath about three quarters as long as the hind tibia.

Length: ca. 2.5 mm. without ovipositor.

S. AFRICA : Cape Province, Mossel Bay, 5-31.vii.1921, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

With regard to the appearance of the wings—colour and dense, dark setae of the median cell—this species is also very like *trabea*. It differs, however, from this species strikingly in having non-convergent eyes. The sculpture of the basal tergites of *patens* is very characteristic.

Apanteles camirus sp. n.

♀. Another species with a markedly rostriform face and short metacarp but differing from *trabea*, *rosaces*, *eriophyes* and *patens* in having a much longer ovipositor and a longer, extremely thin antenna (Text-fig. 100).

Eyes not at all convergent. Face strongly shining. Antenna with the preapical segment about one and a half times longer than wide ; segment 14 fully twice as long as wide.

Sculpture of mesoscutum and disc of scutellum as in *rosaces*. Propodeum as described for *rosaces*. Wings as in *rosaces* and *eriophyes* ; stigma evenly dark brown ; setae of the median and submedian cells very sparse.

Sculpture and shape of tergites 1 and (2 + 3) as in *rosaces* ; sometimes the horizontal part of tergite 1 shows a weak indication of a longitudinal furrow.

Length: ca. 3 mm. without ovipositor.

S. AFRICA : Cape Province, Matjesfontein, 7-13.xi.1928, 12 ♀♀, one the *TYPE*, 14-27.xi.1928, 4 ♀♀, (all *R. E. Turner*).

Type in the British Museum (Nat. Hist.).

An easily distinguished species, most clearly related perhaps to *rosaces* but differing at once from that species on the length of the ovipositor.

Apanteles eupolis sp. n.

♀. A species with non-convergent eyes and a metacarp between four and five times as long as its distance from the apex of the radial cell.

Wings hyaline with a milky tint ; stigma yellowish brown with darker border ; setae colourless.

Mesoscutum somewhat dull, with two large, duller areas of stronger, coarser rugosity behind. Areola of the propodeum and the two postero-lateral areas indicated through the surface becoming strongly shining and almost smooth.

Tergite 1 large, almost subquadrate. Ovipositor moderately thick.

Length: ca. 2.8 mm. without ovipositor.

S. AFRICA : Cape Province, Mossel Bay, x.1921, 2 ♀♀, one the TYPE, 5-31.viii.1921, 1 ♀, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

This species is largely characterized by the shape of the first tergite. The appearance of the gaster is, in fact, strongly reminiscent of *cyprionides*, a species I have placed near the oriental *opacus*. A resemblance to *cyprionides* is also indicated in the approach to propodeal areolation. Nevertheless, I am inclined to think that this resemblance is due more to convergence than to natural affinity.

Apanteles navius sp. n.

♀. Although falling in the same couplet as *eupolis*, this species is far more closely related to *rosaces* and its allies than to *eupolis*.

Hind tibia becoming markedly paler on basal half. Wings milky hyaline ; stigma pellucid with faintly darker border.

Eyes not convergent. Head from in front subtriangular ; face faintly dull, with satin-like sheen. Antenna distinctly shorter than the body with the preapical segment about one and a quarter times longer than wide.

Mesoscutum quite dull, its pubescence very dense and silvery. Disc of scutellum faintly dull. Propodeum weakly shining and with traces of sculpture, more especially in front. Hind wing rather broad ; setae of the median cell dense and evenly distributed.

Tergite 1 markedly narrowed behind, its sculpture very fine ; the general appearance of this tergite is quite different from that of *eupolis*. Ovipositor sheath about one and a quarter times as long as the hind tibia.

Length: ca. 2.8 mm. without ovipositor.

S. AFRICA : Basutoland, Mamathes, 8.ii.1948, 2 ♀♀, one the TYPE, (C. Jacot-Guillarmod).

Type in the British Museum (Nat. Hist.).

Apanteles ione sp. n.

This species and the next—*triareus*—are closely related. Both have a dark brown stigma, glassy wings without a milky tint, distinctly convergent eyes so that the face is much less transverse than in *navius* for example and a somewhat narrow first tergite that is distinctly narrowed behind.

♀. The setae of the four basal cells of the fore wing are unusually sparse and very short and inconspicuous, so that the wings have a polished, glassy appearance. Propodeum on each side

of the weakly indicated areola becoming smooth and highly polished. Ovipositor sheath as long as the hind tibia ; ovipositor rather thin.

Length: ca. 2.2 mm. without ovipositor.

S. W. AFRICA : Aus, i.1930, 1 ♀, the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

The fore wing of this species shows the same degree of setosity as in *rosaces* but the two species are different on the length of the metacarp *inter alia*.

Apanteles triareus sp. n.

The differences between this species and *ione* have been mentioned above.

♀. Posterior ocelli further apart, the distance between them distinctly greater than the distance between one of them and the eye-margin.

The fore wing lacks the glassy, highly shining appearance seen in *ione*, largely due to the setae being more numerous. Propodeum covered all over with short, wavy rugae.

Ovipositor sheath with long, more upstanding hairs ; ovipositor slightly thicker and less curved.

S. AFRICA : Cape Province, Mossel Bay, 24.xii.1938, 1 ♀, the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

Apanteles dido sp. n.

♀. Closely related to both *triareus* and *ione*, with the posterior ocelli as wide apart as in *triareus*.

The appearance of the mesoscutum and of the disc of the scutellum is exactly as in *triareus*. The wings are more like those of *triareus* than *ione* ; the setae of the basal cells of the fore wing are colourless whereas in *triareus* and *ione* they are brownish.

Ovipositor thicker than in both the related species, evenly and quite strongly curved throughout.

Length: ca. 2 mm., without ovipositor.

S. AFRICA : Cape Province, Mossel Bay, 5-31.vii.1921, 1 ♀, the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

The form of the antenna is important for the recognition of this species ; it is hardly different from that of *camirus* (cf. Text-fig. 100).

Apanteles articas sp. n.

♀. Hind tibia dark brown throughout. Stigma almost colourless, faintly bordered with darker colouring ; metacarp brown ; venation proximal to the areolet colourless.

Head from in front not in the least triangular, the face wide and the eyes not convergent. Antenna short, shorter than the body, with the preapical segment about one and a quarter times longer than wide.

Sculpture of the mesoscutum more or less hidden by the dense pubescence ; very fine, dull, slightly duller along the course of the notaulices. Propodeum typical of the *eublemmae*-subgroup ; areola virtually not indicated. Metacarp hardly twice as long as its distance from the apex of the radial cell.

Tergite 1 rather broad, hardly narrowed behind, its surface shiny in spite of weak rugosity that is more in evidence towards sides. Ovipositor sheath as long as the hind tibia; ovipositor moderately thick.

Length: ca. 2.5 mm. without ovipositor.

W. AFRICA: Senegal, Bambey, 2 ♀♀, one the *TYPE*, ex *Argyroploce wahlbergiana* on rice, (*J. Risbec*).

Type in the British Museum (Nat. Hist.).

Host: *Argyroploce wahlbergiana* Zeller (Tortricidae).

A very distinct species, characterized by its ivory-white tegulae and the curiously dense, silky pubescence of the mesoscutum and disc of scutellum.

Apanteles mutilia sp. n.

♀. A second species with densely pubescent mesopleurum and a mesoscutal pubescence similar to that of *articas*, to which species it is closely related, differing from it only in a few details.

Head above appearing slightly more greyish owing to denser pubescence.

Lateral, polished zone of the scutellum pushed further forwards, the furrow between itself and the disc narrower than in *articas*.

Tergite 1 with its horizontal surface more elongate (Text-fig. 107), its surface smoother, almost unsculptured. Ovipositor sheath about one and a quarter times longer than the hind tibia, falcate apically; ovipositor thinner, distinctly falcate apically.

AFRICA: Sudan, 1 ♀, the *TYPE*, bred, 7.iv.1929, from gall on "talh", (*H. W. Bedford*).

Type in the British Museum (Nat. Hist.).

Apanteles nepe sp. n.

♀. Hind tibia dull reddish, becoming infuscate in about apical third. Stigma dark brown. Eyes hardly convergent. Distance between the posterior ocelli considerably greater than the distance between one of them and the eye-margin.

Sculpture of mesoscutum like that of *eupolis* and *navius*. Propodeum shiny in spite of feeble rugosities. Metacarp slightly longer than twice its distance from the apex of the radial cell.

Ovipositor sheath slightly longer than the hind tibia; ovipositor rather thin, weakly curved.

Length: ca. 2.3 mm. without ovipositor.

S. AFRICA: Cape Province, Matjesfontein, 7-13.xi.1928, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

Distinct from all the other species of the *eublemmae*-subgroup on the spines of the outer side of the hind tibia.

Apanteles lycidas sp. n.

♀. A species with normal mesopleural pubescence and with a mesoscutal pubescence more like that of the species clustering around *rosaces* and *navius* than *articas* and *mutilia*.

The venation proximal to the areolet is weakly but distinctly pigmented.

Eyes distinctly convergent below. Face somewhat dull and finely roughened. Antenna almost as long as the body with the preapical segment about one and one third times longer than wide.

Mesoscutum with a dull, even, rather coarse rugosity, the surface appearing somewhat silvery-grey. Metacarp about twice as long as its distance from the apex of the radial cell.

Tergite 1 distinctly narrowed behind, as in *rosaces*, (Text-fig. 103). Ovipositor sheath about as long as the hind tibia; ovipositor moderately thick.

Length: ca. 2.5 mm. without ovipositor.

S. AFRICA : Cape Province, Mossel Bay, iv.1921, 1 ♀, the *TYPE*, 26-31.x.1933, 1 ♀, (*R. E. Turner*) ; Somerset East, 23-31.xii.1930, 1 ♀, (*R.E.T.*).

Type in the British Museum (Nat. Hist.).

Apanteles alaspharus sp. n.

♀. Wings hyaline with milky tint ; the venation proximal to the areolet colourless ; stigma very pale, virtually without darker border.

Head from in front somewhat triangular but the mouth parts apparently not lengthened. Antenna shorter than the body with the preapical segment slightly longer than wide.

Sculpture of mesoscutum fine, dull. Propodeum short, its surface shiny and almost smooth. Spurs of the hind tibia short, the inner one not reaching beyond the middle of the basal segment of the tarsus. Metacarp about three and a half times as long as its distance from the apex of the radial cell.

Tergite 1 very slightly narrowed behind (Text-fig. 94), its surface almost smooth. Ovipositor (Text-fig. 104).

Length: ca. 2.8 mm. without ovipositor.

S. AFRICA : Cape Province, Toise River, xi.1923, 1 ♀, the *TYPE*, ex larva of *Eublemma lentirosea*, (*N. K. Munro*).

Type in the British Museum (Nat. Hist.).

Host : *Eublemma lentirosea* Hampson (Noctuidae).

I refer to this species a single headless female from Senegal, Bambey, bred from a Limacodid on cabbage. It differs from the type in a few details and may in fact, were the head present, represent a different species. The hind tibia of this female is dull reddish whereas in the type it is very dark on apical half; the first tergite is broader and not narrowed behind (Text-fig. 94) and the hind spurs are slightly shorter than in the type.

A. alaspharus differs strikingly from the other members of the *eublemmae*-subgroup because of its long, thick ovipositor.

Apanteles nemesis sp. n.

♀. Tegulae ivory-white ; at least the 1st and 2nd abscissae of the discoideus and also the nervulus distinctly pigmented.

Head from in front markedly transverse. Face dull, with satin-like sheen. Eyes hardly convergent. Distance between the posterior ocelli distinctly greater than the distance between one of them and the eye-margin. Antenna very short, the four preapical segments virtually square in outline.

Mesoscutum dull, its sculpture very fine ; a patch of duller sculpture at posterior end of notaulic courses. Metacarp three times as long as its distance from the apex of the radial cell.

Tergite 1 slightly narrowed behind, strongly shining, almost polished and with hardly a trace of sculpture. Ovipositor sheath as long as the hind tibia; ovipositor somewhat thick, evenly curved throughout.

Length: ca. 1.8 mm. without ovipositor.

S. W. AFRICA: Aus, 1.1930, 2 ♀♀, one the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

Apanteles nivellus sp. n.

♀. This species is extremely like *nemesis*. The differences between the two species, though small, are significant enough, I think, for specific separation. A comparison follows:—

Tegulae brownish and inconspicuous; all the venation proximal to the areolet colourless.

Face strongly shining. Antenna relatively a little shorter, much shorter than the body, with the apical segments less closely articulated and the whole flagellum with somewhat bristly pubescence. Ocelli closer together, the distance between the posterior pair being not at all greater than the distance between one of them and the eye-margin.

Disc of scutellum smoother, more shiny than in *nemesis*.

Tergite 1 more narrowed behind and with the dull satin-like sheen characteristic of most of the related species.

W. AFRICA: Gold Coast, Aburi, 1912–1913, 12 ♀♀, one the *TYPE*, (*W. H. Patterson*). From the size of the series it is probable that the species is gregarious.

Type in the British Museum (Nat. Hist.).

Apanteles drupes sp. n.

♀. Closely related to both *nemesis* and *nivellus*. It may be compared with *nemesis* as follows:—

Tegula blackish, inconspicuous. Venation proximal to the areolet pigmented throughout; stigma darker, yellowish but with distinctly darker border.

Head from in front slightly less transverse. Antenna longer, the four preapical segments about one and a quarter times longer than wide.

Mesoscutum slightly more shiny but the difference is small. Metacarp a little longer in relation to its distance from the apex of the radial cell, about four times as long; 1st cubital cell rather densely setose.

Tergite 1 more narrowed behind than in *nemesis* and with a dull, satin-like sheen. Ovipositor considerably thinner, downcurved at apex (Text-fig. 105).

S. AFRICA: Cape Province, Mossel Bay, vi. 1921, 1 ♀, the *TYPE*, x. 1921, 1 ♀, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

This species together with *nemesis* and *nivellus* are all very closely related and in need of further study. They differ among themselves essentially on the structure of the ovipositor.

Apanteles eublemmae sp. n.

♀. A large species, ca. 3 mm. without ovipositor, closely related to *nemesis* and *drupes*.

Hind tibia blackish except at extreme base; wings milky-white; stigma very pale; venation proximal to the areolet colourless.

Head from in front very slightly transverse. Face shining, almost smooth. Top of head completely dull, owing to fine rugosity overlaid with a satin-like sheen. Antenna shorter than the body with the preapical segment about one and a third times longer than wide.

Sculpture of mesoscutum fine, exactly as in *nemesis* and *drupes*. Propodeum typical of group; on either side of a weakly defined areola, the surface is dull, almost smooth. Metacarp about three times as long as its distance from the apex of the radial cell; hind wing decidedly broad.

Tergite 1 only very slightly widened behind; its horizontal surface dull, with a very fine microsculpture and having a satin-like appearance. Ovipositor sheath as long as the hind tibia (Text-fig. 106).

E. AFRICA: Tanganyika Territory, Moshi, vii.1929, 3 ♀♀, one the *TYPE*, ex "pupa" of *Eublemma costimacula*, (*A. H. Ritchie*); Kenya, Kiambu, 1932, 7 ♀♀, 1 ♂, ex *Eublemma costimacula* (*R. H. le Pelley*). S. AFRICA: Pondoland, Port St. John, v.1924, 1 ♀, (*R. E. Turner*); Cape Province, Mossel Bay, ii.1932, 1 ♀, (*R. E. T.*).

Type in the British Museum (Nat. Hist.).

Host: *Eublemma costimacula* Saalmüller (Noctuidae).

Apanteles evadne sp. n.

♀. Tegula ivory-white. Wings milky-white; stigma pale; venation proximal to the areolet colourless. Hind tibia virtually black throughout.

Vertex shiny and with hardly a trace of the dull surface sculpture characteristic of the *eublemmae*-subgroup. Face smooth, shiny. Head from in front not in the least subtriangular. Eyes not convergent. Antenna about as long as the body with the preapical segment about one and a half times longer than wide.

Mesoscutal sculpture typical of the subgroup. Disc of scutellum polished and with only a faint trace of roughness along sides. Propodeum rather long, with large, well defined U-shaped areola, which is above almost closed and within, polished. Legs slender; hind tarsus particularly long. Metacarp about three times as long as its distance from the apex of the radial cell; 1st abscissa of the radius fully twice as long as the transverse cubitus.

Tergite 1 shiny, without a satin-like sheen, covered with sparse rugosities and irregular pits. Gaster elongate, with the median field of tergite (2 + 3) relatively large (Text-fig. 98). Ovipositor moderately thick.

Length: ca. 2.8 mm. without ovipositor.

AFRICA: Uganda, Kampala, 5.x.1929, 1 ♀, the *TYPE*, ex *Tortrix* sp., (*G. L. R. Hancock*); Bukalata, 11.viii.1935, 1 ♀, ex cocoon on cotton leaf, (*T. H. C. Taylor*).

Type in the British Museum (Nat. Hist.).

This slenderly built species is not altogether typical of the *eublemmae*-subgroup, especially with regard to the long first abscissa of the radius. It could be confused only with *alaspheus* on the length of the ovipositor, though this is much thinner in *evadne*. Furthermore, *evadne* has a longer antenna than *alaspheus*.

Apanteles oscus sp. n.

♀. This species is closely related to *olorus*.

Build slightly less robust. Metacarp about five times as long as its distance from the apex of the radial cell. Tergite 1 slightly less narrowed apically. Ovipositor (Text-fig. 101).

Length: ca. 2.5 mm. without ovipositor.

S. AFRICA : Pondoland, Port St. John, 12-30.vi.1933, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

Apanteles olorus sp. n.

♀. Metacarp about four times as long as its distance from the apex of the radial cell. Hind tibia and hind tarsus slightly thicker than in *osculus* with fewer thickened spines on the outer side of the hind tibia. Tergite 1 slightly more narrowed apically than in *osculus*. Hypopygium (Text-fig. 92).

S. AFRICA : Pondoland, Port St. John, x.1923, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

The difference between this species and *osculus* are decidedly tenuous and further specimens may show that they are not valid for specific differentiation.

Apanteles rhipheus sp. n.

♀. This species differs from both *osculus* and *olorus* in having a much thicker ovipositor. It is closely related to *eublemmae* with which it may be compared as follows:—

Stigma less pallid ; venation proximal to the areolet clearly pigmented. Hind wing narrower. Tergite 1 more narrowed behind. Ovipositor longer (Text-fig. 99).

S. AFRICA : Cape Province, Mossel Bay, 18-30.xi.1921, 1 ♀, the *TYPE*, 5-31.vii.1921, 1 ♀, xii.1921, 1 ♀, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

Apanteles paralus sp. n.

♀. In colour, the wings of this species are indistinguishable from those of *eublemmae* but the metacarp is slightly longer in relation to its distance from the apex of the radial cell.

Antenna as long as the body, that is, markedly longer than in both *rhipheus* and *eublemmae*. Disc of scutellum more narrowed behind than in *eublemmae*, slightly convex and sculptured weakly almost all over ; towards sides the sculpture becomes longitudinal.

Tergite 1 markedly rugose compared with *eublemmae*. Ovipositor sheath longer than in *eublemmae* and the ovipositor considerably thicker.

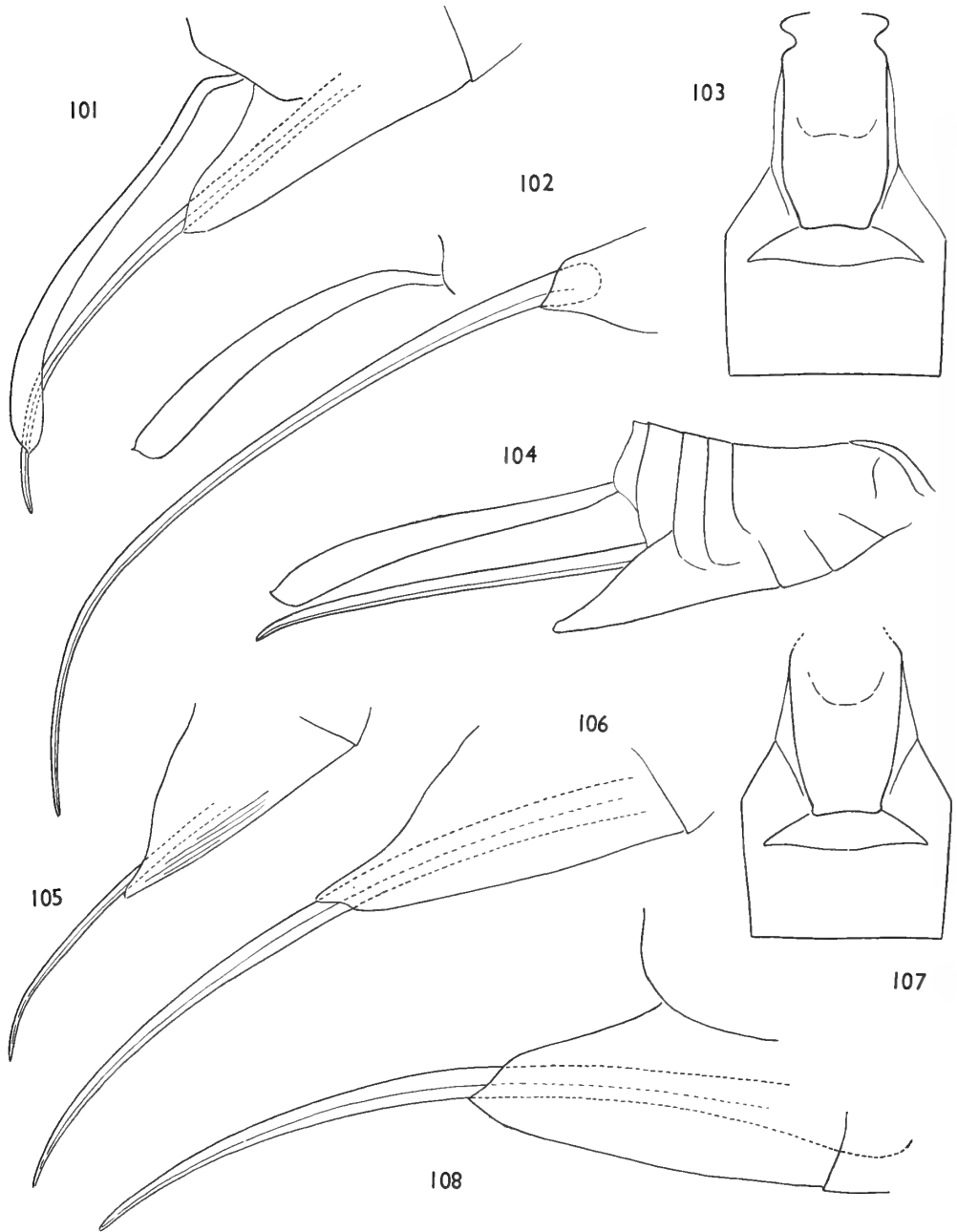
S. AFRICA : Cape Province, Ceres, 2-21.iii.1921, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

The relationship between this species and *eublemmae-rhipheus* is very close and the species are in need of further study.

Apanteles upis sp. n.

♀. Here is a species closely related to both *eublemmae* and *rhipheus* but differing from both in having the metacarp about twice as long as its distance from the apex of the radial cell. It is more like *rhipheus* than *eublemmae*, differing from it only in a few details:—



FIGS. 101-108. *Apanteles*, ♀: 101, *osculus* sp. n., ovipositor; 102, *oroetes* sp. n., same; 103, *rosaces* sp. n., basal tergites; 104, *alaspheus* sp. n., ovipositor; 105, *drupes* sp. n., same; 106, *eublemmae* sp. n., same; 107, *mutilia* sp. n., basal tergites; 108, *paralus* sp. n., ovipositor.

Propodeum with slightly more rugosity ; areola almost closed above. Hind wing slightly broader than in *rhipeus*. Ovipositor sheath slightly shorter ; seen from above, with its hairs much more upstanding (cf. Text-fig. 99).

PHILIPPINES : Mt. Banahao, 1 ♀, the *TYPE*, (*Baker*) ; Bukidnon, Tangcolan, 1 ♀, (*Baker*).

Type in the U.S. National Museum.

This is the only species of the *eublemmae*-subgroup, that is known to me outside the continent of Africa.

Apanteles oroetes sp. n.

♀. Wings clear hyaline without milky tint ; stigma dark brown.

Propodeum very smooth, its satin-like sheen very weak.

Tergite 1 strongly narrowed behind, its surface like that of the propodeum. Ovipositor sheath about as long as the hind tibia but the ovipositor fully twice as long as its sheath.

Length: ca. 2 mm. without ovipositor.

S. W. AFRICA : Aus, i.1930, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

With its very short antenna and long ovipositor, this little species is very distinct. No other species in the *eublemmae*-subgroup shows a similar reduction in the strength of the mesoscutal sculpture.

Apanteles hersilia sp. n.

This species and the next—*coilus*—are closely related.

♀. Head somewhat triangular from in front ; in a lateral view, the clypeus somewhat protuberant. Antenna thin, about as long as the body and of somewhat characteristic appearance ; the flagellar segments rather abruptly diminish in length towards apex (Text-fig. 95) ; the preapical segment is fully one and a half times longer than wide.

Tergite 1 widened just where it turns over and thence narrowed to apex but not strongly so, its surface quite strongly rugose.

Length: ca. 2.4 mm. without ovipositor.

S. AFRICA : Cape Province, Mossel Bay, iv.1921, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

This little species is essentially characterized by the coarseness of its mesoscutal and scutellar sculpture.

Apanteles coilus sp. n.

♀. Head not in the least subtriangular seen from in front ; in a lateral view, the clypeus not protuberant as in *hersilia*. Antenna a little shorter, of ordinary appearance (Text-fig. 96). Sculpture of tergite 1 and of propodeum finer than in *hersilia*. Tergite 1 hardly widened just where it turns over, as in *hersilia*.

S. AFRICA: Cape Province, Ceres, iii.1925, 2 ♀♀, one the *TYPE*, iv.1925, 1 ♀ ; Aliwal North, 4,350 ft., 1-13.i.1923, 1 ♀, (all *R. E. Turner*).

Type in the British Museum (Nat. Hist.).

There is nothing particularly distinctive about this species ; its sculpture is like that of the majority of the species in the *eublemmae*-subgroup.

Apanteles linus sp. n.

♀. Head from in front not in the least subtriangular. Face faintly dull. Eyes virtually not convergent. Vertex behind the eyes and the temples more strongly roughened than in most of the species of the *eublemmae*-subgroup, the surface covered with fine, raised points. Antenna almost as long as the body with the preapical segment fully one and one third times longer than wide.

Sculpture of the mesoscutum hardly different from that of *eublemmae*. Metacarp about four and a half times longer than its distance from the apex of the radial cell; hairs of the median cell decidedly sparse along the medius side.

Tergite 1 almost parallel-sided, its horizontal surface very slightly transverse. Ovipositor sheath slightly shorter than the hind tibia.

Length: ca. 3 mm. without ovipositor.

S. AFRICA: Natal, Kloof, 1,500 ft., viii.1926, 1 ♀, the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

With regard to the sculpture of the propodeum and of tergite 1, this species is transitional between the species of the *metellus*-complex and the *eublemmae*-subgroup but the wing venation and the shape of the furrows on the side of the pronotum are typical of the *eublemmae*-subgroup.

THE *TAENIATICORNIS* GROUP

Metacarp many times longer than its distance from the apex of the radial cell; hind wing only moderately broad, the length of the 2nd abscissa of the mediella hardly shorter than the distance between its distal extremity and the apex of the vannal lobe (Text-fig. 177); median and submedian cells densely setose all over. Areolation of the propodeum sharp, complete.

Indo-australian region.

This group is largely characterized by the long metacarp in combination with the shape of tergite 1 (Text-fig. 183). It cannot be regarded as sharply distinct from the *ater*-group s.l. and merges into it through such species as *cestius* and *dissors*, both of which I have placed in the *ater*-group.

KEY TO SPECIES

FEMALES

- 1 Sternaulus in the form of a deep, rugulose furrow that extends upwards towards the subalar furrow (Text-fig. 202).
Hind femur entirely yellow; vannal lobe beyond its widest part straight and here with an occasional projecting hair 2
- Sternaulus, if indicated, then in the form of a smooth, broadly hollowed-out furrow 3
- 2 Mesoscutum dull, densely, coarsely rugose-punctate to reticulate-punctate; sternaulus longer, extending upwards as a narrowing, subfoveate groove, virtually as far as the subalar furrow (Text-fig. 202); flagellum longer, showing no distal thickening, the preapical segment about one and a half times longer than wide
phalis sp. n. (p. 121)
- Mesoscutum less dull, and although densely punctate, the sharp, rather large punctures are neither close enough, nor coarse enough, to form rugose-punctation; sternaulus shorter, more evenly deepened and not extending further upwards than the middle

of the upper, convex part of the mesopleurum ; flagellum shorter, showing a distal thickening with at least the two preapical segments only slightly longer than wide

myrsus sp. n. (p. 121)

- 3 Flagellum with a conspicuous yellow band, embracing segments 9-12
taeniaticornis Wilkinson (p. 123)
- Flagellum without such a band though it may become very faintly paler distally 4
- 4 Hind tibia densely spinose along its upper surface (Text-fig. 200) ; mesoscutum dull, densely, sharply punctate.
 Hind claw long and conspicuous, about as long as the fourth segment of the hind tarsus *natras* sp. n. (p. 123)
- Hind tibia not thus densely spinose ; mesoscutum shiny at least on posterior half, its punctation slightly less sharp than in *natras* 5
- 5 Hind claw long (Text-fig. 194), hardly shorter than the fourth segment of the hind tarsus ; antenna faintly paler towards apex and slightly thickened distally, segment 16 being about one and a quarter times longer than wide *nymphis* sp. n. (p. 123)
- Hind claw much shorter than the fourth segment of the hind tarsus (Text-fig. 193) ; antenna very thin, not at all paler distally with segment 16 fully one and a half times longer than wide *conon* sp. n. (p. 124)

Apanteles phalis sp. n.

♀. Legs predominantly yellowish with the apex of the hind tibia and the whole of the hind tarsus faintly infusate ; hind coxa pale brown. Wings faintly brownish ; venation fully pigmented ; stigma brown but not dark brown.

Face smooth, shining. Head above having a smooth, shiny appearance. Distance between a posterior ocellus and the eye-margin fully twice the longer diameter of the ocellus. Antenna longer than the body, thin, the flagellar segments with somewhat bristly pubescence.

The strongly sculptured mesoscutum is in sharp contrast with the smooth head. Disc of scutellum strongly narrowed behind, shiny but with large, though superficial punctures. Metacarp almost closing the radial cell ; hind wing decidedly narrow. Inner spur of the hind tibia not quite reaching the middle of the basal segment of the tarsus ; claws of hind tarsus small, inconspicuous.

Tergite 1 long, narrowly wedge-shaped, much as in *taeniaticornis* (cf. Text-fig. 183), its horizontal surface with a vaguely defined trough that is filled with irregular rugosities and is almost as wide as the tergite itself. Ovipositor sheath as long as the hind tibia ; ovipositor rather thin, weakly, evenly curved.

Length: ca. 2.4 mm. without ovipositor.

PHILIPPINES : Manila, 4 ♀♀, one the TYPE, 9 ♂♂, (*R. Brown*).

Type in the U.S. National Museum.

Easily separated from the other species of the group on the form of the sternaulus.

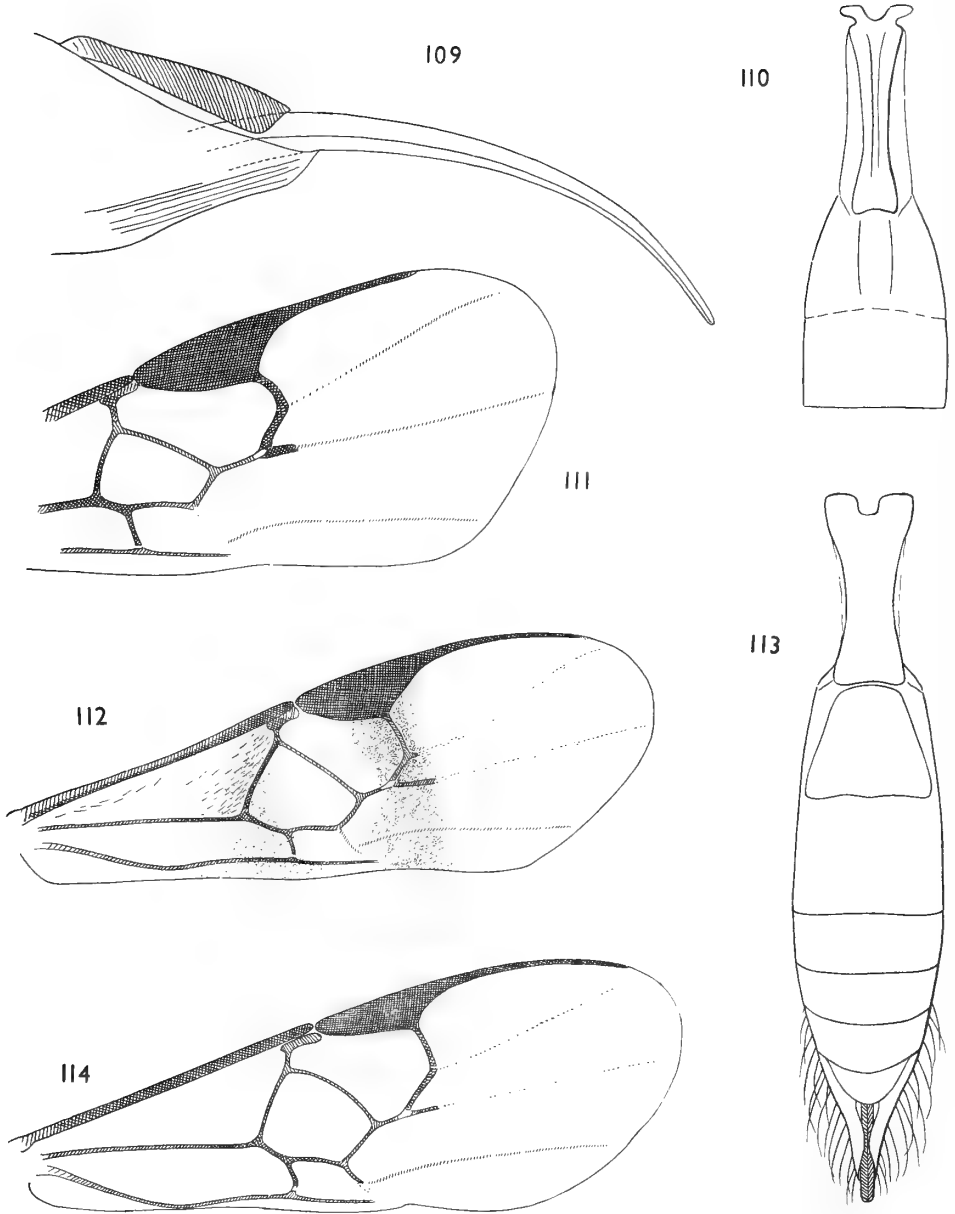
Apanteles myrsus sp. n.

♀. Closely related to *phalis*.

Eyes slightly larger. Distance between a posterior ocellus and the eye-margin distinctly less than the greater diameter of the ocellus.

Furrow between the mesoscutum and the disc of the scutellum slightly less deep than in *phalis* ; disc of scutellum less narrowed behind, slightly flatter and more polished, virtually impunctate.

Tergite 1 not distinctly wedge-shaped though slightly narrowed behind (Text-fig. 181) ; its sculpture, as in *phalis*, coarse.



FIGS. 109-114. *Apanteles*, ♀: 109, *agrus* sp. n., ovipositor; 110, *henicopus* de Saeger, basal tergites; 111, *terminalis* Gahan, fore wing, part; 112, *orphne* sp. n., fore wing (setae of only median cell shown); 113, *pistrinariae* Wilkinson, gaster, dorsal; 114, *iphitus* sp. n., fore wing.

PHILIPPINES : Manila, 11 ♀♀, one the *TYPE*, (*R. Brown*).
Type in the U.S. National Museum.

Because of its wider first tergite, this species loses something of the characteristic appearance of the *taeniaticornis*-group and might be regarded as transitional between this group and the *ater*-group s.l. The most easily appreciated difference between this species and *phalis* is to be found in the shape of the first tergite.

Apanteles taeniaticornis Wilkinson

Apanteles taeniaticornis Wilkinson, 1928a : 109.

This and the following three species form a very compact segregate.

♀. Black ; gaster somewhat brownish but yellow at base beneath ; membranous sides of tergite 1 yellow. Legs on the whole brightly coloured ; hind trochanters yellow and hind femur pale brown ; hind tibia somewhat darker than its femur and yellowish on about basal quarter. Wings distinctly brownish.

Head deep from back to front (Text-fig. 199) ; above smooth, but with satin-like sheen. Antenna slightly longer than the body, somewhat powerfully built with the preapical segment about one and a half times longer than wide.

Mesoscutum faintly dull and with a satin-like sheen ; its punctuation fine but sharp, finer than in both *nymphis* and *conon*. Disc of scutellum polished, impunctate. Mesopleurum with a large, oblong, smooth depression. Hind claws long, as in *nymphis* (cf. Text-fig. 194). Wings (Text-fig. 177).

Horizontal part of tergite 1 smooth, almost without sculpture. Basal tergites (Text-fig. 183). Ovipositor sheath about as long as the hind tibia.

Length: ca. 3 mm. without ovipositor.

JAVA : Tjibodas 5-7,000 ft., 4 ♀♀. (Type locality).
Type in the British Museum (Nat. Hist.).

Apanteles natras sp. n.

♀. May be compared with *taeniaticornis* as follows:—

Paler parts of the legs more reddish than yellowish ; hind tibia reddish brown, paler towards apex and throughout on inner side. Wings less smoky. Antenna broken but segment 12 entirely dark brown.

Head less deep from back to front. Temples with faint but distinct indication of punctuation. Basal segments of the flagellum slightly thicker. Ocelli in a slightly lower triangle.

Mesoscutum duller, more strongly and more evenly punctate. Upper, outer side of hind tibia densely spinose (Text-fig. 200) ; hind tarsus decidedly bristly in comparison with that of *taeniaticornis*.

PHILIPPINES : Benaue, Mt. Prov., 30.xii.1953, 1 ♀, the *TYPE*, (*H. K. & D. Townes*).

Type in Coll. Townes.

Apanteles nymphis sp. n.

♀. Differs from *taeniaticornis* as follows:—

Paler parts of the legs less yellowish but the hind femur paler than in *taeniaticornis* and not darker than the trochanter.

Head from above lacking the subtly distinctive facies of *taeniaticornis* and not so deep from back to front (cf. Text-fig. 199). Antenna slightly longer and thicker, broken after the 16th segment but segment 16 about one and a quarter times longer than wide.

Punctuation of the mesoscutum slightly heavier but the general surface more shiny and lacking the satin-like sheen; the surface of the mesoscutum is more shiny and, at least posteriorly, smoother than in *natras*. Hind claw (Text-fig. 194).

JAVA: Tjibodas, 5-7,000 ft., viii.1913, 1 ♀, the TYPE, (*Koningsberger*).

Type in the British Museum (Nat. Hist.).

Apanteles conon sp. n.

♀. Differs from *taeniaticornis* as follows:—

Antenna broken after the 16th segment but all existing segments completely black. Colour of legs essentially as in *taeniaticornis* with the hind trochanters yellow as in that species.

Head from above as in *taeniaticornis*. Antenna slightly thinner; segment 16 fully one and half times longer than wide.

Punctures of mesoscutum slightly larger. Disc of scutellum distinctly convex; in *taeniaticornis* it is somewhat flattened. Furrow between disc of scutellum and the mesoscutum slightly deeper. Claws smaller (Text-fig. 193).

JAVA: Tjibodas, 5-7,000 ft., viii.1913, 1 ♀, the TYPE, (*Koningsberger*).

Type in the British Museum (Nat. Hist.).

This species is extremely like *taeniaticornis* and *nymphis* and the three species are in need of further study.

THE TRIFASCIATUS-GROUP

The species of this group are all from the Fiji Is., and only *trifasciatus* occurs elsewhere—in Hawaii. But, according to J. W. Beardsley, who was good enough to send me specimens, it is probable that *trifasciatus* itself is an importation into Hawaii.

With the exception of *aglaope*, which belongs to the *ater*-group, I have met with no other species of *Apanteles* showing similar dark markings on the wings. Muesebeck himself made a similar observation. Nevertheless, in spite of their possessing this feature in common, I am not prepared to accept it as a clear indication of a close affinity among these Fijian species. It is possibly no more than a regional pattern, developed independantly by species belonging to different groups.

The species are related to the *ater*-group s.l. *A. cyane* and *A. eurynome* seem to be close to the species clustering around *tirathabae* and *pertiades*.

KEY TO SPECIES

FEMALES

1 Inner spur of the hind tibia much longer than the outer one.

Spp. with the fore wing conspicuously dappled; mesoscutum with a characteristic sculpture; sharply punctate, the punctures becoming larger and more widely separated posteriorly and fading out altogether over a large, posterior, middle area; hind tibia densely spinose and prickly, almost black and with a very sharply contrasted, whitish, basal band; legs decidedly long and with the hind tarsus longer than its tibia; hind coxa laterally compressed and hence almost ridged dorsally 2

Inner spur of the hind tibia only slightly longer than the outer one.

Spp. with the fore wing less conspicuously dappled ; hind tibia less spinose and lacking a prickly appearance 3

- 2 Middle third of flagellum orange-yellow ; dark, proximal cloud of the fore wing filling almost half the median cell, the darkened area densely setose ; apex of fore wing with a dark cloud ; cheeks and temples with a duller, more obvious sculpture of contiguous punctation ; mesoscutum in front with an overlay of delicate surface sculpture and with a satin-like sheen ; propodeum posteriorly and especially around the orifice and along the middle deeply scored with coarse rugosities ; hind femur black to almost red ; hind tarsal segment 1 black and contrasting with the remaining segments which are orange-yellow ; middle part of the face reddish like the scape ; ovipositor sheath only slightly longer than the hind tibia.

Tergite (2 + 3) yellowish-orange to a variable extent *trifasciatus* Muesebeck²

HAWAII, Honolulu, type locality. FIJI Is., Viti Levu, 27.xi.1956, 1 ♀, labelled "on coconut-palm-leaf" ; Cicia, Lau, 5.xi.1945, 1 ♀, (*R. A. Lever*). Type in U.S. National Museum.

Host: Type material recorded by Muesebeck as having been bred from cotton bolls.

- Flagellum black throughout ; proximal cloud of the fore wing much smaller, filling only about distal sixth of the median cell ; the clear part of the median cell is almost without setae (Text-fig. 112) ; apex of the fore wing without a dark cloud ; cheeks and temples more shiny and with a much more superficial sculpture ; punctation of the mesoscutum finer, the microsculpture and the punctures less contrasted ; coarse sculpture of the propodeum less abundant and restricted more or less to the middle line ; sides of propodeum hence more extensively smooth than in *trifasciatus* ; hind femur entirely black ; only the apical 2-3 segments of the hind tarsus pale ; face black ; ovipositor sheath a little longer, fully one and a quarter times longer than the hind tibia *orphne* sp. n.

FIJI Is. : Nadala, 11.x.1942, 1 ♀, the TYPE ; Lami, 19.iv.1945, 1 ♀, 1 ♂, labelled "on *Zea mays*", (*R. A. Lever*). Type in the British Museum (Nat. Hist.).

In this species, the 1st abscissa of the discoideus is almost as long as the 2nd ; in *trifasciatus* it is very distinctly shorter. Both species have the base of the radius distinctly indicated as a short, sclerotised stub. The relationship between the two species is close ; I can suggest no affinity with any particular section of the *ater*-group.

- 3 Mesoscutum with large punctures that are crowded on the anterior, declivous part but posteriorly become widely separated and on about posterior half tend to fade out completely, leaving the surface highly polished and strikingly bare ; edge of vannal lobe almost evenly convex throughout and with distinct hair-fringe ; propodeum along middle with large, rugulose trough ; towards the front, between this trough and the spiracle, the surface is highly polished ; propodeum a little longer than in the other species and with very prominent, posterior corners ; ovipositor sheath about one and a half times longer than the hind tibia.

Mesospleurum with long, wide, deep furrow that is distinctly rugulose ; length : ca. 2.3 mm. without ovipositor *cyane* sp. n.

FIJI Is. : Suva, 19.xii.1939, 3 ♀♀, one the TYPE, 5 ♂♂, (*R. A. Lever*) ; Fiji, 1925, 1 ♀, ex *Agonoxena argaula* Meyrick, (*R. W. Paine*). Type in the British Museum (Nat. Hist.).

This is a much more slenderly built species than the others. The smooth parts of the body are polished and completely lack the satin-like sheen characteristic of the other species. The two clouds of the fore wing are much less well developed and both wings are narrower. The flagellum is imperceptibly thickened in about apical quarter and the two preapical segments are as long as wide.

²*Apanteles trifasciatus* Muesebeck, 1946 : 615.

- Mesoscutum quite differently sculptured ; the surface is closely punctate, with the punctures becoming a little less close posteriorly (but not to the same extent as in *orphne* and *trifasciatus*) ; further, the surface of the mesoscutum has a fine micro-sculpture and a satin-like sheen ; edge of vannal lobe straight and without a hair-fringe ; propodeum with a median, rugulose area that is slightly hollowed out but much less so than in *cyane* ; surface on each side of propodeum faintly dull, owing to fine microsculpture ; propodeum shorter than in *cyane* and like that of *trifasciatus* and *orphne* ; ovipositor sheath as long as the hind tibia ; ovipositor itself decidedly thick ; mesopleural furrow more shallow than in *cyane* ; dull and filled with extremely fine aciculation ***eurynome* sp. n.**

FIJI Is. : Viti Levu, 29.x.1954, 1 ♀, the TYPE, (*B. A. O'Conner*), labelled ? ex *Cryptophlebia pallifimbriana* Bradley (Olethreutidae) in fruits of *Inocarpus edulis*. Type in the British Museum (Nat. Hist.).

The faint proximal cloud of the fore wing hardly extends into the median cell ; the median cell has sparse setae situated over its entire surface but they are still sparser along the medius side of the cell ; the hind tarsus is only slightly longer than its tibia ; in this respect, *eurynome* differs from both *trifasciatus* and *orphne*. The antenna is short with the three preapical segments slightly transverse.

THE *ULTOR*-GROUP

Essentially characterized by the possession of three features, namely, (1) a sharp, very well defined punctuation on the mesoscutum without a trace of longitudinal striation at the posterior end of the imaginary course of the notaulices, (2) a posterolateral propodeal field that is always distinctly a little transverse and (3) a vannal lobe with an evenly convex edge that is fringed throughout with short hairs (Text-fig. 5). In addition, the following features should be noted:— tergite 1 is usually parallel-sided, sometimes slightly widened apically but never wedge-shaped as in many species of the superficially similar *ater*-group.

The group is rich in species in the tropics of the Old World and I know only of a few species from Europe including *ultor* Reinhard.³ It is more homogeneous than the equally abundant *ater*-group. These two groups together make up the bulk of Wilkinson's group S, into which he put all species having a well marked propodeal areola.

THE *NIGRICEPS*-GROUP

The few species that I consider to form this group are all American. The species are chiefly characterized by the curiously unpigmented cheeks, a very smooth-looking, virtually impunctate mesoscutum that is clothed rather densely with silky hairs, the form of the first tergite and the short, evenly sclerotised hypopygium. The group may later be shown to have no more value than that of a small segregate within the large *ater*-group to which it is, in any case, closely related.

The type of *Apanteles nigriceps* (Ashmead)⁴ is in the British Museum (Nat. Hist.).

³*Apanteles ultor* Reinhard, 1880 : 364.

⁴*Urogaster nigriceps* Ashmead, 1900 : 284

Apanteles nigriceps (Ashmead) Muesebeck, 1920 : 504.

THE *PARADOXUS*-GROUP

Monobasic.

Apanteles paradoxus Muesebeck

Apanteles paradoxus Muesebeck, 1958 : 446.

I know this species from two paratypes presented to the British Museum by Dr. Muesebeck.

In general habitus, this species might be taken for a typical member of the *glomeratus*-group. An areolated propodeum, however, is never found in this group. I am inclined to regard *paradoxus* as being related to certain elements in the *ultor*-group. For instance, *Apanteles expulsus* (*ultor*-group, Indo-oriental region) has an ovipositor almost as short as that of *paradoxus* but the rugose part of tergite (2 + 3) does not occupy the full width of the gaster as in that species and there are various subtle differences that certainly exclude the possibility of a close relationship.

Muesebeck thought that *paradoxus* showed some resemblance to *aletiae*, a North American species that I should have no hesitation in placing in the *ultor*-group though its position there would be marginal because of an extremely short ovipositor ; in general, species of the *ultor*-group have a freely exerted ovipositor.

COSTA RICA : San Sebastian (type locality).

Type in the U.S. National Museum.

Host : *Hemiceras* sp. (Notodontidae).

THE *CRASSICORNIS*-GROUP

My knowledge of this group is based on a male and female of *crassicornis* in the British Museum, determined by Muesebeck. Having only a limited acquaintance with the N. American fauna, I cannot say whether *crassicornis* (Provancher)⁵ and any allies it may have really form a discrete group or whether a transition exists towards the more typical members of the *ater*-group which seems to be well represented in the New World and to which *crassicornis* is very closely related. Nevertheless, attention needs to be drawn to this species because of its rostriform face (Text-fig. 116). I have not so far come across a lengthened head in the *ater*-group, except among the species of the *eublemmae*-subgroup, all S. African and far removed from the heavily sculptured *crassicornis*.

According to Muesebeck's 1920 key, two other N. American species, *banksi* Viereck and *dolichocephalus* Muesebeck, fall within the *crassicornis*-group.

N. AMERICA.

⁵*Microgaster crassicornis* Provancher, 1886 : 139, 142.

Apanteles crassicornis (Provancher) Provancher, 1888 : 388.

THE *SCHOENOBII*-GROUP

Monobasic.

Apanteles schoenobii Wilkinson*Apanteles schoenobii* Wilkinson, 1932a : 142

This is a remarkable species, quite unlike any other known to me except that it bears a curious, if fortuitous, resemblance to the N. American *terminalis* Gahan in general habitus.

The head is deep from back to front and is dull above with a satin-like sheen and an extremely fine, dense punctation. The very narrow apical margin of tergite (2 + 3)-6 is transparent and membranous (Text-fig. 346).

In the type female, the apical half of tergite (2 + 3) is yellow but in all other females I have seen, tergite (2 + 3) is entirely blackish. The apical half of this tergite, though quite differently sculptured from the basal half, is, nevertheless, finely roughened. The gaster bears a very fine, very dense pubescence. The ovipositor sheath is about as long as the hind tibia.

INDIA to the PHILIPPINES. Type locality : S. INDIA.

Type in the British Museum (Nat. Hist.).

Host : *Schoenobius bipunctiferus* Walker (Schoenobiidae) ; *Proceras polychrysa* Meyrick (Crambidae) ; *Diatraea* sp. (Crambidae).

THE *VIPIO*-GROUP

Monobasic.

Apanteles vipio Reinhard*Apanteles vipio* Reinhard, 1880 : 365. [In key only].*Apanteles vipio* Reinhard, 1881 : 44. [Description].

♀. Head from in front weakly elongate. Face, and more especially the clypeus, finely, very superficially punctate. Galea fully twice as long as wide ; glossa deeply forked. Scape of the antenna long, about twice as long as wide (Text-figs. 117 and 118). Mesoscutum highly polished. Propodeum strongly rugose, the rugae tending to radiate outwards from an irregularly defined medial keel. Vannal lobe beyond its widest part weakly convex and here with a trace of projecting hairs. Inner spur of the hind tibia fully three quarters as long as the hind basitarsus. Tergite 1 strongly, abruptly narrowed at apex ; deeply furrowed just where it turns over. Lateral, polished zone of scutellum not cutting off a parallel-sided groove. Ovipositor sheath about three fifths as long as the hind tibia. Length: ca. 3.5 mm. without ovipositor.

CENTRAL EUROPE.

Host : Reinhard records the single female known to him as having been bred from *Tinea* (now *Scythris*) *knochella* F. (Scythrididae).

This is a most distinctive species, without close allies known to me, and characterized very largely by the extremely short metacarp.

THE CAESAR-GROUP

Monobasic.

Apanteles caesar Wilkinson*Apanteles caesar* Wilkinson, 1938b : 131.

♀. Hind tibia dull reddish, faintly darkened apically ; hind femur pale at tip.

Head in facial view markedly rostriform. Face shiny, impunctate. Tongue very long, almost as long as the combined segments of the labial palpus. Antennal scape very short (cf. *vipio*) (Text-fig. 119). Mesoscutum and propodeum highly polished. Lateral, polished zone of the scutellum pushed far forwards and cutting off between itself and the disc a long, narrow, rugose groove. Vannal lobe slightly concave beyond its widest part and here without trace of a hair-fringe. Tergite 1 strongly narrowed behind (Text-fig. 115). Ovipositor sheath nearly one and two thirds times longer than the hind tibia.

Length: ca. 4 mm. without ovipositor.

♂. Like the female except for the sexual differences.

S. W. AFRICA : Aus (type locality) ; Cape Province.

Type in the British Museum (Nat. Hist.).

With its rather large, dark brown wings, this species does not look like an *Apanteles* to the naked eye. It seems to be quite isolated. I do not look upon the lengthened mouth-parts as indicating a relationship with the European *vipio*.

The development of a rostriform face with or without a corresponding prolongation of the mouth-parts is extremely rare in *Apanteles* and apart from the few species introduced at couplet 16 of the key, turns up only within the rather loose aggregate of species that I have called the *ater*-group (*camirus* from S. Africa and a few related species), in the *crassicornis*-group from N. America and *lacteoides* of the *merula*-group.

THE LACTEUS-GROUP

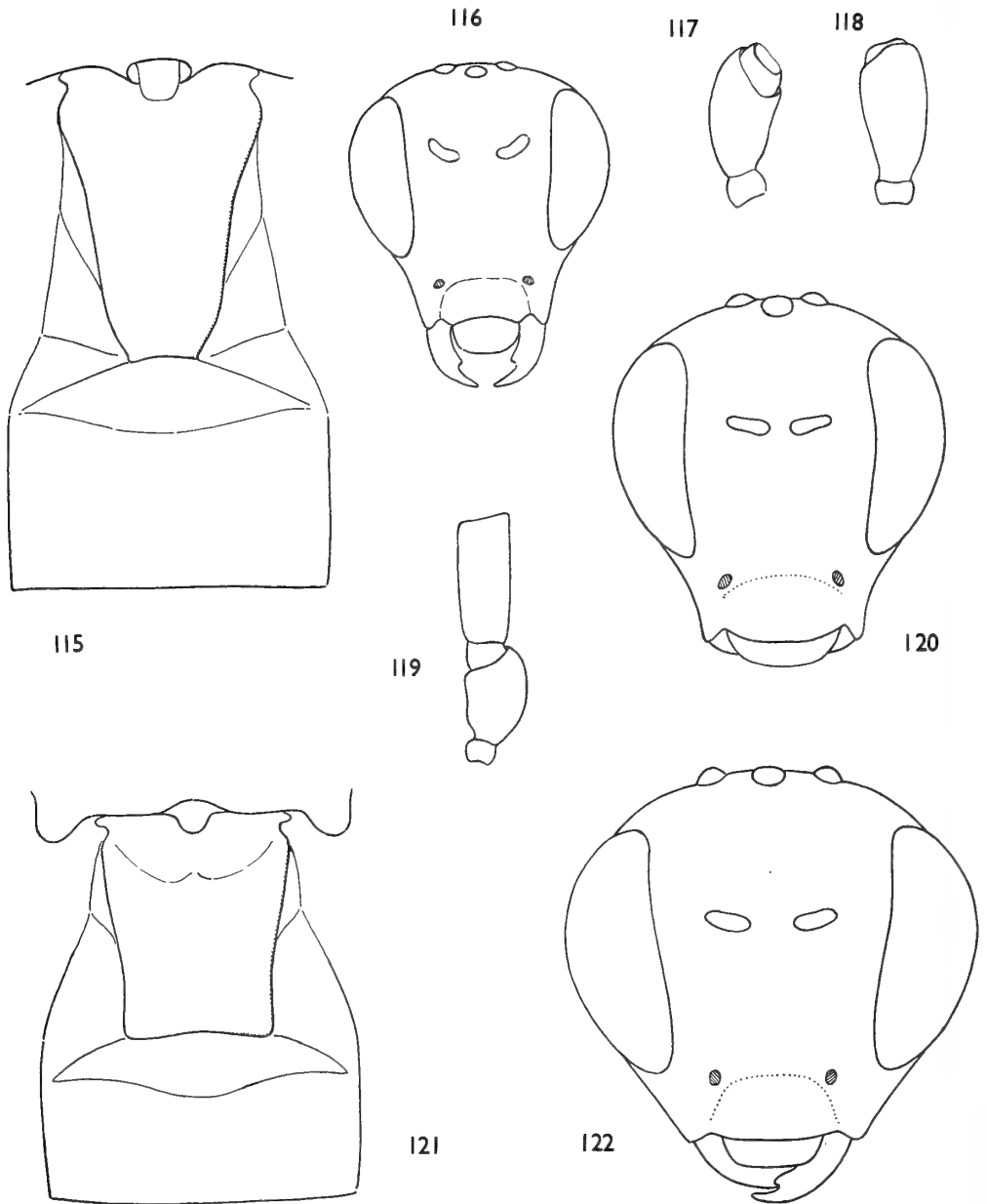
Monobasic.

Apanteles lacteus (Nees)*Microgaster lacteus* Nees, 1834 : 187.*Apanteles lacteus* (Nees) Reinhard, 1880 : 365. [not *lacteus* Nees, auctt.].

I have based my interpretation of this species on two females from the Reinhard collection and labelled in Reinhard's handwriting as "*lacteus* Nees".

♀. Hind femur entirely brown ; hind tibia yellowish on rather more than basal half. Wings milky-white ; nearly all the venation colourless. Hind spurs white. Labial palpi curiously darker than the maxillary palpi.

Head from in front markedly rostriform (Text-fig. 120). Mouth parts not lengthened. Face smooth-looking and with only a very faint punctation. Antenna short and of weak development ; the two preapical segments hardly one and half times longer than wide ; scape short. Mesoscutum somewhat dull, finely, closely punctate. Lateral, polished zone of scutellum pushed far forwards and cutting off between itself and the disc a long, narrow, parallel-sided furrow. Propodeum rugose all over middle part but with some punctation towards sides ; a few rugae radiating from the posterior orifice suggest a faintly indicated U-shaped areola. Hind



FIGS. 115-122. *Apanteles*, ♀: 115, *caesar* Wilkinson, basal tergites; 116, *crassicornis* (Provancher), head, from in front; 117 & 118, *vipio* Reinhard, scape; 119 *caesar* Wilkinson, basal three antennal segments; 120, *lacteus* (Nees), head, from in front; 121, *longipalpis* Reinhard, basal tergites; 122, *longipalpis* Reinhard, head, from in front.

spurs rather short, the inner one reaching to about the middle of the hind basitarsus. Tergite 1 short, subquadrate. Ovipositor sheath about one and half times longer than the hind tibia.

Length: ca. 3.5 mm. without ovipositor.

EUROPE. In addition to the Reinhard specimens, I have seen a series of 8 ♀♀, 1 ♂, from Finland, Tvärminne, *H. Lindberg* (Hellén Coll.).

Host: Recorded by Reinhard as having been bred singly from *Nephopteryx abietella* F., *Homoesoma nimbella* Dupouchel and *Homoesoma nebulella* Hübner (Crambidae).

Superficially, this species is very similar to *lacteoides* of the *merula*-group but differs at once in having no propodeal keel and in the very different shape of tergite 1.

THE *TERMINALIS*-GROUP

Monobasic.

Apanteles terminalis Gahan

Apanteles (*Pseudapanteles*) *terminalis* Gahan, 1912 : 2.

Apanteles terminalis Gahan ; Muesebeck, 1920 : 522.

♀. Two basal segments of the flagellum yellowish.

Propodeum very coarsely rugose, its posterior corners produced ; between these prominent posterior corners, the propodeum is markedly hollowed out to receive the base of the gaster. Fore wing narrow ; radius leaving stigma considerably distal to middle (Text-fig. 111) ; vannal lobe with long fringe of hairs throughout. Legs very slender, entirely yellow ; inner spur of the hind tibia hardly half as long as the hind basitarsus. Tergite 1 rectangular, longer than wide, turned over right at base and hence having prominent rounded shoulders anteriorly ; densely rugose all over. Ovipositor sheath slightly longer than the hind tibia.

Length: ca. 4 mm. without ovipositor.

N. AMERICA. One female, two males from Illinois in British Museum.

This highly aberrant species is apparently without close allies. In general habitus it has much in common with the Indo-oriental *schoenobii* but there are several significant differences such as the absence of propodeal areolation in *terminalis* and the difference in the position of the nervulus. Further, as in most species of *Apanteles*, *schoenobii* has the posterior tip of the scutellar disc smooth and polished.

THE *CAMMA*-GROUP

Monobasic.

I have established this group for a single species from S. Africa, noteworthy among other things for the pale banded antenna of the female.

Apanteles camma sp. n.

♀. A brownish-black, rather slenderly built species. Scape yellow-red. Hind coxa yellow.

Head large, distinctly wider than the mesoscutum, 6 : 5. Face shallowly punctate, the punctures large. Ocelli in a high triangle, the posterior, transverse tangent to the anterior ocellus passing far in front of the posterior pair. Flagellum very slender basally but becoming thicker towards apex, the two preapical segments hardly longer than wide ; the yellow band covers flagellar segments 6-7 and half of 8.

Mesoscutum and disc of scutellum somewhat dull, closely, rather coarsely punctate. The large, dorsal areas of the propodeum are dull, with a fine, somewhat glistening rugosity (Text-fig. 142). First abscissa of the radius much shorter than the transverse cubitus ; vannal lobe short and with long fringe of hairs throughout.

Tergite 1 fully one and a half times longer than wide, finely rugose, its horizontal part more or less parallel-sided and slightly longer than wide. Tergite 2 defined as such and occupying the full width of the gaster, rugose like tergite 1. Hypopygium angled at about 45 degrees as seen in profile, evenly sclerotised all over ; no trace of lateral creases. Ovipositor sheath a little shorter than the hind tibia.

Length: 2 mm. without ovipositor.

S. AFRICA : E. Cape Province, Katberg, 19-26.ii.1933, 2 ♀♀, one the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

This little species is highly aberrant and I have found no close allies. In general habitus, there is a resemblance to the species of the *ultor*-group. The hind spurs of this species are very weak, the inner one being only about one third as long as the hind basitarsus.

THE *INSOLENS*-GROUP

Monobasic.

Apanteles insolens Wilkinson

Apanteles insolens Wilkinson, 1930b : 276.

This is an isolated species characterized largely by the combination of bright red mesoscutum and the arrangement of keels on the propodeum.

♀. The amount of red on the thorax is variable but seems always to involve the pronotum and propleurum as well as the mesoscutum. The rest of the thorax is darkened with the propodeum becoming almost black. Head black. Hind femur entirely yellow.

Vertex and temples very strongly punctate. Ocelli in a rather low triangle, with the posterior, transverse tangent to the anterior ocellus just touching the posterior pair. Mesoscutum strongly, closely but discretely punctate all over. Propodeum (Text-fig. 148). Inner spur of the hind tibia just reaching middle of hind basitarsus. Vannal lobe beyond its widest part with sparse, projecting hairs.

Tergite 1 fully one and a half times longer than wide, rugose, very slightly narrowed behind (Text-fig. 148). Median field of tergite (2 + 3) weakly defined ; sometimes it shows medially a smooth, more or less circular swelling. Hypopygium weakly sclerotised, tightly folded in death and without lateral creases. Ovipositor (Text-fig. 147).

Length: ca. 2.5 mm.

S. AFRICA : Cape Province, Mossel Bay (type locality).

Type in the British Museum (Nat. Hist.).

This species shows a fortuitous resemblance to *camma* in the curious arrangement of the propodeal keels, though they produce a different pattern in the two species. In the absence of intergrading species I am not prepared to say that *insolens* is related to *camma*.

Wilkinson (1932 : 328) was well aware of the peculiarities of this species and placed it in a special group that he designated with the letter M.

THE *MLANJE*-GROUP

The essential feature of this group, which seems to be confined to Africa, is the structure of tergite (2 + 3), (Text-fig. 126, *mlanje* Wilkinson)⁶.

The side of the pronotum always shows a distinct dorsal furrow. The hypopygium is evenly sclerotised all over. The ovipositor is very short, more or less concealed.

The affinities of the group are obscure. In general habitus there is a strong resemblance to the *glomeratus*-group. On the other hand, certain species show an approach to the *octonarius*-group.

On the evidence of the material in the British Museum (Nat. Hist.), it seems that the species of the group are gregarious parasites.

De Saeger (1944 : 200) has described several species that clearly belong here.

THE *GLOMERATUS*-GROUP

This group is world-wide in distribution but particularly abundant in temperate regions. Its best known representative is *Apanteles glomeratus* (L.)⁷, a common parasite of *Pieris brassicae* L.

The group as defined here is not quite coextensive with Wilkinson's group F, for he included, not without some justification, a *mlanje*-subgroup and a *flavipes*-subgroup. I have given group status to *mlanje* and its allies and the *flavipes*-subgroup I consider to be merely aberrational within the larger *glomeratus*-group.

The species are very similar and difficult to separate. The hypopygium is evenly sclerotised and never shows lateral creases. The ovipositor is usually very short and more or less concealed ; rarely, it projects as a sharply pointed dagger correlated with a lengthened hypopygium (*acuminatus* Reinhard (Text-fig. 124) Europe) and I know of only one species in which it projects freely (*hyphanthiae* Riley, N. American but now introduced into Europe, Text-fig. 123).

The group contains both solitary and gregarious parasites.

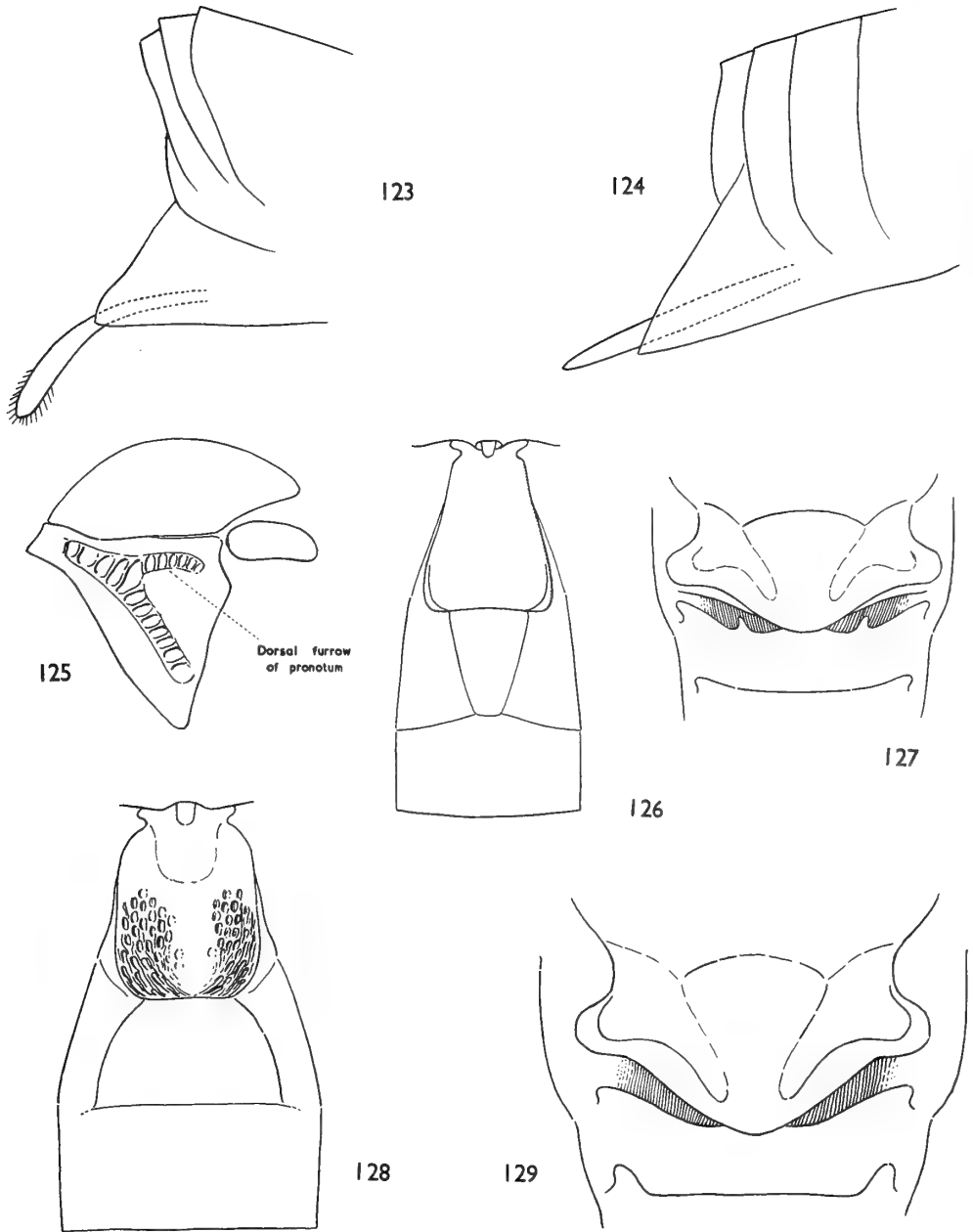
THE *POPULARIS*-GROUP

Species in general habitus closely resembling the *glomeratus*-group.

Pronotum with a dorsal furrow. Phragma of the scutellum clearly visible except in one species doubtfully included here (*chares*). Propodeum shining, smooth-looking and, compared with the *glomeratus*-group, with very little sculpture ; no trace of a transverse cristula on its anterior part, except in *endemus*. In all species, the 1st abscissa of the radius and the transverse cubitus are distinctly angled at their junction. The apical segment of the front tarsus with a distinct spine in the female (Text-fig. 144) ; apical segment of the hind tarsus with a corresponding modification though less well developed ; *parallelus* and *mandanis* are exceptional in both these respects ; hind spurs well developed, the inner one distinctly more than half as long as the hind basitarsus. Ovipositor more or less concealed.

⁶*Apanteles mlanje* Wilkinson, 1929c : 449.

⁷*Ichneumon glomeratus* L., 1758, *Systema naturae*, 10 : 568.



FIGS. 123-129. *Apanteles*, ♀: 123, *hyphantriae* Riley, ovipositor & hypopygium; 124, *acuminatus* Marshall, same. 125, *glomeratus* (L.), pronotum, lateral, to show dorsal furrow; 126, *mlanje* Wilkinson, basal tergites; 127, *exiguus* Haliday, to show anterior, paired projections of postscutellum; 128, *caberae* Marshall, basal tergites; 129, *vitripennis* (Haliday), to show phragma of scutellum, shaded.

EUROPE. N. AMERICA.

The curious structure of the apical segment of the front tarsus appears sporadically in a few other groups but seems to provide no index of close relationship. For instance, the females of certain species of the *mlanje*-, *vitripennis*- and *octonarius*-groups show a similar spine though it tends to be less well developed. It occurs also in species of the *formosus*-group, an aggregate that I consider to be rather far removed from any of the groups just mentioned.

The species of the *popularis*-group are difficult to separate. This is particularly true of *immunis* and *caberae* two species whose hosts appear to overlap, though this overlapping may be due to misidentification of lepidopterous larvae by collectors.

KEY TO SPECIES

FEMALES

- 1 Metacarp short, twice as long as the distance between its tip and the apex of the radial cell ; vannal lobe beyond its widest part with long, conspicuous hair-fringe.
 Spine of front tarsus 5 quite strongly developed but the segment with no emargination (Text-fig. 145) ; preapical segment of antenna about twice as long as wide ; mesoscutum shiny and with fine, superficial punctation ; propodeum with some sort of rugosity all over ; a distinct, transverse cristula present, in front of which lies a smooth, transverse area ; phragma of the scutellum virtually hidden ; hind femur black ; spines of the outer side of the hind tibia sparse and not differentiated into two kinds ; tergite 3 densely setose **chares** sp. n.
- ENGLAND: Herts, Chipperfield, 3.v.1942, 1 ♀, the TYPE, (R. B. Benson). Type in the British Museum (Nat. Hist.).
- This species can well be regarded as an aberrant member of the *glomeratus*-group.
- Metacarp longer, at least 3–4 times as long as its distance from the apex of the radial cell ; vannal lobe beyond its widest part with only an extremely short hair-fringe 2
- 2 Apical segment of the front tarsus without trace of a curved spine 3
- Apical segment of the front tarsus with a conspicuous curved spine.
 The segment anterior to the base of the spine deeply emarginate, except in *popularis* Hal. 4
- 3 Mesoscutum and scutellum somewhat dull by reason of a dense, sharp punctation ; ocelli not in a very low triangle, the transverse, posterior tangent to the anterior ocellus passing well in front of the posterior pair ; hair-fringe beyond widest part of vannal lobe with distance between hairs much less than length of hairs themselves ; tergite 1 with sharp, rather characteristic punctation on its turned over, apical part.
 Front and middle legs and the hind femur entirely yellow ; gaster richly marked with yellow, the areas outside the median field of tergite 2 and a large patch on each side of tergite 3 being yellow ; propodeum quite strongly rugose all over **parallelus** Lyle⁸
- ENGLAND. Type in the British Museum (Nat. Hist.).
 Host: *Hemithea strigata* Müller (Geometridae). Solitary parasite.
- Mesoscutum and scutellum highly polished and with only very superficial punctation ; ocelli in a lower triangle, the posterior tangent to the anterior ocellus cutting or, at any rate, touching the posterior pair ; hair-fringe of vannal lobe beyond its widest part much shorter, the distance between the hairs being about equal to the length of the hairs ; propodeum on anterior, horizontal part and more especially towards sides with elongate rugose-punctation ; but propodeum on the whole smooth and strongly shining.

⁸*Apanteles parallelus* Lyle, 1917 : 195.

Flagellum slightly thinner than in *parallelus*, the apical segments slightly more gradually diminishing in length ; front and middle coxae dark ; tergite 1 is slightly broader and more rounded behind than in *parallelus* in which species an apical constriction is hardly noticeable **mandanis** sp. n.

GERMANY (no locality), 3 ♀♀, one the TYPE, ex *Eustruma reticulata* (Cockayne), Sachsenwald, 2 ♀♀, 1 ♂, ex *Lygris reticulata* (Wagner). Type in the British Museum (Nat. Hist.).

Host: *Eustruma reticulata* F. (Geometridae).

In the available specimens the hind femur is pale with a darker flush along the upper surface.

- 4 Propodeum dull, densely rugose all over its medial part and with a very distinct, transverse keel behind the spiracle that extends inwards and partly sets off a postero-lateral area that is smoother and more shiny than the rest of the propodeum ; on its inner side this area completely lacks definition and merges into a median area of rugosity ; mesoscutum densely and rather sharply punctate ; horizontal part of tergite 1 rugose-punctate and with a sooty dull microsculpture superimposed on this ; median field of tergite 2 smooth-looking except for a satin-like sheen, subrectangular and with its lateral sulci extending as far as the 2nd suture.

Hind femur entirely reddish yellow in Scottish specimens ; faintly tipped with infuscation in the single female from France **endemus** sp. n.

SCOTLAND: St. Andrews, 18.vi.1936, 1 ♀, the TYPE ; vi.1937, 1 ♂, 1 ♀, vi.1935, 2 ♀♀, 3 ♂♂, (*D. J. Jackson*). All bred as solitary parasites of *Abraxas grossulariata*. FRANCE: Finistère, Morlaix, 14.vi.1954, 1 ♀, (*J. F. Perkins*). Type in the British Museum (Nat. Hist.).

Host: *Abraxas grossulariata* L. (Geometridae).

The characteristic appearance of the apical part of tergite 1 is much less obvious in the males.

- Propodeum never with such extensive rugosity ; at most a rugose patch above the posterior orifice ; no trace of a keel behind the propodeal spiracle and no trace of a postero-lateral area ; if tergite 1 shows coarse rugose-punctuation then there is no dull superimposed microsculpture ; mesoscutum virtually impunctate or punctuation excessively fine ; if the median field of tergite 2 could be described as rectangular then it is completely rugose all over and the lateral sulci are incomplete 5
- 5 Sulci of tergite 2 incomplete, directed towards the lateral margin of the segment and hence not completely defining a median field ; the median field tends to be rectangular rather than triangular 7
- Sulci of tergite 2 complete, directed towards the second suture and defining a triangular or subtriangular field 6
- 6 Median field of tergite 2 tending to be smooth-looking except for a dull, satin-like sheen ; tergite 1 less rugose.

Gaster beneath sometimes richly marked with yellow ; hind femur usually bright reddish-yellow ; the furrow that limits the median field of tergite 2 behind is wide and somewhat characteristically interrupted at middle ; flagellum long with the preapical segment fully twice as long as wide. Easily confused with *immunis* but the median field of tergite 2 less transverse (Text-fig. 128) **caberae** Marshall⁹

EUROPE. Type of *caberae* Marshall⁹ and of *jugosus* Lyle⁹ in British Museum (Nat. Hist.).

Host: *Amphidasis betulae* L., *Bupalus piniarius* L. *Ennomos fuscantaria* Haworth, *Cabera exanthemata* Scopoli (Geometridae).

- Median field of tergite 2 with rugose-striation except at base and along middle, lacking this satin-like sheen ; tergite 1 more rugose.

⁹*Apanteles caberae* Marshall, 1885 : 212.

Syn. *Apanteles jugosus* Lyle, 1916 : 270. **Syn. n.**

Legs coloured as in *caberae* but the pale parts straw-yellow rather than reddish yellow ; propodeum dull and more or less rugose all over, the rugosity denser above the posterior orifice ; spine of front apical tarsal segment less well developed than in *caberae* ***paleacritae*** Riley¹⁰

N. AMERICA. One female only, named by Muesebeck, in the British Museum (Nat. Hist.).

Host: Muesebeck (1920) records the following hosts: *Nyctobia anguilineata* Grote and Robinson, *Alsophila pometaria* Harris, *Cosymbia lumenaria* Hübner (Geometridae).

The above taxonomic information should be accepted with caution since I have seen only one specimen of this species, with broken antennae.

- 7 Spine of front tarsal segment 5 very weak and almost straight (Text-fig. 146) ; the segment anterior to the base of the spine without an emargination.

Very black species with the hind femur always black ; tergite 1 more rounded behind than in *immunis*, smoother and more shiny than in that species ; metacarp shorter in relation to its distance from the apex of the radial cell than in *immunis*

popularis (Haliday)¹¹

ENGLAND.

Host: *Tyrea jacobaeae* L. (Arctiinae). As far as I know, the only gregarious species of the group. Single-brooded.

- Spine of front tarsal segment 5 strong, conspicuously curved ; segment anterior to the base of the spine deeply emarginate.

Hind femur nearly always reddish yellow ; median field of tergite 2 tending to occupy the whole of the surface of the tergite and with short, deep, incomplete sulci directed towards the middle of the side of the segment ; further, the median field is rugose all over and lacks definition at its posterior corners 8

- 8 Cheeks with a conspicuous white blotch ; tergite 1 tending to be widened posteriorly and with the sculpture of its horizontal part a little more dense and intricate ; inner spur of the hind tibia slightly longer ***enephes*** sp. n.

ENGLAND: Essex, Epping Forest, 1 ♀, the TYPE, ex *Ennomos dolabraria*, (*T. R. Eagles*).

SWEDEN: Oland, Råpplinge, 1 ♀, 4.vi.1955, ex *Erannis defoliaria*, (*Johansson*). Type in the British Museum (Nat. Hist.).

Host: *Ennomos dolabraria* L., *Erannis defoliaria* Clerck (Geometridae).

- Cheeks without a white blotch ; tergite 1 rarely a little widened posteriorly, its sculpture slightly more shiny and coarsely rugose-punctate ; inner spur of the hind tibia relatively a little shorter than in *enephes*.

Hind femur varying from entirely reddish yellow to infusate with paler, medial or lateral flush ; rarely entirely black ; sculpture of propodeum variable in intensity ; sometimes there is considerable rugosity above the orifice, this rugosity giving way to diffuse punctation anteriorly ***immunis*** (Haliday)¹²

BRITISH IS. SWEDEN.

Host: *Operophtera brumata* L., *Hibernia defoliaria* Clerck, *Cabera pusaria* L., *Cidaria corylata* Thunberg, *Campaea margaritata* L. (Geometridae) ; *Hypena proboscidalis* L. (Plusiidae).

¹⁰*Apanteles paleacritae* Riley, 1882 : 313.

¹¹*Microgaster popularis* Haliday, 1834 : 250.

Apanteles popularis (Haliday) Marshall, 1885 : 213.

¹²*Microgaster immunitis* Haliday, 1834 : 250.

Apanteles immunitis (Haliday) Marshall, 1885 : 212.

THE *PISTRINARIAE*-GROUP

Monobasic.

Apanteles pistrinariae Wilkinson*Apanteles pistrinariae* Wilkinson, 1929c : 443.

This species is remarkable because of the medial constriction of the plate of tergite 1 (Text-fig. 113). The hypopygium is large, strongly developed and clothed with long bristle-like hairs (Text-fig. 113).

AFRICA : Nigeria (type locality) ; Nyasaland ; Eritrea.

Type in the British Museum (Nat. Hist.).

Host : A gregarious parasite of *Mylothris chloris* F. (Pieridae).I consider this species to have a close affinity with the *glomeratus*-group.THE *SIDERION*-GROUP

The characters of this group have been summed up in couplets 29 and 30 of the key (p.22). The dense fringe of hairs on the inner side of the apical margin of the hind tibia needs to be looked for carefully. In certain lights the hairs making up the fringe are faintly iridescent.

KEY TO SPECIES

FEMALES

- 1 Hind coxa dark brown ; median field of tergite 2 very narrow with its base distinctly shorter than its sides ; this tergite whitish except for a small, brown, wedge-shaped mark against each side of the median field.

Antenna not at all thickened towards apex ; segment 15 discontinuously longer than 16 and fully twice as long as wide ; face rather strongly punctate ; mesoscutum strongly sharply punctate, the punctures well separated and larger than in the other species ; scutellar disc more convex than in the other species, its extreme posterior tip raised as seen in profile ; the furrow between scutellum and mesoscutum deeper and more strongly costate than in the other species ; transverse keel of propodeum situated far anterior to middle, forking laterally to enclose the spiracle ; posterior to the transverse keel, the propodeum shows much coarse rugosity ; front and middle coxae whitish ; hind tibia darker than the reddish flushed femur and like the hind tarsus, almost blackish ; middle and front femur yellow ; temples with sharp, distinct punctation. Length: ca. 2.6 mm. *sagmaria* sp. n.

PHILIPPINES: Mdro. Or., Mt. Halcon, 3,100 ft., 10.v.1954, 1 ♀, the *TYPE* ; 4,500 ft., 11.v.1954, 1 ♂, Negros, Mt. Canalaon, 4,700 ft., 1.v.1953, 1 ♂, (*M. & D. Townes*). Type in Coll. Townes.

- Hind coxa entirely yellow ; median field of tergite 2 less narrow, its base fully as long as its sides ; temples smooth-looking, with only faintly indicated punctation ; tergite 2 more extensively darkened 2
- 2 Tergite 1 with sides constricted beyond widest part so that posteriorly it appears almost stalked (Text-fig. 134) ; median field of tergite 2 very distinctly triangular 3
- Tergite 1 lacking this constricted appearance and gradually narrowed from base to apex ; median field of tergite 2 subrectangular (Text-fig. 132).

Face sharply punctate, the punctures of medium size; antenna long, rather thick, with the preapical segment almost twice as long as wide; mesoscutum densely, rather finely punctate; propodeum with irregular transverse keel, situated far in front and laterally more or less forking to enclose the spiracle; hind tibia brown, contrasting with the yellow hind femur; palpi whitish with middle and front coxae almost as pale; claws larger than in the other species; hypopygium short. *vafer* sp. n.

PHILIPPINES: Mdro. Or., Mt. Halcon, 4,500 ft., 11.v.1954, 1 ♀, the TYPE, 3,000-4,500 ft., 10.-11.v.1954, 14 ♂♂, (*M. & D. Townes*). Type in Coll. Townes.

Extremely like the two following species and readily separable only on the shape of the basal tergites.

- 3 Tergite 1 slightly more constricted apically, its broadened apical part reddish and contrasting with the darker apical part (Text-fig. 134); flagellum imperceptibly thickened towards apex; abscissa 1 of the discoideus less distinctly shorter than 2

siderion sp. n.

JAVA: Tjibodas, 5,000-7,000 ft., viii.1913, 1 ♀, the TYPE, (*Koningsberger*). Type in the British Museum (Nat. Hist.).

- Tergite 1 slightly less constricted apically, its broadened basal part not noticeably paler than the rest of the tergite; flagellum not thus apically thickened (difference between the two species slight on this character); abscissa 1 of the discoideus more distinctly shorter than 2; hypopygium much more strongly developed than in *siderion* with the ovipositor slightly longer (Text-fig. 137)

atylana sp. n.

JAVA: Tjibodas, 5,000-7,000 ft., viii.1913, 1 ♀, the TYPE, (*Koningsberger*).

Type in the British Museum (Nat. Hist.).

THE MEROPE-GROUP

Claws lobed with a short excision between the lobe and the short apex of the claw (Text-fig. 143); in comparison with the *siderion*-group, the hind tibia is very bristly, the hind tarsus is shorter and has its ventral flange deeper and altogether more noticeable; the apical segment of the front tarsus shows a feeble, curved spine near the apex (Text-fig. 143) (weakest in *phoebe*). Tergite 2 with a large, clearly delimited subtriangular field with base longer than sides.

In spite of their both possessing a hind tibial fringe, it seems that this group and the *siderion*-group are not very closely related. Apart from the differences already pointed out, species of the *merope*-group have the ocelli in a lower triangle with the transverse, posterior tangent to the anterior ocellus cutting the posterior pair. In the *siderion*-group, this tangent hardly touches the posterior ocelli.

KEY TO SPECIES

FEMALES

- 1 Eyes very large so that the shortest distance between an eye and a posterior ocellus is hardly as great as the longer diameter of the ocellus; 1st abscissa of the discoideus distinctly shorter than the 2nd (Text-fig. 149).

Face densely, irregularly pitted; flagellum thick but attenuated towards apex and with the preapical segment about twice as long as wide; temples coarsely, contiguously, almost rugosely punctate; anterior half of the mesoscutum with a satin-like sheen as well as a very strong, sharply discrete punctation; hind femur only very slightly infusate apically; median field of tergite 2 brown, rather sharply triangular; ovipositor strongly downcurved (Text-fig. 139) *merope* sp. n.

BORNEO: Sandakan, 1 ♀, the *TYPE*, (*Baker*). Type in the U.S. National Museum.

The propodeum shows more rugosity than in the next two species but the short, oblique keel that lies posterior to the spiracle is less well developed.

- Eyes much less large, this distance much greater than the longer diameter of the posterior ocellus ; 1st abscissa of the discoideus hardly shorter than the 2nd.

Ovipositor much less downcurved than in *merope* and the hypopygium more strongly developed and angularly produced (Text-fig. 138)

- 2 Median field of tergite 2 yellow, shorter, less triangular, more transverse ; temples with strong, sharp, contiguous punctation ; face very coarsely, deeply punctate.

Hind tibia deeply infusate on about apical two thirds ; outer face of the hind femur densely, strongly punctate ; in the other two species, this punctation is weaker and more confused ; apex of gaster (Text-fig. 138) ; antennae broken

***penelope* sp. n.**

BORNEO: Sandakan, 1 ♀, the *TYPE*, (*Baker*). Type in the U.S. National Museum.

Perhaps not more than subspecifically distinct from the following species.

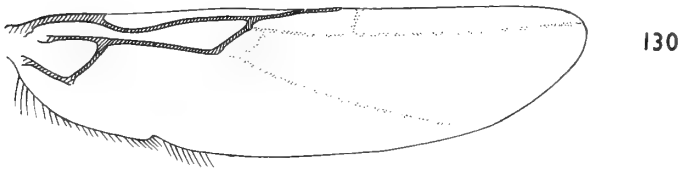
- Median field of tergite 2 brown, longer, more obviously triangular, less transverse ; temples with much weaker punctation ; hind tibia as in *penelope* ; face less strongly punctate.

Antenna as in *merope* with the preapical segment almost twice as long as wide

***phoebe* sp. n.**

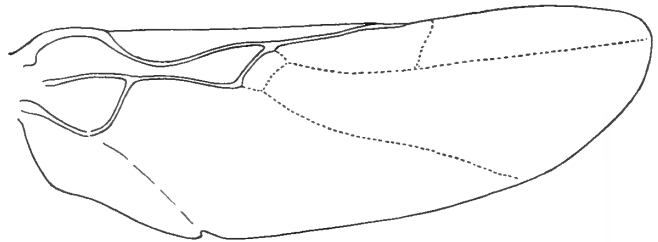
MALAYA: (Penang I.) ; 1 ♀, the *TYPE*, (*Baker*) ; I. of Basilan, 1 ♀, (*Baker*). Type in the U.S. National Museum.

I ascribe also to this species 4 ♂♂ (PHILIPPINES: Luzon, Mt. Makiling) ; these have the temples virtually impunctate. The propodeum of *phoebe* is more extensively smooth than in *penelope*.



130

131



FIGS. 130-131. Hind wing of *Apanteles*: 130, *annulicornis* (Ashmead), ♀; 131, *alfalfae* Nixon, ♂.

THE ANNULICORNIS-GROUP

The essential characters of this group have been given in the key. The metacarp is very long in comparison with its distance from the apex of the radial cell and almost closes this. The two species I include in the group are closely and naturally related.

The yellow-banded flagellum of *annulicornis* (Ashmead) is a rare feature of

Apanteles and I have found it elsewhere only in the S. African group of *camma*, the Indo-oriental group of *taeniaticornis* and the Fijian group of *trifasciatus*. The *taeniaticornis*-group has a certain affinity with *annulicornis* but this cannot be said of *camma*, which is an aberrant and isolated species.

KEY TO SPECIES

FEMALES

- 1 Body entirely fulvous, except for a darker head ; antenna with a bright yellow band covering flagellar segments 6-8 ; vannal lobe not at all concave beyond its widest part and with distinct hair-fringe throughout ; cubitellan cell about twice as high as long on the radiella ; (Text-fig. 130) ; tergite 1 longer, narrower, less abruptly narrowed posteriorly ; legs relatively longer ; hind tarsus and apex of hind tibia less contrastingly darkened ; ovipositor a little longer, thicker, more curved ; eyes larger

annulicornis (Ashmead)¹³

W. INDIES. Type in the British Museum (Nat. Hist.).

Most distinct on account of the yellow-banded antenna of the female. The antenna is slightly thickened apically with segments 14-17 more or less square in outline. It is probable that *A. lipomeringis* Muesebeck, (1958) is related to this species.

- At least the propodeal area and the dorsum of the gaster infuscated ; antenna without a yellow band, slightly shorter than the body, not at all thickened towards apex and with segments 14-17 distinctly longer than wide ; vannal lobe slightly concave beyond its widest part and here without trace of a fringe ; cubitellan cell much higher than long on the radiella, so short, in fact, as to be easily overlooked ; tergite 1 shorter, very abruptly narrowed posteriorly, with its medial channel more sharply defined and extending almost onto the posterior, horizontal surface ; legs of a clearer yellow colour than in *annulicornis* with the hind tarsus and the apex of the hind tibia more contrastingly darkened ; ovipositor slightly shorter and thinner, less curved ; eyes smaller *ruficollis* (Cameron)¹⁴

BRITISH GUIANA. Type in the British Museum (Nat. Hist.).

Host: Recorded by Cameron as having been bred from the Pyralid, *Zinckenia* (now *Hymenia*) *fascialis* Stoll.

The material in the British Museum (Nat. Hist.) is represented by 4 ♀♀ and 4 ♂♂, mounted together on one card ; hence, possibly a gregarious parasite. The species is most distinct on account of the slit-like cubitellan cell. The male is entirely brown and in both sexes the stigma is almost colourless. The stigma is entirely dark in *annulicornis* and the ocelli are slightly larger and closer together than in *ruficollis*.

Wilkinson (1930:154) incorrectly synonymised *brunneus* Ashmead under *annulicornis*. *A. brunneus* has the cubitellan cell of the hind wing considerably wider than high and thus lacks the salient feature of the *annulicornis*-group. It is closely related to *nerion* of the *nerion*-group but since the type (in British Museum (Nat. Hist.)) is a male, there is nothing at this stage that I can more usefully say about it.

¹³*Pseudapanteles annulicornis* Ashmead, 1900 : 292.

Apanteles annulicornis (Ashmead) Muesebeck, 1920 : 525.

¹⁴*Xanthomicrogaster ruficollis* Cameron, 1911 : 325.

Apanteles ruficollis (Cameron) Wilkinson, 1930b : 281.

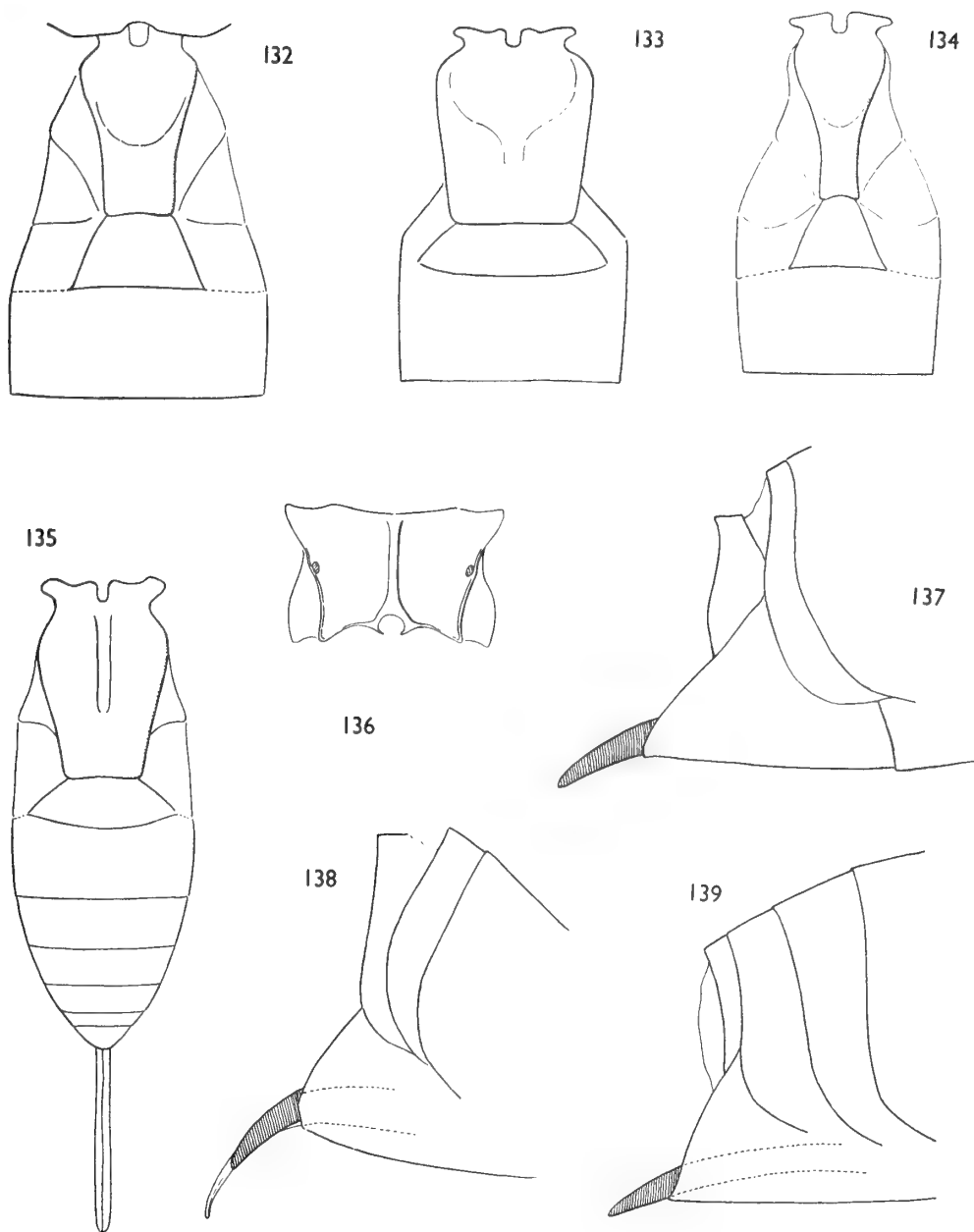
THE *NERION*-GROUP

I am by no means sure that the species I have included in this group form a natural aggregate. The two S. American species, in spite of having a long cubitellan cell in the hind wing, have probably a closer relationship with the two species of the *annulicornis*-group than with the two Philippine species with which I have associated them.

KEY TO SPECIES

FEMALES

- 1 Mesoscutum, except for faint anterior darkening, reddish ; tergite 1 much less conspicuously narrowed behind and hence not markedly wedge-shaped (Text-fig. 135).
 Mesoscutum with fine, dense, but not very sharp punctation ; fore wing of ordinary form and with very long metacarp that almost reaches the apex of the radial cell ; 1st abscissa of the discoideus not at all longer than the 2nd ; vannal lobe beyond its widest part with almost concave edge and with virtually no projecting hairs ; legs stoutish with the inner spur of the hind tibia reaching slightly beyond the middle of the hind basitarsus ; hind coxa dusky yellow ; hind femur and hind tibia bright yellow except for the darkened tip of the tibia ; spines of the outer side of the hind tibia all of one kind, rather weak and not very numerous ; propodeum short, anteriorly with vague indication of punctation and without acute posterior corners ; ovipositor sheath about three quarters as long as hind tibia . *abantidas* sp. n.
 BRAZIL: Nova Teutonia, 12.vii.1937, 1 ♀, the TYPE, (Plaumann). Type in the British Museum (Nat. Hist.).
 This species approaches the *sesiae*-group much more closely than the other species, its cubitellan cell being the shortest occurring in the group.
- 2 Tergite 1 turned over slightly posterior to middle and conspicuously, longitudinally grooved on its anterior, declivous part ; 1st abscissa of the discoideus distinctly longer than the 2nd ; hind coxa and hind femur bright orange yellow ; inner spur of the hind tibia extending considerably beyond the middle of the hind basitarsus ; ovipositor sheath as long as the hind tibia. 2
 Ocelli smaller than in the following two species and further apart, the transverse, posterior tangent to the anterior ocellus not touching the other pair ; fore wing somewhat narrow ; metacarp relatively shorter than in the next two species ; propodeum slightly longer, and somewhat excavate on each side posteriorly, with acute posterior corners, as seen from above (Text-fig. 136) ; length: 2.2 mm. without ovipositor *nerion* sp. n.
 BRAZIL: Nova Teutonia, 26.iv.1938, 1 ♀, the TYPE, (Plaumann). Type in the British Museum (Nat. Hist.).
 Antenna thin, not longer than the body and with segments 14-17 about one and a half times longer than wide. As might be expected, this species approaches *annulicornis* more closely than it does the Old World species and its inclusion in a different group is somewhat unnatural.
- Tergite 1 turned over slightly anterior to middle and without a medial channel on its anterior part though it may be shallowly furrowed here ; 1st abscissa of the discoideus not at all longer than the 2nd ; hind coxa and hind femur dark brown to blackish ; inner spur of the hind tibia shorter, not extending beyond the middle of the hind basitarsus ; ovipositor sheath very obviously longer than the hind tibia.
 Species with the ocelli closer together than in *nerion*, the transverse, posterior tan-



FIGS. 132-139. *Apanteles*, ♀: 132, *vafer* sp. n., basal tergites; 133, *moerens* sp. n., same; 134, *siderion* sp. n., same; 135, *abantidas* sp. n., gaster, dorsal; 136, *nerion* sp. n., propodeum; 137, *atylana* sp. n., ovipositor & hypopygium; 138, *penelope* sp. n., same; 139, *merope* sp. n., same.

- gent to the anterior ocellus virtually touching the posterior pair ; posterior, horizontal surface of tergite 1 very obviously rugose 3
- 3 Hind tibia almost black with the spurs contrasting white ; inner spur of the hind tibia slightly longer ; flagellum with slightly longer pubescence and not in the least paler apically ; pubescence of mesopleurum towards middle coxa and of metapleurum paler, longer and conspicuous ; ovipositor straight and downcurved at extreme tip ; a distinct stub at the junction of the 1st abscissa of the radius and the transverse cubitus ; occiput with distinct, iridescent shimmer ; horizontal part of tergite 1 with more longitudinal elements in its sculpture but the sculpture less heavy than in the next species *venilia* sp. n.

PHILIPPINES: Negros Or., Mt. Canlaon, 3,600 ft. iv. 1953, 1 ♀, the TYPE, (M. & D. Townes). Type in Coll. Townes.

The pubescence of the wings is rather long, very dark and somewhat a feature of the species.

- Hind tibia dark brown with basal fifth sharply pallid ; hind spurs yellowish ; inner spur of the hind tibia shorter, weaker, not reaching beyond the middle of the hind basitarsus ; flagellum with shorter pubescence ; antenna distinctly paler towards extreme tip, the more apical segments more closely articulated, shorter, 16-17 being about one and one third times longer than wide ; pubescence of mesopleurum towards middle coxa and of metapleurum much less conspicuous ; not at all characteristic as in *venilia* ; no trace of a stub at the junction of the 1st abscissa of the radius and the transverse cubitus ; occiput without an iridescent shimmer ; horizontal part of tergite 1 with a more even, though still shiny, rugosity in which longitudinal elements are absent (only one specimen seen !) ; pubescence of wings normal ; ovipositor curved downwards towards apex but not in the least abruptly *daphne* sp. n.

PHILIPPINES: Mindaño, Iligan, 1 ♀, the TYPE, (Baker). Type in the U.S. National Museum.

The vannal lobe has a straight edge beyond its widest part and has at most an occasional projecting hair ; in *venilia*, this edge is very slightly convex but like *daphne* is virtually without projecting hairs.

THE *SESIAE*-GROUP

This is another small group with longitudinally keeled propodeum and widely exerted ovipositor. The two included species are very different.

The American species of *Apanteles* with keeled propodeum need a good deal more study before their interrelationships at the species-group level can be more clearly defined.

KEY TO SPECIES

FEMALES

- 1 Body entirely bright fulvous except for a little infuscation along the posterior margin of the scutellum and of post-scutellum and along the medial keel of the propodeum ; ovipositor sheath only slightly longer than the hind tibia, more or less straight in profile ; vannal lobe beyond its widest part with straight edge and here with an occasional minute, projecting hair.

Ocelli close together, the distance between the anterior ocellus and a posterior ocellus very obviously less than the diameter of the ocellus ; mesoscutum strongly shining and with only traces of superficial punctation ; tergite 1 hardly narrowed

behind and about one and a half times longer than its apical width ; basal field of tergite 2 very strongly transverse, about five times wider than long (Text-fig. 133)

***moerens* sp. n.**

BRAZIL: Nova Teutonia, 16.ix.1935, 1 ♀, the TYPE, (Plaumann). Type in the British Museum (Nat. Hist.).

- Body brownish black with the gaster paler beyond tergite 2 and yellowish on basal half beneath ; ovipositor sheath about one and one third times longer than the hind tibia, in profile strongly curved ; vannal lobe beyond its widest part with slightly concave edge and here without trace of projecting hairs.

Ocelli a little further apart ; mesoscutum with a rather more distinct punctation though still very superficial, the surface very shiny ; tergite 1 distinctly narrowed behind, about twice as long as its apical width ; basal field of tergite 2 longer, three times as wide as long but still obviously rectangular ***sesiae* Viereck¹⁵**

N. AMERICA. Type in U.S. National Museum.

Host: *Sesia scitula* Harris (Aegeriidae). My interpretation of this species is based on a specimen in the British Museum determined by Muesebeck.

The propodeum is slightly more rounded than in *moerens* and its posterior corners less pointed and not at all produced as in that species. The spines of the outer side of the hind tibia are very fine and obsolescent on posterior two thirds ; in *moerens* they are of equal development throughout and slightly denser and more prickly on basal two thirds.

THE *CIRCUMSCRIPTUS*-GROUP

Wilkinson dealt very thoroughly with *circumscriptus* (Nees)¹⁶ in 1938, associating with it a long synonymy of other species on the evidence of type- or neo-type material. It is probable that he incorrectly synonymised certain species under *circumscriptus* (Nees). I intend to take up this matter at a latter date.

Wilkinson (1938 : 50) expressed a strong doubt as to whether *circumscriptus* belonged to his own group A. My own view is that this species is rather far removed from all elements in group A, the greater part of which I have now split into a *vitripennis*- and an *octonarius*-group.

Although I have, in the key, referred to the ovipositor sheath as being at most about two thirds as long as the hind tibia, it is also never very short. Nor is it ever partly hidden as in most species of the *vitripennis*- and *octonarius*-groups. Figure 156 gives a clear idea of how the ovipositor appears in relation to the gaster in the majority of the species.

The following points are necessary for the recognition of the group: Mesoscutum with a curious, dull, satin-like sheen. Postscutellum with a small, lateral, forwards pointing projection (Text fig. 127) ; such a projection never occurs in either of the groups mentioned above. Spines of the outer side of the hind tibia very sparse and weak (Text-fig. 153).

The group is small and the few species known to me are parasites of *Elachista* and *Stephensia* (Elachistidae) and *Lithocolletis* and *Gracillaria* (Gracillariidae).

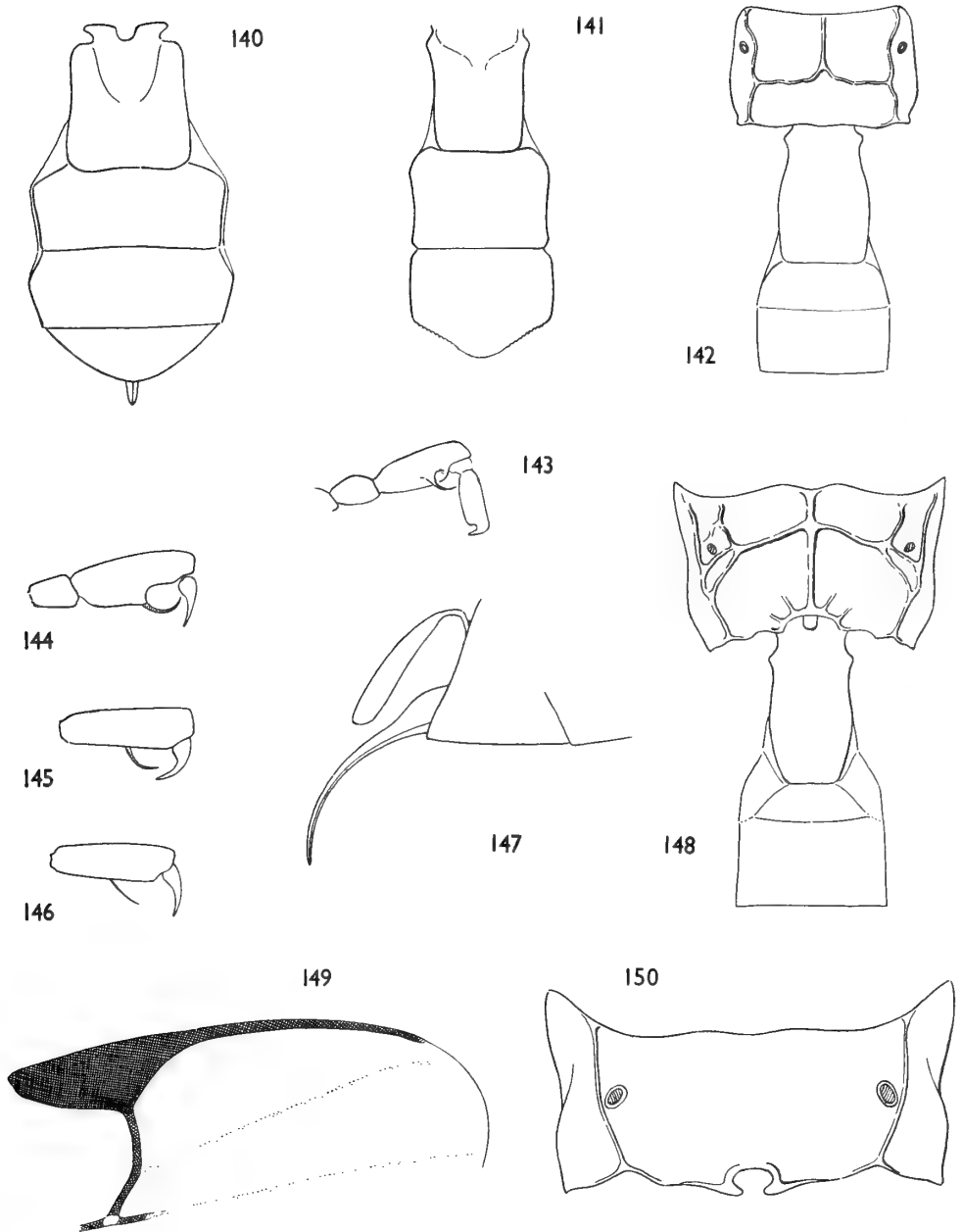
¹⁵ *Apanteles* (*Pseudapanteles*) *sesiae* Viereck, 1912 : 146.

Apanteles sesiae Viereck ; Muesebeck, 1920 : 525.

¹⁶ *Microgaster circumscriptus* Nees, 1834 : 181.

Apanteles circumscriptus (Nees) Reinhard, 1881 : 48.

Apanteles circumscriptus (Nees) ; Wilkinson, 1938 : 41.



FIGS. 140-150. *Apanteles*, ♀: 140, *carbonarius* (Wesmael), gaster, dorsal; 141, *patro* sp. n., same; 142, *camma* sp. n., propodeum & basal tergites; 143, *merope* sp. n., segment 5 of front tarsus and claw; 144, *caberae* Marshall, segment 5 of front tarsus; 145, *chares* sp. n., same; 146, *popularis* (Haliday), same; 147, *insolens* Wilkinson, ovipositor & hypopygium; 148, *insolens* W., propodeum and basal tergites; 149, *merope* sp. n., fore wing, part; *formosus* (Wesmael), propodeum.

Among the N. American species of *Apanteles* in the British Museum (Nat. Hist.) are two, *bedelliae* Viereck and *ornigis* Weed, both determined by Muesebeck, that clearly belong to the *circumscriptus*-group.

THE *CARBONARIUS*-GROUP

Although differing from it widely in the form of the basal tergites, *carbonarius* and its allies are, in my opinion, closely related to the *circumscriptus*-group. The enlargement of tergite (2 + 3) to form a rugose carapace occurs in almost every subfamily of the Braconidae and taxonomically has little value above the generic level.

The characters emphasised in the discussion under the *circumscriptus*-group occur also in the *carbonarius*-group. Very characteristic of the latter is that the gaster is distinctly notched at the position of the 2nd suture (Text-fig. 140). The cubitellan cell of the hind wing is very long, fully twice as long as wide. Ovipositor very short, almost concealed.

The presence of a representative of the group in the Philippines is noteworthy and in need of clarification.

KEY TO SPECIES

FEMALES

- 1 Tergite (2 + 3) enlarged to form a coarsely rugose carapace that completely hides the more apical segments ; posterior margin of this carapace finely crenulate laterally (Text-fig. 141).
 Mesoscutum shiny, closely, rather strongly punctate for the size of the insect ; hind coxa and underside of gaster bright yellow ; propodeum polished and with strong medial keel ; length: 1.8 mm. ***patro* sp. n.**
 PHILIPPINES: Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*). Type in U.S. National Museum.
 I think I am correct in believing this little species to be related to *carbonarius*. Its extreme development of the gaster is unique in *Apanteles* and is reminiscent of such hormiine genera as *Aulosaphes* Muesebeck and *Cedria* Wilkinson.
- Tergite (2 + 3) not thus enlarged, the more apical segments exposed ; tergite (2 + 3) forms a large rugose segment notched at the position of the 2nd suture but its posterior margin is membranous and normal ; hind coxa black ; *carbonarius*-group s.str. 2
- 2 Tergite 1 large, coarsely rugose, hardly one and a half times longer than wide ; propodeum with much coarse rugosity in spite of being very shiny
***carbonarius* (Wesmael)¹⁷**
 EUROPE. Bred in England from *Bucculatrix nigricomella* Zeller and *B. cristatella* Zeller (Lyonetiidae). Type in the Musée royale d'Histoire naturelle, Brussels.
- Tergite 1 smaller, more finely rugose and fully twice as long as wide ; propodeum polished, except for the medial keel ***comes* Wilkinson¹⁸**

¹⁷*Microgaster carbonarius* Wesmael, 1837 : 47.

Apanteles carbonarius (Wesmael) Reinhard, 1880 : 363.

Apanteles carbonarius (Wesmael) ; Wilkinson, 1940 : 157.

¹⁸*Apanteles comes* Wilkinson, 1940 : 161.

ENGLAND. Type in the British Museum (Nat. Hist.).

Host: *Bucculatrix cristatella* Zeller (Lyonetiidae) (Kent, Dartford).

This species has the mesoscutum virtually impunctate while in *carbonarius* it is distinctly punctate.

THE *BUCCULATRICIS*-GROUP

Monobasic.

Apanteles bucculatricis Muesebeck

Apanteles bucculatricis Muesebeck, 1920 : 502.

There are in the British Museum collection one female determined as *bucculatricis* by Muesebeck (California, Berkeley) and labelled as " parasitic on *Bucculatrix albertiella* Bank " and two males presumably sent to London at the same time as the female but without Muesebeck's identification label ; these are from California, Palo Alto, labelled as bred from *Bucculatrix* sp. on *Quercus agrifolia* and are evidently part of the type series.

Muesebeck noted that this species differed from all others of the genus known to him in possessing a very large areola and in having tergite 1 and (2 + 3) enlarged, coarsely rugose and occupying almost the entire surface of the gaster.

In general appearance, the gaster of this species is remarkably like that of *carbonarius* but the difference in the structure of the propodeum is fundamental and, in my opinion, excludes the probability of a close relationship between the two species. Far more likely is an affinity with the *ultor*-group, for *bucculatricis* possesses the three essential features of this group, namely, an obviously, if rather finely, punctate mesoscutum, transverse, postero-lateral, propodeal areas and a vannal lobe that is convex and fringed with hairs throughout. Among the species of the *ultor*-group, *hemitheae* Wilkinson (1928) from the Indo-oriental region shows a structural and sculptural development of the gaster very similar to that of *bucculatricis*, though in other respects the two species are widely dissimilar.

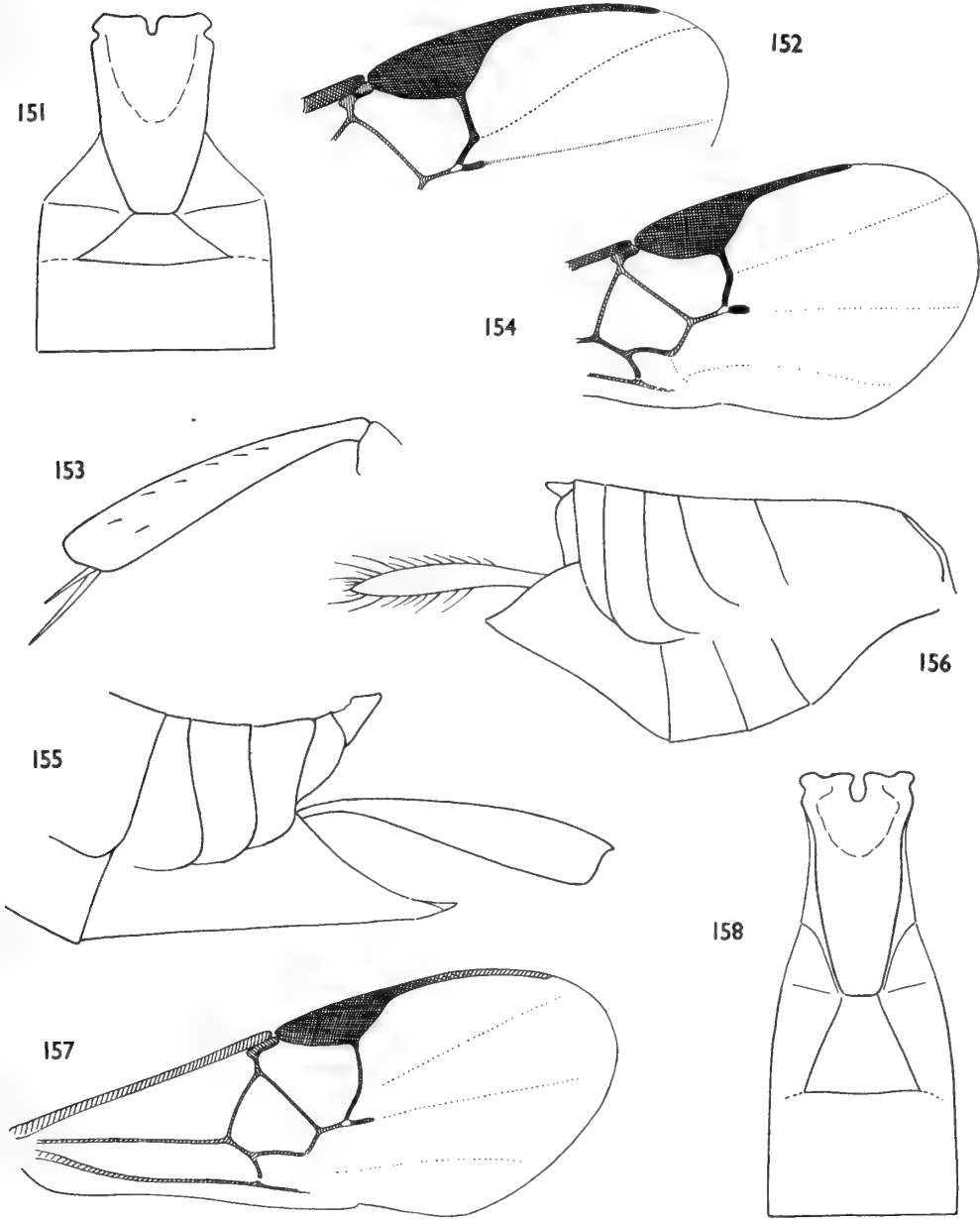
The finding of other American species related to *bucculatricis*, if such occur, would doubtless help to define its correct systematic position within *Apanteles*.

THE *METACARPALIS*-GROUP

The species I group together under this heading seem to be rather closely related to the *circumscriptus*-group but beyond this and what has already been expressed in the key, there is little I am prepared to say about them at this stage. *A. metacarpalis*, the typical representative of the group, is a fairly common species, at any rate in England.

I am acquainted with less than a dozen European species that I would put in this group, among them *corvinus* Reinhard (Wilkinson, 1945) and *coniferae* Haliday (Wilkinson, 1945).

I also consider as belonging to this group, *dioryctriae* Wilkinson (1938) and *murinanae* Capek & Zwölfer (1957).



FIGS. 151-158. *Apanteles*, ♀: 151, *metacarpalis* Thomson, basal tergites; 152, *vitripennis* (Haliday), fore wing, part; 153, *circumscriptus* (Nees), hind tibia, to show paucity of spines; 154, *metacarpalis* Th., fore wing, part; 155, *metacarpalis* Th., ovipositor & hypopygium; 156, *circumscriptus* (Nees), gaster, lateral; 157, *octonarius* (Ratzeburg), fore wing; 158, *vitripennis* (Haliday), basal tergites.

Apanteles metacarpalis Thomson

Apanteles metacarpalis Thomson, 1895 : 2265.

♀. Hind tibia reddish on basal half to two thirds. Clypeus very narrow, its apical margin somewhat bent inwards ; towards sides almost rugose-punctate, the punctures very close. Metacarp as long as its distance from the apex of the radial cell (Text-fig. 134). Inner spur of the hind tibia very slightly shorter than the outer one. Median field of tergite (2 + 3) transverse but obviously triangular (Text-fig. 151). Ovipositor sheath considerably widened, about two thirds as long as the hind tibia (Text-fig. 155).

EUROPE.

Host : in England bred from the following:— *Phthorimaea suaedella* Richardson, *Phthorimaea seminella* Pierce, *Phthorimaea plantaginella* Stainton, *Phthorimaea instabilella* Douglas (Gelechiidae).

Like most of the species in the group, *metacarpalis* is a very black-looking insect with almost a milky tint to the wings. Among its allies it is essentially characterized by the short metacarp.

THE *MERULA*-GROUP

Lateral, polished zone of the scutellum pushed far forwards and cutting off between itself and the disc a narrow, parallel-sided furrow ; the posterior margin of this polished zone normally shows a sharp, raised edge (but cf. *hebrus*, *camilla* and *tedanius*). Vannal lobe beyond its widest part with distinctly concave edge and here without fringe or projecting hairs, except in *tedanius* ; cubitellan cell not longer than wide.

The form of tergite 1 is characteristic and seems to vary only within small limits among the species.

Affinity with the *metacarpalis*-group is close and the only reliable difference between the two groups is to be found in the shape of the vannal lobe but even this character breaks down sometimes as in the Philippine *tedanius*. Some of the species are rather far removed from the European *merula* and may well be isolated members of smaller segregates within the larger group.

World-wide but apparently not rich in species.

KEY TO OLD WORLD SPECIES

FEMALES

(For reasons of convenience, the N. American *etiellae* Muesebeck is included in the key.)

- | | | |
|---|---|--|
| 1 | Head having a characteristic sooty dullness, the face, vertex and temples closely reticulate-punctate ; vannal lobe not concave, its edge with weakly indicated fringe. | |
| | Propodeum completely dull, rugose, with a percurrent keel. Philippines | |
| | | <i>tedanius</i> sp. n. (p. 163) |
| – | Head at most faintly dull and finely roughened ; vannal lobe distinctly concave, its edge free from hairs | 2 |
| 2 | Stigma pale, sometimes almost colourless and with at most a darker border | 3 |
| – | Stigma dark brown to blackish with at most a paler cloud or spot at base | 11 |
| 3 | Propodeum with a median, longitudinal keel (sometimes weak and broken anteriorly in <i>myeloenta</i>) | 5 |

- Propodeum without trace of a keel though strong rugae may be crowded around the posterior orifice 4
- 4 Ovipositor in lateral view evenly curved, rather thick, and without trace of an apical sinuation (Text-fig. 170) ; lateral, polished zone of the scutellum with smooth, almost rounded posterior margin ; tergite 1 not very strongly narrowed behind, dull, evenly rugose. India *camilla* sp. n. (p. 165)
- Ovipositor in lateral view straight, thin, and with conspicuous, apical sinuation ; lateral, polished zone with its posterior margin forming a raised, ridge-like edge ; tergite 1 strongly narrowed behind, smooth, with punctures along sides. Africa *typhon* sp. n. (p. 153)
- 5 Head in facial view markedly triangular, with face shining, impunctate (Text-fig. 167).
Mesoscutum shiny and with a very fine punctation ; ovipositor sheath slightly more than one and a half times longer than the hind tibia. Europe *lacteoides* sp. n. (p. 160)
- Head in facial view not at all triangular ; face less shining 6
- 6 Metacarp very short, hardly one and a half times longer than its distance from the apex of the radial cell.
Ovipositor short, evenly curved, rather thick, its sheaths about as long as the hind tibia. India *detrectans* Wilkinson (p. 158)
- Metacarp at least twice as long as its distance from the apex of the radial cell 7
- 7 Ovipositor sheath at most about one and one third times as long as the hind tibia ; nervellus virtually straight so that the submediellan cell is not or hardly lobed outwards at the vannal lobe corner (Text-fig. 159).
Ovipositor slightly but more or less evenly curved throughout and without an apical sinuation 8
- Ovipositor sheath nearer to twice as long as the hind tibia ; nervellus distinctly curved outwards at its junction with the mediella so that the submediellan cell is distinctly lobed at the vannal lobe corner (Text-fig. 160). 9
- 8 Mesoscutum strongly shining and polished with only a very superficial punctation ; preapical segment of the antenna not longer than wide ; ovipositor sheath about one and one third times longer than wide ; metacarp a little more than twice as long as its distance from the apex of the radial cell. Europe *isus* sp. n. (p. 159)
- Mesoscutum less shining and less polished, its punctation more distinct ; preapical segment of the antenna distinctly longer than wide ; metacarp fully three times as long as its distance from the apex of the radial cell ; ovipositor sheath hardly longer than the hind tibia. Europe *aeolus* sp. n. (p. 161)
- 9 Ovipositor in lateral view distinctly sinuate at apex (Text-fig. 169) ; flagellum decidedly thickened towards base and its segments with an upstanding, bristly pubescence. Africa *apidanus* sp. n. (p. 162)
- Ovipositor in lateral view without trace of such a sinuation ; flagellum not noticeably thickened towards base, its segments with a pubescence so short as to be hardly noticeable 10
- 10 Ovipositor virtually straight but somewhat abruptly down-curved at apex ; punctation of mesoscutum slightly sharper and more discrete, with less evidence of fine microsculpture. India *cajani* Wilkinson (p. 161)
- Ovipositor slightly but more or less evenly curved throughout ; punctation of mesoscutum less discrete ; surface duller and with clear indication of fine microsculpture. Europe *myeloenta* Wilkinson (p. 162)
- 11 Ovipositor evenly curved throughout, its sheaths at most one and a quarter times longer than the hind tibia ; in lateral view, the apex of the ovipositor never shows a sinuation but frequently is abruptly attenuated here, the narrowed part being about as long as segment 4 of the hind tarsus 12

- Ovipositor straight for most of its length, its sheaths about twice as long as the hind tibia ; in lateral view, the ovipositor is deeply sinuate at apex (Text-fig. 168).
Propodeum without a longitudinal keel but with strong rugosity surrounding the posterior orifice ; metacarp fully five times as long as its distance from the apex of the radial cell ; radial cell markedly downcurved at apex. Australia
briareus sp. n. (p. 153)
- 12 Hind coxa and hind femur yellow ; basal half of gaster dull red ; lower side of flagellum (antenna being stretched forwards) with unusually long pubescence, the longest hairs being fully equal to two thirds the width of the segments ; inner spur of the middle legs reaching almost to apex of second tarsal segment.
Legs entirely yellow except for the darkened apex of the hind tibia and the entirely dark hind tarsus. Africa *hebrus* sp. n. (p. 156)
- At least the hind coxa black ; basal half of gaster blackish ; lower side of flagellum without such long pubescence ; inner spur of the middle legs not reaching beyond apex of basal segment of tarsus 13
- 13 Propodeum without trace of a median, longitudinal keel but with some strong rugae extending upwards from the posterior orifice 14
- Propodeum always with a distinct, median longitudinal keel (sometimes the keel is double, except anteriorly).
Ovipositor with an apical attenuation 15
- 14 Hind legs, distal to coxae, predominantly reddish-yellow ; cubitellan cell of the hind wing higher than wide ; temples shiny and with only feeble punctation. Malaya
melpomene sp. n. (p. 155)
- Hind legs, distal to coxae, predominantly blackish with the hind tibia and hind basitarsus both sharply yellowish-white on basal half ; cubitellan cell slightly wider than high ; temples dull and with strong contiguous punctation. Ceylon
prusias sp. n. (p. 155)
- 15 Mesoscutum dull, with a fine, glistening rugosity in which there is virtually no trace of punctation ; disc of scutellum also dull, with a fine, rugulose-aciculate sculpture.
Metacarp three and a half to four times as long as its distance from the apex of the radial cell. Africa *pyrene* sp. n. (p. 157)
- Mesoscutum either smooth, shining, or with a clearly punctate sculpture that becomes irresolvable only sometimes along course of notaulices 16
- 16 Propodeum, especially across brow, dull, densely, almost coarsely rugose.
Posterior corners of the propodeum rather raised, the surface between them and the very strong medial keel subvertical, slightly hollowed out and covered with some sort of coarse rugosity ; preapical segment of the antenna hardly longer than wide. Europe *vindicus* sp. n. (p. 157)
- Propodeum much more finely sculptured, in greater part smooth and polished and, if more sculptured, then the sculpture of the brow fine and more or less even 17
- 17 Horizontal part of tergite 1 dull, strongly rugose all over (more so than in any other species of the group) ; wings markedly brownish.
Mesoscutum somewhat dull, but sharply punctate. Africa *lynceus* sp. n. (p. 157)
- Horizontal part of tergite 1 without such strong sculpture, at most with fine micro-sculpture and scattered punctures, more especially where it turns over ; wings hyaline 18
- 18 Mesoscutum highly polished, impunctate ; metacarp about one and a half times longer than its distance from the apex of the radial cell.
Distance between the posterior ocelli much greater than the distance between one of them and the eye-margin. Australia *alfalfae* Nixon (p. 163)
- Mesoscutum somewhat dull, finely and quite distinctly punctate ; metacarp at least about twice as long as its distance from the apex of the radial cell 19

- 19 Metacarp fully five times as long as its distance from the apex of the radial cell ; 1st abscissa of the discoideus not longer than the nervulus and forming with it a straight, colourless vein (Text-fig. 175).
Distance between the posterior ocelli very distinctly shorter than the distance between one of them and the eye-margin. Malaya . . . *Jason* sp. n. (p. 162)
- Metacarp at most about three and a quarter times longer than its distance from the apex of the radial cell ; 1st abscissa of the discoideus very distinctly longer than the nervulus and not forming with it a straight colourless vein. 20
- 20 Metacarp about two and a half times longer than its distance from the apex of the radial cell ; segments 16–17 of the antenna hardly longer than wide. Europe
merula Reinhard (p. 159)
- Metacarp about three and a quarter times longer than its distance from the apex of the radial cell ; antenna slightly longer, segments 16–17 being about one and one third times longer than wide. Europe *meruloides* sp. n. (p. 160)

Apanteles typhon sp. n.

♀. Hind tibia becoming faintly paler towards basal third ; hind tarsus dark throughout.

Face dull, finely punctate. Head in a facial view more or less circular. Temples dull, finely, sharply punctate. Distance between the posterior ocelli very slightly less than the distance between one of them and the eye-margin, 8:9. Preapical segment of the antenna hardly one and a quarter times longer than wide ; pubescence of flagellum hardly noticeable.

Mesoscutum finely, densely, evenly punctate and somewhat dull. Disc of scutellum finely, closely punctate. Spines of the upper part of the outer side of the hind tibia dense and somewhat overlapping. Nervellus of the hind wing virtually straight where it meets the submediella. Propodeum in greater part almost smooth.

Horizontal part of tergite 1 polished medially, punctate along sides. Ovipositor sheath about one and one third times longer than the hind tibia (this measurement taken from the female from Nelspruit ; sheaths absent in type) ; ovipositor straight except an apical sinuation, like that of *briareus* (cf. Text-fig. 168).

Length: ca. 3 mm. without ovipositor.

AFRICA : Togoland, Kreosu, i.1925, 1 ♀, the *TYPE*, labelled “ pest of cotton ”, (*G. S. Cotterell*) ; S. Africa : Nelspruit, 3 ♀♀, 2 ♂♂, ex larva of false codling moth, (? *Argyroplote leucotreta* Meyrick).

Type in the British Museum (Nat. Hist.).

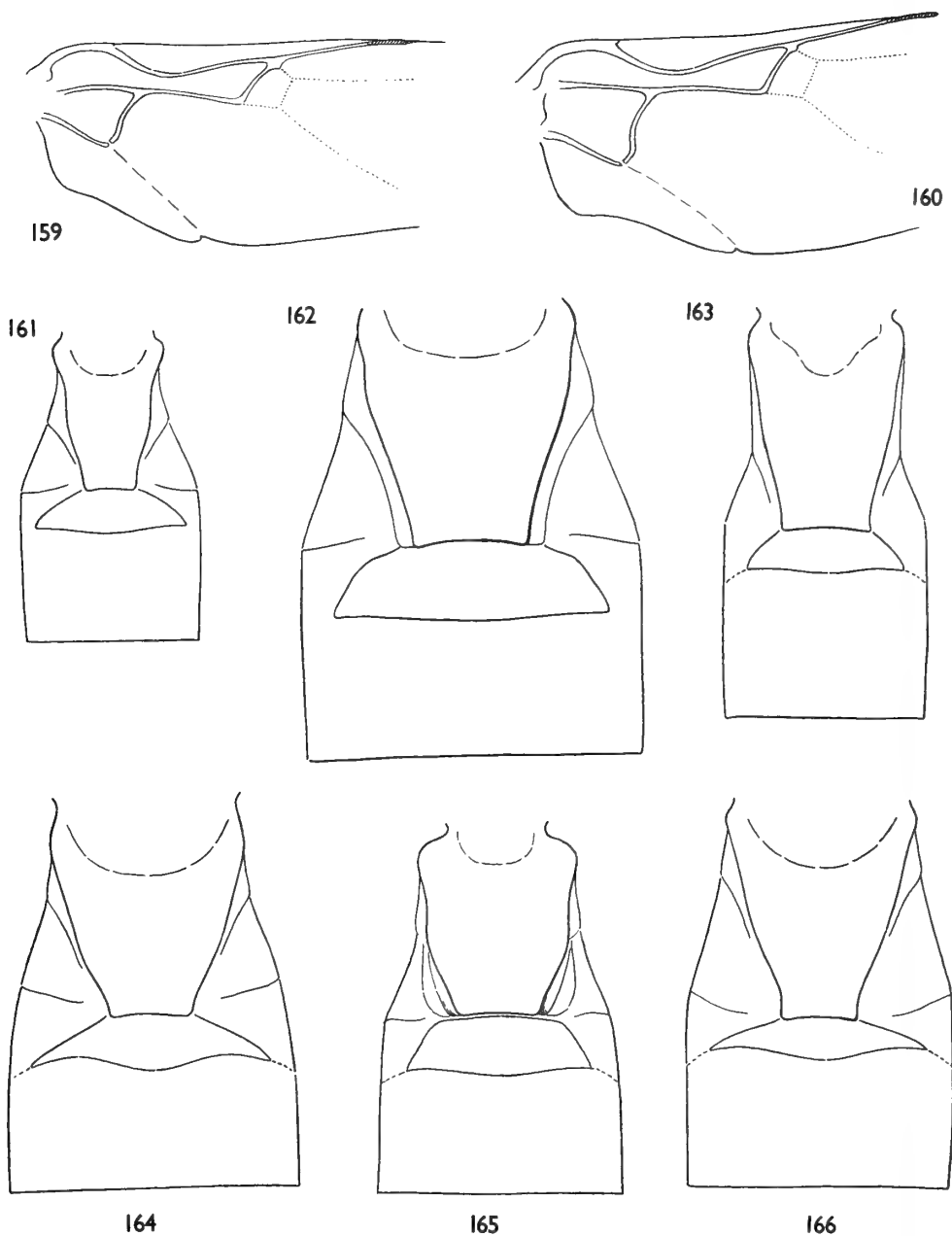
Essentially characterized by the absence of a propodeal keel and the sinuate apex of ovipositor. A similar sinuation is equally well developed in the Australian *briareus*.

Apanteles briareus sp. n.

♀. Hind tibia blackish on apical half ; proximally becoming first faintly reddish and then, on basal quarter, bright yellow ; hind tarsus blackish, except that the basal segment is yellow at extreme base ; the single female from the New Hebrides has the hind tibia entirely blackened except for yellow basal fifth. Stigma evenly dark brown.

Head rather small relative to the size of the thorax ; in a facial view not in the least subtriangular ; very shiny, indistinctly punctate. Temples shiny, faintly roughened. Distance between the posterior ocelli equal to the distance between one of them and the eye-margin. Antenna long, powerful, with the preapical segment almost twice as long as wide.

Mesoscutum shiny, but very sharply, discretely and distinctly punctate. Disc of scutellum with a few punctures along sides. Propodeum without trace of a keel ; punctate anteriorly but



FIGS. 159-166. *Apanteles*, ♀: 159, *isus* sp. n., hind wing, part; 160, *myeloenta* Wilkinson, same; 161-166. Basal tergites of, 161, *detrectans* Wilkinson; 162, *briareus* sp. n.; 163, *cajani* Wilkinson; 164, *aeolus* sp. n.; 165, *tedanius* sp. n.; 166, *alfalfae* Nixon.

with numerous, coarse rugae on posterior, declivous part. Stigma somewhat narrow; 1st abscissa of the radius and the transverse cubitus forming a long, evenly curved vein as in *Jason* (cf. Text-fig. 175); submedian cell with only a few setae towards apex; setae of the median cell long, sparse, widely absent along medius side of cell; abscissa 1 of the discoideus hardly longer than the nervulus and distinctly shorter than abscissa 2; hind wing very broad. Outer side of hind tibia densely spinose.

Median field of tergite (2 + 3) subrectangular, its lateral corners not very acutely angled (Text-fig. 162).

Length: ca. 4.8 mm. without ovipositor.

AUSTRALIA: Brisbane, 8.iii.1957, 1 ♀, the *TYPE*, bred from *Arotrophora ambrodelta*, (*G. Ettershank*). NEW HEBRIDES: Malekula, i.1930, 1 ♀, (*L. E. Cheesman*).

Type in the British Museum (Nat. Hist.).

Host: *Arotrophora ambrodelta* Low (Tortricidae).

This is a fine, very distinct species, aberrant and not to be confused with any other species dealt with in this synopsis.

Apanteles prusias sp. n.

♀. Another species without trace of a longitudinal keel on the propodeum, having many of the characters of *briareus* but an ovipositor of different structure. There are other big differences.

Middle tibia whitish yellow on basal half, blackish on apical half; hind tibia like middle tibia, the pale basal half in sharp contrast with the blackened apical half; almost basal half of hind basitarsus yellowish; segments 3-5 of the hind tarsus reddish, paler than the dark half of the basitarsus. Wings strongly embrowned; stigma evenly dark brown and all venation pigmented.

Face punctate, the punctures large but rather indistinct. Antenna about as long as the body but broken; segment 15 not longer than wide. Distance between the posterior ocelli slightly shorter than the distance between one of them and the eye-margin.

Mesoscutum densely, discretely punctate, the punctures sharp and rather large. Disc of scutellum with sharp, scattered punctures almost all over. Propodeum with strong rugae radiating upwards from the orifice and tending to define vaguely the limits of an areola. Median and submedian cell densely setose (cf. *briareus*); metacarp fully six times as long as its distance from the apex of the radial cell; abscissa 1 of the discoideus only slightly longer than the nervulus but distinctly a little shorter than abscissa 2; hind wing rather narrow; cubitellan cell not higher than wide. Spines of the upper part of outer side of hind tibia fire-red; those on lower part whitish; outer, upper face of hind coxa closely, coarsely punctate.

Median field of tergite (2 + 3) with acutely drawn out lateral angles. Ovipositor sheath hardly as long as the hind tibia; ovipositor simple.

Length: ca. 3.2 mm. without ovipositor.

CEYLON: Madulsima, 8.xii.1908, 1 ♀, the *TYPE*, (*T. B. Fletcher*).

Type in the British Museum (Nat. Hist.).

Aberrant within the *lacteus*-group, differing from *briareus* in appearance of wings as well as structure of ovipositor. In many respects, *prusias* resembles the following species but there are big differences.

Apanteles melpomene sp. n.

♀. A species without trace of a longitudinal propodeal keel and with an ovipositor similar to that of *prusias*, with which species it may be compared as follows:

Legs, apart from the coxae, entirely bright reddish yellow with the front and middle tarsi almost whitish and the hind tibia becoming whitish on about basal third. Wings virtually clear hyaline; venation pigmented throughout; stigma dark brown.

Face strongly, coarsely punctate; in places almost longitudinally striate-punctate. Head considerably less transverse than in *prusias* but showing a resemblance to that of *briareus*. Antenna broken but evidently longer and thicker than in *prusias* with segment 15 fully twice as long as wide; this is a big difference between the two species.

Mesoscutum characteristically punctate as in *prusias* but the surface more shiny and the punctures less close; the surface is distinctly impressed along the course of the notaulices and here, instead of the punctures being closer and more crowded as usually happens, they tend to become smaller and fade out on posterior half of mesoscutum. Disc of scutellum with hardly a trace of punctation. Propodeum exactly as in *prusias*. Hind coxa considerably larger than in *prusias* with the outer, upper face more shiny and with much weaker punctation; hind tarsus more bristly. Abscissa 1 of the radius much longer in proportion to the length of the transverse cubitus; the disposition of the veins is altogether more like that of *briareus* than *prusias*; median cell and submedian cell as densely setose as in *prusias* but the setae longer; cubitellan cell of the hind wing higher than wide; hind wing considerably broader.

Horizontal part of tergite 1 with coarse punctures and rugosity right across. Ovipositor sheaths fully as long as the hind tibia.

Length: 4.2 mm. without ovipositor.

MALAYA: Trengganu, Jerangau Estate, 2 ♀♀, one the *TYPE*, bred 21.xii.1955, from cocoon of *Conopia* sp. (Aegeriidae).

Type in the British Museum (Nat. Hist.).

Apart from the S. African *hebrus*, no other species in the *merula*-group has the legs so brightly coloured. Altogether, this is a most distinctive species and probably transitional between the *merula*- and *grandiculus*-groups.

Apanteles hebrus sp. n.

♀. The middle and front legs of this brightly coloured species are somewhat whitish-yellow.

Face appearing slightly roughened owing to presence of fine, raised points. Antenna about as long as the body, tapering apically with the preapical segment about one and one third times longer than wide. Distance between the posterior ocelli equal to the distance between one of them and the eye-margin.

Mesoscutum shiny, with an indistinct, very superficial punctation. Disc of scutellum polished, virtually impunctate. Propodeum, in contrast, dull, with a satin-like sheen and fine microsculpture; a few, large punctures across the brow; median keel percurrent, distinct. Abscissa 1 of the discoideus distinctly a little longer than 2; metacarp fully six times as long as its distance from the apex of the radial cell; cubitellan cell of the hind wing a little wider than high. Hind tarsus, in profile, tapering somewhat apically and having a densely bristly appearance; inner spur of the hind tibia very powerful, about three quarters as long as the hind basitarsus.

Tergites 1 and (2 + 3), (Text-fig. 176). Ovipositor sheath about three quarters as long as the hind tibia; ovipositor evenly curved throughout and without an apical attenuation.

Length: ca. 2.5 mm. without ovipositor.

♂. It is with confidence that I associate two males with the type female. The wings are a little darker than those of the female. The antenna, apart from the normal sexual differences, shows the same long hairs beneath the flagellum. The hind coxa is entirely brown in one example but yellow beneath in the other.

S. AFRICA: Pondoland, Port St. John, 1-5.iv.1923, 1 ♀, the *TYPE*, 25-31.iii.1923, 2 ♂♂, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

This is an aberrant species, far removed from the other species with keeled propodeum. In addition to the long spurs of the middle and hind legs, the polished, lateral zone of the scutellum lacks the raised posterior edge typical of the *lacteus*-group.

In all the other species of the group, the longer spur of the middle tibia does not reach beyond the apex of the middle basitarsus.

Apanteles pyrene sp. n.

♀. Hind leg blackish throughout, except for the basal quarter of the hind tibia which is obscurely whitish. Stigma evenly dark brown.

Face finely roughened and with a satin-like sheen. Antenna as long as the body with the preapical segment one and one third times longer than wide. Vertex between the ocelli and the temples finely roughened and dull. Distance between the posterior ocelli slightly greater than the distance between one of them and the eye-margin.

Propodeum dull, for the most part; finely, evenly rugose with punctures across brow but becoming smoother and polished towards posterior corners.

Median field of tergite (2 + 3) very small, with long drawn-out lateral angles and with a row of punctures across apical margin.

Length: ca. 2.5 mm. without ovipositor.

S. AFRICA: Cape Province, Mossel Bay, vi-vii.1930, 1 ♀, the *TYPE*, 15.iii.-30.iv.1932, 2 ♀♀, v.1930, 1 ♀, v.1937, 1 ♀, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

Species characterized by the sculpture of the mesoscutum and of the disc of the scutellum.

Apanteles lynceus sp. n.

♀. Hind leg entirely blackish, except that the base of the hind tibia (about a quarter) is whitish-yellow. Wings faintly smoky with the venation fully pigmented and the stigma evenly dark brown.

Face shiny, distinctly but rather superficially punctate. Distance between the posterior ocelli equal to the distance between one of them and the eye-margin. Antenna shorter than the body; the four preapical segments almost square in outline.

Punctures of the mesoscutum slightly larger and slightly more crowded along the course of the notaulices. Disc of scutellum polished and with hardly a trace of punctation. Propodeum with considerable rugosity around sides and along sides of medial keel; on each side of the medial keel the surface becomes smooth, shining. Metacarp fully six times as long as its distance from the apex of the radial cell; 1st abscissa of the discoideus not longer than the 2nd; hind wing rather narrow; cubitellan cell of the hind wing about as high as wide.

Ovipositor sheath about one and a quarter times longer than the hind tibia; ovipositor evenly curved and without an apical attenuation.

Length: 2.8 mm. without ovipositor.

S. AFRICA: Cape Province, Mossel Bay, i.1922, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

The propodeum of this species is rather long with its lateral field not at all transverse. The species is characterized by the combination of the short antenna and the

unusually coarse sculpture of the first tergite ; in both these respects, however, there is an approach to the European *vindicus*.

Apanteles vindicius sp. n.

♀. This species has more in common with the African *lynceus* than the typical members of the *merula*-group, such as *lacteoides* and *merula*. It may be compared with *lynceus* as follows:

Wings almost hyaline but lacking a milky white tint. Hind tibia infusate on apical half, becoming reddish towards base.

Face more strongly punctate ; the punctures coarser, subconfluent ; the punctate face is quite a feature of the species. Antenna longer with the preapical segment slightly longer than wide. Posterior ocelli slightly further apart than in *lynceus*.

Mesoscutum densely, deeply punctate, the punctures crowded and confluent along the course of the notaulices and forming dull bands. Disc of the scutellum with some coarse punctation along the sides. Propodeum a little shorter than in *lynceus* ; a lateral field slightly transverse ; across the brow, the propodeum is dull, densely, almost coarsely rugose and rather thickly clothed with long, stiff hairs ; posterior corners rather strongly raised, the surface between them and the strong medial keel slightly hollowed out and covered with coarse, shiny rugosity that is weaker medially. Inner spur of the middle tibia slightly more powerful than in *lynceus* and fully reaching apex of middle basitarsus.

Tergite 1 less rugose than in *lynceus* but more rugose than in the other species of the group ; at sides where it turns over, the surface shows deep, contiguous punctation ; elsewhere the horizontal surface is dull, finely rugose but with a coarser patch medially. Ovipositor sheath very slightly shorter than the hind tibia.

Length: 3.2 mm. without ovipositor.

EUROPE : Italy, Laguna Veneta, 1 ♀, the *TYPE*, (*G. Soika*).

Type in the British Museum (Nat. Hist.).

No other species of the group has the anterior part of the propodeum so coarsely rugose. The densely punctate mesoscutum is also important for the recognition of the species.

Apanteles detrectans Wilkinson

Apanteles detrectans Wilkinson, 1928a : 110.

♀. Hind tibia infusate on less than apical half ; towards base becoming clear yellow. Wings hyaline ; most of the venation colourless ; stigma pale yellow without noticeably darker border but the metacarp brownish.

Face impunctate. Antenna shorter than the body, very slightly tapered towards apex ; preapical segment about one and a quarter times longer than wide ; flagellar pubescence hardly noticeable. Distance between posterior ocelli distinctly greater than the distance between one of them and the eye-margin, 5:3.

Mesoscutum finely, rather indistinctly punctate. Disc of scutellum shiny and with faint traces of punctation. Propodeum short, with medial keel ; otherwise shining and almost smooth. Abscissa 1 of the discoideus as long as 2 ; nervellus of hind wing straight ; cubitellan cell slightly higher than wide.

Horizontal part of tergite 1 shining, almost smooth. Median field of tergite (2 + 3) (Text-fig. 161).

Length: ca. 3 mm. without ovipositor.

INDIA : Pusa (type locality). AFRICA : Sudan, Gureir, ii-iii.1939, 3 ♀♀, bred from caterpillar on Senna (*Cassia*).

Type in the British Museum (Nat. Hist.).

Host : The original series was bred from a Phycitid larva.

Apanteles isus sp. n.

♀. Very close to *detrectans* from which it differs as follows:

Antenna a little longer and thicker, with the preapical segment not longer than wide.

Mesoscutum more shiny, its punctation finer and more superficial and not closer along the course of the notaulices ; in *detrectans* the punctation is crowded enough along the course of the notaulices to form a band of duller sculpture. Disc of the scutellum polished, impunctate. Metacarp between two and a half and two and a quarter times longer than its distance from the apex of the radial cell.

Ovipositor sheath one and one third times longer than the hind tibia.

EUROPE : Hungary, Kiralyhalom, 2 ♀♀, one the *TYPE*, 2 ♂♂, bred 8.viii.1936 from *Etiella zinckenella*.

Type in the British Museum (Nat. Hist.).

Host : *Etiella zinckenella* Treitschke (Phycitidae).

Except for the colour of the stigma and the almost colourless venation, this species is also very closely related to *merula*. In fact, the four species, *merula*, *detrectans*, *isus* and *meruloides* form a small, compact group within the larger group, characterized chiefly by the smooth looking propodeum with its percurrent keel and simple, gently downcurved ovipositor.

Apanteles merula Reinhard

Apanteles merula Reinhard, 1880 : 366.

♀. Stigma evenly brown ; venation fully pigmented throughout. Hind tibia in greater part yellowish but becoming infusate towards apex.

Face impunctate and with a satin-like sheen. Antenna a little shorter than the body, with the two preapical segments almost square in outline ; unlike *detrectans* and *isus*, the pubescence of the flagellum is more noticeable, somewhat bristly (Text-fig. 171). Distance between the posterior ocelli equal to the distance between one of them and the eye-margin.

Mesoscutum somewhat dull, finely, densely punctate with the punctures more crowded and forming duller bands along the course of the notaulices ; in this respect, the sculpture of the mesoscutum is unlike that of *isus* but differs from that of *detrectans* only in that the surface is duller. Hind wing rather narrow ; cubitellan cell not higher than wide.

Ovipositor sheath about as long as the hind tibia ; ovipositor with weak apical attenuation.

Length: ca. 3.2 mm. without ovipositor.

EUROPE.

Type in the Zoologisches Museum der Universität, Berlin.

My interpretation of this species is based on a female in the British Museum (Nat. Hist.), compared by Wilkinson with Reinhard's type. *A. merula* is largely characterized by the sculpture of the mesoscutum.

Apanteles etiellae Viereck

Apanteles (Pseudapanteles) etiellae Viereck, 1911 : 178.

Apanteles iselyi Cushman, 1919 : 120 [synonymy, Muesebeck, 1920].

Apanteles etiellae Viereck ; Muesebeck, 1920 : 531.

This is a North American species and in the British Museum collections are a male and a female determined by Muesebeck. These are from Iowa, Shenandoah and were bred from *Canarsia hammondi* Riley (Phycitidae).

The only difference I can find of significance between *etiellae* ♀ and *merula* ♀ is that the flagellum of *etiellae* lacks upstanding bristly pubescence, the venation proximal to the areolet is virtually colourless and the ovipositor sheath is very slightly shorter. Further investigation may show the two species to be the same.

Apanteles meruloides sp. n.

♀. This species is extremely like *merula* but certainly distinct on a much longer metacarp. The antenna is not only longer but also thinner ; however the pubescence of the flagellum is similar to that of *merula*.

The punctuation of the mesoscutum is somewhat sharper and more distinct than in *merula*.

Tergite 1 more sharply narrowed behind, its horizontal part longer, duller and with sharp, discrete punctures ; in *merula*, the surface here is less distinctly punctate.

EUROPE : Turkey, Bornova, 2 ♀♀, one the TYPE, 1 ♂, ex *Polychrosis botrana*; Izmir, ix.1937, 3 ♀♀, 4 ♂♂, labelled " in stored dry fig ".

Type in the British Museum (Nat. Hist.).

Host : *Polychrosis botrana* Schiffermüller (Olethreutidae).

Apanteles lacteoides sp. n.

Apanteles lacteus Nees ; of authors.

♀. Wings milky white ; costa and stigma yellow ; metacarp contrasting dark brown ; hind tibia reddish-yellow on rather more than basal half ; becoming blackened towards apex. Tegula whitish.

Head (Text-fig. 167). Antenna a little shorter than the body with the three preapical segments almost twice as long as wide, shiny and closely articulated ; apical segment thin, sharply pointed (Text-fig. 172) ; pubescence of flagellum so fine as to be hardly noticeable. Distance between the posterior ocelli distinctly greater than the distance between one of them and the eye-margin, 5:4.

Mesoscutum strongly shining, its punctuation very superficial ; a faint trace of striate-punctuation at posterior end of notaulic courses. Disc of scutellum punctate along sides. Cubitellan cell of the hind wing about as wide as high.

Horizontal part of tergite 1 polished and at most with faint traces of punctuation. Seen from above, the ovipositor is distinctly constricted before apex.

Length: ca. 4 mm. without ovipositor.

♂. Like the female.

EUROPE : Sweden, Skåne, Ohus, 16.vii.1958, 2 ♀♀, one the TYPE, (K. J. Hedqvist), Degaberga, vii, 2 ♂♂, (D. M. S. & J. F. Perkins).

Type in Coll. Hedqvist.

This is the only species of the group with an elongate face and is easily recognised on this character alone. The sculpture of the mesoscutum is like that of *isus* but very different from that of *merula*.

Apanteles aeolus sp. n.

♀. At first sight very like *lacteoides* but differing in several important details.

Wings, though hyaline, lacking the milky-white tint of *lacteoides*; stigma pale with a faintly darker border but the metacarp not darker than the dark border of the stigma; venation proximal to the areolet weakly pigmented.

Head from in front not in the least subtriangular. Antenna longer than in *merula* and *isus* but a little shorter than in *lacteoides* with the preapical segment about one and one third times longer than wide.

Mesoscutum more sharply and distinctly punctate than in *lacteoides*; the punctation considerably stronger than in *isus*.

Tergite 1 very broad at base (Text-fig. 164), broader than in *lacteoides*; horizontal surface with some fine surface sculpture and vague punctation; hence a little dull by comparison with *lacteoides*. Ovipositor sheath hardly longer than the hind tibia; ovipositor evenly but weakly curved throughout.

Length: 3.8–4 mm. without ovipositor.

EUROPE: Germany, Hamburg, 26.vii.1906, 1 ♀, the *TYPE*, said to have been bred from *Salebria betulae*, (A. C. W. Wagner Coll.); Wittenbergen, 7.vii.1931, 1 ♀, (A. C. W. Wagner Coll.).

Type in the British Museum (Nat. Hist.).

Host: *Salebria betulae* Goeze (Phycitidae). This record needs confirmation.

Apanteles cajani Wilkinson

Apanteles cajani Wilkinson, 1928a: III.

♀. Body brownish with faint reddish tinge; hollowed out, basal part of tergite 1 reddish. Wings hyaline but without a milky-white tint; stigma pale yellow; metacarp darker but its colour not in sharp contrast with that of the stigma; venation proximal to the areolet weakly pigmented.

Head in a facial view markedly transverse; above dull, with satin-like sheen and traces of punctation, especially above antennal scrobes. Face distinctly but not deeply punctate. Antenna shorter than the body, rather thin, with the preapical segment about one and one third times longer than wide and segment 16 almost one and a half times longer than wide. Distance between the posterior ocelli equal to the distance between one of them and the eye-margin.

Mesoscutum somewhat dull, densely, discretely punctate; the punctures more crowded along the course of the notaulices to form duller bands of rugosity. Abscissa 1 of the discoideus not longer than the nervulus; metacarp about four and a half times longer than its distance from the apex of the radial cell. Cubitellan cell of the hind wing a little higher than wide.

Tergite 1 not strongly narrowed behind (Text-fig. 163); sharply punctate along sides and especially where it turns over. Ovipositor sharply downcurved at apex.

Length: ca. 4 mm. without ovipositor.

INDIA: Pusa (type locality).

Type in the British Museum (Nat. Hist.).

This species is extremely like *myeloenta* and the differences between the two species are subtle and difficult to appreciate.

***Apanteles myeloenta* Wilkinson**

Apanteles myeloenta Wilkinson, 1937 : 463.

♀. Somewhat more stoutly built than *cajani* and black in colour.

Apart from the slight sculptural and structural differences given in the key, *myeloenta* has the propodeum duller than *cajani*, more sculptured and with a finer, more extensive pubescence. As pointed out by Wilkinson in his description of *myeloenta*, this species has the apical excision of the hypopygium deeper than in *cajani*.

Tergite 1 is more narrowed behind than in *cajani* (cf. Text-fig. 163).

EUROPE : Cyprus.

Type in the British Museum (Nat. Hist.).

Host : *Myelois ceratoniae* Zeller (Phycitidae), a pest of the beans of the carob tree, *Ceratonia siliqua*.

This species and *cajani* are in need of further study. Both are related to the following species, *apidanus*.

***Apanteles apidanus* sp. n.**

♀. Hind tibia sharply whitish at extreme base ; hind tarsus infuscate throughout. Stigma with well marked darker border ; 1st and 2nd abscissae of the discoideus and the nervulus pigmented.

Head in a facial view markedly transverse. Face shining, finely, indistinctly punctate. Head above, dull, finely roughened. Distance between the posterior ocelli equal to the distance between one of them and the eye-margin.

Mesoscutum shiny, densely, finely punctate and with a distinct coarsening of sculpture along the course of the notaulices. Disc of scutellum polished, impunctate. Propodeum on each side of the percurrent, longitudinal keel with a fine, dull microsculpture, nowhere polished. Anterior part of mesopleurum finely rugose and without evidence of punctation. Metacarp about three and a half times longer than its distance from the apex of the radial cell ; 1st abscissa of the discoideus very slightly shorter than the 2nd.

Horizontal part of tergite 1 smooth-looking and with a satin-like sheen ; some indistinct punctation along sides. Median field of tergite (2 + 3) large and not strongly transverse for the group. Ovipositor sheath very long, nearly two and a quarter times longer than the hind tibia ; the apical situation of the ovipositor is very weak.

Length: ca. 3.3 mm. without ovipositor.

S. AFRICA : Transvaal, Alkmaar, 16.iv.1926, 1 ♀, the *TYPE*, labelled " bred from larva on grape-fruit stock ", (*L. A. Amphlett*).

Type in the British Museum (Nat. Hist.).

***Apanteles jason* sp. n.**

♀. Closely related to *merula* from which it differs chiefly in details of wing venation.

Wings milky-white with the venation proximal to the areolet colourless ; stigma evenly dark brown.

Preapical segment of the antenna twice as long as wide. Distance between the posterior ocelli distinctly less than the distance between one of them and the eye-margin.

Mesoscutum less dull and more evenly punctate than in *merula*. Propodeal keel very narrowly forked and hence appearing double for most of its length. Hind wing much broader, with the cubitellan cell distinctly higher than wide.

Posterior, horizontal part of tergite 1 smooth, polished. In a dorsal view, the hairs of the ovipositor sheath are extremely short, not upstanding.

Length: 2.8 mm. without ovipositor.

MALAYA : Serdang, 14.iv.1932, 1 ♀, the *TYPE*, labelled "cocoon on tuba leaf", (*N. C. E. Miller*). JAVA : Tjipetir, 2.vi.1934, 1 ♀, (*C. Franssen*).

Type in the British Museum (Nat. Hist.). Second female in U.S. National Museum.

This rather small species has the hind wing broader than any other species among those having a short, evenly curved ovipositor.

Apanteles alfalfae Nixon

Apanteles alfalfae Nixon, 1960 : 303.

♀. Easily recognised by its polished mesoscutum, pale spot at base of stigma and short ovipositor. The distance between the posterior ocelli is very distinctly greater than the distance between one of them and the eye-margin. Cubitellan cell of the hind wing almost twice as high as wide (Text-fig. 131). Ovipositor (Text-fig. 173). Basal tergites (Text-fig. 166).

AUSTRALIA.

Type in the British Museum (Nat. Hist.).

Host : *Etiella behrii* Zeller (Phycitidae), a pest of lucerne.

This species is more closely related to such species as *merula* and *jason* than to the *myeloenta-cajani* complex.

Apanteles tedanius sp. n.

♂♀. Black. Wings hyaline but the venation dark brown and fully pigmented throughout ; stigma evenly dark brown. Hind tibia blackish but yellowish on basal quarter ; sometimes the pale colour extends over almost basal half ; hind basitarsus whitish on fully basal half.

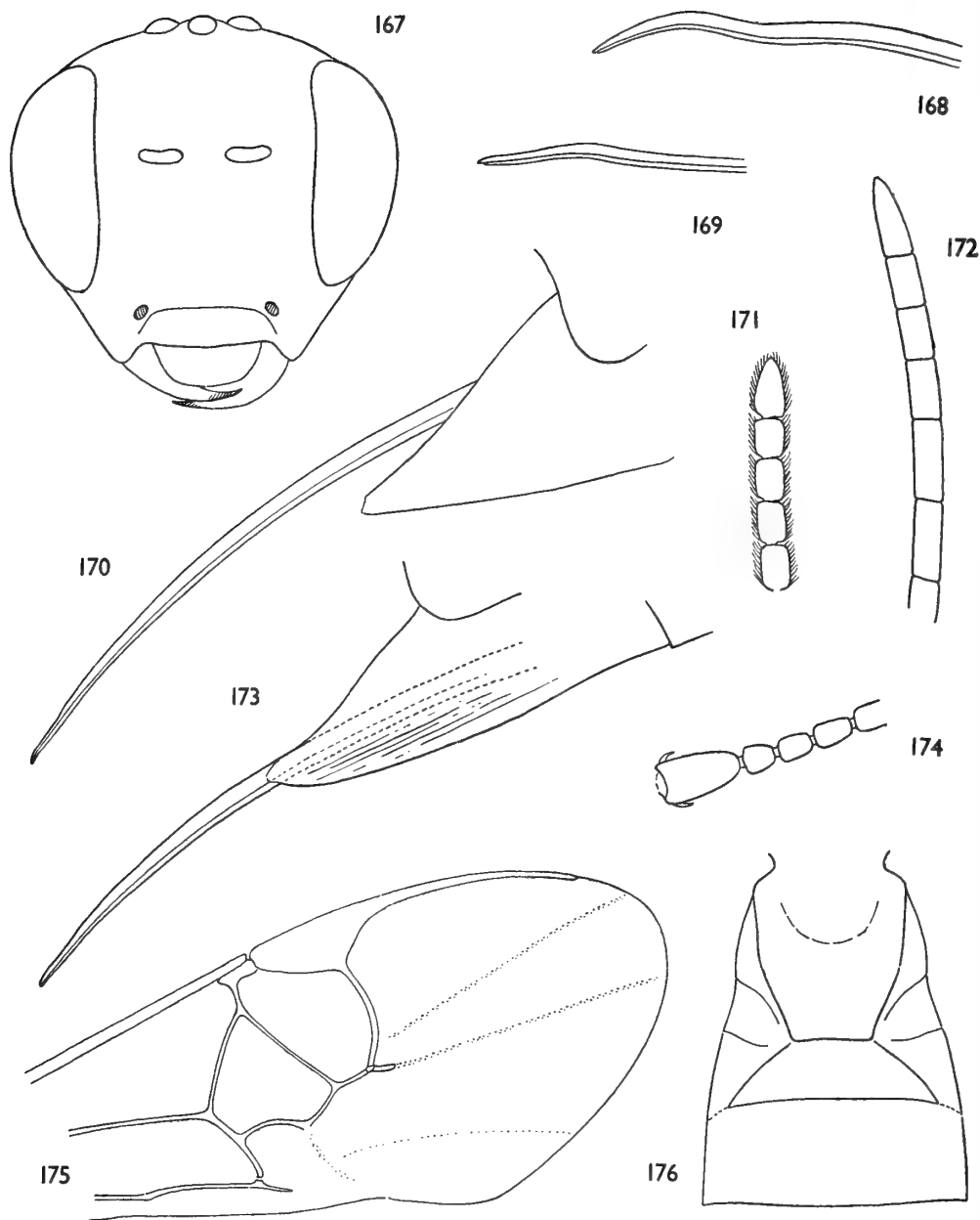
♀. Head in a facial view more or less circular. Face quite dull, closely reticulate-punctate. A similar sculpture covers temples and vertex. Antenna about as long as the body ; the three preapical segments somewhat loosely articulated, almost moniliform with segment 17 hardly longer than wide. Distance between the posterior ocelli not at all greater than the distance between one of them and the eye-margin.

Mesoscutum quite dull, like the head, closely, heavily punctate all over ; the punctures slightly larger along the course of the notaulices. Disc of scutellum punctate towards sides. Propodeum dull, rugose all over with percurrent medial keel. Wings: abscissa 1 of the discoides much longer than the nervulus ; metacarp about two and a half times longer than its distance from the apex of the radial cell ; a conspicuous angle between abscissa 1 of the radius and the transverse cubitus ; vannal lobe not at all concave and with trace of a weak fringe ; basella strongly incurved. Apical tarsal segment of all legs, especially the front pair, considerably enlarged (Text-fig. 174).

Tergite 1 (Text-fig. 165), not very strongly narrowed behind, dull, with satin-like sheen and weakly punctate towards sides. Ovipositor sheath very slightly longer than the hind tibia ; seen from above with long, upstanding hairs. Ovipositor weakly, evenly curved throughout.

Length: ca. 3.8 mm. without ovipositor.

♂. Like the female except for the sexual differences.



FIGS. 167-176. *Apanteles*: 167, *lacteoides* sp. n., ♂; head, from in front; 168, *briareus* sp. n., apex of ovipositor; 169, *apidanus* sp. n., same; 170, *camilla* sp. n., ovipositor; 171, *merula* Reinhard, apical segments of flagellum, ♀; 172, *lacteoides* sp. n., same; 173, *alfalfae* Nixon, ovipositor; 174, *tedanius* sp. n., front tarsus, ♀; 175, *jason* sp. n., ♀, fore wing, part; 176, *hebrus* sp. n., ♀, basal tergites.

PHILIPPINES : Benguet, Baguio, 5 ♀♀, one the *TYPE*, 19 ♂♂ ; Mindañaο, Dapitan, 1 ♀, 1 ♂, (all *Baker*) ; Mt. St. Thomas, near Baguio, 6,500 ft., xii & iv, 5 ♀♀, 6 ♂♂ ; Negros Or., Mt. Canlaon, v, 1 ♀, 1 ♂, (*H. M. & D. Townes*).

Type in the U.S. National Museum.

This most distinctive species is aberrant and departs in many particulars from the pattern of the *merula*-group. Apart from the form of the vannal lobe, the polished field at the side of the scutellum is smaller and less extended forwards so that the furrow between itself and the disc is not linear as in the typical species of the group. Nor is the polished field at side of scutellar disc provided with a sharp, raised edge behind.

I have included the species in the *merula*-group chiefly on account of the medial propodeal keel and the shape of the first tergite. Specifically it is essentially characterized by the dull, heavily punctate sculpture of the head and thorax. I know of no species with which it could be confused.

Apanteles camilla sp. n.

♀. Stigma pellucid with a darker border. Hind leg black virtually throughout ; only the merest trace of pallor at base of tibia ; middle legs also blackish but the middle tibia reddish on about basal quarter.

Head from in front slightly transverse ; above dull, finely roughened ; temples more strongly rugose. Face dull, roughened, its rugosity consisting of minute granulations. Distance between the posterior ocelli equal to the distance between one of them and the eye-margin. Antenna as long as the body, rather thin and with the preapical segment about one and half times longer than wide.

Mesoscutum finely punctate ; punctures finest and somewhat obsolescent along each side of the middle line and the surface here showing a satin-like sheen ; the punctures are coarsest broadly along the course of the notaulices ; the two posterior areas of rugose-punctuation are almost confluent. Disc of scutellum polished, with a few punctures along sides ; polished, lateral zone of scutellum not extending so far forwards as is usual in the *merula*-group. Metacarp about five times as long as its distance from the apex of the radial cell ; vannal lobe strongly concave. Propodeum dull, rugulose, the sculpture stronger medially ; no trace of a medial keel.

Tergite (2 + 3) beyond the dull, finely rugose median field, with a satin-like sheen. Ovipositor sheath broad, about as long as the hind tibia. Ovipositor (Text-fig. 170).

Length: ca. 3.5 mm. without ovipositor.

INDIA : Shillong, 27.ix.1961, 1 ♀, the *TYPE*, labelled " ex caterpillar attacking Pine-shoot ", (*V. P. Rao*).

Type in the British Museum (Nat. Hist.).

This species is aberrant within the *merula*-group on account of the absence of a sharp, posterior margin to the lateral, polished zone of the scutellum and the reduced forward extension of this. With regard to scutellar structure, *camilla* is like the species of the *metacarpalis*-group. None of the species of this group, however, has a concave vannal lobe, though *dioryctriæ* has the edge of the vannal lobe beyond its widest part almost straight and in general facies is very like *camilla*.

Apanteles camilla must be regarded as transitional between the group of *merula* and that of *metacarpalis*. Its existence serves to stress the difficulty of defining species-groups within *Apanteles*.

THE *GRANDICULUS*-GROUP

Species of slender build. Propodeum without either areola or median keel but with some rugae radiating from the posterior orifice ; in the Madagascan *seyrigi*, these rugae vaguely indicate a wide-bottomed areola. Inner spur of the hind tibia not or hardly reaching the middle of the basal segment of the tarsus. Basella of the hind wing always deeply incurved on the vannal lobe side so that the submediellan cell is always markedly different in shape from that found in the *merula*-group (Text-fig. 160) ; cubitellan cell at least as wide as high (Text-fig. 180).

Tergite 1 always strongly narrowed behind and much like that of the *merula*-group in general appearance and sculpture. Median field of tergite (2 + 3) much less transverse than in the *merula*-group (Text-fig. 166) and see Text-fig. 179. Ovipositor sheath at least one and two thirds as long as the hind tibia.

Old World. The group seems natural and the species are very much alike in general facies.

KEY TO SPECIES

FEMALES

- | | | |
|---|---|---------------------------------------|
| 1 | Mesoscutum very obviously and sharply punctate ; lateral polished zone of scutellum pushed far forwards so that the furrow between itself and the disc of the scutellum is parallel-sided for a long distance or even slightly constricted at middle ; median field of tergite (2 + 3) not less than half as long as the rest of the tergite | 2 |
| - | Mesoscutum polished, impunctate and with a rather loose, silky pubescence ; median field of tergite (2 + 3) hardly one third as long as the rest of the tergite and with sharply drawn out lateral angles ; lateral polished zone of scutellum much less pushed forwards so that the furrow between itself and the disc of the scutellum is nowhere parallel-sided. | |
| | Hind femur red ; inner spur of the hind tibia hardly two fifths as long as the basal segment of the tarsus | <i>emesa</i> sp. n. (p. 169) |
| 2 | Stigma evenly brown ; median field of tergite (2 + 3) slightly less transverse ; abscissa 1 of the radius not or hardly longer than the transverse cubitus and forming a distinct angle with it | 3 |
| - | Stigma pale with darker border ; median field of tergite (2 + 3) slightly more transverse ; abscissa 1 of the radius obviously longer than the transverse cubitus and hardly forming an angle with it | 4 |
| 3 | Stigma emitting radius very distinctly distal to middle ; stigma narrower | <i>orsedice</i> sp. n. (p. 167) |
| - | Stigma emitting radius hardly distal to middle ; stigma broader | <i>conopiae</i> Watanabe (p. 167) |
| 4 | Hind coxa blackened ; hind tarsus hardly darker than the red tibia | <i>grandiculus</i> Wilkinson (p. 166) |
| - | Hind coxa bright red ; hind tarsus infuscate and much more in contrast with the red tibia | <i>seyrigi</i> Wilkinson (p. 169) |

Apanteles grandiculus Wilkinson

Apanteles grandiculus Wilkinson, 1929a : 110.

♀. Wings hyaline without milky tint ; most of the venation proximal to the areolet faintly pigmented ; tegula testaceous. Gaster brown rather than black.

Face shiny, distinctly but rather superficially punctate. Temples shiny but distinctly and rather finely rugose-punctate. Posterior tangent to the anterior ocellus hardly touching the posterior pair. Antenna almost as long as the body with the preapical segment almost twice as long as wide; flagellum somewhat bristly.

Mesoscutum shiny, densely punctate; no obvious crowding of punctures to mark the course of the notaulices. Disc of scutellum shiny, punctate almost all over. Suture between mesoscutum and disc of scutellum in the form of a thin, very shallow, hardly foveate groove. Propodeum very shiny and with traces of punctuation anteriorly. Hind wing (Text-fig. 180).

Tergite 1 very shiny, smooth, except for faint traces of aciculation on its posterior horizontal part (Text-fig. 179). Ovipositor sheath fully twice as long as the hind tibia, very thin; ovipositor very thin and with a weak apical sinuation (Text-fig. 178).

Length: 4 mm. without ovipositor.

INDIA: Assam, Shillong, 2 ♀♀.

Type in the British Museum (Nat. Hist.).

Recorded by Wilkinson as a parasite of a lepidopterous borer in *Rubus* sp.

Apanteles conopiae Watanabe

Apanteles conopiae Watanabe, 1934: 139.

This species is extremely close to *grandiculus* and may indeed not be distinct from it. Nevertheless, since the two species can be separated on the colour of the stigma I am provisionally keeping them apart.

♀. Apart from the evenly brown stigma, all the venation proximal to the areolet shows normal pigmentation.

Face and temples slightly less distinctly punctate. Antenna slightly shorter and slightly thinner, with the preapical segment fully twice as long as wide.

Mesoscutum more finely, more superficially punctate.

JAPAN: Tokio, ♂ and ♀ paratypes in British Museum (Nat. Hist.), bred from *Conopia Hector*. MALAYA: Trengganu, ii.1955, 2 ♀♀ bred from *Conopia theobroma*.

Type in Hokkaido Imperial University.

Host: *Conopia Hector* Butler; *Conopia theobroma* Bradley. (Aegeriidae).

I am satisfied that I have correctly determined the two Malayan females as *conopiae*. The species evidently has a wide distribution and only more material can decide how *conopiae* and *grandiculus* stand in relation to each other.

The wings of the two Japanese paratypes are stained with brown. I am inclined to think that this may not be natural to the insects.

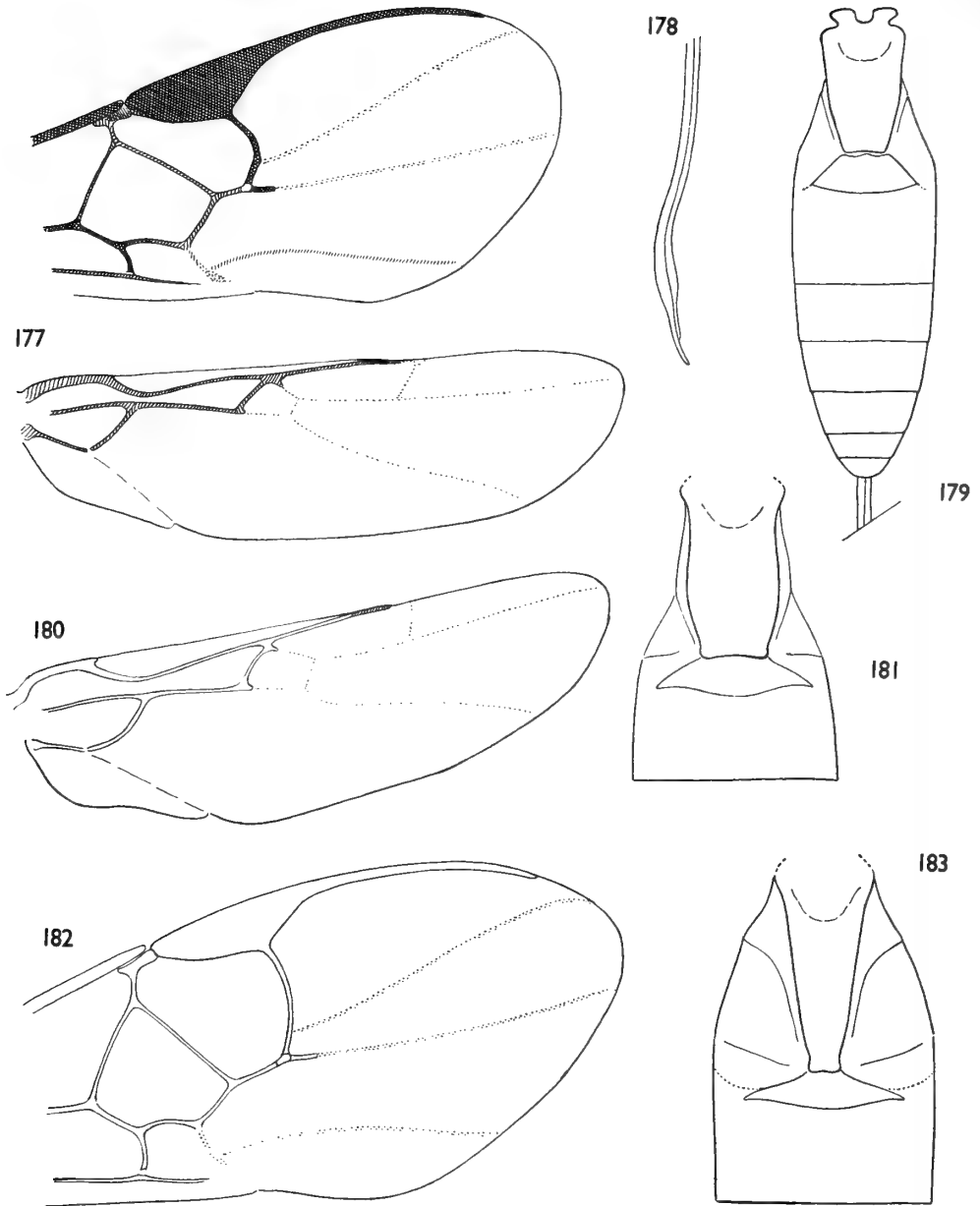
Apanteles orsedice sp. n.

This species has the stigma dark brown and the venation throughout deeply pigmented. Although more heavily built than either of them, it is clearly closely related to both *grandiculus* and *conopiae*.

♀. May be compared with *grandiculus* as follows:

Wings faintly but distinctly darkened. The red hind tibia tipped with weak infuscation; hind tarsus weakly infuscate.

Temples hardly punctate, the surface with a distinct satin-like sheen. Antenna relatively a little longer, slightly tapered distally and with the preapical segment fully twice as long as wide.



FIGS. 177-183. *Apanteles*, ♀: 177, *taeniaticornis* Wilkinson, fore wing, part, & hind wing; 178, *grandiculus* Wilkinson, apex of ovipositor; 179, *grandiculus* W., gaster, dorsal; 180, *grandiculus* W., hind wing; 181, *myrsus* sp. n., basal tergites; 182, *seyrigi* Wilkinson, fore wing, part; 183, *taeniaticornis* W., basal tergites.

Sculpture of the mesoscutum and of disc of scutellum as in *grandiculus*. Inner spur of the hind tibia relatively a little shorter in proportion to the length of the basal segment of the tarsus ; hind tarsus slightly thinner than in *grandiculus*.

Apex of the ovipositor with a weak apical sinuation similar to that of *grandiculus*.

NEW BRITAIN : near Rabaul, Keravat, vii.1958, 3 ♀♀, one the *TYPE*, bred from larva of Aegeriid, (*G. S. Dun*).

Type in the British Museum (Nat. Hist.).

Apanteles seyrigi Wilkinson

Apanteles seyrigi Wilkinson, 1936 : 81.

♀. This species is closely and naturally related to *grandiculus*. It may be compared with that species as follows:

Colour altogether brighter. Tegula ivory white. All the coxae bright red. Venation proximal to the areolet more pallid.

Face less convex than in *grandiculus*, almost flat, with the clypeus more transverse and more distinctly punctate. Ocelli in a slightly higher triangle, the posterior transverse tangent to the anterior ocellus passing in front of the posterior pair. Antenna relatively longer, with the preapical segment about two and a half times longer than wide ; flagellum less bristly.

Punctuation of the mesoscutum slightly less close, the punctures discrete, hardly more crowded along the course of the notaulices ; these show as very broad, shallow impressions. Setae of the basal half of the fore wing much sparser, widely absent along medius side of both median and submedian cells ; 1st abscissa of radius much longer than the transverse cubitus and forming with it a single, feebly curved vein ; radial cell distinctly downcurved at apex (Text-fig. 182). Outer, upper surface of the hind tibia much more densely spinose than in *grandiculus*, the spines markedly projecting when the tibia is seen from the side.

♂. Hind coxa brown ; hind tibia faintly tipped with infuscation. Stigma more pallid than in the female.

Length: ca. 5 mm. without ovipositor ; considerably larger than *grandiculus*.

MADAGASCAR : Bekily.

Type in the Paris Museum. Paratypes in British Museum (Nat. Hist.).

Host : Granger (1949) records *Epitarsipus rufithorax* Le Cerf (Aegeriidae) as the host of this species.

Apanteles emesa sp. n.

This is the most aberrant of the five species I include in the group and differs sharply from the others in having a completely impunctate mesoscutum and scutellar disc. Other details of significance have been given in the key ; there is little to add.

♀. Head and thorax deep black. Most of the venation proximal to the areolet very pale ; stigma dark brown. All the coxae blackish ; hind tibia at extreme tip on inner side and the hind tarsus, infuscate.

Face, head above and the temples polished, impunctate. Ocelli in a somewhat higher triangle with the posterior transverse tangent to the anterior ocellus clearly passing in front of the posterior pair. Preapical segment of the antenna about one and two thirds times longer than wide.

Abscissa 1 of the radius much longer than the transverse cubitus and forming with it a weakly curved vein as in *seyrigi* (cf. Text-fig. 182). Thicker spines along upper part of outer side of hind

tibia adpressed and somewhat weak. Ovipositor sheath nearly two and a half times longer than the hind tibia. Tergite 1 completely smooth and polished. Tip of ovipositor downcurved and, seen from the side, hardly different from that of *grandiculus*.

Length: 4.5 mm. without ovipositor.

S. AFRICA : Cape Province, Ceres, 1,500 ft., 27.x.-xi.1920, 1♀, the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

This is a most distinct species if only on account of the shortness of the median field of tergite (2 + 3).

THE *SUNDANUS*-GROUP

At least the femora and trochanters bright reddish yellow ; broad membranous sides of tergite 1 yellow or reddish yellow.

Head deep from back to front ; the deeply scooped out occipital region extends forwards right up to the ocelli. Distance between the posterior ocellus and the eye-margin distinctly less than twice than longer diameter of the ocellus.

Metacarp very long, almost closing the radial cell ; 1st abscissa of the radius and the transverse cubitus together forming a very strongly curved vein (Text-fig. 201) ; cubitellan cell of the hind wing distinctly longer than wide ; vannal lobe beyond its widest part with straight edge that sometimes shows a few projecting hairs. Hind coxa very large ; inner spur of the middle tibia reaching to apex of basal segment of tarsus ; legs altogether long and slender.

Tergite 1 very strongly narrowed behind, its anterior, declivous part deeply hollowed out and much paler in colour than the sides and posterior part of the tergite. Ovipositor sheath short, not more than two thirds as long as the hind tibia.

Indo-oriental region.

Differs mainly from the *merula*-group in having the cubitellan cell of the hind wing longer and longer hind tibial spurs.

KEY TO SPECIES

FEMALES

- A Hind tibia and hind tarsus dark brown, in sharp contrast with the reddish-yellow hind femur ; hind coxa darkened at base ; posterior half of mesoscutum and the disc of the scutellum dull, with satin-like sheen and only a weak, vague trace of punctation ; face impunctate, with pronounced satin-like sheen ; posterior half of gaster almost black *sundanus* Wilkinson (p. 170)
- B Hind tibia and hind tarsus hardly different in colour from the reddish-yellow hind femur ; hind coxa entirely reddish-yellow ; posterior half of the mesoscutum and the disc of the scutellum shiny, with a satin-like sheen and conspicuously punctate ; face shiny, very distinctly punctate ; posterior half of the gaster reddish brown, becoming reddish-yellow beneath *ariadne* sp. n. (p. 171)

Apanteles sundanus Wilkinson

Apanteles sundanus Wilkinson, 1931 : 482.

♀. Wings faintly brown and the venation brown throughout. Antenna broken but the 16

existing segments indicate an antenna that is considerably longer than the body ; segment 16 fully twice as long as wide.

Propodeum dull, with microsculpture and a few rugae in the area of the spiracle. Hind coxa with faint microsculpture and pronounced satin-like sheen. No angle between abscissa 1 of the radius and the transverse cubitus ; transverse cubitus characteristically long.

Length: 3.4 mm. without ovipositor.

♂. The five males associated with the single female (type) by Wilkinson show a confusing variation in the colour of the hind legs ; the hind tibia and hind tarsus are paler than in the female and much less sharply contrasted with the reddish-yellow femur.

JAVA : Tjibodas, 5-7,000 ft.

Type in the British Museum (Nat. Hist.).

Apanteles ariadne sp. n.

♀. Antenna broken after the 14th segment ; this segment is twice as long as wide ; in *sundanus* segment 14 is three times as long as wide.

Whereas in *sundanus* the vannal lobe beyond its widest part shows a few projecting hairs, the edge is quite bare in *ariadne*. Hind coxa relatively smaller, more shiny and without indication of a satin-like sheen.

Length: 3 mm. without ovipositor.

CEYLON : Maskeliya, 4,200 ft., 15.vii.1919, 1 ♀, the *TYPE*, (*N. K. Jardine*).
S. INDIA : Kadaj Kanal, 1 ♂, (*T. N. Campbell*).

Type in the British Museum (Nat. Hist.).

THE *MYCETOPHILUS*-GROUP

Metacarp at least four times as long as its distance from the apex of the radial cell, usually much longer and almost closing the radial cell ; vannal lobe beyond its widest part more or less straight or even slightly concave and virtually free from projecting hairs ; cubitellan cell of the hind wing never higher than wide. Propodeum without trace of a median keel (cf. closely related group of *nerion*) and without trace of areolation. Hypopygium long, deeply infolded along the middle line and with numerous, lateral creases. Ovipositor sheath always longer than the hind tibia.

Indo-oriental region.

The group, as here defined, is somewhat artificial and may well contain species that are aberrant or convergent members of other groups. Possible affinities will be discussed under the separate species.

KEY TO SPECIES

FEMALES

1 Tergite 1 virtually parallel-sided.

Legs, apart from coxae, pale yellow including the hind tarsi ; hind tibia without apical infuscation and the hind basitarsus whitish towards base ; propodeum densely, rather coarsely punctate across its anterior part . *inunctus* sp. n. (p. 173)

- Tergite 1 distinctly, more usually strongly, narrowed to apex 2

2 Tergite 1 only slightly but quite distinctly narrowed apically.

Mesoscutum strongly shining, with a very fine, superficial punctation ; wings hyaline ; metacarp almost closing the radial cell *mycetophilus* Wilkinson (p. 173)

- Tergite 1 strongly narrowed to apex 3

- 3 Tergite 1 very long, highly polished ; propodeum, in contrast, dull, sculptured.
Temples coarsely, densely punctate ; inner spur of the hind tibia not reaching middle of basal segment of tarsus ; ovipositor sheath markedly falcate towards apex, about one and a half times longer than the hind tibia and, seen from above, clothed with a dense, not in the least upstanding pubescence ; hind femora yellow 4
- Tergite 1 shorter, lacking this highly polished appearance and, if somewhat smooth, then the propodeum is not dull and is without such coarse sculpture 5
- 4 Larger, 3.2 mm. without ovipositor ; stigma very dark, emitting radius more distal to middle ; face somewhat flat ; disc of scutellum with larger, more numerous punctures *odites* sp. n. (p. 175)
- Smaller, 2.5 mm. without ovipositor ; stigma somewhat pale, emitting the radius nearer to middle ; face distinctly a little swollen on each side ; disc of scutellum with fewer, more indistinct punctures *inops* sp. n. (p. 179)
- 5 Eyes large, the shortest distance between a posterior ocellus and the eye-margin being distinctly less than twice the longer diameter of the ocellus ; face only very slightly wider than high, 6:5.
Ovipositor sheath hardly one and a quarter times longer than the hind tibia, clothed with long, very sparse, upstanding hairs *lampe* sp. n. (p. 180)
- Eyes of normal size, the shortest distance between a posterior ocellus and the eye-margin being fully equal to twice the longer diameter of the ocellus ; face much more transverse 6
- 6 Gaster beyond tergite 1 bright reddish-yellow ; ovipositor sheath about one and a quarter times longer than the hind tibia
Hind coxa bright reddish-yellow ; propodeum smooth, polished ; ovipositor sheath clothed with long, sparse, upstanding hairs *diaphantus* sp. n. (p. 175)
- Gaster dark throughout ; ovipositor sheath considerably longer than this 7
- 7 Tergite 1 dull red ; propodeum highly polished, smooth ; ocelli in a low triangle, the transverse, posterior tangent to the anterior ocellus obviously cutting the posterior pair.
Hind tibia and hind tarsus unusually stout ; posterior width of tergite 1 distinctly greater than the length of the median field of tergite (2 + 3) *anticlea* sp. n. (p. 178)
- Tergite 1 as dark as, or darker than, the rest of the gaster ; propodeum less smooth, normally with some sort of weak rugosity almost everywhere (some large, polished areas in *calycinæ*) ; ocelli in a higher triangle, the posterior tangent to the anterior ocellus touching but not distinctly cutting the posterior pair. 8
- 8 Wings strongly embrowned ; the three basal cells of the fore wing densely setose right to base ; hind tibia and hind tarsus almost black ; maxillary palpi strikingly white 9
- Wings at most faintly tinted ; the three basal cells of the fore wing much less densely setose ; the anal cell only very sparsely setose towards base ; hind tibia and hind tarsus much paler ; maxillary palpi not thus strikingly white 10
- 9 1st abscissa of the radius distinctly shorter than the transverse cubitus ; tergite 1 not conspicuously wedge-shaped and without a wholly differentiated, polished, posterior tip ; tergites 4 and 5 with a broad, thin, membranous apical margin *pycnos* sp. n. (p. 179)
- 1st abscissa of the radius not shorter than the transverse cubitus ; tergite 1 conspicuously narrowed behind, wedge-shaped and its tip differentiated as an oval, polished area (Text-fig. 188) ; tergites 4 and 5 without such a thin, membranous apical margin *phaenna* sp. n. (p. 179)
- 10 Vannal lobe beyond its widest part with straight edge and here without trace of projecting hairs ; hind femur almost entirely yellow ; mesoscutum strongly

- shining and with only a very superficial punctation that posteriorly tends to fade out altogether *calycinae* Wilkinson (p. 175)
- Vannal lobe beyond its widest part very slightly convex and here with minute projecting hairs that are well separated ; hind femur brown ; mesoscutum faintly dull, with a fine, dense punctation that does not fade out posteriorly II
- II Face more shiny and without clear indication of punctation ; antenna about as long as the body ; tergite 1 more strongly narrowed behind *iriarte* sp. n. (p. 176)
- Face less shiny and with clear indication of fine punctation ; antenna shorter than the body ; tergite 1 less narrowed behind *stadius* sp. n. (p. 176)

Apanteles mycetophilus Wilkinson

Apanteles mycetophilus Wilkinson, 1931a : 76.

♀. Hind femur entirely yellow ; hind tibia becoming infusate distal to middle. Wings almost hyaline ; stigma dark brown. Antennal scape obscurely yellow.

Head strongly transverse (Text-fig. 192). Face somewhat flattened, shiny and with hardly a trace of punctation. Temples somewhat shiny and with weak punctation. Antenna a little shorter than the body ; preapical segment about one and one third times longer than wide ; flagellar pubescence somewhat bristly.

Mesoscutum strongly shining, with very small, mostly well separated punctures ; punctation tending to fade out on posterior half. Propodeum on the whole smooth, shining, except for traces of punctation across the brow and some short rugae radiating from the posterior orifice. No angle between the 1st abscissa of the radius and the transverse cubitus ; vannal lobe beyond its widest part very slightly concave and here without trace of projecting hairs. Hind tibia rather densely spinose.

Tergite 1 and 2 (Text-fig. 187) ; tergite 1 punctate and with faint rugosity on each side at apex, more coarsely sculptured against the polished tip. Ovipositor sheath about one and one third times longer than the hind tibia ; ovipositor straight but downcurved at apex.

Length: ca. 3.5 mm. without ovipositor.

INDIA : Dandeli, N. Kanara, Bombay.

Type in the British Museum (Nat. Hist.).

Host : The type series is labelled " ex fungus ".

Distinct from all the other species I include in the group on the shape of the basal tergites of the gaster. In general facies, *mycetophilus* is remarkably like *Microgaster parasitellae* Bouché and is another example of the confusing convergence occurring among species in widely different groups of *Apanteles* and *Microgaster*, s.L.

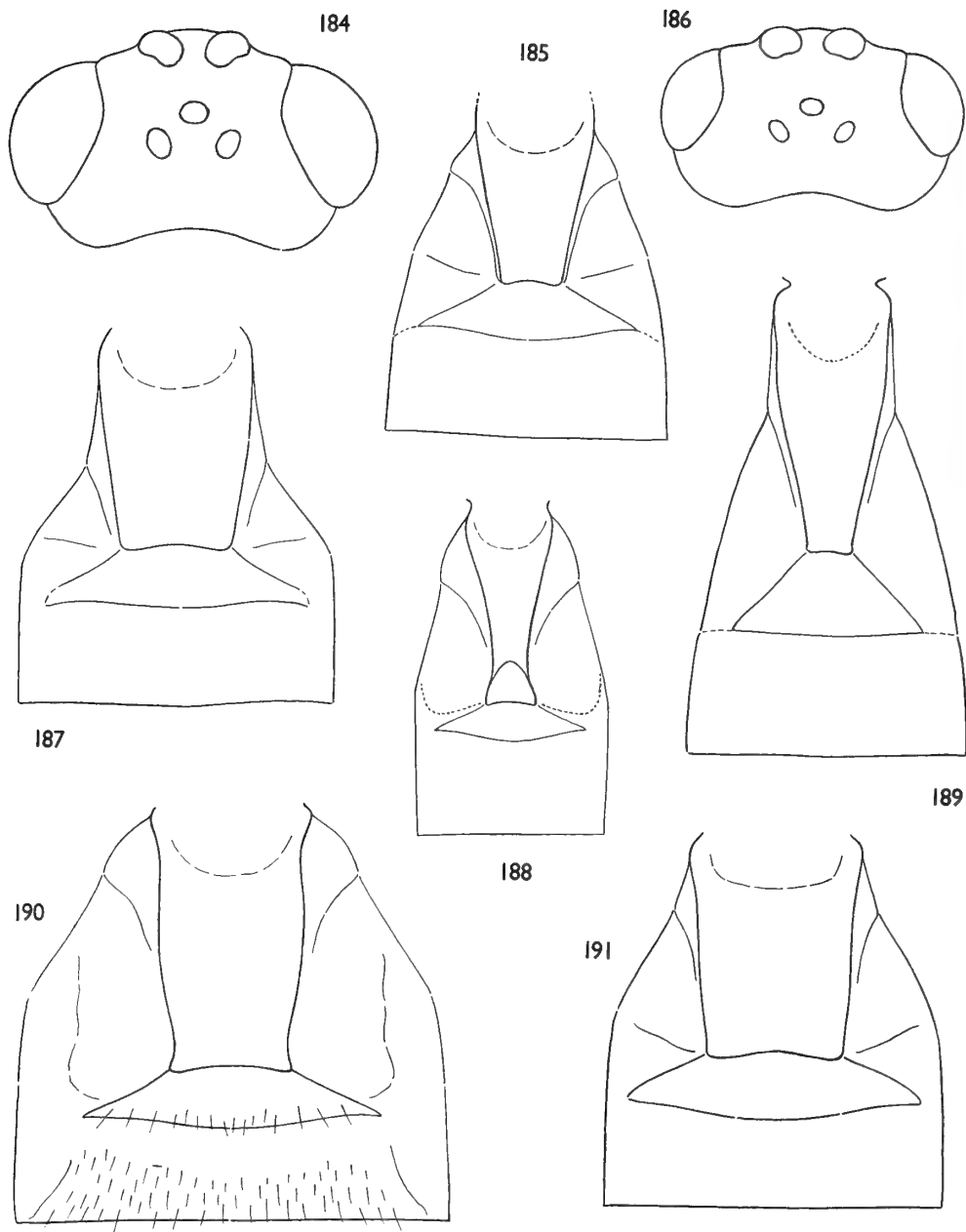
Apanteles inunctus sp. n.

♀. Evidently closely related to *mycetophilus* from which it differs on the shape of the 1st tergite. Other differences follows:—

Legs much more brightly yellow ; hind tibia without apical infuscation, whitish at base ; hind tarsus yellow, the basal segment whitish basally. Scape bright yellow.

Face more shiny and markedly punctate, lacking the flattened appearance of *mycetophilus* and with a distinct blister-like swelling above the clypeus. Flagellar pubescence less bristly.

Mesoscutum much more strongly and more distinctly punctate, the punctures larger and deeper. Lateral, polished zone of the scutellum less pushed forwards than in *mycetophilus* so that the rugose furrow between itself and the disc of the scutellum is nowhere parallel-sided. Spines of the outer side of the hind tibia finer, less dense, less upstanding, pale golden yellow. Stigma



FIGS. 184-191. *Apanteles*, ♀: 184, *lampe* sp. n., head, from above; 185, *anticlea* sp. n., basal tergites; 186, *phaenna* sp. n., head, from above; 187-191. Basal tergites of 187, *mycetophilus* Wilkinson; 188, *phaenna* sp. n.; 189, *odites* sp. n.; 190, *pycnos* sp. n.; 191, *imunctus* sp. n.

narrower ; 1st abscissa of the radius and the transverse cubitus distinctly angled at their junction ; metacarp shorter, its distance from the apex of the radial cell nearly equal to the 1st abscissa of the radius.

Horizontal part of tergite 1 smooth, shining, but with scattered punctures where it turns over and a narrow band of rugosity across the apical margin (Text-fig. 191). Ovipositor sheath as long as the hind tibia ; ovipositor evenly curved throughout, rather thick.

Length: ca. 3 mm. without ovipositor.

MALAYA : Penang, Balik Pulau, i.1948, 6 ♀♀, one the *TYPE*, labelled " ex pupa *Indarbela* sp. ". This host record is not likely to be correct.

Type in the British Museum (Nat. Hist.).

Were it not for the form of the vannal lobe, this species could not be excluded from the *laevigatus*-group.

Apanteles calycinae Wilkinson

Apanteles calycinae Wilkinson, 1928a : 113.

♀. Colour of legs like that of *mycetophilus*.

Face with only the merest trace of punctation. Antenna as long as the body, rather thin and of weak build ; the preapical segment a little longer than wide.

Sculpture of mesoscutum hardly different from that of *mycetophilus*. Lateral, polished zone of scutellum more pushed forwards than in *mycetophilus* and much more so than in *inunctus*. Propodeum without punctation across its brow. Venation like that of *inunctus*.

Tergite 1 (Text-fig. 195) finely, vaguely rugose towards apex ; the tip smooth, polished right across, the polished zone slightly transverse. Ovipositor sheath nearly one and a half times longer than the hind tibia.

Length: ca. 2.3 mm. without ovipositor, a much smaller species than either *mycetophilus* or *inunctus*.

INDIA : Dehra Dun.

Type in the British Museum (Nat. Hist.).

Host : Lepidopteron on *Kydia calycina* (Malvaceae) and *Shorea robusta* (Dipteraceae).

This is another species in which the vannal lobe beyond its widest part has a perfectly straight edge and is here without a trace of projecting hairs. It differs strikingly from both *mycetophilus* and *inunctus* in the shape of the 1st tergite but in most other respects *calycinae* is much like these two species.

Apanteles diaphantus sp. n.

♀. In addition to its bright yellow legs and predominantly yellow gaster, this little species has the scape yellow and the flagellum brownish. Tergite 1 is blackish with a dull reddish suffusion along and more specially towards base. Wings hyaline ; stigma dark brown.

Head not strongly transverse and above having a highly polished appearance ; face polished, smooth. Antenna distinctly shorter than the body, very slightly tapered apically and with the preapical segment about one and a half times longer than wide ; convex part of scape clothed with unusually long hairs (Text-fig. 197) ; flagellum also conspicuously hairy by comparison with the foregoing three species.

Mesoscutum highly shining ; in front (declivous part) closely punctate ; posteriorly becoming smooth, almost impunctate. Disc of scutellum flattened, polished ; lateral, polished field of

scutellum weakly developed, so that the rugose tongue between itself and the disc is nowhere parallel-sided. Vannal lobe beyond its widest part with sparse but distinctly projecting hairs ; angle between the 1st abscissa of the radius and the transverse cutibus distinct and marked by a stub ; metacarp distant from apex of radial cell by a length equal to about two thirds that of abscissa 1 of the radius. Dorsal furrow of side of pronotum not extending as far as the posterior margin of pronotum and hence not completely dividing the upper area from the middle area (Text-fig. 198).

Tergite 1 finely aciculate-punctate, gradually, strongly, narrowed from base to apex, fully twice as long as wide and turned over far posterior to middle.

INDIA : Bengal, Bagdogra, 13.vii.1937, 7 ♀♀, one the TYPE, 5 ♂♂, ex *Locastra muscosalis*, (C. F. C. Beeson).

Type in the British Museum (Nat. Hist.).

Host : *Locastra muscosalis* Walker (Pyralidae).

Easily recognised by the brightly coloured gaster in combination with the long hairs of the scape and the long, upstanding hairs of the ovipositor sheath.

Apanteles iriarte sp. n.

♀. This species is very like *calycinae*.

Legs on the whole obscurely brownish. Wings with very faint brownish tint ; stigma pale brown.

Head less transverse ; smooth above and with faint satin-like sheen.

Mesoscutum dull, with a dense, shallow punctation and a distinct satin-like sheen. Propodeum with a considerable amount of weak rugosity ; nowhere smooth and polished. Cubitellian cell of the hind wing about twice as wide as high.

Tergite 1 more narrowed behind than in *calycinae* and with a polished, differentiated apical zone that is slightly longer than wide (Text-fig. 196). Median field of tergite (2 + 3) very small. Ovipositor sheath a little shorter, about one and a quarter times longer than the hind tibia.

Length: ca. 2 mm. without ovipositor.

PHILIPPINES : Luzon, Mt. Makiling, 1 ♀, the TYPE, (Baker).

Type in the U.S. National Museum.

On the whole a poorly characterized species, most readily distinguished from *calycinae* and the following species, *stadius*, on the sculpture of the mesoscutum and to a less extent on the small size of the median field of tergite (2 + 3).

Apanteles stadius sp. n.

♀. Very closely related to *iriarte* and differing from it by little more than the characters given in the key.

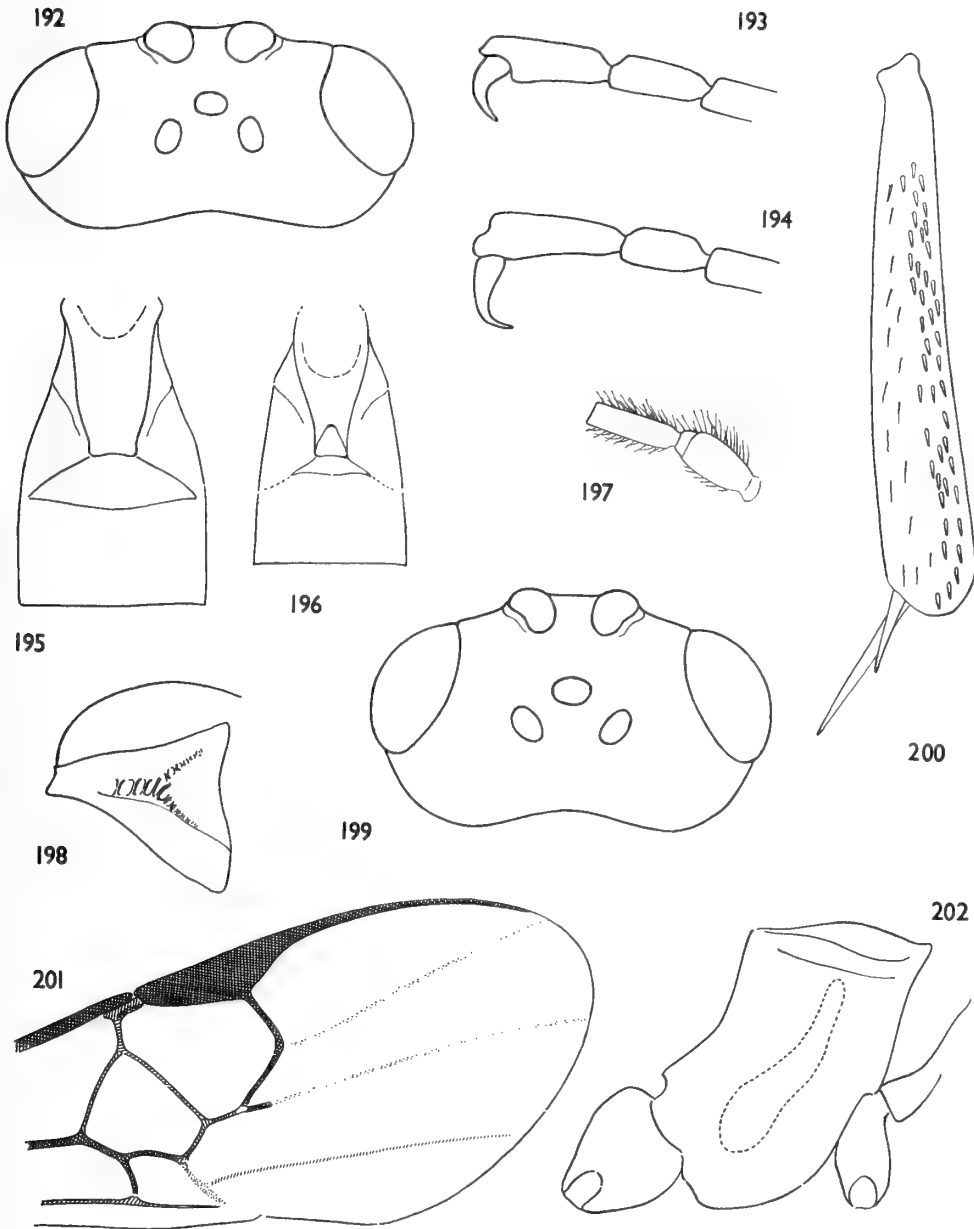
Head more transverse than in *iriarte* and much as in *calycinae*. The antenna is distinctly shorter than the body with the two preapical segments hardly longer than wide.

The appearance of the mesoscutum is subtly different, the surface being blacker (in *iriarte* the whole thorax has a faintly reddish tint), lacking the satin-like sheen and the punctation stronger.

The smooth tip of tergite 1 is less distinctly differentiated, the surface anterior to it being more shiny. Median field of tergite (2 + 3) relatively larger.

PHILIPPINES : Los Baños, 1 ♀, the TYPE, (Baker).

Type in the U.S. National Museum.



FIGS. 192-202. *Apanteles*, ♀: 192, *mycetophilus* Wilkinson, head, from above; 193, *conon* sp. n., hind claw; 194, *nymphis* sp. n., same; 195, *calyciniae* Wilkinson, basal tergites; 196, *iriarte* sp. n., same; 197, *diaphantus* sp. n., basal three antennal segments; 198, *diaphantus* sp. n., pronotum, lateral; 199, *taeniaticornis* Wilkinson, head, from above; 200, *natras* sp. n., hind tibia; 201, *sundanus* Wilkinson, fore wing, part; 202, *phalis* sp. n., right mesopleurum, to show furrow (dotted).

This species and *iriarte* are in need of further study and more material is required before the differences between them can be satisfactorily established.

Apanteles anticlea sp. n.

A species more closely related to *mycetophilus* than to the *calycinæ-iriarte-statius* complex and altogether distinctive.

♀. Front and middle legs, apart from their coxae, bright yellow; hind tibia infusate but becoming paler on about basal third; hind tarsus yellow throughout; hind femur brown with paler tip. Scape in greater part yellow. Stigma dark brown as in *mycetophilus*.

Head strongly transverse. Vertex between ocelli and eye-margin smooth, with a satin-like sheen. The polished occiput is rather sharply marked off from the faintly dull, very finely rugose temples. Antenna broken; segment 15 about one and a half times longer than wide; flagellum with somewhat bristly pubescence.

Mesoscutum strongly shining, with a weak, shallow punctation. Disc of scutellum strongly shining, polished except for a few, fine setiferous punctures. Metapleurum highly polished. impunctate. Venation hardly distinguishable from that of *mycetophilus*; edge of vannal lobe beyond its widest part imperceptibly concave and here without trace of fringe or projecting hairs. Hind coxa relatively larger than in *mycetophilus*, highly polished and almost without pubescence; hind tibia densely spinose but the spines along upper part shorter, less upstanding than those on lower part; hind tarsus short, thick, somewhat tapering apically.

Tergite 1 conspicuously grooved on each side as seen from above (Text-fig. 185); its horizontal surface finely roughened and with small, scattered punctures. Ovipositor sheath about one and one third times longer than the hind tibia; ovipositor rather thin, straight but down-curved at apex.

Length: ca. 3.2 mm. without ovipositor.

BORNEO: Sandakan, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

Important for the recognition of this species is the colour and general appearance of tergite 1 in combination with the highly polished propodeum.

The two following species—*odites* and *inops*—form a natural unit, not at all closely related to any of the other elements in this somewhat artificial assemblage of species that I call the *mycetophilus*-group. Their main characters have been given in the first half of couplet 1 in the key. Both have small, inconspicuous claws.

Apanteles odites sp. n.

♀. Legs, except the hind coxae, entirely yellow; hind tarsus very faintly infusate. Scape in greater part yellow. Wings faintly tinged with brown. Gaster predominantly yellowish-brown.

Face thickly, conspicuously punctate. Vertex between the ocelli and the eye margin sharply, discretely punctate, the punctures a little finer towards the frons; vertex between the ocelli and the rather small, polished occipital region with strong, sharp punctation. Antenna broken but the fifteen existing segments indicate that it is fully as long as the body; segment 15 fully twice as long as wide; flagellum decidedly bristly.

Mesoscutum with a dull satin-like sheen; thickly punctate, the punctures well separated, even along the course of the notaulices where they are slightly larger. Upper part of the propodeum with sharp, large punctures; around the orifice a considerable amount of rugosity, suggesting the beginnings of a U-shaped areola. Metacarp extremely long, almost closing their

radial cell ; abscissa 1 of the radius slightly longer than the transverse cubitus, the two veins distinctly angled at their junction.

Median field of tergite (2 + 3) longer than in any other species, except *inops*, included in the *mycetophilus*-group, highly polished (Text-fig. 189) ; rest of tergite (2 + 3) highly polished and with only sparse hairs across its apical part. Ovipositor sheath about one and one third times longer than the hind tibia, markedly falcate.

Length: ca. 3.2 mm. without ovipositor.

PHILIPPINES : Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

Apanteles inops sp. n.

♀. Remarkably like *odites* and in spite of the differences already mentioned in the key, *inops* may be only a small specimen of that species. Nevertheless, in view of the existence of these differences, I prefer to give the single female specific rank until further specimens and closer investigation enable a sounder conclusion to be drawn.

The thin antenna is as bristly as in *odites* ; segment 17 is fully one and a half times longer than wide.

PHILIPPINES : Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

Apanteles phaenna sp. n.

♀. A very dark species with the hind femur, especially on inner side, distinctly paler than the evenly dark brown hind tibia. Wings markedly smoky.

Head rather deep from back to front (Text-fig. 186). Face convex, virtually impunctate in type ; a distinct trace of punctation in the second female. Top of head smooth, with satin-like sheen. Posterior ocellus separated from the eye-margin by a distance equal to fully twice the longer diameter of the ocellus. Antenna thick and of powerful build, slightly longer than the body with the two preapical segments about one and a quarter times longer than wide ; the apical segment, and to a less extent segment 17, are paler than the rest of the antenna.

Mesoscutum faintly dull, its sculpture very fine and not resolvable. Propodeum with traces of weak rugosity. Claws large, well developed ; inner spur of the hind tibia not much longer than the outer one and hardly reaching the middle of the basal segment of the tarsus.

Tergite 1 very strongly narrowed behind and with a polished, completely differentiated tip (Text-fig. 188). Ovipositor sheath nearly one and a quarter times longer than the hind tibia, its hairs somewhat upstanding.

Length: ca. 2.4 mm. without ovipositor.

PHILIPPINES : Mdr. Or., Ilong, Mt. Halcon, 4,500 ft., ii.v.1954, 2 ♀♀, one the *TYPE*, (*M. & D. Townes*).

Type in Coll. Townes.

Apanteles pycnos sp. n.

This is a very distinctive species with strongly infumated, densely setose wings. Its relationship with *phaenna* may be less close than the superficial resemblance suggests. The form of tergites 1 and (2 + 3) is more like that of *mycetophilus* ; in *phaenna*, on the other hand, these two tergites bear a closer similarity to those of such species as *calycinae* and *iriarte*.

♀. It is convenient to compare *pycnos* with *phaenna*.

Head markedly transverse as in *mycetophilus* (cf. Text-fig. 192). Face virtually impunctate. Antenna relatively less powerfully built but its apex (3-4 segs.) very slightly thickened with the preapical segment not longer than wide and distinctly a little shorter on one side than the other; no pale tip to the antenna; flagellum slightly more bristly than in *phaenna*.

Mesoscutum somewhat dull, densely and, on the whole, sharply punctate. Disc of scutellum flattened, as in *phaenna*, its posterior margin separated from the polished posterior band of the scutellum by a row of sharp punctures; hardly a trace of such punctures in *phaenna* and no trace at all in *mycetophilus* and *inunctus*. Propodeum with more rugosity above the posterior orifice and within the postero-lateral corners. Transverse cubitus strikingly long, relatively longer than in any other species included in the group; distinctly longer than abscissa 1 of radius. Claws as well developed as in *phaenna*.

Tergite 1 and (2 + 3) (Text-fig. 190); the surface of tergite 1 is finely aciculate-rugose with scattered punctures where it turns over; posterior smooth tip not occupying the whole of the apex as in *phaenna*. Ovipositor sheath about one and a third times longer than the hind tibia; ovipositor straight, downcurved at tip.

Length: 3.5 mm. without ovipositor.

PHILIPPINES: Mdro. Or., Ilong, Mt. Halcon, 3,000 ft., 10.v.1954, 1 ♀, the *TYPE*, (*M. & D. Townes*).

Type in Coll. Townes.

This species and *phaenna* bear a strong resemblance to the Philippine species of the *nerion*-group. The resemblance may be just another example of a baffling convergence. But, nevertheless, if these Philippine species of the *nerion*-group lacked the percurrent propodeal furrow which is their distinctive feature, I should have had to include them among the heterogeneous members of the *mycetophilus*-group.

The membranous apical margin of tergites 4 and 5 is a striking feature of *pycnos*, though its true taxonomic value is hard to assess on a single specimen.

Apanteles lampe sp. n.

♀. Distinguishable from all the other species of the group by its large eyes (Text-fig. 184).

Hind femur and hind tibia brownish-red. Wings faintly tinted with brown. Whole body dark brown with a faint reddish tint.

Face smooth, impunctate. Head rather deep from back to front. Vertex between the ocelli and the eye-margin very faintly punctate and with satin-like sheen. Antenna broken but the existing 10 segments of flagellum thin and with long, bristly pubescence.

Mesoscutum faintly dull, with satin-like sheen and with fine sculpture not clearly resolvable as distinct punctation. Disc of scutellum strongly shining and with weak indication of punctation. Propodeum shiny, with some sort of rugosity almost everywhere. Fore wing not so densely setose at base as in *pycnos* and *phaenna*; abscissa 1 of the radius slightly curved, not longer than the transverse cubitus. Legs relatively stouter and shorter than in *pycnos* and *phaenna*; inner spur of the hind leg fully reaching middle of basal segment of tarsus; claws strongly developed as in *pycnos* and *phaenna*. Vannal lobe beyond its widest part with sparse but distinctly projecting hairs.

Apical, polished lunule of tergite 1 occupying whole of tip, though transverse and not so sharply differentiated as in *phaenna*.

PHILIPPINES: Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*).

Type in the U.S. National Museum.

THE *LONGIPALPIS*-GROUP

Monobasic.

Apanteles longipalpis Reinhard

Apanteles longipalpis Reinhard, 1880 : 365, [in key only].

Apanteles longipalpis Reinhard, 1881 : 44, [description].

Nothing really separates this species from the *laevigatus*-group except the form of the mouth parts. I have given it group-status merely to emphasise this feature, since similar modifications have been used elsewhere in this work to throw into relief any deviation from the normal structural patterns found within *Apanteles*.

♀. Except for the base of the tibia, the hind legs are black almost throughout. Wings milky-white but the venation distal to the apex of the 1st abscissa of the medius pigmented ; stigma brown.

Head from in front (Text-fig. 122). Flagellum thin, thread-like, shorter than body with segment 16 about twice as long as wide.

Mesoscutum highly polished except for minute setiferous punctures.

There is some variation in the shape of the 1st tergite, some specimens showing it less elongate, some more, than in Text-fig. 121. Ovipositor sheath about one and a half times longer than the hind tibia.

Length: ca. 4 mm. without ovipositor.

♂. One of the few species of *Apanteles* in which the male can be recognised ; the palpi are exactly as in the female.

EUROPE. In England, this species has been swept in numbers by *R. L. E. Ford* from *Achillea* (Compositae).

An unmistakable species on account of the extraordinary mouth parts.

THE *LAEVIGATUS*-GROUP

Group U, Wilkinson, in part.

This group contains the majority of those solitary European species with long ovipositor and propodeum without either areola or medial keel and includes *laevigatus* (Ratzeburg).¹⁹ Certain species such as *dilectus* Haliday (Wilkinson, 1945) which Wilkinson included in his group U are probably better placed in my *ultor*-group. Replacements of this kind will be dealt with at a later date.

The edge of the vannal lobe is always more or less evenly convex and fringed throughout with minute hairs though these tend to be absent in the common European *sicarius* Marshall (Wilkinson, 1945).

THE *ACICULATUS*-GROUP

Monobasic.

Apanteles aciculatus (Ashmead)

Urogaster aciculatus Ashmead, 1900 : 289.

Pseudapanteles sancti-vincenti Ashmead, 1900 : 291 [Synonymy Muesebeck, 1908 : 431].

Apanteles thoracicus Muesebeck, 1920 : 534 [n. n. for *Pseudapanteles sanctivincenti* Ashmead, 1900 : 291 nec *Apanteles sanctivincenti* Ashmead, 1900 : 279].

¹⁹*Microgaster laevigatus* Ratzeburg, 1848 : 50.

♀. Hind femur and hind tibia dull reddish-yellow but both faintly darkened at extreme apex. Face almost smooth. Labium somewhat elongate. Eyes rather markedly convergent.

Side of pronotum with dorsal furrow. Mesoscutum somewhat dull by comparison with the polished vertex and temples, thickly punctate and with a tendency towards striate-punctuation posteriorly. Propodeum coarsely rugose-reticulate, without trace of areolation but with weakly indicated medial keel. Sternaulus deeply impressed, rugose. Metacarp hardly one and a half times longer than its distance from the apex of the radial cell; vannal lobe convex throughout and with conspicuous fringe; 1st abscissa of the discoideus very distinctly shorter than the 2nd. Inner spur of the hind tibia virtually not longer than the outer one and hardly reaching the middle of the hind basitarsus.

Tergite 1 one and a half times longer than its middle width, dull, densely rugose; tergite 2 with well defined lateral sulci delimiting a strongly transverse medial field, sculptured like tergite 1. Hypopygium membranous and with numerous lateral creases. Ovipositor sheath as long as the hind tibia.

WEST INDIES: St. Vincent.

Type in the British Museum (Nat. Hist.).

This group seems to show a certain affinity with the *butalidis*-group in general habitus, tendency to convergence in eyes, short metacarp, sculpture of propodeum and shape and sculpture of basal tergites.

THE *BUTALIDIS*-GROUP

I am not at all sure that this is a homogeneous group and I am putting into it a number of widely different species, which, however, with one exception, are linked by the common possession of a very short metacarp and a strongly rugose propodeum which shows no trace either of a medial keel or an areola.

The exception just referred to might almost be considered an aberrant member of the *laevigatus*-group because of its smooth propodeum. I am including it provisionally in the *butalidis*-group because of its strongly convergent eyes and short metacarp, a combination of characters that I have so far not met with in the *laevigatus*-group.

KEY TO SPECIES

FEMALES

- 1 Propodeum strongly shining, more or less smooth, polished; posterior, polished band of scutellum not interrupted at middle.

Eyes strongly convergent below (Text-fig. 204); mouth parts, mandibles, labrum and clypeus yellow; face more or less pale medially; stigma becoming pale proximal to middle; tergite 1 roundly narrowed behind; median field of tergite (2 + 3) markedly subtriangular; ovipositor sheath as long as the hind tibia; hind coxa almost yellow; hypopygium very long (Text-fig. 210); length: ca. 2.3 mm. without ovipositor

urgo sp. n.

EUROPE: E. Mediterranean, Crete, Canea, vii. 1906, 4 ♀♀, one the TYPE, (*Biró*).

Type in the Hungarian National Museum.

- Propodeum dull, evenly rugose all over; posterior, polished band of the scutellum more or less interrupted at middle by a patch of rugosity or area of punctuation.

Gaster densely pubescent; wings markedly brownish; tergite 1 and median field of (2 + 3) dull and both equally strongly rugose 2

- 2 Eyes very strongly convergent below (Text-fig. 212) ; mesoscutum and scutellum dull, rugose-punctate ; a large striate-rugose sternaulus present.
 Median field of tergite (2 + 3) large, subquadrate, coarsely striate-rugose and almost as long as the rest of the segment beyond it (Text-fig. 203) ; ovipositor sheath about three quarters as long as the hind tibia ; labial palpus short, inconspicuous **butalidis** Marshall²⁰
 EUROPE. Type in the Bignell Collection, Plymouth, England.
 Host: Bred abundantly in England, Dorset, Portland by R. L. E. Ford from *Scythris senescens* Stn. (Scythridae).
- Eyes at most weakly convergent below and then the median field of tergite (2 + 3) is much shorter ; mesoscutum at most finely punctate ; sternaulus indicated only by a polished depression 3
- 3 Ovipositor sheath very short, hardly longer than the hind basitarsus and projecting beyond the apex of the gaster by a distance about equal to the 3rd segment of the hind tarsus ; tergite 1 short, slightly transverse, widened behind (Text-fig. 206).
 Flagellum becoming yellowish on basal half ; hind coxa yellow but darkened at base on outer side ; flagellum slightly thickened at middle, its preapical segment about one and one third times longer than wide ; occiput rather deeply scooped out behind the ocelli, the polished depression contrasting sharply with the dull, rugulose temples and vertex **dion** sp. n.
 EUROPE: Czechoslovakia, Moravia, Mohelno, 1 ♀, the TYPE, (Z. Bouček). Type in the National Museum, Prague.
 This is a highly aberrant species and I am not satisfied that I am correct in placing it in the *butalidis*-group.
- Ovipositor sheath much longer, at least three quarters as long as the hind tibia ; tergite 1 longer than wide and at least slightly narrowed behind.
 Legs predominantly dark, the hind coxa and hind femur blackish 4
- 4 Ovipositor sheath very slightly longer than the hind tibia.
 Hind tibia brownish yellow but becoming darkened on about apical quarter ; mesoscutum shiny and with a faint, hardly noticeable punctation ; pubescence of face and clypeus pale, greyish-white ; ovipositor thin, almost straight ; tergite 1 markedly narrowed behind ; lateral corners of median field of tergite (2 + 3) narrowly drawn out (Text-fig. 205) ; length: ca. 3 mm. without ovipositor
 **crantor** sp. n.
 EUROPE: E. Mediterranean, Crete, Mt. Ida, 1906, 5 ♀♀, one the TYPE ; Herakleion, 3 ♀♀, 5.v.1906. ASIA MINOR, Angora, 1 ♀, 13.vi.1925, (All *Biró*). Type in the Hungarian National Museum.
- Ovipositor sheath distinctly shorter than the hind tibia 5
- 5 Median field of tergite (2 + 3) with narrowly drawn out lateral corners as in *crantor* (cf. Text-fig. 205).
 Legs paler than in the following species ; eyes distinctly more convergent below (Text-fig. 207) **evander** sp. n.
 EUROPE: Finland, Hailuoto, Wuorentaus, 1 ♀, the TYPE ; Tytärsaari, 1 ♀, (*Hellén*). Type in the Helsinki Museum.
 This species resembles *crantor* in the shape of the basal tergites of the gaster but lacks the somewhat elongate head of *crantor* as seen in a facial view. The hind tibia, as in *crantor*, is pale brownish yellow with faintly darker tip.
 Median field of tergite (2 + 3) with less narrowly drawn out lateral corners and hence approaching more the shape of a strongly transverse rectangle (Text-fig. 211).
 Very black-looking species with the hind tibia entirely dark brown and the ovipositor thicker than in both *crantor* and *evander* ; mesoscutum more clearly punctate

²⁰*Apanteles butalidis* Marshall, in André 1888 : 450.
Apanteles butalidis Marshall ; Wilkinson, 1945 : 194.

than in either of these two species and tergite 1 shorter and less obviously narrowed behind ; the head in a facial view is more like that of *crantor* than *evander*, the eyes being not at all convergent below ; the pubescence of the face is dark brown

cloelia sp. n.

SWITZERLAND: Valais, Arolla, 21-30.vi.1935, 8 ♀♀, one the TYPE (29.vi.), (J. E. & R. B. Benson). Type in the British Museum (Nat. Hist.).

MALES

I associate with the females of *crantor*, seven males from the same two Cretan localities. Also, I associate with *cloelia*, nine males with the same data as the females. These two series of males are beyond doubt different and confirm the specific validity of the two species. There is a marked difference in the shape of the penis-valve ; in *crantor* it is narrow and evenly oval as seen from above (Text-fig. 209) while in *cloelia*, the structure is relatively larger, broad medially and rather abruptly narrowed to apex (Text-fig. 208). I have seen no male that I can with confidence associate with *evander*, a species that in several respects is intermediate between *crantor* and *cloelia*.

The male of *butalidis* lacks the convergent eyes of the female and differs from the males of *crantor* and *cloelia* in having almost hyaline wings and the coarse mesoscutal sculpture of its female.

THE FALCATUS-GROUP

Apanteles falcatus, the common and sole European representative species of this group has usually been placed among the species that constituted Wilkinson's group A and Marshall's section IV. I do not consider the relationship to be as close as these authors believed.

The genital apparatus of the male of *falcatus* and of *caudatus* is remarkable on account of its relatively enormous size. There is no approach to this in any other group of *Apanteles* known to me.

The group is represented in N. America by three species, two of which are extremely close to *falcatus*.

KEY TO SPECIES

FEMALES

- 1 Ovipositor sheaths bright reddish-yellow, only about two thirds as long as the hind tibia.

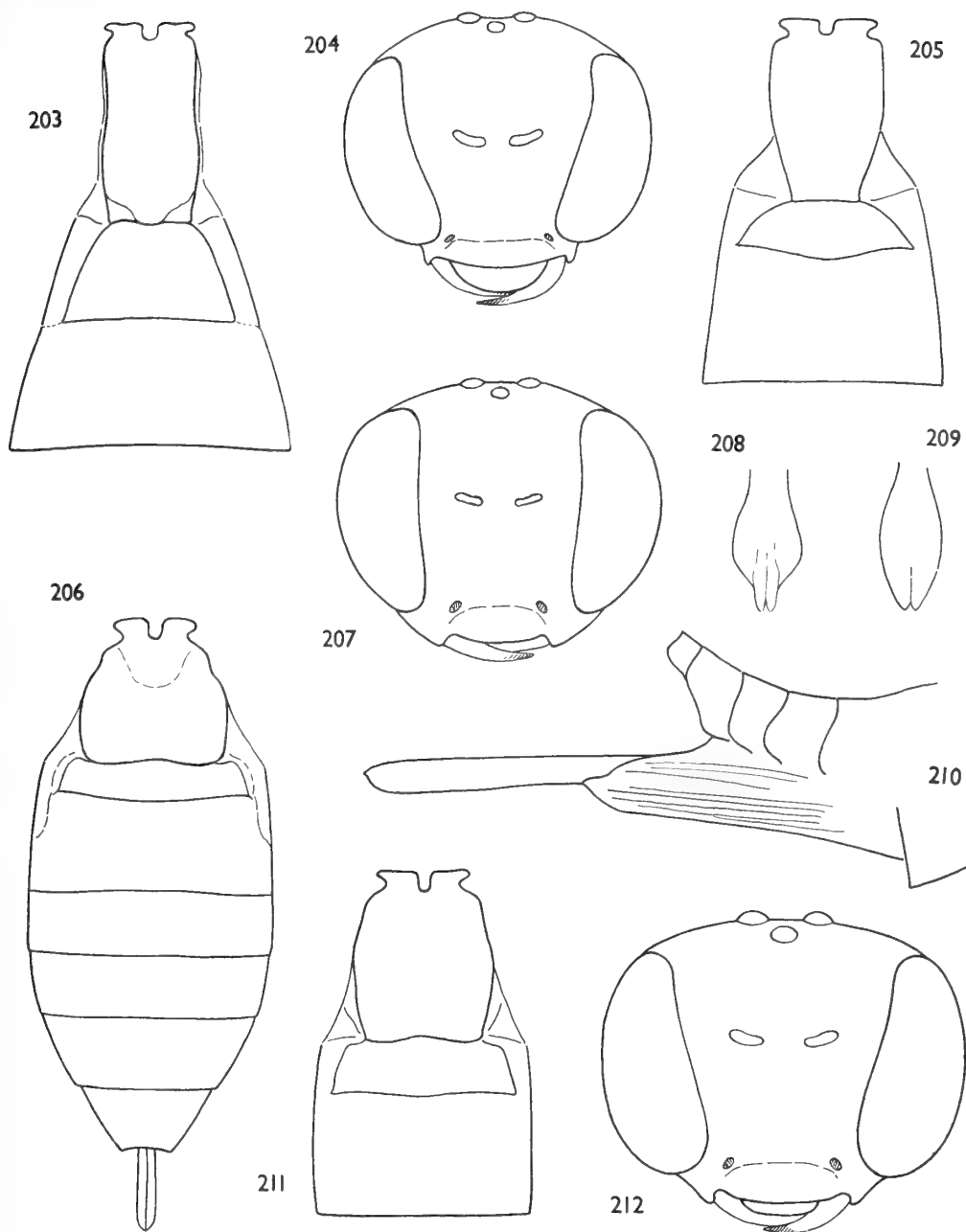
Gaster, except at base and apex, and the legs throughout, bright reddish-yellow ; propodeum with well defined, medial keel ; inner spur of the hind tibia not longer than the outer one ; tergite 1 dull, densely rugose ; median field of tergite (2 + 3) more triangular than in the other species *cinctiformis* Viereck²¹

N. AMERICA. Type in the U.S. National Museum. 1 ♀, 1 ♂ in British Museum (Nat. Hist.) determined by Muesebeck.

The genitalia of the male, though relatively large for *Apanteles*, are by no means so large and exaggerated in appearance as in *falcatus* ; nevertheless, the paramere, as in *falcatus*, is widely truncate at apex with the upper corner more pointed than the lower one. The female is remarkably distinct because of its pale ovipositor sheaths, a colour feature I have not so far met with elsewhere in *Apanteles*. The species is not closely related to *falcatus* and *caudatus*, lacking the characteristic appearance of the basal tergites peculiar to these two species.

- Ovipositor sheaths black and at most only a little shorter than the hind tibia 2

²¹*Apanteles (Protapanteles) cinctiformis* Viereck, 1911 : 176.
Apanteles cinctiformis Viereck ; Muesebeck, 1920 : 526.



FIGS. 203-212. *Apanteles*: 203, *butalidis* Marshall, basal tergites; 204, *urgo* sp. n., head, from in front; 205, *crantor* sp. n., basal tergites; 206, *dion* sp. n., gaster, dorsal; 207, *evander* sp. n., head, from in front; 208, *cloelia* sp. n., ♂, aedeagus; 209, *crantor*, sp. n., same; 210, *urgo* sp. n., ovipositor and hypopygium; 211, *cloelia* sp. n., basal tergites; 212, *butalidis* Marshall, head, from in front.

- 2 Mesoscutum, except right in front, highly polished and virtually impunctate ; hind coxa reddish-yellow except at base ; apical segments of the antenna longer, segments 16-17 being between one and a half and one and two thirds times longer than wide ; hypopygium narrowly tapered in profile and clothed beneath thickly with long, bristle-like hairs ; ovipositor slightly thicker, its sheath slightly shorter and wider than in *falcatus* *caudatus* Muesebeck²²

I have recognised this species from its description. Muesebeck describes the male, unknown to me, as having enormous claspers.

N. AMERICA. In the British Museum (Nat. Hist.) are 1 ♀ from Wisconsin (gaster, except for the plate of tergite 1, the median field of tergite (2 + 3) and extreme posterior tip, bright reddish-yellow) and four females from Labrador ; these have almost the whole of the upper surface of the gaster darkened.

- Mesoscutum distinctly though finely punctate all over ; hind coxa entirely dark ; apical segments of the antenna shorter, slightly thicker, segments 16-17 being from one and one third times to one and a half times longer than wide ; hypopygium not thus tapered and only sparsely clothed beneath with bristle-like hairs that are shorter than in *caudatus* ; ovipositor slightly thinner, its sheaths distinctly longer and slightly less wide than in *caudatus* (basal tergites, Text-fig. 233) *falcatus* (Nees)²³

EUROPE.

Host: *Hadena monoglypha* Hufnagel (Noctuidae). A gregarious parasite, making a tightly packed cluster of cocoons arranged parallel to each other.

Apanteles neomexicanus Muesebeck

Apanteles neomexicanus Muesebeck, 1920 : 529.

This species, represented in the British Museum by a paratype without antennae, is extremely like both *falcatus* and *caudatus*, occupying a position midway between them. The hind coxa is evenly brown and the general coloration is otherwise like that of *falcatus*. The surface of the mesoscutum is slightly more punctate than that of *caudatus* but not so distinctly as in *falcatus* ; the ovipositor sheaths are as long as in *caudatus* ; the hypopygium is less narrowed apically than in *caudatus* but more so than in *falcatus* ; it is as densely clothed beneath with long bristle-like hairs as in *caudatus*.

I hesitate to express a definite opinion on the specific validity of *neomexicanus* on a single specimen in rather poor condition. Clearly, this species, together with *falcatus* and *caudatus*, are in need of further study. All I have tried to do is to indicate the closeness of their relationship. *A. neomexicanus* was described from New Mexico, Santa Fé and Muesebeck gives the species as " apparently solitary, making a white cocoon ".

THE OCTONARIUS-GROUP

The species of this group known to Wilkinson were all included by him in his group A. The greater part of this group I have now broken down into an *octonarius*- and a *vitripennis*-group. These two segregates are certainly closely related and the

²²*Apanteles caudatus* Muesebeck, 1922 : 16.

²³*Microgaster falcatus* Nees, 1834 : 175.

Apanteles falcatus (Nees) Reinhard, 1880 : 364.

only valid character for separating them is provided by the venation as pointed out in couplet 33 of the key. The essential features of the *octonarius*-group have also been given in the key ; there is nothing to add.

So far, I am acquainted with only two European species, *octonarius* (Ratzeburg)²⁴ and *inclusus* (Ratzeburg)—but the group is world-wide in distribution and Wilkinson described several species from the Indo-Malayan region.

THE *VITRIPENNIS*-GROUP

I have used the name "vitripennis"²⁵ to designate the group because it is the first of the typical species mentioned by Haliday and was used by Wilkinson (1932b, 330) for a subdivision of his major group A. Wilkinson's subgroup of *vitripennis* was much wider in concept than my own definition of the whole *vitripennis*-group as now introduced (see Text-figs. 129 and 152).

The commonest species of the group and in many ways the most representative is the abundant and gregarious *fulvipes* Haliday, with a wide range over Europe.

The species of the group bear a close resemblance in general habitus to certain segregates in *Protomicroplitis*, such as the groups of *marginatus* and *calceatus*. Whether this resemblance is due to convergence or is really an indication of genuine evolutionary relationship is a matter on which, at the moment, I am not prepared to express an opinion.

THE *PALLIPES*-GROUP

Apanteles pallipes Reinhard

Apanteles pallipes Reinhard, 1880 : 366 [in key].

Apanteles pallipes Reinhard ; Reinhard, 1881 : 48 [description].

Apanteles reinhardi Wilkinson, 1936a : 222. **syn. n.**

Apanteles pallipes has very much the facies of the species of the *vitripennis*-group and is separable from that group only on the presence of the propodeal keel and the virtually undefined lateral pronotal keel. The median field of tergite (2 + 3) is longitudinally rugose-striate throughout and is obviously triangular in shape.

On the material available to me in the British Museum (Nat. Hist.), I do not believe *reinhardi* Wilkinson to be more than large, better nourished specimens of *pallipes*.

EUROPE.

Type of *pallipes* in the Reinhard collection, Zoologisches Museum der Universität, Berlin. Type of *reinhardi* in the British Museum (Nat. Hist.).

Host : *Plusia* spp.:- *P. chrysitis* L., *P. gamma* L., *P. pulchrina* Haworth.

Reinhard originally described *pallipes* as a parasite of *Plusia gamma* and the

²⁴*Microgaster octonarius* Ratzeburg, 1852 : 52.

Apanteles octonarius (Ratzeburg) Reinhard, 1880 : 364.

Apanteles octonarius (Ratzeburg); Wilkinson, 1945 : 127.

²⁵*Microgaster vitripennis* Haliday, 1834 : 248.

Apanteles vitripennis (Haliday) Reinhard, 1880 : 366.

Pyralid, *Botys verticalis* Hübner. This latter record may well be wrong. The species is gregarious and more or less completely hides its mass of cocoons in a ball of flocculent silk.

It is highly probable that this species is not distinct from the N. American *longicornis* Provancher. There are four specimens of *longicornis* in the British Museum, all females and determined by Muesebeck. Apart from having the propodeal keel slightly less well defined, there is nothing to separate them from *pallipes*. Without seeing further specimens and in the absence of information concerning host and cocoons, I hesitate to say that the name "*longicornis*" should give way to "*pallipes*".

The male of *pallipes* is distinctive in that the claspers are obliquely truncate at apex, each clasper being sharply pointed at apex above. A similar modification occurs in species of the *vitripennis*-group.

THE CONGOENSIS-GROUP

Ocelli in a rather high triangle, the transverse, posterior tangent to the anterior ocellus passing slightly in front of the posterior pair. The antenna of the female tends to be very short but it is possible that the length of the segments may vary within wider limits than I have allowed for.

Especially important for the recognition of the group is the long, inner spur of the hind tibia. It is only on this character and the absence of the lateral pronotal furrow that separation from some elements of the *octonarius*-group, such as *thompsoni* Lyle (1927), is possible. Distribution : Old World.

KEY TO SPECIES

FEMALES

- 1 Propodeal spiracle very large, separated from the posterior corner of the propodeum by a distance not greater than its own diameter.

Antenna very short, hardly longer than head plus thorax ; flagellum slightly thickened in the middle with at least the middle segments not longer than wide ; flagellum very bristly (Text-fig. 215) ; mesoscutum highly polished, impunctate and only sparsely hairy except right in front ; metacarp hardly longer than the broad stigma (Text-fig. 219) ; tergite 2 with shining, transverse, triangular field that shows faint rugosity towards sides ; ovipositor sheath short, blunt, hardly projecting beyond the short hypopygium ; hind tarsus very short, segment 4 being very little longer than wide (Text-fig. 215) *congoensis* de Saeger²⁶

BELGIAN CONGO. UGANDA. Type in the Congo Museum, Tervuren.

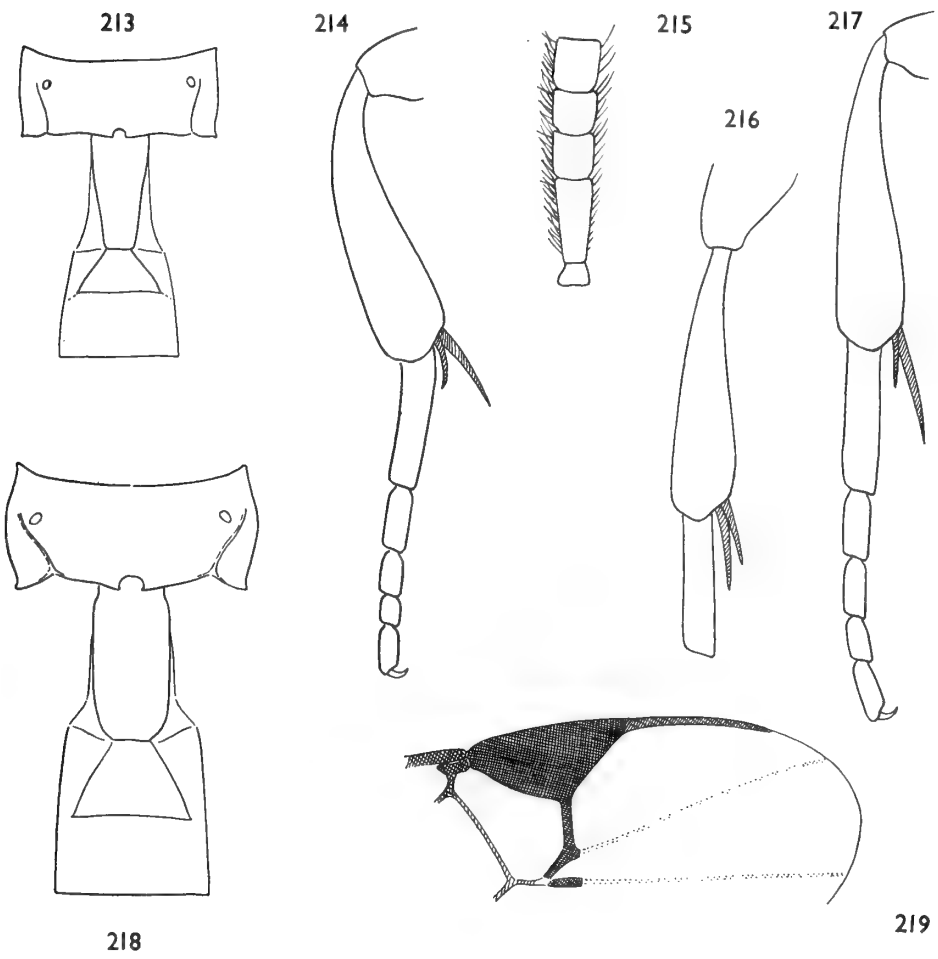
Host: *Dichrocrocis crocodera* Meyrick (Pyraustidae), on coffee. Gregarious. Cocoons white, loosely heaped together.

The species is easily recognised by the large propodeal spiracles.

- Propodeal spiracle of normal size ; flagellum not bristly, its pubescence short, dense and of ordinary appearance ; hind tarsus longer, segment 4 being more obviously longer than wide 2
- 2 Thorax strongly flattened.

²⁶*Apanteles congoensis* de Saeger, 1941 : 344.

Tergite 1 narrower and still more narrowed behind than in *congoensis* ; median field of tergite 2 highly polished, less well delimited and less transversely triangular than in *congoensis* ; metacarp longer in relation to the stigma than in *congoensis* ; inner spur of the hind tibia almost three quarters as long as the hind basitarsus (Text-fig. 217) ; wings hyaline 3
 Thorax not flattened.
 1st abscissa of the discoideus much shorter than the 2nd; vannal lobe with distinct marginal fringe 4



FIGS. 213-219. *Apanteles*, ♀: 213, *pyrogrammae* sp. n., propodeum & basal tergites; 214, *congoensis* de Saeger, hind tibia and hind tarsus; 215, *congoensis*, same, basal four flagellar segments; 216, *parmula* sp. n., hind tibia and spurs; 217, *plancina* sp. n., hind tibia and hind tarsus; 218, *astydamia* sp. n., propodeum and basal tergites; 219, *congoensis* de Saeger, fore wing, part.

- 3 Flagellum short, thick, with all the segments, except the first and the last, hardly longer than wide ; front tarsal segment 5 without a spine ; thorax broader ; tergite 1 less narrow ; hind coxa red.

Thorax much flattened ; tergite 1 and 2 almost yellowish and resembling the legs in colour ; flagellum pale but darkened apically ; hind tibia and hind tarsus (Text-fig. 217) *plancina* sp. n.

INDIA: Punjab, Miranpur, iv.1938, 3 ♀♀, 3 ♂♂, Chichawatni, viii.1928, 2 ♂♂, ex *Plectoptera reflexa* v. 5 ♂♂, 3 ♀♀, Terah Plain, iv.1 ♂, Daphar Plain, v.1938, 1 ♂, Arafwala Plain, v.1938, 1 ♀, Shikapur, Newman Plain, v.1938, 1 ♀ ; United Provinces, Allahabad, 3.iv.1938, 1 ♀, the *TYPE*, ex *Cacoecia* sp.. All the above material bred in association with the *Dahlbergia sissoo* entomological survey. Type in the British Museum (Nat. Hist.).

Host: *Plectoptera reflexa* Guen. (Phalaenidae), *Cacoecia* sp. (Tortricidae).

The males of *plancina* are much darker than the females and are sometimes nearly black ; the antenna is considerably longer the body. In most females there is a contrast between the paler base of the gaster and the rest of the body but sometimes the pale colour is more extensive and the whole insect becomes predominantly reddish yellow.

- Flagellum longer, slender, all the segments longer than wide ; front tarsal segment 5 with a fine spine ; thorax less broad ; tergite 1 more slender (Text-fig. 213) ; hind coxa pale only towards apex.

Thorax entirely black *pyrogrammae* sp. n.

NEW GUINEA: Lae, xii.1957, 1 ♀, the *TYPE*, 1 ♂ ; Rabaul, vii.ix. 2 ♀♀ ; Bougainville, v.1960, 1 ♀, all bred from *Agonoxena pyrogramma*, (R. W. Paine).

AUSTRALIA: Queensland, Tully, ii,1961, 4 ♀♀, ex *Agonoxena pyrogramma* (R. W. Paine). Type in the British Museum (Nat. Hist.).

Host: *Agonoxena pyrogramma* Meyrick (Agonoxenidae).

- 4 Wings distinctly smoky ; metacarp short, not at all longer than the stigma and hardly two and a half times as long as its distance from the apex of the radial cell.

Stigma short, broad, as in *congoensis* (cf. Text-fig. 219) ; median field of tergite 2 much shorter than 3 and strongly transverse with weak oblique aciculation laterally ; flagellum as in *congoensis* but with simple pubescence and the segments lacking the somewhat moniliform appearance of those of *congoensis* ; hind legs as in *congoensis* ; hypopygium blackened and heavily sclerotised, altogether more strongly developed than in *congoensis* ; ovipositor sheath broadly truncate ; inner spur of the hind tibia only just reaching beyond the middle of the hind basitarsus and only a little longer than the outer one (Text-fig. 216) *parmula* sp. n.

S. AFRICA: Cape Province, Ceres, iv.1925, 1 ♀, the *TYPE*, (R. E. Turner). Type in the British Museum (Nat. Hist.).

I doubtfully associate with this species a second female (Mossel Bay, xii, (R. E. T.), in which the wings are not smoky and the stigma is slightly less broad ; also the face is slightly more transverse and slightly duller by reason of a very superficial but coarse punctation. This specimen may belong to a further species, closely allied to *parmula*. The short metacarp and the shape of the median field of tergite 2 are both important for the recognition of *parmula*.

- Wings not at all smoky ; metacarp less short, distinctly longer than the stigma and longer in proportion to its distance from the apex of the radial cell ; median field of tergite 2, though poorly defined, less transverse.

Inner spur of the hind tibia longer in proportion to the length of the hind basitarsus and also longer in proportion to the length of the outer spur 5

- 5 Antenna longer, not noticeably tapering towards apex and with flagellar segments 4-7 at least one and a half times longer than wide ; tergite 1 narrower, pale only at base ; median field of tergite 2 hardly transverse (Text-fig. 218) *astydamia* sp. n.

S. AFRICA: Louis Trichardt, 5 ♀♀, one the *TYPE*, 1 ♂, bred iv.1935, ex larva *Epichorista ioniephala*. Type in the British Museum (Nat. Hist.).

Host: *Epichorista ioniephala* Meyrick (Tortricidae).

The antenna of the male is shorter and thinner than that of the Indian *plancina* and the wings show no sexual dimorphism.

- Antenna shorter, noticeably tapering towards apex and with flagellar segments 4-7 only one and a quarter times longer than wide ; tergite 1 wider, evenly reddish throughout ; median field of tergite 2 much more obviously transverse

symmysta sp. n.

S. AFRICA: Pondoland, Port St. John, 12-30.vi.1923, 1 ♀, the *TYPE*, (R. E. Turner), Transkei, Umtata, 18.ii-18.iii.1923, 1 ♀, (R. E. T.). Type in the British Museum (Nat. Hist.).

This species has the face smoother than *parmula* ; both species need further study.

THE *FORMOSUS*-GROUP

The species of this group seem to be all closely and naturally related with regard to the main characters by which I have segregated them. But within the group specific divergences are fairly wide. Salient features are the following:-

Side of pronotum without trace of a dorsal furrow. First abscissa of the discoideus considerably shorter than the second, usually about half as long ; always a distinct angle between the 1st abscissa of the radius and the transverse cubitus ; vannal lobe beyond its widest part with straight or slightly concave edge and here without a distinct fringe of projecting hairs (but cf. *gratiosus* Wilk.). Apical segment of the front tarsus of the female often with a spine. Tergite (2 + 3) either without a median field and with two short sulci directed towards the lateral margin of the segment (*formosus* Wesm., Text-fig. 228) or, if median field is present then this is obviously triangular. Hypopygium evenly sclerotised all over. Ovipositor short, more or less concealed.

Old and New World. Not rich in species ; most of those known to me are from Africa.

A. cuspidalis de Saeger (1944) and *A. simulissimus* de Saeger (1944) almost certainly belong here but are not included in the key, as I have not seen them.

KEY TO SPECIES

FEMALES

- 1 Eyes very large so that the face is longer than wide ; posterior ocellus separated from the eye-margin by a distance not greater than the longer diameter of the ocellus 2
- Eyes smaller, of normal size, the face in consequence not longer than wide ; posterior ocellus separated from the eye-margin by a distance equal to at least nearly twice the longer diameter of the ocellus 3
- 2 Thorax, except for the almost yellow pronotum and propleurum, brownish ; posterior ocellus separated from the eye-margin by about its longer diameter ; 1st abscissa of the discoideus hardly half as long as the 2nd ; apical segment of the front tarsus without trace of a spine.

Antenna very slender, the preapical segment fully three times as long as wide ; tergite 1 parallel-sided, about twice as long as wide, yellowish-red, more especially

towards base ; apically, tergite 1 is coloured more or less like tergite (2 + 3) ; incomplete sulci of tergite 2 directed towards the *posterior* margin of the segment so that a weakly indicated subtriangular median field is present, bordered by feeble aciculation ; hypopygium not strongly developed, in profile subtruncate

belliger Wilkinson²⁷

MAURITIUS: St. Pierre. Type in the British Museum (Nat. Hist.).

Host: *Cirphis unipunctata* Haworth (The Army Worm, Noctuidae).

In general habitus and on the form of tergite 1 and 2, together with the disposition of the sulci of tergite 2, more closely related to *gratosus* Wilkinson than to any other species.

- Thorax, except for the propodeum and sides behind, entirely reddish-yellow ; posterior ocellus separated from the eye-margin by a distance equal to about half its longer diameter ; (Text-fig. 229 ; 1st abscissa of the discoideus about two thirds as long as the 2nd ; apical segment of the front tarsus with a conspicuous spine (Text-fig. 223), the segment emarginate opposite to the spine and the segment itself medially constricted.

Gaster, except for the apical half of tergite (2 + 3) and tergites 4-6, entirely reddish-yellow ; legs reddish-yellow except that the hind femur and hind tibia are faintly tipped with infuscation ; flagellum very slender, the preapical segment about three and a half times longer than wide ; tergite (2 + 3) with short sulci directed towards the apical corner of tergite 2 (this being defined by the weak 2nd suture) and suggesting a triangular field that is more transverse than in *belliger*. Hypopygium short

teapae sp. n.

MEXICO: Teapa, Tabasco, iii, 1 ♀, the TYPE, (*H. H. Smith*). Type in the British Museum (Nat. Hist.).

- 3 Front tarsal segment 5 modified, being constricted at middle and hence in appearance bipartite ; beneath, it is armed with a strong, curved spine ; the surface opposite the spine is feebly emarginate.

1st abscissa of the discoideus fully two thirds as long as the 2nd 4

- Front tarsus 5 not thus modified, at most with a feebly thickened hair beneath and then there is no emargination opposite to it 5

- 4 Mesoscutum bicoloured, being brown with pale testaceous bands along the imaginary course of the notaulices ; ocelli nearly in an equilateral triangle, the distance between the posterior pair being about one and one third times as great as the diameter of the median ocellus ; scutellum showing feeble and normal convexity ; face with vague indication of coarse punctation ; hind tibia without a prickly appearance, the spines being pale, rather short and not particularly upstanding ; incomplete sulci of tergite 2 directed vaguely towards the posterior corners of the segment.

Brightly coloured species with the pronotum and propleurum as pale as the paler parts of the mesoscutum ; mesoscutum sharply punctate ; claws less strongly lobed than in *formosus* (cf. Text-fig. 222) ; hypopygium of moderate development

maia sp. n.

S. AFRICA: Pondoland, Port, St. John, 10-31, vii.1923, 1 ♀, the TYPE, 12-20.vi.1923, 1 ♀, (*R. E. Turner*). Type in the British Museum (Nat. Hist.).

Characterized by the form of the apical segment of the front tarsus in combination with colour.

- Mesoscutum entirely black ; ocelli in a lower triangle, the distance between the posterior pair being obviously greater than the diameter of the median ocellus, about one and two thirds times as great ; scutellum strongly domed ; incomplete sulci of tergite 2 directed towards the middle of the side of the tergite ; hind tibia having a prickly appearance, its spines longer, sharper, and much more upstanding

²⁷*Apanteles belliger* Wilkinson, 1929a : 107.

than in *maia* ; face virtually without a trace of punctation.

Tergite 1 and sides of 2, outside the area delimited by the sulci, bright yellow ; hypopygium short, subtruncate (Text-fig. 227) ; tergite 2 medially only about two thirds as long as 3 ; (Text-fig. 228) ; 1st abscissa of the discoideus longer in proportion to the 2nd than in *maia* ; front tarsus 5 (Text-fig. 222)

formosus (Wesmael)²⁸

EUROPE.

Host: *Abraxas sylvata* Scopoli, *Abraxas grossulariata* L., *Biston hirtaria* Clerck (Geometridae). Solitary. The larva, on leaving its host, makes a pedunculate, pensile cocoon, a habit unique in the Microgasterinae so far as is known.

- 5 Ocelli in a triangle with base very distinctly longer than sides, the distance between the posterior pair being very obviously greater than the diameter of the median ocellus 6
- Ocelli in a triangle that is almost equilateral, the distance between the posterior pair being virtually not greater than the diameter of the median ocellus 11
- 6 Sulci of tergite 2 almost horizontally placed and directed towards the lateral margin of the tergite ; 1st abscissa of the discoideus about two thirds as long as the 2nd, somewhat shorter in *geometrivorus* 7
- Sulci of tergite 2 more obliquely placed and directed towards the posterior corner of the tergite ; 1st abscissa of the discoideus hardly more than half as long as the 2nd.

Medium brown species with the hind coxa and tergite 1 entirely yellow ; incomplete sulci of tergite 2 deeply marked at their origin ; this tergite shows no aciculation ; hind tarsus somewhat short in relation to its tibia, very bristly and the flange along ventral surface of segments 1-4 deep and conspicuous ; mesoscutum on posterior half becoming less hairy and highly polished ; anteriorly the surface of the mesoscutum is sharply punctate ; the lateral keel of the propodeum meets the posterior keel at a well defined angle ; propodeum itself short (Text-fig. 225)

cerales sp. n.

UGANDA: L. Victoria, Sesse Is., ix.1912, 9 ♀♀, one the TYPE, 3 ♂♂, (*G. D. H. Carpenter*). Type in the British Museum (Nat. Hist.).

Host: caterpillar with hairs and bristles, probably Arctiid. Gregarious with white cocoons closely heaped in dense, somewhat cottony mass.

- 7 Hind coxa entirely yellow 8
- Hind coxa black or dark brown 9
- 8 Hypopygium in profile acutely pointed, angled at about 45 degrees ; lateral, excavate area of scutellum virtually unsculptured ; front claws large and with a deep, narrow cleft between the lobe and the end of the claw ; hairs of the median cell numerous and evenly distributed ; lateral keel of the propodeum completely interrupted by the spiracle ; tergite 2 more transverse, only about two thirds as long as 3.

Thorax medium brown ; hind tibia having a very bristly appearance, the spines of the outer side being strong **pompelon** sp. n.²⁹

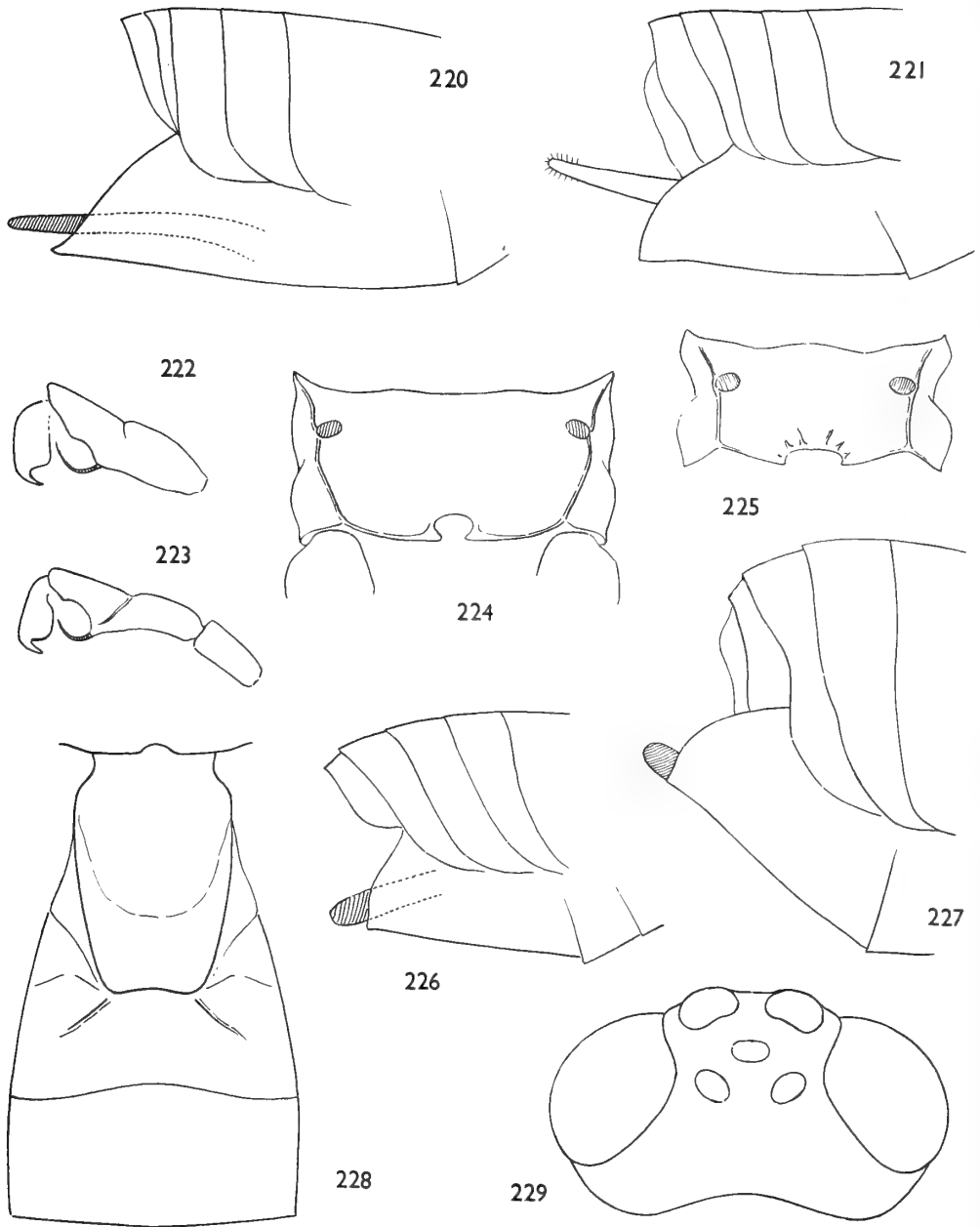
JAPAN: Sapporo, 1 ♀, the TYPE. Type in the British Museum (Nat. Hist.).

Host: The type bears a label: 'Wirt, *Porthesia similis* Fuess.'

This is the only species of the group known to me in which the spiracle of the propodeum completely interrupts the lateral keel but the value of this character cannot be adequately assessed on a single specimen.

- Hypopygium in profile almost right angled (Text-fig. 220) ; lateral, excavate area of scutellum showing normal rugosity ; front claws small and not easily seen, without

²⁸ *Microgaster formosus* Wesmael, 1837 : 60.
Apanteles formosus (Wesmael) Reinhard, 1880 : 366.
Apanteles formosus (Wesmael) ; Wilkinson, 1945 : 95.
²⁹ *Apanteles bicolor* Nees ; Watanabe 1937 : 122 [nec Nees, 1834].



FIGS. 220-229. *Apanteles*, ♀: 220, *gratiosus* Wilkinson, apex of gaster, lateral; 221, *sancus* sp. n., same; 222, *formosus* (Wesmael), apical segment of front tarsus; 223, *teapae* sp. n., same; 224, *tormina* sp. n., propodeum; 225, *cereales* sp. n., propodeum; 226, *papilionis* Viereck, apex of gaster, lateral; 227, *formosus* (Wesmael), same; 228, *formosus* (Wesmael), basal tergites; 229, *teapae* sp. n., head, from above.

basal lobe and hence without cleft ; hairs of the median cell becoming sparse and absent along the medius side ; lateral keel of propodeum not interrupted by the spiracle though sometimes nearly touched by it ; tergite 2 less transverse, nearly as long as 3.

Antenna not longer than the body and in this respect resembling that of *geometrivorus* but not the other species of the group ; thorax virtually black and the mesoscutum much polished, virtually impunctate even in front ; hind tibia less bristly than in *pompeloni* ; tergite 1, and 2 almost entirely, bright yellow ; tergite 1 tends to be rather deeply and widely excavate anterior to its turned over posterior part

papilionis Viereck³⁰

INDIA. MALAYA.

Type in the U.S. National Museum.

Host: *Papilio agamemnon* L., *Papilio demoleus* L. (Papilionidae).

- 9 Stigma unusually broad ; ovipositor sheath straight, slightly narrowed apically, projecting freely beyond the short hypopygium (Text-fig. 221).

Tergite 1 dull reddish ; membranous sides of this tergite and of tergite (2 + 3) yellow ; tergite 2 with distinct, oblong, raised, median swelling ; this tergite, in its relation to tergite 3, like that of *formosus* (cf. Text-fig. 228) ; preapical segment of the antenna about one and a half times longer than wide . . . *sancus* sp. n.

FRANCE: Montpellier, x.1923, 3 ♀♀, one the TYPE, 1 ♂, (*J. Suire*). Type in the British Museum (Nat. Hist.).

Host: *Lycaena* sp. Gregarious, there being six papery cocoons, packed closely together.

This distinct species has the stigma broader than in any other.

- Stigma of normal form ; ovipositor sheath not projecting so freely beyond the apex of the hypopygium 10

- 10 Tergite 2 half as long as 3 ; hairs of the median cell very sparse and absent along the medius side ; most of the venation proximal to the areolet pale and almost unpigmented ; tergite 1 entirely bright yellow ; antenna a little shorter, the preapical segment hardly more than one and a half times longer than wide ; hypopygium short, almost truncate in profile ; tergite 1 broader, more polished and hollowed out anteriorly, exactly like that of *papilionis* *geometrivorus* de Saeger³¹

AFRICA: Belgian Congo (type locality). UGANDA. Type in the Congo Museum, Tervuren.

Host: Green and yellow Geometrid on *Cajanus indicus*. Gregarious with brown cocoons piled on dead host.

This species is extremely like *papilionis*, differing only in the length of tergite 2 in relation to that of 3.

- Tergite 2 fully two thirds as long as 3 ; hairs of the median cell more numerous and evenly distributed ; venation pigmented everywhere ; tergite 1 reddish but infuscated on its turned over posterior part ; this tergite longer than in *geometrivorus* and showing a certain amount of apical roughening ; antenna longer, the preapical segment fully twice as long as wide ; hypopygium longer, sharply pointed, angled at about 45 degrees.

Posterior, polished band of the scutellum unusually wide, almost as wide as in *formosus* to which this species is probably more closely allied than to *geometrivorus*

anthedon sp. n.

S. AFRICA: Transvaal, Belfast, vi.1938, 23 ♀♀, one the TYPE, 1 ♂, (*F.G.C. Tooke*). Type in the British Museum (Nat. Hist.).

³⁰*Apanteles (Protapanteles) papilionis* Viereck, 1912 : 145.

Apanteles papilionis Viereck ; Wilkinson, 1928 : 81.

³¹*Apanteles geometrivorus* de Saeger, 1941 : 331.

Host: *Euproctis terminalis* Walker (Lymantriidae). Gregarious with cocoons whitish and loosely heaped together.

This is a dark species largely characterized by the broadness of the posterior, polished band of the scutellum.

- 11 Vertex and temples sharply and very characteristically punctate; mesoscutum almost all over densely, sharply punctate.

Occiput deeply hollowed out right up to the posterior ocelli; hind coxa brown; incomplete sulci of the tergite 2 directed towards the posterior corners of the tergite; 1 yellow but becoming infusate on its apical, turned over part; lateral keel of the propodeum joining the inner part of the posterior keel almost in an even curve (Text-fig. 224); hypopygium short **tormina** sp. n.

BELGIAN CONGO: Mulungu, viii.1946, 10 ♀♀, one the TYPE, 4 ♂♂, (P. C. Lefevre). Type in the British Museum (Nat. Hist.).

Host: *Eurytela dryope* Cramer (Nymphalidae) on *Ricinus*.

- Vertex and temples without this distinct and characteristic punctation; mesoscutum less extensively punctate and at least on nearly posterior half becoming almost impunctate 12

- 12 Hypopygium long, acute, strongly developed (Text-fig. 220); gaster strongly laterally compressed; frequently tergite 2 with an elongate, median area that is bounded by, or even covered with, fine aciculation; preapical segment of the antenna two and a half to three times as long as wide.

Pale brownish species with tergite 1 more or less yellow and tergite 2 almost as long as 3; hind tarsus longer in proportion to its tibia than in the related *cevales* and the flange beneath segments 1-4 quite inconspicuous; vannal lobe unusually short and with indication of hair-fringe throughout **gratiosus** Wilkinson³²

UGANDA. BELGIAN CONGO. Type in the British Museum (Nat. Hist.).

Host: *Lasiocampid* sp., *Arctiid* sp. Gregarious with the brown cocoons standing on end amongst the hairs of the host.

Distinct on account of the compressed gaster and strongly developed hypopygium.

Hypopygium short, of normal form; gaster shorter and not thus strongly compressed laterally; tergite 2 apparently never with such a raised area bounded by aciculation; preapical segment of the antenna about twice as long as wide.

Species richly marked with yellow on gaster, tergite 2 being often entirely yellow except for an oblique brownish mark on each side; mesoscutum on posterior half with sparser punctation than in *gratiosus*, becoming highly polished and almost bare here **pallidocinctus** Gahan³³

KENYA. UGANDA. Type in the U.S. National Museum.

Host: *Papilio demodocus* Esper. Gregarious. Cocoons brownish, papery, loosely attached to the host.

THE DEMETER-GROUP

Monobasic.

Apanteles demeter Wilkinson

Apanteles demeter Wilkinson, 1934a: 154.

♀. Dark brown, the legs hardly paler. Wings distinctly darkened.

Eyes small. Ocelli in a high triangle, the posterior, transverse tangent passing far in front of the posterior pair. Dorsal surface of mesoscutum and the scutellum polished, impunctate, a

³²*Apanteles gratiosus* Wilkinson, 1930a: 150.

³³*Apanteles pallidocinctus* Gahan, 1918: 588.

little flattened. First abscissa of the radius distinctly shorter than the 1st transverse cubitus. All the femora thickened; tarsi short, the 4th segment of the hind tarsus only slightly longer than wide; inner spur of the hind tibia reaching very slightly beyond the middle of the hind basitarsus. Tergite 1 strongly narrowed behind and narrowly rugulose along sides.

NEW ZEALAND : Bainesse.

Type in the British Museum (Nat. Hist.).

Host : *Tortrix* sp. (Tortricidae).

Wilkinson (1934 : 155) put *demeter* together with several species which show some dorso-ventral compression of the thorax in a group which he designated with the letter "G". Some degree of flattening has occurred independently in several groups of *Apanteles* and by itself cannot be taken as an indication of close relationship. The Indo-oriental *flavipes* Cameron, the African *sesamiae* Cameron, and the European *ferrugineus* Marshall, all of which Wilkinson put with *demeter* in group G, are, in my opinion, more properly allocated to the *glomeratus*-group though occupying a marginal position within it. The Indo-malayan *angustibasis* Gahan, also included by Wilkinson, is, I think, best regarded as an aberrant member of the *ater*-group.

THE *HENICOPUS*-GROUP

Ocelli almost in an equilateral triangle, the posterior, transverse tangent to the anterior ocellus passing far in front of the posterior pair. Propodeum with a medial keel. Hind coxa very large; inner spur of the hind tibia much longer than the outer one and fully two thirds as long as the hind basitarsus. Stigma emitting radius very considerably distal to middle (Text-fig. 114); 1st transverse cubitus as long as, or slightly longer than, the 1st abscissa of the radius. Ovipositor very short, almost hidden. Tergite (2 + 3) with or without a poorly defined, elongate, medial field.

This group may eventually require generic status; it is essentially characterized by the closeness of the brachial vein to the edge of the wing in combination with the linear plate of the first tergite. This last feature is peculiar to the *henicopus*-group and the related *daira*-group; there is not even an approach to it in any of the other groups into which I have divided *Apanteles*. On the other hand, a similar modification of the first tergite occurs frequently among species of *Protomicroplitis*.

It is possible that the affinities of the *henicopus*-group lie with some of the heterogeneous elements of *Protomicroplitis* rather than with *Apanteles*, where it is somewhat unnaturally placed.

I have seen only three specimens, representing three species. These are not very closely related.

AFRICA. PHILIPPINES.

KEY TO SPECIES

FEMALES

- 1 Entirely fulvous, except that the hind femur and hind tibia are slightly darkened at extreme apex; propodeum, in addition to the medial keel, with an oblique keel extending from close to the spiracle to the posterior orifice; posterior, polished band of the scutellum interrupted medially by a patch of rugosity.

Face coarsely reticulate-rugose ; vertex and temples strongly punctate ; posterior ocellus separated from the eye-margin by a distance that is distinctly less than twice the longer diameter of the ocellus ; sculpture of mesoscutum very coarse, consisting of deep rugose-punctuation that, along the course of the notaulices, becomes rugose-reticulation ; the keels bordering the antennal sockets in front are almost united at the middle line of the face (fore wing Text-fig. 114) ; tergite (2 + 3) with narrow, weakly triangular, weakly defined, median field *iphitus* sp. n.

PHILIPPINES: Mindanao, Davao, 1 ♀, the TYPE, (Baker). Type in the U.S. National Museum.

- At least the propodeum and the sides of the thorax entirely blackish or black ; propodeum either without or with a less clear indication of a lateral, oblique keel ; posterior, polished band of the scutellum not or hardly interrupted at middle 2

- 2 Head yellow-testaceous ; mesoscutum and scutellum dull reddish ; frons, vertex and temples almost smooth ; disc of scutellum shiny, its rugose-punctuation shallow, superficial ; tergite (2 + 3) highly polished and without a median field.

Mesoscutum less dull and less densely sculptured than in *henicopus* ; hind coxa becoming darkened at apical half above *thyone* sp. n.

PHILIPPINES: Luzon, Mt. Makiling, 1 ♀, the TYPE, (Baker). Type in the U.S. National Museum.

The oblique keels of the propodeum are less well defined in this species than in *henicopus* ; the posterior, polished band of the scutellum shows no trace of sculpture medially.

- Head entirely black ; mesoscutum and scutellum black ; frons, vertex and temples dull, coarsely rugose-punctate ; disc of scutellum dull, densely rugose ; tergite (2 + 3) with elongate, median field (Text-fig. 110).

The hind coxa is sharply bicoloured but the yellow part occupies slightly more than basal half ; hind femur yellow on about basal third ; tergite 1, as in the other two species, is yellow throughout ; face deeply, confluent punctate ; in *thyone*, the face is shiny and shows only superficial sculpture ; the oblique keels of the propodeum are better defined than in *thyone* but are not so distinct as in *iphitus*

henicopus de Saeger³⁴

AFRICA: Belgian Congo, Nyasheke (type locality). Kenya, Embu, 1 ♀, in British Museum (Nat. Hist.). Type in the Congo Museum, Tervuren.

The posterior, polished band of the scutellum shows faint traces of sculpture medially.

THE DAIRA-GROUP

Monobasic.

Apanteles दौरa sp. n.

- ♂. Except that the hind tarsus is infuscate, the legs are fulvous throughout.

The surface of the strongly transverse face is very shiny and shows large, scattered pits, with some vague striation towards the eye-margin. Ocelli in a fairly high triangle, the transverse, posterior tangent to the anterior ocellus not quite touching the posterior pair ; the triangle is less high than in the *henicopus*-group. Antennal sockets very deep, their anterior margins strongly raised, sharp, and uniting medially to form a sharp keel ; flagellum with coarse, bristly pubescence, more especially on upper surface. Head above strongly shining, with a few scattered punctures.

Mesoscutum very shiny, with scattered pits ; the notaulic courses are indicated by a row of still larger, more irregularly shaped pits. Propodeum with strong medial keel and various,

³⁴*Apanteles henicopus* de Saeger, 1944 : 152.

strong, secondary keels (Text-fig. 343). Distal end of metacarp not sharply defined ; metacarp about one and a half times longer than its distance from the apex of the radial cell.

Tergite 1 linear but dilated posteriorly ; very deeply grooved throughout. Tergite (2 + 3) smooth, shining ; a faintly indicated suture separates the two parts of the tergite ; tergite 2 shows a hardly defined, raised median swelling that is elongate and more or less parallel-sided.

NEW BRITAIN : Keravat, 10.v.1952, 1♂, the *TYPE*, labelled as bred from Hibiscus Leaf Folder, (*J. H. Barrett*).

Type in the British Museum (Nat. Hist.).

This is a remarkable looking species, quite unlike any other known to me. It is characterized by its very large size, colour and lobed claws. It is more closely related to the *henicopus*-group, I think, than to any other group in *Apanteles*. Its inclusion in *Apanteles* should be regarded as provisional.

THE *VALIDUS*-GROUP

Monobasic.

Apanteles validus Thomson

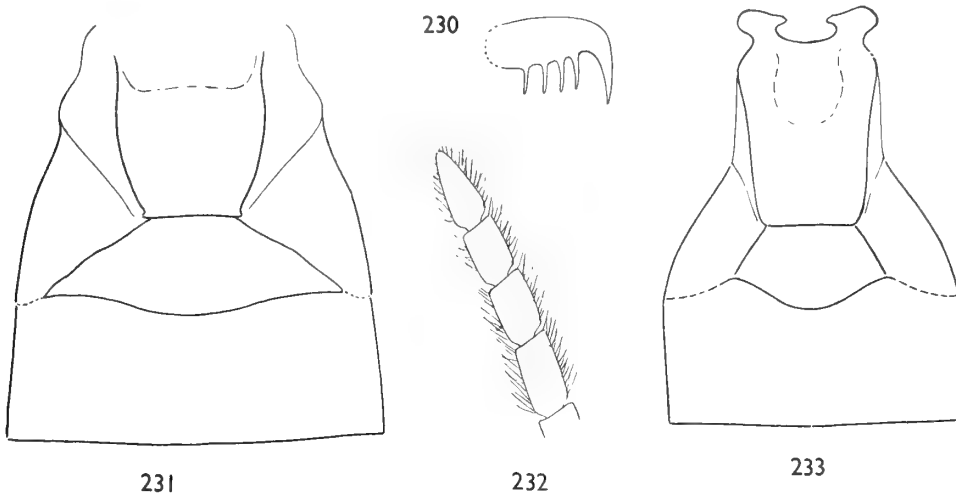
Apanteles validus Thomson, 1895 : 2254.

This species seems to be quite isolated and is largely characterized by its pectinate claws (Text-fig. 280).

♂♀. Wings distinctly darkened. Hind coxa and hind femur black ; males have the hind tibia as dark as the femur and pale only on about basal fifth ; in the two females examined, the hind tibia is paler than its femur. The anterior, hollowed out part of tergite 1 tends to be paler (almost reddish) than the rest of the segment. Flagellum (Text-fig. 232).

The suture between the mesoscutum and the disc of the scutellum is reduced to a fine, simple groove. Although no 2nd transverse cubitus is present, the areolet is somewhat sharply contracted after the manner of some of the *Microgaster* group of genera. Tergite 1 and (2 + 3), (Text-fig. 231).

Length: 4 mm. without ovipositor of female.



FIGS. 230-233. *Apanteles*, ♀: 230, *validus* Thomson, front claw; 231, same, basal tergites; 232, same, apical four flagellar segments; 233, *falcatus* (Nees), basal tergites.

EUROPE. The following material in the British Museum (Nat. Hist.):—Sweden, Skåne, 4 ♂♂, 2 ♀♀. England, Bucks., Whaddon Chase, vi. 1 ♂; Hants, New Forest, vii. 1 ♂.

Type in the University Museum, Lund.

This species falls into *Apanteles* on account of the open areolet but its placement in this genus must be considered unnatural.

MIROPOTES gen. n.

Type-species : *Miropotes creon* sp.n.

Antenna 18-segmented. Ocelli in a high triangle ; posterior, transverse tangent to the anterior ocellus passing far in front of the posterior pair. Head (Text-fig. 236).

Inner spur of the hind tibia slightly shorter than the outer one, not more than about one quarter the length of the hind basitarsus. Side of pronotum without a dorsal furrow, there being only a single furrow dividing it sharply into two parts. Metacarp about one and one third times longer than its distance from the apex of the radial cell ; radiellian cell of the hind wing abruptly and very strongly constricted at the junction with the spurious radial cross-vein and thence continuing as a very narrow cell to the apex of the wing (Text-fig. 281) ; transverse cubitellian vein wanting ; edge of vannal lobe fringed throughout.

Tergite 1 fully twice as long as wide.

The genus is extremely aberrant within the Microgasterini in regard to the venation of the hind wing but in all other respects seems to be more closely related to this tribe than to any other within the Braconidae. I am unable to suggest an affinity with any particular genus within the Microgasterini.

KEY TO SPECIES

FEMALES

- A Propodeum with a large, somewhat poorly defined areola ; inner spur of the hind tibia about one fifth as long as the hind basitarsus **creon** sp. n. (p. 200)
- B Propodeum without an areola, the surface almost smooth ; inner spur of the hind tibia a little more than one quarter as long as the hind basitarsus
petiolaris (Szepligeti) (p. 201)

Miropotes creon sp. n.

♀. Hind femur yellowish in the type but deeply infuscate in the second female. Wings faintly yellowish in the type but darker in the second female.

Clypeus with a well marked longitudinal keel. Antenna a little shorter than the body ; segments 15–17 about one and a third times longer than wide. Head from in front (Text-fig. 236).

Mesoscutum very shiny, punctate ; the punctures large, more or less contiguous but ill defined and often shallow. Hind wing (Text-fig. 281).

Tergite 1 almost parallel-sided, about twice as long as wide, finely, irregularly striated. Median field of tergite 2 shiny, finely striate. Some trace of striation on tergite 3. Ovipositor very thick, abruptly narrowed and hooked at extreme apex (Text-fig. 251). Hypopygium much lengthened, narrowed apically to about 30 degrees.

Length: ca. 2 mm. without ovipositor.

TASMANIA : Hobart, 3.iii.1935, 1 ♀, the *TYPE*, (*R. E. Turner*).

Type in the British Museum (Nat. Hist.).

A specimen from AUSTRALIA : Canberra, Foot of Black Mt., viii. 1959, 1 ♀, (*V. F. Eastop*), may possibly represent a further species. The wings are smaller, narrower and darker ; the head is more strongly narrowed behind and the ocelli form a slightly higher triangle than in the type female.

***Miopotes petiolaris* (Szepligeti) comb. n.**

Microgaster petiolaris Szepligeti, 1905 : 48.

Microgaster petiolaris Szepligeti ; Wilkinson, 1929 : 104.

I have seen the type specimens of this species—a male and a female, both mounted separately and both labelled “ *typus* ”.

♀. May be compared with *creon* as follows:—

Mandibles, labrum, all the femora reddish-yellow ; hind tibia reddish yellow but with a very faint apical infuscation.

Eyes slightly less convergent below, the face flat. Antenna broken but the existing basal segments suggest a much longer antenna ; segment 10 is four times as long as wide ; in *creon* segment 10 is about three times as long as wide.

Mesoscutum less shiny, more finely more closely and more superficially punctate. The spurious radius is markedly downcurved throughout its entire length so that the radial cell is slightly narrower and has a more parallel-sided appearance than in *creon*. Propodeum very weakly sloping, flattened and polished and with the merest trace of an areola indicated near the orifice.

Tergite 1 deceptive in appearance ; the sclerotised median plate has a pale, strongly raised lateral margin ; the middle part of the plate, from base to apex, is more heavily sclerotised, blackened and shows as an elongate segment that widens slightly from base to apex, is nearly three times as long as wide and is finely aciculate throughout ; at first sight this darkened part of the tergite might easily be taken to represent the whole of the normal plate. Median field of tergite 2 with a faint, satin-like sheen and with traces of extremely delicate longitudinal aciculation. Apex of gaster damaged so that neither the shape of the hypopygium nor the shape and length of the ovipositor sheath can be made out. A piece of the ovipositor remains ; this is about two thirds as long as the hind basitarsus, straight and without the apical modification that characterizes *creon*.

Length: ca. 4 mm.

♂. Also damaged, the gaster missing. Like the female except that the eyes are normal and only very slightly convergent below.

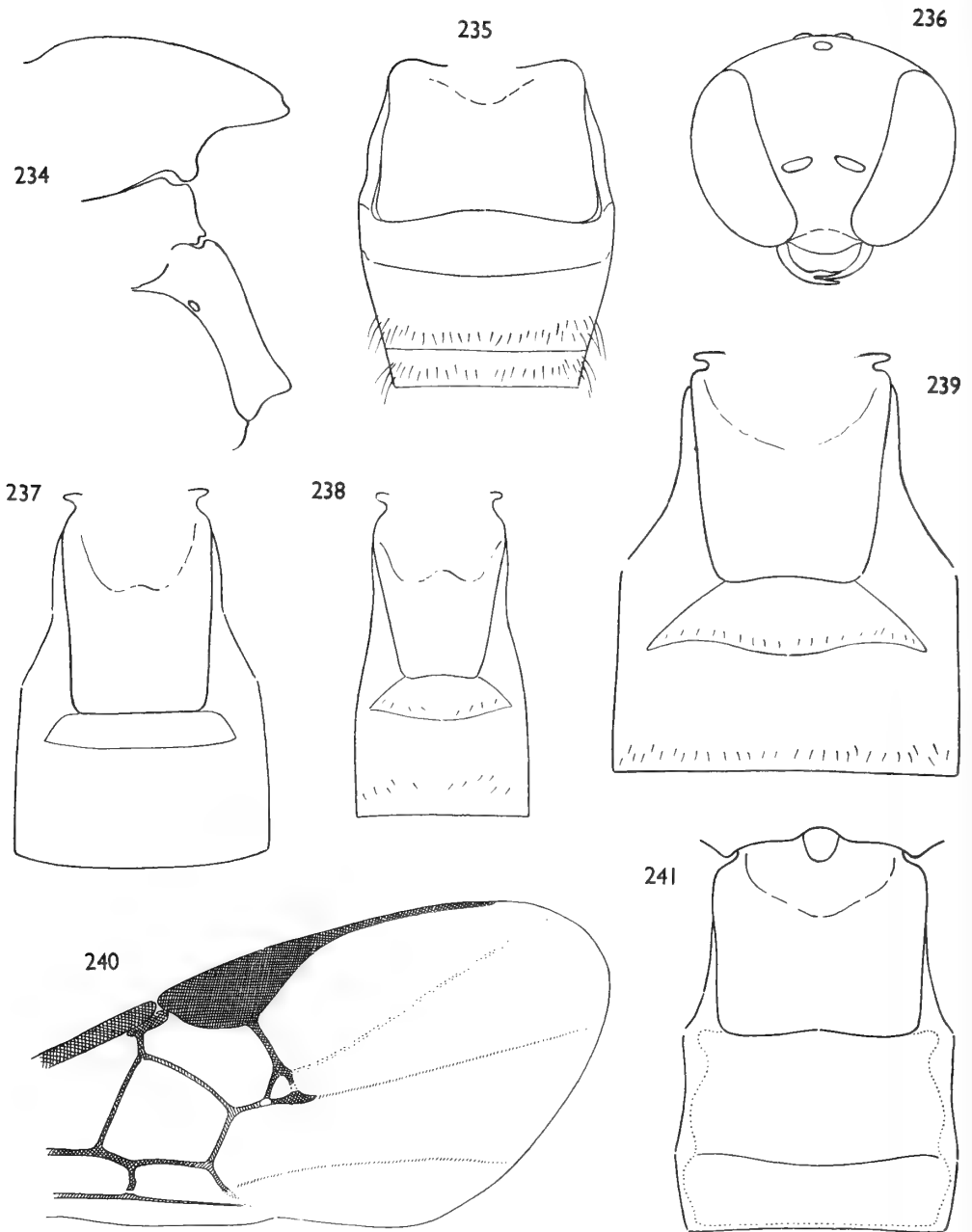
AUSTRALIA : N.S. Wales, Sydney, 1 ♂, 1 ♀, 1900, (*Biró*).

Type in the National Hungarian Museum.

***DASYLAGON* Muesebeck**

Dasyllagon Muesebeck, 1958 : 424.

Head in facial view not in the least lengthened. Mouth parts normal. Scape short (Text-fig. 253). Side of pronotum with deep dorsal furrow as well as the normal medial furrow. Mesoscutum thickly hairy and with sharp, discrete punctation on a strongly shining surface ; no crowding of punctures along the imaginary course of the notaulices. Lateral, polished zone of scutellum pushed as far forwards as possible and cutting off between itself and the disc of the scutellum a long, more or less parallel-sided, foveate furrow. Areolet of the fore wing very



FIGS. 234-241. 234, *Philopltis coniferens* sp. n., ♀, scutellum, lateral; 235, *Dasylagon aegeriae* Muesebeck, ♀, basal tergites; 236, *Miropotes creon* sp. n., ♀, head, from in front; 237, *Promicrogaster stereope* sp. n., ♀, basal tergites; 238, *Promicrogaster munda* Muesebeck, ♀, same; 239, *Promicrogaster polyporicola* Muesebeck, same, paratype; 240, *Alloplitis guapo* sp. n., ♀, fore wing, part; 241, same, basal tergites.

small ; 1st abscissa of the radius very long. Ovipositor much longer than the hind tibia. Hypopygium membranous at sides and here with numerous longitudinal creases.

Type-species : *Dasylogon aegeriae* Muesebeck (by original designation).

Seen within the context of the limited amount of New World material that I have had at my disposal, this genus seems to be isolated on the structure of the basal tergites. In wing venation it shows much affinity with *Promicrogaster* but this genus differs from *Dasylogon* not only on the structure of the gaster but also in having the antennal scape longer, the head and mouth parts lengthened and the glossa deeply forked.

Muesebeck described two species in *Dasylogon*—*aegeriae* and *simulans*. He has been kind enough to lend me a male and female paratype of *aegeriae*. I have also a second species that I provisionally identify as a colour variant of *simulans*.

KEY TO SPECIES
FEMALES AND MALES

A ♀. Entire body black ; anterior to the areola a short keel that separates the two large horizontal areas ; 1st abscissa of the discoideus not longer than the nervulus ; areolet larger ; radius less downcurved at apex ; disc of scutellum with weaker punctation ; spines along upper part of hind tibia denser (in fact, very dense), more numerous and less upstanding ; hind coxa black ; tergite 2 considerably more transverse (Text-fig. 235). Gaster of ♂ entirely black . . . *aegeriae* Muesebeck³⁵

COLOMBIA. Bred from unidentified Aegeriid.

Type in U.S. National Museum.

B ♀. Gaster bright red ; anterior to the areola a poorly defined, excavate area separated from the areola by a transverse keel (the areola thus virtually occupying full length of the propodeum) ; 1st abscissa of the discoideus distinctly longer than the nervulus ; areolet smaller ; radius strongly downcurved at apex ; disc of scutellum with stronger punctation ; spines along upper part of hind tibia less numerous, more upstanding ; hind coxa red ; tergite 2 less transverse. Gaster of ♂ blackened on nearly apical half . . . *simulans* Muesebeck,³⁶ colour var?

HONDURAS. Type in U.S. National Museum.

BRAZIL: Bahia, 1926, 1 ♂, 1 ♀, bred from *Siculodes falcata* Felder (Thyrididae).

In British Museum (Nat. Hist.).

According to Muesebeck, *simulans* has the body entirely black with the legs reddish yellow except that the coxae and trochanters and the hind tarsi are black. In *aegeriae*, the hind femur and hind tibia are red with the hind tarsus contrastingly blackened.

SENDAPHNE gen. n.

Type-species : *Sendaphne olearus* sp.n.

Species of very slender build. Scape rather long (Text-fig. 245). Pronotum with well defined dorsal furrow. Mesoscutum and disc of scutellum highly polished and with at most a very superficial punctation. Lateral polished zone of scutellum triangularly extended forwards

³⁵*Dasylogon aegeriae* Muesebeck, 1958 : 424.

³⁶*Dasylogon simulans* Muesebeck, 1958 : 425

and cutting off between itself and the disc a narrow, parallel-sided furrow. Seen from above, the metapleurum bulges markedly. Hind coxa very large; inner spur of the hind tibia fully half as long as the hind basitarsus. Vannal lobe small and beyond its widest part not concave but without a fringe of hairs; areolet very small; 1st abscissa of the discoideus as long as the 2nd; nervellus of the hind wing straight and directed inwards on the vannal lobe side. Tergite 1 very strongly narrowed behind, wedge-shaped (Text-fig. 244). Tergite 2 with two lateral sulci that run close to the lateral margin of the segment and enclose a subtriangular area that is considerably longer than wide at apex.

Related to *Promicrogaster* Brues and Richardson (known to me only from *P. munda* Muesebeck and *P. polyporicola* Muesebeck) but differing from this genus in having the propodeum smooth, polished and the median field of tergite 2 quite different in shape.

It is difficult to estimate the generic value of *Promicrogaster* and *Sendaphne* on the species available for examination and it may become necessary later to reduce them both to the status of species-groups within *Hypomicrogaster*.

The labium of *Sendaphne* is more lengthened and the galea considerably longer than in any species of *Promicrogaster* known to me.

KEY TO SPECIES

FEMALES

- A Head bright reddish-yellow like the thorax; tergites 4-6 banded with dark brown; median field of tergite 2 wider, embracing nearly the entire surface of the segment; gaster less compressed laterally; larger, ca. 5 mm. without ovipositor; ocelli in a lower triangle ***olearus* sp. n.**
 BRAZIL: Nova Teutonia, 2.iii.1937, 1 ♀, the TYPE, (*Plaumann*). Type in the British Museum (Nat. Hist.).
- B Head blackish; tergites 4-6 reddish-yellow like the rest of the gaster; median field of tergite 2 narrower, occupying a smaller area of the entire surface of the tergite (Text-fig. 244); gaster very strongly compressed laterally; smaller, ca. 4 mm. without ovipositor; ocelli in a higher triangle ***sulmo* sp. n.**
 MEXICO: Teapa, Tabasco, 1, 1 ♀, the TYPE, (*Godman-Salvin Coll.*). Type in the British Museum (Nat. Hist.).

LARISSIMUS gen. n.

Type-species: *Larissimus cassander* sp.n.

♂♀. Size large: 8 mm. Entire body highly polished. Labial palpus 3-segmented. Scape rather short. Ocelli in a low triangle, the posterior, transverse tangent to the anterior ocellus cutting the other pair. Side of pronotum without trace of a dorsal furrow. Lateral, polished zone of the scutellum only very weakly convex in the forwards direction. Propodeum with strong medial keel. First abscissa of the radius very long, twice as long as the 1st transverse cubitus and very obliquely placed on the stigma; areolet fairly large, the 2nd transverse cubitus received onto the extreme base of the 2nd abscissa of the radius (Text-fig. 340). Claws simple. Tergite 1 about two and a half times longer than wide (in apical third). Hypopygium evenly sclerotized but sharply folded towards apex. Ovipositor very short, its sheaths about as long as the 2nd segment of the hind tarsus.

In general structure of body, the genus reminds of *Protomicroplitis* and *Parenion*.

But *Protomicroplitis* has, in the main, the thorax heavily punctate or otherwise sculptured whereas *Larissimus* is characterized by its highly polished appearance.

From *Parinion* it differs in details of wing venation. From both these genera and indeed from all other Microgasterini it differs in having an undefined vannal lobe.

Larissimus cassander sp. n.

♂♀. Thorax and gaster red ; the gaster darkened apically in the female from Passe des Indies. Head mostly black above with a reddish patch extending forwards from the posterior ocellus to the inner orbit of the eye ; lower part of the head and most of the lower part of the face red. Front and middle legs reddish-yellow ; hind legs red with the hind tibia slightly darker and the hind tarsus strongly blackened. Wings smoky with yellowish tint ; still darker within the 1st discoidal cell and the radial cell ; to the naked eye, the fore wing appears to be crossed by an orange-yellow band that embraces the stigma.

♀. Head above, including the eyes, rather conspicuously hairy. Antenna broken but the existing 10 flagellar segments clothed with extremely short pubescence. Inner spur of the hind tibia almost two thirds as long as the hind basitarsus. Tergite 1 swollen and convex in apical half ; deeply channelled in anterior half. Tergite 2 with large, triangular median area whose base is slightly longer than its sides (Text-fig. 248). Ovipositor thick, sickle-shaped (Text-fig. 252).

♂. Like the female.

BRAZIL : Nova Teutonia, 7.ii.1938, 1 ♀, the *TYPE*, 26.ii.1937, 1 ♂, 5.xii.1937, 1 ♂, Passe des Indies, 1.1937, 1 ♀, (All *Fritz Plaumann*).

Type in the British Museum (Nat. Hist.).

This is the most brilliantly coloured and largest Microgasterine known to me. At first sight it could easily be mistaken for a member of the cyclostome subfamily Braconinae.

PRASMODON gen. n.

Type-species : *Prasmodon eminens* sp.n.

Shape of antenna short. Ocelli in a high, almost equilateral triangle. Side of pronotum without trace of a dorsal furrow. Lateral, polished zone of scutellum reduced to a linear band that is not at all convex in the forwards direction. Propodeum with a very strong, medial, longitudinal keel and a transverse keel, that together divide the propodeum into four large areas. Areolet of the fore wing fairly large, having the appearance of being closed externally by the 2nd transverse cubitus alone ; but, judging from the position of the point of emission of the spurious part of the radius, the areolet is, in fact, closed by the short 1st abscissa of the radius, plus the 2nd transverse cubitus ; the 2nd transverse cubitus is reduced to a hyaline point (Text-fig. 242) ; metacarp much longer than its distance from the apex of the radial cell ; radius markedly downcurved at apex ; vannal lobe of hind wing narrow, much attenuated apically, the narrowed apical part darkened (sclerotised ?) and covered thickly with adpressed setae ; the spurious vein closing the 2nd cubitellian cell of the hind wing hardly indicated. Inner spur of the hind tibia reaching to about middle of hind basitarsus ; hind coxa moderately large, smooth.

This genus is highly aberrant though I have no doubts that it is correctly placed in the Microgasterini. It probably represents a line of development that must have

diverged early in the evolution of the tribe. I am at a loss to suggest a relationship with any particular genus, though I think it should be mentioned that the deep notaulices and very short first abscissa of the discoideus point to an affinity with the *Microplitis* group of genera. These resemblances, however, may indicate only a deceptive convergence.

***Prasmodon eminens* sp. n.**

♂. Entirely fulvous-red. Legs yellowish red with the hind tibia at apex and the hind tarsus throughout, blackened. Wings smoky. Antenna broken but segment 16 yellow and indicating that the brown flagellum has a contrasting yellow apex.

Head deep from back to front, smooth, virtually impunctate; its sides behind the eyes almost straight (Text-fig. 246). Pubescence of flagellum extremely short, not upstanding.

Keels of the propodeum strongly raised; the areas enclosed by them smooth. Claws with a few fine, colourless pectinations at base.

Tergite 1 about two and one third times longer than its greatest width (at base). The membranous anterior corner of tergite (2 + 3) is separated from the rest of the tergite by a smooth, raised ridge; tergite (2 + 3) smooth, shining, and without a delimited basal field.

Length: 5 mm.

PERU: Chanchamayo, 18.viii.1949, 1 ♂, the TYPE, (*J. S. Schunke*).

Type in the British Museum (Nat. Hist.).

***SEMIONIS* gen. n.**

Type-species: *Semionis rarus* sp.n.

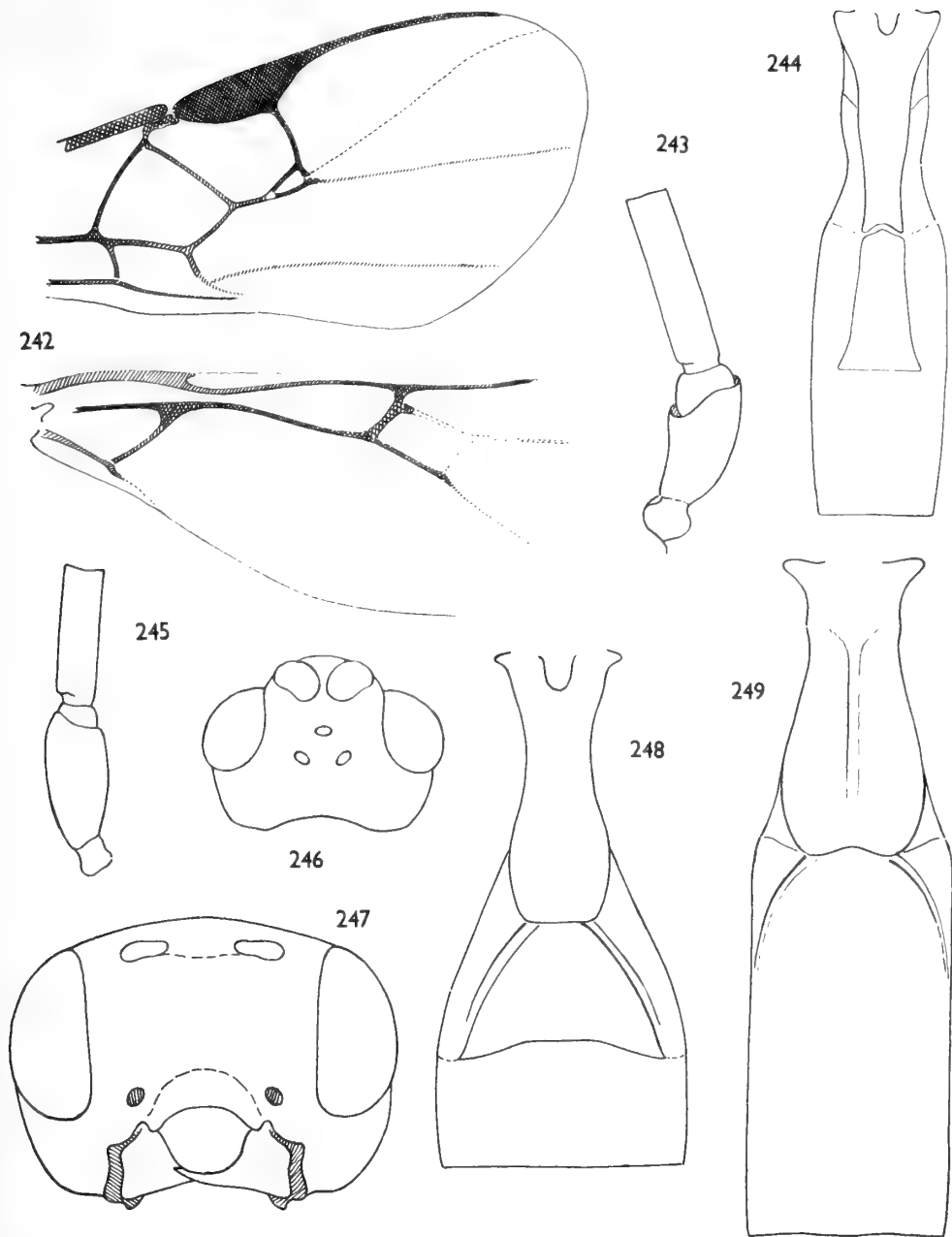
Head large, deep from back to front. Mandibles unusually wide at base (Text-fig. 247). Palpi very short, the labial palpus 3-segmented. Antenna with 18 segments; scape short. Ocelli in a high, almost equilateral triangle.

Side of pronotum without a dorsal furrow. Lateral, polished zone of the scutellum only feebly convex in the forwards direction; hence cutting off between itself and the disc of the scutellum a tongue-shaped rugose area that is nowhere parallel-sided. Propodeum having a flattened, polished appearance, completely without areolation and medially completely smooth. Transverse cubitellan vein of the hind wing wanting; 1st abscissa of the discoideus of the fore wing about half as long as the 2nd. Claws simple.

In lacking the spurious transverse cubitellan vein of the hind wing, this species is almost transitional between the Microgasterini and the Cardiochilini, though on a majority of characters it has much more in common with the former tribe than with the Cardiochilini. In the Cardiochilini, the labial palpus is 4-segmented; the antenna is multiarticulate, deep notaulices are present and the shape of the 1st tergite is essentially different from what occurs in *Semionis*. The shape of the 1st cubital cell is quite different in the Cardiochilini.

***Semionis rarus* sp. n.**

♂. Blackish; face slightly paler along the inner orbits; tergite 1 and rather more than the basal half of tergite (2 + 3) yellowish, with tergite 1 showing darker suffusion where it turns over. Hind coxa brown but paler apically; hind femur and hind tibia yellow; hind tarsus weakly infuscate. Wings slightly embrowned; the venation evenly dark brown. Mandibles and labrum yellow.



FIGS. 242-249. 242, *Prasmodon eminens* sp. n., ♂, fore wing; 243, *Parenion kokodana* (Wilkinson), ♀, first three antennal segments; 244, *Sendaphne sulmo* sp. n., ♀, basal tergites; 245, *Sendaphne olearus* sp. n., ♀, first three antennal segments; 246, *Prasmodon eminens* sp. n., ♂, head, from above; 247, *Semionis rarus* sp. n., ♂, head, from beneath; 248, *Larissimus cassander* sp. n., ♀, basal tergites; 249, *Parenion kokodana* (Wilkinson), ♀, basal tergites.

Head smooth, shining. Mesoscutum smooth, shining, its pubescence rather conspicuous. Suture between the disc of the scutellum and the mesoscutum very shallow, inconspicuous. Propodeum with a certain amount of rugosity towards sides and more especially around the spiracle. Mesopleurum with a deep, smooth sternaulus, which is about as long as the middle basitarsus.

Tergite 1 strongly narrowed from base to apex, highly polished, its large basal part highly shining and bare. Median field of tergite (2 + 3), having the form of an equilateral triangle but its posterior corners indistinct.

Length: 3 mm.

S. AFRICA : Cape Province, Mossel Bay, viii.1921, 1 ♂, the *TYPE*, (R. E. Turner).
Type in the British Museum (Nat. Hist.).

PARENION gen. n.

Type-species : *Microgaster kokodana* Wilkinson.

Scape long (Text-fig. 243). Side of pronotum without trace of a dorsal furrow. Disc of scutellum polished, strongly convex. Propodeum somewhat depressed along the middle and with medial keel ; each half highly polished and markedly convex. Stigma narrow, emitting radius far distal to middle ; 1st abscissa of the radius as long as the 1st transverse cubitus, the two veins together forming a strongly, almost semicircularly, curved vein ; areolet extremely small (Text-fig. 250). Inner spur of the hind tibia very powerful, about three quarters as long as the hind basitarsus ; hind coxa very large. Ovipositor very short, its sheaths about as long as the 2nd segment of the hind tarsus. Hypopygium evenly sclerotised all over.

The essential characters of the genus lie in the wing-venation, especially that of the hind wing. The general facies, large hind coxae, short ovipositor and evenly sclerotised hypopygium indicate a fairly close relationship with *Protomicroplitis* s.l.

Parenion kokodana (Wilkinson) comb. n.

Microgaster kokodana Wilkinson, 1936 : 87.

♂♀. Reddish fulvous. Wings rather strongly embrowned. Legs reddish fulvous with the hind tarsus darkening distal to middle.

Top of head polished, impunctate. Mesoscutum strongly, rather coarsely punctate. Hind coxa sharply punctate on a very shiny surface. Tergite 1 slightly widened from base to apex, about two and a half times longer than wide, with weak medial furrow, its surface uneven by reason of a few elongate pits and depressions. Tergite (2 + 3) without a delimited medial field at base but with a lateral groove isolating both the anterior corner of the segment and the extreme lateral margin (Text-fig. 249).

Length: ca. 4 mm.

PAPUA.

Type in the British Museum (Nat. Hist.).

As a species, *Parenion kokodana* is remarkably distinct and without close allies.

HYPOMICROGASTER Ashmead gen. rev.

Hypomicrogaster Ashmead, 1898 : 166.

Microgaster Latreille ; Muesebeck, 1922 : 20.

Type species : *Microgaster zonaria* Say. Monobasic.

In 1922, Muesebeck wrote that the type of *zonaria* Say was lost and published *Protapanteles recurvariae* Ashmead as a synonym of it. He has been good enough to send me specimens of *recurvariae* and I have based my conception of *Hypomicrogaster* on this species.

In order to find a means of dividing up the large number of species from all parts of the world falling within the loose definition of *Microgaster* auctt., I have found it convenient to make use of *Hypomicrogaster*. I have accepted the genus in a wide sense, splitting it into various species-groups. The resulting arrangement may be somewhat artificial but I hope it will provide at least a working foundation from which further investigations may be made.

KEY TO SPECIES-GROUPS
FEMALES

- 1 Metacarp very short, hardly longer than its distance from the apex of the radial cell.
Antenna short, thick; mesoscutum highly polished, impunctate; tergite 1 considerably longer than wide, more or less parallel-sided and almost polished; ovipositor sheath hardly more than half as long as the hind tibia. Europe.
wesmaeli-group (p. 210)
- Metacarp much longer than this 2
- 2 Propodeum with a more or less distinct areola and costula, the areola usually poorly defined and traversed by irregular keels and rugae.
Areolet very small, sometimes reduced to a mere slit; 2nd transverse cubitus always arising from the 1st transverse cubitus; inner spur of the hind tibia considerably longer than half the hind basitarsus 3
- Propodeum without either areola or costula 4
- 3 Tergite 1 distinctly narrowed behind, dull, coarsely rugose; areola deep and more or less smoothly excavated. Brazil **virbius-group** (p. 210)
- Tergite 1 not at all narrowed behind, usually slightly widened here; somewhat shiny and, where it turns over, usually with well defined punctuation; areola, if defined at all, shallow, very irregular in outline and often divided by a weak, longitudinal keel. American continent **zonaria-group** (p. 212)
- 4 Areolet very small, the 2nd transverse cubitus arising from the 1st at a considerable distance proximal to the junction of the 1st and 2nd abscissa of the radius.
Tergite 1 always very distinctly narrowed behind; propodeum with strong, medial keel. Indo-oriental region **psarae-group** (p. 217)
- Areolet much larger, the 2nd transverse cubitus arising from the 2nd abscissa of the radius or interstitial with this (but see *laurae* de Saeger in *vacillatrix* group) 5
- 5 Hind spurs short, subequal 6
- Hind spurs not subequal, the inner one always considerably longer than the outer one.
Propodeum with a medial keel but never with trace either of costula or areola; tergite 1 always strongly narrowed behind, more or less wedge-shaped. Old World
vacillatrix-group (p. 219)
- 6 Propodeum coarsely rugose and with a strong, medial keel; side of pronotum with foveate, dorsal furrow (Text-fig. 262); radial cell markedly downcurved at apex.
Wings strongly darkened; hind coxa and hind tibia black and in sharp contrast with the bright yellow femur which is merely tipped with black. Australia
epaphus-group (p. 215)
- Propodeum in greater part smooth and without a medial keel; at most some rugosity surrounding the posterior orifice; side of pronotum without trace of a dorsal furrow; radial cell not markedly downcurved at apex.

- Ocelli in a moderately high triangle, the posterior, transverse tangent to the anterior ocellus hardly touching the hind pair 7
- 7 Mesoscutum and upper part of side of pronotum bright reddish-yellow ; rest of thorax black ; disc of scutellum polished, impunctate, bare, slightly projecting behind over the basal part of the postscutellum ; posterior extremities of the lateral, rugose tongues of the scutellum widely separated behind (Text-fig. 257). Tasmania
resplendens-group (p. 216)
- Thorax entirely black ; disc of scutellum with at least an indication of punctures, hairy all over, not projecting over the basal part of the postscutellum ; distance between the posterior extremities of the lateral, rugose tongues of the scutellum much shorter. Australia *morata-group* (p. 217)

THE *WESMAELI*-GROUP

Monobasic.

Hypomicrogaster wesmaeli (Ruthe) **comb. n.**

Microgaster wesmaeli Ruthe, 1860 : 148.

This is a remarkable little species, without close allies so far as I know and perhaps not very naturally placed in *Hypomicrogaster*.

♀. Ocelli in a high triangle, with the posterior, transverse tangent to the anterior ocellus passing far in front of the posterior pair ; further, the ocelli are small, the posterior ocellus being separated from the eye-margin by about three and a half times its own diameter. Top of head, mesoscutum and disc of scutellum highly polished. Propodeum vaguely rugose and with a more or less clearly defined, short, basal keel. Stigma short, rather broad. Inner spur of the hind tibia slightly more than half as long as the hind basitarsus. Median field of tergite (2 + 3) subrectangular.

EUROPE.

Location of type unknown.

THE *VIRBIUS*-GROUP

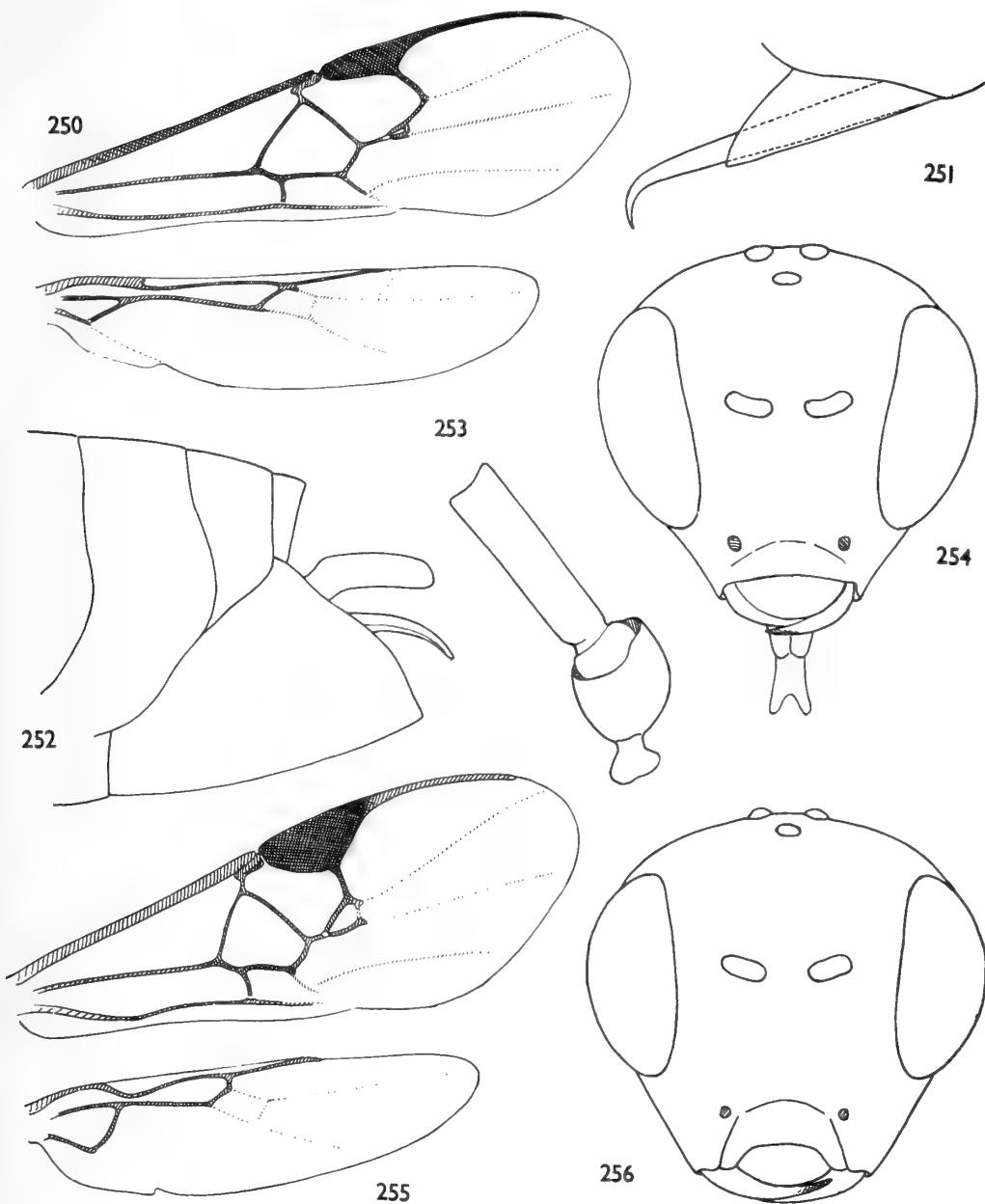
Monobasic.

Hypomicrogaster virbius **sp. n.**

♀. Black ; tergite (2 + 3) except for the median field, yellow. Scape yellow. Clypeus somewhat yellow medially. Front and middle legs yellow ; hind coxa and hind femur, except at tip of femur, yellow ; hind tibia on apical third and hind tarsus throughout, infuscate. Wings faintly tinted with brown ; venation brown throughout ; setae brown.

Face smooth, impunctate but with a pronounced satin-like sheen. Vertex between the ocelli and the eye-margin with only the merest trace of punctation and the satin-like sheen. Antenna about as long as the body with segment 17 one and one third times as long as wide ; flagellum with somewhat upstanding, bristly pubescence.

Mesoscutum dull, with satin-like sheen ; with heavy but very superficial punctation ; the course of the notaulices is very slightly impressed and the punctures here are larger and virtually contiguous. Disc of scutellum smooth with satin-like sheen and with the merest trace of punctation towards sides ; lateral, polished zone of scutellum pushed far forwards and cutting off between itself and the disc a long narrow furrow. Areola of the propodeum large (Text-fig. 259). Areolet minute (Text-fig. 261) ; vannal lobe of the hind wing very slightly concave beyond its widest part and here without trace of a hair-fringe. Inner spur of the hind tibia



FIGS. 250-256. 250, *Parenion kokodana* (Wilkinson), ♀, wings; 251, *Miropotes creon* sp. n., ovipositor; 252, *Larissimus cassander* sp. n., ♀, apex of gaster, lateral; 253, *Dasylagon simulans* Muesebeck, ♀, first three antennal segments; 254, *Promicrogaster spilopterus* sp. n., ♀, head, from in front; 255, *Hypomicrogaster ceto* sp. n., ♀, wings; 256, *Promicrogaster prater* sp. n., ♀, head, from in front.

white, much longer than the outer one and distinctly reaching beyond the middle of the hind basitarsus ; hind tarsus having a somewhat bristly appearance.

Tergite 1 twice as long as its middle width, hardly narrowed behind, humped longitudinally where it turns over and its posterior, horizontal surface as long as wide, dull, densely, coarsely rugose. Ovipositor sheath about three quarters as long as the hind tibia.

Length: ca. 3.2 mm. without ovipositor.

BRAZIL : Nova Teutonia, viii.1935, 1 ♀, the *TYPE*, (*Plaumann*).

Type in the British Museum (Nat. Hist.).

This insect is hardly more than an isolated species within the *zonaria*-group, differing from it only in the stronger development of the propodeal areolation and the shape and sculpture of tergite 1. Unlike the species of the *zonaria*-group, the occipital region in *virbius* is in no way differentiated from the vertex, the two regions flowing smoothly into each other.

THE ZONARIA-GROUP

This group contains the typical species of *Hypomicrogaster* and seems to be confined to the American continent.

Flagellum with a characteristic bristly appearance. Ocelli in a low triangle, the posterior, transverse tangent to the anterior ocellus cutting the posterior pair. Occipital region gently scooped out, the resultant polished area more or less delimited by being pushed forwards in front right up to, and virtually touching, the posterior ocelli ; and delimited at sides by the distinctly punctate temples. Pronotum with a dorsal furrow. Mesoscutum polished, punctate ; never with satin-like sheen. Propodeum short, its areolation almost always irregular and poorly defined ; if the propodeum shows a distinct postero-lateral field, then this is always distinctly transverse. Inner spur of the hind tibia reaching at least considerably beyond the middle of the hind basitarsus ; inner spur of the middle tibia very strong and distinctly longer than the middle basitarsus. Areolet of the fore wing always very small, the 2nd transverse cubitus received onto the 1st at a considerable distance from the junction of the 1st abscissa of the radius and the 1st transverse cubitus. Ovipositor projecting freely, its sheaths at least half as long as the hind tibia. Tergite 1 never narrowed behind.

Muesebeck (1958 : 412) recognised the homogeneity of this group and suggested that if more information were available it might be advisable to give it generic rank. He gave a key to the five neotropical species known to him, all apparently closely related and difficult to separate. Of these five, only *imitator* Ashmead is known to me. It is possible that some of the species I now introduce as new will later fall as synonyms of those dealt with by Muesebeck.

The scooped-out occipital region is characteristic of all the species I include in the key below (but head lost in type of *imitator* Ashmead). It does not occur in any of the other species-groups I have placed in *Hypomicrogaster*.

All the species keyed below have the face conspicuously but somewhat shallowly rugose-punctate and the mesoscutum highly polished with moderately sharp, well separated punctures. Further, the legs are predominantly bright yellow with the hind femur yellow except for faint apical infuscation.

KEY TO SPECIES

FEMALES

- 1 Whole body virtually entirely reddish-yellow with only the head black and the gaster with some dark markings apically 2
- At least the propodeum and the 1st tergite blackened 3
- 2 Ovipositor sheath fully as long as the hind tibia ; mesoscutum, especially posterior to the tegulae, very narrowly margined with black.

Head blackish with the clypeus yellowish ; fore wing faintly darkened distal to the areolet ; tergites 4-6 with a brown band ; the bands widen medially, leaving on each side of the gaster a transverse yellow mark ; inner spur of the middle tibia very powerful, very distinctly longer than the middle basitarsus ; gaster rather more elongate than in the other species ; tergite 1 highly polished and with a few, large, shallow pits **ecus** sp. n.

BRAZIL: Nova Teutonia, 29.vi.1938, 1 ♀, the TYPE, (Plaumann). Type in the British Museum (Nat. Hist.).

- Ovipositor sheath hardly three quarters as long as the hind tibia ; mesoscutum entirely reddish-yellow.
- Head missing, but black according to Ashmead, except face ; wings hyaline ; median cell of fore wing very sparsely hairy (setae rubbed off ?) ; propodeum with well defined areola and equally well defined, postero-lateral areas ; the areola is divided into two parts by a longitudinal keel, a condition more or less typical of the group ; tergite 1 very distinctly widened behind, its horizontal surface with scattered, deep pits ; these are much more obvious than in *ecus* **imitator** (Ashmead)³⁷
- 3 Thorax blackish, at most with a pale spot at each posterior corner of the mesoscutum 4
- Thorax reddish-yellow or at least testaceous with darker suffusion posteriorly.

Hind coxa entirely yellow 7

- 4 Median field of tergite (2 + 3) twice as wide as long (Text-fig. 268) ; tergite 1 narrow, fully twice as long as wide, polished and with hardly a trace of punctation.
- Hind coxa entirely yellow ; mesoscutum with pale spot at each posterior corner ; median field of tergite (2 + 3) and most of the segment posterior to the field, bright reddish-yellow ; ovipositor very short, about half as long as the hind tibia

acarnas sp. n.

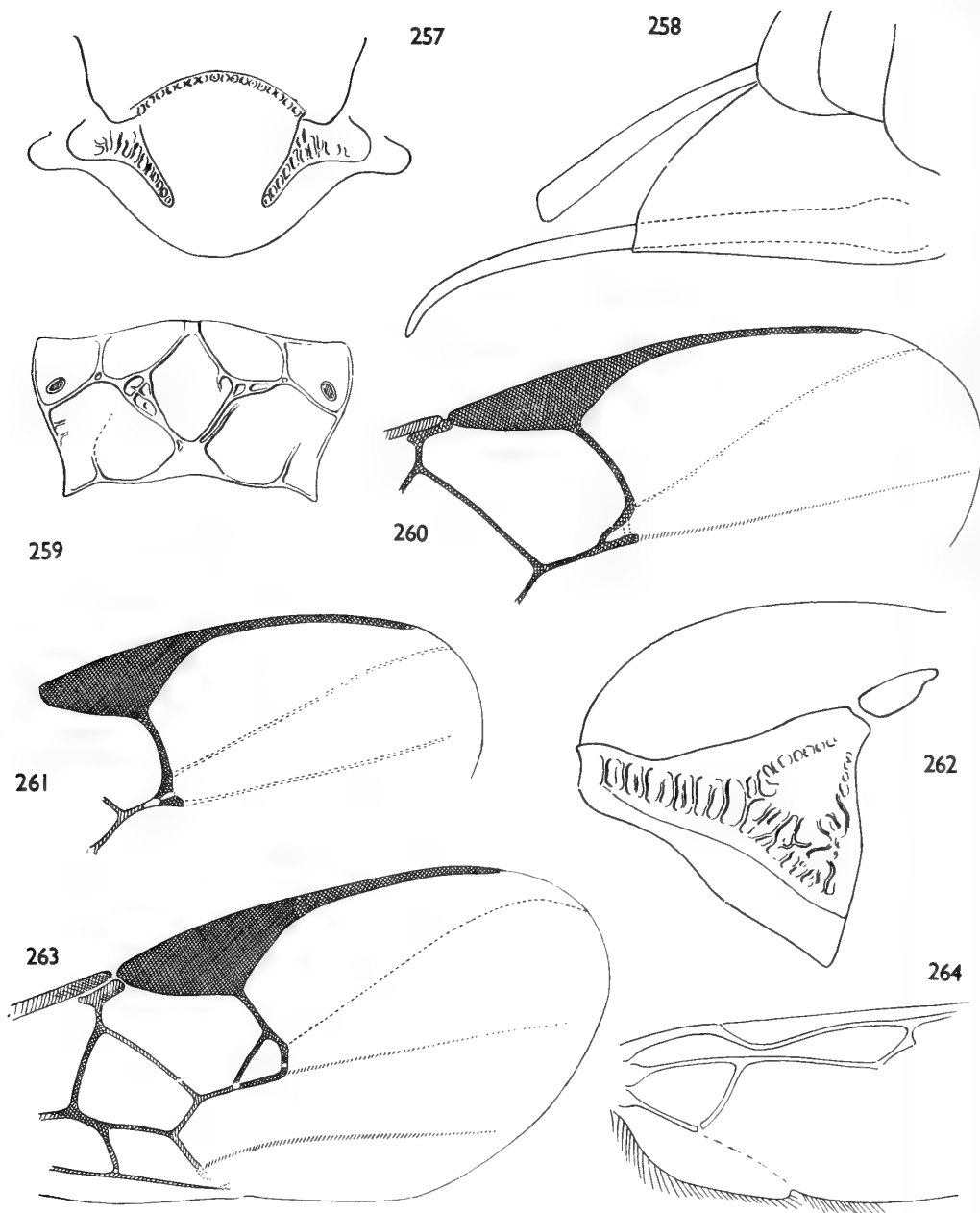
BRAZIL: Nova Teutonia, 11.v.1938, 1 ♀, the TYPE, (Plaumann). Type in the British Museum (Nat. Hist.).

- Median field of tergite (2 + 3) always more transverse than this, fully three times as wide as long ; tergite 1 shorter, less narrow and with more punctation or rugose-punctation on its horizontal part 5
- 5 Hind coxa entirely yellow ; inner spur of the middle tibia weaker, not longer than the middle basitarsus.

Tergite 1 quite strongly narrowed behind ; ovipositor sheath about two thirds as long as the hind tibia ; wings clear hyaline ; tergite (2 + 3) yellow or testaceous **zonaria** (Say)³⁸

N. AMERICA. Type lost.
Host: *Recurvaria piceaella* Kearfott and *R. thujaella* Kearfott (Gelechiidae), (Muesebeck, 1922).

³⁷ *Urogaster imitator* Ashmead, 1900 : 288.
Apanteles imitator (Ashmead) Muesebeck, 1920 : 504.
Microgaster imitator (Ashmead) Wilkinson, 1930a : 157.
Microgaster imitator (Ashmead) ; Muesebeck, 1958 : 413.
Hypomicrogaster imitator (Ashmead) **comb. n.**
³⁸ *Microgaster zonaria* Say, 1836-7 : 263.
Protapanteles recurvariae Ashmead 1903 : 144 [Syn. Muesebeck, 1922 : 24]
Microgaster recurvariae (Ashmead) Muesebeck, 1920 : 570.
Hypomicrogaster zonaria (Say) **comb. n.**



FIGS. 257-264. *Hypomicrogaster*: 257, *resplendens* (Wilkinson), ♀, scutellum; 258, *morata* (Wilkinson), apex of gaster, lateral; 259, *virbius* sp. n., ♀, propodeum; 260, *papua* (Wilkinson), ♂, fore wing, part; 261, *virbius* sp. n., ♀, fore wing, part; 262, *epaphus* sp. n., ♀, side of pronotum; 263, same, fore wing, part; 264, *ceto* sp. n., ♀, hind wing, part.

- Hind coxa infuscate at least on basal third ; inner spur of the middle tibia stronger, distinctly longer than the middle basitarsus 6
- 6 Hind coxa infuscate on less than basal half ; ovipositor sheath longer, hardly shorter than the hind tibia ; 1st abscissa of the radius longer ; bristly pubescence of the flagellum very slightly longer **acotes** sp. n.
BRAZIL: Nova Teutonia, 12.iv.1938, 1 ♀, the TYPE, (Plaumann). Type in the British Museum (Nat. Hist.).
- Hind coxa blackened on about basal half ; ovipositor sheath shorter, about two thirds as long as the hind tibia ; 1st abscissa of the radius shorter ; bristly pubescence of flagellum very slightly shorter **tydeus** sp. n.
BRAZIL: Nova Teutonia, 12.v.1938, 2 ♀♀, one the TYPE, iv.1938, 3 ♀♀, 5.vii.1937, 1 ♀, 17.xi.1938, 1 ♀, (Plaumann). Type in the British Museum (Nat. Hist.).
Distinguishable from *zonaria* only on colour of hind coxa and stronger spurs of middle legs.
- 7 Mesoscutum more or less testaceous with a darker flush posteriorly, from which two dark streaks extend forwards along the imaginary course of the notaulices.
Disc of scutellum darkened like the posterior part of the mesoscutum ; medial field of tergite (2 + 3) brownish ; tergite 1 markedly widened behind (Text-fig. 270) its horizontal part covered with large, well separated, pit-like punctures. Smallest of included spp., ca. 2.5 mm. without ovipositor **metris** sp. n.
BRAZIL: Nova Teutonia, 3.vii.1937, 2 ♀♀, one the TYPE, 16.ix.1938, 1 ♀, (Plaumann). Type in the British Museum (Nat. Hist.).
- Mesoscutum bright reddish-yellow ; if it shows a darker flush then this is situated anteriorly 8
- 8 Horizontal part of tergite 1 almost smooth, with faint, satin-like sheen and at most with fine, widely scattered punctures on its horizontal part ; ovipositor short, hardly two thirds as long as the hind tibia.
Variable in colour ; sometimes tergite 1 paler medially, tergite 4 as brightly yellow as tergite (2 + 3) and the more apical tergites yellow laterally ; mesoscutum yellow **moscus** sp. n.
BRAZIL: Nova Teutonia, 19.v.1938, 1 ♀, the TYPE, 7.iv.1938, 1 ♀, 23.iv.1938, 1 ♀, 18.v.1938, 1 ♀, 3.x.1938, 1 ♀, (Plaumann). Type in the British Museum (Nat. Hist.).
- Horizontal part of tergite 1 with large, well separated punctures over most of its surface ; towards posterior corners, the outline of the punctures is obscured by striate-rugosity ; ovipositor considerably longer, fully as long as the hind tibia.
The yellow and black areas more sharply contrasted than in *moscus* ; propodeum intensely black ; antenna relatively longer than in *moscus* ; mesosternum reddish-yellow in type, darker in front and with a dark streak along each side ; mesosternum entirely reddish-yellow in 2nd female ; outer, upper face of hind tibia rather coarsely rugose-striate ; in *moscus*, this part is polished with scattered punctures **solox** sp. n.
BRAZIL: Nova Teutonia, 17.viii.1937, 1 ♀, the TYPE, 4.viii.1938, 1 ♀, (Plaumann). Type in the British Museum (Nat. Hist.).

THE EPAPHUS-GROUP

Monobasic.

***Hypomicrogaster epaphus* sp. n.**

♀. Head and thorax entirely black. Gaster bright yellow throughout. Wings deeply embrowned ; to the naked eye, both front and hind wings are markedly paler on about basal third.

Head above smooth, shining and virtually impunctate. Ocelli in a moderately high triangle, the posterior transverse tangent to the anterior ocellus hardly touching the posterior pair.

Antenna about as long as the body, with the preapical segment one and two thirds as long as wide.

Mesoscutum conspicuously but finely punctate on anterior half ; between the mesoscutum and the disc of the scutellum a wide, coarsely, deeply costate furrow. Lateral, polished zone of the scutellum only very weakly convex in the anterior direction (in this respect markedly different from group of *zonaria*). Radius strongly downcurved at apex ; 1st abscissa of the discoideus about two thirds as long as the 2nd (Text-fig. 263) ; vannal lobe with distinct hair-fringe throughout.

Tergite 1 polished throughout. Ovipositor sheath about one and a half times longer than the hind tibia ; ovipositor itself rather thick, evenly and slightly downcurved at apex.

Length: ca. 3.5 mm. without ovipositor.

AUSTRALIA : S.E. Queensland, Tambourine Mts., 1-19.v.1935, 1 ♀, the *TYPE*, (*R. E. Turner*) ; F. C. T., Blundell's, 23.iii.1930, 1 ♀, (*I. M. Mackerras*).

Type in the British Museum (Nat. Hist.).

A most distinctive species on colour alone. I have met with no species with which it could be confused.

THE *RESPLENDENS*-GROUP

Monobasic.

Hypomicrogaster resplendens (Wilkinson) **comb. n.**

Microgaster resplendens Wilkinson, 1929 : 106.

♀. Mesoscutum, tergite 1, the median field of tergite (2 + 3) and the whole of the underside of the gaster bright yellow ; the body otherwise black. Hind coxa and hind femur yellow ; hind tibia infuscate at apex, the infuscation more extensive on outer side.

Top of head smooth, shining, virtually impunctate. Ocelli in a moderately high triangle, the posterior tangent to the anterior ocellus passing slightly in front of the other pair. Antenna rather thin, hardly as long as the body, with segment 17 about one and one third times longer than wide ; pubescence of flagellum somewhat bristly.

Mesoscutum highly polished and with only very superficial punctation. Scutellar disc slightly extended backwards to cover the base of the postscutellum ; the posterior extremities of the lateral rugose areas unusually wide apart (Text-fig. 257). Suture between the mesoscutum and the disc of the scutellum shallow, markedly convex in the forwards direction and consisting of an even row of numerous, small foveae. Areolet of the fore wing 4-sided, the 2nd transverse cubitus received onto the base of the 2nd abscissa of the radius. Vannal lobe with fringe of long sparse hairs throughout. Propodeum smooth, polished anterior half.

Tergite 1 with traces of rugosity on its posterior, turned over part. Ovipositor sheath broken, but judging from the length of the ovipositor, fully twice as long as the hind tibia.

Length: 3 mm. without ovipositor.

S. TASMANIA : Mt. Wellington, *TYPE* ♀ only.

Type in the British Museum (Nat. Hist.).

It is difficult to point to a relationship with any other group of species within *Hypomicrogaster*. On the shape of the areolet and the shape of the basal tergites, *resplendens* could not be excluded from the *vacillatrix*-group. But the species I put in this latter group have the hind spurs markedly different in length and the propodeum almost always with a medial keel.

The general appearance of the disc of the scutellum is the most striking feature of this species.

THE *MORATA*-GROUP

The two species I include in this group are not very closely related and the only difference of value between them as a group, and *resplendens* lies in the fact that they have a normal scutellar disc.

KEY TO SPECIES

FEMALES AND MALES

- A Hypopygium short, evenly sclerotised all over, without a trace of lateral creases; ovipositor sheath hardly two thirds as long as the hind tibia; hind coxa bright yellow; 1st abscissa of the discoideus considerably shorter than the 2nd; tergite 1 bright reddish-yellow, almost subquadrate; vannal lobe beyond its widest part without fringe of hairs.
Ovipositor rather thick (Text-fig. 258); gaster bright reddish-yellow except for the dorsal surface posterior to the 1st tergite; mesoscutum rather coarsely punctate, the punctures anteriorly becoming contiguous. Parameres of the male genitalia unusually large. *morata* (Wilkinson) ³⁹
AUSTRALIA: Victoria. Type in the British Museum (Nat. Hist.).
Host: *Thyridopteryx herrichi* Westwood (Psychidae).
- B Hypopygium long, membranous and tightly folded along the middle line but without lateral, longitudinal creases; ovipositor sheath about one and one third times longer than the hind tibia; hind coxa dark brown but paler at tip; 1st abscissa of the discoideus a little shorter than the 2nd (Text-fig. 225); tergite 1 brown throughout, narrower and with an indication of punctate-rugosity along sides posteriorly; vannal lobe beyond its widest part with distinct fringe of hairs (Text-fig. 264).
Ovipositor much less thick than in *morata*; gaster yellow beneath but the whole of the upper surface brown; mesoscutum, on the whole, with a very fine, superficial punctation. The male has tergite 1 more narrowed behind than the female; the genitalia are without the exaggerated parameres of *morata* *ceto* sp. n.
AUSTRALIA: F. C. T., Blundell's, 1931, 2 ♀♀, one the TYPE, 3 ♂♂, bred, i. 1931, from '*Eriococcus* complex on *Eucalyptus*', (A. L. Tonnoir). Type in the British Museum (Nat. Hist.).

THE *PSARAE*-GROUP

Ocelli in a very low triangle, the transverse, posterior tangent to the median ocellus cutting deeply into the posterior pair. Lateral, polished field of the scutellum not pushed far forwards and hence not cutting off between itself and the disc a long, parallel-sided furrow (cf. *zonaria*-group). First abscissa of the radius much longer than the 1st transverse cubitus; 2nd transverse cubitus received onto the 1st considerably proximal to the junction of the two radial abscissae (Text-fig. 273). Vannal lobe beyond its widest part without a hair-fringe. Propodeum highly polished, and with strong, medial keel (Text-fig. 266). Longer spur of the middle tibia reaching apex of middle basitarsus and terminating in a long bristle.

The species of this group are large, heavily built insects, and some of them are entirely fulvous in colour. They form a very homogeneous unit.

³⁹*Microgaster morata* Wilkinson, 1929 : 106.

Hypomicrogaster morata (Wilkinson) **comb. n.**

KEY TO SPECIES

FEMALES

- 1 Fulvous species with at most the apex of the hind tibia and the whole of the hind tarsus blackened and sometimes the middle of tergite 1; edge of vannal lobe beyond its widest part more or less straight; median field of tergite (2 + 3) less transverse, subtriangular, better defined 2
- At least the thorax in greater part blackish; vannal lobe beyond its widest part concave; median field of tergite (2 + 3) more transverse, very poorly defined laterally.
Face always coarsely rugose-punctate; mesoscutum, except posteriorly, sharply, strongly and distinctly punctate; mouth parts normal; neither glossa nor galea lengthened (Text-fig. 265) 4
- 2 Mouth parts greatly lengthened, the glossa deeply excised and the galea fully twice as long as wide (Text-fig. 269).
Mesoscutum thickly pubescent but polished and without punctation; radius leaving stigma rather far distal to middle; tergite 1 more strongly narrowed to apex than in the next two species and with its distal, turned over part polished; median field of tergite (2 + 3) having a more pronounced subtriangular appearance than in the next two species *apo* (Wilkinson)⁴⁰
PHILIPPINES: Luzon, Mt. Makiling, Atimonan (type locality); Los Baños; Mindanao. Type in the Zoological Museum, Berlin.
- Mouth parts not thus lengthened, the glossa at most slightly excised and the galea much less than twice as long as wide 3
- 3 Mesoscutum, at least over anterior half, thickly and quite conspicuously punctate; stigma emitting radius only slightly beyond middle (Text-fig. 260); fore wing with darkened apex as in the next species but proximal to this still markedly embrowned; head less transverse; face with more distinct evidence of punctation.
Tergite 1 on each side, where it turns over, with a variable amount of rather strong punctation *papua* (Wilkinson)⁴¹
PAPUA: Kokoda (type locality). Type in the British Museum (Nat. Hist.).
There seems to be some variation in the point of emission of the radius on the stigma, some specimens showing it rather more distal than others.
- Mesoscutum in front with only the merest trace of punctation; stigma emitting radius more distinctly distal to middle; fore wing proximal to the darkened apex virtually hyaline; head more transverse (Text-fig. 274); face with much less distinct evidence of punctation.
Antennal sockets more deeply set than in *papua*, the surface behind each socket somewhat hollowed out so that the rim of the socket is raised; the suture between the mesoscutum and the disc of the scutellum is divided by three costae, of which the middle one is the strongest, into four large foveae; in *papua* only the middle costa is developed (too much importance should not be placed on this difference between the species) *nephta* sp. n.
PHILIPPINES: Mindanao, Dapitan, 1 ♀, the TYPE, (Baker). Type in the U.S. National Museum.
This species is very closely related to *papua* but the differences seem to be sufficiently strong to justify a specific name. The apex of the hind tibia in *nephta* and the whole of the hind tarsus is blackened; tergite 1, where it turns over, is broadly darkened along the middle.

⁴⁰*Microgaster apo* Wilkinson, 1929: 108.*Hypomicrogaster apo* (Wilkinson) **comb. n.**⁴¹*Microgaster papua* Wilkinson, 1936: 86.*Hypomicrogaster papua* (Wilkinson) **comb. n.**

4 All the coxae dark, the hind pair virtually black ; tergite 1 not strongly narrowed posteriorly ; its apical width fully two thirds its greatest width (near base).

Very dark species ; abscissa 1 of the radius longer than in the next two species and straight ; gaster, except sides of tergite 1, and beneath, entirely dark ; hind spurs brown ; areolet almost round ; larger than both *psarae* and *botydis*, ca. 6 mm. without ovipositor **libanius** sp. n.

PHILIPPINES: Mindaña, Surigao, 1 ♀, the TYPE, 1 ♂, (*Baker*). Type in the U.S. National Museum.

- At least the front and middle coxae entirely yellowish and the hind pair pale at least at base ; tergite 1 more narrowed posteriorly or entirely yellow 5

5 Tergite 1 entirely yellow and apically about two thirds as wide as its greatest width ; gaster almost entirely yellow, darkening occurring only across the median field of tergite (2 + 3) or at middle of all tergites ; hind femur entirely reddish-yellow ; hind coxa darkened only on outer side apically ; head, in a facial view, not at all elongate ; mouth parts (Text-fig. 265) ; basal tergites (Text-fig. 276) ; fore wing (Text-fig. 273) **psarae** (Wilkinson)⁴²

MALAYA. SIAM. Type in the British Museum (Nat. Hist.).

Host: *Psara bipunctalis* F. (Pyralidae).

- Tergite 1 darkened on its turned over apical part, much more narrowed behind and at apex about half as wide as its greatest width ; within its excavated basal part it is contrastingly reddened ; gaster in greater part dark, broadly yellow along sides of tergite 1 and all over its ventral surface at base ; hind femur entirely brown ; hind coxa dark on about apical half, pale yellow towards base and, on outer side, with a tongue of darker colour extending into the yellow ; head, in a facial view, decidedly elongate (Text-fig. 267).

The turned over, posterior part of tergite 1 is strongly, almost confluent punctate **botydis** (Wilkinson)⁴³

SUMATRA. Type in the British Museum (Nat. Hist.).

Host: *Botys marginalis* Warren on *Ipomaea* sp. and *Spilanthes acmella*. The name of the host is possibly an error for the Pyralid, *Psara marginalis* Warren (teste Wilkinson).

The bicoloured 1st tergite and its strong, posterior constriction are characteristic features of this species ; the ovipositor sheath is longer than in *psarae* but the two species are otherwise very closely and naturally related.

THE VACILLATRIX-GROUP

KEY TO SPECIES

FEMALES

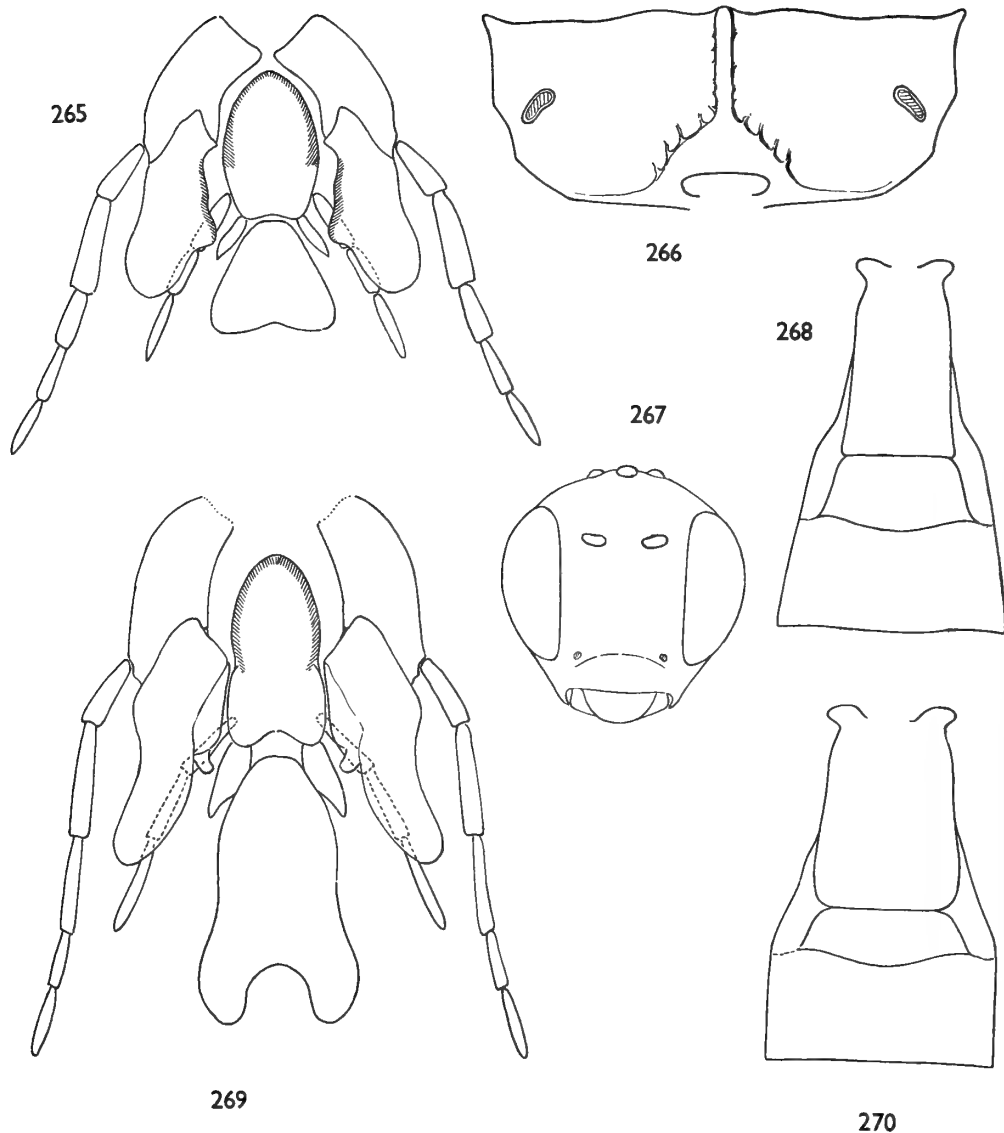
- 1 Flagellar segments 6-7, and sometimes 8, whitish ; hypopygium as heavily sclerotised along the middle line as elsewhere and not tightly folded here ; laterally without longitudinal creases. Africa **laurae** de Saeger (p. 223)
- Flagellum never banded with white ; hypopygium thin, membranous and, in death, tightly folded along the middle line ; along each side usually with numerous longitudinal creases 2
- 2 Mesoscutum entirely reddish-yellow 3
- Mesoscutum pale at most posteriorly and along the course of the notaulices 5
- 3 Tergite 1 strongly narrowed behind, wedge-shaped 4

⁴²*Microgaster psarae* Wilkinson, 1927 : 174.

Hypomicrogaster psarae (Wilkinson) **comb. n.**

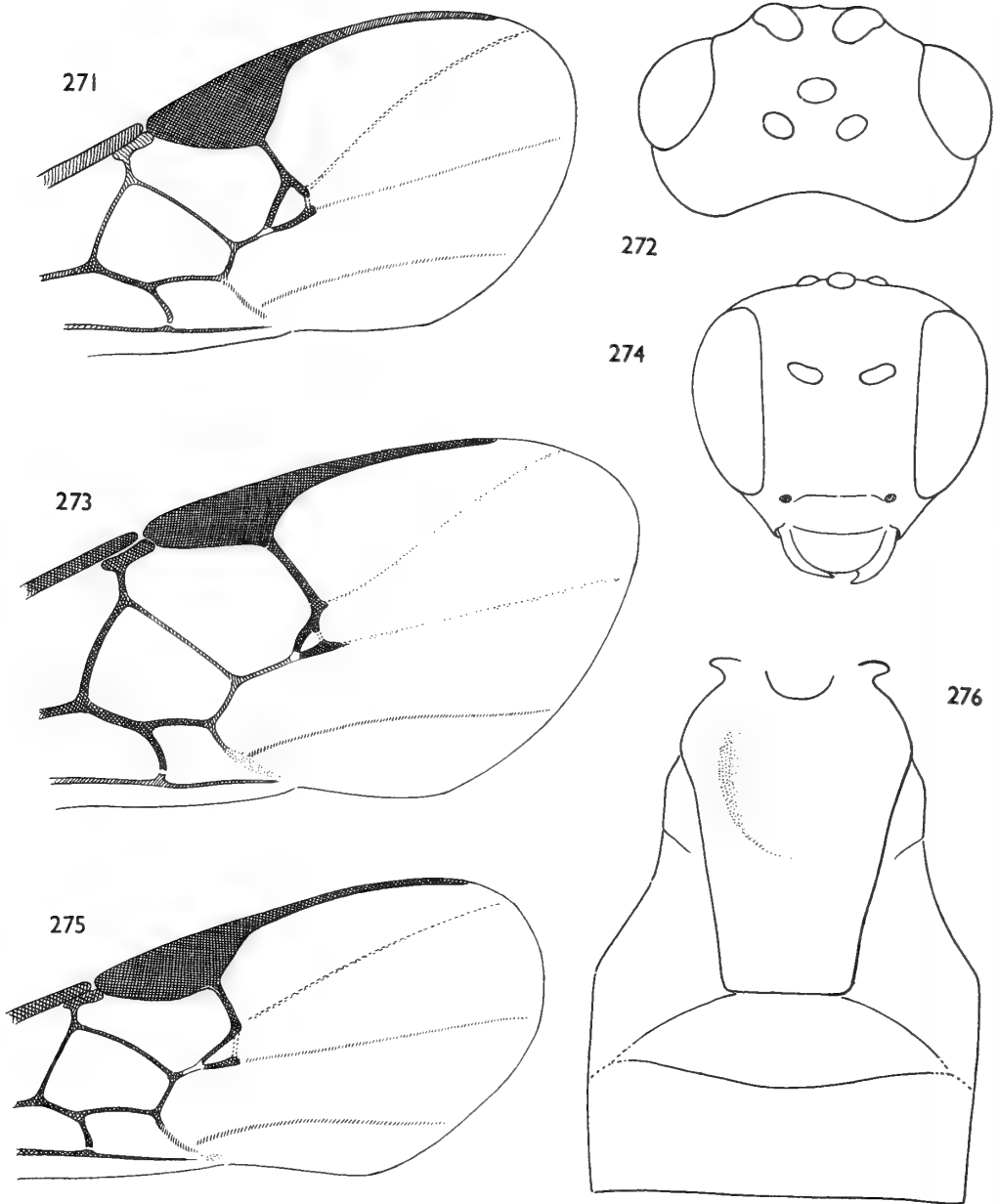
⁴³*Microgaster botydis* Wilkinson, 1930b : 281.

Hypomicrogaster botydis (Wilkinson) **comb. n.**



FIGS. 265-270. *Hypomicrogaster*, ♀: 265, *psarae* (Wilkinson), mouth parts; 266, same, propodeum; 267, *botydis* (Wilkinson), ♀, head, from in front; 268, *acarnas* sp. n., ♀, basal tergites. 269, *apo* (Wilkinson), ♀, mouth parts; 270, *metris* sp. n., ♀, basal tergites.

- Tergite 1 much less narrowed behind (Text-fig. 283) ; not noticeably wedge-shaped.
More than half the hind basitarsus yellow ; stigma short, rather broad (Text-fig. 271) ovipositor sheath fully as long as the hind tibia. Mediterranean region
suffolciensis Morley, var. (p. 228)
- 4 Inner spur of the hind tibia much longer than the outer one and reaching considerably beyond the middle of the hind basitarsus (Text-fig 279) ; mesopleurum blackish ; ovipositor sheath slightly shorter than the hind tibia. S. Africa *fomes* sp. n. (p. 223)
- Inner spur of hind tibia not so much longer than the outer one and hardly reaching beyond the middle of the hind basitarsus (Text-fig 280) ; mesopleurum reddish like the mesoscutum ; ovipositor sheath very slightly longer than the hind tibia. Morocco *semele* sp. n. (p. 224)
- 5 Mesoscutum pale on posterior half, the pale colour extending forwards along the course of the notaulices.
1st abscissa of the discoideus distinctly shorter than the 2nd 6
- Mesoscutum black or very dark brown with faint reddening posteriorly 7
- 6 Tergite 1 entirely reddish-yellow ; areolet of the fore wing 3-sided ; head more transverse (Text-fig. 272). Uganda *vacillatrix* Wilkinson (p. 224)
- Tergite 1 black ; areolet of the fore wing distinctly 4-sided ; head less transverse. S. Africa *apollion* sp. n. (p. 224)
- 7 Tergite 1 bright yellow, very strongly narrowed behind ; pronotal collar yellow and sharply contrasting with the dark brown mesoscutum. India . *irates* sp. n. (p. 225)
- Tergite 1 darkened at least apically and then it is not so strongly narrowed behind as in *irates* 8
- 8 Ocelli forming virtually an equilateral triangle, the distance between the posterior pair hardly less than the diameter of the median ocellus.
Thorax pale, its sides conspicuously reddish ; hind femur yellow ; hypopygium evenly sclerotised almost all over and with hardly a trace of lateral creases. Sierra Leone *helle* sp. n. (p. 225)
- Ocelli not forming an equilateral triangle, the distance between the posterior pair at least slightly greater than the diameter of the median ocellus 9
- 9 Hind femur black.
Tergite 1 not abruptly, roundly narrowed behind 10
- Hind femur yellow or if infuscate, then tergite 1 is abruptly roundly, narrowed behind. Wings brownish ; areolet distinctly 4-sided ; vannal lobe with a conspicuous fringe of hairs 11
- 10 Stigma unusually broad (Text-fig. 271), without a pale proximal blotch ; antenna as long as the body and of ordinary form ; ovipositor sheath fully as long as the hind tibia. Europe. Mediterranean region *suffolciensis* Morley (p. 228)
- Stigma of ordinary form but with a pale proximal blotch ; antenna shorter than the body, very thin, the apical segments very closely articulated and having a smooth, shiny appearance ; ovipositor sheath about three quarters as long as the hind tibia. Tergite 1 hardly narrowed behind. Europe *tiro* Reinhard (p. 229)
- 11 Antenna distinctly thickened apically, with segments 15-17 about one and one third times longer than wide ; face markedly paler than the top of the head ; mesoscutum dark brown with faint reddish flush behind and along the course of the notaulices ; antenna in a low triangle. S. Africa *gerontius* sp. n. (p. 226)
- Antenna not at all thickened apically, segments 15-17 being nearer to one and a half times longer than wide ; face as dark as the top of the head ; mesoscutum evenly black ; antenna in a higher triangle. S. Africa *loretta* sp. n. (p. 226)



FIGS. 271-276. *Hypomicrogaster*: 271, *suffolciensis* (Morley), ♀, fore wing, part; 272, *vacillatrix* (Wilkinson), ♀, head, from above; 273, *psarae* (Wilkinson), ♀, fore wing, part; 274, *nephta* sp. n., ♀, head, from in front; 275, *laurae* (de Saeger), ♀, fore wing, part; 276, *psarae* (Wilkinson), ♀, basal tergites.

***Hypomicrogaster laurae* (de Saeger) comb. n.**

Microgaster laurae de Saeger, 1944 : 61.

I am confident that I have interpreted this species correctly, though the S. African specimens I have examined are all darker in colour than those described by de Saeger.

♀. Hind coxa entirely yellow ; hind femur yellow but darkened along upper surface towards apex ; hind tibia and hind tarsus entirely brown. Body dark brown with the gaster yellowish beneath. Wings markedly smoky.

Ocelli in rather a low triangle, the transverse posterior tangent to the anterior ocellus virtually touching the posterior pair. Flagellum distinctly thickened towards apex, with segments 15-17 about one and third times longer than wide. Face with large, shallow punctures.

Mesoscutum densely, more or less contiguously punctate everywhere. Radius leaving stigma far distal to middle (Text-fig. 275) ; transverse cubitus more or less interstitial with 1st abscissa of radius ; vannal lobe with long fringe throughout.

Tergite 1 turned over far anterior to middle, dull, densely, finely rugose all over (Text-fig. 278). Ovipositor sheath about three quarters as long as the hind tibia.

BELGIAN CONGO : Rwindi (type locality). S. AFRICA : Cape Province, Katberg, 5 ♀♀ ; Zululand, Eshowe, 1 ♀ ; Pondoland, Port St. John, 1 ♀.

Type in Congo Museum, Tervuren.

This species was described by de Saeger as red testaceous. Of the specimens I have before me, only the female from Eshowe is intermediate in colour, having the head, mesoscutum and scutellum pale brown and the underside of the gaster more brightly yellowish than in the other S. African specimens.

This is a most distinct species on account of the pale banded flagellum and the shape of the first tergite. No other species in the group has either of these features.

***Hypomicrogaster fomes* sp. n.**

♀. Gaster entirely reddish-yellow except that the apex of tergite 1 and the median field of tergite (2 + 3) are darkened ; there is also slight medial infuscation on the following tergites. Hind coxa entirely yellow ; hind femur and hind tibia tipped with infuscation ; hind basitarsus pale at base. Wings very faintly tinted.

Face shiny and with hardly a trace of punctation. Ocelli not in a low triangle, the posterior, transverse tangent to the anterior ocellus not touching the posterior pair ; distance between the posterior ocelli twice the diameter of the anterior ocellus. Antenna rather thin, a little shorter than the body, tapering somewhat towards apex and with the preapical segment about one and one third times longer than wide.

Mesoscutum with slight satin-like sheen ; with only very fine, superficial punctation. The two fields of the propodeum highly polished. Areolet distinctly four-sided ; vannal lobe beyond its widest part with faint indication of a hair-fringe.

Tergite 1 quite strongly narrowed behind, its horizontal surface showing a few irregular rugosities. Ovipositor sheath a little shorter than the hind tibia.

Length: ca. 2.8 mm. without ovipositor.

S. AFRICA : Cape Province, Katberg, 1-10.ii.1933, 1 ♀, the *TYPE*, (*R. E. Turner*) ; Transkei, Umtata, 18.ii.-18.iii.1923, 1 ♀, (*R. E. T.*).

Type in the British Museum (Nat. Hist.).

The dark and pale parts of the colour of the hind leg are somewhat sharply contrasted in this species.

***Hypomicrogaster semele* sp. n.**

♀. Very like *fomes*, from which it differs by little more than the characters given in the key. Although the thorax is much more reddened, tergite 1 is darker than in *fomes* and is blackened almost all over. The hind tibia is slightly more infuscate at apex and the segments of the hind tarsus are a little more obviously marked with yellow at base.

Antenna slightly longer and not of such weak build. Areolet virtually triangular; hair fringe of the vannal lobe slightly more distinct. Propodeal keel weak and somewhat obscured by irregular rugosities. Ovipositor sheath fully as long as the hind tibia.

MOROCCO: Rabat, 3 ♀♀, one the *TYPE*, bred from *Simaethis nemorana*.

Type in the British Museum (Nat. Hist.).

Host: *Simaethis nemorana* Hübner (Glyphipterigidae).

This species and *fomes* are closely related and need to be carefully distinguished.

***Hypomicrogaster vacillatrix* (Wilkinson) comb. n.**

Microgaster vacillatrix Wilkinson, 1930a: 155.

♀. Thorax extensively pale-marked, the propodeum being as yellowish as the posterior part of the mesoscutum. Gaster reddish-yellow except for medial infuscation on tergites (2 + 3)–6. Hind coxa and hind femur entirely reddish yellow.

Face shiny, virtually impunctate. Antenna weak, a little shorter than the body, tapered distally and with the preapical segment about one and one third times longer than wide. Posterior transverse tangent to the anterior ocellus hardly touching the posterior pair; posterior ocelli separated by a distance clearly greater than the diameter of the anterior ocellus.

Mesoscutum with faint satin-like sheen and fairly sharply punctate all over. The two fields of the propodeum smooth and polished. Vannal lobe beyond its widest part with distinct hair-fringe.

Tergite 1 shiny and with only faint rugosity on posterior part. Ovipositor sheath as long as the hind tibia.

UGANDA: Kampala (type locality).

Type in the British Museum (Nat. Hist.).

Host: *Filodes productalis* Hampson (Pyraustidae).

***Hypomicrogaster apollion* sp. n.**

♀. This species is extremely like *vacillatrix*. Colour altogether darker, the dark and light areas of the mesoscutum being more sharply contrasted; propodeum blackened; whole of upper surface of gaster darkened.

Face considerably roughened towards the clypeus. Clypeus more transverse than in *vacillatrix*. Thorax less broad than in *vacillatrix* and hence appearing narrower in proportion to the width of head. Punctuation of the mesoscutum finer, less sharp and less distinct.

Length: ca. 2.8 mm. without ovipositor.

S. AFRICA: Pondoland, Port St. John, 1–11.vi.1923, 1 ♀, the *TYPE*, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

Hypomicrogaster irates sp. n.

♀. Head and thorax dark brown ; gaster dark brown beyond tergite 1 in the type series ; almost entirely yellow in other females. Hind femur darkened at extreme tip ; hind tibia becoming infuscate on about apical third. Wings hyaline ; stigma with a faintly paler proximal spot.

Face very shiny, impunctate. Distance between the posterior ocelli hardly greater than the diameter of the median ocellus. Antennae almost as long as the body, fairly thick but slightly tapered towards apex ; flagellum somewhat bristly.

Mesoscutum very shiny and with at most a very superficial punctation. The two fields of the propodeum highly polished. Areolet distinctly four-sided ; 1st abscissa of the discoideus very slightly shorter than the 2nd ; vannal lobe with distinct hair-fringe throughout. Hind spurs whitish, the inner one much longer than the outer one and reaching distinctly beyond the middle of the hind basitarsus ; longer spur of the middle tibia reaching slightly beyond the apex of the middle basitarsus.

Tergite 1 strongly narrowed behind, its sides on the horizontal part straight (Text-fig. 277). Ovipositor sheath hardly more than two thirds as long as the hind tibia.

Length: 2.5 mm. without ovipositor.

INDIA : Bombay, N. Thana, Palghar Range, 3 ♀♀, 2 ♂♂, bred 2-22.x.1942, one the TYPE (♀, 2.x.1942) from *Hapalia machaeralis* defoliating *Tectona grandis* ; Dehra Dun, (1 ♀, bred 28.ix.1943, from *H. machaeralis*, 2 ♀♀, 2 ♂♂, bred 28.vii.-4.viii.1934 from *Sylepta lunalis* defoliating *Lea aspera*.

Type in the British Museum (Nat. Hist.).

Host : *Hapalia machaeralis* Walker ; *Sylepta lunalis* Guenée (Pyraustidae).

This species is superficially very like the African *fomes* differing from it most obviously in colour. Nevertheless, because the 1st abscissa of the discoideus is shorter than the 2nd in *irates*, I am inclined to think that it is more closely related to *vacillatrix* than to *fomes*, which has these abscissae of equal length. The affinities of *fomes* are, I think, with *suffolciensis* and *tiro* rather than with *vacillatrix* and *irates*.

Hypomicrogaster helle sp. n.

♀. Mesoscutum very dark brown to black ; disc of the scutellum slightly paler ; tergite 1 pale on anterior declivous part but becoming darkened on posterior horizontal part ; the underside of the gaster is bright reddish-yellow. Antenna yellowish beneath. Legs entirely yellow except that the hind tibia becomes infuscate on about apical third and the hind basitarsus is more or less infuscate all over.

Head in a facial view somewhat subtriangular (Text-fig. 282).

Face shiny, virtually impunctate. Antenna as long as the body, rather weak, slightly tapered apically, the preapical segment about one and one third times longer than wide ; flagellum markedly bristly.

Mesoscutum with fairly distinct punctation on anterior half. The two fields of the propodeum smooth, shining. Areolet four-sided ; 1st abscissa of the discoideus distinctly a little shorter than the 2nd ; vannal lobe with distinct hair-fringe throughout.

Tergite 1 rather short, not much narrowed behind (Text-fig. 285). Median field of tergite (2 + 3) with weak rugosity similar to that of the horizontal part of tergite 1. Ovipositor sheath a little shorter than the hind tibia.

Length: ca. 2.5 mm. without ovipositor.

W. AFRICA : Sierra Leone, Njala, 9 ♀♀, one the TYPE, bred 9.xi.1930, (*E. Har-*

greaves). U.C. Ibadan, 3 ♀♀, 23 vii.1958, 1♀, 4.x.1957, bred from *Lamprosema indica* (*G. H. Caswell*).

Type in the British Museum (Nat. Hist.).

Host : *Lamprosema indica* Saunders (Pyrilidae).

H. helle seems to be largely characterized by the closeness of the posterior ocelli. This feature, in combination with the colour pattern and the shortness of the first tergite makes it easily separable from the other species belonging to the group.

Hypomicrogaster gerontius sp. n.

♀. Head slightly paler than the thorax. Disc of the scutellum sometimes faintly reddish like the posterior part of the mesoscutum. Gaster dark brown above; the sunken, basal part of tergite 1 is reddish. Hind coxa yellow; hind femur yellow but darkened apically; hind tibia and hind tarsus brown throughout.

The position of the ocelli is somewhat variable; sometimes the posterior, transverse tangent to the anterior ocellus appears to touch the posterior pair; sometimes it passes closely in front of them.

Mesoscutum shiny with faint satin-like sheen; its punctation very superficial, a character by which it differs at once from the closely related *loretta*. Propodeum smooth-looking but not polished; a few strong rugosities towards the posterior margin and near the strong medial keel. The 1st abscissa of the discoideus is very slightly shorter than the 2nd. Inner spur of the hind tibia not reaching beyond the middle of the hind basitarsus.

Horizontal part of tergite 1 dull and fairly strongly rugose all over. Ovipositor sheath about three quarters as long as the hind tibia.

Length: ca. 3 mm. without ovipositor.

♂. Six specimens, that I am confident belong with the female, are like the female in all respects, except for the usual sexual differences.

S. AFRICA : Natal, Van Reenen, Drakensberg, 1-22.i.1927, 3 ♀♀, one the *TYPE*, 2 ♂♂, (*R. E. Turner*); Cape Province, Somerset East, 10-22.xii.1930, 4 ♀♀, 3 ♂♂, (*R. E. T.*), Swellendam, 17.xii.1931-18.i.1932, 1 ♀, (*R. E. T.*).

Type in the British Museum (Nat. Hist.).

This species has the flagellum similar to that of *laurae*.

Hypomicrogaster loreta sp. n.

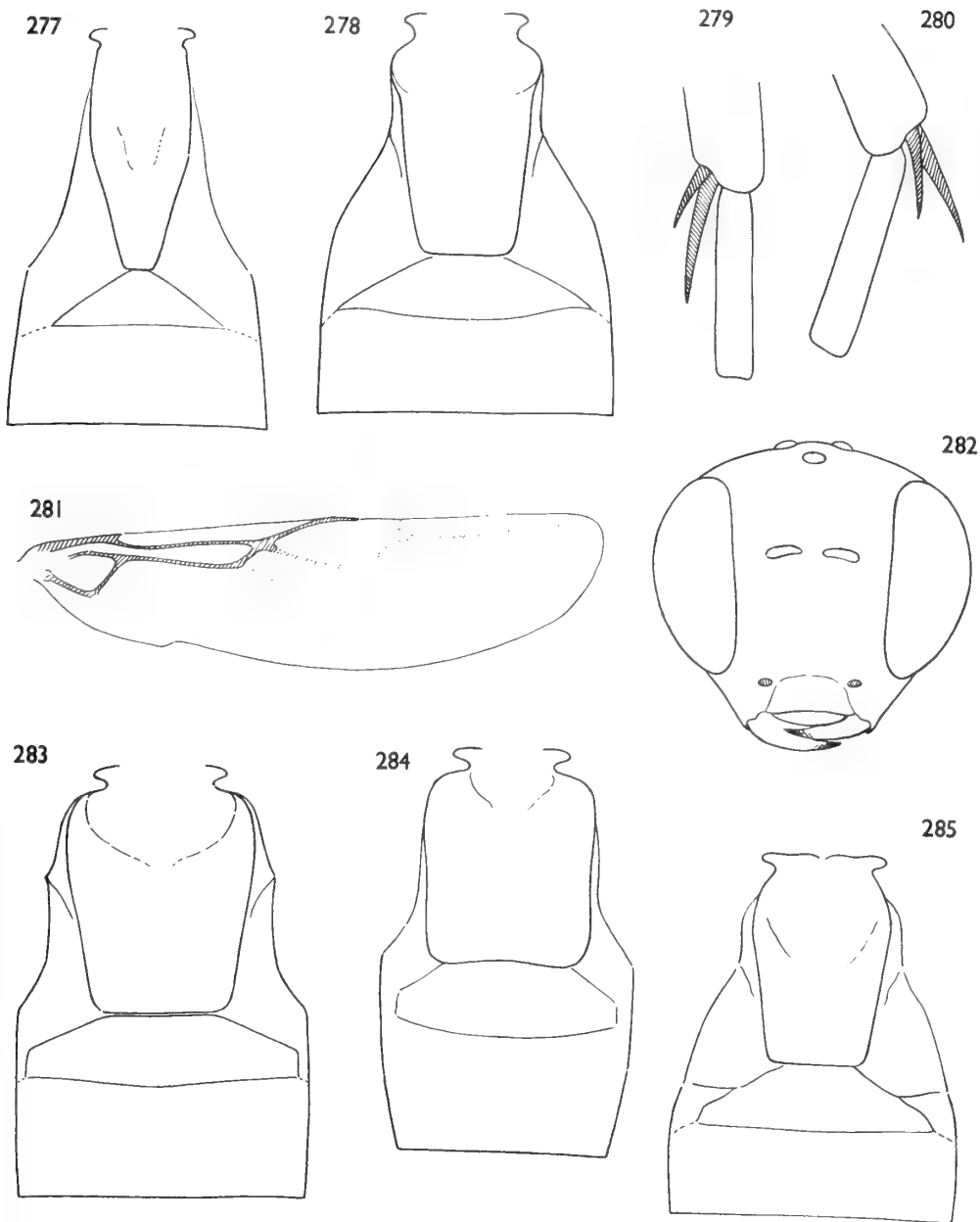
♀. Head blackish like the thorax but both these parts lacking the reddish glow that is a feature of *gerontius*. Scape yellow except for a dark mark on each side. Wings not so dark as in *gerontius*. Hind tibia becoming yellowish on about basal half and hence not so curiously contrasted with the yellow femur as in *gerontius* and *laurae*.

Face slightly less transverse than in *gerontius*. Antenna rather thin with the preapical segment about one and a half times longer than wide.

Mesoscutum very distinctly punctate. Disc of scutellum with sparse punctures. The two fields of the propodeum more shiny. Hind spurs whitish (they are brownish in *gerontius*), the inner one distinctly reaching beyond the middle of the hind basitarsus. First abscissa of the discoideus as long as the 2nd.

Tergite 1 not quite so strongly narrowed behind as in *gerontius* and its horizontal part considerably smoother.

Length: ca. 2.8 mm. without ovipositor.



FIGS. 277-285. *Hypomicrogaster*, ♀: 277, *irates* sp. n., basal tergites; 278, *laurae* (de Saeger), same; 279, *fomes* sp. n., ♀, hind spurs; 280, *semele* sp. n., ♀, hind spurs; 281, *Miropotes creon* sp. n., ♀, hind wing. *Hypomicrogaster*, ♀: 282, *helle* sp. n., head, from in front; 283, *suffolciensis* (Morley), basal tergites; 284, *tiro* (Reinhard), same; 285, *helle* sp. n., same.

S. AFRICA : Cape Province, Katberg, 4,000 ft., xii.1932, 1 ♀, the *TYPE*, x.1932, 2 ♀♀, George, 15-17.xi.1921, 1 ♀ ; Natal, Van Reenen, Drakensberg, xi.1926, 2 ♀♀, (all *R. E. Turner*).

Type in the British Museum (Nat. Hist.).

***Hypomicrogaster suffolciensis* (Morley) comb. n.**

Microgaster suffolciensis Morley, 1902 : 4, ♂ [not ♀].

This species is essentially characterized by its broad stigma and on this feature alone differs from all the other species I have included in the group.

♀. Colour very variable. British examples have the thorax entirely black with the gaster broadly reddish-yellow along each side. In the Mediterranean region more brightly coloured forms occur ; two out of four females from Cyprus have the head black, the mesoscutum entirely red and the gaster almost entirely red ; a third female is coloured like British specimens and a fourth is almost entirely black with the hind femur also black but showing a paler flush along each side ; in all other examples, no matter from where, the hind femur is entirely reddish-yellow. A single female from Oran (in coll. Granger, Paris) has the thorax almost entirely red, there being slight darkening only on mesosternum, posterior part of mesopleurum and along middle of propodeum. The species is constant in having the hind tarsal segments basally annulated with yellow ; this is a distinct feature of complementary value.

Antenna almost as long as the body, tapering slightly towards apex with the preapical segment fully one and one third times longer than wide. Distance between the posterior ocelli nearly twice the diameter of the median ocellus.

Mesoscutum in front with a fine, indistinct punctation ; over its greater, posterior part, smooth-looking and virtually impunctate. The two fields of the propodeum highly polished. Stigma of fore wing (Text-fig. 271) ; 1st abscissa of the discoideus fully as long as the 2nd ; vannal lobe beyond its widest part with a hardly noticeable fringe of minute hairs. Hind spurs whitish, the inner one reaching slightly beyond the middle of the hind basitarsus.

Tergite 1 not very strongly narrowed behind (Text-fig. 283), its horizontal surface strongly and evenly rugose. Ovipositor sheath fully as long as the hind tibia.

Length: ca. 3.5 mm. without ovipositor.

In describing this species, Morley evidently mistook a slightly extruded part of the male genitalia for an ovipositor ; he describes this " ovipositor " as subexerted.

EUROPE. CYPRUS. N. AFRICA. Type in the British Museum (Nat. Hist.).

Host : Bred in England by R. L. E. Ford from:—*Rhodaria aurata* Schiffermüller (Pyralidae) on *Mentha* ; *Nephoptyx obductella* Fischer von Röslenstamm (Pyralidae). The parasite, solitary, emerges from these hosts in July.

In considering the British fauna alone, I have always been inclined to regard *suffolciensis* as being related to *Apanteles parasitellae* Bouché, a species in which the areolet is distinctly open and the propodeal keel at most suggested by a line of crowded, vermiculate rugosities, but which in all other respects resembles *suffolciensis*. *Apanteles parasitellae* bears also a close resemblance to the *mycetophilus*-group of *Apanteles* and possesses only the most subtle characters by which it can be excluded from that group. It thus seems to be transitional between *Hypomicrogaster* and *Apanteles* and its existence stresses the doubtful value of the form of the areolet as a criterion for separating *Apanteles* from most of the other microgasterine genera. I do not, however, really think that the *mycetophilus*-group of *Apanteles* is related through

A. parasitellae to the *vacillatrix*-group of *Hypomicrogaster*. The affinities of *parasitellae* may truly be with *suffolciensis* and its resemblance to the *mycetophilus*-group fortuitous and the result of a convergence that so far resists a convenient form of taxonomic treatment. I confess that I have not been able to find a satisfactory solution to the problem but feel, nevertheless, obliged to draw attention to it.

***Hypomicrogaster tiro* (Reinhard) comb. n.**

Microgaster tiro Reinhard, 1880 : 357.

♀. This species seems to be closely related to *suffolciensis* differing from it by little more than the characters given in the key. The form of the flagellum offers a striking diagnostic feature by which the species can be instantly separated from the other species of the group.

Gaster darkened above and at sides. Hind femur blackened with at most a pale flush along each side.

Tergite 1 is only slightly or hardly at all narrowed behind and in this respect the species again differs from all the others (Text-fig. 284) ; the horizontal part of tergite 1 is strongly, evenly rugose.

EUROPE. Location of type doubtful.

Host : Bred in England from the following species of *Cnephasia* (Tortricidae) :—*chrysanthemana* Duponchel, *pascuana* Hübner, *virgaureana* Treitschke (now *interjectana* Haworth).

The pale spot at the base of the stigma is a useful additional character for recognising this species.

PROMICROGASTER Brues and Richardson

Promicrogaster Brues and Richardson, 1913 : 499 ; Muesebeck, 1958 : 416.

Monobasic.

I do not know the type-species and have based my concept of the genus on Muesebeck's remarks about it and a paratype female of *P. munda* Muesebeck which he was good enough to lend me for study.

The genus is essentially neotropical and I am not at all sure that I am right in including it in a small group of two species from Australia.

Head often markedly subtriangular in a facial view, except in the Australian *dissors*-group. Ocelli always in a higher triangle than in the neotropical species of *Hypomicrogaster*. Pronotum with a dorsal furrow. Areolet of the fore wing very small, the 2nd transverse cubitus arising from the 1st transverse cubitus (Text-fig. 286).

KEY TO SPECIES-GROUPS

A Head in facial view slightly transverse ; mouth parts of ordinary form ; lateral, polished field of scutellum only weakly convex in the forwards direction and hence cutting off between itself and the disc of the scutellum a rugose tongue that narrows behind (Text-fig. 287) ; edge of vannal lobe beyond its widest part very slightly convex and here with a complete fringe of minute hairs.

Head rather deep from back to front ; radial cell narrow ; hind spurs subequal, two fifths as long as the hind basitarsus ; tergite 1 slightly narrowed behind, finely punctate or rugose-punctate ; hind femur entirely dark ; hind tibia yellowish only at base. Ovipositor sheath one and one third times as long as the hind tibia.

- Australia **dissors-group** (p. 230)
- B Head in a facial view at least never as transverse as in the *dissors*-group, usually triangular or subtriangular ; lateral polished field of the scutellum strongly convex in the forwards direction and cutting off between itself and the disc a narrow, parallel-sided furrow (Text-fig. 288) ; edge of vannal lobe beyond its widest part usually concave and here without trace of a hair-fringe or, if more or less straight, then the edge with an occasional, minute, projecting hair.
- Head strongly transverse ; setae of tergites 4-6 reduced more or less to a single row **munda-group** (p. 232)

THE DISSORS-GROUP

KEY TO SPECIES

FEMALES

- A Mesoscutum smooth-looking but not polished, having an extremely fine, superficial punctation ; legs extremely slender, segment 3 of the hind tarsus being very distinctly longer than 5 ; outer surface of the hind tibia with very sparse, hardly outstanding spines ; hind tibia yellowish on about basal two-fifths ; antenna very slender, segment 6 being fully twice as long as wide ; head thicker from back to front ; 1st abscissa of the radius and the 1st transverse cubitus angled at their junction, almost right-angled ; 1st abscissa of the discoideus distinctly shorter than the 2nd (Text-fig. 293).

Wings rather strongly brownish ; form considerably more slender than that of the next species ; length ca. 3.5 mm. without ovipositor **dissors sp. n.**

AUSTRALIA: F. C. T., Black Mts., 28.v.1930, 1 ♀, the TYPE, (*W. Rafferty*). Type in the British Museum (Nat. Hist.).

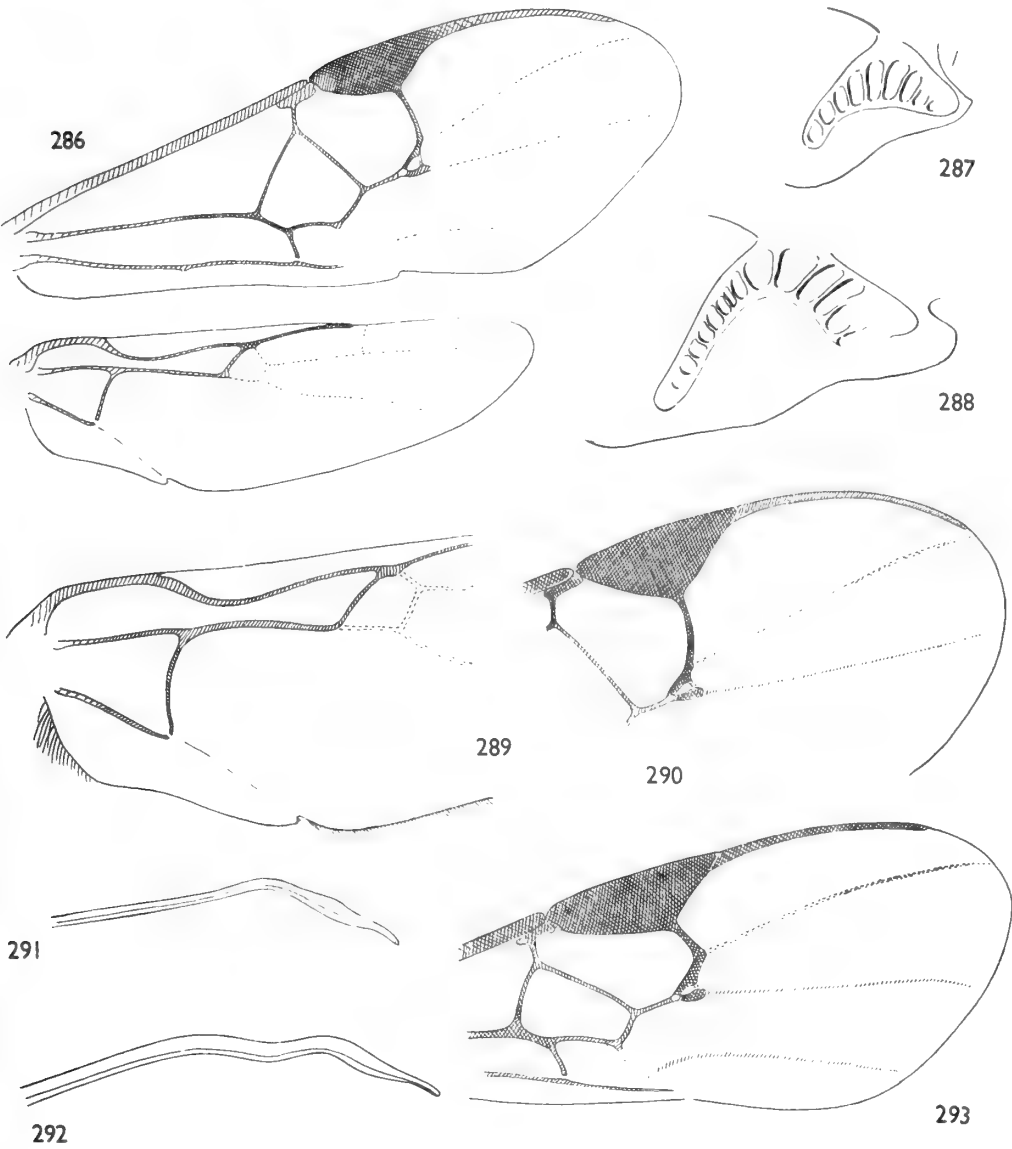
In general habitus, especially as regards the shape of the gaster, this species much resembles *spilopterus* of the *munda*-group.

- B Mesoscutum highly polished but with an indication of vague punctation anteriorly ; scutellum a little shorter and narrower than in *dissors* ; legs much less slender, the 3rd segment of the hind tarsus much more thickly and obviously spinose, the spines more upstanding and giving the tibia a somewhat prickly appearance ; antenna much less slender, segment 16 being about one and one third times longer than wide ; head less thick from back to front ; 1st abscissa of the radius and the 1st transverse cubitus less obviously angled at their junction ; 1st abscissa of the discoideus not shorter than the 2nd ; hind tibia pale on about basal quarter.

Metacarp shorter in proportion to the length of the stigma than in *dissors* ; length 2.5 mm. without ovipositor **calacte sp. n.**

AUSTRALIA: Victoria, Melbourne, 1 ♀, the TYPE ; F. C. T., Brindabella, 24.xi.1931, 1 ♀, (*L. F. Graham*). Type in the British Museum (Nat. Hist.).

The ovipositor of this species is almost straight and very thin. The gaster of both *calacte* and *dissors* is predominantly dark brown with paler colouring at sides of tergites 1 and 2 and to a less extent 3. *Promicrogaster calacte* has much the habitus of species of the *vacillatrix*-group, the main difference being in the form of the areolet and the relatively shorter spurs of the hind tibia.



FIGS. 286-293. *Promicrogaster*, ♀: 286, *carus* sp. n., wing; 287, *dissors* sp. n., lateral, rugose area of scutellum; 288, *munda* Muesebeck, same; 289, same, hind wing, part; 290, *sterope* sp. n., fore wing, part; 291, *sterope* sp. n., apex of ovipositor, lateral; 292, *apharea* sp. n., same; 293, *dissors* sp. n., fore wing, part.

THE *MUNDA*-GROUP

KEY TO SPECIES

FEMALES

- 1 Hind spurs very short, the inner one only about one quarter as long as the hind basitarsus.

Hind coxa in greater part blackish; flagellum extremely slender, with segment 17 about one and a half times longer than wide; pubescence of the flagellum so fine as to be hardly noticeable; mesoscutum with a fine, very dense punctation; propodeum on each side of the middle third polished; nervellus of the hind wing straight and directed slightly inwards on the vannal lobe side; submediellan cell of the hind wing setose all over; cubitellan cell very distinctly wider than high; ovipositor sheath fully two and one third times longer than the hind tibia; in a dorsal view of the thorax, the metapleurum is strongly bulging; hind femur yellowish with darkened apex

- Hind spurs longer, the inner one at least one third as long as the hind basitarsus 2

- 2 Tergite 3 entirely smooth; tergite 1 polished at least along most of its medial surface, more narrowed behind; vannal lobe rather deeply concave beyond its widest part and here without trace of projecting hairs; head, in a facial view, slightly more elongate and the mouth parts obviously lengthened (Text-fig. 254). Length: 4 mm. without ovipositor *spilopterus* sp. n. 3

BRAZIL: Nova Teutonia, 13.xi.1937, 1 ♀, the *TYPE*, 10.x.1935, 1 ♀, (*Plaumann*).
Type in the British Museum (Nat. Hist.).

- Tergite 3 with a very large median zone covered with fine, longitudinal striation; tergite 1 densely rugose all over and with longitudinal elements in the sculpture; vannal lobe not concave beyond its widest part, shorter and less narrowed apically than in *spilopterus*, and its edge beyond its widest part with an occasional projecting hair; head in a facial view slightly less elongate; mouth parts less obviously lengthened *erigone* sp. n.

BRAZIL: Nova Teutonia, 21.v.1937, 1 ♀, the *TYPE*, 14.ix.1938, 1 ♀, (*Plaumann*).
Type in the British Museum (Nat. Hist.).

- 3 Tergite 1 markedly widened behind, strongly humped at middle, strongly shining and with only weak traces of rugosity towards apex.

Legs, including the hind coxa but excluding the apex of the hind tibia and the whole of the hind tarsus, bright reddish-yellow; gaster strikingly bicoloured; the whole of the upper surface dark brown and the underside intense reddish-yellow; head, in a facial view, markedly triangular (Text-fig. 256); clypeus yellow and deeply emarginate; antenna as long as the body, with the preapical segment twice as long as wide; 1st abscissa of the discoideus distinctly shorter than the 2nd and as long as the nervulus; temples and mesoscutum finely, densely punctate; propodeum with indication of a weak medial keel, its surface otherwise weakly rugose; nervellus of the hind wing virtually straight; median field of tergite (2 + 3) about three times as wide as long, highly polished; the long, narrow gaster highly polished, its hairs reduced to a single row on each segment; ovipositor sheath fully one and one third times longer than the hind tibia. Length: ca. 4 mm. without ovipositor *prater* sp. n.

BRAZIL: Nova Teutonia, 2.xi.1938, 1 ♀, the *TYPE*, (*Plaumann*). Type in the British Museum (Nat. Hist.).

Aberrant within the group on account of the shape of the 1st segment of the gaster and perhaps wrongly placed here. The general appearance of the gaster is striking. I know of no close allies.

- Tergite 1 not at all widened behind, usually narrowed and, if polished, then the median field of tergite (2 + 3) much more transverse 4

- 4 Nervellus of the hind wing curved outwards on the vannal lobe side (Text-fig. 289).
 Gaster in large part red ; fully basal half of tergite 1 red and the remaining segments red except a brown transverse mark on each of them ; hind coxa very large, red, more than half as long as the gaster ; segment 17 of the antenna abruptly shorter than 16, about one and one third times longer than wide ; propodeum rather coarsely rugose with a poorly defined, elongate medial furrow ; ovipositor sheath about one and two thirds as long as the hind tibia ; median field of tergite (2 + 3), (Text-fig. 238) ; 1st abscissa of the discoideus as long as the 2nd *munda* Muesebeck⁴⁴
 HONDURAS: type locality. MEXICO: Pichon, 1 ♀, labelled "paratype, *Promicrogaster munda* Mues.", (R. & K. Dreisbach), Morelos, 1 ♀, (Koebel), in British Museum (Nat. Hist.). Type in the U.S. National Museum.
- Nervellus of the hind wing not thus curved outwards on the vannal lobe side 5
- 5 Tergite 1 more or less yellow except for faint apical infuscation.
 Gaster bright yellow with a dark patch on each tergite ; hind coxa yellow ; propodeum smooth, polished on each side of middle ; tergite 1 polished except for weak traces of rugosity posteriorly ; face with satin-like sheen but virtually impunctate ; inner spur of the hind tibia almost half as long as the hind basitarsus ; 1st abscissa of the discoideus as long as the 2nd ; wings (Text-fig. 286) ; flagellum less slender than in *spilopterus* and *erigone*, its pubescence upstanding and fairly conspicuous ; segment 17 twice as long as wide ; posterior ocelli close together, the distance between them equal to the diameter of the anterior ocellus ; ovipositor sheath twice as long as the hind tibia. In a facial view, the head is markedly triangular and, seen from above, not so transverse as in *polyporicola* *carus* sp. n.
- BRAZIL: Bahia, 1930, 2 ♀♀, one the TYPE, 1 ♀, Bondar. Type in the British Museum (Nat. Hist.).
- Tergite 1 blackened and rugose all over 6
- 6 Vannal lobe beyond its widest part very distinctly concave and here without trace of a hair-fringe or projecting hairs.
 Hind coxa obscurely yellow but darkened at base ; face distinctly, clearly punctate ; propodeum strongly rugose almost all over ; tergite (2 + 3) transverse, with its basal field very strongly transverse and its lateral corners narrowed to a fine point (Text-fig. 239) 7
- Vannal lobe not at all concave beyond its widest part and here with occasional projecting hairs ; median field of tergite (2 + 3) less narrowed laterally (Text-fig. 237).
 Hind coxa entirely bright yellow 8
- 7 Tergite 1 short, only slightly longer than its basal width and hardly narrowed behind (Text-fig. 239) ; temples shiny and with only an obsolescent punctuation ; areolet so small as to be almost absent ; segment 17 of the antenna about one and one third times longer than wide ; postero-lateral corner of mesoscutum showing as a pale reddish, rounded boss ; gaster short with tergites 4-6 narrowly margined with white ; ovipositor with a less conspicuous apical situation than in the next species *polyporicola* Muesebeck⁴⁵
 Barro Colorado Is., Canal Zone. Type in U.S. National Museum
- Tergite 1 longer, more distinctly narrowed behind ; temples dull, rather strongly rugose-punctate ; areolet slightly more distinct ; segment 17 of the antenna about one and two thirds times longer than wide ; postero-lateral corner of the mesoscutum hardly developed and not paler than the rest of the mesoscutum ; gaster longer, the tergites without white apical margins ; apical situation of the ovipositor more conspicuous (Text-fig. 292).
 Mesoscutum less shiny than in *polyporicola*, the punctures closer and distinctly more crowded along the imaginary course of the notaulices. Ovipositor sheath fully

⁴⁴*Promicrogaster munda* Muesebeck, 1958 : 422⁴⁵*Promicrogaster polyporicola* Muesebeck, 1958 : 423.

one and a half times longer than the hind tibia, a little longer than in *polyporicola*. Legs more slender than in *polyporicola* and tergite 1 more strongly rugose. Length: ca. 4 mm. without ovipositor.

MEXICO: Guerrero, Omilteme, 8,000 ft., viii., 1 ♀, the TYPE, Chilpancingo, 4,600 ft., ix., 1 ♀, (*H. H. Smith*). BRAZIL: Nova Teutonia, 3.x.1938, 1 ♀, (*Plaumann*). Type in the British Museum (Nat. Hist.).

Neither this species nor *polyporicola* has the head noticeably triangular in a facial view.

- 8 Propleurum infusate; radius not closing the radial cell; tergite (2 + 3) beyond the median field with a median patch of fine striation; tergites (2 + 3)-5 with a sharply discrete yellow apical band and tergite (2 + 3) itself with its brown surface appearing emarginate on each side because of a large, lateral yellow patch; ovipositor sheath twice as long as the hind tibia, paler on basal half. ***merella* sp. n.**

BRAZIL: Nova Teutonia, 2.ix.1935, 1 ♀, the TYPE, (*Plaumann*). Type in the British Museum (Nat. Hist.).

Related to *spilopterus* but differing chiefly in having relatively longer hind tibial spurs and shorter ovipositor sheath; the metapleurum is slightly less bulging than in *spilopterus*.

- Propleurum yellow; radius almost completely closing the radial cell (Text-fig. 290); tergite (2 + 3) beyond the median field without medial striation; almost the apical half of tergite (2 + 3) yellow testaceous but the pale area not sharply discrete as in *merella*; tergites 4 and 5 with a similarly broad, pale, apical band; ovipositor sheath shorter, about one and one third times longer than the hind tibia, evenly darkened throughout.

Hypopygium bright yellow; tergite 1 rather short, not narrowed behind, and, like the short, more or less evenly rectangular median field of tergite (2 + 3), strongly rugose (Text-fig. 237) ***sterope* sp. n.**

BRAZIL: Nova Teutonia, 9.ix.1938, 1 ♀, the TYPE, (*Plaumann*). Type in the British Museum (Nat. Hist.).

This is a somewhat isolated species, characteristic on account of the unusually long radius. The head, in a facial view, is not at all elongate, but the clypeus shows the same type of emargination as occurs in *apharea*. Apex of ovipositor (Text-fig. 291).

PROTOMICROPLITIS Ashmead **gen. rev.**

Protomicroplitis Ashmead, 1898: 167 [No species].

Protomicroplitis Ashmead, 1900: 292 [species included].

Type-species: *Protomicroplitis mediatius* Cresson, first included species (Ashmead, 1900).

I have based my interpretation of the genus on a specimen of *mediatus* from Cuba named by Muesebeck and kindly lent to me by W. R. M. Mason.

I am using *Protomicroplitis* to contain a large number of species-groups, often very different among themselves but all, I think phylogenetically related and representing a different line of descent from the species-groups I have included in *Hypomicrogaster* and *Promicrogaster*. It may be found useful later on to raise some of these species-groups to generic status but such a step should, I am convinced, be taken only on the basis of wider study than I have carried out.

In *Protomicroplitis*, tergites 1 and (2 + 3) are subject to great variation but never form the combination of shapes that characterizes the two other genera mentioned

above. The hypopygium is always evenly sclerotised throughout and does not show lateral, longitudinal creases. The ovipositor is always very short. The edge of the vannal lobe is straight or convex beyond its widest part and here shows at least a few minute, projecting hairs (the *ippis*-group and *lelaps* of the *lelaps*-group are exceptional).

Most of the species I have examined have the posterior, polished band of the scutellum interrupted at middle by a small area of rugosity that is an extension of the rugosity of the disc of the scutellum. This is the most important character for recognising *Protomicroplitis* and applies to both sexes.

For reason of convenience I have included *Microgaster tegularis* Szepligeti in *Protomicroplitis*, giving it group status for the sake of consistency, though I doubt very much if it is correctly placed here. Unfortunately I know it only from the type, a male.

KEY TO SPECIES-GROUPS

FEMALES

- 1 Posterior, polished band of the scutellum interrupted at middle by a small area of rugosity that may be continuous with the rugosity of the scutellar disc or separated from this by a short transverse keel or lip ; or this small area of rugosity may be contrasted with an almost smooth scutellar disc 2
- Posterior, polished band of the scutellum not interrupted at middle by rugosity (except rarely a few punctures present in *lelaps*-group) 18
- 2 Inner spur of the hind tibia about one quarter as long as the hind basitarsus.
Legs long, thin ; 2nd transverse cubitus arising from the radius so that the areolet is 4-sided ; median field of tergite (2 + 3) showing as an elongate, ill defined, finely aciculate area. S. Africa **reales-group** (p. 239)
- Inner spur of the hind tibia always longer than half the hind basitarsus, usually about two thirds as long 3
- 3 Tergite 3 as heavily sclerotised as 2, the two tergites together forming a sculptured carapace, beneath which the more apical tergites are completely or in part hidden.
2nd transverse cubitus reduced to a mere hyaline point. Old and New World **basimacula-group** (p. 244)
- Tergite 3, that is, posterior half of tergite (2 + 3), always smooth, polished and never forming with 2 a carapace such as above 4
- 4 Metacarp very short, hardly one and a half times as long as its distance from the apex of the radial cell (Text-fig. 294) ; lateral, polished field of scutellum reduced to a thin, parallel-sided strip (Text-fig. 323).
Propodeum polished and with medial keel ; middle tarsus very short (Text-fig. 295) ; claws of female long, bent almost at right angles and armed with a fine basal tooth. Philippines **periander-group** (p. 240)
- Metacarp rarely as short as this and then the propodeum is sculptured all over (*spretus*-group) ; lateral, polished field of scutellum at least distinctly convex anteriorly (Text-fig. 321) 5
- 5 Anterior margin of the postscutellum closely applied to the posterior margin of the scutellum so that, laterally, the phragma of the scutellum is completely concealed ; lateral sulci of tergite 2, if distinct at all, either directed towards the lateral margin of the tergite and incomplete, or, if they appear to enclose a median field, then this field is not widened behind (except in the *ippis*-group but in this group tergite 1 is very long, linear and constricted medially) 6

- Anterior margin of the postscutellum not closely applied to the posterior margin of the scutellum so that, laterally, the phragma of the scutellum is narrowly visible (Text-fig. 321) ; lateral sulci of tergite 2 enclosing an elongate, subtriangular field that is slightly widened behind.
Tergite 1 strongly narrowed behind, wedge-shaped ; 1st abscissa of the discoideus very distinctly shorter than the 2nd ; 2nd transverse cubitus arising from the base of the 2nd abscissa of the radius ; 1st abscissa of the radius much longer than the 2nd. Europe. Philippines **marginatus-group** (p. 239)
- 6 Stigma emitting radius much distal to middle (Text-fig. 331) ; tergite 1 very long, narrow, constricted medially and dilated apically.
1st abscissa of the discoideus much shorter than the 2nd 7
Stigma emitting radius at most slightly beyond middle ; tergite 1 never of this form 8
- 7 2nd transverse cubitus more or less interstitial with the 1st abscissa of the radius so that the areolet is virtually 3-sided (Text-fig. 331) ; stigma bright yellow on at least basal half ; hind coxa yellow, polished ; tergite 2 without a clearly delimited, median field. N. America **calliptera-group** (p. 261)
- 2nd transverse cubitus joined with the 2nd abscissa of the radius so that the areolet is very large, 4-sided (Text-fig. 335) ; stigma black ; hind coxa black, very large, its upper surface extremely coarsely reticulate ; tergite 2 with an extremely narrow median field that abruptly dilates apically.
Disc of scutellum thickly covered with almost golden, setiform hairs. Brazil
ippis-group (p. 263)
- 8 Tergite 2 with a more or less distinct median field that varies in shape from longitudinal-oval to long, narrow, more or less parallel-sided but is never triangularly widened posteriorly, though sometimes widened anteriorly.
This field is not enclosed by the normal lateral sulci of tergite 2 ; these are usually indicated by a pit or small elongate depression but may sometimes form, as in the *pyrene*-subgroup, deeply channelled grooves bordering the tergite as far as the 2nd suture. Old and New World, mainly tropical . **xanthaspis-group** (p. 240)
Almost all species have the mesoscutum and disc of scutellum heavily punctate ; sometimes the grooves that enclose the median field of tergite 2 curve outwards posteriorly towards the lateral margin of the tergite so that the tergite appears to be divided into three parts ; in such cases, tergite 1 is narrow and more or less parallel-sided and tergite 3 is always smooth.
- Tergite 2 either without such a delimited field or if one is present then tergite 1 is short and triangularly widened posteriorly 9
- 9 Tergite 2 divided by two curved, more or less rugose furrows into three fields of which the middle one is triangular and narrowest behind (Text-fig. 319).
Tergite 1 short, very broad, strongly widened behind ; antenna of female very short, with segments 10-12 hardly longer than wide ; metacarp hardly one and a half times longer than its distance from the apex of the radial cell ; stigma short, broad ; scape long ; tergite 3 always polished. Old World . **spretus-group** (p. 255)
- If tergite 2 shows any indication of such a division into three fields (as in *scotica*-group), then tergite 3 shows considerable rugosity and/or the antenna of the female is normal 10
- 10 Tergite 2 smooth, polished (though often with more weakly sclerotised areas laterally) the lateral sulci indicated at most by short furrows at base of segment 11
- Tergite 2 rugose more or less all over 13
- 11 Tergite 1 about as wide as long, strongly, triangularly widened behind ; tergite 2 (as delimited by the 2nd suture which is itself convex in the anterior direction) transverse without any indication of a median field and appearing as a polished, evenly sclerotised segment that occupies the full width of the gaster ; side of pronotum polished and with deep, dorsal furrow (Text-fig. 320).

Areolet extremely small, reduced to a mere slit (Text-fig. 333). Brazil

***schunkei*-group** (p. 260)

- Tergite 1 always considerably longer than wide ; tergite 2, if delimited, then not, or not very obviously, transverse (frequently the lateral sulci are indicated as short, almost transverse furrows that tend to cut off a small, more weakly sclerotised area at each anterior corner of the segment) ; side of pronotum with at most a weakly indicated, rugulose, dorsal furrow 12

- 12 Mesoscutum at most rather finely, discretely punctate, very shiny ; head above smooth, polished.

Second transverse cubitus received onto the distal extremity of the 1st transverse cubitus and hence almost interstitial with the 1st abscissa of the radius.

Central and S. America ***lelaps*-group** (p. 263)

- Mesoscutum dull, coarsely rugose-punctate or simply closely punctate with dull microsculpture ; head above with some sort of rugosity.

Disc of the scutellum always as strongly sculptured as the mesoscutum ; areolet very small, slit-like, the 2nd transverse cubitus received onto the 1st at middle or proximal to middle. Old World, especially tropical Africa

***fasciipennis*-group** (p. 244)

- 13 1st abscissa of the discoideus distinctly shorter than the 2nd 14
- 1st abscissa of the discoideus about as long as the 2nd 17

- 14 Mesoscutum polished, impunctate.

Tergite 1 short, triangularly dilated, hardly wider than long (Text-fig. 327) ; tergite 3 polished, separated from 2 by a deep groove that is margined along posterior edge of tergite 2 ; palpi long, the 3rd segment of the maxillary palpus being about three quarters as long as the 1st segment of the flagellum. Japan

***coenonymphae*-group** (p. 258)

- Mesoscutum rugose, rugose-punctate or punctate with dull microsculpture 15
- 15 Almost basal half of stigma orange-yellow ; fore wing marked with hyaline and brown patches ; both tergite 2 and 3, that is, the whole of tergite (2 + 3), very coarsely striate-rugose.

Head above polished ; ocelli in a low, very wide triangle, the transverse, posterior tangent to the anterior ocellus just cutting the posterior pair. Europe

***abdominalis*-group** (p. 254)

- Stigma brown ; fore wing not maculated ; tergite 3 at most with feeble traces of sculpture and in strong contrast with a strongly sculptured 2nd tergite ; ocelli in a higher triangle, this tangent at most nearly touching the posterior pair 16

- 16 Tergite 2 much shorter than 3 (Text-fig. 328) ; thorax entirely black ; mesoscutum strongly, coarsely punctate ; 1st abscissa of the radius very obliquely placed on the stigma (Text-fig. 312).

Vertex smooth, polished ; vannal lobe fringed with long hairs throughout. Old World ***connexus*-group** (p. 248)

- Tergite 2 fully as long as 3 ; thorax red, except for the propodeal region ; mesoscutum finely rugose and only indistinctly punctate ; 1st abscissa of the radius placed more nearly at right angles on the stigma. Europe

***alvearius*-group** (p. 248)

- 17 Posterior, polished band of the scutellum hardly interrupted at middle ; mesoscutum with an extremely fine, virtually irresolvable sculpture ; tergite 2 strongly transverse, much shorter than 3, divided into three fields of which the lateral fields are very distinctly transverse.

Propodeum in large part polished. Europe ***orontes*-group** (p. 254)

- Posterior, polished band of the scutellum widely interrupted at middle ; mesoscutum strongly sculptured, with some sort of punctation, usually coarser along the course of the notaulices ; the surface of the mesoscutum tends to be dull because of a fine

- scaly-reticulation between the punctures (except in *meges*) ; tergite 2 not obviously transverse and not shorter than 3 ; if it shows division into three fields, then the lateral fields are not transverse.
- Tergite 3 always rugose over at least most of its surface. Europe. N. America
***scotica*-group** (p. 251)
- 18 Metacarp short, at most twice as long as its distance from the apex of the radial cell.
Tergite 1 parallel-sided or narrowed behind 19
– Metacarp longer, at least twice as long as its distance from the apex of the radial cell 20
- 19 Inner spur of the hind tibia short, hardly reaching beyond the middle of the hind basitarsus ; tergite 2 usually with a triangularly widened, median field ; surface on each side of this field more weakly sclerotised, even thin, membranous and smooth ; areolet reduced to the size of a hyaline point (Text-fig. 306) ; disc of scutellum dull, densely rugose or rugose-punctate and sharply separated from the posterior, polished band of the scutellum.
Propodeum usually without a medial keel ; stigma tending to be short, broad.
Africa ***lepelleyi*-group** (p. 258)
- Inner spur of the hind tibia reaching considerably beyond the middle of the hind basitarsus ; tergite 2 showing as a large, coarsely rugose segment (vermiculately-rugose), sometimes with poorly defined median field that is widest in front ; areolet rather large (Text-fig. 302) ; disc of scutellum shiny and with only weakly indicated sculpture ; hence, hardly separated from the posterior, polished band of the scutellum.
Propodeum with weak, medial keel. Europe ***alvearius*-group** (p. 248)
- 20 Propodeum with medial keel (hardly indicated in the N. Guinea group of *euterpe*) 21
– Propodeum without a medial keel.
Disc of the scutellum shiny and at most weakly punctate ; 1st abscissa of the discoideus much shorter than the 2nd ; 2nd transverse cubitus united with the 2nd abscissa of the radius 23
- 21 Tergite 1 long, narrow, nearly four times as long as wide. Neotropical region
***lelaps*-group** (p. 263)
- Tergite 1 at most about one and one third times longer than wide, widened behind.
Tergite 2 divided into three fields of which the median is widest in front 22
- 22 Antenna very short, segments 10–12 being hardly longer than wide ; tergite 1 not longer than wide and much widened behind ; propodeum with some sort of sculpture, usually punctation. Old World ***spretus*-group** (p. 255)
- Antenna normal, long, the preapical segment fully two and a half times longer than wide ; tergite 1 about one and one third times longer than wide, slightly widened behind ; propodeum polished and with faintly indicated, medial keel.
N. Guinea ***euterpe*-group** (p. 250)
- 23 Inner spur of the hind tibia much longer than the outer one and reaching well beyond the middle of the hind basitarsus ; 1st abscissa of the radius much longer than the 2nd, fully three times as long (Text-fig. 317) ; tergite 1 almost parallel-sided ; tergite 2 with an elongate median field that is not triangularly widened behind.
Europe ***calceatus*-group** (p. 256)
- Inner spur of the hind tibia hardly longer than the outer one and hardly reaching beyond the middle of the hind basitarsus ; 1st abscissa of the radius about one and a half times longer than the 2nd (Text-fig. 304) ; tergite 1 strongly narrowed behind, wedge-shaped ; tergite 2 with strongly triangular median field. Australia
***tegularis*-group** (p. 235)

THE *REALES*-GROUP

Monobasic.

***Protomicroplitis reales* sp. n.**

♀. A species of slender, delicate build. Body reddish-brown ; mesoscutum with three faintly darker bands. Legs uniformly brown, the hind pair a little darker than the other two pairs. Wings markedly smoky.

Head, from above, approaching a subcubical condition, not in the least scooped out behind the ocelli. Clypeus somewhat high and swollen. Frons and vertex virtually without sculpture.

Mesoscutum finely punctate-rugose. Propodeum rather long and with well defined medial keel. Areolet more or less 4-sided, the 2nd transverse cubitus reduced to a transparent point and received onto the radius (Text-fig. 298) ; radiellian cell of the hind wing twice as long as high and much narrowed distally ; vannal lobe with long fringe (Text-fig. 300). Legs very long, slender ; front femur, seen from side, six times as long as wide ; hind tibia seen from outer side constricted distal to middle and with only fine, rather sparse spines.

Tergite 1 fully two and a half times as long as its middle width and with medial furrow over basal two thirds ; tergite 2 with delicate aciculation almost all over and with a feebly indicated, elongate, median field ; tergite 3 at least medially with indication of sculpture similar to that of 2. Ovipositor sheath without modified apical setae.

S. AFRICA : Cape Province, Pondoland, Port St. John, 10-31.vii.1923, 1 ♀, the TYPE, (R. E. Turner).

Type in the British Museum (Nat. Hist.).

On the shortness of the hind tibial spurs, this species lacks one of the main features of *Protomicroplitis*. In habitus, it shows a resemblance to *marginatus* but there are many differences, and I do not think there is any real affinity here. *P. reales* seems to be quite isolated and I have met with no species with which it could be confused.

THE *MARGINATUS*-GROUP

Monobasic.

***Protomicroplitis marginatus* (Nees) comb. n.**

Microgaster marginatus Nees, 1834 : 169.

♀. Legs, on the whole, brightly yellowish ; hind coxa blackish ; hind femur yellow but darkened on about apical quarter ; hind tibia infusate on apical third and also on short, basal constricted portion ; hind tarsus infusate throughout. Tergite (2 + 3) yellow on each side of the narrow median field ; the apical part of this sclerite also pale towards sides. Flagellum yellowish except towards apex.

Head from above somewhat quadrate. Disc of scutellum domed, closely punctate but posteriorly becoming densely rugose and completely interrupting the posterior, polished band of the scutellum. Propodeum long, flattened, with rather weak medial keel. 1st abscissa of the discoideus much shorter than the 2nd. (Text-fig. 322) ; vannal lobe with fringe of long hairs throughout (Text-fig. 6). Hind tibia a little swollen medially ; spines of the outer side of the hind tibia fine and rather sparse ; front tarsal segment 5 with minute spine, very hard to see.

Ovipositor sheath without trace of apical setiform hairs.

EUROPE.

Type presumably lost.

I have examined some specimens from the Philippines, Baguio, Benguet, 1 ♀, Dapitan, 1 ♀, 3 ♂♂, that are almost indistinguishable from European examples.

The females have the antenna evenly brownish, with the propodeum, tergite 1 and the median field of tergite (2 + 3) slightly more strongly rugose. I am provisionally labelling these specimens as "*marginatus* Ns" with a query.

Host: Bred in Germany by R. Hinz from *Larentia pomoriana* Eversmann (Geometridae), 1 ♂.

This is a slender, long-legged species with the habitus of the *vitripennis*-group of *Apanteles*. It is somewhat isolated but perhaps related to the *calceatus*-group from which it differs at once in having the posterior, polished band of the scutellum interrupted at middle and the propodeum with a keel.

THE *PERIANDER*-GROUP

Monobasic.

Protomicroplitis periander sp. n.

This is a most distinctive species, without close allies.

♀. Yellowish brown; the head paler than the mesoscutum and the thorax paler beneath. Legs, including the hind coxa, yellowish throughout. Wings strongly but rather unevenly brownish.

Occiput not scooped out behind the ocelli. Ocelli in a high triangle, the posterior, transverse tangent to the anterior ocellus passing far in front of the posterior pair. Antenna a little shorter than the body, slightly tapered apically and with the preapical segment about one and a half times longer than wide.

Mesoscutum dull, strongly, more or less confluent, punctate. Veins of the fore wing somewhat thickened (Text-fig. 294); cubitellian cell of the hind wing very small; vannal lobe beyond its widest part with sparse, minute, projecting hairs. Hind coxa rather small, not reaching the middle of the gaster.

Tergite 1 about one and a half times longer than wide, grooved medially; its sides gently rounded at apex; smooth, except for rugosity at posterior corners. Tergite (2 + 3) with a median field that is widened anteriorly. Hypopygium very characteristically clothed with long silky hairs.

Length: ca. 2.8 mm.

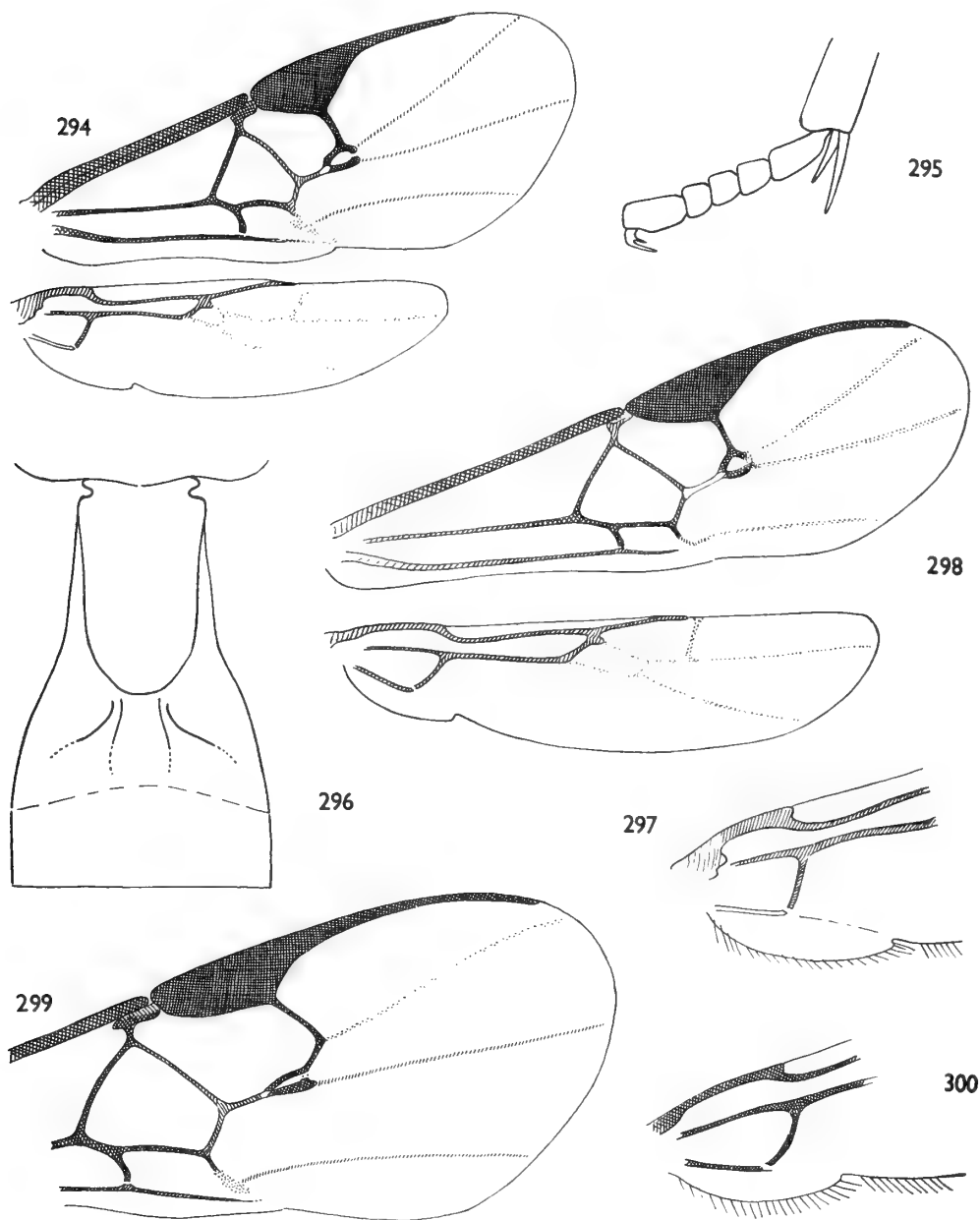
PHILIPPINES: Los Baños, 5 ♀♀, one the *TYPE*, 3 ♂♂, bred 23.iii.1923, (*G. B. Ingalla*). This is presumably a gregarious parasite though the host is not given.

Type in the U.S. National Museum.

This species is easily recognisable on the combination of characters given in the key. Within the material I have had before me it is aberrant but its affinities are clearly with the large assemblage of species that I associate with the *xanthaspis*-group.

THE *XANTHASPIS*-GROUP

Contains the vast majority of the species that fall within my interpretation of *Protomicroplitis* and is little more than an artificial segregation within a large complex of species that contain also the groups of *basimacula* and *fasciipennis*. The two last mentioned groups stand at opposite extremes with regard to the sculptural modifications shown by the sclerite I call tergite (2 + 3). The group of *xanthaspis* falls somewhere in between.



FIGS. 294-300. *Protomicroplitis*, ♀: 294, *periander* sp. n., wings; 295, same, middle tarsus; 296, *lepelleyi* (Wilkinson), basal tergites; 297, *periander* sp. n., hind wing, part; 298, *reales* sp. n., wings; 299, *euterpe* sp. n., fore wing, part; 300, *reales* sp. n., hind wing, part.

***Protomicroplitis xanthaspis* (Ashmead) comb. n.**

Apanteles xanthaspis Ashmead, 1900 : 280.

Microgaster xanthaspis (Ashmead) Muesebeck, 1920 : 28.

♀. Hind femur blackish. Tergite 1 yellow ; rest of body blackish.

Face coarsely rugose-punctate. Occiput scooped out as far as the posterior ocelli. Vertex and temples coarsely punctate.

Mesoscutum dull, closely rugose-punctate all over. Disc of scutellum as dull and rugose as the mesoscutum. Propodeum coarsely rugose and with well defined medial keel. Areolet 3-sided ; 1st abscissa of the discoideus as long as the 2nd ; vannal lobe with distinct fringe of hairs throughout.

Tergite 1 narrow, parallel-sided, about twice as long as wide and with complete longitudinal groove. Tergite (2 + 3) with distinct but rather poorly defined median field that is slightly wider in front than behind. Ovipositor sheath without apical setiform appendages.

W. INDIES : St. Vincent. (Type locality).

Type in the British Museum (Nat. Hist.).

The following key introduces as new certain Philippine species and one from Borneo that I have been able to separate from the other species of the group known to me. How they stand in relation to these other species will be made clear in the key itself.

KEY TO PHILIPPINE SPECIES

FEMALES AND MALES

- 1 Lateral sulci of tergite 2 strongly developed and each in the form of a deeply channelled groove that borders the edge of the tergite at least as far as the 2nd suture.
 - Tergite 2 distinctly a little longer than 3, strongly modified, showing a narrow, parallel-sided median field that is separated from the lateral surface of the tergite by a broad, rugose furrow (Text-fig. 307) ; 2nd suture deep, strongly costate ; eyes normal, slightly divergent above and separated from the posterior ocellus by a distance distinctly greater than the longer diameter of the ocellus ; head red. (*pyrene*-sub-group, transitional between *basimacula*-group and typical *xanthaspis*-group) 2
- Lateral sulci of tergite 2 not thus strongly developed ; if marked at all, each extends only as far as the edge of the tergite and then fades out 5
- 2 Females 3
- Males 4
- 3 Front and middle claws with a comb of fine, very close bristles ; mesoscutum and scutellum red ; hind femur infuscate at apex ; hind tibia blackened at extreme base and on apical third ; hind coxa with a conspicuous black apical patch ; median field of tergite 2 long, better defined ; the lateral areas of this tergite highly polished.
 - Mesoscutum strongly shining, without surface sculpture, its sharp punctures at least mid-posteriorly often separated by nearly one diameter ; tergite 1 at apex with a deep, smooth pit, the sub-horizontal surface on each side of which is swollen and smooth ; 2nd transverse cubitus meeting the 1st transverse cubitus far from junction of the two radial abscissae (Text-fig. 310) ***pyrene* sp. n.**
 - PHILIPPINES: Luzon, Mt. Makiling, 1 ♀, the TYPE, 8 ♂♂, (*Baker*) ; Los Baños, 1 ♀, (*Baker*). Type in the U.S. National Museum.
 - The flagellum is long, thick, with the preapical segment fully twice as long as wide.
- Front and middle claws simple ; mesoscutum blackened but with reddish suffusion posteriorly ; scutellum reddish ; hind femur entirely pale ; hind tibia with very faint apical infuscation ; hind coxa with slight infuscation at apex above ; median field

of tergite 2 less well defined ; lateral areas with faintly indicated surface sculpture.

Tergite 1 at apex with deep excavation but not smoothly hollowed out ; surface on each side of excavation less swollen, coarsely rugose ; areolet as in *pyrene* (cf. Text-fig. 310)

seriphus sp. n.

PHILIPPINES: Los Baños, 1 ♀, the TYPE, 1 ♂, Luzon, Mt. Makiling, 1 ♂, (all *Baker*). Type in the U.S. National Museum.

- 4 Tergite 3 only slightly wider apically than its median length, hence only slightly transverse ; the three delimited fields of tergite 2 slightly longer and highly polished.

Mesoscutum varying from red through dusky red to almost black ; claws without a comb

pyrene sp. n.

- Tergite 3 much wider than medially long, nearly twice as wide ; the three fields of tergite 2 shorter and with clear indication of surface sculpture,

Mesoscutum bright reddish ; the thorax is almost entirely reddish above, the pale colour extending backwards as far as the anterior surface of the propodeum ; tergite 1 and most of 3 reddish (see couplet 3)

seriphus sp. n.

A single male that I also refer to this species (Mt. Makiling) differs from the typical form in having the entire thorax and the dorsal surface of the gaster blackish, with the mesoscutum more shiny and less obviously punctate posteriorly.

- 5 Eyes very large, slightly convergent above, separated from the posterior ocellus by a distance not greater than the diameter of the ocellus.

Tergite 1 only about one and half times to one and two thirds times as long as its middle width ; tergite 2 sharply divided into three areas by deep furrows ; ovipositor with a pale, apical setiform appendage

6

Eyes not as large as this, slightly divergent above and separated from the posterior ocellus by a distance very distinctly greater than the diameter of the ocellus.

African and S. American spp.

- 6 First abscissa of the radius very long, meeting the 2nd transverse cubitus (itself a mere hyaline spot) at the junction of the 2nd abscissa of the radius.

Thorax almost black ; hind coxa reddish-yellow ; face reddish with fairly strong rugose-punctuation along each side

urios sp. n.

BORNEO: Sandakan, 1 ♀, the TYPE, (*Baker*). Type in the U.S. National Museum.

Easily distinguished from the next two species by the long 1st abscissa of the radius.

- First abscissa of the radius much shorter, not uniting with the 2nd transverse cubitus ; 2nd transverse cubitus meeting the 1st far proximal to the junction of the two abscissae of the radius

7

- 7 Hind coxa bright yellow ; mesoscutum yellow with faint infusate spot at shoulder ; 2nd transverse cubitus virtually not indicated, hence no areolet ; 1st transverse cubitus curiously thickened (Text-fig. 308).

The narrow, yellow face shows only a very superficial sculpture . *melleus* sp. n.

PHILIPPINES: Luzon, Mt. Makiling, 2 ♀♀, one the TYPE, (*Baker*).

Type in U.S. National Museum.

A male from Los Baños has the mesoscutum reddened, with the lateral lobes faintly darker and the hind coxa not such a bright yellow ; the venation is like that of the female.

- Hind coxa deeper in colour, reddish-yellow ; mesoscutum entirely infusate, though becoming paler posteriorly ; 2nd transverse cubitus distinct, the areolet hence clearly indicated ; 1st transverse cubitus not thickened.

Face reddish, slightly less narrow than in *melleus* and its surface more shiny and smoother

medon sp. n.

PHILIPPINES: I. of Basilan, 1 ♀, the TYPE, 1 ♂, (*Baker*). Type in the U.S. National Museum.

THE *FASCIIPENNIS*-GROUP*Protomicroplitis fasciipennis* (Gahan) **comb. n.**

Microgaster fasciipennis Gahan, 1918 : 587.

Microgaster fasciipennis Gahan ; Wilkinson, 1929 : 116.

Microgaster fasciipennis Gahan ; de Saeger, 1944 : 77.

The type locality of this species is UGANDA, Kampala, and the type is in the U.S. National Museum.

De Saeger used the name of this species to designate a subgroup of *Microgaster*, giving it a definition that corresponds almost exactly to my own definition of what I now refer to as the *fasciipennis*-group.

The group differs from the *xanthaspis*-group only in that tergite (2 + 3) shows no delimited median field. De Saeger has described several species in this group ; I hope to deal with these and others, which may be different from them, at a later date.

THE *BASIMACULA*-GROUP

The species of this group represent only an extreme development of the form of the first two gastral tergites. Apart from this, they show no character or combination of characters that would exclude them from a close relationship with the groups of *xanthaspis* and *fasciipennis*.

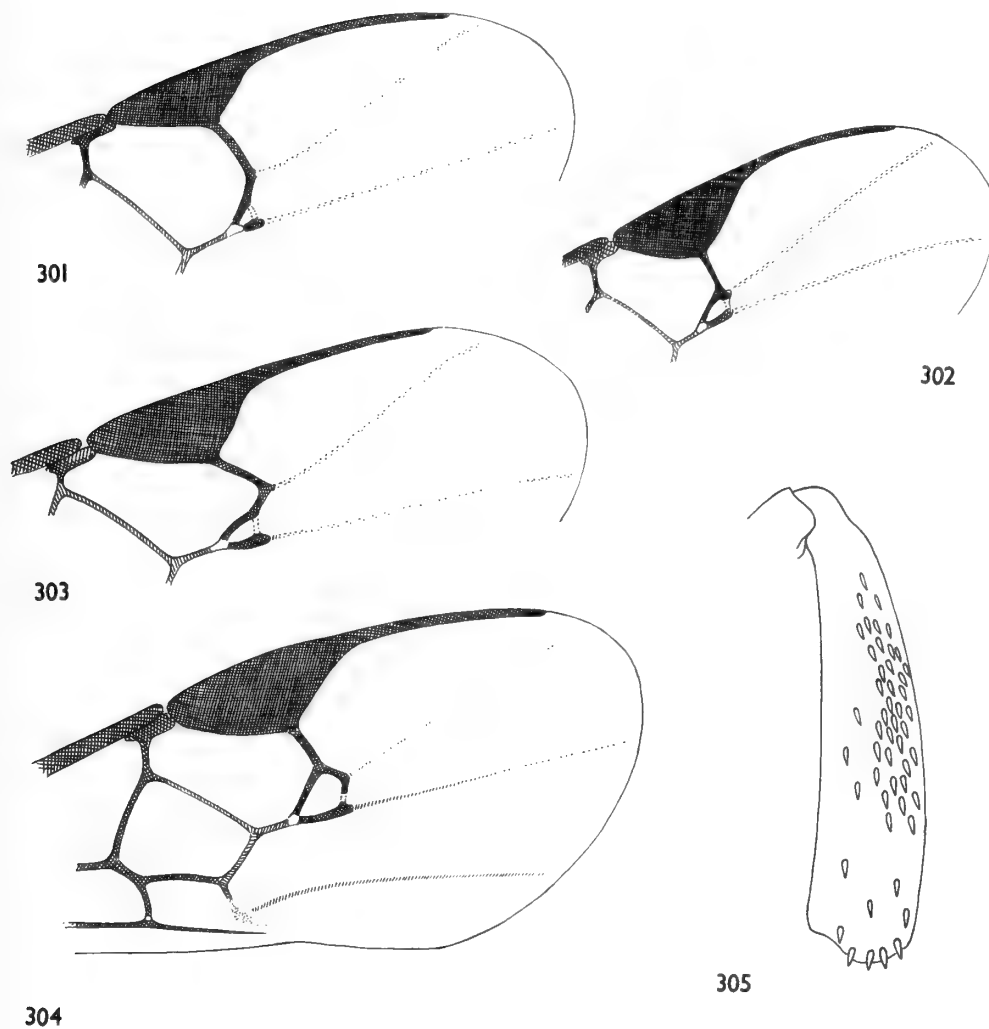
De Saeger, who studied the species from the Belgian Congo, described a few that are at present unknown to me. In the following key I am setting forth all that I have found to be useful in separating the species available to me for study in the British Museum.

KEY TO SPECIES

FEMALES AND MALES

- | | | |
|---|--|---|
| 1 | Tergite 3 with a median, in greater part polished area or, polished and unsculptured over most of its apical half ; the elongate median area of tergite 2 in greater part shining, smooth ; ocelli in a very low triangle, the transverse, posterior tangent to the anterior ocellus cutting deeply into the paired ocelli. Old World species | 2 |
| — | Tergite 3 without a median area or, if there is an indication of one, then it bears fine surface sculpture ; ocelli in a higher triangle, the transverse posterior tangent to the median ocellus only just touching the posterior pair.
Edge of vannal lobe beyond its widest part straight or appearing even slightly concave and here without projecting hairs ; propodeum more convex than in the Old World species, the medial keel less emphasised and the whole propodeal surface densely reticulate. New World species | 8 |
| 2 | Females | 3 |
| — | Males | 5 |
| 3 | Tergite 3 smooth, polished mid-basally and almost as smooth over most of apical half ; hind femur yellow and darkened only on apical third. | |

Hairs of the fore wing longer, darker and sparser than in *basimacula* ; mesopleurum with rather fine rugose-striation that is concentric around the middle, polished area ; vannal lobe with hair-fringe throughout ; tergite 1 less widened to



FIGS. 301-305. *Protomicroplitis*: 301, *eclectes* sp. n., ♂, fore wing, part; 302, *alvearius* (Fab.), ♀, fore wing, part; 303, *basimacula* (Cameron), ♂, fore wing, part; 304, *tegularis* (Szepligeti), ♀, fore wing, part; 305, *circumvectus* (Lyle), ♀, hind tibia.

apex than in *basimacula*, its middle furrow shallower and the surface on each side of it less convex ; tergite 3 distinctly shorter than 2 ; ovipositor sheath at apex with a thickened, non-spatulate hair *glaphyra* de Saeger⁴⁶

BELGIAN CONGO: Rweru (type locality), described from a single female. Type in Congo Museum, Tervuren. ABYSSINIA: 1 ♀, in B.M. (N. H.).

- Tergite 3, except for a median, polished area, sculptured right to apex ; hind femur, except for a small, pale spot at base beneath, black or blackish throughout.

Fore wing with conspicuous apical spot ; tergite 1 more widened apically than in *glaphyra* and because of a deeper, medial furrow, appearing more convex on each side 4

- 4 First abscissa of the radius and the 1st transverse cubitus forming a right angle or even a slightly acute angle (Text-fig. 303) ; surface on each side of the medial propodeal keel densely rugose-punctate ; polished, median area of tergite 3 virtually parallel-sided.

Hind tibia usually with short, pale, basal ring, separated from dark base by about its own length ; sometimes (Katberg, 1 ♀) the pale area covers almost half of the hind tibia ; edge of vannal lobe beyond its widest part straight and fringed with hairs (Text-fig. 7) ; outer surface of the hind coxa confluent rugose-punctate ; modified seta at apex of ovipositor sheath shorter than in the next species

basimacula (Cameron)⁴⁷

S. AFRICA: numerous examples. BELGIAN CONGO: Recorded by de Saeger. Type in the British Museum (Nat. Hist.).

- First abscissa of the radius and the 1st transverse cubitus forming an obtuse angle (Text-fig. 301) ; surface on each side of the propodeal keel smooth-looking, its sculpture reduced to coarse, obsolescent punctation ; polished, medial area of tergite 3 subtriangular, widened in front, the sculpture on each side of it more smoothly striate than in *basimacula* ; edge of vannal lobe beyond its widest part very slightly concave and here without trace of a fringe of hairs.

Flagellum more slender in apical half than in *basimacula* and the segments here less smooth-looking ; outer surface of the hind coxa with reduced sculpture, the surface showing sharp, mostly discrete punctures of various sizes ; modified seta at apex of ovipositor sheath long, spatulate, upcurved ; hind tibia yellowish on about basal half but dark at extreme base, not different from the palest forms of *basimacula* *eclectes* sp. n.

PHILIPPINES: Luzon, Mt. Makiling, 1 ♀, the TYPE, 1 ♂, var. Mindaña, Davao, 1 ♂. MALAYA: I. of Penang, 1 ♂, Singapore, 1 ♂. BORNEO, Sandakan, 1 ♂. (All Baker). Type in the U.S. National Museum.

- 5 Hind coxa strikingly bicoloured, being predominantly reddish-yellow with an elongate dorsal infuscation extending the whole length of the coxa.

Stigma narrow, emitting radius very distinctly beyond middle ; fore wing without trace of an apical spot ; gaster narrow, its dorsal surface entirely dark brown, though tergite 1 at base shows a faint reddish suffusion ; surface on each side of propodeal keel smooth-looking and with only scattered, vaguely delimited punctures ; 1st transverse cubitus meeting 1st abscissa of radius at an obtuse angle (cf. *basimacula*) ; vannal lobe throughout with hair-fringe *integra* (Wilkinson)⁴⁸

AFRICA: Uganda. TYPE ♂ only. Type in the British Museum (Nat. Hist.).

- Hind coxa entirely black 6

⁴⁶*Microgaster glaphyra* de Saeger, 1944 : 81.

Protomicroplitis glaphyra (de Saeger) **comb. n.**

⁴⁷*Apanteles basimacula* Cameron, 1904 : 173.

Microgaster basimacula (Cameron) Wilkinson, 1929 : 101.

Protomicroplitis basimacula (Cameron) **comb. n.**

⁴⁸*Microgaster integra* Wilkinson, 1929 : 103.

Protomicroplitis integra (Wilkinson), **comb. n.**

- 6 Edge of vannal lobe beyond its widest part with fringe of hairs ; 1st abscissa of the radius meeting the 1st transverse cubitus at a right angle or even a distinctly acute angle ; propodeum on each side of its keel densely rugose-punctate.
 Tergite 1 and 2 yellow ; hind femur virtually black throughout ; fore wing with or without a faint apical spot, less distinct than the female . *basimacula* (Cameron)
- Edge of vannal lobe beyond its widest part without a fringe of hairs and here very slightly concave ; 1st abscissa of the radius forming a curve at its junction with the 1st transverse cubitus or, if the two veins are distinctly angled at their junction, then the angle is obviously obtuse ; propodeum on each side of its keel smooth-looking and with only vague punctation or rugose-punctation.
 Fore wing with an apical spot 7
- 7 2nd discoidal cell almost without hairs ; tergite 1 more narrowed to apex, reddish, with the posterior, horizontal surface on each side of the furrow blackened ; tergite 3 with a large, sub-triangular polished area, widest on anterior side and extending over about two thirds of the middle length of the tergite.
 Hind femur red with weak apical infuscation *sons* (Wilkinson)⁴⁹
 AUSTRALIA: F. C. T., Brindabella, *TYPE* ♂ only. Type in British Museum (Nat. Hist.).
- 2nd discoidal cell hairy almost everywhere ; tergite less narrowed to apex, yellow throughout ; tergite 3 with narrow, longitudinal, polished area extending virtually to apex.
 Hind femur reddish brown. A single ♂ from Mt. Makiling has the hind femur blackish and tergite 1 almost entirely blackish, showing only a faint reddish flush along each side (see couplet 4) *ectectes* sp. n.
- 8 Females 9
 – Males.
 Gaster entirely black ; hind femur varying from entirely reddish-yellow to reddish-yellow basally with infuscation spreading over as much as apical half (see couplet 9) *nephele* sp. n.
- 9 Tergites 1 and 2 entirely black or at most tergite 1 with paler, lateral area ; tergite 2 without indication of a median field.
 Spp. with hind femur almost entirely black ; hind tibia sharply whitish on about basal third 10
- Tergites 1 and 2 yellow-testaceous except for the median field of tergite 2 ; tergite 3 with indication of an elongate wedge-shaped area with sculpture similar to that of the median area of 2.
 Paler species than those following, with the hind femur suffused with reddish on fully basal third and the dark apical part of the hind tibia brown rather than black ; flagellum distinctly thickened and darkened in apical third ; head brown ; length 2.4 mm. *nephele* sp. n.
 BRAZIL: Nova Teutonia, 15.vi.1937, 1 ♀, the *TYPE*, v-vi, 6 ♂♂, (*Plaumann*). Type in the British Museum (Nat. Hist.).
- 10 Head, in a facial view, almost subtriangular ; face somewhat flattened, almost smooth, unsculptured, its pubescence long, pale, silky ; head, from above, more transverse ; propodeum with more even reticulation, without trace of a dull bloom and more convex ; median field of tergite 2 with vague but coarse rugose-punctation ; larger, ca. 3.5 mm. *alce* sp. n.
 BRAZIL: Nova Teutonia, 11.x.1937, 1 ♀, the *TYPE*, (*Plaumann*). Type in the British Museum (Nat. Hist.).
 This species has tergite 3 more convex than the next species and much more convex than in any of the Old World species, (but cf. African genus *Buluka* de Saeger) ;

⁴⁹*Microgaster sons* Wilkinson, 1932 : 87.
Protomicroplitis sons (Wilkinson) **comb. n.**

the fore wing proximal to the areolet is remarkably free from hairs, there being only about 12-15 within the 1st discoidal cell.

- Head, in a facial view, not in the least subtriangular; face not flattened, shiny and covered with raised points; pubescence of face and head normal; from above, the head by no means especially transverse; propodeum with more irregular, wider-meshed reticulation and with trace of a dull bloom; fore wing not thus free from hairs; 1st discoidal cell thickly hairy all over; smaller, ca. 2.5 mm.

Flagellum almost yellow on proximal two thirds, clearly thickened towards apex but less abruptly so than in *nephele*; the antennae are broken in *alce* but the remaining segments suggests an antenna that is longer, darker, and less thickened apically than in the present species

BRAZIL: Nova Teutonia, 4.vi.1937, 1 ♀, the TYPE, (*Plaumann*). Type in the British Museum (Nat. Hist.) **erro sp. n.**

THE CONNEXUS-GROUP

The two species I include in this group are very closely and naturally related in spite of their curious range.

The group is easily recognised on its combination of very short 1st abscissa of the discoideus and short, strongly sculptured 2nd tergite. The ocelli are in rather a high triangle, the posterior, transverse tangent to the anterior ocellus passing far in front of the posterior pair.

KEY TO SPECIES

- A Tergite 3 highly polished, impunctate; setae of gaster very sparse, almost absent on tergite 3; rugose area of tergite 2 more narrowed laterally; tergite 1 narrower; flagellum not at all thickened distally and with the preapical segment about two and a half times longer than wide **perniciosa** (Wilkinson)⁵⁰
 AUSTRALIA: Victoria (Type locality). Type in the British Museum (Nat. Hist.).
 Host: *Ardices glatignyi* Le Guillemot (Arctiidae). Cocoons buff-coloured; three of the four cocoons mounted with the type material are spun together so the species is evidently gregarious.
- B Tergite 3 with traces of rugosity and a few shallow, scattered pits (Text-fig. 328); setae of the gaster dense, especially on tergite 3; rugose area of tergite 2 less narrowed laterally; tergite 1 wider; flagellum distally thickened, the preapical segment about twice as long as wide **connexus** (Nees)⁵¹
 EUROPE. Type presumably lost.
 Host: *Euproctis similis* Fuessly; *Euproctis chrysorrhoea* Hübner; *Porthesia auriflua* F. (all Lymantriidae).

THE ALVEARIUS-GROUP

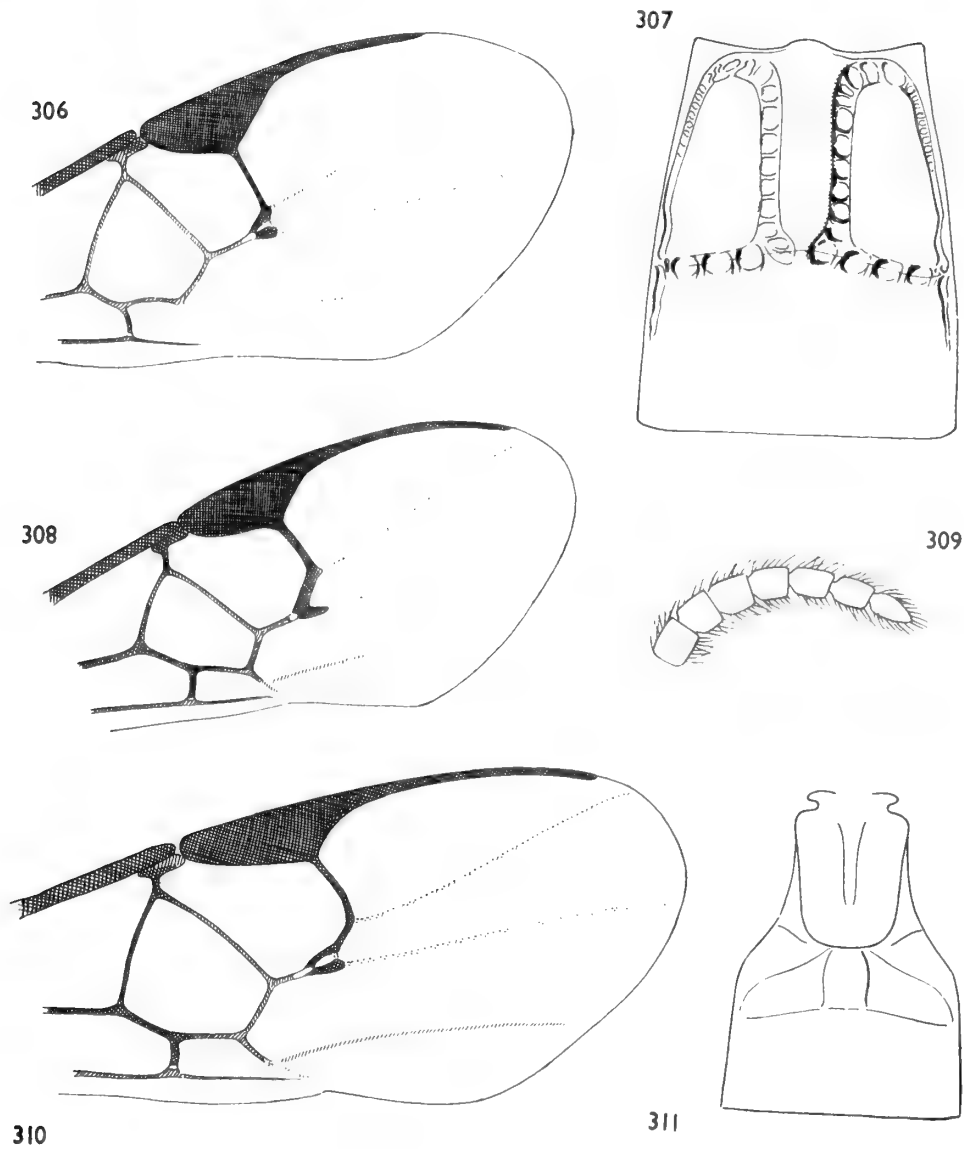
I include in this group two not very closely related species, though very similar in general habitus. Both have tergite 2 strongly rugose and about equal in length to 3; tergite 3 sometimes shows a little weak rugosity at base. The strong, often coarse punctation that characterizes most of the species of the *xanthaspis* and *fasciipennis* groups is absent here, the sculpture of the mesoscutum being fine and not easily resolvable. Small species: 2.5-2.8 mm.

⁵⁰*Microgaster perniciosa* Wilkinson, 1929: 112.

Protomicropplitis perniciosa (Wilkinson) **comb. n.**

⁵¹*Microgaster connexus* Nees, 1834: 174.

Protomicropplitis connexus (Nees) **comb. n.**



FIGS. 306-311. *Protomicroplitis*, ♀: 306, *lepelleyi* (Wilkinson), fore wing, part; 307, *pyrene* sp. n., tergite (2 + 3); 308, *melleus* sp. n., fore wing, part; 309, *austriana* (Wilkinson), apex of flagellum; 310, *pyrene* sp. n., fore wing, part; 311, *orontes* sp. n., basal tergites.

Both species make an identical and characteristic cocoon mass. The cocoons are stacked, one above the other and each parallel with its neighbour to form a compact, comb-like structure.

KEY TO SPECIES

- A Head, thorax except for the propodeal region, and legs in far greater part, red : metacarp between three and four times as long as its distance from the apex of the radial cell (Text-fig. 302) ; tergite 1 wider ; tergite 2 slightly longer than 3 *alvearius* (F.)⁵²

EUROPE.

Host: *Boarmia rhomboidaria* Schiffermüller (Geometridae).

- B Entire body virtually black ; metacarp at most a little longer than its distance from the apex of the radial cell ; tergite 1 narrower ; tergite 2 not at all longer than 3, sometimes with weakly indicated median field that is widest in front.
Mesoscutum shiny, with an uneven, weak, somewhat granular sculpture, more in evidence behind and along imaginary course of the notaulices . *minuta* (Reinhard)⁵³

EUROPE.

Host: *Cleora jubata* Thunberg (formerly *glabraria* Hübner) (Geometridae).

THE *EUTERPE*-GROUP

Monobasic.

Protomicroplitis euterpe sp. n.

♀. Head and gaster entirely bright reddish-yellow. Thorax black except for the propodeum, which is yellowish and the pronotum and propleurum, which are as yellow as the head. Legs, except for the blackened apical half of the hind tarsus, entirely reddish-yellow. Wings very dark blackish to the naked eye. Scape and pedicel reddish-yellow ; flagellum black.

Head polished, unsculptured. Ocelli in a very low triangle, the posterior transverse tangent to the anterior ocellus cutting deeply into the posterior pair. Antenna long, the preapical segment fully two and a half times longer than wide.

Mesoscutum with a little, fine punctation right in front but at first sight appearing highly polished and unsculptured. Areolet of the fore wing narrow, somewhat elongate ; 2nd transverse cubitus united with the 1st at a considerable distance from the junction of the 1st transverse cubitus and the radius (Text-fig. 299) ; 1st abscissa of the discoideus about half as long as the 2nd. Propodeum with a faintly indicated, medial keel. Hind coxa very large, its outer face with well defined, rather sparse punctures ; claws rather long, simple.

Tergite 1 polished but with a few deep foveae across the apical margin ; its medial furrow not very deep. Tergite (2 + 3) polished, unsculptured, divided by deep furrows into four fields (Text-fig. 329). Ovipositor sheath about as long as segment 2 of the hind tarsus, thin and without trace of apical, modified setae.

Length: ca. 4.5 mm.

DUTCH NEW GUINEA : Cyclops Mts., 3,500 ft., iii.1936, 1 ♀, the *TYPE*, (*L. E. Cheesman*).

Type in the British Museum (Nat. Hist.).

⁵²*Ichneumon alvearius* Fabricius, 1798 : 232.

Microgaster alvearius (Fabricius) Spinola, 1808 : 149.

Protomicroplitis alvearius (Fabricius) **comb. n.**

⁵³*Microgaster minuta* Reinhard, 1880 : 357.

Protomicroplitis minuta (Reinhard) **comb. n.**

This is a highly aberrant species though related, I think, to the Philippine species of the *xanthaspis*-group that I have keyed on page 242. It departs from the pattern of these species radically in the almost total suppression of sculpture on the thorax. On size and colour alone, it is a striking species.

THE *SCOTICA*-GROUP

Face dull, rugose-punctate. Vertex with obvious but indefinite sculpture. Ocelli in a low triangle, the transverse, posterior tangent to the anterior ocellus slightly cutting the posterior pair. Disc of scutellum strongly, closely punctate. Propodeum rugose all over and with strongly emphasised medial keel. Areolet large, virtually triangular (Text-fig. 314); vannal lobe with distinct hair-fringe throughout. Inner spur of the hind tibia very long, fully three quarters as long as the hind basitarsus. Tergite 1 varying from more or less parallel-sided to triangularly widened behind; strongly rugose and with medial furrow. Ovipositor sheath with or without modified setae at tip.

I know three species from Europe and there are two N. American species in the British Museum. I include these American species in the key in order to show as wide a range of specific differences as possible within the group definition given above.

KEY TO SPECIES

FEMALES

- 1 Mesoscutum strongly shining, very coarsely, confluent punctate, more especially along the course of the notaulices; hind coxa black, very coarsely rugose; costad abscissa of the basalis fully one third as long as the mediad abscissa.

Tergite (2 + 3) sometimes pale apically; wings decidedly smoky; disc of scutellum becoming almost polished medially and here with a few large, well separated punctures; furrow between scutellum and mesoscutum deeper, wider and more strongly costate than in the other species of the group; 1st abscissa of the discoid-eus as long as the 2nd; spines of the outer side of the hind tibia finer and sparser than in the other species, the tibia hence having a much less prickly appearance; tergite 2 coarsely striate-rugose, more than twice as wide as long and with hardly a trace of a discrete medial field; tergite 3, at least over its medial surface, almost as strongly rugose as 2; ovipositor sheath with 3-4 thickened hairs beneath at apex

meges sp. n

SWITZERLAND: Valais, Les Haudères, Alp du Zate, 6-8000 ft., 10-20.vi.1935, 1 ♀, the *TYPE*, (J. & R. Benson). AUSTRIA: S. Tyrol, Radein, 1 ♀; Loitsch-Krain, 1 ♀. ITALY: Trieste, xii.1902, 1 ♀. Type in the British Museum (Nat. Hist.).

This species is transitional between the groups of *scotica* and *abdominalis*. The shiny, coarsely sculptured mesoscutum, the sparseness of the tibial spines and the form of the setae at the apex of the ovipositor sheath are strongly reminiscent of *abdominalis*.

- Mesoscutum dull by reason of a fine, scaly-reticulate microsculpture between its punctures; hind coxa reddened at least apically, especially beneath; costad abscissa of the basalis short, not more than one quarter as long as the mediad abscissa. *scotica*-group s. str. 2
- 2 Ovipositor sheath fully three quarters as long as the hind basitarsus; without modified setae at apex.

Gaster broad, with tergite 1 markedly widened behind and tergite 2 strongly transverse; ovipositor thin and without trace of an apical constriction (Text-fig. 313); hind coxa reddish on rather less than apical half and with the pale colour

more extensive below ; preapical segment of the antenna twice as long as wide ; hind tibia entirely red *scotica* (Marshall)⁵⁴

EUROPE: British Is. ; Poland ; Sweden. N. AMERICA: 1 ♀ in British Museum (Nat. Hist.) from British Columbia. Type in the British Museum (Nat. Hist.).

This species is stouter than the second European species, *hinzi* and differs from it at once on the characters of the ovipositor sheath.

- Ovipositor sheath not more than two thirds as long as the hind basitarsus and with modified setae at apex 3
- 3 Tergites, except 1 and the median field of 2, yellowish red ; segment 5 of the front tarsus without a spine ; hind coxa reddened virtually throughout ; 1st abscissa of the discoideus distinctly a little shorter than the 2nd ; flagellum thicker, not tapered distally, the preapical segment about two and one third times longer than wide ; tip of ovipositor sheath with two setae that are pale, adpressed and easily overlooked.

Fore wing yellowish with stigma pale and emitting radius more distal to middle than in *facetosa* ; the mesoscutum and disc of scutellum are more coarsely sculptured than in the other species ; median field of tergite 2 sharply emphasised, its lateral, bounding furrows, deep, coarsely rugose *auripes* (Provancher)⁵⁵

N. AMERICA.

Host: *Neleucania albilinea* Hübner (Noctuidae).

The above notes are based on a specimen in the British Museum determined by Gahan.

- Tergites beyond 2 blackish with at most tergites 2 and 3 narrowly along sides and 3 narrowly across apical margin, yellow ; segment 5 of the front tarsus with a lateral spine ; hind coxa with much blackening on basal half and reddish or yellowish apically ; 1st abscissa of the discoideus as long as the 2nd ; flagellum thinner, tapered distally with the preapical segment about three times as long as wide ; tip of ovipositor sheath with 2-3 blackened setae 4
- 4 Tergite 1 narrow, parallel-sided or nearly so (Text-fig. 326) ; tergite 2 only very slightly transverse, about one and a half times as wide as long ; hind femur yellow rather than red, with darkened tip ; metacarp a little longer ; front tarsal segment 5 without an apical constriction, its spine less well developed.

Hind tibia blackened at apex *facetosa* (Weed)⁵⁶

N. AMERICA. My interpretation of this species is based on specimens determined by Muesebeck and kindly presented by him to the British Museum.

- Tergite 1 shorter, less narrow and distinctly widened behind, more coarsely rugose ; tergite 2 a little more transverse ; hind femur red rather than yellow, its tip hardly darkened ; metacarp a little shorter ; front tarsal segment 5 with a strong apical constriction and well developed spine.

Hind coxa more extensively blackened at base than in *facetosa*, the black covering fully basal half ; in *facetosa*, the yellow of the hind coxa, at least laterally, tends to push into the black area as a tongue ; hind tibia reddish throughout ; ovipositor sheath (Text-fig. 318) *hinzi* sp. n.

EUROPE: Finland ; Germany, Harz, 3 ♀♀, one the TYPE, 1 ♂, bred 23.viii.1953, from *Deilinia pusaria*, (*R. Hinz*). Type in Coll. Hinz.

Host: *Deilinia pusaria* L. (Geometridae).

The fore wing of this species is faintly darkened apically but remains hyaline within the radial cell.

⁵⁴*Microgaster scotica* Marshall, 1885 : 251.

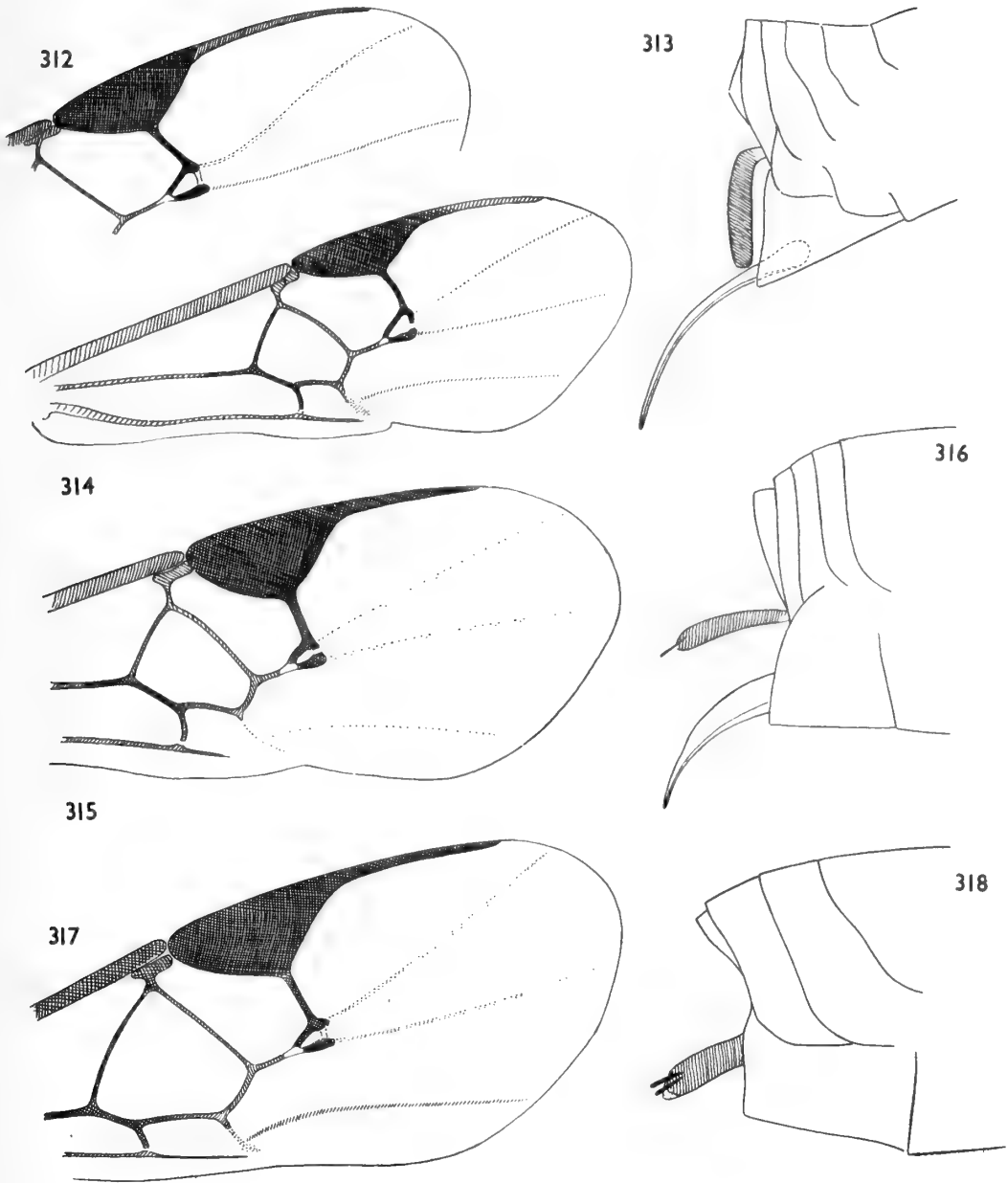
Protomicroplitis scotica (Marshall), **comb. n.**

⁵⁵*Microgaster auripes* Provancher, 1886 : 141 ; Muesebeck 1922 : 31

Protomicroplitis auripes (Provancher) **comb. n.**

⁵⁶*Microgaster facetosa* Weed, 1888 : 296.

Protomicroplitis facetosa (Weed) **comb. n.**



FIGS. 312-318. *Protomicroplitis*, ♀: 312, *connexus* (Nees), fore wing, part; 313, *scotica* (Marshall), ovipositor, lateral; 314, same, fore wing; 315, *spretus* (Marshall), fore wing, part; 316, *orontes* sp. n., ovipositor, lateral; 317, *calceatus* (Haliday), fore wing, part; 318, *hinzi* sp. n., ovipositor sheath.

THE *ABDOMINALIS*-GROUP

Monobasic.

***Protomicroplitis abdominalis* (Nees) comb. n.**

Microgaster abdominalis Nees, 1834 : 163.

Hygroplitis abdominalis (Nees) Lyle, 1918 : 130.

♀♂. This is a most distinctive species, easily recognised by the colour of the wings. The gaster is usually blackish in the male but tergite (2 + 3) is extensively pale marked (reddened) in the female.

Vertex between the ocelli and the eye-margin polished. Flagellum long, thick, pale at base and with the preapical segment fully twice as long as wide.

Mesoscutum shiny, very coarsely reticulate-punctate. Disc of scutellum strongly domed, coarsely punctate and separated from the mesoscutum by a wide, strongly costate furrow ; the posterior, polished band of the scutellum is widely interrupted at middle by a patch of rugosity. Radial cell abruptly narrowed apically (Text-fig. 324) ; 1st abscissa of the discoideus very distinctly shorter than the 2nd.

Tergite 1 is slightly transverse and has a deep, narrow, medial furrow. The short, almost hidden, ovipositor sheath shows a row of four fine, black setae, arising from the lower margin.

EUROPE. Occurs in England.

Lyle was probably deceived by the heavily rugose gaster of this species in believing it to be related to *russatus* Haliday and *rugulosus* Ns., the two species that constitute *Hygroplitis* ; *Hygroplitis* is treated as a synonym of *Microgaster* in this work.

The short 1st abscissa of the discoideus, the coarsely reticulate-punctate mesoscutum and the strongly domed disc of the scutellum with its posterior rugose are all absent in *Microgaster*. The fine setae that adorn the apex of the ovipositor sheath in *abdominalis* point to a relationship with *Protomicroplitis* but never occur in *Microgaster*.

Protomicroplitis abdominalis (Nees) is an extreme form whose position is perhaps midway between the *connexus*- and *scotica*-groups.

THE *ORONTES*-GROUP

Monobasic.

***Protomicroplitis orontes* sp. n.**

♀. Body entirely black. Legs very dark.

Frons and vertex polished. Posterior, transverse tangent to the anterior ocellus almost touching the posterior pair. Antenna about as long as the body, rather weak, with the preapical segment about one and a half times longer than wide.

Disc of scutellum very shiny and with only faint traces of superficial punctation. 1st abscissa of the discoideus as long as the 2nd ; 2nd transverse cubitus more or less interstitial with the 1st abscissa of the radius. Inner spur of the hind tibia only a little longer than the outer one but distinctly reaching beyond the middle of the hind basitarsus ; segment 5 of the front tarsus with a fine spine, very hard to see.

Tergite 1 about one and one third times longer than wide, deeply grooved on its anterior smooth, declivous part ; posteriorly its sides are gently rounded ; the short, posterior, horizontal surface is weakly rugose. The three fields of tergite 2 feebly roughened (Text-fig. 311). Ovipositor sheath with a single thickened seta at apex ; ovipositor considerably thickened towards base (Text-fig. 316). Length: ca. 2.5 mm.

EUROPE : Finland, Kuusamo, 1 ♀, the *TYPE*, (*Frey*), Novorossiisk, 1 ♀, (*Luther*).
Type in Coll. Hellén.

Important for recognising this little species are the extremely fine sculpture of the mesoscutum and the form of tergite (2 + 3). I am at a loss to suggest close allies.

THE *SPRETUS*-GROUP

The group is essentially characterized by the short antenna of the female and the form of tergites 1 and (2 + 3).

The head, in a lateral view, is of characteristic shape (Text-fig. 325). Face more or less transversely striate-punctate. Mesoscutum shiny, strongly punctate to rugose-punctate but without microsculpture between the punctures; disc of scutellum flattened, shiny, with or without widely spaced punctures. Hind coxa flattened on outer side. First abscissa of the radius placed at right angles to the stigma; 1st abscissa of the discoideus as long as the 2nd.

KEY TO SPECIES

- 1 Gaster in greater part yellow; hind coxa entirely yellow; antenna less thick, with segments 10–12 about one and a half times longer than wide.

Flagellum without bristly pubescence; mesoscutum very coarsely punctate, almost rugose-punctate; disc of scutellum shiny, with large, scattered punctures; its extreme tip with traces of fine rugosity interrupting the posterior, polished band of the scutellum; inner spur of the hind tibia almost as long as the hind basitarsus; propodeum with coarse rugosity; metacarp about two and a half times as long as its distance from the apex of the radial cell; stigma as in *austrina*

tomentosa (Wilkinson)⁵⁷

INDIA: Dehra Dun (type locality). Type in the British Museum (Nat. Hist.).

Host: The type series was recorded as parasitising a Pyralid defoliating *Terminalia tomentosa*. In B.M. (N.H.) is additional material bred from *Macalla* sp. (Pyralidae), defoliating *Tectona grandis*. A gregarious parasite.

- Gaster black or blackish; hind coxa dark on at least posterior half; antenna thick; with segments 10–12 hardly longer than wide 2

- 2 Hind coxa black; hind tibia very dark but with a faintly paler area just proximal to middle but not extending to base; metacarp about one and one third times longer than its distance from the apex of the radial cell; stigma broader (Text-fig. 315); disc of scutellum rugulose at extreme tip, its surface otherwise with widely separated punctures; propodeum with a predominating sculpture of coarse punctation; flagellum without bristly pubescence; gaster (Text-fig. 319) *spretus* (Marshall)⁵⁸

EUROPE: Only specimens from England seen. Type presumably lost.

Host: *Dioryctria palumbella* F. (Kent, Dartford Heath, bred in May by R. L. E. Ford), *Euzophera consociella* Hübner (Phycitidae). A solitary parasite.

This species, as far as European Microgasterinae are concerned, is quite unmis-takeable.

- Hind coxa reddish yellow beyond middle; hind tibia yellow on fully basal half; meta-carp about three times as long as its distance from the apex of the radial cell; stigma slightly less broad than in *spretus* (cf. Text-fig. 315); disc of scutellum polished at tip and its surface, otherwise, virtually impunctate; propodeal sculpture not

⁵⁷*Microgaster tomentosa* Wilkinson, 1930 : 283.

Protomicroplitis tomentosa (Wilkinson) **comb. n.**

⁵⁸*Microgaster spretus* Marshall, 1885 : 259.

Protomicroplitis spretus (Marshall), **comb. n.**

resolvable as obvious punctation ; flagellum with bristly pubescence (Text-fig. 309).

Mesoscutum shiny and with large, on the whole well separated, punctures

austrina (Wilkinson)⁵⁹

S. AFRICA: Cape Province, Pondoland, Port St. John (type locality). Type in the British Museum (Nat. Hist.).

The series recorded as *austrina* by Wilkinson (1930 : 282), is a different species. The hind spurs of this species are shorter than in *spretus* and *tomentosa*.

THE CALCEATUS-GROUP

I include two species in this group ; they are perhaps less closely related than their external appearance suggests.

Ocelli not in a very low triangle, the posterior, transverse tangent to the anterior ocellus hardly touching the posterior pair. Mesoscutum very shiny, at most with fine punctation ; disc of the scutellum markedly convex ; posterior, polished band of the scutellum not in the least interrupted at middle by rugosity. Propodeum without trace of medial keel ; shiny but vaguely rugose-punctate. Tergites with fine hairs all over. Sheath of ovipositor without setiform appendages at tip.

In general habitus, the two species bear a striking resemblance to the *vitripennis*-group of *Apanteles*, especially with regard to the structure of the head and thorax and the sculpture of the mesoscutum and propodeum.

KEY TO SPECIES

FEMALES AND MALES

- A Hind femur and hind tibia infusate at apex ; phragma of the scutellum widely visible ; metacarp about four times as long as its distance from the apex of the radial cell (Text-fig. 317) ; spines of the outer side of the hind tibia fine, more erect, well separated, sparser *calceatus* (Haliday)⁶⁰

EUROPE. Type presumably in the Dublin Museum, Ireland.

Host: *Thera variata* Schiffermüller ; *Thera obeliscata* Hübner (Geometridae).

A solitary parasite, making a pale brown cocoon.

- B Hind femur and hind tibia entirely reddish-yellow ; phragma of the scutellum hidden ; metacarp about twice as long as its distance from the apex of the radial cell ; spines of the outer side of the hind tibia much thicker, less erect, more numerous and, to some extent, overlapping (Text-fig. 305).

1st discoidal cell distinctly smaller than in *calceatus* *circumvectus* (Lyle)⁶¹

EUROPE: England, New Forest (type locality) ; Finland. Type in the British Museum (Nat. Hist.).

Host: *Lobophora carpinata* Borkhausen (now *Nothopteryx*). (Geometridae). Solitary parasite making a very characteristic cocoon, dark brown in colour, shorter and more barrel-shaped than that of *calceatus*.

The mesoscutum is more shiny and more distinctly punctate in this species than in *calceatus* and the propodeum is shorter. The densely spinose hind tibia is a distinctive feature of this species.

⁵⁹*Microgaster austrina* Wilkinson, 1929 : 119.

Protomicroplitis austrina (Wilkinson) **comb. n.**

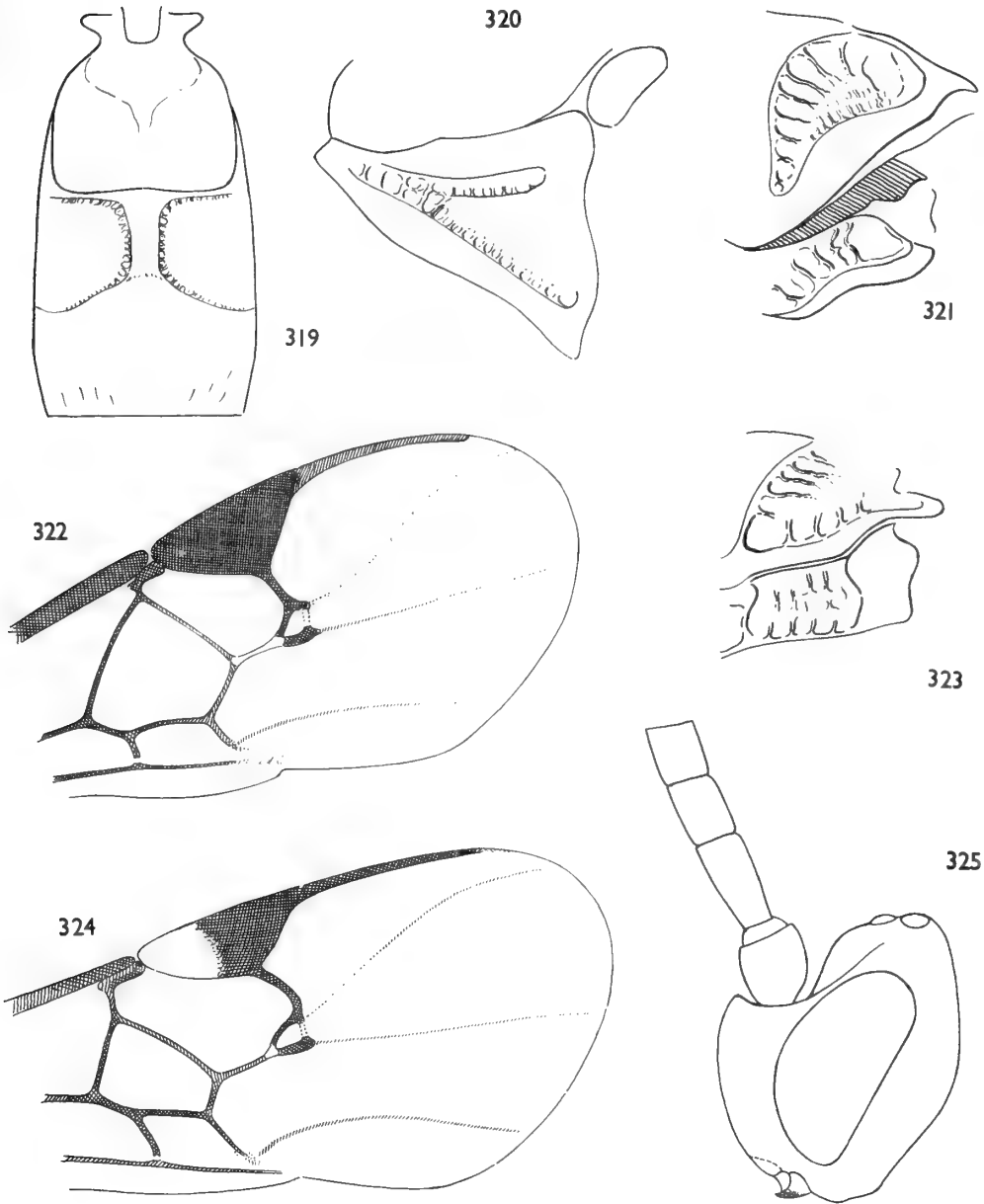
⁶⁰*Microgaster calceatus* Haliday, 1834 : 241.

Protomicroplitis calceatus (Haliday) **comb. n.**

⁶¹*Diolcogaster circumvectus* Lyle, 1918 : 105.

Microgaster circumvectus (Lyle) Fahringer, 1937 : 335.

Protomicroplitis circumvectus (Lyle) **comb. n.**



FIGS. 319–325. *Protomicroplitis*, ♀: 319, *spretus* (Marshall), basal tergites; 320, *schunkei* sp. n., side of pronotum; 321, *marginatus* (Nees), scutellum & postscutellum, (lateral) to show phragma (shaded) of scutellum; 322, same, fore wing, part; 323, *periander* sp. n., scutellum & postscutellum (lateral), (phragma of scutellum concealed); 324, *abdominalis* (Nees), fore wing, part; 325, *spretus* (Marshall), to show head (lateral) and basal flagellar segments.

THE *COENONYMPHAE*-GROUP

Monobasic.

***Protomicroplitis coenonymphae* (Watanabe) comb. n.**

Microgaster coenonymphae Watanabe, 1937 : 101.

♀. Head and thorax blackish ; gaster in greater part yellow-testaceous with infuscation across the tergites and within the hollowed out part of tergite 1. Hind coxa almost entirely, and the hind femur entirely, yellow-testaceous.

Face strongly shining, almost smooth. Frons and vertex polished. Ocelli in a rather low triangle, the posterior, transverse tangent to the anterior ocellus just cutting the posterior pair.

Mesoscutum polished, impunctate. Disc of scutellum strongly convex, polished ; posterior, polished band of the scutellum widely interrupted at middle by a patch of rugosity. Propodeum somewhat flattened, with much unevenly distributed rugosity and a strong, medial keel. First abscissa of the radius somewhat obliquely placed on the stigma.

Tergite 1 coarsely rugose, with short medial furrow that does not cut through the medial hump (Text-fig. 327). Tergite 2 with poorly defined, raised median field ; otherwise shiny and with vaguely defined pits and rugosities ; lateral field of tergite 2 transverse. Ovipositor sheath at tip without setiform appendages.

JAPAN : Tokyo, (type locality).

Type in Entomological Institute, (Hokkaido University). Two paratypes in British Museum (Nat. Hist.).

Host : *Coenonympha oedippus* F. (Satyridae).

This is an aberrant species. On the shape of the 2nd tergite and the short 1st abscissa of the discoideus it perhaps comes closest to the *connexus*-group. The completely smooth mesoscutum is a rare feature among the species-groups that I include in *Protomicroplitis*.

Behind the posterior polished band of the scutellum is a narrow, rugose groove—a part of the scutellum—that, in its extension inwards, is confluent with the patch of rugosity that interrupts the posterior, polished band. This sculptural feature occurs in species of the *xanthaspis*-group but I have not fully explored its taxonomic value.

THE *LEPELLEYI*-GROUP

Monobasic.

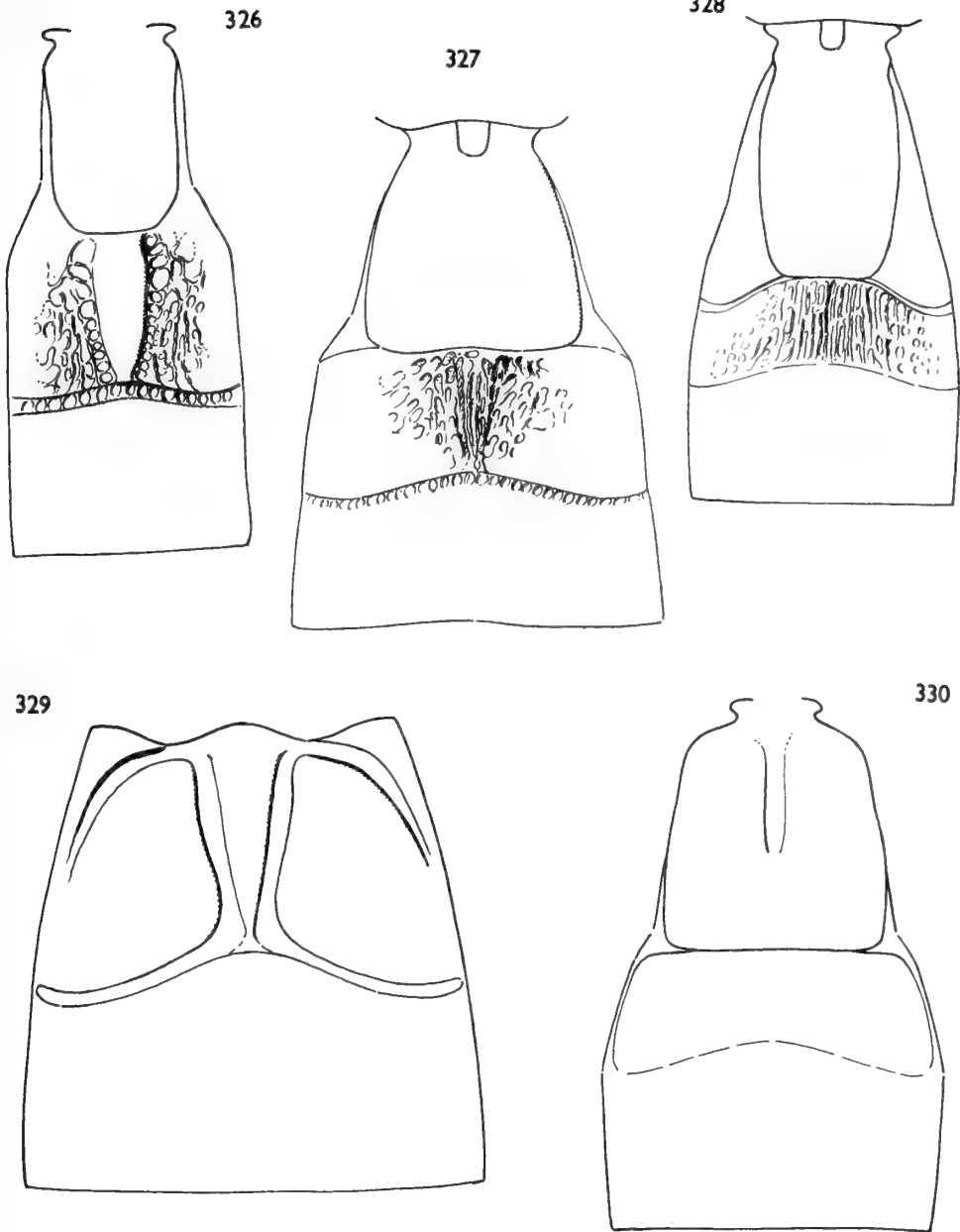
***Protomicroplitis lepelleyi* (Wilkinson) comb. n.**

Microgaster lepelleyi Wilkinson, 1934 : 118.

♀. Body in greater part blackish ; anterior corners of tergite (2 + 3) pale. Legs obscure brownish red with the hind coxa entirely dark. Wings hyaline.

Face dull, rugose-punctate. Frons and vertex dull, densely rugose-punctate. The highly polished occipital region is constricted on each side and sharply separated from the adjacent, rugose surface. Ocelli in rather a high triangle, the posterior transverse tangent to the anterior ocellus hardly touching the posterior pair. Antenna fully as long as the body, with the preapical segment twice as long as wide.

Mesoscutum dull, coarsely rugose-punctate ; the sculpture denser and finer anteriorly. Disc of scutellum not separated from the lateral, rugose areas ; the disc itself coarsely punctate, dull and sharply separated from the wide, polished, posterior band of the scutellum. Propodeum



FIGS. 326-330. Basal tergites of *Protomicroplitis*, ♀: 326, *facetosa* (Weed); 327, *coenonymphae* (Watanabe); 328, *connexus* (Nees); 329, *euterpe* sp. n., (tergite (2 + 3) only); 330, *schunkei* sp. n.

coarsely reticulate-rugose with at most a trace of a medial keel ; in most specimens the place of the keel is taken by broken reticulations. Wings (Text-fig. 306). Hind coxa coarsely rugose-punctate.

Tergite 1 nearly twice as long as wide, parallel-sided for most of its length but on its short horizontal surface narrowed (Text-fig. 296) ; its surface smooth throughout except for some rugosity at sides of apical turned over part. Tergite (2 + 3) having a smooth, polished appearance with a hardly indicated median field ; this field is hardly defined towards the almost obliterated second suture but tends to be slightly widened behind. Ovipositor sheath without a trace of apical setiform appendages.

Length: ca. 3 mm.

AFRICA : Kenya (type locality).

Type in the British Museum (Nat. Hist.).

Host : *Epigynopteryx ansorgei* Warren (Noctuidae).

This species is essentially characterized by the coarse, quite dull, sculpture of the head and thorax. The absolute break between the densely sculptured scutellar disc and the posterior, polished band of the scutellum is a striking feature of the group.

The group is isolated and restricted to Africa. There are several undescribed species in the British Museum and none of them is transitional towards any other species-group within *Protomicroplitis*.

THE *SCHUNKEI*-GROUP

Monobasic.

Protomicroplitis schunkei sp. n.

♀. Black ; gaster very dark brown with tergite (2 + 3) very slightly paler at sides. Front and middle legs entirely pale ; hind coxa black ; hind femur blackish virtually throughout ; hind tibia blackish but sharply pale on about basal two fifths ; hind tarsus blackish throughout except that the extreme base of the basitarsus is yellowish. Fore wing hyaline but a little darkened beyond the areolet.

Head above smooth, shiny with faint satin-like sheen. Face shiny but a little roughened. Ocelli in a very low triangle, the transverse, posterior tangent to the anterior ocellus cutting deeply into the posterior pair. Antenna rather thick with the preapical segment about three times as long as wide.

Mesoscutum distinctly punctate, the punctures hardly more crowded along the course of the notaulices ; the general surface is somewhat dull, especially along the lateral lobes because of a fine, scaly-reticulate sculpture between the fairly large punctures. Pronotum (Text-fig. 320). Disc of scutellum punctate ; towards sides rugose-punctate. Propodeum very shiny, almost smooth over a large part of its surface ; the medial keel very strong. Mesopleurum in far greater part smooth, polished ; anteriorly with only somewhat indistinct punctation. Hind spurs whitish yellow, the inner one fully three quarters as long as the hind basitarsus. Submedian cell without hairs ; 1st abscissa of the discoideus a little shorter than the 2nd ; metacarp fully three times as long as its distance from the apex of the radial cell ; radial cell markedly downcurved at apex (Text-fig. 333) ; vannal lobe slightly concave beyond its widest part and here without trace of projecting hairs.

Gaster (Text-fig. 330). Tergite 1 with deep, smooth medial furrow reaching the posterior horizontal part of the tergite. Apex of the ovipositor sheath without modified setae.

Length: 4 mm.

S. AMERICA : Peru, Chanchamayo, 13.vi.1949, 1 ♀, the *TYPE*, (*J. M. Schunke*). Type in the British Museum (Nat. Hist.).

This species seems to be isolated and I am at a loss to suggest close allies. In general habitus there is a marked resemblance to the species of the *scotica*-group and this is heightened by the shape of the first tergite and the sculpture of the mesoscutum. The unmodified second tergite together with the very small areolet help to isolate the species. The deep, sharply discrete, lateral pronotal furrow is a rare feature in *Protomicroplitis*.

THE CALLIPTERA-GROUP

Head, from in front, with wide transverse face ; above, polished, impunctate. Mouth opening very wide, the mandibles, in consequence, long (Text-fig. 332). Ocelli in a low triangle, the posterior, transverse tangent to the anterior ocellus just cutting the posterior pair.

Mesoscutum polished, impunctate or with very fine, sparse punctation. Propodeum short, very coarsely reticulate (very much like the propodeum of *Microplitis*) ; median keel present. Inner spur of the hind tibia much longer than half the basitarsus. Metacarp about one and a half times as long as its distance from the apex of the radial cell but its distal limit not clearly defined (Text-fig. 331). Hind coxa moderately large.

The median plate of tergite 1 of very characteristic appearance (Text-fig. 334).

At least the gaster and legs in far greater part bright reddish-yellow.

The two species belonging to this group represent typical *Protomicroplitis* and are a long way removed from the numerous species belonging to the *xanthaspis-fasciipennis* groups and such of their extensions as the *scotica*-, *spretus*- and *connexus*-groups. I have met with no species from the Old World that I consider to be closely related to the *calliptera*-group. In the New World, on the other hand, the *calliptera*-group seems to show some affinity with the *lelaps*-group but it is possible that I have been deceived here by a confusing example of convergence.

KEY TO SPECIES

- A Head and thorax black ; mesoscutum with a fine, sparse punctation ; mesopleurum sharply, discretely punctate in front ; face with slightly stronger rugosity in which striate elements are much in evidence.
 Antenna longer than the body with the preapical segment of female three times as long as wide ; length: ca. 5 mm. (wings, Text-fig. 331) *calliptera* (Say)⁶²
 N. AMERICA. Type lost, according to Muesebeck, 1922.
 Host: *Platysenta sutor* Guenée, *Platysenta videns* Guenée (Noctuidae).
 My knowledge of this species is based on three females borrowed from Riksmuseum, Stockholm (Texas, *Belfrage*) and a female in the British Museum collection, also from Texas, bearing the label "Microgaster maculipennis". Muesebeck synonymised *maculipennis* with *calliptera* in 1922.
- B Head and thorax reddish yellow with only the propodeum infusate ; mesoscutum impunctate ; mesopleurum impunctate in front. Male *mediatus* (Cresson)⁶³
 CUBA. MEXICO. Type in the Academy of Sciences, Philadelphia.
 I know this species from a single male from Cuba, Soledad, determined by Muesebeck.

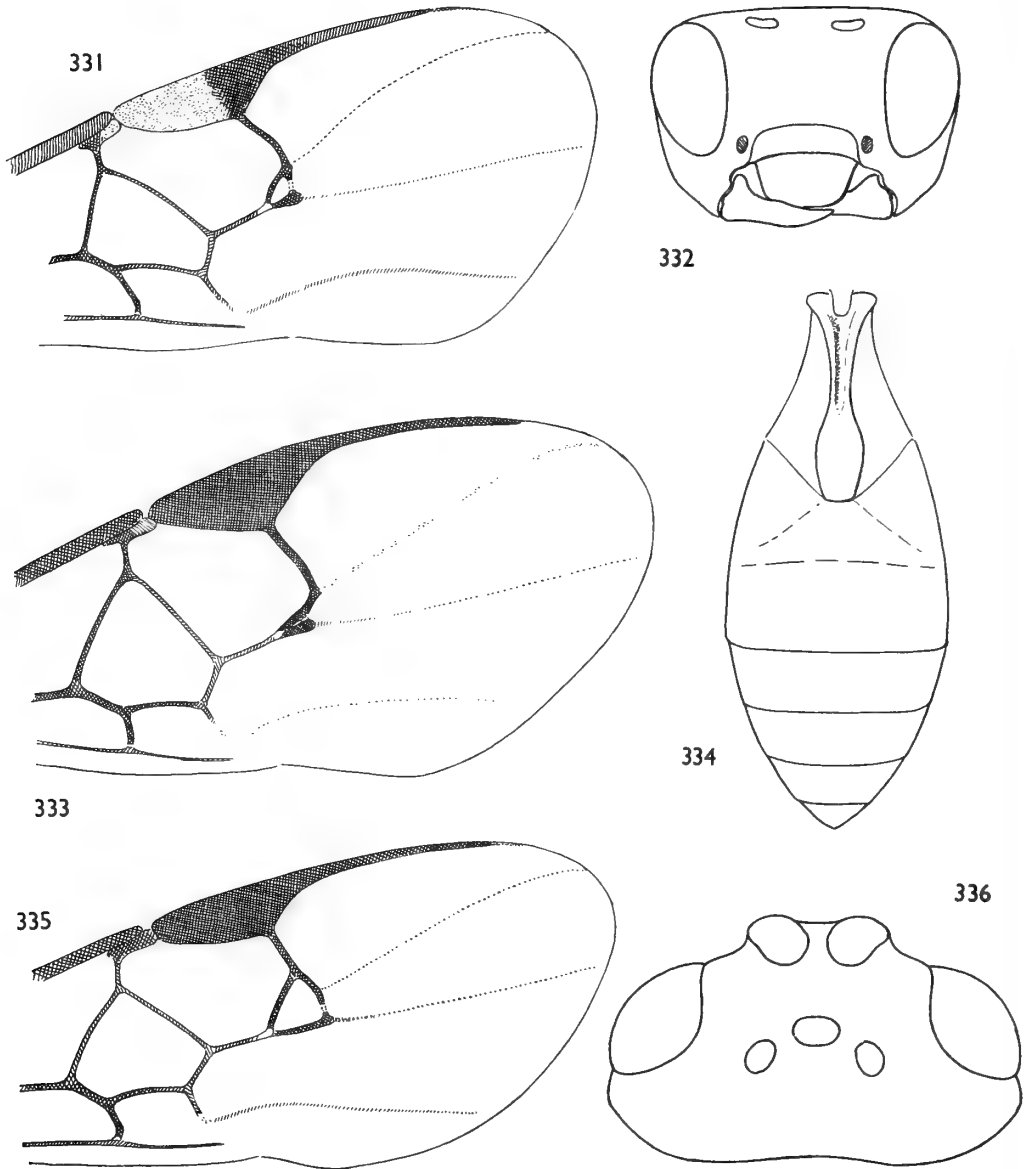
⁶²*Microgaster calliptera* Say, 1836 : 264.

Protomicroplitis calliptera (Say) **comb. n.**

⁶³*Microgaster mediatus* Cresson, 1865 : 66.

Microgaster mediatus Cresson ; Muesebeck, 1922 : 27.

Protomicroplitis mediatus (Cresson) Ashmead, 1900 : 292.



FIGS. 331-336. *Protomicroplitis*: 331, *calliptera* (Say), ♀, fore wing, part; 332, same, head, seen partly from below; 333, *schunkei* sp. n., ♀, fore wing, part; 334, *calliptera* (Say), ♀, gaster, dorsal; 335, *ippis* sp. n., ♂, fore wing, part; 336, same, head, from above.

THE *LELAPS*-GROUP

Black species with the hind coxa and the hind femur black. Wings hyaline. Head rather large, seen from above distinctly wider than the mesoscutum; seen from in front, like that of *calliptera* (cf. Text-fig. 332). Mouth opening wide, especially in *lelaps*. Ocelli in a low triangle, the posterior, transverse tangent to the anterior ocellus cutting the posterior pair.

KEY TO SPECIES

FEMALES

- A Vannal lobe beyond its widest part very slightly concave and here without projecting hairs; tergite 1 fully three times as long as wide, virtually parallel-sided; fore wing with dark apical cloud; metacarp about twice as long as its distance from the apex of the radial cell; tergite (2 + 3) with an elongate, parallel-sided basal field, open behind; surface on each side of this field yellow; ovipositor sheath with a fine modified apical seta; scape longer, yellowish as is also the basal part of the flagellum.

Mesoscutum and scutellum with unusually long, fine whitish pubescence; mesoscutum strongly shining and smooth except for minute, setiferous punctures; 1st abscissa of the discoideus very slightly shorter than the 2nd; disc of scutellum behind with a small group of punctures that hardly interrupts the posterior polished band; hind tibia blackish but whitish at extreme base; hind coxa large, closely covered with deep punctures, the interspaces very shiny. Length: ca. 5 mm.

lelaps sp. n.

MEXICO: Vera Cruz, Atoyac, 1 ♀, the TYPE, (Godman-Salvin). Type in the British Museum (Nat. Hist.).

- B Vannal lobe beyond its widest part straight and throughout with fringe of short hairs; tergite 1 at most two and a half times as long as wide, more rugose than in *lelaps* and with more sharply defined median groove on anterior two thirds; fore wing without an apical cloud; tergite 2 with two short, lateral furrows and with an elongate raised median field that is not delimited by these furrows; scape short, black, like the flagellum; tip of ovipositor sheath with a thickened hair that is not so sharply distinct as in *lelaps*; metacarp about two and a half times longer than its distance from the apex of the radial cell.

Mesoscutum very shiny, distinctly punctate, more especially in front, but the punctures fading out posteriorly; pubescence normal; 1st abscissa of the discoideus, as in *lelaps*, very slightly shorter than the 2nd; hind tibia infusate but becoming yellowish on about basal third; posterior tip of the scutellar disc rugose-punctate and completely interrupting the posterior, polished band of scutellum; hind coxa a little less evenly punctate than in *lelaps*; hind spurs yellow; in *lelaps* they are brown; length: ca. 4 mm.

duris sp. n.

MEXICO: Guerrero, Tepetlapa, 3,000 ft., vi. 1 ♀, the TYPE, (H. H. Smith), Guerrero, Chilpancingo, 4,600 ft., vi. 1 ♀, (H. H. Smith). Type in the British Museum (Nat. Hist.).

Both these species have the face distinctly transverse and the propodeum very coarsely reticulate-rugose.

THE *IPPIS*-GROUP

Monobasic.

Protomicroplitis ippis sp. n.

♂. Scape and fully basal half of flagellum bright yellowish-red. Legs predominantly dark; hind pair brownish black throughout, including the spurs; hind coxa blacker than the rest of the leg. Fore wing darkened at apex and with dark patch beneath stigma.

Head small, strongly transverse, appearing very small in relation to the strongly domed, rather massive thorax (Text-fig. 336).

Face a little higher than wide, rugose ; top of head and temples more or less transversely rugose-striate. Ocelli in a very low triangle.

Mesoscutum dull with large punctures along each side of the middle line, with the interspaces scaly-reticulate ; the notaulic courses are broadly rugose-reticulate ; pubescence of mesoscutum consisting of rather thick, closely adpressed brownish-golden hairs. Disc of scutellum strongly domed, especially in front, where it falls steeply to the wide, strongly costate furrow between itself and the mesoscutum ; dull, strongly rugose all over. Posterior, polished band of the scutellum widely interrupted at middle by an area of rugosity. Mesopleurum depressed below and here dull, densely rugose-reticulate. Wings (Text-fig. 335) ; submedian cell of fore wing without hairs ; vannal lobe small, strongly concave beyond its widest part and here without trace of a hair-fringe.

Sides of tergite 1 outside the long, narrow, median plate, and sides of tergite 2 pale, membranous.

Length: ca. 4.2 mm.

BRAZIL : Nova Teutonia, 25.iii.1936, 1 ♂, the *TYPE*, (*Plaumann*).

Type in the British Museum (Nat. Hist.).

A very remarkable and distinctive species, characterized to some extent by the unusually coarse sculpture of the large, hind coxa. Although the shape of the plate of tergite 1 approaches that of *lelaps* and the *calliptera*-group, I do not think that *ip̄pis* is related to these species. I am inclined to regard it rather as an aberrant offshoot in the *xanthaspis*-group line of descent.

XANTHOMICROGASTER Cameron **gen. rev.**

Xanthomicrogaster Cameron, 1911 : 325.

[=*Microgaster* Latreille ; Wilkinson, 1930 : 284].

The essential features of this genus, which seems distinct enough on the material available, lie in the shape of the gaster and the venation of the hind wing. On both these points it differs from *Hypomicrogaster*.

Mesoscutum polished and with only a fine, sparse punctation. Scutellum flattened, polished, impunctate ; lateral polished field only weakly convex in the anterior direction, so that the sunken area between itself and the disc gradually narrows from in front to behind. Inner spur of the hind tibia fully three quarters as long as the hind basitarsus ; spines of the outer side of the hind tibia long enough to give the tibia a prickly appearance. Tergite 2 separated from 3 by a deep furrow. Hypopygium short, evenly sclerotised all over. Ovipositor sheath fully two thirds as long as the hind tibia, clothed with long as well as short hairs.

KEY TO SPECIES

FEMALES AND MALES

1	Males	2
—	Females	3
2	Body predominantly bright reddish yellow, with the mesosternum, propodeum, post-scutellum, underside of hind coxa and gaster posterior to tergite 2, blackened ; tergite 2 large, very coarsely rugose and together with 3 occupying almost the entire surface of the gaster beyond tergite 1 ; apical tergites very short and retracted beneath 3 ; stigma slightly narrower ; 1st abscissa of the radius slightly longer and more obliquely placed than in <i>pelides</i> (Text-figs. 344 and 345)	<i>seres</i> sp. n.

MEXICO: Vera Cruz, Atoyac, V., 2 ♂♂, one the *TYPE*, (*H. H. Smith*).

- Body predominantly black but the head red ; tergite 1 almost yellow and a pale spot at the side of tergite 3 ; tergite 2 much less exaggerated in size and sculpture than in *seres* and, together with 3, not occupying the greater part of the gaster beyond tergite 1 ; apical tergites not short and not retracted noticeably beneath tergite 3
- ? *pelides* sp. n.

BRAZIL: Nova Teutonia, v. 1937, 1 ♂, (*Plaumann*) (see couplet 3).

- 3 Body and legs entirely honey-yellow ; stigma narrower, emitting the radius more obviously distal to middle ; abscissa 1 of the radius slightly longer and slightly curved ; tergite 2 less transverse, two and a half times as wide as long, its coarse but very superficial sculpture present only towards sides
- fortipes* Cameron⁶⁴

BRITISH GUIANA. Only type female seen ; in British Museum (Nat. Hist.).

- Thorax at least in part, and the hind coxa entirely, black ; stigma wider, emitting the radius less obviously distal to middle ; abscissa 1 of the radius slightly shorter and virtually straight ; tergite 2 more transverse, fully three times as wide as long, its sculpture finer, denser, and more extensive than in *fortipes*.

Head, except for the ocellar triangle and a dark patch behind the antennal insertions, and the mesoscutum, except for a dark patch in front, red ; hind femur almost yellow, except for a dark apical tip ; hind tibia more reddish than its femur ; tergite 1 obscure testaceous and contrasting with the black 2nd tergite ; gaster (Text-fig. 338)

pelides sp. n.

BRAZIL: Nova Teutonia, viii.1935, 1 ♀, the *TYPE*, (*Plaumann*). Type in the British Museum.

BULUKA de Saeger

Monobasic.

Buluka de Saeger, 1948 : 64.

I have no doubt that I have correctly recognised this genus ; de Saeger has given an excellent figure of it.

The genus is remarkable only because of the structure of the gaster and certainly belongs to the Microgasterinae and not to the Sigalphinae in which subfamily de Saeger, while fully aware of its Microgasterine features, put it.

In my opinion *Buluka* is not far removed from *Protomicroplitis* in its widest sense and, within this genus, shows affinity perhaps with the *connexus*-group because of the smooth vertex and temples and the shortness of the first abscissa of the discoideus.

There are two males in the British Museum collection that I have provisionally identified as *Buluka straeleni*.

Buluka straeleni de Saeger

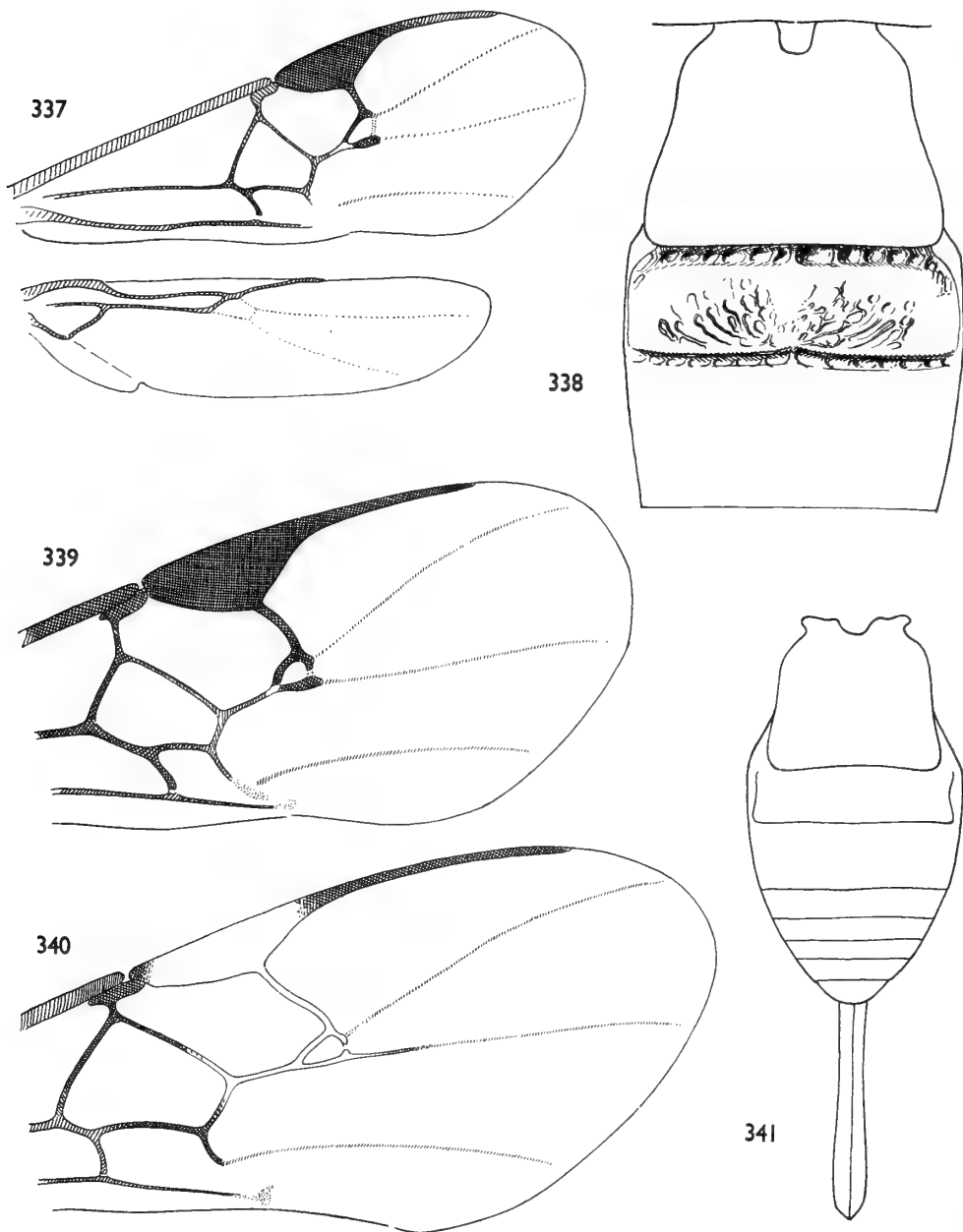
Buluka straeleni de Saeger, 1948 : 65.

♂. Front and middle legs entirely yellow ; hind tibia yellow on about apical half ; hind femur dark brown virtually throughout. Fore wing crossed by a dark band beneath the stigma ; this band is darker on the stigma side of the wing. Two basal tergites yellow.

Head above smooth, shining, with faint satin-like sheen. Ocelli in a low triangle. Apical segment of labial palpus fully as long as the two preceding segments together.

Mesoscutum dull, densely and evenly rugose-punctate to reticulate-punctate posteriorly. Disc of scutellum dull, densely reticulate-punctate, its rugose tip interrupting the posterior,

⁶⁴*Xanthomicrogaster fortipes* Cameron 1911: 325.



FIGS. 337-341. 337, *Buluka straeleni* de Saeger, ♂, wings; 338, *Xanthomicrogaster pelides* sp. n., ♀, basal tergites; 339, *Microgaster curvicrus* Thomson, ♀, fore wing, part; 340, *Larissimus cassander* sp. n., ♀, fore wing, part; 341, *Microgaster curvicrus* Thomson, ♀, gaster, dorsal.

polished band of the scutellum. Propodeum dull and showing a sculpture very similar to that of the scutellar disc ; median keel very poorly defined ; de Saeger describes the propodeum as divided by a "strong carina". Hind wing narrow ; metacarp of the fore wing about three times as long as its distance from the apex of the radial cell (Text-fig. 337). Spines of the outer side of the hind tibia somewhat fine and not dense enough to give the tibia a markedly prickly appearance.

Gaster rugose all over. Tergite 2 without trace of a median, basal field. In appearance the gaster is like that of the subfamily Cheloninae except that it is articulated between tergite 1 and 2 and the 2nd suture is deep and well marked.

BELGIAN CONGO : Rutshuri (type locality). S. AFRICA : Pondoland, Port St. John, v., 2 ♂♂, (*R. E. Turner*), in British Museum (Nat. Hist.).

Type in the Congo Museum, Tervuren.

MICROGASTER Latreille

Microgaster Latreille 1802 : 339.

Hygroplitis Thomson, 1895 : 2244 [Muesebeck and Walkley, in Muesebeck, Krombein & Townes 1951 : 135]

Type-species : *Ichneumon deprimator*.⁶⁵ Designated by Latreille, 1810 : 436.

This genus, as I now restrict it, contains only those heavily built species which, in temperate regions at any rate, have formed its typical representatives.

The essential characters of *Microgaster* s.str. have been given in the key (Text-figs. 339 and 341). The 1st abscissa of the discoideus is fully equal to the 2nd.

Taxonomically, *Microgaster* is in a state of confusion and, with regard to the European species, there has been no improvement on Thomson's treatment of the genus.

PHILOPLITIS gen. n.

Type-species : *Philoplitis coniferens* sp.n. Monobasic.

Mesoscutum strongly, evenly rugose ; notaulices deep, well defined. Scutellum prolonged backwards in the form of a long cone (Text-fig. 234) that is extremely coarsely rugose-reticulate ; the ridges of the reticulations are strongly raised so that the meshes appear very deep. A dark cloud beneath the rather wide stigma. Inner spur of the hind tibia reaching slightly beyond the middle of the hind basitarsus ; outer side of the hind tibia with sparse, fine, adpressed spines as in *Microplitis*.

Philoplitis coniferens sp. n.

♀. Hind femur and hind tibia blackish or very dark brown throughout. Except for the dark cloud beneath the stigma which is very variable in intensity, the wings are only very faintly darkened.

Except for a small, shiny, median excavation, the head behind the ocelli and eyes is densely rugose, the rugose area as long behind the ocelli as it is behind the temples and bounded against the occiput by a raised margin. Frons with shiny, even, transverse striation. Propodeum somewhat flattened, with strong, medial keel. Plate of tergite 1 three times as long as wide, virtually parallel-sided and finely rugulose-aciculate, especially towards posterior end.

Length: ca. 3.5 mm.

⁶⁵*Ichneumon deprimator* Fabricius 1798 : 227.

Microgaster deprimator (Fabricius) Latreille 1805 : 190.

PHILIPPINES : Los Baños, 4 ♂♂, 1 ♀♀, (one ♀, the *TYPE*) ; Mindañao, Dapitan, 1 ♂ ; Kolambugan, 1 ♀. (All *Baker*) ; Panganasinan, Sta. Barbara, 3.ii.1953, 1 ♂, (*H. & M. Townes*).

Type in the U.S. National Museum.

This genus differs from *Microplitis* on shape of scutellum, length of inner spur of hind tibia and presence of occipital margin.

ALLOPLITIS gen. n.

Type-species : *Alloplitis guapo* sp.n.

I have erected this genus for two species that are not at all closely related but differ from all species of *Microplitis* known to me on the structure of tergite (2 + 3). The shape of this tergite has been described in the key and is shown in figure 241. This character, in combination with a curious propodeal structure which (though different in the two species) is not found in *Microplitis*, provides enough justification, I think, for the use of a new generic name.

The ocelli are in a low triangle, the posterior, transverse tangent to the anterior ocellus cutting the posterior pair. The hind tibia is markedly swollen and its outer surface shows hardly a trace of differentiated spines ; this last is a typical feature of *Microplitis* and a swollen hind tibia is found in many exotic species of the genus ; inner spur of the hind tibia not reaching beyond the middle of the hind basitarsus. The areolet of the fore wing is weakly four-sided.

Altogether *Alloplitis* has much more in common with *Microplitis*, *Philoplitis* and *Snellenius* than with any of the species-groups that I have assigned to *Protomicroplitis*.

KEY TO SPECIES

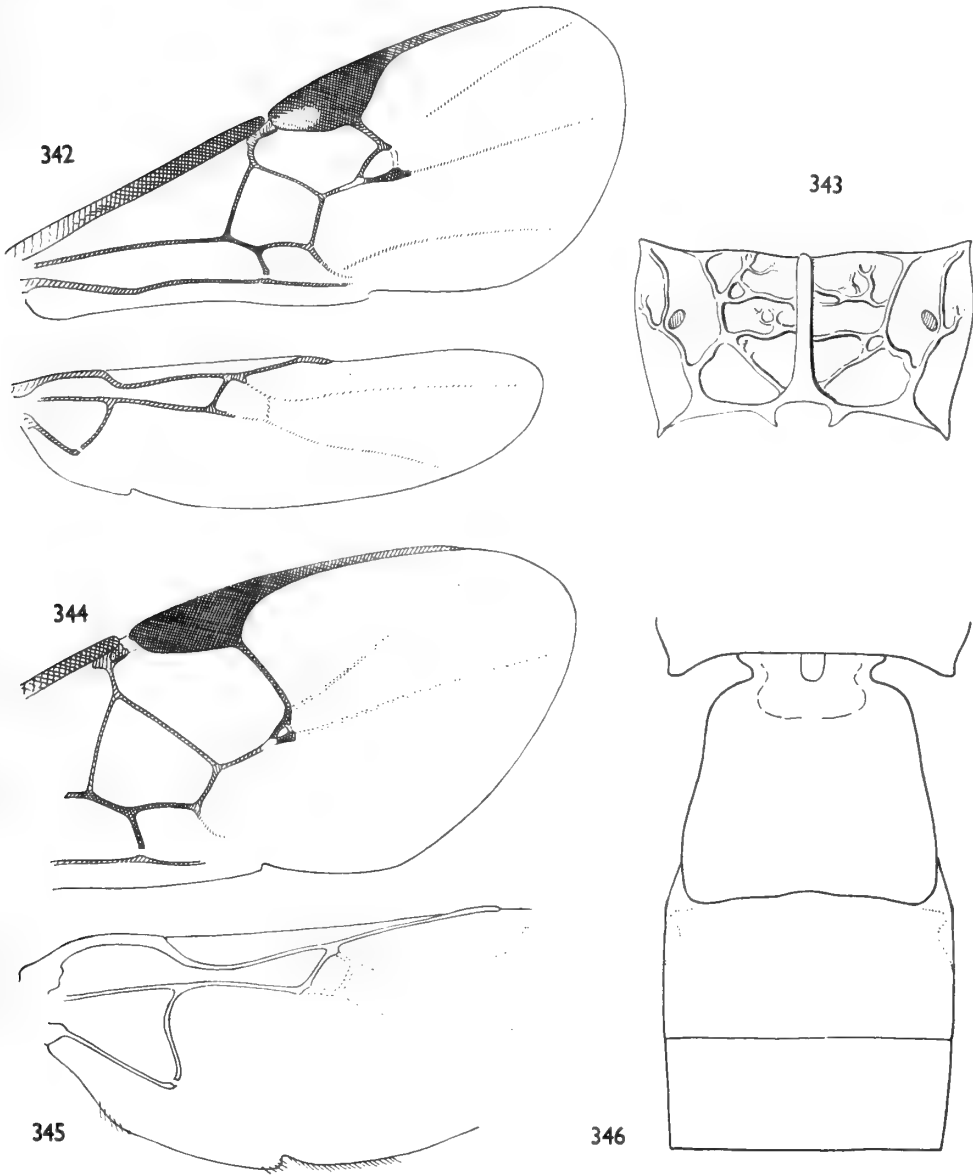
- A Tergite 3 rugose and about half as long as 2 (Text-fig. 241) ; frons shiny and with deep, subconfluent punctation ; metacarp about two and a half times longer than its distance from the apex of the radial cell ; (Text-fig. 240) tergite 1 strongly rugose, slightly widened apically, black but yellow within a deep, basal excavation ; propodeum with a medial keel that forks posteriorly to form a short, elongate fovea ; no trace of laterally directed costulae ; inner spur of the hind tibia hardly one third as long as the hind basitarsus ; hind tarsus as long as its tibia ; flagellum fairly slender, the preapical segment fully twice as long as wide.

Antenna, all the coxae and femora, except the hind femur at apex, yellowish ; length: 3 mm. *guapo* sp. n.

PHILIPPINES: Luzon, Mt. Makiling, 3 ♀♀, one the *TYPE*, (*Baker*). Type in the U.S. National Museum.

This species is essentially characterized by the long metacarp and the rugosity of tergite 3, that is, the apical part of tergite (2 + 3).

- B Tergite 3 smooth, shining and only slightly shorter than 2 : frons shiny as in *guapo* but fairly evenly striate right across ; metacarp shorter, hardly twice as long as its distance from the apex of the radial cell ; tergite 1 finely, evenly rugose, with a shallower basal excavation that is dark like the rest of the segment ; propodeum without a medial keel but with an ill defined V-shaped areola that is closed above by a strong keel ; this keel extends laterally as far as the lateral, propodeal keel ; propodeal spiracle enclosed within keels ; hind tarsus slightly shorter than its tibia ; hind tibia stouter than in *guapo*, its inner spur about half as long as the hind basitarsus ; flagellum almost reddish yellow in apical half, short, somewhat thickened



FIGS. 342-346. 342, *Microplitis mediator* Haliday, ♀, wings; 343, *Apanteles daiva* sp. n., ♂, propodeum; 344, *Xanthomicrogaster seres* sp. n., ♂, fore wing, part; 345, same, hind wing, part; 346, *Apanteles schoenobii* Wilkinson, ♀, basal tergites.

in apical half, the segments here tightly articulated ; preapical segment about one and one third times longer than wide.

Hind coxa dark brown ; hind femur evenly reddish ; length: ca. 2.2 mm.

***typhon* sp. n.**

PHILIPPINES: Luzon, Mt. Makiling, 1 ♀, the *TYPE*, (*Baker*). Type in the U.S. National Museum.

As already implied, there is no possibility of confusing this species with *guapo*. In addition to the differences given above, *typhon* has the stigma shorter, wider and less narrowed apically (cf. Text-fig. 240) ; the punctuation of the temples and occipital region is denser, less coarse and with the surface duller than in *guapo*.

***SNELLENIUS* Westwood**

Snellenius Westwood, 1882 : 19.

Type-species : *Snellenius vollenhovii* Westwood.

Muesebeck (1931) was the first to place this genus in the Microgasterinae and to point out its relationship with *Microplitis*. I have no hesitation in supporting his conclusions and consider *Snellenius* to be more closely related to *Microplitis* than to any other genus of the Microgasterinae. Indeed, I have not been able to find a sharp line of division between the two genera. The differences given in the key seem to be the only ones of value.

KEY TO SPECIES

FEMALES

- 1 Disc of scutellum reduced to a small, blunt, erect cone ; flagellar segments very strongly flattened, the middle segments slightly wider than long.
 Virtually black species with the gaster whitish-yellow to sides of tergites 1 and 2 ; sides of thorax dusky red ; wings dark brown with a hyaline spot just proximal to the areolet ; radial cell narrower than in any other species of the genus ; 2nd transverse cubitus meeting the radius virtually at junction of radius and 1st transverse cubitus ; tergite 1 about three and a half times as long as wide, smoothly hollowed out like a trough almost to apex ; length: ca. 8 mm. ***vollenhovii* Westwood⁶⁶**
 NEW GUINEA. 1 ♂, 1 ♀ in British Museum (Nat. Hist.).
- Disc of scutellum without such a cone, flattened, with deep excavations and strong, lateral margin (less strong and less characteristic in *theretrae*) ; flagellar segments never as flattened as this and the middle segments seen at their flattest always considerably longer than wide 2
- 2 Thorax predominantly bright fulvous, only the propodeum and metapleurum being somewhat infuscate ; notaulices shallow, poorly defined and without rugosity ; middle lobe of the mesoscutum hardly raised as a shield.
 Head blackish ; gaster blackish in apical half but extensively whitish-yellow beneath and to sides of tergites 1 and 2 and across apex of 3 ; fore wing in greater part brownish but with the median cell hyaline in the single ♀ but brownish in the two ♂ examined ; a darker cloud beneath the stigma in both sexes is flanked by paler subhyaline areas ; 2nd transverse cubitus meeting the radius far distal to the junction of the radius and the 1st transverse cubitus, the areolet hence large
***radicalis* (Wilkinson)⁶⁷**

⁶⁶*Snellenius vollenhovii* Westwood, 1882 : 19.

⁶⁷*Microplitis radicalis* Wilkinson, 1929b : 206.
Snellenius radicalis (Wilkinson) 1934 : 120.

CHINA. Type in British Museum (Nat. Hist.).

The disc of the scutellum is strongly margined laterally and is divided by irregular keels into a number of rather deep excavations. The flagellar segments are only weakly flattened.

- Thorax blackish or dusky reddish-black ; notaulices deep and rugose ; middle lobe of the mesoscutum strongly raised above the lateral lobes and terminating behind in a fine keel that separates the two posterior troughs of the notaulices 3

- 3 Propodeum so coarsely reticulate that the sculpture consists of deep excavations surrounded by strongly raised keels ; between the medial longitudinal keel and the lateral keel not more than 3-4 such excavations can be counted in a transverse row ; middle lobe of the mesoscutum very strongly raised ; tergite 1 about three times as long as its apical width ; thorax more or less dusky reddish-black.

Temples decidedly rugulose ; species approaching *vollenhovii* in general habitus and coarseness of sculpture 4

- Propodeum less coarsely reticulate but more densely so, the number of reticulations on the dorsal surface between the medial keel and the lateral margin much more numerous when counted along a transverse row ; middle lobe of the mesoscutum less strongly raised, the notaulices shallower ; tergite 1 only slightly more than twice as long as its apical width ; thorax deep black.

Wings very dark brown ; in general reduction of sculpture, this species is much more like strongly sculptured species of *Microplitis* than *Snellenius*

theretrae (Watanabe)⁶⁸

JAPAN. Only 1 male seen, a paratype, in British Museum (Nat. Hist.).

Host: *Theretra nessus* Drury ; cocoon apparently dark brown with ribbing.

- 4 Head from above deeply emarginate between the almost angular corners of the temples ; fore wing almost hyaline but darkened beyond the areolet and with a still darker cloud beneath the stigma ; scutellar hollows unusually large, slightly longer than wide, flowing together behind the medial keel and here margined on each side by a thick, strongly raised keel ; mesopleurum beneath the wing insertions with deeper excavations.

Hind femur with well developed inner keel on apical two fifths

philippinensis (Ashmead)⁶⁹

BORNEO: Kuching. One male and one female of *bimaculatus* in British Museum (Nat. Hist.), both labelled type. The male has the head slightly less excavate behind the eyes than the female. The antenna is broken in both specimens.

- Head from above only very weakly emarginate, the corners of the temples not at all prominent ; fore wing dark brown ; scutellar hollows deep but slightly transverse and not flowing together behind and without the raised keel on each side seen in *philippinensis* ; mesopleurum beneath the wing insertions with smaller, shallower excavations.

Tergite 1 behind without the V-shaped area that occurs at the apex of the tergite in *philippinensis* ; flagellar segments feebly flattened ; middle lobe of the mesoscutum, considered without the long, sharp, posterior keel, almost truncate behind ; in *philippinensis*, the posterior keel forms merely a sharply pointed extension of the middle lobe ; further, the middle lobe in *gelleus* is deeply, longitudinally hollowed out on each side of a raised, medial thickening ; inner side of hind femur with well developed keel on apical two fifths *gelleus* sp. n.

CHINA: Foochow, 1935-36, 1 ♀, the TYPE, (*M. S. Yang*). Type in the British Museum (Nat. Hist.).

⁶⁸*Microplitis theretrae* Watanabe, 1937 : 108.

Snellenius theretrae (Watanabe) **comb. n.**

⁶⁹*Microplitis philippinensis* Ashmead, 1904 : 20.

Microplitis bimaculatus Cameron ; Wilkinson, 1930 : 24.

Snellenius philippinensis (Ashmead) Muesebeck, 1931 : 10.

REFERENCES

- ASHMEAD, W. H. 1898. Descriptions of new parasitic Hymenoptera. *Proc. ent. Soc. Wash.* **4** : 155-171.
- 1900. Report upon the Aculeate Hymenoptera of the Islands of St. Vincent and Grenada, with additions to the Parasitic Hymenoptera and a List of the described Hymenoptera of the West Indies. *Trans. ent. Soc. Lond.* **1900** : 207-367.
- 1903. Two new Hymenopterous parasites. *J. N.Y. ent. Soc.* **11** : 144.
- 1904. A List of the Hymenoptera of the Philippine Islands. *J. N.Y. ent. Soc.* **12** : 1-22.
- 1905. New Hymenoptera from the Philippine Islands. *Proc. U.S. nat. Mus.* **29** : 107-119.
- BRUES, C. T. & RICHARDSON, C. H. 1913. Descriptions of new parasitic Hymenoptera from British Guiana. *Bull. Am. Mus. nat. Hist.* **32** : 485-503.
- CAMERON, P. 1904. On the Hymenoptera of the Albany Museum, Grahamstown, South Africa. *Rec. Albany Mus.* **1** : 161-175.
- 1909. On some undescribed Ichneumonidae and Braconidae reared by Mr. T. Bainbrigge Fletcher from Ceylonese Lepidoptera (Pterophoridae). *Spolia zeylan.* **6** : 4-43.
- 1911. On the Hymenoptera of the Georgetown Museum, British Guiana. *Timehri* **1** : 306-330.
- 1913. On the parasitic Hymenoptera reared at Dehra Dun, Northern India from the Lac (*Tachardia*) and Sal Insects. *Indian For. Rec.* **4** : 1-20.
- CAPEK, M. & ZWÖLFER, H. 1957. *Apanteles murinanae* nov. spec., ein neuer Parasit des Tannentriebwicklers. *Mitt. schweiz. ent. Ges.* **30** : 119-126.
- CRESSON, E. T. 1865. On the Hymenoptera of Cuba. *Proc. ent. Soc. Philadelphia* **4** : 1-200.
- CUSHMAN, R. A. 1919. New genera and species of Ichneumon flies (Hym.). *Proc. ent. Soc. Wash.* **21** : 112-120.
- FABRICIUS, J. C. 1798. *Entomologia systematica emendata et aucta. Supplementum.* pp. 572. Hafniae.
- FAHRINGER, J. 1925-37. *Opuscula braconologica.* Wien.
- GAHAN, A. B. 1912. Descriptions of two new genera and six new species of parasitic Hymenoptera. *Proc. ent. Soc. Wash.* **14** : 2-8.
- 1918. Four new African parasitic Hymenoptera belonging to the sub-family Microgasterinae. *Proc. U.S. nat. Mus.* **54** : 587-590.
- GRANGER, C. 1949. Braconides de Madagascar. *Mém. Inst. sci. Madagascar* **2 A** : 1-428.
- HALIDAY, A. H. 1834. Essay on the Classification of Parasitic Hymenoptera. *Entom. Mag.* **2** : 225-259.
- LATREILLE, P. A. 1802-1805. *Histoire naturelle des Crustacés et des Insectes.* Paris.
- 1810. *Considérations générales sur l'ordre naturel des Animaux.* 444 pp. Paris.
- LYLE, G. T. 1916. Contributions to our knowledge of the British Braconidae. No. 3. *Entomologist* **49** : 268-272.
- 1917. Contributions to our knowledge of the British Braconidae. No. 3. *Entomologist* **50** : 193-201.
- 1918. Contributions to our knowledge of the British Braconidae. No. 3. *Entomologist* **51** : 104-111.
- 1918. Contributions to our knowledge of the British Braconidae. No. 3. *Entomologist* **51** : 129-137.
- MARSHALL, T. A. 1885. Monograph of British Braconidae. I. *Trans. ent. Soc. Lond.* **1885** : 1-280.
- 1888. In André, *Species des Hyménoptères d'Europe et d'Algérie* **4** : 324 pp., 5 pls. Beaune.
- MORLEY, C. 1902. A new species of *Microgaster*. *Entomologist's mon. Mag.* **38** : 4-5.
- MUESEBECK, C. F. W. 1920. A revision of the North American species of Ichneumon-flies belonging to the genus *Apanteles*. *Proc. U.S. nat. Mus.* **58** : 483-576.

- MUESEBECK, C. F. W. 1922. A revision of the North American Ichneumon-flies belonging to the subfamilies Neoneurinae and Microgasterinae. *Proc. U.S. nat. Mus.* **61** : 1-76.
- 1931. Descriptions of a new genus and eight new species of Ichneumon-flies with taxonomic notes. *Proc. U.S. nat. Mus.* **79** : 1-16.
- 1935. On two little known genera of Braconidae. *Proc. ent. Soc. Wash.* **37** : 173-177.
- 1946. A new *Apanteles* from Hawaii (Hymenoptera: Braconidae). *Proc. Hawaii. ent. Soc.* **12** : 615-616.
- 1956. Some Braconid parasites of the pink bollworm *Pectinophora gossypiella* (Saunders). *Boll. Lab. zool. Portici* **33** : 57-68.
- 1958. New Neotropical wasps of the family Braconidae in the U.S. National Museum. *Proc. U.S. nat. Mus.* **107** : 405-461.
- MUESEBECK, C. F. W., KROMBEIN, K. V. & TOWNES, H. K. 1951. Hymenoptera of America North of Mexico. *Agric. Monogr.* **2** : 1420 pp.
- NEES VON ESENBECK, C. G. 1834. *Hymenopterorum Ichneumonibus affinium monographicae, genera Europaea et species illustratae.* **1.** 320 pp. Stuttgart et Tubingen.
- NIXON, G. E. J. 1960. A new species of *Apanteles* associated with lucerne in Australia (Hym.: Braconidae). *Ann. Mag. nat. Hist.* (13) **2** : 303-304.
- PROVANCHER, L. 1885-89. *Faune Entomologique du Canada.* Hyménoptères **2.** Additions. 475 pp. Québec.
- RATZBURG, J. T. C. 1844-52. *Die Ichneumonen der Forstinsecten in forstlicher und entomologischer Beziehung,* 1-3. Berlin.
- REINHARD, H. 1880. Beiträge zur Kenntniss einiger Praconiden-Gattungen. *Dt. ent. Z.* **24** : 353-370.
- 1881. Beiträge zur Kenntniss einiger Braconiden-Gattungen. *Dt. ent. Z.* **25** : 35-52.
- RICHARDS, O. W. 1956. *Handbooks for the identification of British Insects.* Hymenoptera. Introduction and keys to Families. **6** (1) : 94 pp. London.
- RIEGEL, G. T. 1948. The wings of Braconidae (Hymenoptera). *Ann. ent. Soc. Am.* **41** : 439-449.
- RILEY, C. V. 1881. Notes on North American Microgasters with description of new species. *Trans. Acad. Sci. St Louis* **4** : 296-315.
- ROHWER, S. A. 1918. Descriptions and notes on some ichneumon flies from Java. *Proc. U.S. nat. Mus.* **54** : 563-570.
- 1922. Descriptions of Javanese Braconidae (Hym.) received from S. Leefmans. *Treubia* **3** : 53-55.
- RUTHE, J. F. 1860. Deutsche Braconiden. *Berl. ent. Z.* **4** : 105-160.
- SAEGER, H. DE. 1941. Le genre *Apanteles* au Congo Belge (Hym. Braconidae). *Rev. Zool. Bot. afr.* **34** : 322-347.
- 1942. *Paradelius*, genre nouveau de Microgasterinae (Hymen. Braconidae). *Rev. Zool. Bot. afr.* **36** : 313-316.
- 1944. Microgasterinae (Hymenoptera Apocrita). *Expl. Parc Nat. Albert, Miss. de Witte,* **47,** 342 pp. Bruxelles.
- 1948. Cardiochilinae et Sigalphinae (Hymenoptera Apocrita). Fam. Braconidae. *Expl. Parc Nat. Albert, Miss. de Witte,* **53,** 272 pp. Bruxelles.
- SAY, T. 1836-37. Descriptions of new species of North American Hymenoptera and observations on some already described. *Boston J. nat. Hist.* **1** : 210-305.
- SPINOSA, M. 1806-08. *Insectorum Liguriae species novae aut variores.* Genuae.
- SZEPLIGETI, G. V. 1904. Braconidae. *Genera Insectorum,* **22** : 253 pp., 3 pls. Bruxelles.
- 1905. Exotische Braconiden aus den aethiopischen, orientalischen und australischen Regionen. *Annls. hist.-nat. Mus. natn. hung.* **3** : 25-55.
- TELENGA, N. A. 1955. Braconidae, subfamilies Microgasterinae, Agathinae. *Faune Rossii,* **5** (4), 311 pp. Moscow & Leningrad.
- THOMSON, C. G. 1869-97. *Opuscula Entomologica.* 2452 pp., 2 pls. Lund.

- VAYSSIÈRE, P. & MIMÉUR, J. 1925. Les Pyrales du cotonnier (*Sylepta derogata* F. et *Glyphodes indica* Saund.) en Afrique occidentale française. *Agron. colon.* **90** : 255-268.
- VIERECK, H. L. 1911. Descriptions of six new genera and thirty-one new species of Ichneumon flies. *Proc. U.S. nat. Mus.* **40** : 170-196.
- 1912. Descriptions of five new genera and twenty-six new species of ichneumon flies. *Proc. U.S. nat. Mus.* **42** : 139-153.
- 1913. Descriptions of ten new genera and twenty-three new species of ichneumon flies. *Proc. U.S. nat. Mus.* **44** : 555-568.
- 1914. Type species of the genera of ichneumon flies. *Bull. U.S. nat. Mus.* **83** : 186 pp.
- WALKER, F. 1860. Characters of some apparently undescribed Ceylon insects. *Ann. Mag. nat. Hist.* (3) **5** : 304-311.
- WATANABE, C. 1934. Notes on Braconidae of Japan. IV. *Apanteles* (1st Suppl.). *Insecta matsum.* **8** : 132-143.
- 1937. A contribution to the knowledge of the Braconid fauna of the Empire of Japan. *J. Fac. Agric. Hokkaido Univ.* **42** : 1-188.
- WEED, C. M. 1888. Descriptions of some new or little known Microgasterinae. *Trans. Amer. ent. Soc.* **15** : 294-297.
- WESMAEL, C. 1837. Monographie des Braconides de Belgique. *Nouv. Mém. Acad. Sci. Bruxelles* **10** : 68 pp.
- WESTWOOD, J. O. 1882. Descriptions of new or imperfectly known species of Ichneumonones Adsciti. *Tijdschr. Ent.* **25** : 17-48, 5 pls.
- WILKINSON, D. S. 1927. On the Indo-Malayan species of the genus *Microgaster* (Hymenoptera, Braconidae). *Bull. ent. Res.* **18** : 171-178.
- 1928. A revision of the Indo-Australian species of the genus *Apanteles* (Hym. Bracon.). Part 1. *Bull. ent. Res.* **19** : 79-105.
- 1928a. A revision of the Indo-Australian species of the genus *Apanteles* (Hym. Bracon.). Part 2. *Bull. ent. Res.* **19** : 109-146.
- 1928b. Two new parasites of *Tirathaba rufivena* Walk. in Malaya. *Bull. ent. Res.* **19** : 201-202.
- 1929. A revision of the Indo-Australian and Ethiopian species of the genus *Microgaster* (Hym. Bracon.). *Trans. R. ent. Soc. Lond.* **77** : 99-123.
- 1929a. New parasitic Hymenoptera and notes on other species. *Bull. ent. Res.* **20** : 103-114.
- 1929b. New species and host records of Braconidae. *Bull. ent. Res.* **20** : 205-208.
- 1929c. Seven new species of Braconidae. *Bull. ent. Res.* **20** : 443-455.
- 1930. A revision of the Indo-Australian species of the genus *Microplitis* (Hym. Bracon.). *Bull. ent. Res.* **21** : 23-27.
- 1930a. New species and host records of Ichneumonidae and Braconidae. *Bull. ent. Res.* **21** : 147-158.
- 1930b. New Braconidae and other notes. *Bull. ent. Res.* **21** : 275-285.
- 1931. New species and host records of Braconidae. *Bull. ent. Res.* **21** : 481-487.
- 1931a. Braconidae: notes and new species. *Bull. ent. Res.* **22** : 75-82.
- 1932. Three new Braconids (Hym.). *Stylops* **1** : 85-88.
- 1932a. Four new *Apanteles* (Hym. Bracon.). *Stylops* **1** : 139-144.
- 1932b. A revision of the Ethiopian species of the genus *Apanteles* (Hym. Bracon.). *Trans. R. ent. Soc. Lond.* **80** : 301-344.
- 1934. On some Microgasterinae (Hym., Bracon.). *Stylops* **3** : 118-120.
- 1934a. On some *Apanteles* (Hym. Bracon.). *Stylops* **3** : 145-156.
- 1935. Two new *Apanteles* (Hym. Braconidae). *Stylops* **4** : 266-269.
- 1936. Microgasterinae: notes and new species (Hym. Bracon.). *Proc. R. ent. Soc. Lond.* (B) **5** : 81-88.
- 1936a. On the identity of *Apanteles pallipes* Reinhard, with the description of a new, closely related palaeartic species (Hym. Bracon.). *Proc. R. ent. Soc. Lond.* (B) **5** : 220-224.

- WILKINSON, D. S. 1937. A new species of *Apanteles* (Hym. Braconidae) bred from *Myelois ceratoniae* attacking carobs in Cyprus. *Bull. ent. Res.* **28** : 463-466.
- 1938. On the identity of *Apanteles circumscriptus* Nees (Hym. Braconidae). *Proc. R. ent. Soc. Lond.* **B 7** : 41-51.
- 1938a. On a further two new Palaearctic species of *Apanteles* (Hym. Braconidae). *Proc. R. ent. Soc. Lond.* **B 7** : 222-227.
- 1938b. A new species of *Apanteles* (Hym. Braconidae) from South Africa. *Proc. R. ent. Soc. Lond.* **B 7** : 131-133.
- 1940. On the identity of *Apanteles carbonarius* Wesmael, with the description of a new, closely related, palaearctic species (Hym. Braconidae). *Proc. R. ent. Soc. Lond.* (B) **9** : 157-163.
- 1945. Description of Palaearctic species of *Apanteles* (Hymen., Braconidae). *Trans. R. ent. Soc. Lond.* **95** : 35-226.

INDEX

Synonyms in italics, principal references in bold figures

- abantidas, *Apanteles*, 142
- abdera, *Apanteles*, 30, **50**
- abdominalis, group of, 237, 254
- abdominalis*, *Hygroplitis*, 254
- abdominalis*, *Microgaster*, 254
- abdominalis, Protomicroplitis, 254
- abietella, Nephopteryx, 131
- Abraxas, 136, 193
- acarnas, Hypomicrogaster, 213
- Achillea, 181
- aciculatus, group of, 18, **181**
- aciculatus, *Apanteles*, 181
- aciculatus*, *Urogaster*, 181
- acmella, Spilanthus, 219
- Acoelius, 8
- acontes, Hypomicrogaster, 215
- acoris, *Apanteles*, 27, **52**
- Adelius, 8, 13
- adreus, *Apanteles*, 40, **61**
- aegeriae, Dasylogon, 203
- aeolus, *Apanteles*, 151, **161**
- agamedes, *Apanteles*, 40, **91**
- agamemnon, Papilio, 195
- agatillus, *Apanteles*, 27, **51**
- aglaope, *Apanteles*, 40, **61**
- aglaus, *Apanteles*, 34, **66**
- Agonoxena, 101, 125, 190
- agrifolia, Quercus, 148
- agrus, *Apanteles*, 27, **51**
- alaspheus, *Apanteles*, 107, **114**
- albilinea, Neleucania, 252
- alce, Protomicroplitis, 247
- alfalfae, *Apanteles*, 152, **163**
- Alloplitis, 15, 268, key to species, 268
- Alsophila, 137
- alvearius, group of, 237, 238, 248, key to species, 250
- alvearius*, *Ichneumon*, 250
- alvearius*, *Microgaster*, 250
- alvearius, Protomicroplitis, 250
- Amaranthus, 44
- amboinalis, Maruca, 90
- ambrodelta, Arotrophora, 155
- Amphidasis, 136
- anatole, *Apanteles*, 40, **54**
- angaleti, *Apanteles*, 36, **76**
- anguilineata, Nyctobia, 137
- annulicornis, group of, 24, 140, key to species, 141
- annulicornis, *Apanteles*, 141
- annulicornis*, *Pseudapanteles*, 141
- anodaphus, *Apanteles*, 29, **47**
- anthedon, *Apanteles*, 195
- ansorgei, Epigynopteryx, 260
- anticlea, *Apanteles*, 172, **178**
- antilla, *Apanteles*, 30, **54**
- Apanteles*, 6, 14, 17, key to species-groups, 17
- aper, *Apanteles*, 40, **62**
- apharea, Promicrogaster, 234
- apidanus, *Apanteles*, 151, **162**
- apo*, *Microgaster*, 218
- apo, Hypomicrogaster, 218
- apollion, Hypomicrogaster, 221, **224**
- araeceri, *Apanteles*, 35, **76**
- Araecerus, 77
- Ardices, 248
- argaula, Agonoxena, 125

- argiope, Apanteles, 38, **85**
 Agyroploce, 113, 153
 ariadne, Apanteles, 170, **171**
 arion, Apanteles, 104, **109**
 ariovistus, Apanteles, 43, **97**
 aristaeus, Apanteles, 42, **95**
 Arotrophora, 155
 arsanes, Apanteles, 29, **52**
 articas, Apanteles, 105, **112**
 artificialis, Bocchoris, 67
 artigena, Odites, 53
 assis, Apanteles, 42, **96**
 astydamia, Apanteles, 190
 ater, group of, 19, 25, 26, key to species, 26
 ater, Apanteles, 38, **74**
ater, *Microgaster*, 74
 atylana, Apanteles, 139
 aurata, Rhodaria, 228
 auriflua, Porthesia, 248
auripes, *Microgaster*, 252
 auripes, Protomicroplitis, 252
austrina, *Microgaster*, 256
 austrina, Protomicroplitis, 256

 bakeri, Apanteles, 26
 basimacula, group of, 235, 244, key to species, 244
basimacula, *Apanteles*, 246
basimacula, *Microgaster*, 246
 basimacula, Protomicroplitis, 246, 247
 behrii, Etiella, 163
 belliger, Apanteles, 192
 bengalensis, Ficus, 80
 betulae, Amphidasis, 136
 betulae, Salebria, 161
bicolor, *Apanteles*, 193
bimaculatus, *Microplitis*, 271
 bipunctalis, Psara, 219
 bipunctiferus, Schoenobius, 128
 biselliella, Tineola, 75
 Biston, 193
 Boarmia, 250
 Bocchoris, 67
 Borkhausenien, 84
 botrana, Polychrosis, 160
botydis, *Microgaster*, 219
 botydis, Hypomicrogaster, 219
 Botys, 219
 brassicae, Pieris, 133
 briareus, Apanteles, 152, **153**
 brumata, Cheimatobia, 74
 brumata, Operophtera, 137
 bucculatricis, group of, 18, **148**
 bucculatrix, 147, 148
 Buluka, 16, 265
 Bupalus, 136
 butalidis, group of, 25, 182, key to species, 182, 184
 butalidis, Apanteles, 183

 Cabera, 136, 137
 caberae, Apanteles, 136
 Cacoecia, 74, 75, 190
 caesar, group of, 20, 129
 caesar, Apanteles, 129
 cajani, Apanteles, 151, **161**
 Cajanus, 195
 calacte, Promicrogaster, 230
 calceatus, group of, 238, 256, key to species 256
calceatus, *Microgaster*, 256
 calceatus, Protomicroplitis, 256
 calliptera, group of, 236, 261, key to species, 261
calliptera, *Microgaster*, 261
 calliptera, Protomicroplitis, 261
 calycina, Kydia, 175
 calycinae, Apanteles, 173, **175**
 camilla, Apanteles, 151, **165**
 camirus, Apanteles, 104, **110**
 camma, group of, 21, 131
 camma, Apanteles, 131
 Campaea, 137
 Canarsia, 160
 carbonarius, group of, 19, 147, key to species, 147
 carbonarius, Apanteles, 147
carbonarius, *Microgaster*, 74
carbonarius, *Microgaster*, 147
 Cardiochilini, 11
carpata, *Microgaster*, 75
 carpatus, Apanteles, 42, **75**
 carpinata, Lobophora, 256
 carus, Promicrogaster, 233
 cassander, Larissimus, 205
 Cassia, 73
 caudatus, Apanteles, 186
 cavifrons, Apanteles, 26, **44**
 cebes, Apanteles, 36, **80**
 Cedrella, 68
 celtis, Selepa, 100
 cereales, Apanteles, 193
 Ceratonia, 162
 ceratoniae, Myelois, 162
 cerberus, Apanteles, 38, **69**

- cestius, Apanteles, 32, **93**
 ceto, Hypomicrogaster, 217
 chalcomelas, Apanteles, 32, **60**
 chares, Apanteles, 135
 Cheimatobia, 74
 chloris, Apanteles, 41, **77**
 chloris, Mylothris, 138
 chrysanthemana, Cnephasia, 229
 chrysis, Plusia, 187
 chrysothoe, Euproctis, 248
 Cidaria, 137
 cinctiformis, Apanteles, 184
 circumscriptus, group of, 25, 145
 circumscriptus, Apanteles, 145
circumscriptus, *Microgaster*, 145
circumvectus, *Diolcogaster*, 256
circumvectus, *Microgaster*, 256
 circumvectus, Protomicroplitis, 256
 Cirphis, 67, 192
 Cleora, 250
 cleotas, Luthrodes, 99
 clita, Apanteles, 37, **67**
 cloelia, Apanteles, 184
 Cnephasia, 229
 cocotus, Apanteles, 41, **94**
 coedicus, Apanteles, 30, 37, **46**
 Coenonympha, 258
 coenonymphae, group of, 237, 258
coenonymphae, *Microgaster*, 258
 coenonymphae, Protomicroplitis, **258**
 coffearia, Homona, 95
 coilus, Apanteles, 107, **119**
 Coleus, 58
 comes, Apanteles, 147
 congoensis, group of, 22, 188, key to species, 188
 congoensis, Apanteles, 188
 coniferens, Philoplitis, **267**
 conjuncta, Parnara, 98
 connexus, group of, 237, 248, key to species, 248
connexus, *Microgaster*, 248
 connexus, Protomicroplitis, 248
 conon, Apanteles, 121, **124**
 Conopia, 156, 167
 conopiae, Apanteles, 166, **167**
 consociella, Euzophera, 255
 contemptus, Apanteles, 37, **72**
 coretas, Apanteles, 39, **85**
 corylata, Cidaria, 137
 costimacula, Eublemma, 116
 Cosymbia, 137
 crantor, Apanteles, 183
 crassicornis, group of, 19, 127
 crassicornis, Apanteles, 127
crassicornis, *Microgaster*, 127
 crates, Apanteles, 33, **100**
 creon, Miropotes, **200**
 cristella, Bucculatrix, 147, 148
 critica, Eucosma, 67
 crius, Apanteles, 26, **46**
 Crocidolonia, 85
 crocodera, Dichocrocis, 188
 Cryptophlebia, 126
 curvicrus, Microgaster, 166
 cyane, Apanteles, 125
 Cydia, 95
 cyprioides, Apanteles, 42, **48**
 cypris, Apanteles, 29, **47**
- Dahlbergia, 190
 daimenes, Apanteles, 34, **100**
 daira, group of, 17, **198**
 daira, Apanteles, 198
 daphne, Apanteles, 144
 Dasylagon, 14, 201
 defoliaria, Erannis, 137
 defoliaria, Hibernia, 137
 Deilinia, 252
 demades, Apanteles, 33, **99**
 demeter, Apanteles, 196
 demeter, group of, 23, **196**
 demodocus, Papilio, 196
 demoleus, Papilio, 195
deprimator, *Ichneumon*, 267
 deprimator, Microgaster, 267
 derogata, Sylepta, 46, 59, 74, 76, 86, 89
 despectus, Apanteles, 34, **103**
 detrectans, Apanteles, 151, **158**
 Diacrisia, 67
 diaphantus, Apanteles, 172, **175**
 Diatraea, 128
 Dichocrocis, 188
 dictys, Apanteles, 34, **90**
 dido, Apanteles, 105, **112**
 diocles, Apanteles, 30, **48**
 dioica, Tamarix, 88
 dion, Apanteles, 183
 Dioryctria, 255
 Dirrhope, 10, 13
 dissimile, Apanteles, 32, **93**
 dissors, group of, 230, key to species, 230
 dissors, Promicrogaster, 230
 dolabraria, Ennomos, 137
 Doloessa, 84
 dores, Apanteles, 30, **49**

- dotus, Apanteles, 43, **94**
 drupes, Apanteles, 106, **115**
 dryas, Apanteles, 39, **85**
 dryope, Eurytela, 196
 duris, Protomicroplitis, 263
- Earias, 70
 ecus, Hypomicrogaster, 213
 edulis, Inocarpus, 126
 Elachista, 145
 elagabalus, Apanteles, 39, **84**
 eclectic, Protomicroplitis, 246, 247
 Embelia, 69
 emesa, Apanteles, 167, **169**
 eminens, Prasmodon, 206
 emolus, Lycaenesthes, 98
 endemus, Apanteles, 136
 Endrosis, 84
 enephes, Apanteles, 137
 Ennomos, 136, 137
 epaphus, Hypomicrogaster, 215
 epaphus, group of, 209, 215
 Ephestia, 84
 Epichorista, 191
 Epigynopteryx, 260
 Epitarsipus, 169
 Erannis, 137
 erigone, Promicrogaster, 232
 Eriococcus, 217
 eriophyes, Apanteles, 104, **109**
 eriphyle, Apanteles, 35, 43, **78**
 erro, Protomicroplitis, 248
 erse, Apanteles, 41, **89**
 Etiella, 159, 163
 etiellae, Apanteles, 160
 Eublemma, 114, 116
 eublemmae, subgroup of, 26, 104, key to species, 104
 eublemmae, Apanteles, 106, **115**
 eubulus, Jalmenus evagoras, 99
 Eucalyptus, 217
 Eucosma, 67
 eupolis, Apanteles, 105, **111**
 Euproctis, 196, 248
 eurynome, Apanteles, 126
 Eurytela, 196
 Euscelis, 70
 Eustroma, 136
 euterpe, group of, 16, 238, 250
 euterpe, Protomicroplitis, **250**
 Euzophera, 255
 evadne, Apanteles, 107, **116**
 evagoras, Jalmenus, 99
- evander, Apanteles, 183
 exanthemata, Cabera, 136
 exiguus, Apanteles, 134
- facetosa*, *Microgaster*, 252
 facetosa, Protomicroplitis, 252
 falcata, Siculodes, 203
 falcatus, group of, 23, 184, key to species, 184
 falcatus, Apanteles, 186
 fascialis, Hymenia, 58, 86, **141**
 fasciculatus, Araecerus, 77
fasciipennis, *Microgaster*, 244
 fasciipennis, Protomicroplitis, 244
 fasciipennis, group of, 237, 244
 faustina, Apanteles, 32, **58**
 Ficus, 80
 Filodes, 224
 fistula, Cassia, 73
 florus, Apanteles, 37, **49**
 folia, Apanteles, 33, **99**
 folia, Apanteles, var. 33, **99**
 fomes, Hypomicrogaster, 221, **223**
 formosus, group of, 22, 191, key to species, 191
formosus, *Microgaster*, 193
 formosus, Apanteles, 193
 Fornicia, 14
 fortipes, Xanthomicrogaster, 265
 fundulus, Apanteles, 40, **64**
 fuscantaria, Ennomos, 136
 fuscipunctella, Tinea, 75
- galatea, Apanteles, 43, **97**
 Galleria, 75
 galleriae, Apanteles, 43, **75**
 gamma, Plusia, 187
 gelleus, Snellenius, 271
 geometrivorus, Apanteles, 195
 gerontius, Hypomicrogaster, 221, **226**
 glabraria, Cleora, 250
glaphyra, *Microgaster*, 246
 glaphyra, Protomicroplitis, 246
 glatignyi, Ardices, 248
 glomeratus, group of, 22, 133
 glomeratus, Apanteles, 133
glomeratus, *Ichneumon*, 133
 goron, Apanteles, 34, **89**
 gossiapiella, Pectinophora, 76
 Gracillaria, 145
 grandiculus, group of, 20, 166, key to species, 166
 grandiculus, Apanteles, 166

- grandis*, Tectona, 225, 255
grossulariata, Abraxas, 136, 193
gratiosus, Apanteles, 196
guapo, Alloplitis, 268
- Hadenia, 186
hammondi, Canarsia, 160
Hapalia, 69, 72, 225
hebrus, Apanteles, 152, **156**
hector, Conopia, 167
helle, Hypomicrogaster, 221, 225
hemara, Apanteles, 29, **58**
Hemiceras, 127
Hemithea, 135
henicopus, group of, 17, 197, key to species, 197
henicopus, Apanteles, 198
herrichi, Thyridopteryx, 217
hersilia, Apanteles, 107, **119**
Hibernia, 137
Hibiscus, 199
hinzi, Protomicroplitis, 252
hirtaria, Biston, 193
Homoesoma, 131
Homona, 95
homonae, Apanteles, 66
huegeli, Earias, 70
Hymenia, 58, 82, 86, 141
hymeniae, Apanteles, 33, **86**
Hypena, 137
Hypomicrogaster, 7, 17, 208, key to species-group, 209
Hyponomeuta, 74
Hysipyra, 68
- imitator*, Apanteles, 213
imitator, Microgaster, 213
imitator, Hypomicrogaster, 213
imitator, Urogaster, 213
immunis, Apanteles, 137
immunis, Microgaster, 137
importunus, Apanteles, 36, **73**
inaron, Apanteles, 29, **53**
indica, Lamprosema, 226
indica, Margaronia, 67
indicus, Cajanus, 195
Inocarpus, 126
inops, Apanteles, 172, **179**
insolens, group of, 21, 132
insolens, Apanteles, 132
instabilella, Phthorimaea, 150
integra, Microgaster, 246
integra, Protomicroplitis, 246
- interjectana*, Cnephasia, 229
interpunctella, Plodia, 84
inunctus, Apanteles, 171, **173**
ione, Apanteles, 105, **111**
ioniephala, Epichorista, 191
iphitus, Apanteles, 198
Ipomaea, 219
ippeus, Apanteles, 42, **96**
ippis, group of, 236, 263
ippis, Protomicroplitis, 263
irates, Hypomicrogaster, 221, **225**
iriarte, Apanteles, 173, **176**
isander, Apanteles, 32, **59**
iselyi, Apanteles, 160
isus, Apanteles, 151, **159**
- jacobaeae*, Tyrea, 137
Jalmenus, 99
jason, Apanteles, 153, **162**
javensis, Apanteles, 33, **98**
jubata, Cleora, 250
jugosus, Apanteles, 136
- kaiphas*, Luthrodes cleotas, 99
knochella, Scythris (Tinea), 128
kokodana, Microgaster, 208
kokodana, Parenion, 208
kühniella, Ephestia, 84
Kydia, 175
- lactella*, Endrosis, 84
lacteoides, Apanteles, 151, **160**
lacteus, group of, 20, 129
lacteus, Microgaster, 129
lacteus, Apanteles, 129
laevigatus, group of, 25, 181
laevigatus, Apanteles, 181
laevigatus, Microgaster, 181
lampe, Apanteles, 172, **180**
Lamprosema, 90, 226
lanassa, Apanteles, 34, **86**
Lantana, 91
Larentia, 240
Larissimus, 16, 204
laurae, Microgaster, 223
laurae, Hypomicrogaster, 219, **223**
lelaps, group of, 237, 238, 263, key to species, 263
lelaps, Protomicroplitis, 263
lentirosea, Eublemma, 114
lepellei, group of, 238, 258
lepellei, Microgaster, 258
lepellei, Protomicroplitis, 258

- leptoura, Apanteles, 35, **88**
 leucostoma, Cydia, 95
 leucotreta, Argyroploce, 153
 libanius, Hypomicrogaster, 219
 linus, Apanteles, 106, **120**
 Lithocolletis, 145
 Lobophora, 256
 Locastra, 176
 lohita, Spindasis, 99
 longipalpis, Apanteles, 181
 longipalpis, group of, 20, **181**
 loretta, Hypomicrogaster, 221, **226**
 lumenaria, Cosymbia, 137
 lunalis, Sylepta, 48, 67, 225
 Luthrodes, 99
 Lycaena, 195
 Lycaenesthes, 98
 lycidas, Apanteles, 105, **113**
 Lygris, 136
 lynceus, Apanteles, 152, **157**
 lyridice, Apanteles, 27, **46**
- Macalla, 255
 machaeralis, Apanteles, 36, **72**
 machaeralis, Hapalia, 72, 225
 maculipennis, Plutella, 96, 110
 maia, Apanteles, 192
 malinellus, Hyponomeuta, 74
 mamitus, Apanteles, 29, **45**
 mandanis, Apanteles, 136
 margaritata, Campaea, 137
 Margaronia indica, 67
 marginalis, Botys, 219
 marginalis, Psara, 219
 marginatus, group of, 236, 239
marginatus, *Microgaster*, 239
 marginatus, Protomicroplitis, 239
 Maruca, 90
 mathias, Parnara, 98
 mays, Zea, 125
mediatus, *Microgaster*, 261
 mediatus, Protomicroplitis, 261
 medon, Apanteles, 33, **90**
 medon, Protomicroplitis, 243
 meges, Protomicroplitis, 251
 melleus, Protomicroplitis, 243
 mellonella, Galleria, 75
 melpomene, Apanteles, 152, **155**
 menes, Apanteles, 27, **51**
 Mentha, 228
 merella, Promicrogaster, 234
 meriones, Apanteles, 27, **52**
 merope, group of, 23, 139, key to species, 139
 merope, Apanteles, 139
 merula, group of, 20, 150, key to old world species, 150
 merula, Apanteles, 153, **159**
 meruloides, Apanteles, 153, **160**
 metacarpalis, group of, 25, 148
 metacarpalis, Apanteles, 150
 metagenes, Apanteles, 43, **67**
 metellus, Apanteles, 27, **50**
 metris, Hypomicrogaster, 215
 Microgaster, 7, 17, 267
 Microgasterinae, 6, 10, key to genera and tribes, 11
 Microgasterini, 11, 13, key to genera, 13
 Microplitis, 7, 15
minuta, *Microgaster*, 250
 minuta, Protomicroplitis, 250
 Mirax, 8, 13
 Miropotes, 14, 200
 mlanje, group of, 21, 133
 mlanje, Apanteles, 133
 moerens, Apanteles, 145
 monoglypha, Hadena, 186
 morata, group of, 210, 217
 morata, Hypomicrogaster, 217
morata, *Microgaster*, 217
 moscus, Hypomicrogaster, 215
 munda, group of, 230, key to species, 232
 munda, Promicrogaster, 233
 mundella, Tirathaba, 65
 murcia, Apanteles, 36, **73**
 muscosalis, Locastra, 176
 mutilia, Apanteles, 105, **113**
 mycerinus, Apanteles, 31, **57**
 mycetophilus, group of, 24, 171, key to species, 171
 mycetophilus, Apanteles, 171, **173**
 myeloenta, Apanteles, 151, **162**
 Myelois, 162
 Mylothris, 138
 Myriola, 10
 myrsus, Apanteles, 121
- Nacoleia, 58
 nardus, Coleus, 58
 natras, Apanteles, 121, **123**
 navius, Apanteles, 105, **111**
 nebulella, Homoesoma, 131
 Neleucania, 252
 nemesis, Apanteles, 106, **114**
 nemorana, Simaethis, 224
 neomexicanus, Apanteles, 186
 nepe, Apanteles, 104, **113**

- nephele, Protomicroplitis, 247
 nephereus, Apanteles, 36, **76**
 Nephopteryx, 73, 131, 228
 nephta, Hypomicrogaster, 218
 nerion, group of, 24, 142, key to species, 142
 nerion, Apanteles, 142
 nessus, Theretra, 271
 niceppe, Apanteles, 30, **45**
 nigriceps, group of, 18, 126
 nigriceps, Apanteles, 126
nigriceps, *Urogaster*, 126
 nigricomella, Bucculatrix, 147
 nimbella, Homoesoma, 131
 nivellus, Apanteles, 106, **115**
 Nothopteryx, 256
 Notocelia, 74
 novatus, Apanteles, 32, **57**
 nycon, Apanteles, 29, **53**
 Nyctobia, 137
 nymphis, Apanteles, 121, **123**
- obductella, Nephopteryx, 228
 obeliscata, Thera, 256
 obliqua, Diacrisia, 67
 ochracialis, Hapalia, 69
 octasema, Lamprosema, 90
 octonarius, group of, 23, 186
 octonarius, Apanteles, 186
octonarius, *Microgaster*, 187
 Odites, 53
 odites, Apanteles, 172, **178**
 oedippus, Coenonympha, 258
 oenone, Apanteles, 37, **69**
 olearus, Sendaphne, 204
 Oligoneurus, 10
 olorus, Apanteles, 106, **117**
 opacus, Apanteles, 29, **44**
opacus, *Urogaster*, 44
 Operophtera, 137
 oritias, Apanteles, 36, **68**
 oroetes, Apanteles, 107, **119**
 orontes, group of, 237, 254
 orontes, Protomicroplitis, 254
 orphne, Apanteles, 125
 orsedice, Apanteles, 166, **167**
 ortia, Apanteles, 37, **81**
 orus, Apanteles, 35, **78**
 oscus, Apanteles, 106, **116**
- Pachyzancla, 44, 58
 painei, Apanteles, 34, **101**
 paleacritae, Apanteles, 137
 pallidocinctus, Apanteles, 196
 pallifimbriana, Cryptophlebia, 126
 pallipes, group of, 22, 187
 pallipes, Apanteles, 187
 palumbella, Dioryctria, 255
 Papilio, 195
 papilionis, Apanteles, 195
 papua, Hypomicrogaster, 218
papua, *Microgaster*, 218
 Paradelius, 8, 13
 paradoxus, group of, 18, 127
 paradoxus, Apanteles, 127
 parallelus, Apanteles, 135
 paralus, Apanteles, 106, **117**
 Parenion, 16, 208
 parmula, Apanteles, 190
 Parnara, 98
 Paroligoneurus, 10, 13
 parsodes, Apanteles, 40, **60**
 pascuana, Cnephasia, 229
 patens, Apanteles, 104, **110**
 patro, Apanteles, 147
 Pectinophora, 76
 pelides, Xanthomicrogaster, 265
 pellionella, Tinea, 75
 penelope, Apanteles, 140
 periander, group of, 235, 240
 periander, Protomicroplitis, 240
 Pericallia, 44
perniciosa, *Microgaster*, 248
 perniciosa, Protomicroplitis, 248
 persephone, Apanteles, 42, **65**
 pertiades, Apanteles, 42, **64**
petiolaris, *Microgaster*, 201
 petiolaris, Miropotes, 200, **201**
 phaenna, Apanteles, 172, **179**
 phalis, Apanteles, 120, **121**
philippinensis, *Microplitis*, 271
 philippinensis, Snellenius, 271
 Philoplitis, 15, 267
 phoebe, Apanteles, 140
 Phthorimaea, 150
 Phycita, 91
 Phycodes, 80
 phycodis, Apanteles, 35, **79**
 piceaella, Recurvaria, 213
 piceoventris, Apanteles, 39, **82**
 Pieris, 133
 piniarius, Bupalus, 136
 pisenor, Apanteles, 39, **82**
 pistrinariae, group of, 19, **138**
 pistrinariae, Apanteles, 138
 plancina, Apanteles, 190
 plantaginella, Phthorimaea, 150

- Platysenta, 261
 Plectoptera, 190
 Plodia, 84
 Plusia, 187
plusiae, *Apanteles*, 66
 Plutella, 96, 110
 podana, Cacoecia, 74
 Polychrosis, 160
 polychrysa, Proceras, 128
 polyporicola, Promicrogaster, 233
 pomataria, Alsophila, 137
 pomoriana, Larentia, 240
 pompelon, Apanteles, 193
 popularis, group of, 23, 133, key to species,
 135
 popularis, Apanteles, 137
popularis, *Microgaster*, 137
 Porthesia, 193, 248
 praeteritalis, Nacoleia, 58
 Prasmodon, 16, 205
 prater, Promicrogaster, 232
 proboscidalis, Hypena, 137
 Proceras, 128
 productalis, Filodes, 224
 Promicrogaster, 14, 17, 229, key to species-
 groups, 229
 prosymna, Apanteles, 33, **98**
 Promicroplitis, 7, 16, 17, 234, key to species-
 groups, 235
 prusias, Apanteles, 152, **155**
 Psara, 219
 psarae, group of, 209, 217, key to species, 218
psarae, *Microgaster*, 219
 psarae, Hypomicrogaster, 219
 psenes, Apanteles, 37, **80**
 pseudopretella, Borkhausenia, 84
 pulchrinia, Plusia, 187
 pusaria, Cabera, 137
 pusaria, Deilinia, 252
 pycnos, Apanteles, 172, **179**
 pyrene, Apanteles, 152, **157**
 pyrene, Protomicroplitis, 242, 243
 pyrogramma, Agonoxena, 101, 190
 pyrogrammae, Apanteles, 190
- Quercus, 148
- racilla, Apanteles, 40, **55**
 radiata, Phycodes, 80
radicalis, *Microplitis*, 270
 radicalis, Snellenius, 270
 raesus, Apanteles, 32, **59**
 rarus, Semionis, 206
- reales, group of, 235, **239**
 reales, Protomicroplitis, 239
 recurvalis, Hymenia, 58, 82, 86
 Recurvaria, 213
recurvariae, *Microgaster*, 213
recurvariae, *Protapanteles*, 213
 reflexa, Plectoptera, 190
reinhardi, *Apanteles*, 187
 resplendens, group of, 210, **216**
 resplendens, Hypomicrogaster, 216
resplendens, *Microgaster*, 216
 reticulata, Eustroma, 136
 reticulata, Lygris, 136
 rhipheus, Apanteles, 106, **117**
 Rhodaria, 228
 rhomboidaria, Boarmia, 250
 ricini, Pericallia, 44
 robusta, Embelia, 69
 robusta, Hysipyla, 68
 robusta, Shorea, 175
 rosaces, Apanteles, 104, **107**
 ruficollis, Apanteles, 141
ruficollis, *Xanthomicrogaster*, 141
 rufithorax, Epitarsipus, 169
 rufivena, Tirathaba, 65
 rugiceps, Apanteles, 41, **94**
 rutilans, Apanteles, 41, **55**
- sagax, Apanteles, 43, **73**
 sagmaria, Apanteles, 138
 Salebria, 161
 salutiifer, Apanteles, 30, 41, **48**
santi-vincenti, *Pseudapanteles*, 181
 sancus, Apanteles, 195
 saravus, Apanteles, 36, 39, **81**
 sarcitrella, Endrosis, 84
 sartamus, Apanteles, 33, **100**
 sauros, Apanteles, 37, **70**
 schneideri, Apanteles, 38, **103**
 schoenobii, group of, 19, 128
 schoenobii, Apanteles, 128
 Schoenobius, 128
 schunkei, group of, 237, 260
 schunkei, Protomicroplitis, 260
 scitula, Sesia, 145
 scotica, group of, 238, 251, key to species, 251
scotica, *Microgaster*, 252
 scotica, Protomicroplitis, 252
 scultena, Apanteles, 34, **101**
 Scythris, 183
 Selepa, 100
 semele, Hypomicrogaster, 221, **224**
 seminella, Phthorimaea, 150

- Semionis, 14, 206
 Sendaphne, 17, 203
 senescens, Scythris, 183
 seres, Xanthomicrogaster, 264
 seriphus, Protomicroplitis, 243
 Sesia, 145
 sesiae, group of, 24, 144, key to species of, 144
 sesiae, Apanteles, 145
 seyrigi, Apanteles, 167, **169**
 Shorea, 175
 Siculodes, 203
 siderion, group of, 22, 138, key to species, 138
 siderion, Apanteles, 139
 significans, Apanteles, 30, 41, **45**
significans, *Microgaster*, 25
 siliqua, Ceratonia, 162
 Simaethis, 224
 similis, Euproctis, 248
 similis, Porthesia, 193
 simulans, Dasytagon, 203
 sissoo, Dahlbergia, 190
 smerdis, Apanteles, 38, **68**
 Snellenius, 8, 15, 270, key to species, 270
solitarius, *Urogaster*, 82
 solox, Apanteles, 44, **97**
 solox, Hypomicrogaster, 215
sons, *Microgaster*, 247
 sons, Protomicroplitis, 247
 soxis, Apanteles, 29, **57**
 Spilanthus, 219
 spilopterus, Promicrogaster, 232
 Spindasis, 99
 spretus, group of, 236, 238, 255, key to species, 255
spretus, *Microgaster*, 255
 spretus, Protomicroplitis, 255
 stadius, Apanteles, 173, **176**
 stennos, Apanteles, 43, **68**
 stenotelas, Apanteles, 39, **82**
 Stephensia, 145
 sterope, Promicrogaster, 234
 straeleni, Buluka, 265
 strigata, Hemitheia, 135
 stultalis, Pachyzancla, 44, 58
 suaedella, Phthorimaea, 150
 suffolciensis, Hypomicrogaster, 221, **228**
suffolciensis, *Microgaster*, 228
 sulmo, Sendaphne, 204
 sundanus, group of, 24, 170, key to species, 170
 sundanus, Apanteles, 170
 sutor, Platysenta, 261
 Sylepta, 46, 48, 59, 67, 74, 76, 86, 89, 225
 syleptae, Apanteles, 30, **59**
 sylvata, Abraxas, 193
 symmysta, Apanteles, 191
 tachardiae, Apanteles, 36, **72**
 taeniaticornis, group of, 19, 120, key to species, 120
 taeniaticornis, Apanteles, 121, **123**
 Tamarix, 88
 tapetzella, Trichophaga, 75
 taragamae, Apanteles, 38, **66**
 teapae, Apanteles, 192
 Tectona, 225, 255
 tedanius, Apanteles, 150, **163**
 tegularis, group of, 238
 telon, Apanteles, 35, **88**
 Terminalia, 255
 terminalis, group of, 23, 131
 terminalis, Apanteles, 131
 terminalis, Euproctis, 196
 theobroma, Conopia, 167
 Thera, 256
 Theretra, 271
theretrae, *Microplitis*, 271
 theretrae, Snellenius, 271
thoracicus, *Apanteles*, 181
 thujaella, Recurvaria, 213
 thyone, Apanteles, 198
 Thyridopteryx, 217
 tigungs, Apanteles, 43, **78**
 Tinea, 75, 128
 Tineola, 75
 Tirathaba, 65
 tirathabae, Apanteles, 43, **65**
 tiro, Hypomicrogaster, 221, **229**
tiro, *Microgaster*, 229
tomentosa, *Microgaster*, 255
 tomentosa, Protomicroplitis, 255
 tomentosa, Terminalia, 255
 toona, Cedrella, 68
 tormina, Apanteles, 196
 Tortrix, 88, 116, 197
 townesi, Apanteles, 41, **79**
 trabea, Apanteles, 104, **107**
 trachalus, Apanteles, 39, **84**
 triareus, Apanteles, 105, **112**
 Trichophaga, 75
 trifasciatus, group of, 19, 124, key to species, 124
 trifasciatus, Apanteles, 125
 tulis, Apanteles, 35, **77**
 tydeus, Hypomicrogaster, 215
 typhon, Alloplitis, 270

typhon, Apanteles, 151, **153**
Tyrea, 137

uddmanniana, Notocelia, 74
ultor, group of, 18, 126
ultor, Apanteles, 126
unipunctata, Cirphis, 67, 192
upis, Apanteles, 105, **117**
urgo, Apanteles, 182
urios, Protomicroplitis, 243
usipetes, Apanteles, 39, **81**

vacillans, Apanteles, 32, **91**
vacillatrix, group of, 209, 219, key to species, 219
vacillatrix, Hypomicrogaster, 221, **224**
vacillatrix, *Microgaster*, 224
vafer, Apanteles, 139
vala, Apanteles, 40, **62**
validus, group, of 23, 199
validus, Apanteles, 199
variata, Thera, 256
venilia, Apanteles, 144
videns, Platysenta, 261
vindicius, Apanteles, 152, **158**
vinifera, Vitis, 67
vipio, group of, 20, 128
vipio, Apanteles, 128
virbius, group of, 209, **210**
virbius, Hypomicrogaster, 210

virgaureana, Cnephasia, 229
viridis, Doloessa, 84
Vitis, 67
vitripennis, group of, 23, 187
vitripennis, Apanteles, 187
vitripennis, *Microgaster*, 187
vollenhovii, Snellenius, 270

wahlbergiana, Argyroploce, 113
wesmaeli, group of, 209, 210
wesmaeli, Hypomicrogaster, 210
wesmaeli, *Microgaster*, 210

xanthaspis, group of, 236, 240, key to Philippine species, 242
xanthaspis, *Apanteles*, 242
xanthaspis, *Microgaster*, 242
xanthaspis, Protomicroplitis, 242
Xanthomicrogaster, 7, 14, 264, key to species, 264
xylostearia, Cacoecia, 75

Zea, 125
zinckenella, Etiella, 159
Zinckenia, 141
Zizyphia, 70
zonaria, group of, 209, 212, key to species, 213
zonaria, Hypomicrogaster, 213
zonaria, *Microgaster*, 213





Printed in England by Staples Printers Limited at their Kettering, Northants, establishment

B. M.
H.
O.

A REVISION OF THE ETHIOPIAN DREPANIDAE (LEPIDOPTERA)



A. WATSON

BULLETIN OF
THE BRITISH MUSEUM (NATURAL HISTORY)
ENTOMOLOGY

Supplement 3

LONDON: 1965

A REVISION OF THE ETHIOPIAN DREPANIDAE
(LEPIDOPTERA)



BY

A. WATSON

British Museum (Natural History)

BULLETIN OF
THE BRITISH MUSEUM (NATURAL HISTORY)
ENTOMOLOGY

Supplement 3

LONDON: 1965

THE BULLETIN OF THE BRITISH MUSEUM (NATURAL HISTORY), *instituted in 1949, is issued in five series corresponding to the Departments of the Museum, and an Historical Series.*

Parts will appear at irregular intervals as they become ready. Volumes will contain about three or four hundred pages, and will not necessarily be completed within one calendar year.

In 1965 a separate supplementary series of longer papers was instituted, numbered serially for each Department.

This paper is Supplement No. 3 of the Entomological series. The abbreviated titles of periodicals cited follow those of the World List of Scientific Periodicals.

© Trustees of the British Museum (Natural History) 1965

TRUSTEES OF
THE BRITISH MUSEUM (NATURAL HISTORY)

Issued August, 1965

Price £4 4s.

A REVISION OF THE ETHIOPIAN DREPANIDAE (LEPIDOPTERA)

By A. WATSON

CONTENTS

	Page
SYNOPSIS	3
MATERIAL EXAMINED	3
ACKNOWLEDGEMENTS	4
SUBFAMILY CLASSIFICATION	4
DISTRIBUTION AND AFFINITIES	5
TREATMENT	7
KEY TO GENERA	8
ORETINAE	9
<i>Epicampoptera</i> BRYK	9
<i>Negera</i> WALKER	47
<i>Gonoreta</i> WARREN	70
<i>Gonoretodes</i> gen. n.	91
<i>Spidia</i> BUTLER	95
<i>Crociniis</i> BUTLER	114
<i>Isospidia</i> gen. n.	132
<i>Uranometra</i> BRYK	139
<i>Archidrepana</i> WARREN	142
<i>Oretopsis</i> gen. n.	145
DREPANINAE	149
<i>Callidrepana</i> FELDER	149
NIDARINAE subfam. n.	157
<i>Nidara</i> MABILLE	158
REFERENCES	167
INDEX OF NOMINAL SUBFAMILIES, GENERA, SPECIES AND SUBSPECIES	176

SYNOPSIS

This paper deals with the known Drepanidae of the Ethiopian Region (*sensu* Wallace, 1876) i.e. Madagascar, and Africa south of the Sahara. Each of the eight previously described genera of Oretinae endemic to this Region has been fully revised, and three new genera described. A new subfamily, Nidarinae, has been erected for the Madagascan genus *Nidara*. The three African species of *Callidrepana* Felder (Drepaninae) have also been dealt with. 39 new species and four new subspecies are described. A short account is given of the distribution of the Drepanidae in the Ethiopian Region and the geographical distribution of the subfamilies of Drepanidae is discussed. An attempt has also been made to characterize the three known subfamilies on a world basis.

MATERIAL EXAMINED

THE holotypes or syntypes or nearly every Ethiopian nominal species have been examined. The only exceptions are the types of *Callidrepana brunneola* Holland, *Callidrepana oculata* Holland, *Ancistrota bimaculata* Holland, *Ancistrota geometroides* Holland, *Thymistida erosa* Holland and *Thymistida miserrima* Holland, which were dissected, drawn and photographed for me by Dr. H. K. Clench of the Carnegie

Museum. A lectotype has been selected from each syntypic series, and a neotype selected for *Nidara croceina* Mabille and for *Drepana tetrathyra* Mabille.

In addition to the collection of Drepanidae in the British Museum (Natural History), important material was borrowed from the following museums and institutions:

Carnegie Museum, Pittsburgh, U.S.A. ; Coryndon Museum, Nairobi, Kenya ; Durban Museum, South Africa ; Institut d'Enseignement et de Recherches tropicales, Bondy, France ; Institut de Recherche scientifique à Madagascar, Tananarive ; Institut für Spezielle Zoologie und Zoologisches Museum der Humboldt Universität, Berlin, D.D.R. ; Muséum d'Histoire naturelle, Geneva, Switzerland ; Muséum national d'Histoire naturelle, Paris, France ; Musée Royal de l'Afrique centrale, Tervuren, Belgium ; National Museums of Southern Rhodesia, Bulawayo ; Naturhistorisches Museum, Vienna, Austria ; Naturhistoriska Riksmuseet, Stockholm, Sweden ; Senckenbergische Naturforschende Gesellschaft, Frankfurt a.M., Germany ; Transvaal Museum, Pretoria, South Africa.

The examined material of each species is listed fully. The data is divided into sections according to the museum or institution containing the specimens concerned.

ACKNOWLEDGEMENTS

My sincere thanks are due to Dr. P. Viette, who suggested that I studied the Madagascan material preserved in the Muséum national d'Histoire naturelle, Paris. I should also like to thank Dr. P. Réal, who first indicated to me the need for a revision of the Drepanidae of Africa and arranged the loan of material from his institute. Mr. R. H. Carcasson, Dr. E. Pinhey and Dr. L. Vari gave valuable help regarding African localities as well as lending me much useful material. I am grateful to the Trustees of the Coryndon Museum, Nairobi, for the presentation of several important specimens. Dr. H. K. Clench very kindly prepared for me drawings and photographs of types under his care and lent me other important material. Dr. R. Pujol was kind enough to lend me the useful material collected by him during periods of duty in Africa. Dr. B. J. MacNulty presented some important specimens to me from his private collection. I am also greatly indebted to the following specialists, who have helped mainly by selecting material for me from their respective institutions : Dr. L. A. Berger, Dr. C. Besuchet, Dr. P. A. Clancey, Dr. D. Duckworth, Dr. E. Franz, Dr. P. Griveaud, Dr. H. Hannemann, Dr. B. Hanson, Dr. F. Kasy and Dr. P. Malzy. My colleagues in London have been a constant source of help at every stage in the work. I am especially indebted to Dr. I. W. B. Nye and Mr. P. E. S. Whalley who read the manuscript and made numerous helpful suggestions. The drawings initialled "A.S." were prepared by the Department's artist Mr. Arthur Smith, those initialled "J.E.S." by Mrs. J. E. Saunders.

SUBFAMILY CLASSIFICATION

It is proposed to give a fuller treatment of the subfamilies of Drepanidae at a later date in a revisionary catalogue of the world genera. However, as both of the

previously accepted subfamilies of Drepanidae (see Inoue, 1962) occur in Africa, and a new Madagascan subfamily, Nidarinae, is described in this paper, the most readily distinguishable features of each subfamily have been tabulated below. The Drepaninae as defined below comprise those genera listed by Gaede (1931) on pages 4 to 40 (from *Macrauzata* to *Campylopteryx*), and the Oretinae the genera listed on pages 40 to 53 (excepting *Sophta* Walker, *Nidara* Mabille and *Eudeilinia* Packard). The type material of nearly every known species of Drepaninae has been examined with regard to the diagnostic characters used below. It is worth noting that contrary to previous statements by Strand (1911 : 204) and Imms (1957 : 561) the species of *Cilix* Leech, as in all other Drepaninae, possess a well developed proboscis in both sexes and a frenulum in the male. *Deroca* Walker and *Phalacra* Walker, both Drepaninae species, which were stated by Strand (1911 : 203) to lack a frenulum in the male, in fact possess one, and *Oreta* Walker, as in nearly all Oretinae, has a vestigial proboscis in which the two halves are short and not fused to each other medially.

	Drepaninae	Oretinae	Nidarinae
Proboscis	present, well developed	vestigial or absent	vestigial
Frenulum (♂)	present	absent	present
Epiphysis of fore tibia	present	present	absent
Spurs of mid and hind tibia	present	present	absent

DISTRIBUTION AND AFFINITIES

The most striking fact concerning the distribution of Drepanidae in the Ethiopian Region is the poor representation of the subfamily Drepaninae. Ten endemic genera of Oretinae, comprising 62 species, are known to occur in this Region, whereas only three species of Drepaninae belonging to one non-endemic genus have so far been taken. This contrasts with the distribution in the Oriental and Australasian Regions where 39 genera and 245 species of Drepaninae occur (Gaede, 1931 : 4-40 ; *Macrauzata* Butler to *Campylopteryx* Warren) together with 10 genera and 76 of Oretinae (Gaede, 1931 : 4-40 ; from *Spectroreta* Warren to *Amphitorna* Turner—excluding *Gonoreta* Warren). A new subfamily has been erected for an endemic Madagascan genus, *Nidara* Mabille.

Africa (south of the Sahara)

No African genus of Oretinae is closely allied to any genus occurring outside the Ethiopian Region, showing that the fauna has been isolated from the Oretinae of the Oriental Region for a considerable period. The extensive range and the high degree of morphological diversity of many genera of African Oretinae suggests that they are long-established as such. *Epicampoptera* Bryk, for example, extends across much of West, Central and East Africa, as far as Cape Province in southern Africa, and also into Madagascar. It can be divided into three, or perhaps four, morphologically distinct species-groups. *Spidia* Butler is also widespread and may be ancestral to the Madagascan *Crocinis* Butler. It exhibits considerable specific

diversity in the structure of the antennae, the shape of the wings, and the form of the male and female genitalia. *Isospidia* gen. n. and *Uranometra* Bryk are possibly monophyletic with *Spidia*. The distribution of *Negera* Walker is also extensive, and it too exhibits considerable specific diversity in the shape of the wings and genitalia. *Gonoreta* has a wide distribution in Africa and is also known from Madagascar, suggesting a past history comparable with that of *Epicampoptera*, although there is much less structural difference between its species than between species of *Epicampoptera*. The Madagascan genus *Gonoretodes* may be an offshoot from *Gonoreta*.

There are insufficient records for conclusions to be drawn regarding the exact limits of distribution, but in general these approximately coincide with the boundaries of the rain-forest and montane forest regions. Certain species, however, are able to tolerate less moist conditions at least during part of the year and may occur in areas of woodland and forest-savanna ; but without accurate ecological data it is not possible to be certain whether a given specimen from, say, Uganda was taken in woodland or forest-savanna or from an isolated patch of rain-forest within the latter. The species of *Spidia*, for example, are known mainly from the rain-forest areas of the Congo Basin and West Africa, but with one species, *goniata* Watson, apparently restricted to the montane forests of Ruwenzori. *Gonoreta opacifinis* sp. n. has a distribution in West Africa and the Congo Basin similar to that of *Spidia*, but also occurs, without apparent geographic variation, in the Kalinzu forest (rain-forest) of south-western Uganda and in thick woodland in the Vumba Mountains, Southern Rhodesia. *Gonoreta subtilis* Bryk is also widely distributed in the rain-forest regions of tropical Africa, extending from Sierra Leone to the Usambara Mountains of Tanganyika : in this species the West African populations are subspecifically distinct from the remainder, whereas in *Isospidia angustipennis* Warren the boundary between its two subspecies lies near the eastern edge of the main rain-forest belt of the Congo Basin.

Maps 1-7 show the distribution of 42 of the 48 African species of Drepanidae. Each symbol on the maps indicates the collection of one or more specimens of a particular species. It is noteworthy that 40 of the species are either confined to the main rain-forest belt (and bordering savanna) of central Africa or have ranges including central Africa. The range of the polytypic *Negera natalensis* Warren which extends from Senegal to Cape Province is particularly extensive. Apart from *Negera natalensis* only *Epicampoptera notialis* sp. n. is known to occur in South Africa. Both species seem to be confined here to the belt of forest-savanna along the east coast. Five species are confined to West Africa and two to East Africa.

Only one genus of the subfamily Drepaninae is present in Africa. This is *Callidrepana* Felder, a genus of about twenty-five species, otherwise known from the Oriental and Australasian Regions and from the south-east corner of the Palearctic Region. The three African species, none of which have been captured east of the Great Rift Valley, are probably quite closely allied to three of the Oriental species of *Callidrepana*. This suggests the relatively recent existence of a continuous distribution connecting the African and Oriental Drepaninae.

Madagascar

Six genera of Oretinae, including 22 species, are present in Madagascar. Two of these, *Epicamptoptera* and *Gonoreta*, are mainly African in distribution but are represented by three and one species respectively in Madagascar. The remaining four genera are endemic to Madagascar. *Crociniis* is closely allied to the endemic African genus *Spidia* and may have been derived from it; *Gonoretodes* probably has similar affinities with *Gonoreta*. Without more evidence it is difficult to decide whether the two species-groups of *Crociniis* are the result of divergence from a single ancestral stock probably originating in Africa or whether the two groups are derived from two separate invasions from Africa. The affinities of the monotypic *Archidrepana* Warren are obscure; it seems to have no particularly close relative in either Madagascar or Africa. *Oretopsis* gen. n. is possibly most closely related to the Austro-oriental *Oreta* Walker and *Psiloreta* Warren, and may be a relict of a once continuous fauna extending through Africa to India.

No Drepaninae are known to occur in Madagascar.

A new subfamily has been established for the endemic *Nidara* Mabilbe.

Most of the species of Madagascar Drepanidae are known only from very short series, and conclusions concerning their distribution in the island can not yet be drawn, although the available data suggests that at least some of the species may be restricted to humid, forested regions.

TREATMENT

Those species not fully described in the original description have been redescribed. The following characters have been used: length and colour of the labial palps; degree of development of the proboscis; shape of clypeo-frons; colour and shape of antennae (see note on antennal pectination ratio below); colour of thorax, legs and abdomen; presence or absence of tibial spurs and of fore tibial epiphysis; shape, size, coloration, colour-pattern and venation of wings; presence or absence of brush-organs in the abdomen; presence or absence of a frenulum on the male hind wing; structure of the male and female genitalia. Because of the high degree of individual variation and the tendency of many pigments to fade, generalized colour-terms such as "reddish brown", "scarlet" and "pink" have been used in preference to a more accurate method of colour description based on a colour-atlas.

Wing measurements are given in the following form: mean of measurements taken (measured from apex of fore wing to centre of mesoscutum, with anal margin of wing at right-angles to longitudinal axis of thorax); range of measurements taken; and, in brackets, the number of specimens measured. The length of the pectinations of the antennae is expressed as a percentage: A.P.R. (antennal pectination ratio) =
$$\frac{\text{length of longest antennal pectination} \times 100}{\text{total length of antenna}}$$

The genitalia of both sexes (where known) of every Ethiopian species have been illustrated. The drawings of the male genitalia of one species of each genus have been labelled according to the terms used in the corresponding generic description

of the genitalia. The scale placed by each drawing or group of drawings represents one millimetre. The illustrations are of a ventral view unless stated otherwise. The half-tone plates were prepared from photographs taken by the Photographic Section of this Museum.

References in the text have been given in an abbreviated form, the full reference appearing in the terminal bibliography. The bibliographical synonymy preceding the account of each taxon includes references to synonyms and to works of major taxonomic importance only.

KEY TO GENERA OF DREPANIDAE OF THE ETHIOPIAN REGION
MALE AND FEMALE

- | | | |
|---|--|---|
| 1 | Proboscis vestigial ; fore tibia without epiphysis ; mid and hind tibiae without spurs ; frenulum present in male | (Nidarinae) NIDARA (p. 158) |
| - | Proboscis absent, vestigial, or well developed ; fore tibia with epiphysis ; mid tibia with one pair of spurs, hind tibia with one or two pairs of spurs ; frenulum present or absent in male | 2 |
| 2 | Proboscis well developed ; frenulum present in male | (Drepaninae) CALLIDREPANA (p. 149) |
| - | Proboscis vestigial or absent ; frenulum absent in male | (Oretinae) 3 |
| 3 | Antenna bipectinate | 4 |
| - | Antenna unipectinate or unilamellate | 5 |
| 4 | Outer margin of fore wing produced or angulate at middle, outer margin of hind wing usually with small process posterior to middle (e.g. Plate 1, figs. 271, 272) ; male genitalia without gnathus, eighth abdominal sternum considerably modified (Text-figs. 5-73) | EPICAMOPTERA (p. 9) |
| - | Outer margin of fore wing not produced or angulate at middle, outer margin of hind wing evenly convex or weakly angulate anterior to middle (Plates 5 and 6, figs. 287-294) ; male genitalia with strongly developed gnathus, eighth abdominal sternum little modified (Text-figs. 75-108) | NEGERA (p. 47) |
| 5 | Antenna unipectinate | 6 |
| - | Antenna unilamellate | 10 |
| 6 | Proboscis absent ; dark subterminal spot present on hind wing between Cu_{1a} and Cu_{1b} (Plate 15, figs. 331-333) ; male genitalia as in Text-figs. 232-234 | ARCHIDREPANA (p. 142) |
| - | Proboscis present ; hind wing without subterminal spot between Cu_{1a} and Cu_{1b} ; male genitalia not as in Text-figs. 232-234 | 7 |
| 7 | Fore wing with conspicuous apical spot (Plate 10, fig. 312) ; diaphragma of male genitalia with pair of large setose sacs | URANOMETRA (p. 139) |
| - | Fore wing without apical spot ; diaphragma without setose sacs | 8 |
| 8 | Outer margin of fore wing with angulate process at middle (Plate 17, fig. 341) | GONORETODES (p. 91) |
| - | Outer margin of fore wing without process at middle | 9 |
| 9 | Antenna unipectinate. Outer margin of hind wing evenly convex, or convex except for weakly concave posterior section (Plates 11-13, figs. 313-325). Male genitalia : gnathus absent, anellus well developed, eighth abdominal sternum little modified (Text-figs. 188-218) | CROCINIS (p. 114) |
| - | Antenna unipectinate or unilamellate. Outer margin of hind wing either straight with sharply angulate outer angle or evenly convex (Plates 9 and 10, figs. 305-311). Male genitalia : gnathus present, anellus weakly developed, eighth abdominal sternum considerably modified (Text-figs. 154-187) | SPIDIA (p. 94) |

- 10 Outer margin of fore wing with angulate process at middle (Plates 7 and 8, figs. 295-304) **GONORETA** (p. 70)
 - Outer margin of fore wing without process at middle 11
- 11 Fore wing without areole ; colour-pattern of wings as in Plate 17, fig. 339 ; male genitalia highly diagnostic, medial process of gnathus extending posterior to uncus (Text-figs. 237-239) ; female genitalia as in Text-fig. 236 **ORETOPSIS** (p. 145)
 - Fore wing with areole ; colour-pattern of wings not as above ; genitalia not as above, gnathus of male not extending posterior to uncus 12
- 12 Antenna unipectinate, or if unilamellate then hind wing with conspicuous reddish brown spot at end of cell on upper surface ; one or more hyaline patches usually present at end of cell ; outer angle of hind wing rounded or sharply angled (Plates 9 and 10, figs. 305-311) ; genitalia as in Text-figs. 154-187 **SPIDIA** (p. 94)
 - Antenna unilamellate ; hind wing without large brown spot or hyaline patches at end of cell ; outer angle of hind wing rounded (Plate 14, figs. 326-330) ; genitalia as in Text-fig. 219-227 **ISOSPIDIA** (p. 132)

ORETINAE

EPICAMOPTERA Bryk

(Text-figs. 1-73 ; Pls. 1-4, 17, figs. 271-286, 342 ; Maps 1, 2)

Epicamoptera Bryk, 1913 : 7. Type-species, by original designation, *Thymistida erosa* Holland, 1893.

Epicamoptera Bryk ; Gaede, 1927 a : 163.

Epicamoptera Bryk ; Gaede in Seitz, 1927 b : 290.

Epicamoptera Bryk ; Gaede, 1931 : 52.

Epicamoptera Bryk ; Leroy, 1936 : 3.

Epicamoptera Bryk ; Pujol, 1960. [Biological notes.]

Metadrepana Hampson, 1914 : 104. Type-species, by original designation, *Metadrepana glauca* Hampson, 1914.

DIAGNOSIS. The bipectinate antennae and the shape of the hind wing distinguish *Epicamoptera* from *Gonoreta*, the only other African genus likely to be confused with it. The similarly shaped antennae, the presence of a globose clypeo-frons, and similarities in the colour-pattern suggest affinities between *Epicamoptera* and *Negera*, but the shape and venation of the wings together with the distinctive genitalia readily separate them.

DESCRIPTION. ♂, ♀. Labrum globose ; antenna bipectinate from base to apex ; proboscis vestigial.

Meso- and metathoracic legs with single pair of short terminal spurs. Outer margin of fore and hind wing produced between M_3 and Cu_{1a} (see plates). Venation of fore wing as in Text-figs. 1, 3. $Sc + R_1$ anastomoses with R_s for short distance distal to end of cell (see Text-fig. 2). Upper surface of both wings brown ; base of fore wing, area distal to postmedial fascia, and irregular medial patch, paler than rest of wing ; subterminal represented in both wings by well defined interneural spots between M_3 and Cu_{1a} , less strongly marked spot between Cu_{1a} and Cu_{1b} , and an additional marking in hind wing between M_2 and M_3 . Under surface of both wings paler than upper surface, variously striate with darker brown ; discocellular spot usually well marked ; postmedial fascia present on both wings, sometimes weakly marked on hind wing ; the hind wing fascia not corresponding in position with same fascia on upper surface. (See Plates 1-3, and Plate 17, fig. 342.)

Male abdomen with brush organ immediately posterior to tympanum (see Text-fig. 4).

GENITALIA (see notes below under species-groups). Of particular interest in the male are the peculiar sacs in the uncus of the species group *seydeli*, and the pouch-like diaphragma of the group *erosa* : in these groups and in *strandi* the eighth abdominal sternum is greatly modified to form part of the genital apparatus. The peculiar genitalia of *efulena* are dealt with on page 47.

TAXONOMIC HISTORY. *Epicamptoptera* was erected by Bryk (1913 : 7) for *Thymistida erosa* Holland (selected by Bryk, 1913 : 7, as type-species) and a new species *strandii*. The following year Hampson (1914 : 104) erected the genus *Metadrepana* for two new species *glauca* and *heterogyna* and selected *glauca* as the type-species. Tams (1925 : 289-291) described *andersoni* and *pallida* as two new species of *Metadrepana* and later (1930 : 74) added *marantica*. Gaede (1927 a : 163) first synonymized *Metadrepana* Hampson, 1914, and *Epicamptoptera* Bryk, 1913, and described *heringi*. Gaede (1927 b : 290) in the first revision of *Epicamptoptera* listed *erosa*, *strandii* (synonym : *glauca*), *heterogyna*, *andersoni*, *heringi* and *pallida*. Gaede (1931 : 52) in a catalogue of *Epicamptoptera* listed the same species as in Seitz but added *Thymistida miserrima* Holland (see below). Hering (1934 a : 400-405) added *difficilis*, *ignorata* and *vulvornata* and through a misunderstanding sank *marantica* as a junior synonym of *strandii*. Later in the same year Hering (1934 b : 407) corrected the above synonymy, and sank *ignorata* as a junior synonym of *marantica*.

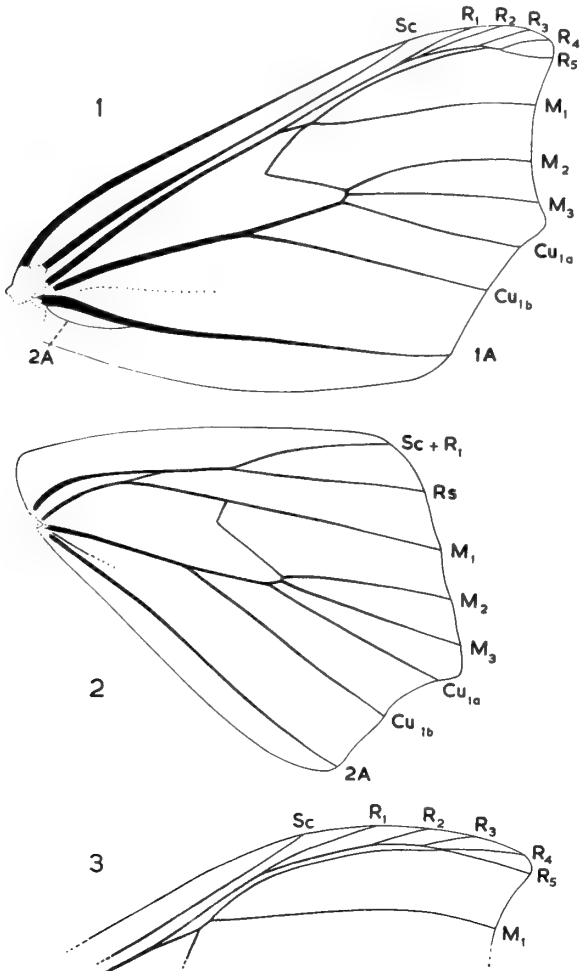
Through the kindness of Dr. H. K. Clench I have been able to examine drawings of the genitalia and photographs of the holotype of *Thymistida miserrima* Holland. This species clearly does not belong in *Epicamptoptera* and has been transferred to *Spidia* (see page 112). The species *carnea* has been taken from synonymy in the genus *Ctenogyna* Felder and transferred to *Epicamptoptera* (p. 36). Various changes in specific nomenclature have been made and nine new species have been described in the present revision. *Epicamptoptera* now comprises nineteen species.

DISTRIBUTION (Maps 1 and 2). *Epicamptoptera* is widely distributed in both Africa and Madagascar. Three species are endemic to Madagascar and sixteen to Africa. The genus has been taken in much of the forested regions of West Africa and the Congo Basin from Guinea to the Great Rift Valley, and also in smaller tracts of rain-forest and montane forest in Uganda and Kenya. Only one species, *notialis*, occurs in South Africa, where it is apparently restricted to parts of Transvaal and the coastal forest-savanna of Natal and Cape Province. Although several African species are known to feed on *Coffea* (see Pujol, 1960), and might therefore be expected to occur wherever *Coffea* is grown, those plantations of *Coffea* not close to areas of moist forest are, according to Pujol, practically never attacked.

SPECIES-GROUPS. With the exception of *efulena* (see Key below) the genus is divisible into three distinct species-groups : species-group *strandii* (p. 12) containing the species *strandii*, *marantica*, *andersoni*, *tamsi*, *difficilis* and *ivoirensis* ; species-group *erosa* (p. 28) which includes *notialis*, *heringi*, *heterogyna*, *erosa*, *pallida*, *robusta*, *tumidula*, *graciosa*, *carnea* and *griveaudi* ; and species-group *seydeli* (p. 43) containing the species *seydeli* and *lumaria*. In the male genitalia of the species-group *strandii* the uncus is distinctively shaped, each lobe possessing a short, beak-like, medial process ; the valves are moderately well-developed, flat and somewhat hood-like and without acuminate basal processes ; the diaphragma is strongly concave ventrally but not pouch-like ; and the eighth sternum is highly modified, with stout apodemes and long, curved, paired, posterior processes. The male genitalia of the group *erosa* differ in the shape of the uncus ; the very small valves,

which have heavily sclerotized, curved, basal spines ; the curious pouch-like diaphragma which extends anteriorly over the saccus ; and the eighth sternum which has more slender apodemes than in *strandii* and shorter posterior arms. The remaining group, *seydeli*, possesses peculiar invaginate sacs in the uncus, an almost flat diaphragma, thickly setose valves, a truncate saccus, a distinctively shaped aedeagus, and a most unusual, asymmetric arrangement of sclerites in the eighth sternal region and in the membrane between this and the ninth sternum.

The groups *strandii* and *erosa* can also be separated by the shape of the signum in the female genitalia. The signum is a small, spinose, bilobed patch in *strandii*, whereas in *erosa* it is an elongate, folded band, tapered at each end. There is a single female from Fernando Po (see page 45), which I can only tentatively identify as a specimen of the species *lumaria*, in which the signum resembles that in the species-group *strandii*.



FIGS. 1-3, *Epicampoptera*, venation. 1-2, *tumidula*, ♂ ; 3, *strandii strandii*, ♂.

KEY TO SPECIES-GROUPS AND TO THE SPECIES *efulena*

MALES

- 1 Fore wing venation as in Text-fig. 3. Male genitalia (e.g. Text-figs. 9, 10, 17, 19) : valves without basal process ; diaphragma strongly concave but not extended anteriorly above saccus ; eighth sternum with long, curved, paired posterior processes **species-group *strandii*** (p. 12)
- Fore wing venation as in Text-fig. 1. Posterior processes of eighth sternum short (e.g. Text-figs. 32, 59, 66, 73) 2
- 2 Male genitalia : vinculum produced posterolaterally on either side into heavily sclerotized, trifurcate, claw-like structure ; uncus absent ***efulena*** (p. 45)
- Male genitalia ; vinculum without trifurcate structures posterolaterally ; uncus present 3
- 3 Male genitalia : heavily sclerotized, curved, acuminate process present at base of valve ; pouch-like diaphragma extended anteriorly above saccus ; uncus without sacs **species-group *erosa*** (p. 28)
- Male genitalia : without valve process ; diaphragma nearly flat ; each lobe of uncus with invaginate sac **species-group *seydeleri*** (p. 43)

SPECIES-GROUP *strandii*

DIAGNOSIS. Fore wing venation as in Text-fig. 3. Hind wing as for *erosa* (Text-fig. 2). ♂ GENITALIA : each lobe of uncus with beak-like, medial process ; valve broad and flattened, divided in *strandii* ; diaphragma concave ventrally ; aedeagus lipped or spined at apex ; eighth sternum with stout apodemes and long, curved, posterior processes, often not bilaterally symmetrical ; eighth abdominal tergum with short apodemes. ♀ GENITALIA : signum cordate, ovate or triangular.

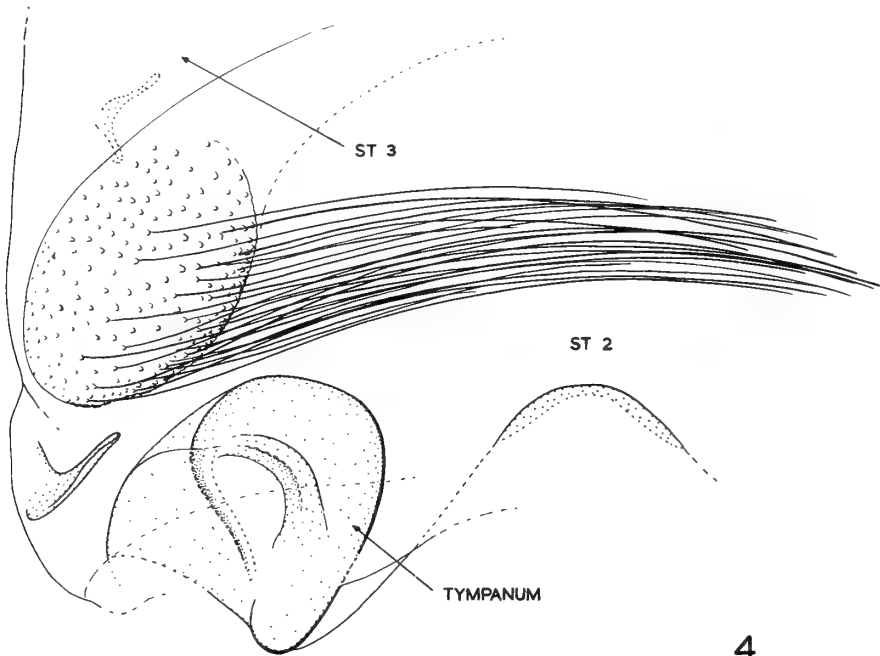


FIG. 4, *Epicamptoptera strandii glauca*, ventral view of left side of second abdominal segment, ♂

DISCUSSION. This group of six species includes one polytypic species *strand*i containing two subspecies. The particularly wide distribution of *marantica* (see Map 1) is noteworthy. *E. tamsi* and *andersoni* form a superspecies: had there been no overlap in their ranges it would have been reasonable to treat them as subspecies of a single species. The species *difficilis* and *ivoirensis* probably constitute another superspecies. Three species, *andersoni*, *marantica* and *strand*i, are known to be defoliators of coffee (see Pujol, 1960).

KEY TO SPECIES
MALES

- | | | |
|---|---|---------------------------|
| 1 | Genitalia with bilobed valve; posterior processes of eighth sternum sigmoid (Text-figs. 5, 6, 9-11) | <i>strand</i> i (p. 13) |
| - | Genitalia with simple valve; posterior processes of eighth sternum not sigmoid | 2 |
| 2 | Outer margin of fore wing very strongly notched between Cu_{1a} and Cu_{1b} (Plate 2, fig. 275); genitalia with angulate valve and distinctly shaped eighth sternum (Text-figs. 12, 14) | <i>marantica</i> (p. 17) |
| - | Outer margin less strongly notched than above between Cu_{1a} and Cu_{1b} (e.g. Plate 2, fig. 277); valve not angulate; medial process of eighth sternum absent or nearly so | 3 |
| 3 | Genitalia as in Text-figs. 17-19 | <i>andersoni</i> (p. 19) |
| - | Genitalia not as in Text-figs. 17-19 | 4 |
| 4 | Genitalia as in Text-figs. 20-22 | <i>tamsi</i> (p. 22) |
| - | Genitalia not as in Text-figs. 20-22 | 5 |
| 5 | Genitalia as in Text-figs. 28-30 | <i>ivoirensis</i> (p. 26) |
| - | Genitalia as in Text-figs. 24-26 | <i>difficilis</i> (p. 24) |

*Epicamoptera strand*i Bryk

(Text-figs. 5-11; Pl. 1, figs. 271, 272; Map 1)

*Epicamoptera strand*i Bryk, 1913: 8.

*Epicamoptera strand*i Bryk; Gaede in Seitz, 1927 b: 291. [Poor fig.]

*Epicamoptera strand*i Bryk; Gaede, 1931: 52.

*Epicamoptera strand*i Bryk; Pujol, 1960: 4. [Figs. of eggs, larvae and resting adult.]

Epicamoptera vulvornata Hering, 1934 a: 404. **syn. n.**

DIAGNOSIS. ♂, ♀. The only distinctive external character is the usually very pale, conspicuous postmedial fascia on the hind wing (Plate 1, figs. 271, 272) which contrasts with the less well marked or dark brown fascia of the remaining species of this group. GENITALIA. ♂ (Text-figs. 5, 6, 9-11): eighth sternum remarkably contorted; saccus globose; valve bilobed. ♀ (Text-figs. 7, 8): with distinctive convoluted ostial plate.

MEASUREMENTS. A.P.R.: ♂, ♀. 17. Wing: (See subspecies).

DISCUSSION. Similar to *marantica* externally but separable from it by the less strongly produced male hind wing, the paler postmedial fascia on the hind wing of both sexes, and by the genitalia.

Two subspecies are known. A single female from Uganda (in the Coryndon Museum, Nairobi) may represent a third subspecies but further material is needed before this can be confirmed.

There is considerable variation in the coloration of this species. The ground-colour of the upper surface of the wings may vary from reddish brown (holotype) to dull grey. The subterminal spots are absent in some specimens.

The colour-plate of this species in Seitz (Gaede, 1927 b : pl. 41f) is inaccurate and misleading.

DISTRIBUTION (Map 1). The species *strandii* occurs in GUINEA, UGANDA, and in most of the intervening territories.

MATERIAL EXAMINED. Type. Holotype ♂ (not ♀ as stated in the original description), CAMEROUN, Victoria, Kriegsschiffhafen ; Drepanidae genitalia slide No. 1250 ; in the Zoologisches Museum, Berlin.

Other material. (See subspecies.)

***Epicamoptera strandii strandii* Bryk**

(Text-figs. 5-7 ; Pl. 1, figs. 271, 272 ; Map 1)

Epicamoptera strandii Bryk, 1913 : 8.

Epicamoptera strandii Bryk ; Gaede in Seitz, 1927 b : 291. [Partim.]

Epicamoptera strandii Bryk ; Gaede, 1931 : 52.

Epicamoptera strandii Bryk ; Pujol, 1960 : 4.

Epicamoptera vulvornata Hering, 1934 a : 404.

DIAGNOSIS. ♂, ♀. The shape of the valves and uncus in the male, and the ostial plate of the female genitalia readily distinguish the nominate subspecies from *glauca*. (See Text-figs. 5-7.)

MEASUREMENTS. Wing : ♂. 22.5, 18.0-24.5 mm. (8) ; ♀. 24.5, 23.0-26.0 mm. (10).

DISTRIBUTION (Map 1). Known from the CENTRAL AFRICAN REPUBLIC, GABON and the CONGO. A single male from UGANDA in the Coryndon Museum may prove to belong to this subspecies when more material is available for comparison.

MATERIAL EXAMINED. Types. Holotype ♂ of *strandii* (see species description). Holotype ♀ of *vulvornata* Hering, CONGO, Uele-Itimbiri, Dembia, 10.xi.1933 (*Leroy*) ; Drepanidae genitalia slide No. 1286 ; in the Musée Royal de l'Afrique centrale, Tervuren.

Other material. *British Museum (Natural History)*. CENTRAL AFRICAN REPUBLIC : 1 ♂, 2 ♀, Boukoko (*Réal*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO : 1 ♂, 4 ♀, Stanleyville, Yangambi, 10.x.1959 (*Decelle*) ; 1 ♂, Yalusaka, 1936 (*Ghesquière*). *Institut d'Enseignement et de Recherches tropicales, Bondy*. CENTRAL AFRICAN REPUBLIC : 3 ♂, 5 ♀, Boukoko M'baiki, viii.1948, 2.vii-10.xii.1949, vii.1960 (*Réal, Bruniquel*). *Muséum national d'Histoire naturelle, Entomologie agricole tropicale, Paris*. GABON : 2 ♂, Oyem, iii.xi.1949 (*Rougeot*) ; 1 ♂, Mayumba, i.1953 (*Rougeot*). CENTRAL AFRICAN REPUBLIC : 7 ♂, 4 ♀, Boukoko, 5-21.x.1962 (*Pujol*).

***Epicamoptera strandii glauca* Hampson ssp. rev.**

(Text-figs. 8-11 ; Map 1)

Metadrepana glauca Hampson, 1914 : 105.

Metadrepana glauca Hampson ; Tams, 1925 : 289.

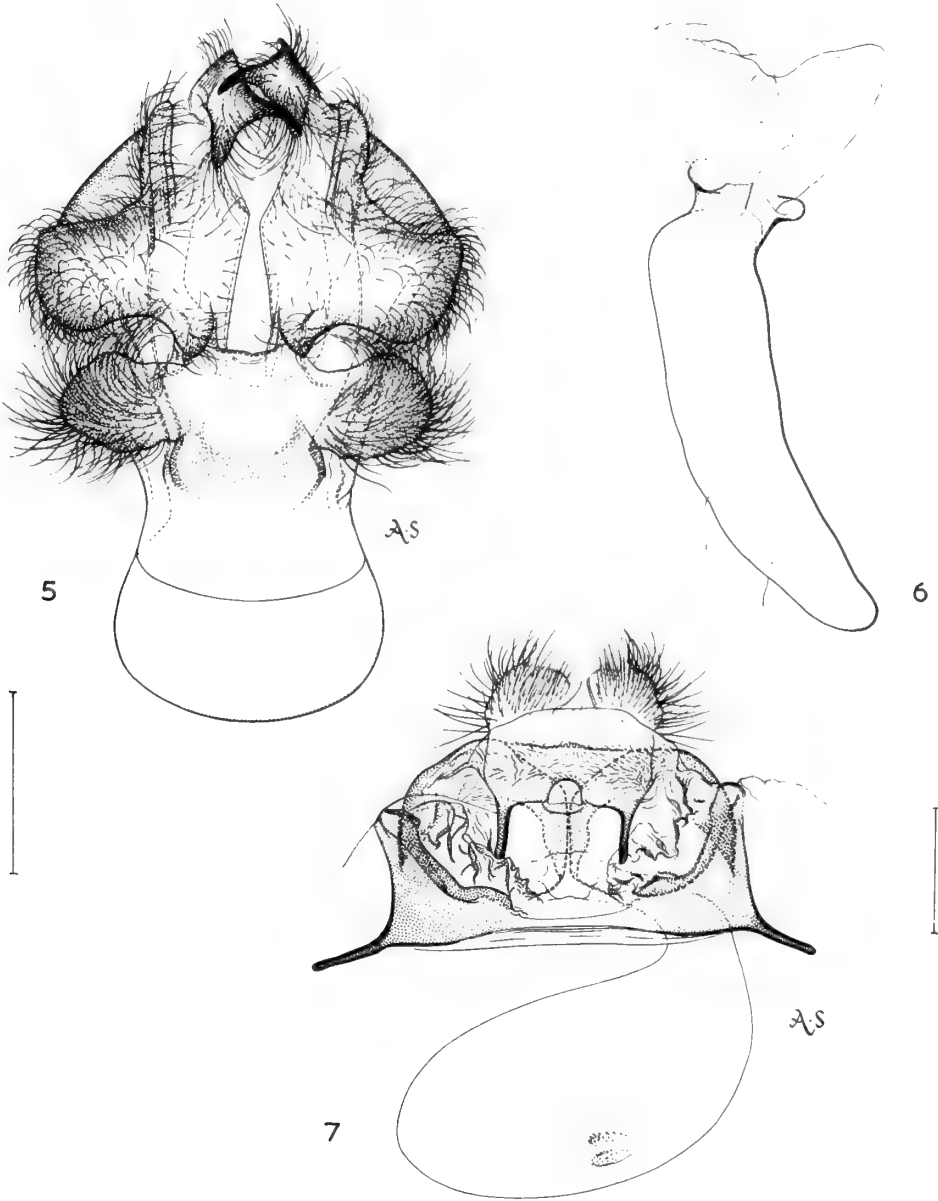
Epicamoptera strandii Bryk ; Gaede in Seitz, 1927 b : 291. [Partim.]

Epicamoptera strandii Bryk ; Gaede, 1931 : 52. [" var. *glauca* ".]

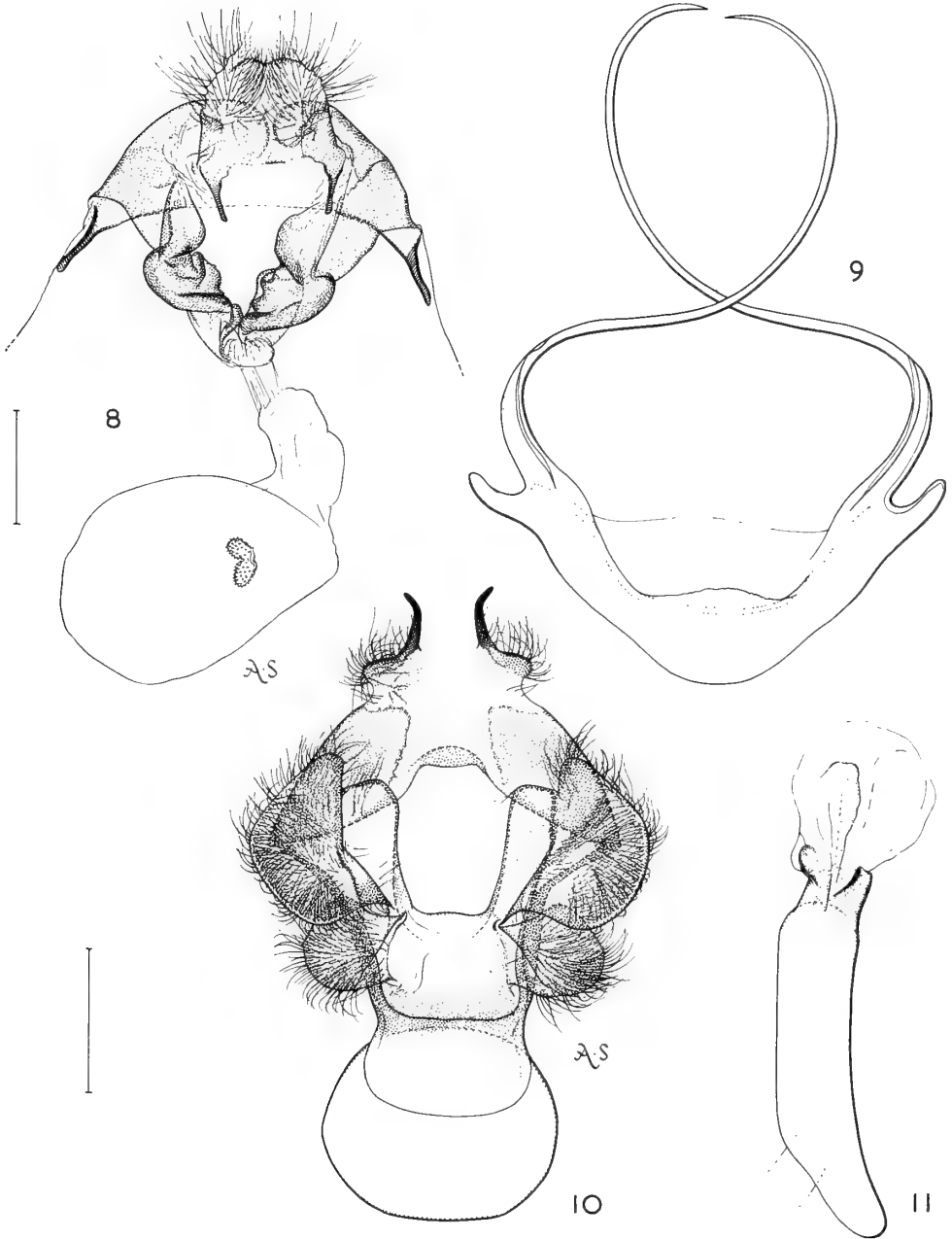
Epicamoptera strandii Bryk ; Hering, 1934 b : 407. [Partim.]

DIAGNOSIS. The shape of uncus lobes, valves and aedeagus in the male and the ostial plate in the female genitalia separate this from the nominate subspecies (see Text-figs. 8-11).

MEASUREMENTS. Wing ; ♂. 20.0, 18.0-22.5 mm. (14) ; ♀. 23.0, 21.0-25.5 mm. (14).



FIGS. 5-7, *Epicamptoptera strandi strandi*, genitalia. 5, ♂ ; 6, aedeagus ; 7, ♀.



FIGS. 8-11, *Epicampoptera strandi glauca*, genitalia. 8, ♀; 9, ♂ eighth abdominal sternite; 10, ♂; 11, aedeagus.

DISTRIBUTION (Map 1). FRENCH GUINEA, SIERRA LEONE, LIBERIA, IVORY COAST and NIGERIA.

MATERIAL EXAMINED. Type. I have selected the male from the pair of syntypes in the British Museum (Natural History) as the LECTOTYPE. It bears the following data: "Lagos, H. Strachan, 1904-7: *Metadrepana glauca* type ♂ Hampson; Drepanidae Genitalia slide No. 1251".

Paralectotype. ♀, NIGERIA, Lagos (*Strachan*).

Other material. *British Museum (Natural History)*. NIGERIA: 9 ♂, 8 ♀, Ibadan (*Golding*); 1 ♀ (*Golding*); 1 ♂, Lagos, xi.1955 (*Boorman*). IVORY COAST: 2 ♂, 1 ♀, Adiopodoumé, 29.viii, 15.xi.1959 (*Réal*). SIERRA LEONE: 2 ♂, Njala, on *Coffea excelsior*, 20.ix, 17.x.1937 (*Hargreaves*). *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST: 5 ♂, 1 ♀, Adiopodoumé, 29.i, 3.ix.1954, 8.iii.1956 (*Réal*). *Muséum national d'Histoire naturelle, Entomologie agricole tropicale, Paris*. GUINEA: 10 ♂, 8 ♀, Sérédou, 3-21.vi.1958, 30.x-7.xii.1959 (*Pujol, Gaye*). IVORY COAST: 3 ♂, 4 ♀, Bingerville (2 ♂, 1 ♀, U.V.), 20.viii-24.ix.1962 (*Pujol*); 2 ♂, Divo (1 ♂ U.V.) 4-6.x.1962 (*Pujol*). *Carnegie Museum, Pittsburgh*. LIBERIA: 2 ♂, Harbel, 12.v.1955, 9.i.1957 (*Fox*).

Epicampoptera marantica (Tams)

(Text-figs. 12-15; Pl. 2, fig. 275; Map 1)

Metadrepana marantica Tams, 1930: 74. [Fig. ♂ genitalia.]

Epicampoptera marantica (Tams); Leroy, 1936: 3. [Half-tone figs. egg, larva, adult ♂.]

Epicampoptera marantica (Tams); Hering, 1934 b: 407. [Recalled from synonymy of *strandii*—see Discussion. First synonymy of *ignorata*.]

Epicampoptera marantica (Tams); Pujol, 1960: 4. [Biological notes.]

Epicampoptera ignorata Hering, 1934 a: 403.

DIAGNOSIS. ♂. Outer marginal process of fore wing particularly prominent, more so than in most specimens of *strandii* (Plate 2, fig. 275). Postmedial fascia when present on upper surface of hind wing darker than rest of wing, not paler as it is in *strandii*, *andersoni*, *tamsi* and *ivoirensis*.

♂ GENITALIA (Text-figs. 12-14): digitate uncus lobes and angulate valves characteristic; aedeagus with broad apical lips; eighth sternum with slender asymmetric lateral processes and conical medial process.

♀. Similar to male but outer marginal processes of both wings much smaller.

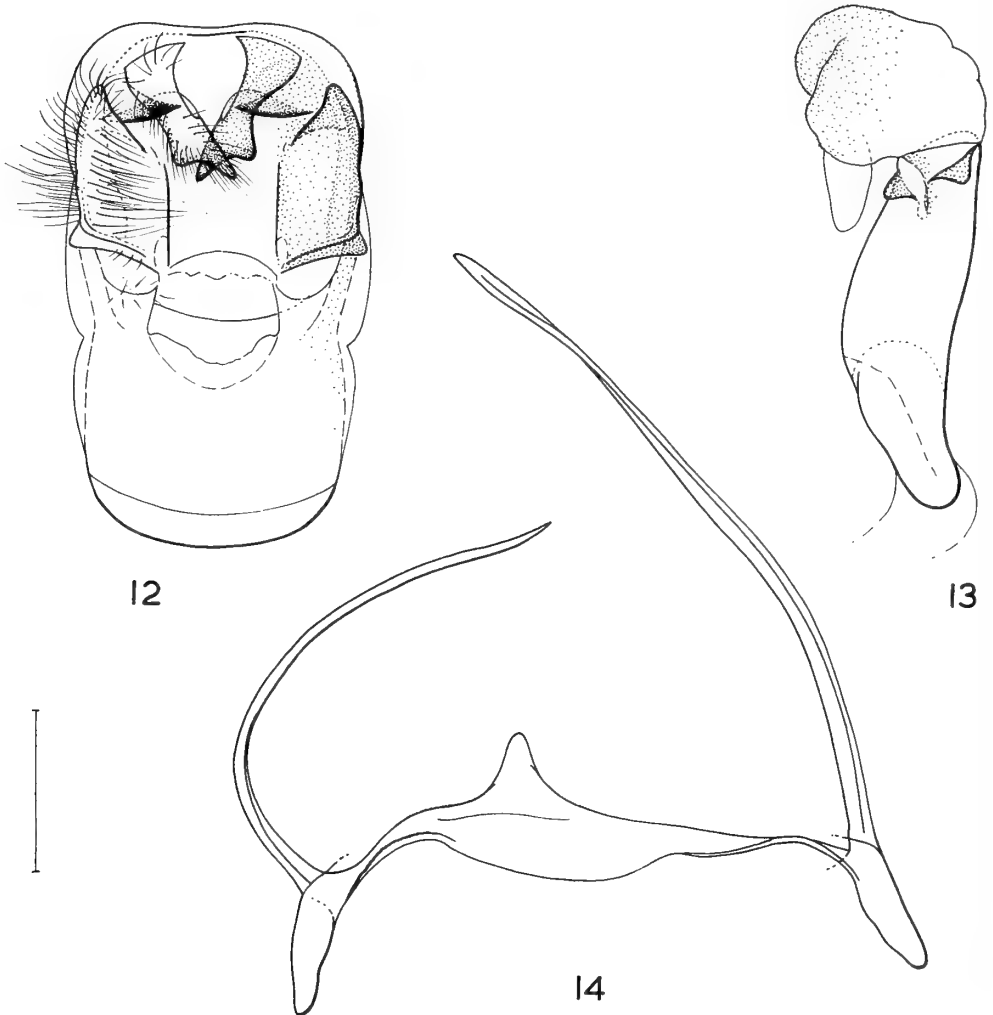
♀ GENITALIA (Text-fig. 15): signum approximately triangular; eighth segment strongly sclerotized, strongly bilobed dorsally.

MEASUREMENTS. A.P.R.: ♂, ♀ 18. Wing: ♂. 21.0, 17.5-23.0 mm. (16); ♀. 23.5, 20.0-27.0 mm. (15).

DISCUSSION. Distinguished from *strandii* by the dark postmedial fascia of the hind wing, the slightly more strongly produced outer marginal processes of the fore and hind wings, and by the distinctive male and female genitalia. Separated from the remaining species of this species-group by the much more strongly developed processes of the outer margin of the wings and by the genitalia. (The uncus can usually be seen without dissection by brushing away the scales at the end of the abdomen.)

Hering (1934 a : 400) incorrectly synonymized *marantica* as a junior synonym of *strandii*, but later corrected this (1934 b : 407) and at the same time correctly placed *ignorata* in the synonymy of *marantica*.

The coloration of this species is variable. The ground-colour of the upper surface of the wings may be one of many shades of reddish or greyish brown, with the area proximal to the postmedial fascia usually darker than the rest of the wing and often marked with irregular patches of white or pale grey. The subterminal spots on both wings are usually less well marked than in *strandii* and are sometimes absent. The holotype is an almost uniform pale reddish brown above, with a trace of the subterminal markings on the hind wings only.



FIGS. 12-14, *Epicamptoptera marantica*, ♂ genitalia. 12, ♂ ; 13, aedeagus ; 14, eighth abdominal sternite.

The extensive range of this species includes that of *ivoirensis*, *tamsi* and *andersoni* (see Map 1) all of which appear to be closely related to *marantica*.

DISTRIBUTION (Map 1). Known to occur in GUINEA, IVORY COAST, CONGO and UGANDA.

MATERIAL EXAMINED. Types. Holotype ♂ of *marantica*, UGANDA, Namenage, 20.iv.1916 (*Hargreaves*); Drepanidae genitalia slide No. 1132; in the British Museum (Natural History).

LECTOTYPE ♂ of *ignorata*, CONGO, Bambesa, 20.ix.1933 (*Leroy*); Drepanidae genitalia slide No. 1000 (I have selected this male syntype from the pair of syntypes in the Muséum Royal de l'Afrique centrale, Tervuren).

Other material. *British Museum (Natural History)*. UGANDA: 3 ♂ paratypes, 1 ♀ allotype, Kampala, 16.vii.1923 (*Hargreaves*); 6 ♂ and 7 ♀ paratypes, Kampala, 16, 18. vii.1928 (*Hancock*); 3 ♂ paratypes, Kampala; 1 ♂ and 1 ♀ paratypes, Bukalasa, 24, 26.v.1926 (*Hargreaves*); 3 ♂ paratypes, Namukekera, 18.vii.1928 (*Hancock*); 2 ♀ paratypes, Company's estate, vii.1928 (*Hargreaves*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO: 8 ♂, 17 ♀, Stanleyville, Yangambi, 31.viii, 1-2.ix.1959 (*Decelle*). *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST: 1 ♂, Adiopodoumé, 10.iii.1955 (*Réal*). CENTRAL AFRICAN REPUBLIC: 1 ♀, Boukoko M'baiki (*Réal*). *Muséum national d'Histoire naturelle, Entomologie agricole tropicale, Paris*. GUINEA: 1 ♂, Sérédou, 22.iv.1958 (*Gaye*); 1 ♀, Macenta, 8.ix.1953 (*Pujol*). CENTRAL AFRICAN REPUBLIC: 3 ♂, 6 ♀, Boukoko, 11.vi.1962 (*Pujol*). CAMEROUN: 5 ♂, 5 ♀, Foubot, on *Coffea arabica*, 26.ix-9.xi.1962 (*Pujol*). *Coryndon Museum, Nairobi*. UGANDA: 1 ♂, 1 ♀, Toro, Bwamba, vi.1956 (*Carcasson*), ix.1961 (*Mitton*); 1 ♂, Kampala, viii.1957 (*Hopkins*); 2 ♂, Masaka, Sango Bay, Katera, x.1960 (*Carcasson*); 3 ♀, Ankole, Kalinzu Forest, xi.1961 (*Carcasson*). KENYA: 1 ♀, Mt. Elgon, xi.1961 (*Jackson*).

Epicamptoptera andersoni (Tams)

(Text-figs. 16-18; Pl. 1, figs. 273, 274; Map 1)

Metadrepána andersoni Tams 1925: 289.

Epicamptoptera andersoni (Tams); Gaede in Seitz, 1927 b: 291. [Misleading fig.]

Epicamptoptera andersoni (Tams); Gaede, 1931: 52.

Epicamptoptera andersoni (Tams); Hering, 1934 a: 401.

Epicamptoptera andersoni (Tams); Leroy, 1936: 6. [Description of larva.]

Epicamptoptera andersoni (Tams); Pujol, 1960: 4.

DIAGNOSIS. ♂. (Plate 1, fig. 273). Outer margin of both wings moderately (holotype) or weakly produced between M_3 and Cu_{1a} . Subterminal markings usually present in both wings between M_3 and Cu_{1a} , and often present, though less well marked, in the fore wing between M_2 and M_3 , and Cu_{1a} and Cu_{1b} , and in the hind wing between M_2 and M_3 . As in *strandii* the postmedial fascia, when present on the hind wing, is usually lighter in colour than the ground-colour of the wing.

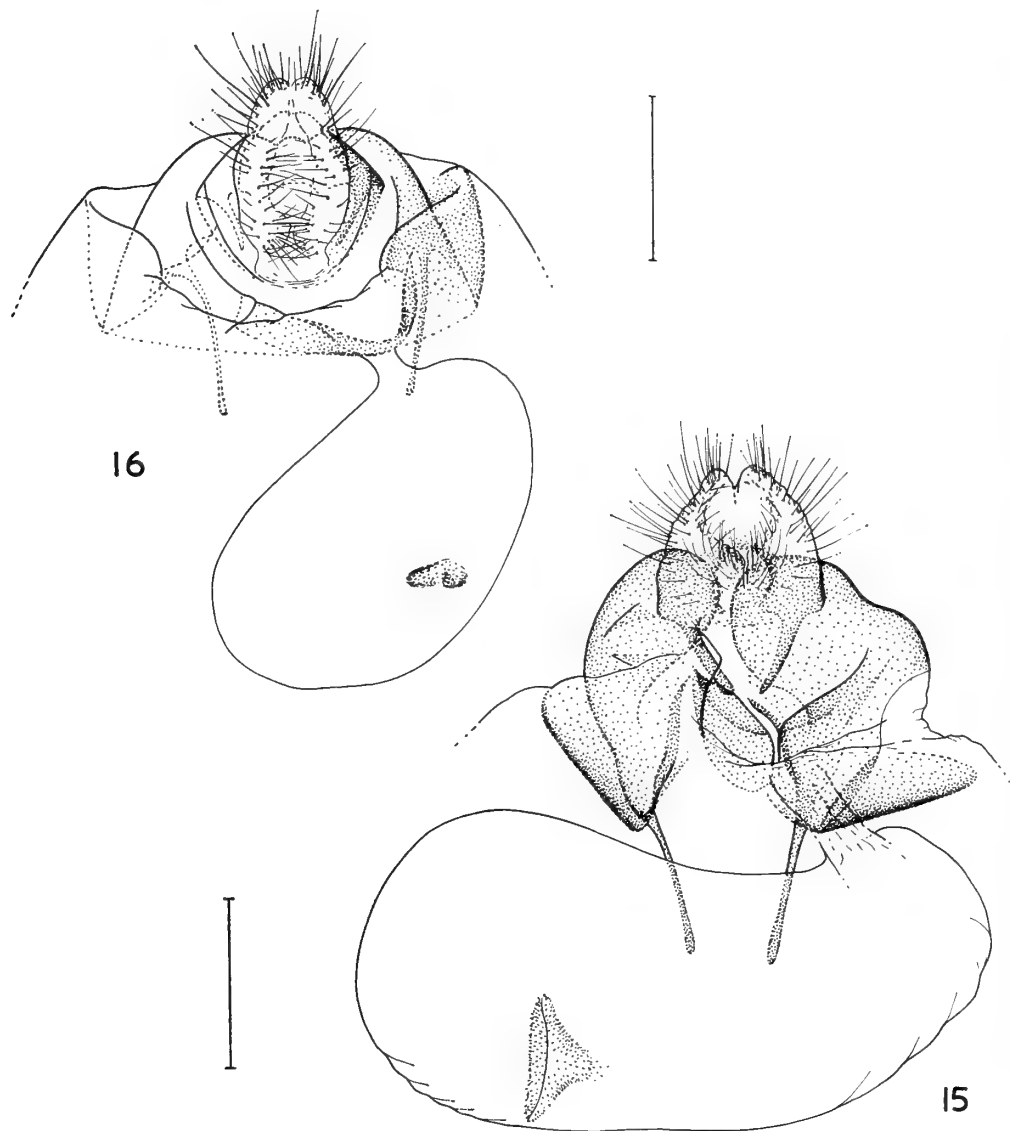
♂ GENITALIA (Text-figs. 17, 18): rounded uncus lobes each with long, acuminate, medial process arising from near base; valves small; eighth sternum with slender, asymmetric posterior processes, slightly dilated apodemes and broad medial plate.

♀. Similar to male but with greatly reduced outer marginal processes (Plate 1, fig. 274).

♀ GENITALIA (Text-fig. 16) : ostial and post-ostial segment well sclerotized ; bursa with pair of closely apposed, ovoid signa.

MEASUREMENTS. A.P.R. : ♂. 22 ; ♀. 20. Wing : ♂. 19.0, 15.0-22.0 mm. (25) ; ♀. 20.5, 15.5-23.5 mm. (50).

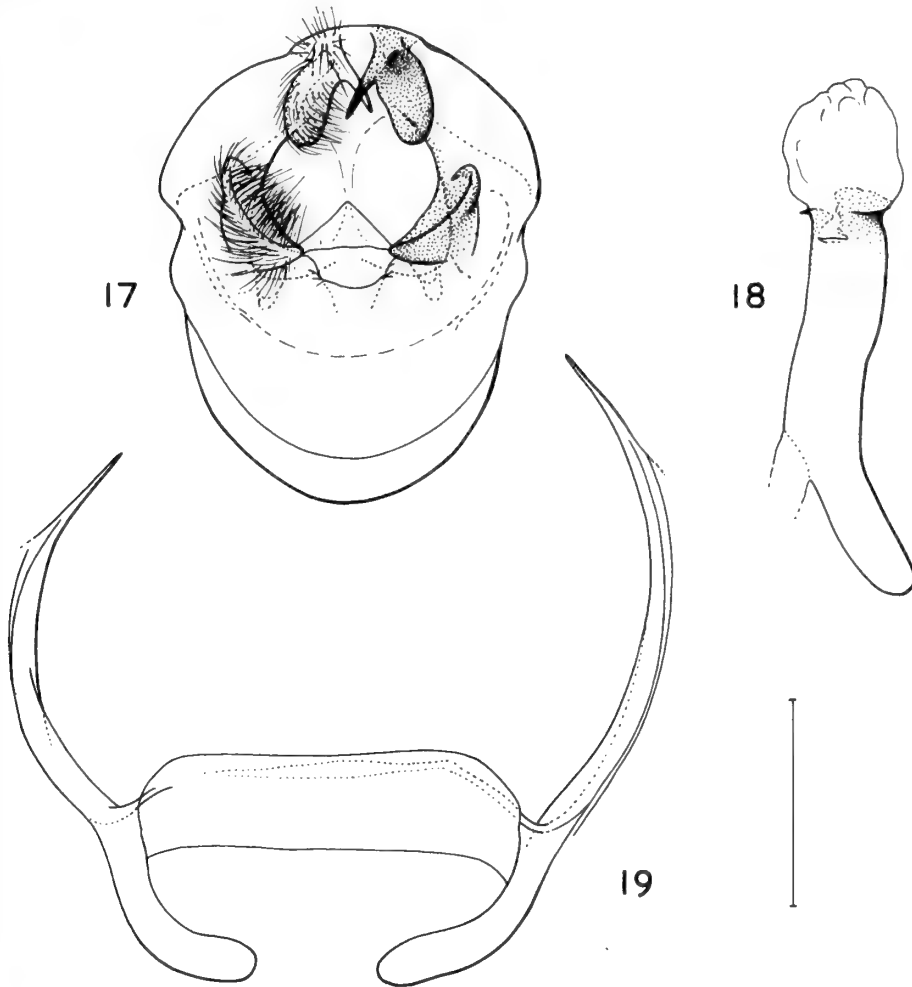
DISCUSSION. Comparison of the colour-pattern and the male genitalia suggests a close affinity between *andersoni* and *tamsi*. An apparent overlapping of ranges (see Map 1) in the Congo prohibits the otherwise logical treatment of *tamsi* and



FIGS. 15-16, *Epicamptoptera*, ♀ genitalia. 15, *marantica* ; 16, *andersoni*.

andersoni as subspecies of one extensive species. It is probable on the evidence of comparative structural difference and present knowledge of distribution that the two species were originally subspecies of a polytypic species and that *tamsi* and *andersoni* now form a superspecies.

This is another very variable species. The ground-colour of the upper surface of the wings may be reddish, greyish or yellowish brown, or very dark brown. There is often a darker medial area on the fore wing, rarely with an irregularly shaped greyish white central marking. One of the specimens examined from Mt. Elgon is a very pale yellowish brown with dark brownish or black postmedial fasciae and irregularly shaped medial markings.



FIGS. 17-19, *Epicamptoptera andersoni*, ♂ genitalia. 17, ♂ ; 18, aedeagus ; 19, eighth abdominal sternite.

The colour-plate of this species given by Gaede (1927 b) in Seitz is particularly inaccurate and misleading.

DISTRIBUTION. KENYA, UGANDA and the CONGO ; in rain-forest or montane forest localities.

MATERIAL EXAMINED. Type. Holotype ♂, KENYA, 1922 (*Anderson*) ; Drepanidae genitalia slide No. 1148 ; in the British Museum (Natural History).

Other material. *British Museum (Natural History)*. KENYA : allotype ♀, 4 ♀, 1 ♂, 1922 (*Anderson*) ; 3 ♀, Kericho, 5.15.vi.1922 (*Anderson*) ; 3 ♂, 1 ♀, Mt. Elgon, 21.iii.14.viii.x.1931 (*Jackson*). UGANDA : 21 ♂, 41 ♀, Toro, Bukumbi (*Hancock*). *Coryndon Museum, Nairobi*. KENYA : 1 ♂, 1 ♀, Mt. Elgon, x.1958 (*Jackson*) ; 1 ♂, Kabras, Malowa Forest, v.1952 (*Pinhey*). UGANDA : 1 ♂, Fort Portal, Mpanga Forest, v.1958 (*Carcasson*) ; 1 ♀, Bwamba, vi.1956 (*Carcasson*) ; 3 ♂, Ankole, Kalinzu Forest, xi.1961, (*Carcasson*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO : 1 ♀, Eala, xii.1936, (*Ghesquière*) ; 1 ♀, Costermansville, iv.1938 (*Ghesquière*) 3 ♂, 1 ♀, Kibali-ituri, Nioka, 9.xi.1934 (*Leroy*), 14.ii.1952, 29.viii.1954 (*Hecq*) ; 5 ♂, Rutshuru, ii.1937, i, iii.1938 (*Ghesquière*) ; 1 ♀, W. Kivu, Ibanda, 1937 (*Vandelannoite*). *Muséum national d'Histoire, Entomologie agricole tropicale, Paris*. CENTRAL AFRICAN REPUBLIC : 1 ♀, Boukoko, 11.xi.1962 (*Pujol*).

Epicampoptera tamsi sp. n.

(Text-figs. 20-22 ; Pl. 2, fig. 277 ; Map 1)

DESCRIPTION. ♂. (Plate 2, fig. 277). Palp very dark brown on outer surface, pale brown on inner surface. Head dark greyish brown, except for pale yellowish brown band at posterior margin. Antennal shaft pale yellowish brown above.

Vestiture of patagia very pale brownish white with brown band near posterior margin. Colour of rest of thorax doubtful, probably pale greyish brown dorsally and dull yellow ventrally. Front of tibia of fore leg and proximal part of tarsus dark greyish brown, remaining legs and rest of fore leg dull yellow. Venation of both wings as for *strandi*. Upper surface of wings as in Plate 2, fig. 277. In the illustrated specimen (holotype) the dark areas are reddish brown and the lighter areas pale brown (the subterminal spot between M_3 and Cu_{1a} is more strongly marked than the photograph shows). Under surface of both wings very pale pinkish brown, more yellowish at anal margin ; discocellular spot well marked on both wings, very dark brown ; dark brown postmedial fascia of fore wing corresponding in position with same fascia on upper surface ; similarly coloured postmedial fascia of hind wing nearly parallel to outer margin, not corresponding with same fascia on upper surface.

Colour of abdomen as for corresponding surfaces of hind wing.

♂ GENITALIA (Text-figs. 20-22) : each lobe of uncus with short, acuminate medial process ; valve rugose anteriorly at base ; eighth sternum with long apodemes and stout, asymmetric posterior processes ; medial plate narrow.

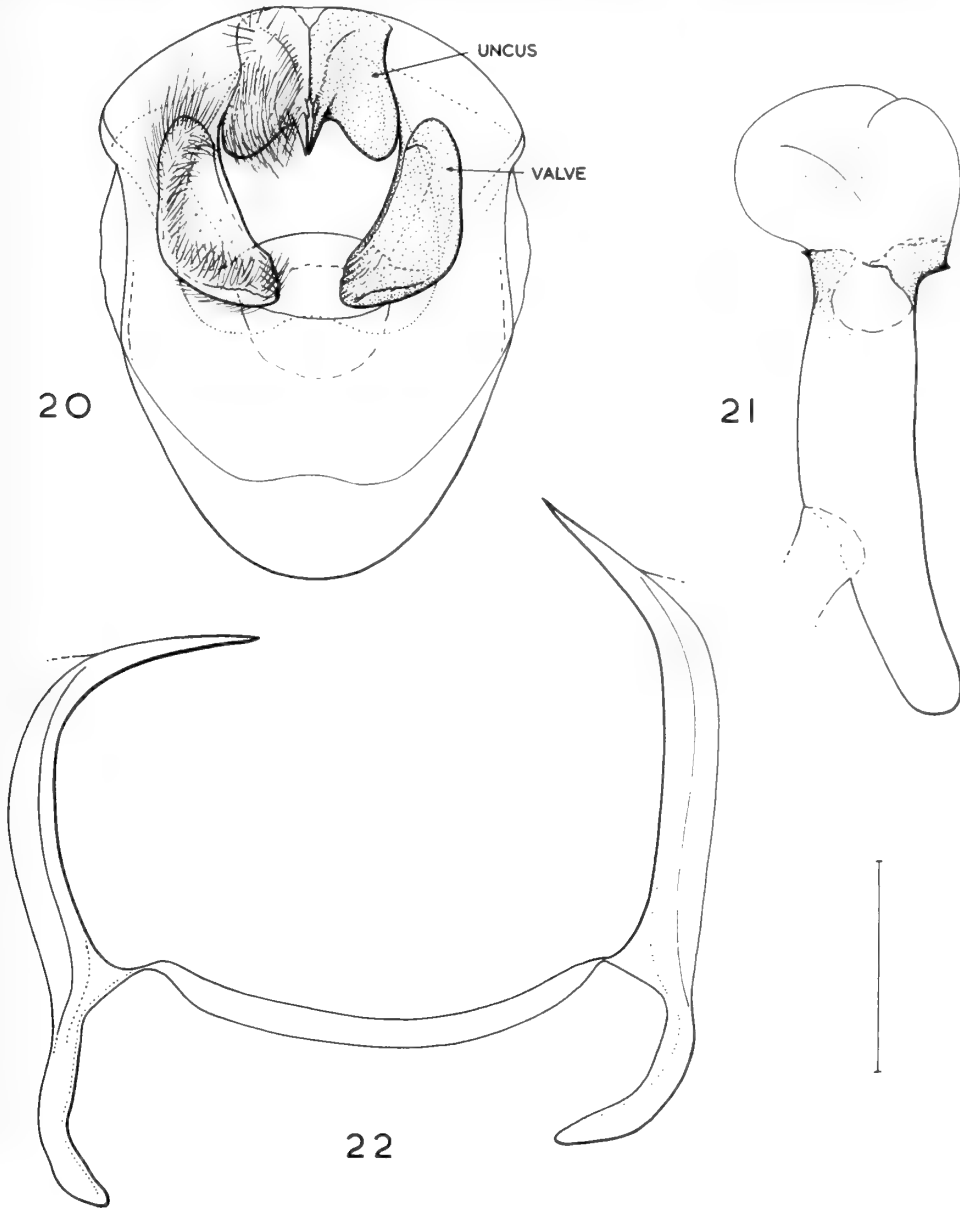
♀. Unknown.

MEASUREMENTS. A.P.R. : ♂. 20. Wing : ♂. 19.0, 16.5-20.0 mm. (6).

DISCUSSION. The superspecific relationship between this species and *andersoni* has been discussed on pp. 20-21. As only six specimens of *tamsi* were available for study a comparison of external characters is inconclusive, but there seem to be no significant differences in coloration or colour-pattern between *tamsi* and *andersoni*.

The shape of the uncus, valves, and apodemes of the eighth sternum in the male genitalia readily separate the two species however.

Individual variation in coloration is as striking as in *andersoni*. The ground-colour of the upper surface of the wings may be dark or light greyish brown, very



FIGS. 20-22, *Epicamptoptera tamsi*, ♂ genitalia. 20, ♂; 21, aedeagus; 22, eighth abdominal sternite.

light brown, light or dark reddish brown. The spots and fasciae may be well marked or hardly discernible.

DISTRIBUTION (Map 1). ANGOLA and the CONGO.

MATERIAL EXAMINED. Type. Holotype ♂, ANGOLA, Quicolungo, 120 km. N. of Lucala, iv.1936 (*Braun*); Drepanidae genitalia slide No. 1145; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. ANGOLA: 3 ♂, Quicolungo, 120 km. N. of Lucala, 800 m. (*Braun*); 2 ♂, N'Dalla Tando, 2,700 ft., 24.xi.1908, 20.i.1909 (*Ansorge*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO: 1 ♂, Uele, Paulis, 27.viii.1959 (*Fontaine*).

Epicampoptera difficilis Hering

(Text-figs. 23–26; Pl. 2, fig. 276; Map 1)

Epicampoptera difficilis Hering, 1934 a: 401.

DESCRIPTION. ♂, ♀. There seems to be no significant external differences between *difficilis* and *andersoni* (see Plate 2, fig. 276), although in both lectotype and paralectotype of *difficilis* the postmedial fascia on the upper surface of both wings is very weakly marked.

♂ GENITALIA (Text-fig. 24–26): each lobe of uncus with very short acuminate medial process; (valves not opened out in figure); shape of saccus not known; basal half of aedeagus missing. Eighth sternum with stout, acuminate, slightly asymmetric posterior arms; medial part narrow, slightly expanded at middle; apodemes broken, but according to the figure given by Hering (1934 a: 402) similar to those of *andersoni* though apparently not dilated apicad. (The slide which formed the basis of Text-figs. 24–26 was prepared from a damaged dry preparation.)

♀ GENITALIA (Text-fig. 23): both ostial and post-ostial segment strongly sclerotized; ostium shielded ventrally by two closely approximated processes; signum irregularly shaped, with transverse sulcus. (The genitalia from which the text-figure has been prepared was damaged and distorted and has been drawn exactly as it appears on the slide. It is unlikely that the female genitalia are normally asymmetric.)

MEASUREMENTS. A.P.R.: ♂. 18. Wing: ♀. 21.0 mm. (1) 19.5 mm. (1).

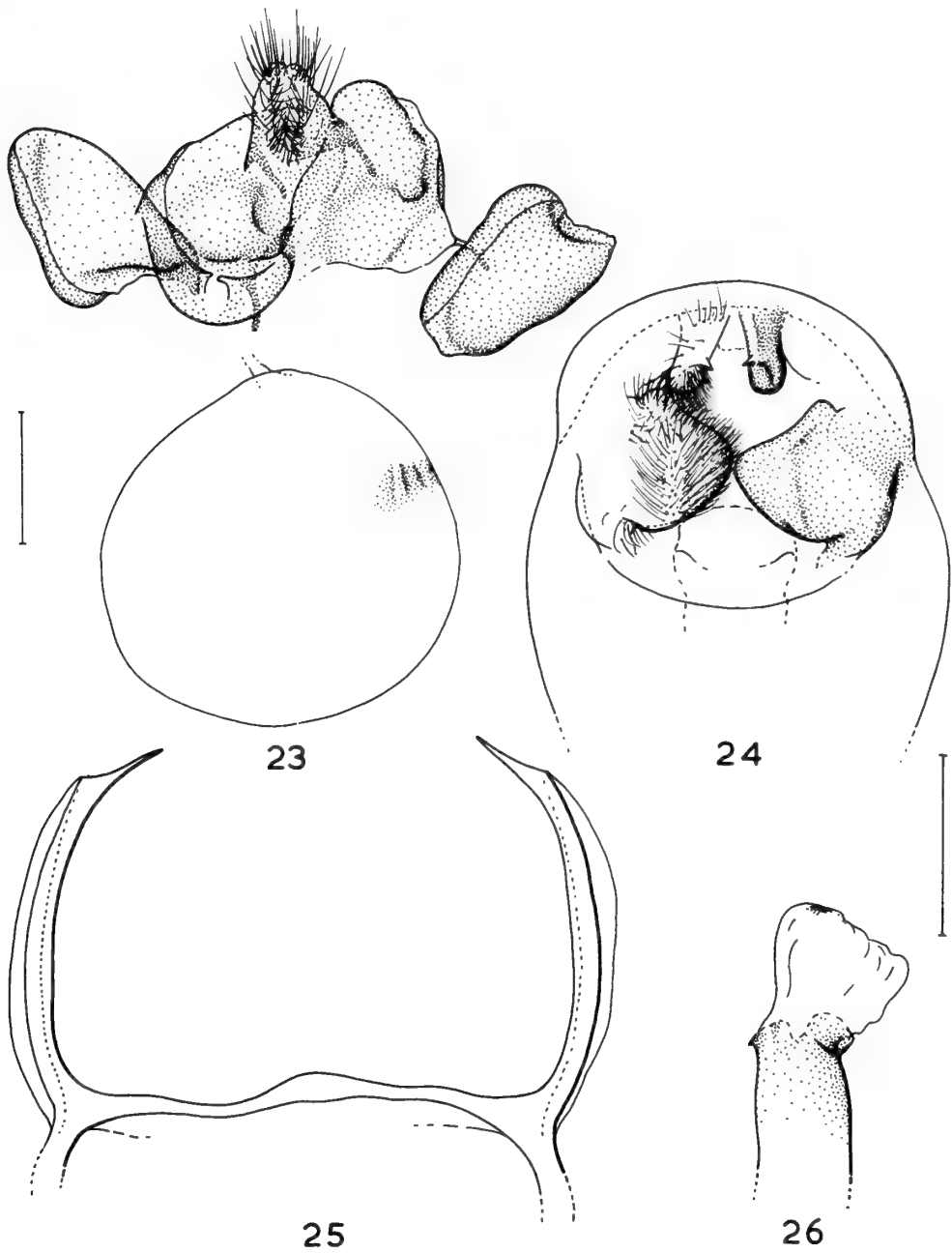
DISCUSSION. Distinguished from *ivoirensis*, *andersoni* and *tamsi*, all of which are closely related to *difficilis*, apparently only by the genitalia.

It is remarkable that amongst the numerous specimens of *Epicampoptera* examined from neighbouring regions of the mainland of Africa no specimens of this species have been discovered, and it is possible that *difficilis* is replaced by *ivoirensis* in the Ivory Coast, Ghana and Guinea, the two species forming a superspecies.

DISTRIBUTION (Map 1). FERNANDO PO.

MATERIAL EXAMINED. LECTOTYPE. I have selected and labelled as lectotype the male from the pair of syntypes in the Zoologisches Museum, Berlin. It bears the following data: "Fernando Poo, Santa Isabel, 5.ix.1916 (*G. Tessman*); Drepanidae genitalia slide No. 1240".

Paralectotype. ♀, same collection data as type.



FIGS. 23-26, *Epicamptoptera difficilis*, genitalia. 23, ♀; 24, ♂ (saccus missing); 25, ♂ eighth abdominal sternite (incomplete); 26, aedeagus (base missing).

***Epicampoptera ivoiensis* sp. n.**

(Text-figs. 27-30 ; Map 1)

DIAGNOSIS. ♂, ♀. I can find no significant external differences between this species and *andersoni*. The degree and type of individual variation in coloration is the same in both species.

♂ GENITALIA (Text-figs. 28-30) : saccus moderately globose ; eighth sternum subject to small variations in length of arms, but apparently invariably contorted as in Text-fig. 29 ; apodemes directed posterolaterally.

♀ GENITALIA (Text-fig. 27) : ostial and post-ostial segment strongly sclerotized ; posterior apophyses very short ; anterior apophyses long ; ostium broad, not shielded ventrally by processes of ostial segment ; signum simple.

MEASUREMENTS. A.P.R. : ♂. 20 ; ♀. 15. Wing : ♂. 20.5, 17.0-21.0 mm. (15) ; ♀. 22.0, 19.5-22.5 mm. (5).

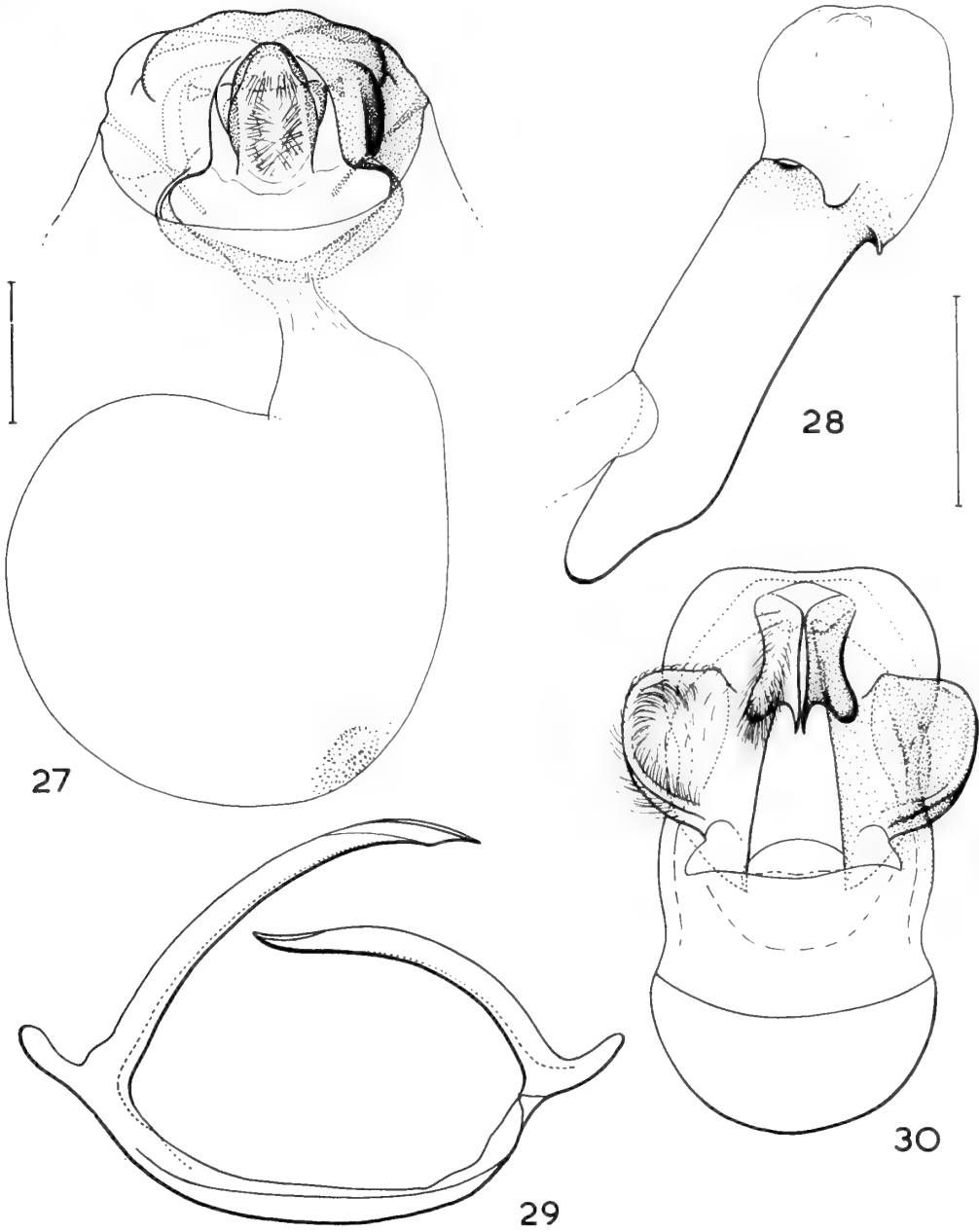
DISCUSSION. As suggested on page 24, this species is possibly most closely related to *difficilis*, known only from Fernando Po, and may replace it on this part of the mainland of Africa, the two species forming a single superspecies. However, until a second male of *difficilis* is available, with complete genitalia, it is not possible to confirm this.

Distinguished from *difficilis*, and from *andersoni* and *tamsi*, by the male and female genitalia.

DISTRIBUTION (Map 1). GHANA, IVORY COAST and GUINEA.

MATERIAL EXAMINED. Type. Holotype ♂, IVORY COAST, Adiopodoumé, 26.v.1954 (*Réal*) ; Drepanidae genitalia slide No. 1140 ; in the Institut d'Enseignement et de Recherches tropicales, Bondy.

Paratypes. *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST : 13 ♂, 4 ♀, Adiopodoumé 2.vii.-28.xi.1954, 21.i.1955, 28.iii.1955, 16.v.1957, 15.i.1959 (*Réal*). *Muséum national d'Histoire naturelle, Entomologie agricole tropicale, Paris*. IVORY COAST : 6 ♂, 8 ♀, Bingerville (1 ♂ on *Coffea robusta*, 1 ♂ by U.V. light) (*Pujol*). GUINEA : 1 ♂, Macenta, 15.vi.1953 (*Pujol*) ; 3 ♂, 1 ♀, Sérédou, 12.xii.1957, 17.ii.1959, 7.xii.1959 (*Pujol*). *British Museum (Natural History)*. GHANA : 1 ♂, Aburi, vi.1925 (*Cotterell*). IVORY COAST : 3 ♂, 1 ♀, Adiopodoumé, 2.ii.1955, 28.iii.1955, 22.viii.1959, 3.ix.1959 (*Réal*).



FIGS. 27-30, *Epicamptoptera ivoirensis*, genitalia. 27, ♀; 28, aedeagus; 29, ♂ eighth abdominal segment; 30, ♂.

SPECIES-GROUP *erosa*

Venation as in Text-figs. 1, 2. ♂ GENITALIA (see labelled Text-fig. 56) : uncus bilobed, each lobe truncate or acuminate posteriorly ; valve small, with strongly sclerotized, curved, inwardly directed basal process ; diaphragma pouch-like, invaginate anteriorly dorsal to saccus ; aedeagus variously shaped at apex, vesica with single cornutus ; eighth sternite bilaterally symmetrical, paired posterior processes very short in *notialis*, *graciosa*, *griveaudi* and *inornata* but long in remaining species ; eighth tergite with short apodemes. ♀ GENITALIA as in text-figures ; signum elongate, tapered, V-shaped in cross-section.

Ten species are included in this group. Seven of these are African. The remaining three, *carnea*, *graciosa* and *griveaudi*, are endemic to Madagascar : they are closely related to each other and to *notialis*, the only South African species. A single female from W. Kivu (Congo) and a male from Lourenço Marques (Mozambique) in the collection of the British Museum (Natural History) are doubtless close relatives of *notialis* and probably represent, respectively, two new species. The species *heringi* and *heterogyna* form a superspecies. The species *erosa*, *tumidula*, *pallida* and *robusta* are very closely allied and are almost identical in colour-pattern and coloration.

KEY TO SPECIES

MALES

- | | | |
|---|---|---------------------------|
| 1 | Posterior processes of eighth sternite as long as apodemes (e.g. Text-figs. 32, 59) | 2 |
| – | Posterior processes of eighth sternite minute, apodemes short (e.g. Text-fig. 46) | 7 |
| 2 | Posterior processes of eighth sternite arcuate, arising from near middle of posterior margin (e.g. Text-fig. 32) | 3 |
| – | Posterior processes of eighth sternum straight, separated by width of posterior margin (e.g. Text-fig. 59) | 6 |
| 3 | Aedeagus as in Text-fig. 42 ; uncus with short, anterior process (Text-fig. 40) ; valve processes robust, densely setose (Text-fig. 40) | robusta (p. 33) |
| – | Aedeagus not modified as in <i>robusta</i> ; valve process less robust, not densely setose ; anterior process of uncus longer than in <i>robusta</i> | 4 |
| 4 | Aedeagus with two lateral, apical carinae (Text-fig. 37) ; uncus as in Text-fig. 39 ; posterior arms of eighth sternite with small dorsal bulge | pallida (p. 31) |
| – | Aedeagus with lateral apical carinae ; uncus with longer or shorter anterior processes than in <i>pallida</i> ; posterior arms of eighth sternite without dorsal bulge | 5 |
| 5 | Anterior processes of uncus broad, flattened (Text-fig. 35) | erosa (p. 31) |
| – | Anterior processes of uncus short (Text-fig. 31) | tumidula (p. 29) |
| 6 | Valve processes short, not overlapping (Text-fig. 62) ; posterior processes of eighth sternite much longer than apodemes (Text-fig. 64) | heringi (p. 43) |
| – | Valve processes very short, overlapping at median line (Text-fig. 58) ; posterior processes of eighth abdominal sternite about equal to length of apodemes (Text-fig. 59) | heterogyna (p. 40) |
| 7 | Valve processes extending posteriorly nearly to anterior margin of uncus lobes (Text-fig. 50) | griveaudi (p. 38) |
| – | Valve processes short, not extending as far as uncus lobes | 8 |
| 8 | Uncus as in Text-fig. 44 | notialis (p. 35) |
| – | Uncus not as in Text-fig. 44 | 9 |
| 9 | Uncus and valve processes as in Text-fig. 47 | carnea (p. 36) |
| – | Uncus and valve processes as in Text-fig. 56 | graciosa (p. 38) |

Epicamptoptera tumidula sp. n.

(Text-figs. 31-34 ; Pl. 4, fig. 286 ; Map 2)

DESCRIPTION ♂. Palp and front of head greyish brown ; vertex pale buff ; shaft of antenna pale buff proximally, becoming more greyish towards apex ; posterior margin of head greyish brown laterally and ventrally.

Thorax very pale buff. Legs very pale buff, with front surface of prothoracic femur, tibia and tarsus greyish brown.

Upper surface of both wings (Plate 4, fig. 286) very pale buff or very pale greyish buff (holotype) lightly speckled with dark brown ; fore wing with weakly marked discocellular spot, trace of postmedial fascia in some specimens (not holotype), well marked reddish brown subterminal spot between M_3 and Cu_{1a} , and usually with trace of second subterminal marking between M_2 and M_3 ; hind wing with well marked discocellular spot, usually with weakly marked postmedial fascia (including holotype), and with two reddish brown subterminal markings between M_2 and Cu_{1a} (weakly marked in holotype ; sometimes strongly marked). Under surface of fore wing paler than upper surface, speckled and striate with greyish brown except at anal margin ; discocellular spot and postmedial fascia dark grey ; fringe yellowish brown proximally, brownish white distally. Under surface of hind wing paler than fore wing, striate with greyish brown along costa and outer margin ; discocellular spot dark grey ; trace of postmedial fascia present in few specimens (including holotype) ; fringe as for fore wing.

Abdomen similar in colour to corresponding surface of hind wing.

♂ GENITALIA (Text-figs. 31-33) : acuminate valve process sparsely setose ; anterior basal processes of uncus short ; apex of aedeagus with lateral lobes or carinae ; posterior arms of eighth sternite without bulges.

♀. As for male but wings less strongly produced at outer margin between M_3 and Cu_{1a} .

♀ GENITALIA (Text-fig. 34) : ostial segment particularly heavily sclerotized at ostium.

MEASUREMENTS. A.P.R. : ♂, ♀. 19. Wing : ♂. 19.0, 17.0-21.0 mm. (35) ; ♀. 22.0, 20.5-23.0 mm. (4).

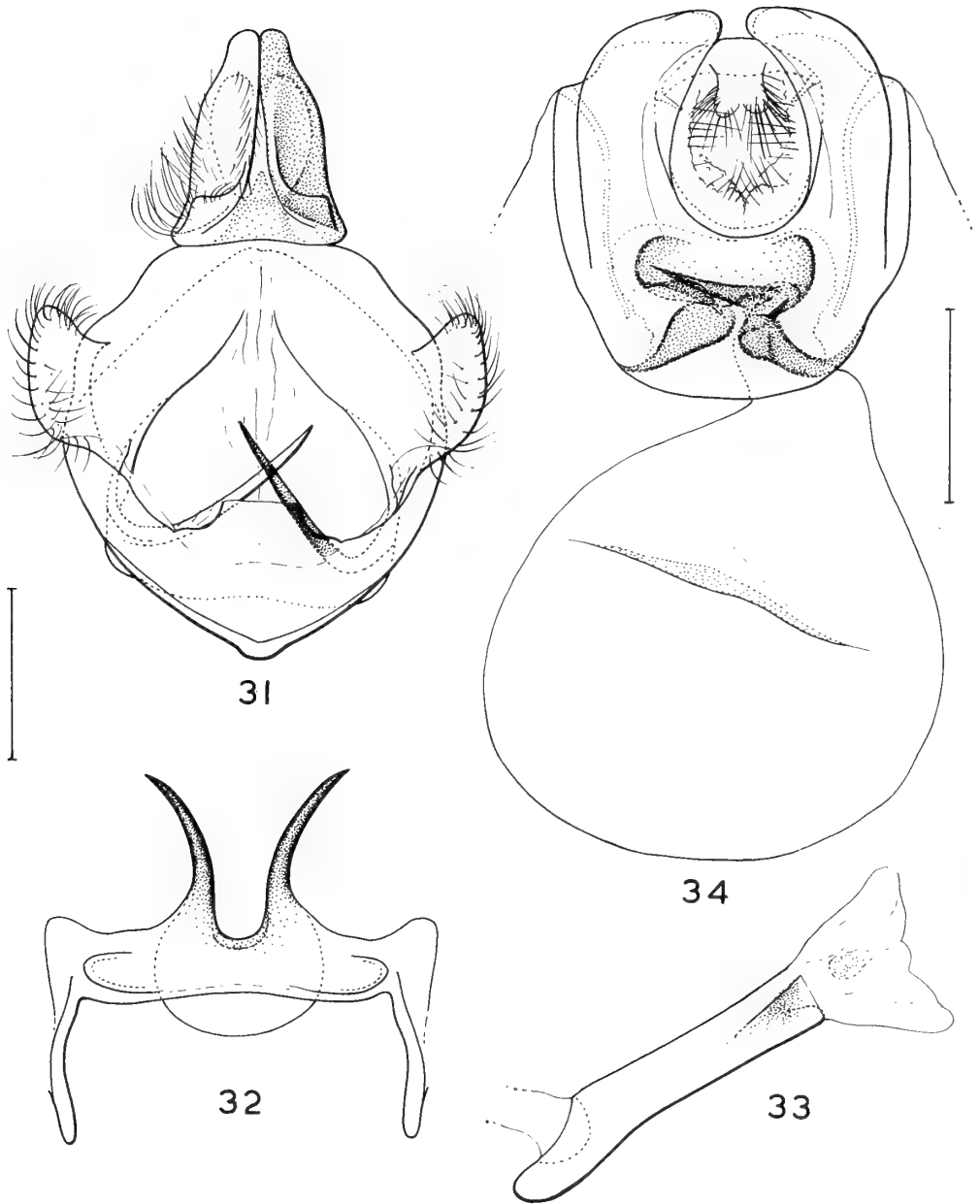
DISCUSSION. Apparently indistinguishable externally from *pallida*, *erosa* or *robusta*. The male genitalia are most like those of *erosa*, but the shape of the uncus and the aedeagus is diagnostic.

There is some individual variation in the markings of both surfaces of the wings (see Description).

DISTRIBUTION (Map 2). Occurs in GABON, where it is possibly sympatric with *erosa*, and in CAMEROUN. A single male from the CONGO (in the Musée Royal de l'Afrique centrale, Tervuren) probably also represents *tumidula*, although further material is needed before this can be confirmed.

MATERIAL EXAMINED. Type. Holotype ♂, CAMEROUN, Ja River, 2,000 ft., dry season (Bates) ; Drepanidae genitalia slide No. 1293 ; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. CAMEROUN : 3 ♂, 1 ♀, Bitje, Ja River, x, xi (Bates) ; 1 ♀, Sakbayeme, 5.x.1921 (Schwab) ; 1 ♂, Epulan, 17.iv.1926 (Schwab). *Carnegie Museum, Pittsburgh*. CAMEROUN : 35 ♂, 2 ♀, Efulen, 5.vii-12.xii.1912, 11.x.-2.xii.1913, 24-25.ii.1914, 29.iv-24.xi.1922, 8.i-19.iv.1923, 28.x-24.xi.1924, 24.ix.1925 (Weber). *Muséum national d'Histoire naturelle, Entomologie agricole tropicale, Paris*. GABON : 1 ♂, 1 ♀, Oyem, ix, x.1949 (Rougeot).



FIGS. 31-34, *Epicamptoptera tumidula*, genitalia. 31, ♂; 32, ♂ eighth abdominal sternite; 33, aedeagus; 34, ♀.

***Epicamptoptera erosa* (Holland)**

(Text-figs. 35, 36 ; Map 2)

Thymistida erosa Holland, 1893 : 180. [Poor figure.]*Epicamptoptera erosa* (Holland) ; Gaede *in* Seitz, 1927 b : 290. [Poor figure.]*Epicamptoptera erosa* (Holland) ; Gaede, 1931 : 52.

DIAGNOSIS. ♂. A comparison of a photograph of the lectotype of *erosa* with specimens of *tumidula* has shown that there are probably no significant external differences between the two species. (The subterminal spots on both wings are clearly marked in the lectotype of *erosa*.)

♂ GENITALIA (Text-figs. 35, 36) : acuminate valve process less sparsely setose than in *tumidula* ; anterior basal processes of uncus large, flattened ; apex of aedeagus weakly dilate ; posterior arms of eighth sternite without bulges ; eighth tergite as for *tumidula*.

♀. Not known.

MEASUREMENTS. A.P.R. : not known. Wing : ♂. 18.0 mm. (1).

DISCUSSION. Probably not separable from *pallida*, *tumidula*, or *robusta* on external characters. The male genitalia of *tumidula* are similar to those of *erosa* but differ in the shape of the uncus and aedeagus.

DISTRIBUTION (Map 2). GABON.

Type. Holland described this species from two males in the Carnegie Museum (wrongly listed by him as a male and a female) from "the valley of the Ogove [Ogowe] River". I select as LECTOTYPE the smaller of these two syntypes and have labelled the lectotype genitalia slide (No. C-564) as such : I have not seen the whole moth, which has been labelled for me by Dr. H. K. Clench of the Carnegie Museum. The paralectotype is not conspecific with the lectotype and probably belongs to the new species *tamsi* : I have also seen and labelled the genitalia slide of this specimen.

***Epicamptoptera pallida* (Tams)**

(Text-figs. 37-39 ; Map 2)

Metadrepana pallida Tams, 1925 : 291.*Epicamptoptera pallida* (Tams) ; Gaede *in* Seitz, 1927 b : 291.*Epicamptoptera pallida* (Tams) ; Gaede, 1931 : 52.

DESCRIPTION. ♂. Probably not separable from *tumidula* and *erosa* on external characters. (The only specimen available for study is in relatively poor condition.)

♂ GENITALIA (Text-figs. 37-39) : acuminate valve process sparsely setose, more slender than in most specimens of *tumidula* ; anterior basal processes of uncus longer than in *tumidula* ; aedeagus with two minutely spinose lateral carinae at apex ; each posterior arm of eighth sternite with small, dorsal bulge.

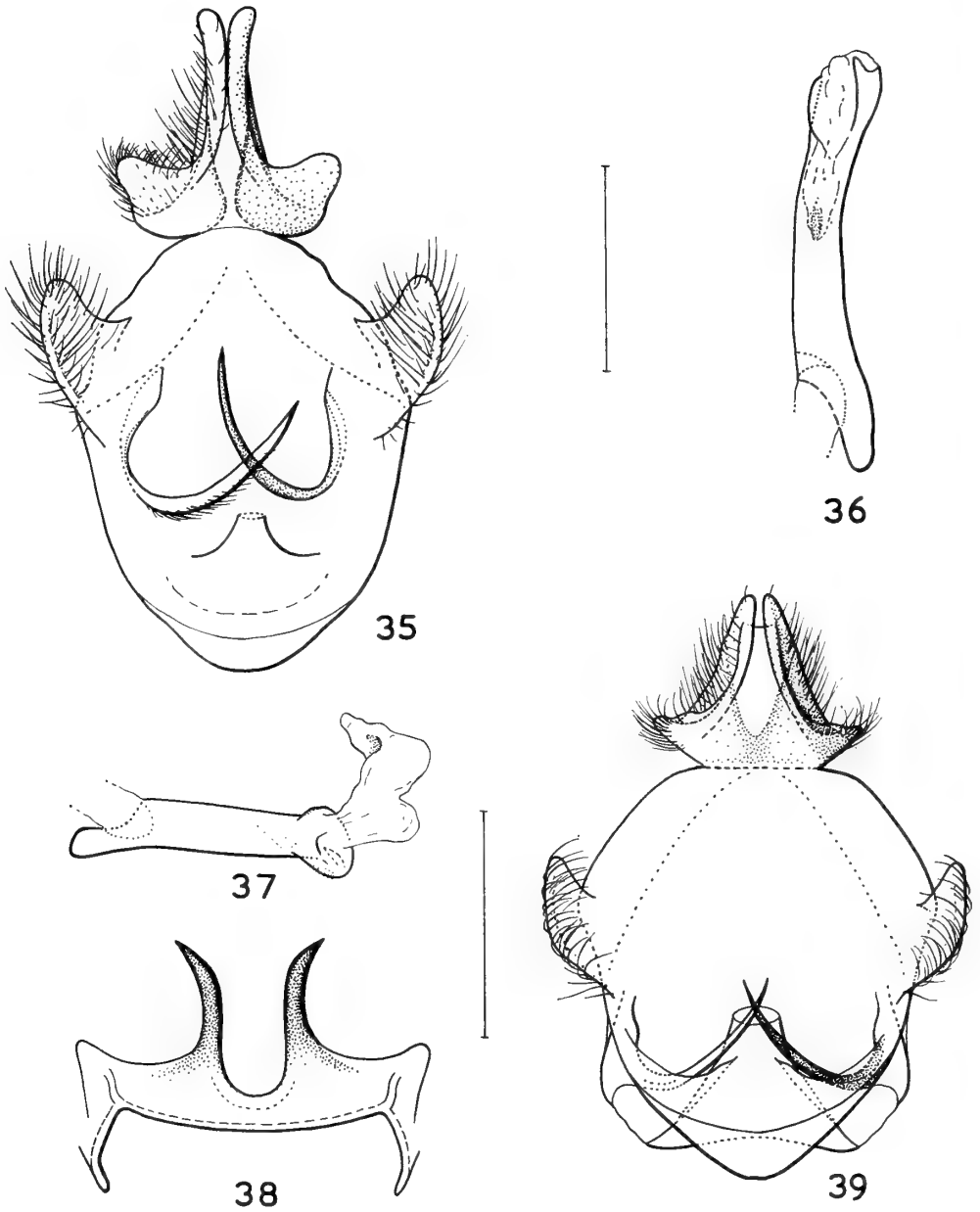
♀. Unknown.

MEASUREMENTS. A.P.R. : ♂. 20. Wing : ♂. 17.5 mm. (1).

DISCUSSION. This species is closely related to *pallida*, *tumidula* and *erosa*, but can be distinguished by the shape of the uncus and process at the base of the valve.

DISTRIBUTION (Map 2). Known only from northern NIGERIA.

MATERIAL EXAMINED. Type. Holotype ♂, N. NIGERIA (*Clouston*) ; Drepanidae genitalia slide No. 631 ; in the British Museum (Natural History).

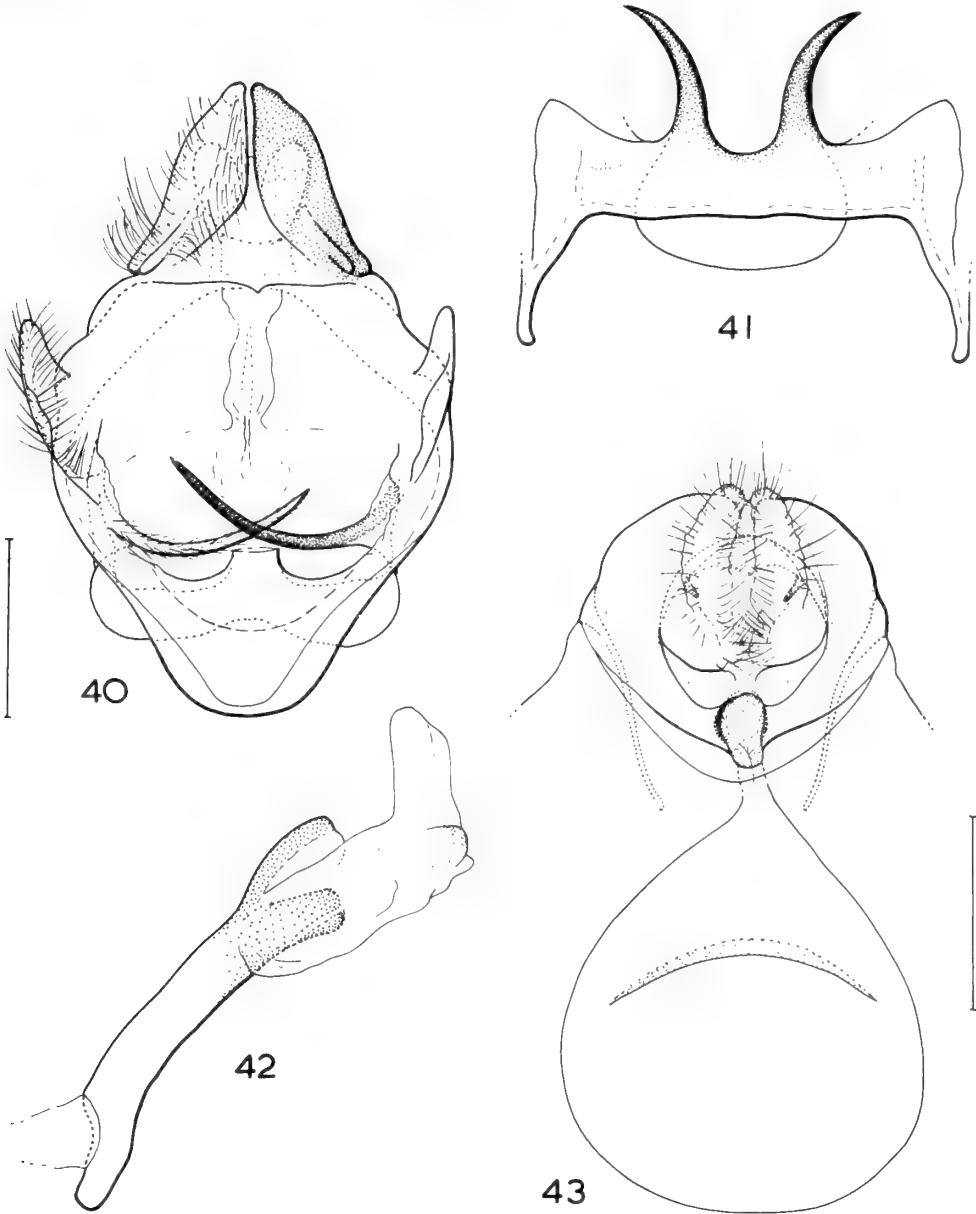


FIGS. 35-39, *Epicampoptera*, ♂ genitalia. 35-36, *erosa*. 35, ♂; 36, aedeagus. 37-39, *pallida*. 37, aedeagus; 38, eighth abdominal sternite; 39, ♂.

***Epicamptoptera robusta* sp. n.**

(Text-figs. 40-42 ; Map 2)

DESCRIPTION. ♂. Coloration not differing significantly from that of *tumidula*. Colour-pattern, wing shape and venation as for *tumidula*.



FIGS. 40-43, *Epicamptoptera* genitalia. 40-42, *robusta*, ♂. 40, ♂ ; 41, eighth abdominal sternite ; 42, aedeagus. 43, *notialis*, ♀ genitalia.

♂ GENITALIA (Text-figs. 40-42) : valve process stout, densely setose ; aedeagus distinctly shaped at apex.

♀. Not known.

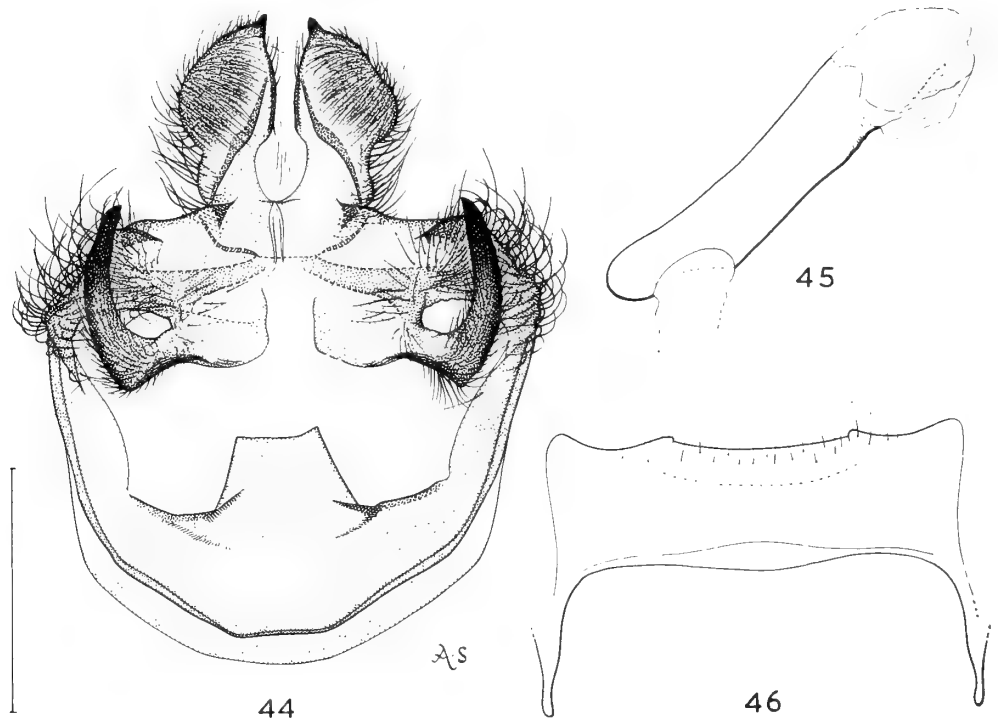
MEASUREMENTS. A.P.R. : ♂. 19. Wing : ♂. 19.0. 15.5-19.5 mm. (3).

DISCUSSION. This species is readily distinguished from *erosa*, *pallida* and *tumidula* by the distinctive aedeagus, and by the shape of the uncus and the acuminate valve processes in the male genitalia.

DISTRIBUTION (Map 2). Known only from N. E. CONGO.

MATERIAL EXAMINED. Type. Holotype ♂, CONGO, Uele, Paulis, 12.vii.1958 (*Fontaine*) ; Drepanidae genitalia slide No. 1292 ; in the Musée Royal de l'Afrique centrale, Tervuren.

Paratypes. Musée Royal de l'Afrique centrale, Tervuren. CONGO : 1 ♂ Uele, Paulis, 12.vii.1958, 27.vii.1957 (*Fontaine*). Coryndon Museum, Nairobi. CONGO : 1 ♂, Ituri, Bunia, Mt. Hoyo, iii.1959 (*Carcasson*).



FIGS. 44-46, *Epicamptoptera notialis*, ♂ genitalia. 44, ♂ ; 45, aedeagus ; 46, eighth abdominal sternite.

***Epicampoptera notialis* sp. n.**

(Text-figs. 43-46 ; Pl. 3, fig. 282 ; Map 2)

DESCRIPTION. ♂. Palp brown on outer surface, paler on inner surface. Head brown, but with paler dorso-posterior area. Antenna buff or very pale brown.

Vestiture of thorax greyish (holotype), reddish or yellowish brown above (as for colour of adjacent surface of fore wing) ; hair scales white-tipped on anterior part of thorax. Outer surface of femur, tibia and tarsus of fore leg greyish brown ; remaining legs and inner surface of fore leg pale buff.

Venation as for *tumidula* (Text-figs. 1, 2) ; shape as in Plate 3, fig. 282. Ground-colour of upper surface of both wings pale greyish (holotype) reddish or yellowish brown ; medial shade of both wings darker than rest of wing, interrupted on fore wing by two irregularly shaped pale areas ; discocellular spots present on both wings, well marked on hind wing ; postmedial fascia clearly defined ; subterminal fascia represented by two dark brown spots between M_3 and Cu_{1a} on fore wing ; similar subterminal markings on hind wing but faintly marked in holotype and most paratypes. Under surface of both wings pale buff (holotype), greyish buff or reddish buff speckled with brownish grey ; greyish brown, well marked discocellular spot ; greyish brown postmedial fascia, well marked on fore wing, poorly defined on hind wing.

Colour of abdomen as for corresponding surface of hind wing.

♂ GENITALIA (Text-fig. 44-46) : valve process short arcuate ; lobes of uncus with very short posterior process.

♀. As for male but with less strongly dentate wing margins.

♀. GENITALIA (Text-fig. 43) : dorsal lobe of eighth segment covering dorsal surface of ovipositor lobes.

MEASUREMENTS. A.P.R. : ♂. 19 ; ♀. 15. Wing : ♂. 18.0, 16.0-19.0 mm. (7) ; ♀. 18.5 mm. (2).

DISCUSSION. This species has close affinities with the Madagascan species *graciosa*, *griveaudi* and *carnea*. It can be distinguished from them, externally, chiefly by the usually more strongly marked subterminal spots on the upper surface of the fore wing and by the larger, more conspicuous, discocellular spot on the hind wing. The shape of the uncus and valve process in the male genitalia and the eighth segment in the female genitalia also provide good diagnostic characters.

The individual variation of the coloration, indicated in the description, is similar to that found in the three Madagascan species mentioned above, although the black patch at the anal end of the medial shade present in some specimens of *griveaudi* and *carnea* has not been seen in the available material of *notialis*.

DISTRIBUTION (Map 2). SOUTH AFRICA : TRANSVAAL, NATAL and CAPE PROVINCE.

MATERIAL EXAMINED. Type. Holotype ♂, TRANSVAAL, Louis Trichardt, 2.v.1953 (*Vari*) ; Drepanidae genitalia slide No. 1224 ; in the Transvaal Museum, Pretoria.

Paratypes. *Transvaal Museum, Pretoria*. TRANSVAAL : 2 ♂, Louis Trichardt, 2.v.53, 23-24.iv.1956 (*van Son, Vari*) ; 2 ♂, Marieps Mts., xii.1925, 24-25.i.1956 (*van Son, Vari*). NATAL : 1 ♂, Unkomas, 26.xii.1914 ; 1 ♂, Karkloof, 27.i.17 (*Janse*) ; 1 ♀, Pinetown 6.iv.19 (*Platt*) ; 1 ♀, Durban, 29.iii.01 (*Ross*). CAPE PROVINCE : 1 ♂, W. Pondoland, Nggreni, 27.iii.1904 (*Swinny*). (A female labelled " Bed Marlen, 10.05 " also examined.) *British Museum (Natural History)*. NATAL : 1 ♂, Karkloof, 27.vii.16 (*Hargreaves*). *Coryndon Museum, Nairobi*. NATAL : 1 ♂, Balgowan, 17.iii.52 (*Pennington*).

***Epicamptoptera carnea* (Saalmüller) sp. rev., comb. n.**

(Text-figs. 47-49 ; Pl. 3, fig. 279 ; Map 2)

Oreta carnea Saalmüller, 1884 : 220.*Oreta carnea* Saalmüller ; Kirby, 1892 : 728.

DESCRIPTION (Plate 3, fig. 279). Palp and front of head light brown ; vertex and antenna very light brown.

Thorax usually very light brown dorsally, with paler, almost white, patagial vestiture. Ventral surface of thorax light yellowish brown, but darker brown immediately posterior to eyes. Legs light yellowish brown, with front surface of prothoracic trochanter, femur and tibia slightly darker brown.

Venation of both wings as for *tumidula* (Text-figs. 1, 2). Ground-colour of upper surface of fore wing usually very light lustrous brown (including type) ; medial shade medium brown, non-lustrous, broken by lighter central area ; trace of discocellular spot ; subterminal spot between M_3 and Cu_{1a} weakly marked, non-lustrous. Coloration of hind wing similar to fore wing. Under surface of both wings light yellowish or pinkish brown, lustrous, lightly speckled with darker brown in some specimens ; fore wing with trace of dark postmedial fascia and discocellular spot ; hind wing with dark postmedial fascia and trace of discocellular spot.

Colour of abdomen as for corresponding surfaces of hind wing.

♂ GENITALIA (Text-figs. 47, 48) : valve process short, sigmoid ; ventro-lateral lobe of uncus long, truncate, dorso-posterior process acuminate ; posterior processes of eighth sternite as for *griveaudi* (Text-fig. 52).

♀. As for male but outer margin of both wings much less strongly produced between M_3 and Cu_{1a} .

♀ GENITALIA (Text-fig. 49) : dorsal lobe of eighth segment strongly striate near medial line.

MEASUREMENTS. A.P.R. : ♂. 18. Wing : ♂. 16.5, 15.0-18.5 mm. (12) ; ♀. 20.5, 18.5-22.5 mm. (2).

DISCUSSION. Gaede (1927 b : 288), in Seitz, treated *carnea* as a junior synonym of *Ctenogyna natalensis* Felder (see p. 48) but an examination of the holotype has shown that *carnea* belongs to the genus *Epicamptoptera*.

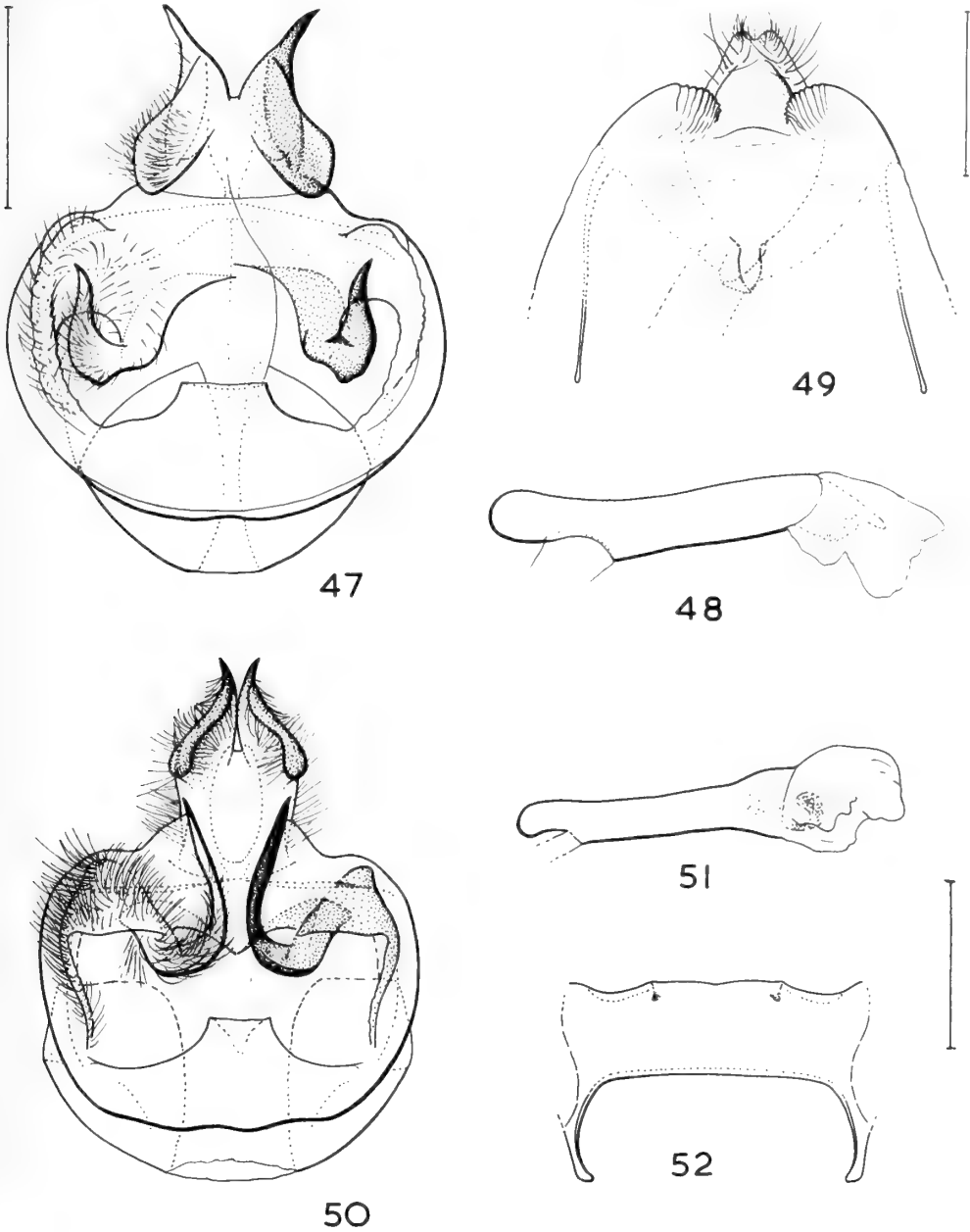
This species, which is apparently restricted to northern Madagascar, is closely related to the other two Madagascan species *graciosa* and *griveaudi* and to the African *notialis*. Externally it is probably indistinguishable from *griveaudi* but differs from *graciosa* and *notialis* in the less strongly marked subterminal spots or discocellular spot. The genitalia of both sexes are distinctive.

There is considerable individual variation in the coloration of the ground-colour of the upper surface of the wings which may be a light yellowish brown or reddish brown (holotype) or very dark greyish brown. The medial shade of both wings, which is usually strongly marked, is black at the anal margin of the wings in two specimens (a similar colour-form occurs in *griveaudi*). In a few specimens there is a second subterminal spot between M_2 and M_3 on the hind wing ; in others the fore wing subterminal markings are hardly visible.

DISTRIBUTION (Map 2). Only known from northern MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♀,; N. MADAGASCAR, Loucoubé, 82 (*Stumpff*) ; in the Senckenbergische Naturforschende Gesellschaft, Frankfurt a.M.

Other material. *British Museum (Natural History)*. N. MADAGASCAR : 15 ♂, 1 ♀, Diego Suarez, 4.iii.-16.ix.1917 (*Mélou*).



FIGS. 47-52, *Epicamptoptera*, genitalia. 47-49, *carnea*. 47, ♂; 48, aedeagus; 49, ♀ (dorsal view). 50-52, *griveaudi*. 50, ♂; 51, aedeagus; 52, ♂ eighth abdominal sternite.

***Epicampoptera griveaudi* sp. n.**

(Text-figs. 50-53 ; Pl. 3, fig. 280 ; Map 2)

DESCRIPTION. ♂, ♀. Similar to *carnea* externally and in the degree of individual variation of the coloration of the wings (Plate 3, fig. 280).

♂ GENITALIA (Text-figs. 50-52) : valve process long, arcuate ; posterior processes of uncus short, acuminate.

♀ GENITALIA (Text-fig. 53) : dorsal lobes of eighth segment with irregular medial edge dorsally.

MEASUREMENTS. A.P.R. : ♂. 19 ; ♀. 17. Wing : ♂. 18.0, 17.0-20.0 mm. (4) ; ♀. 20.0, 19.5-21.0 mm. (3).

DISCUSSION. This species is probably most closely related to *graciosa* from which it can be distinguished by the colour-pattern of the wings and by the genitalia. It also has close affinities with *carnea*, which has an apparently identical colour-pattern but distinctive genitalia, and with *notialis*, an African species, which differs both in colour-pattern and genitalia.

The type of individual variation is similar to that found in *carnea*. In one specimen of *griveaudi* the medial shade is nearly black at the anal margin of both wings, as in two specimens of *carnea*.

One male and one female from the Comores, in the collection of the Muséum national d'Histoire naturelle, Paris, probably represent a new subspecies of *griveaudi*, but further material is needed before this can be confirmed.

DISTRIBUTION (Map 2). Eastern and western MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, E. MADAGASCAR, Andranomandevy Didy, Ambatondrazaka, 1,039 m., 28.ix.56 (*Griveaud*) ; Drepanidae genitalia slide No. 596 ; in the Muséum national d'Histoire naturelle, Paris.

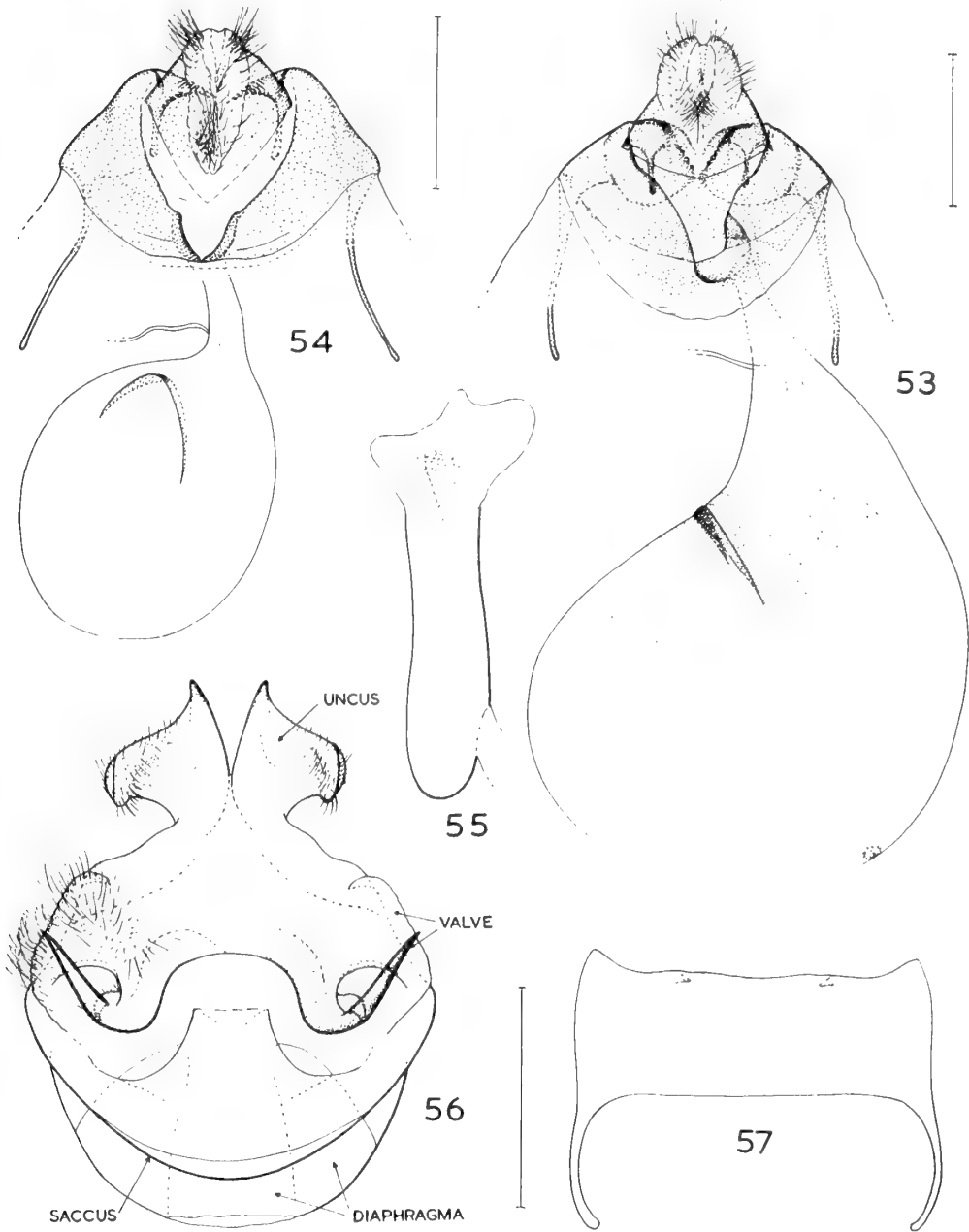
Paratypes. Muséum national d'Histoire naturelle, Paris. E. MADAGASCAR : 1 ♀, Env. de Périnet, forêt d'Analamazoatra, 910 m., 19.ii.1955 (*Viette*). W. MADAGASCAR : 1 ♂, 1 ♀, Ankarafantsika, Ampijoroa, 120 m., 30.viii.1956, i.1957 (*Griveaud*) ; 2 ♂, dct. Antsalova, forêt Antsingy, Andobo, 190 m., ii.1957 (*Griveaud*). Institut scientifique, Madagascar. W. MADAGASCAR : 1 ♂, Ankarafantsika, Ampijoroa, 170 m., i.1957 (*Griveaud*) ; 1 ♂, dct. Antsalova, forêt Antsingy, Andobo, ii.1957 (*Griveaud*).

***Epicampoptera graciosa* sp. n.**

(Text-figs. 54-57 ; Pl. 3, fig. 281 ; Map 2)

DESCRIPTION. ♂. Outer surface of palp dark brown, inner surface buff. Antenna buff. Head buff, except for greyish brown area extending from base of antennae to a line midway between antennae and labrum (holotype) or extending over whole of front of head.

Wing venation as for *tumidula*. Wing shape and colour-pattern as in Plate 3, fig. 281. Markings stronger than in most specimens of *carnea* and *griveaudi*. Subterminal markings on upper surface of hind wing conspicuous, sometimes present between M_1 and M_2 and between Cu_{1a} and Cu_{1b} (not in holotype), apparently always present as two elongate spots between M_3 and Cu_{1a} . Under surface of both wings buff (holotype) or pale orange, striate and speckled with very dark brown especially at apex and in distal half of wings ; trace of discocellular spot in both wings ; well marked postmedial fascia on fore wing, trace of this fascia on hind wing.



FIGS. 53-57, *Epicamptoptera*, genitalia. 53, *griveaudi*, ♀. 54-57, *graciosa*. 54, ♀; 55, aedeagus; 56, ♂; 57, ♂ eighth abdominal sternite.

Thorax pale brown dorsally, with almost white patagial vestiture. Ventral surface pale buff except for brown fringe posterior to eyes. Legs pale buff, with front surface of prothoracic femur and tibia brown.

♂ GENITALIA (Text-figs. 55-57) : valve process short, arcuate ; posterior processes of uncus short bluntly pointed, ventro-lateral processes with pre-apical bulge.

♀. Similar to male but larger and with outer margin of both fore and hind wing less strongly produced between M_3 and Cu_{1a} .

♀ GENITALIA (Text-fig. 54) : dorsal lobes of eighth segment weakly striate medially.

MEASUREMENTS. A.P.R. : ♂. 19 ; ♀. 17. Wing : ♂. 18.0 mm. (2) ; ♀. 20.5 mm. (2).

DISCUSSION. *E. griveaudi* is probably the closest relative of this species, although *carnea* and *notialis* are also closely related to *graciosa*. The strongly marked sub-terminal spots on the upper surface of the hind wings distinguish *graciosa* from the remaining Madagascan species and from most specimens of *notialis*. The genitalia of both sexes are diagnostic.

There is insufficient material to permit comment on the extent of individual variation. The upper surface of the wings of the specimens from Périnet and Ankasoka have a brownish buff ground-colour with a reddish brown medial shade, whereas the example from Antsianaka is pale reddish brown with a darker medial shade.

DISTRIBUTION (Map 2). Known only from eastern MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR, Périnet, iii.1935 (*Olsonieff*) ; Drepanidae genitalia slide No. 1158 ; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. E. MADAGASCAR : 1 ♀, Périnet, iii.1935 (*Olsonieff*) ; 1 ♀, Antsianaka et lac Aloatra, " 2^e Trimestre ", 1889 (*Perrot*) ; 1 ♂, Route de Lakato, km. 15, Ankasoka, 1,100 m., 2-10.i.1959 (*Viette*). *Institut scientifique, Madagascar*. E. MADAGASCAR : 1 ♂, sud Moramanga, Ampitameloka, 840 m., 5.viii.1956 (*Griveaud*). S. MADAGASCAR : 1 ♀, dct. Fort Dauphin, Antanimora, 300 m., xii.1959 (*Rharizonina*).

Epicampoptera heterogyna (Hampson)

(Text-figs. 58-61 ; Pl. 4, figs. 283, 284 ; Map 2)

Metadrepana heterogyna Hampson, 1914 : 105.

Epicampoptera heterogyna (Hampson) ; Gaede in Seitz, 1927 b : 291.

Epicampoptera heterogyna (Hampson) ; Gaede, 1931 : 52.

DESCRIPTION. ♂. Outer surface of palp very dark brown, inner surface dull yellow ; front of head brownish buff (holotype) or reddish buff ventrally, dark brown dorsally ; vertex yellowish white ; antenna yellowish white proximally, grey distally.

Dorsal surface of thorax yellowish grey (holotype) or grey except for nearly white anterior margin ; ventral surface buff but with dark grey anterior margin. Front surface of fore trochanter dark buff (holotype) or pinkish buff, front surface of rest of fore leg grey (femur with pink fringe on inner surface in male from Mabira Forest), inner surface of leg buff ; femur, tibia and tarsus of remaining legs with pale grey (holotype) or pinkish grey outer surface and buff inner surface.

Ground-colour of surface of fore wing (Plate 4, fig. 283) yellowish grey (holotype) or grey, lustrous; dark markings yellowish brown (holotype) or dark reddish brown, non-lustrous; conspicuous black marking at anal margin (absent in lectotype and paralectotype; also present in holotype of *heringi*). Ground-colour of hind wing similar to fore wing but heavily speckled with dark brown and buff (holotype) or dark brown and pink; postmedial fascia pale buff; subterminal markings dark brown, non-lustrous.

Costal area under surface of fore wing greyish buff; rest of wing (except for pale buff area overlapped by hind wing) buff (holotype) or pink, becoming more greyish and striate with dark grey apical and distal to postmedial fascia; postmedial fascia and discocellular spot dark grey (holotype) or black. Under surface of hind wing pale buff with grey outer marginal area, pink between grey area and cell in male from Mabira Forest; discocellular spot as for fore wing; postmedial fascia grey, weakly marked, strongly convex distally.

Abdomen grey dorsally, buff ventrally.

♂ GENITALIA (Text-figs. 58-60): valve process long, stout, arcuate; posterior processes of uncus truncate.

♀ (Plate 4, fig. 284). Similar to male but outer marginal process absent on fore wing and much reduced on hind wing, and with postmedial fascia and subterminal fascia on upper surface of hind wing differently shaped. (Ground-colour of upper surface of wings of specimen from Entebbe reddish buff, and with dark marking at middle of anal margin on fore wing.)

♀ GENITALIA (Text-fig. 61): dorsal lobes of eighth segment not striate medially; ninth segment well sclerotized laterally and ventrolaterally.

MEASUREMENTS. A.P.R.: ♂, ♀. 19. Wing: ♂. 20.0 mm. (2); ♀. 22.5, 22.0-23.0 mm. (2).

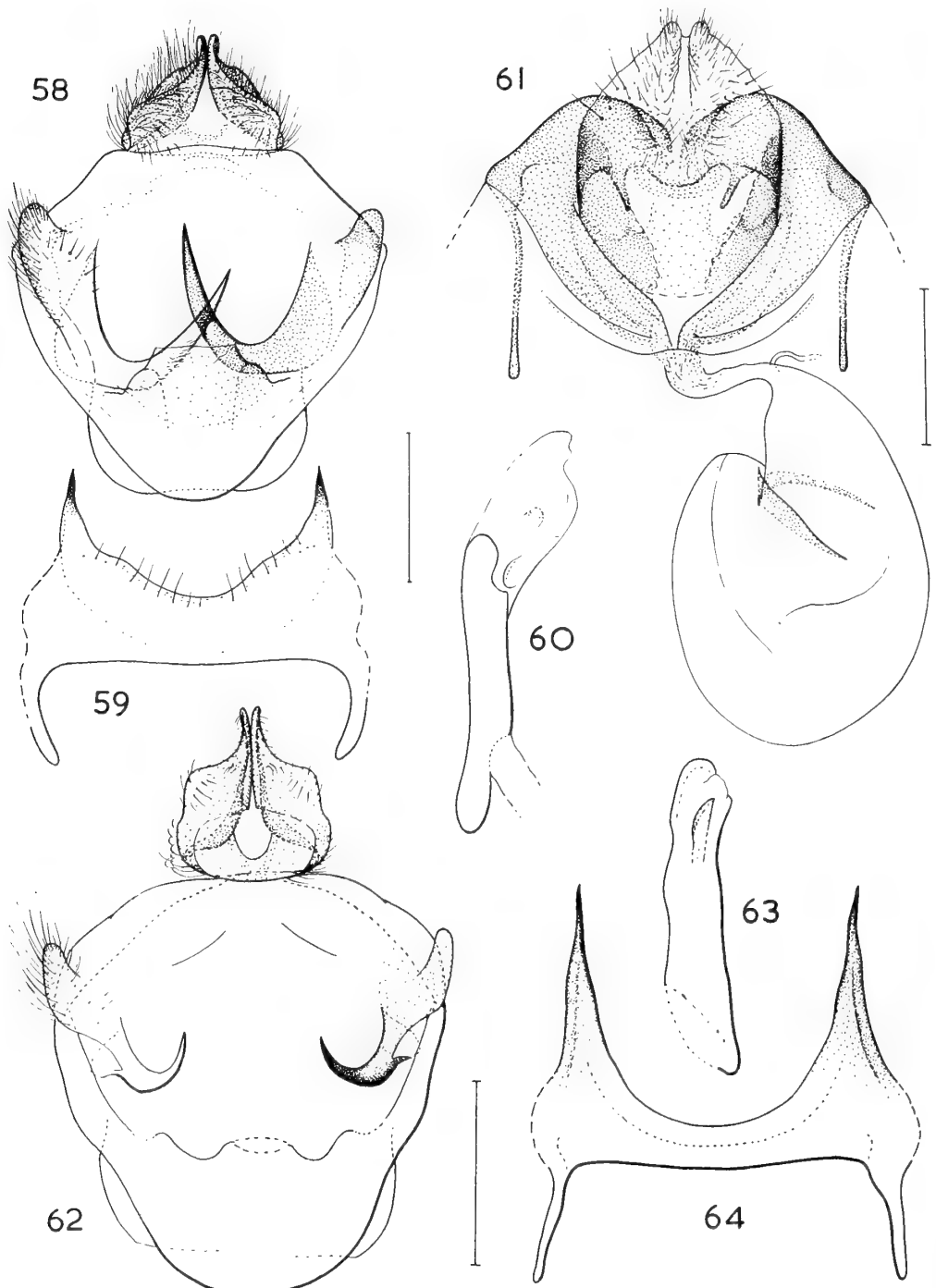
DISCUSSION. This species is closely related to the West African *heringi*. The colour-pattern of the wings is probably very similar to that of *heringi* although the latter is unfortunately known only from the worn holotype. The male genitalia, however, readily separate these two species: the shape of the valve processes, uncus and eighth sternum are particularly diagnostic. Until more material of both sexes is available I consider it better to treat *heringi* and *heterogyna* as species of a super-species than as subspecies of a single species.

A recent paper by Stempffer and Jackson (1962) has shown that the aquatic barrier between Bugalla Island (the type locality of *heterogyna*) and the mainland of Africa is sufficient to bring about speciation in three butterfly species. It is interesting in this respect to find no evidence of significant geographical variation in the few available specimens of *heterogyna*. The slight variation in coloration mentioned in the description may be due to fading of the original Hampson type material from Bugalla.

MATERIAL EXAMINED. Type. I have selected and labelled the male syntype as the LECTOTYPE. It bears the following data "Uganda, Victoria Nyanza, Sesse Is., Bugalla I., Carpenter, 1914-276; *Metadrepana heterogyna* Hampson type ♂ Hmpsn; Drepanidae genitalia slide No. 1153"; in the British Museum (Natural History).

Paralectotype. 1 ♀, with same collection data as lectotype.

Other material. *Coryndon Museum, Nairobi*. UGANDA: 1 ♂, Jinja, Mabira Forest, x.1962 (*Carcasson*); 1 ♀, Entebbe, ix.1964 (*Burgess*).



FIGS. 58-64, *Epicampoptera*, genitalia. 58-61, *heterogyna*. 58, ♂; 59, ♂ eighth abdominal sternite; 60, aedeagus; 61, ♀. 62-64, *heringi*. 62, ♂; 63, aedeagus; 64, ♂ eighth abdominal sternite.

Epicamptoptera heringi Gaede

(Text-figs. 62-64 ; Pl. 4, fig. 285 ; Map 2)

Epicamptoptera heringi Gaede, 1927 a : 164.*Epicamptoptera heringi* Gaede ; Gaede in Seitz, 1927 b : 291. [Poor fig.]*Epicamptoptera heringi* Gaede ; 1931 : 52.

DIAGNOSIS. ♂. Due to the poor condition of the only known specimen (Plate 4, fig. 285) it is not possible to give an accurate comparison of external characters between *heringi* and the closely related *heterogyna*, but there seems to be no important difference between them in the colour-pattern of the wings. There is a large black marking at the anal margin of the fore wing of the holotype of *heringi*, as in the specimen of *heterogyna* from the Mabira Forest.

♂ GENITALIA (Text-figs. 62-64) : the much shorter valve processes, differently shaped uncus, and the less attenuate posterior processes of the eighth sternite separate it from *heterogyna*.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. (Antennae missing.) Wing : ♂. 19.5 mm. (1).

DISCUSSION. Closely related to *heterogyna* from the eastern side of Africa. I prefer to consider these two species as members of a superspecies than as subspecies, at least until further material of both sexes is available.

MATERIAL EXAMINED. Type. Holotype ♂, CAMEROUN ; Drepanidae genitalia slide No. 1298 ; in the Zoologisches Museum, Berlin.

SPECIES-GROUP *seydeli*

Venation as for species-group *erosa* (Text-figs. 1, 2).

♂ GENITALIA (see labelled Text-fig. 65) : each lobe of uncus with invaginate sac ; valve small, densely setose, nearly meeting opposite valve at medial line ; diaphragma not pouch-like ; aedeagus with one or more longitudinal carinae or sulci ; eighth sternum asymmetric. Signum of female genitalia probably as for species-group *erosa* (see below).

The only known species are *seydeli* and *lumaria*. Both are African. The distinctive male genitalia of this group (Text-figs. 65-70) distinguish it from the species-group *erosa*, though there are apparently no structural differences other than those in the male genitalia.

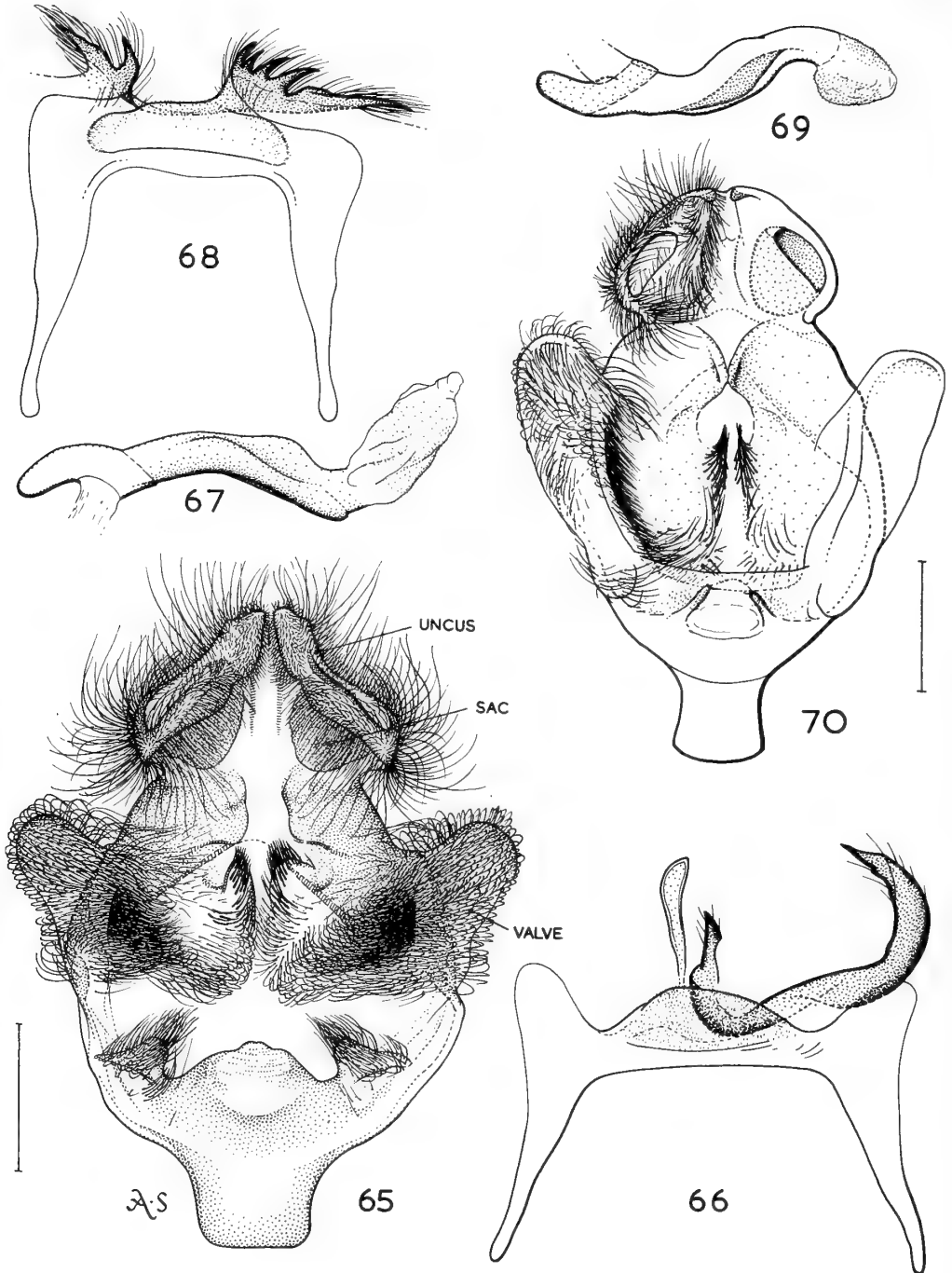
The fore wing venation and the probability of a close resemblance in the shape of the signum in the female genitalia (see note on the single female from Fernando Po on page 45, which probably belongs to this species-group) suggest that this group is more closely allied to the species-group *erosa* than to *strandii*.

Epicamptoptera seydeli sp. n.

(Text-figs. 65-67 ; Pl. 2, fig. 278)

DESCRIPTION. ♂. Outer surface of palp greyish brown, inner surface pinkish buff ; front of head greyish brown, vertex pinkish brown ; antenna very pale buff.

Thorax pinkish brown dorsally, pale pinkish buff ventrally. Front surface of fore legs greyish brown, remaining legs and inner surface of fore leg pale pinkish buff. Wing shape and colour-pattern as in Plate 2, fig. 278. Ground-colour of upper surface of wings pale pinkish buff ; postmedial fascia dark grey, edged distally with greyish white ; remaining markings reddish brown. Under surface of both wings dull pink, lightly speckled with very dark brown ;



FIGS. 65-70, *Epicampoptera*, ♂ genitalia. 65-67, *seydeli*. 65, ♂; 66, eighth abdominal sternite; 67, aedeagus. 68-70, *lumaria*. 68, eighth abdominal sternite; 69, aedeagus; 70, ♂.

discocellular spot very dark brown on both wings ; postmedial fascia grey and dark brown, less well marked on hind wing.

Colour of abdomen as for corresponding surface of hind wing.

♂ GENITALIA (Text-figs. 65-67) : setose lobe present at either side of anellus ; eighth sternum asymmetric, posterior sclerites closely connected to main sclerite but not fused with it.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 14. Wing : ♂. 18.5, 18.0-19.0 mm. (4).

DISCUSSION. Distinguished from *lumaria* by the broader saccus and differently shaped valves, uncus, aedeagus and eighth sternum. There appears to be no important external diagnostic feature.

DISTRIBUTION. Known only from the type locality.

MATERIAL EXAMINED. Type. Holotype ♂, CONGO, Elisabethville, 6.iv.1951 (*Seydel*) ; Drepanidae genitalia slide No. 1152 ; in the Musée Royal de l'Afrique centrale, Tervuren.

Paratypes. *British Museum (Natural History)*. CONGO : 1 ♂, Elisabethville, 28.iii.1952 (*Seydel*). *Carnegie Museum, Pittsburgh*. CONGO : 2 ♂, Elisabethville, 26.i.1949, 6.iv.1953 (*Seydel*).

Epicampoptera lumaria sp. n.

(Text-figs. 68-70)

DESCRIPTION. ♂. Externally as for *seydeli*, except for coloration of upper surface of wings which are pale brown in ground-colour and have yellowish brown markings except for the white and grey postmedial fascia.

♂ GENITALIA (Text-figs. 68-70) : anellus forming lateral lip on either side ; setose lobe at side of anellus small ; aedeagus with deep, longitudinal sulcus on one side ; posterior processes of eighth sternite asymmetric.

♀. Not known. (But see Distribution.)

MEASUREMENTS. A.P.R. : ♂. 19. Wing : ♂. 17.5 mm. (1).

DISCUSSION. Separated from *seydeli* apparently only by the male genitalia ; in particular by the markedly different eighth sternite, but also by the saccus, valves, anellus, uncus and aedeagus.

DISTRIBUTION. CAMEROUN. A female from Fernando Po in the collection of the British Museum (Natural History) may prove to belong to this species when more material is available for comparison.

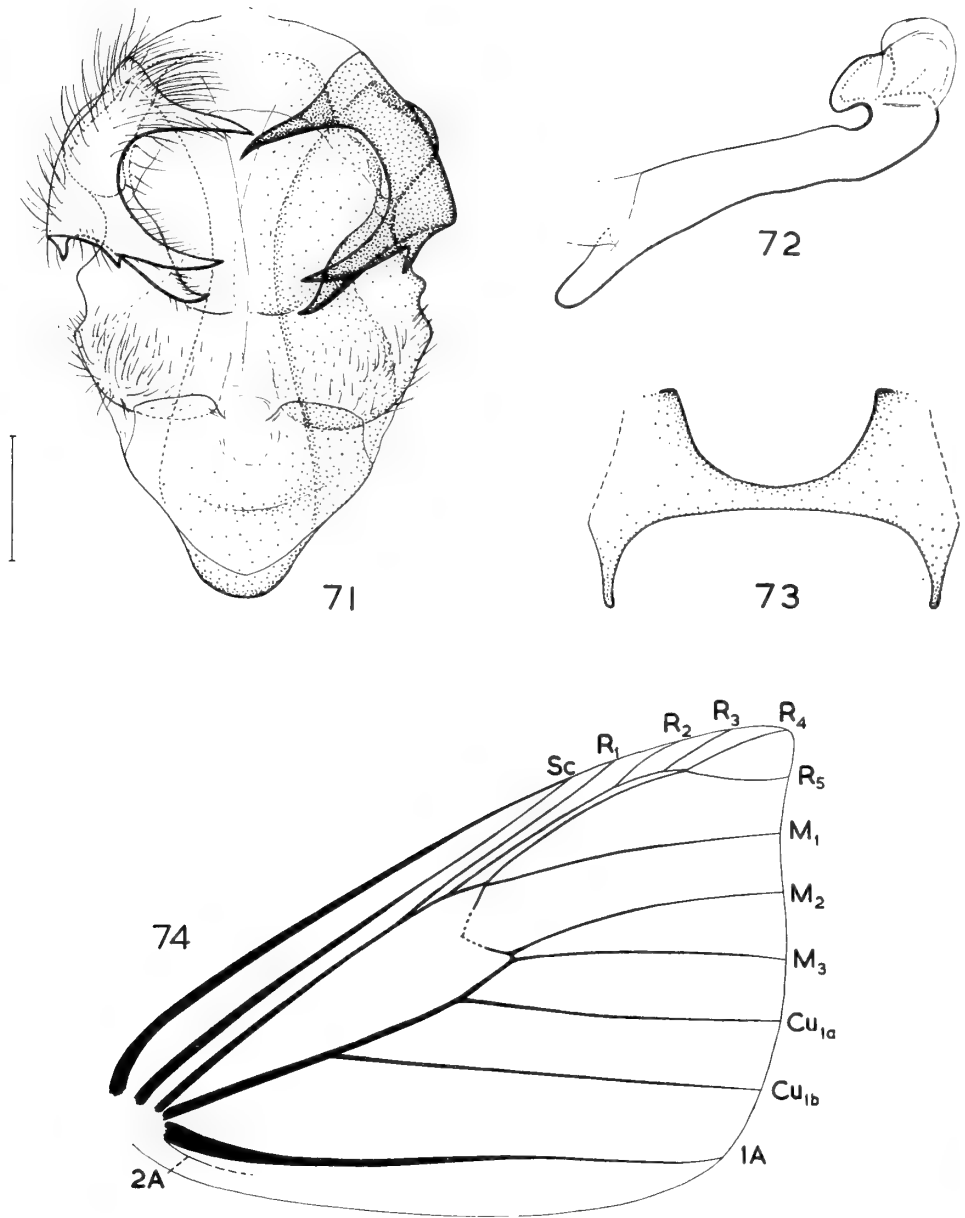
MATERIAL EXAMINED. Type. Holotype ♂, CAMEROUN, Efulen, 29.xii.1919 (*Weber*) ; Drepanidae genitalia slide No. 1554 ; in the Carnegie Museum, Pittsburgh.

Epicampoptera efulena

(Text-figs. 71-73 ; Pl. 17, fig. 342)

DESCRIPTION. ♂. Outer surface of palp and vestiture of head posterior and ventral to eyes very dark brown ; front and vertex of head brownish buff ; antenna, and inner surface of palp brownish buff.

Dorsal surface of thorax yellowish brown anteriorly, the scales highly lustrous ; colour doubtful posteriorly. Ventral surface of thorax pale buff. Front surface of fore leg dark brown with



FIGS. 71-73, *Epicamptoptera efulena*, ♂ genitalia. 71, ♂; 72, aedeagus; 73, eighth abdominal sternite. FIG. 74, *Negera quadricornis*, ♂ fore wing venation.

medially directed reddish brown fringe ; rest of leg pale buff. Colour of remaining legs doubtful, but probably similar to fore leg.

Venation as for species-group *erosa*. Ground-colour of upper surface of fore wing yellowish brown ; speckled with highly lustrous scales, most densely at base at costal area ; very pale brown medial area bordered proximally with dark reddish brown, and with reddish brown streak extending from it distally between anterior angle of cell and apex ; small brown discocellular spot ; postmedial fascia narrow, pale. Upper surface of hind wing yellowish brown (much paler anteriorly in area overlapped by fore wing) lightly speckled with highly lustrous scales posteriorly ; discocellular spot small, brown ; pale postmedial fascia strongly concave ; weakly marked brown subterminal spot between M_3 and Cu_{1a} . (Plate 17, fig. 342.)

Under surface of both fore and hind wings pale buff, lightly speckled with dull pink scales (most conspicuous along veins) ; speckled with dark grey at apex, outer margin and proximal half of costal area in fore wing, and over whole of hind wing except along anal margin. Both wings with conspicuous dark grey discocellular spot and postmedial fascia.

Colour of abdomen doubtful.

♂ GENITALIA (Text-figs. 71-73) : vinculum strongly developed, the two sides closely apposed along mid-dorsal line, produced posteriorly on either side into heavily sclerotized, trifurcate, claw-like structure ; diaphragma almost completely sclerotized, membranous only along medial line where it is weakly sulcate ; uncus absent ; aedeagus sharply recurved apically, vesica without ornamentation ; posterior margin of eighth sternite strongly concave ; apodemes moderately long.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 9. Wing : ♂. 24.0 mm. (1).

DISCUSSION. Without knowledge of the female it is difficult to assess the taxonomic position of this species. The venation of the fore wing is similar to that of the species-groups *erosa* and *seydeli* but the male genitalia are so different from those of *erosa* or *seydeli* that it is impossible to place *efulena* in either of them. It is difficult to see how the curious, paired, clawed structures of the male genitalia of this species could have been derived from the uncus or valves of any known species of *Epicampoptera*.

DISTRIBUTION. Known only from the type locality.

MATERIAL EXAMINED. Type. Holotype ♂, CAMEROUN, Efulen, 13.xi.1912 (*Weber*) ; Drepanidae genitalia slide No. 1529 ; in the Carnegie Museum, Pittsburgh.

NEGERA Walker

(Text-figs. 74-108 ; Pls. 5, 6, figs. 287-294 ; Map 3)

Negera Walker, 1855 : 1171. Type-species, by monotypy, *Negera confusa* Walker, 1855.

Negera Walker ; Gaede in Seitz, 1927 b : 289.

Negera Walker ; Gaede, 1931 : 51.

Ctenogyna Felder, 1874. Type-species, by monotypy, *Ctenogyna natalensis* Felder, 1874.

[Junior homonym of *Ctenogyna* Macquart, 1838 (Diptera).]

Ctenogyne Felder ; Gaede in Seitz, 1927 b : 288. [Incorrect subsequent spelling.]

Ctenogyne Felder ; Gaede, 1931 : 50.

Ctenogyne Felder ; Gaede, 1931 : 53.

Pithania Bryk, 1913 : 8. Type-species, by monotypy and original designation, *Ancistrota geometroides* Holland. **syn. n.**

Pithania Bryk ; Strand, 1932 : 145. [As replacement name for *Ctenogyna* Felder.]

Ancistrina Gaede, in Seitz, 1927 b : 288. Type-species, by original designation, *Ancistrina immaculata* Gaede, 1927. **syn. n.**

Ancistrina Gaede ; Gaede, 1931 : 50.

DESCRIPTION. ♂. Labrum globose, proboscis vestigial ; palp extending short distance above labrum ; antenna bipectinate from base of flagellum to apex, A.P.R. 14 to 23.

Thorax as for ground-colour of fore wings dorsally, much paler ventrally. Mid and hind tibia each with one pair of terminal tibial spurs.

Costa of fore wing weakly or moderately convex ; apex a right-angle or weakly falcate ; outer margin slightly convex in most species but nearly straight in *bimaculata*. Outer margin of hind wing convex except in *natalensis* in which the margin is angulate and weakly produced at M_3 . Venation of fore wing as in Text-fig. 74 ; R_{2+3+4} on common stalk, R_5 closely approximates to R_4 at point shortly after R_4 branches from R_{3+4} . In hind wing $Sc + R_1$ closely approximates to R_s for short distance distal to end of cell. Upper surface of both wings one of many shades of brown, buff or grey, usually only lightly speckled with black or dark brown. Costa of fore wing with dark marking near apex, second marking short distance proximal to first, and third just proximal to middle of costa ; brown or black spot close to cell between Cu_{1b} and $2A$ (invariably present in *natalensis*, sometimes present in remaining species) ; dark discocellular spot ; trace of antemedial fascia ; well marked, oblique postmedial fascia ; weakly marked subterminal fascia. Hind wing sometimes with trace of antemedial fascia ; well marked medial fascia, continuous with postmedial fascia of fore wing except in *natalensis* ; weakly marked subterminal fascia. Under surface of both wings light brown, buff, orange or yellow, lightly and variably speckled with a darker colour. Fore wing with dark discocellular spot and well marked postmedial fascia positioned slightly proximal to corresponding fascia of upper surface. Hind wing with dark discocellular spot ; trace of postmedial fascia, placed distal to medial fascia of upper surface, strongly convex distally ; faintly marked subterminal markings in some specimens best developed in *natalensis*. (See Plates 5 and 6.)

Abdomen as for ground-colour of wings dorsally, very pale laterally, usually pinkish or yellowish buff ventrally.

♂ GENITALIA (see labelled Text-fig. 106) : posterior margin of tegumen strongly concave ; saccus variously shaped ; valve setose, with or without processes ; setose uncus divided medially, each half with posteromedial spine or bulge ; gnathus with strongly developed lateral arms and pair of posteromedial processes ; aedeagus variously shaped and ornamented ; apodemes of eighth abdominal sternum short, posterior margin of sternum emarginate medially.

♀. Differs from male in following respects : antenna less strongly pectinate, A.P.R. 10 to 17 ; outer margin of fore wing strongly convex ; apex of fore wing moderately or strongly falcate.

♀ GENITALIA : ostial and post-ostial segments heavily sclerotized, variously shaped ; bursa copulatrix with single, internally concave, scobinate signum or pair of signa.

DISCUSSION. *Negera*, erected by Walker, 1855, has until now remained monotypic. *Ctenogyna*, which included a single new species, *natalensis*, was established in 1874 by Felder. *Ctenogyna* Felder, however, is a junior homonym of *Ctenogyna* Macquart, 1838 (Diptera) and was replaced by *Pithania* Bryk (Strand, 1932 : 145). *Pithania* Bryk, 1913, type-species, by monotypy, *Ancistrota geometroides* Holland, has now been placed in the synonymy of *Negera*. *Ancistrina* Gaede, 1927 b, which is also treated as a junior synonym of *Negera* in this revision, was erected for two new species, *immaculata* and *bimaculata*.

The name *carnea* Saalmüller, which was listed as a junior synonym of *natalensis* Felder by Gaede (1927 b and 1931), is correctly applied to a species of *Epicamoptera* Bryk (see page 36).

The genus as it now stands contains eight species. Five of these are new.

The presence of a globose labrum in both *Negera* and *Epicamoptera* and similarities in the colour-pattern of the wings between these two genera suggest certain affinities. *Epicamoptera* is, however, easily separated from *Negera* by the genitalia, the shape of the wings and the fore wing venation.

The males of *confusa*, *disspinosa*, *ramosa*, *unispinosa* and *clenchi* are apparently almost identical externally. Because of this similarity in the males and the overlapping of ranges, I have been able to identify only *unispinosa* from the available badly worn female material. Apart from the latter species, four groups of females have been separated out, but the association of these with the corresponding males has not been found possible.

The species *natalensis* is polytypic.

There is much variation in the ground-colour of both surfaces of the wings and in the colour of the wing markings, particularly in the group of species mentioned above which are externally similar to *confusa*.

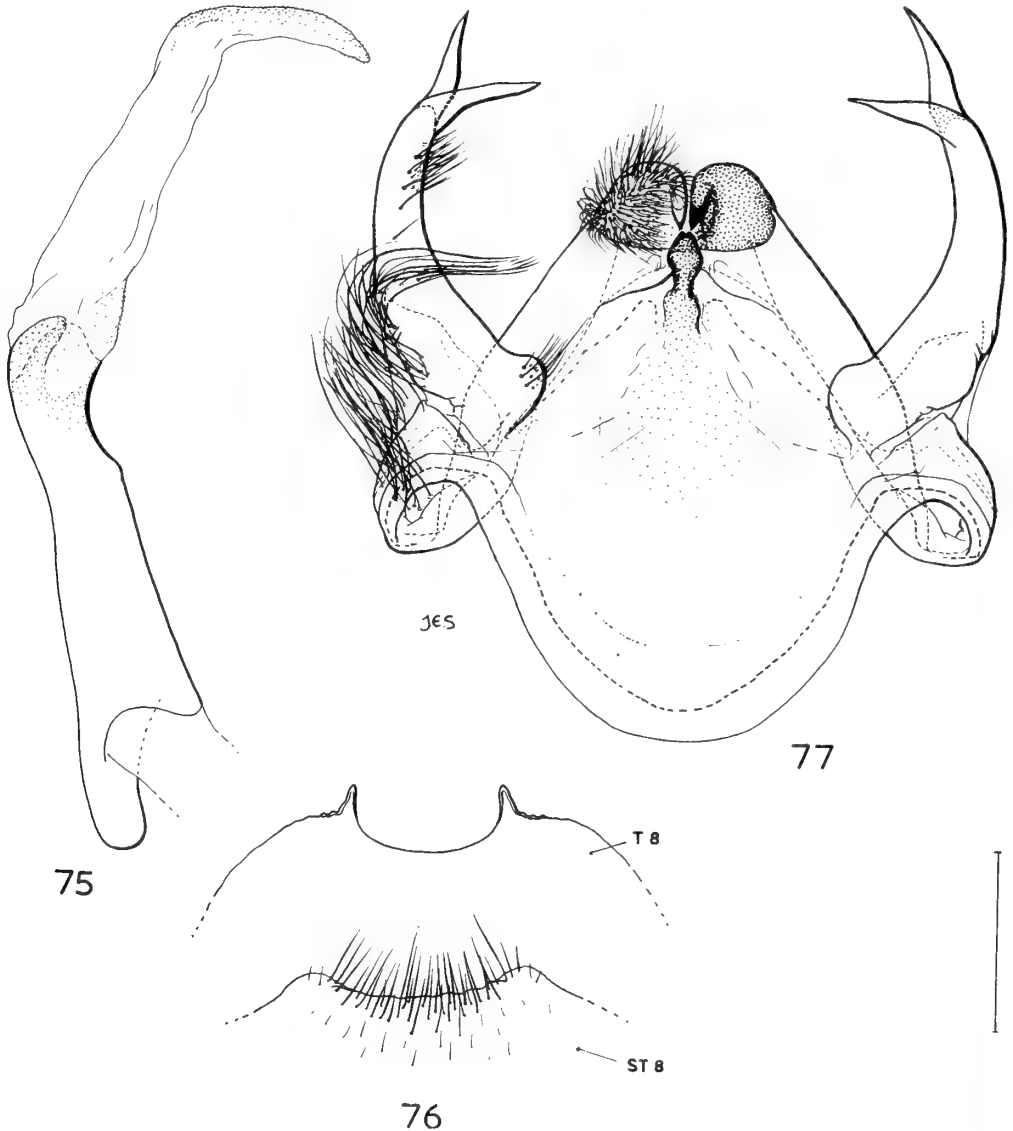
Negera is mainly restricted to the lowland rain-forest of central and west Africa and the areas of montane forest in east Africa, but with some species also represented in relatively moist woodland bordering the forested regions. The species *bimaculata* and *confusa* are chiefly west African and confined to rain-forest or neighbouring woodland; *ramosa* and *quadricornis* occur in the Congo Basin and also in two forested areas (one montane) in Uganda; *disspinosa* and *unispinosa* are at present only known from the rain-forest of Cameroun and the montane forest of Mt. Elgon (Uganda) respectively; *natalensis* has a much wider distribution extending from Gambia and Senegal throughout the west and central African rain-forest regions to Tanganyika (Arusha, edge of montane forest) and south along the east coastal forest-savanna belt of Natal and Cape Province.

KEY TO SPECIES

MALES

- 1 A.P.R. 23; outer margin of hind wing produced at M_3 (Plate fig. 294); postmedial fascia of fore wing strongly lunulate; medial fascia of hind wing arcuate anteriorly. Lateral arms of gnathus massive, membranous medial part of diaphragma small (Text-fig. 101) ***natalensis*** (p. 63)
- A.P.R. 14-21; outer margin of hind wing not produced at M_3 ; postmedial fascia of fore wing straight or very weakly lunulate; medial fascia of hind wing straight. Lateral arms of gnathus much less massive than above; membranous medial part of diaphragma broad (e.g. Text-fig. 92) 2
- 2 Outer margin of fore wing nearly straight, apex weakly falcate (Plate 6, fig. 291) ***bimaculata*** (p. 62)
- Outer margin of fore wing weakly convex, apex very weakly falcate or non-falcate 3
- 3 Valve strongly bifurcate (Text-fig. 92); ornamentation of aedeagus as in Text-fig. 91; eighth tergite as in Text-fig. 93 ***quadricornis*** (p. 60)
- Valve not strongly bifurcate; aedeagus not as above 4
- 4 Valve short, without spines or with single, short spine; ornamentation of aedeagus as in Text-figs. 78 or 81 5
- Valve elongate, with spines or elongate processes; ornamentation of aedeagus not as above 6
- 5 Valve without spine; medial processes of gnathus long, pointed (Text-fig. 80); aedeagus as in Text-fig. 78; eighth tergite and sternite as in Text-fig. 79 ***disspinosa*** (p. 53)
- Valve with single, short spine; medial process of gnathus short, blunt (Text-fig. 82); aedeagus as in Text-fig. 81; eighth sternite and tergite as in Text-fig. 83 ***clenchi*** (p. 55)

- 6 Apex of valve bifurcate or branched ; eighth tergum with two posterior processes 7
 - Apex of valve simple ; eighth tergum with three posterior processes (Text-fig. 89) *unispinosa* (p. 57)
 7 Valve bifurcate apically ; vesica of aedeagus with minute scobinations ; eighth tergite with short posterior processes (Text-figs. 75-77) *confusa* (p. 51)
 - Valve with one long and several short apical branches ; vesica of aedeagus distinctly ornamented ; posterior processes of eighth tergite elongate (Text-figs. 84-86) *ramosa* (p. 55)



FIGS. 75-77, *Negeva confusa*, ♂ genitalia. 75, aedeagus ; 76, posterior margin of eighth abdominal tergite and sternite ; 77, ♂.

***Negea confusa* Walker**
(Text-figs. 75-77 ; Map 3)

Negea confusa Walker, 1855 : 1172.

Negea confusa Walker ; Gaede in Seitz, 1927 b : 289.

Negea confusa Walker ; Gaede, 1931 : 51.

Ctenogyna lytaea Druce, 1896 : 356. **syn. n.**

DESCRIPTION. ♂. Outer surface of palp brown, inner surface light brown. Front of head brown ; vertex brown, becoming more yellowish posteriorly ; narrow, brown band bordering outer lateral margin of eye. Upper surface of antennal shaft very pale buff.

Dorsal surface of thorax pale pinkish brown, palest anteriorly ; ventral surface very pale buff. Outer surface of trochanter of fore leg pale reddish brown ; outer surface of rest of fore leg brown ; inner surface of whole of fore leg very pale buff ; colour of remaining legs doubtful.

Shape of fore wing as for *disspinosa* (Plate 5, fig. 290). Colour-pattern of upper surface of type as for Plate 5, fig. 288 of *quadricornis* ; base of upper surface buff in most specimens (including holotype) ; trace of antemedial fascia ; area between antemedial fascia and postmedial fascia reddish brown (holotype and one other specimen) or yellowish brown enclosing large lustrous, paler, purplish brown area ; small, black disco-cellular spot ; large, dark spot close to cell between Cu_{1b} and $1A$ (brown in holotype and one specimen, black in two specimens, weakly marked in remainder) ; postmedial fascia buff, edged proximally with brown (holotype and most specimens) or black (one specimen), less strongly edged distally with lighter colour ; area distal to postmedial fascia reddish or yellowish brown near apex and tornus, buff in middle ; sub-terminal fascia represented by short, whitish dashes on veins M_3 to $1A$; costa of fore wing and area between antemedial and postmedial fasciae conspicuously lustrous ; whole wing lightly speckled with black (strongly speckled in one specimen, as in Plate 5, fig. 290 of *disspinosa*). Upper surface of hind wing similar to fore wing in coloration of medial fascia and area proximal to this, but without pale medial patch ; ground-colour of rest of wing similar, but darker at outer angle ; black disco-cellular spot ; trace of broad, irregular, dark fascia between medial fascia and outer margin in holotype and one other example ; wing lustrous except for marginal band extending short distance posteriorly from outer angle.

Under surface of fore wing pale yellowish brown (holotype) or pale brownish orange ; lightly speckled with black or dark grey, most densely speckled along costa and at tornus ; outer marginal band yellow between apex and Cu_{1a} , orange or red between Cu_{1a} and tornus ; dark grey, oblique postmedial fascia from near apex to about two-thirds distance from base along anal margin, faintly edged distally with a pale line and then a dark line. Ground-colour of under surface of hind wing similar to fore wing but paler ; lightly speckled with dark grey or black, most heavily at costa ; well marked, black disco-cellular spot ; otherwise unmarked.

♂ **GENITALIA** (Text-figs. 75-77) : medial part of gnathus with two short teeth posteriorly ; gnathus extended anteriorly into diaphragma ; valve bifurcate apically ; apex of vesica of aedeagus with minute scobinations at apex and at one side of base ; posterior processes of eighth tergum short.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 18. Wing : ♂. 21.0, 19.0-23.0 mm. (8).

DISCUSSION. I have selected and labelled as **LECTOTYPE** of *lytaea* a male syntype from the Druce collection in the British Museum (Natural History). It bears the following data "Ctenogyna [*sic*] lytaea Type Druce ; Fantee, West Africa, Shelley ; Drepanidae genitalia slide No. 1074". The name *lytaea* was placed in the synonymy of *natalensis* by Gaede (1927 b : 288) but an examination of the lectotype of *lytaea* has shown that it is conspecific with the holotype of *confusa*.

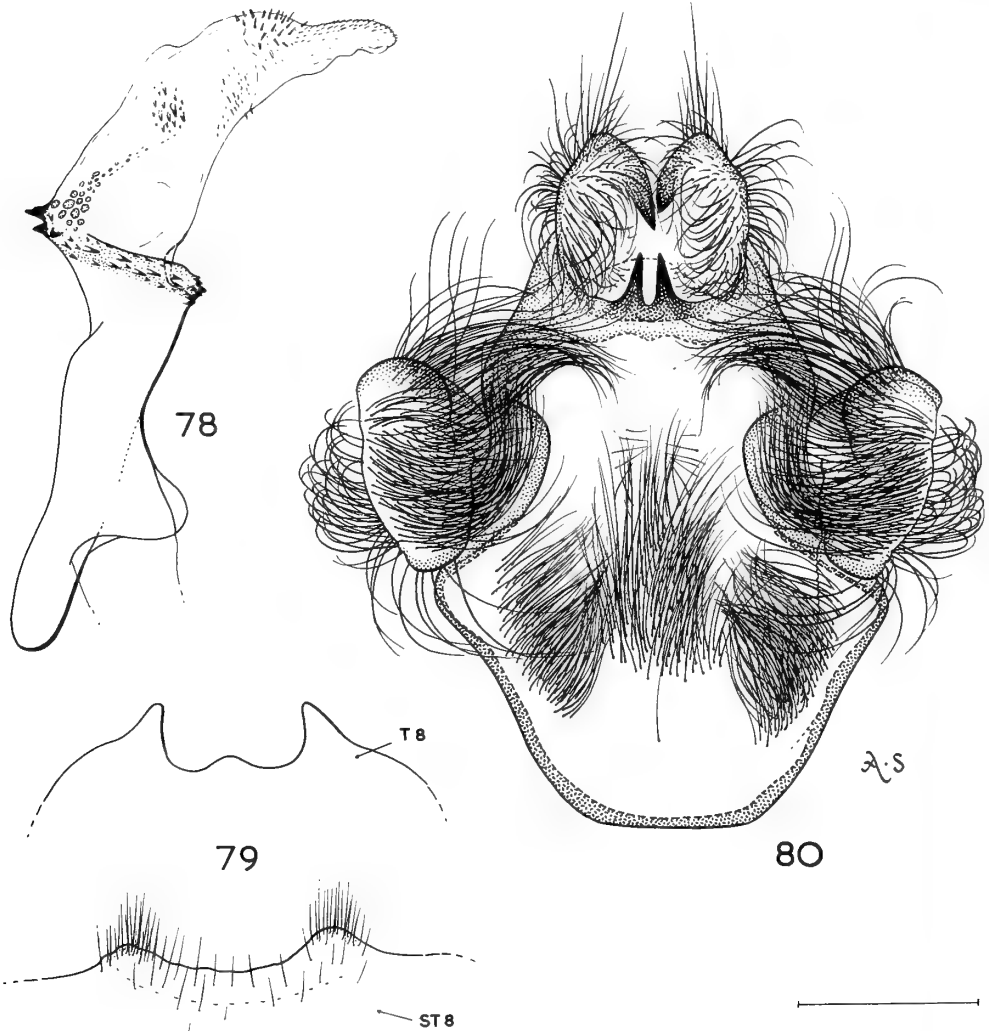
Distinguished by the male genitalia from *ramosa*, *unispinosa*, *disspinosa* and *clenchi*, all of which are apparently externally identical to *confusa*. The genitalia

most closely resemble those of *ramosa* but differ in the shape of the valves, uncus, gnathus, eighth tergite and sternite, and in the shape and ornamentation of the aedeagus.

The high degree of individual variation in coloration is mentioned in the description.

DISTRIBUTION (Map 3). GAMBIA, SIERRA LEONE, GHANA, IVORY COAST, NIGERIA and CAMEROUN.

MATERIAL EXAMINED. Types. Holotype ♂ of *confusa*, WEST AFRICA; Drepanidae genitalia slide No. 1069; lectotype ♂ of *lytaea*, (see Discussion) GHANA,



FIGS. 78-80, *Negeva disspinosa*, ♂ genitalia. 78, aedeagus; 79, posterior margin of eighth abdominal tergite and sternite; 80, ♂.

Fantee (*Shelley*) ; Drepanidae genitalia slide No. 1074. Both types in the British Museum (Natural History).

Paralectotypes of *lytaea*. *British Museum (Natural History)*. GAMBIA : 1 ♂ (*Moloney*). NIGERIA : 1 ♂, Lagos (*Moloney*).

Other material. *British Museum (Natural History)*. SIERRA LEONE : 1 ♂ (*Thompson*). IVORY COAST : 1 ♂ Bingerville, 15-28.ix.1915 (*Mélou*). NIGERIA : 1 ♂ ; 1 ♂, Lagos, vi.1955 (*Boorman*). CAMEROUN : 1 ♂, Bitje, Ja River, x (*Bates*). *Carnegie Museum, Pittsburgh*. SIERRA LEONE : 1 ♂, 10.viii.1895 (*Clements*).

Negera disspinosa sp. n.

(Text-figs. 78-80 ; Pl. 5, fig. 290 ; Map 3)

DESCRIPTION. ♂ (Plate 5, fig. 290). Colour of head appendages, thorax and wings as for *confusa*. Coloration of wings similar to *confusa* ; colour-pattern subject to individual variation (see below). Outer surface of prothoracic tarsus brown or brownish buff, outer surface of rest of leg brownish orange, orange or pale orange (holotype) ; remainder of leg pale buff. Colour of mid and hind legs doubtful.

♂ GENITALIA (Text-figs. 78-80) : valve concave medially, densely setose, without acuminate processes ; diaphragma weakly sclerotized, setose anteromedially ; uncus asymmetric, gnathus with acuminate medial processes, not produced anteriorly into diaphragma ; aedeagus distinctively ornamented apically, vesica with three patches of spines ; eighth sternum as in Text-fig. 79 ; eighth tergum with short medial process and pair of larger rounded processes.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 19. Wing : ♂. 21.5, 20.5-22.5 mm. (4).

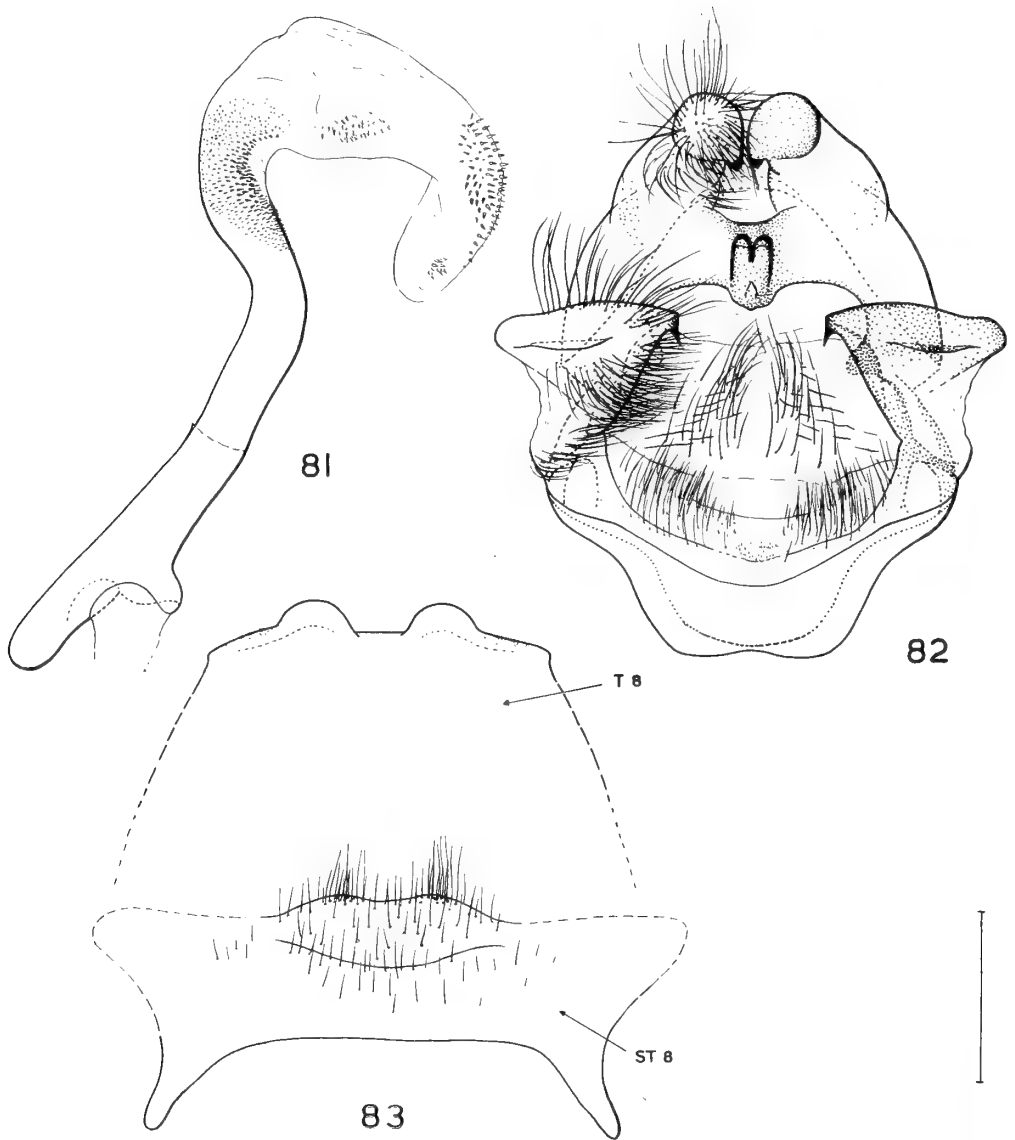
DISCUSSION. This species, though externally indistinguishable from *confusa*, *clenchi*, *ramosa* and *unispinosa* is readily distinguished by the male genitalia. The shape of the valve and aedeagus is particularly diagnostic. The species *clenchi* is probably the closest relative of *disspinosa*.

The extent of individual variation in the coloration of the upper surface of the wings is similar to that in *confusa*. In the holotype and the paratype from Gabon the large spot close to the cell between Cu_{1b} and 1A is black and there is a scattering of silvery white scales along the outer margin of both wings. The paratype from Ilesha has numerous black markings between the medial fasciae on the fore wing (Plate 5, fig. 290). The remaining paratype (from Kumasi) has no black maculations on the fore wing.

DISTRIBUTION (Map 3). GHANA, NIGERIA and GABON. A male from CAMEROUN and another from the CONGO probably also represent this species. The Congo male may prove to belong to a new subspecies of *disspinosa* when more material is available for comparison. The taxonomic position of the Cameroun specimen however, is doubtful : the genitalia, which may be aberrant, differ from those of the holotype in the more elongate medial processes of the gnathus and the absence of the small medial process at the posterior margin of the eighth abdominal sternum.

MATERIAL EXAMINED. Type. Holotype ♂, NIGERIA, Old Calabar ; Drepanidae genitalia slide No. 1076 ; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. GHANA : 1 ♂, Coomassie [Kumasi] (*Whiteside*). NIGERIA : 1 ♂, Ilesha (*Humfrey*). GABON : 1 ♂, Tchibanga (*Rougeot*).



FIGS. 81-83, *Negeva clenchi*, ♂ genitalia. 81, aedeagus ; 82, ♂ ; 83, eighth abdominal segment (sternite and posterior margin of tergite).

Negera clenchi sp. n.

(Text-figs. 81-83 ; Map 3)

DESCRIPTION. ♂. Outer surface of palp dark greyish brown, inner surface reddish buff ; front of head pale reddish buff ventrally, greyish brown dorsally ; vertex greyish brown between base of antennae, pale buff posteriorly ; head with dark brown fringe posterior and ventral to eyes ; antennae very pale buff.

Dorsal surface of thorax pale buff, palest anteriorly ; ventral surface very pale buff. Outer surface of fore trochanter pale scarlet, outer surface of rest of fore leg pale brown and scarlet ; outer surface of mid and hind legs pale scarlet ; inner surface of all legs very pale buff.

Shape of fore wing as in Plate 5, fig. 290 of *disspinosa*. Colour-pattern of both surfaces of fore and hind wings as *confusa*. Upper surface of fore wing buff (palest at base of wing and at outer margin distal to Cu_{1a}) with lustrous, pinkish medial area ; large black spot near base of wing between Cu_{1b} and $1A$; black discocellular spot and apical marking, and black speckling at anal angle. Upper surface of hind wing mainly pinkish buff speckled distally with dark brown and black but reddish brown at outer angle ; speckled with white scales distally between M_2 and Cu_{1b} . Under surface of fore wing orange-scarlet, with buff costa ; speckled with dark grey, most strongly at anal angle ; postmedial fascia dark grey ; discocellular spot black. Ground-colour of under surface of hind wing similar to fore wing, but slightly greyish except at outer margin ; lightly speckled with dark grey at anterior margin, and paler grey over rest of wing ; discocellular spot black.

♂ GENITALIA (Text-figs. 81-83) : valve with single, ventrally directed, medial spine ; gnathus with pair of short blunt, medial teeth ; gnathus not produced anteriorly into diaphragma ; apex of aedeagus spinose on one side, vesica with two patches of spines ; eighth tergite with two rounded posterior processes.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 15. Wing : ♂. 23 mm. (1).

DISCUSSION. It seems probable from the evidence provided by the male genitalia that *clenchi* is most closely related to *disspinosa*. Externally *clenchi* is probably indistinguishable from *disspinosa*, *confusa*, *ramosa* and *unispinosa* but the male genitalia (in particular the valve, gnathus, uncus, aedeagus) readily separate these five species.

The male genitalia of *clenchi* are, I believe, sufficiently diagnostic to permit rapid identification and to justify description of this species from a single specimen.

DISTRIBUTION (Map 3). Known only from the type locality in CAMEROUN.

MATERIAL EXAMINED. Type. Holotype ♂, CAMEROUN, Efulen, 30.viii.1921 (*Weber*) ; Drepanidae genitalia slide No. 1535 ; in the Carnegie Museum, Pittsburgh.

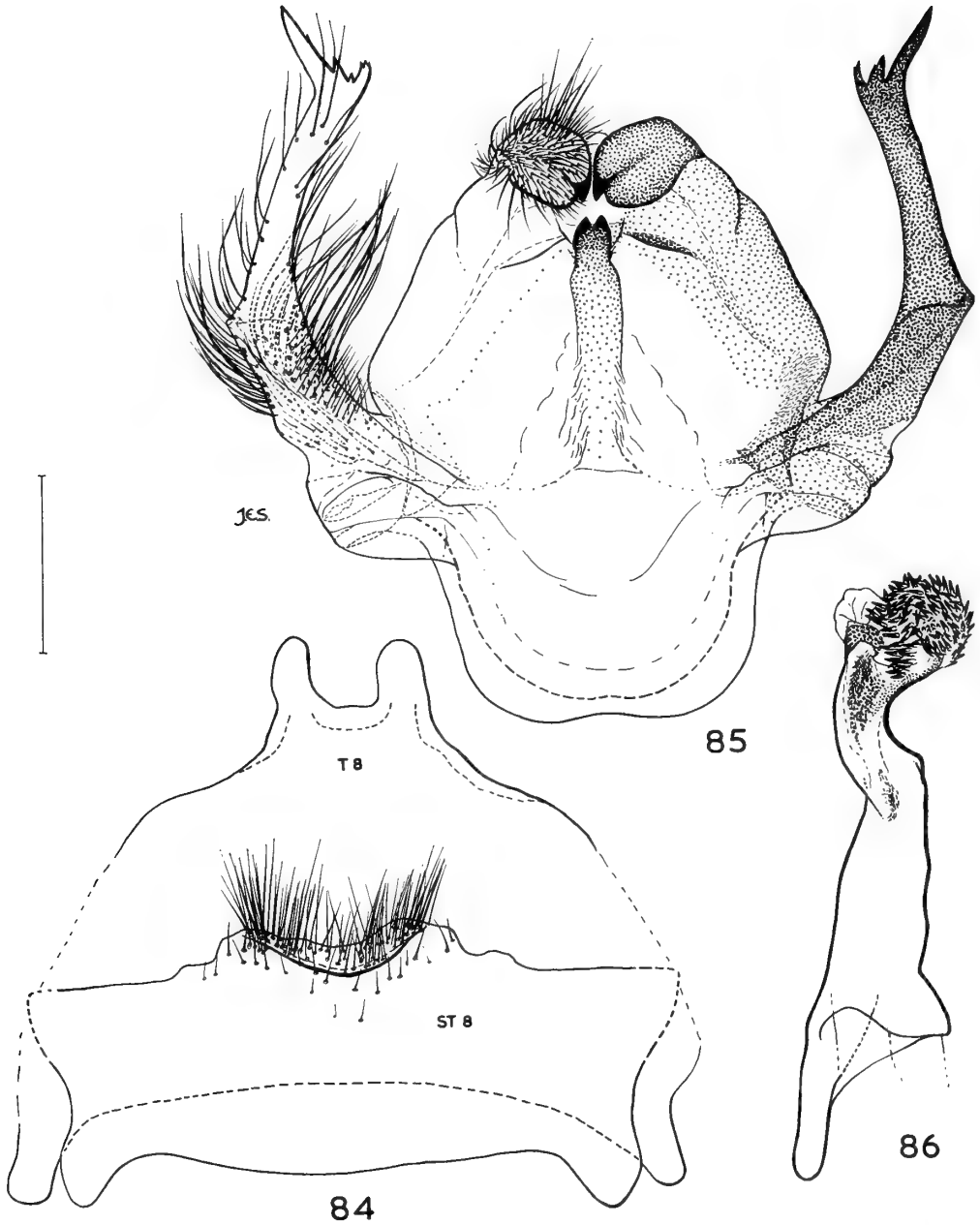
Negera ramosa sp. n.

(Text-figs. 84-86 ; Map 3)

DESCRIPTION. ♂. Palp very dark brown. Front of head brown, vertex buff ; narrow band lateral and ventral to eyes very dark brown. Upper surface of antennal shaft very pale buff.

Thorax and fore legs as for *confusa*. Mid and hind legs very pale buff but each tarsal segment greyish brown distally.

Shape and colour-pattern of wings as for *confusa*. Base of upper surface of fore wings buff ; area between medial fasciae pinkish buff, with paler central area ; area between postmedial fascia and outer margin buff anteriorly, reddish brown posteriorly at outer margin, with darker



FIGS. 84-86, *Negera ramosa*, ♂ genitalia. 84, eighth abdominal tergite and sternite ; 85, ♂ ; 86, aedeagus.

brown area mid-way between tornus and posterior end of postmedial fascia. The large spot posterior to the cell between Cu_{1b} and $1A$ on the upper surface of the fore wing is a pale reddish brown in the holotype but black in the paratype. Upper surface of hind wing pinkish buff except for broad, dark, yellowish brown band from outer angle to M_4 . Under surface pale brownish orange; markings as described for *confusa*.

♂ GENITALIA (Text-figs. 84-86): valve multispinose apically; posterior processes of gnathus short; gnathus produced anteriorly into diaphragma. Aedeagus twisted apically; vesica with three groups of spines, those of basal group stout and conspicuous. Posterior processes of eighth tergum elongate (Text-fig. 84). Eighth sternum as in Text-fig. 84.

♀. Not known (but see Distribution).

MEASUREMENTS. A.P.R.: ♂. 14. Wing: ♂. 24.5, 23.5-26.0 mm. (2.)

DISCUSSION. Externally similar to *confusa*, *clenchi*, *disspinosa* and *unispinosa*. The genitalia are most like those of *confusa* but differ in the shape of the valves, uncus, gnathus, eighth tergum and sternum, and in the shape and ornamentation of the aedeagus.

DISTRIBUTION (Map 3). N. E. CONGO and UGANDA. A single female from Kawanda (Uganda) in the Coryndon Museum, Nairobi, may prove to be conspecific with the holotype when further material becomes available. A second female from Kafakumba (Congo) in the Musée Royal de l'Afrique centrale, Tervuren, possibly also belongs to this species.

MATERIAL EXAMINED. Type. Holotype ♂, CONGO, Uele, Paulis, 29.ix.1956 (*Fontaine*); Drepanidae genitalia slide No. 1079; in the Musée Royal de l'Afrique centrale, Tervuren.

Paratype. *Coryndon Museum, Nairobi*. UGANDA: 1 ♂, Ankole, Kalinzu Forest, xi.1961 (*Carcasson*).

Negera unispinosa sp. n.

(Text-fig. 87-90; Pl. 6, fig. 293; Map 3)

DESCRIPTION. ♂. Head as for *confusa*, but ventral half of vertex pinkish buff. Palps and antennae similar to *confusa*.

Thorax and fore leg as for *confusa*. Mid and hind legs uniformly pale pinkish buff.

Shape and colour-pattern of wings as for *confusa*. Costa of upper surface of fore wing pale pinkish brown; apical costal marking brown, edged distally with white, remaining two costal markings pink; area between medial fascia pale yellowish brown enclosing large paler area at end of cell; area distal to postmedial fascia pale yellowish brown, darkest at tornus, speckled with black at anal margin between postmedial fascia and tornus. Upper surface of hind wing very pale buff proximal to antemedial fascia, pinkish buff between antemedial and medial fasciae; pale yellowish brown distal to medial fascia but darker yellow-brown between outer angle and M_3 . Under surface of fore wing pale pinkish buff; discocellular spot black; oblique postmedial fascia as in *confusa*; faintly marked, grey interneural spots between M_2 and anal margin; outer margin yellow-orange between M_3 and Cu_{1a} , reddish brown from Cu_{1a} to near anal margin. Under surface of hind wing paler than fore wing, very lightly maculate distally with darker tone; costa speckled with black; black discocellular spot present.

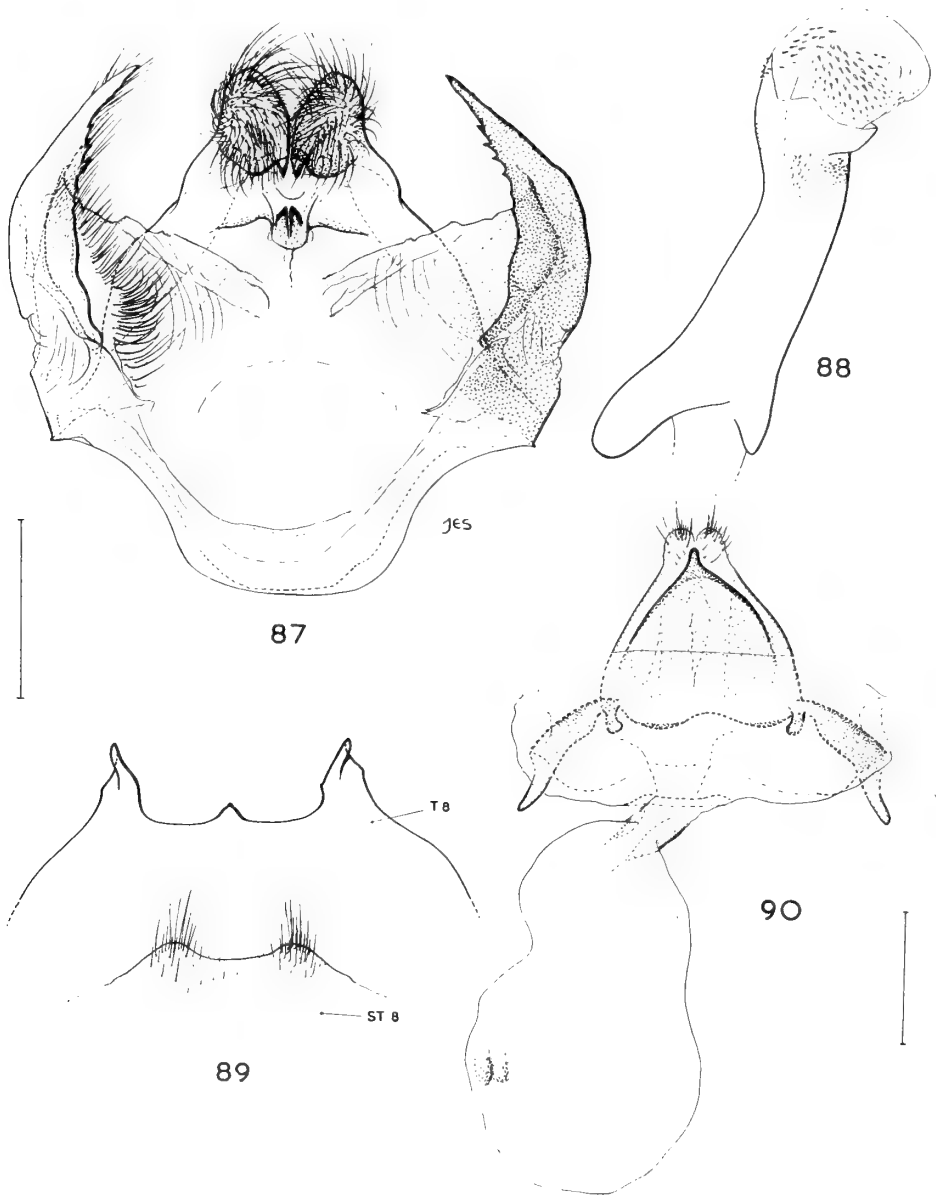
♂ GENITALIA (Text-figs. 87-89): valve broad, tapered, acuminate, toothed on one side, inner surface concave; gnathus with short medial teeth; uncus bilaterally symmetrical; vesica of aedeagus spinose.

♀ (Plate 6, fig. 293). Similar to male but fore wing with more strongly convex margin and with falcate apex.

♀ GENITALIA (Text-fig. 90) : dorsal surface of ninth tergum heavily sclerotized, with single small digitate posterior process medially.

MEASUREMENTS. A.P.R. : ♂. 21 ; ♀. 8. Wing : ♂. 21.5 mm. (1) ; ♀. 24.5 mm. (1).

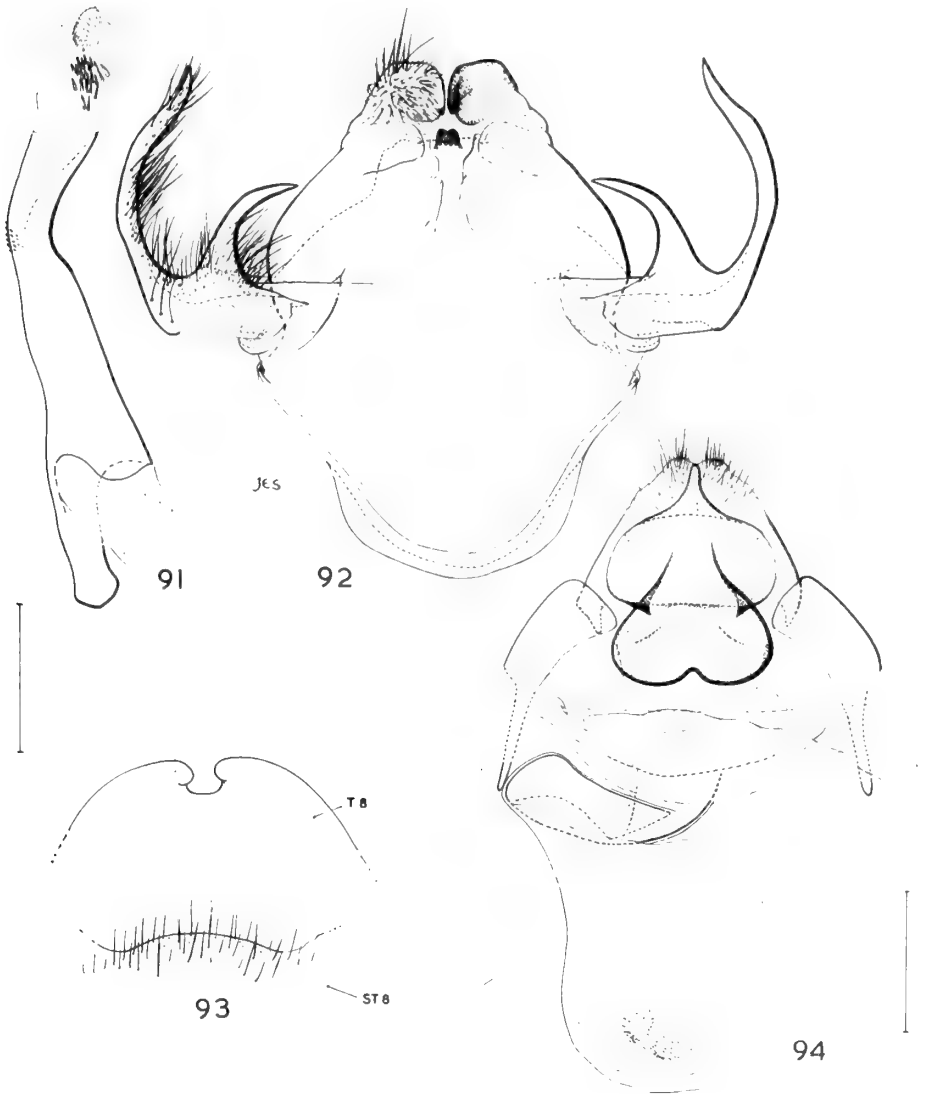
DISCUSSION. Distinguished by the genitalia from *ramosa*, *clenchi*, *confusa* and *disspinosa*, each of which is nearly identical externally to *unispinosa*.



FIGS. 87-90, *Negera unispinosa*, genitalia. 87, ♂ ; 88, aedeagus ; 89, posterior margin of ♂ eighth abdominal tergite and sternite ; 90, ♀ (dorsal view).

MATERIAL EXAMINED. Type. Holotype ♂, NYASALAND, Mlanje, 16.v.1913 (Neave) ; Drepanidae genitalia slide No. 1070 ; in the British Museum (Natural History).

Paratype. *British Museum (Natural History)*. NYASALAND : 1 ♀, Mlanje, 14.v.1913 (Neave).



FIGS. 91-94, *Negeva quadricornis*, genitalia. 91, aedeagus ; 92, ♂ ; 93, posterior margin of ♂ eighth abdominal tergite and sternite ; 94, ♀ (dorsal view).

Negera quadricornis sp. n.

(Text-figs. 74, 91-94 ; Pl. 5, figs. 287-289 ; Map 3)

DESCRIPTION. ♂. Head and appendages as for *confusa*. Thorax and fore leg as for *confusa*. Mid and hind legs mainly very pale buff ; pinkish at distal end of tibia ; each tarsal segment slightly darker distally on outer surface. Outer margin of fore wing moderately convex (Text-fig. 74), more strongly convex in most specimens than in *confusa*. Pattern and coloration of upper surface of fore wing of holotype as for holotype of *confusa* except for more conspicuous white subterminal dashes on both wings. Under surface of holotype pale, pinkish brown, with discocellular spot absent from fore wing ; coloration and markings of remaining paratypes as for *confusa*.

♂ GENITALIA (Text-figs. 91-93) : valve strongly bifurcate ; gnathus produced for short distance into diaphragma medially, teeth short and blunt ; aedeagus with spinose patch apically, vesica with three patches of spines ; posterior margin of eighth tergum emarginate medially, eighth sternum as in Text-fig. 93.

♀ (Plate 5, fig. 287). Similar to male, but outer margin of fore wing more strongly convex and apex strongly produced and falcate.

♀ GENITALIA (Text-fig. 94) : dorsal part of ninth segment curiously shaped, with cordate anterior evagination and digitate posterior process ; eighth segment also well developed ; posterior part of ductus bursae sclerotized.

MEASUREMENTS. A.P.R. : ♂. 16 ; ♀. (no complete antenna). Wing : ♂. 22.5, 20.5-24.0 mm. (9) ; ♀. 23.0 (1).

DISCUSSION. This species is externally similar to *ramosa*, *confusa*, *unispinosa*, *clenchi*, and *disspinosa*, but most male specimens can be distinguished by the more strongly convex outer margin of the fore wing. In the male genitalia the shape of the valves and posterior margin of the eighth tergum together with the shape and ornamentation of the aedeagus provide distinctive and reliable diagnostic characters.

As in most species of *Negera* this species exhibits striking variation in the coloration of the upper surface of the wings. The ground-colour may be pale reddish, yellowish or greyish brown, usually lightly speckled with black or dark brown, but more heavily speckled with black in three paratypes (2 ♂, type locality, and 1 ♂, Congo, Kivu ; see Plate 5, fig. 289) in which much of the area between the medial fascia of the fore wing is replaced by black. One male from Cameroun has a large black spot as the fore wing posterior to the cell between Cu_{1b} and 1A : in the holotype and remaining paratypes this spot is very faintly marked (Plate 5, fig. 288).

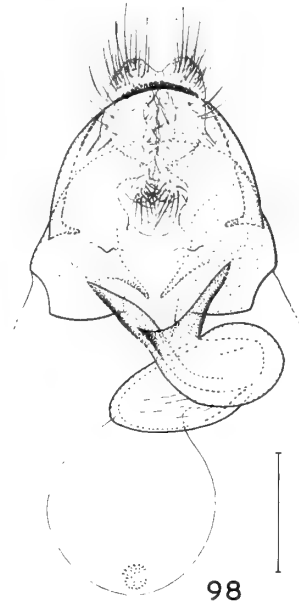
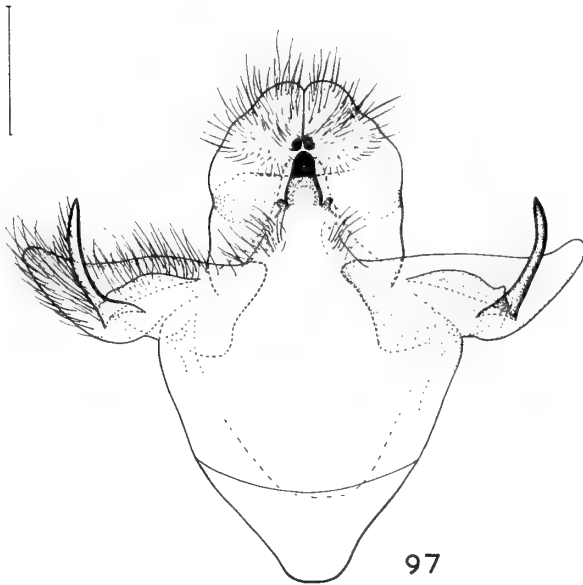
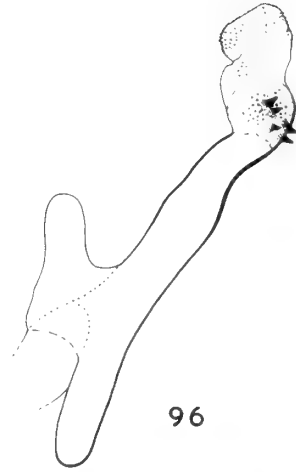
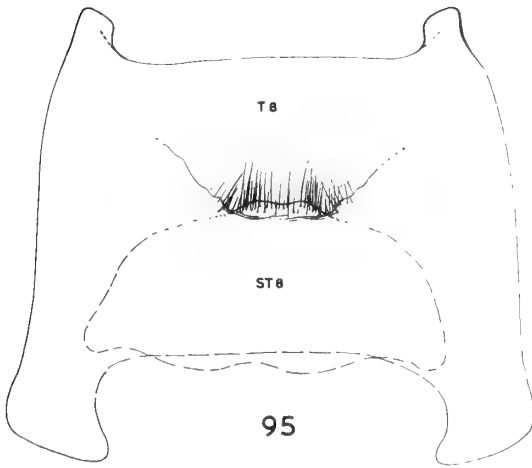
The single female, listed below, which I have identified as *quadricornis*, was collected at the same locality and on the same day as the male holotype. There is little doubt that these two specimens are conspecific.

DISTRIBUTION (Map 3). Known from UGANDA, CONGO, ANGOLA and CAMEROUN, in areas of either rain-forest or montane forest.

MATERIAL EXAMINED. Type. Holotype ♂, UGANDA, Mt. Elgon, x.1931, No. 166 (*Jackson*) : Drepanidae genitalia slide No. 1072 ; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. UGANDA : 2 ♂, 1 ♀, same data as type ; 1 ♂, Mt. Elgon, ix.1931 (*Jackson*). CONGO : 1 ♂, W. Kivu, Katana, 5,000-7,000 ft., iv.1924 (*Barns*). ANGOLA ; 1 ♂, Pungo Andongo (*Homeyer*). CAMEROUN : 1 ♂, Bitje, Ja River, x-xi.1913. *Musée Royal de l'Afrique centrale, Tervuren*.

CONGO : 1 ♂, Kivu, Nyamunyuye (Malungu), iv.1957 (*Hecq*) ; 1 ♂, Lusambo, Route Batempa km. 45, 17.x.1950 (*Fontaine*).



FIGS. 95-98, *Negera bimaculata*, genitalia. 95, ♂ eighth abdominal tergite and sternite ; 96, aedeagus ; 97, ♂ ; 98, ♀.

Negera bimaculata (Holland) **comb. n.**

(Text-figs. 95-98 ; Pl. 6, figs. 291, 292 ; Map 3)

Ancistrota bimaculata Holland, 1893 : 177.*Ancistrina bimaculata* (Holland) ; Gaede *in* Seitz, 1927 b : 289. [Poor fig.]*Ancistrina bimaculata* (Holland) ; Gaede 1931 : 50.*Ancistrina immaculata* Gaede, *in* Seitz, 1927 b : 289. [Inaccurate fig.] **syn. n.***Ancistrina immaculata* Gaede ; Gaede, 1931 : 50.

DESCRIPTION. ♂. Terminal segment of palp buff ; outer surface of remainder of palp scarlet, inner surface buff. Front of head scarlet, orange, or brownish scarlet ; vertex buff or brownish buff. Upper surface of antennal shaft yellow, with some scarlet scales on scape and pedicel.

Dorsal surface of thorax buff, much paler at anterior margin with some scarlet scales ; ventral surface pale buff, but scarlet or brownish scarlet immediately ventral and lateral to eyes. Front surface of whole of fore legs and tibia and tarsus of remaining legs orange-scarlet, inner surface buff. Costa of fore wing strongly convex distally ; apex weakly falcate ; outer margin straight or slightly concave (Plate 6, fig. 291) ; upper surface buff or greyish buff ; with paler, lustrous, medial area in some specimens ; tornus darker, with numerous dark brown or black striations parallel to outer margin ; numerous brown striations at right-angles to postmedial fascia between this fascia and base of wing, most conspicuous in anterior half of wing ; discocellular spot black ; postmedial fascia dull brownish red laterally, with longitudinal central lustrous band ; costal spots faintly marked except at apex ; large, reddish brown spot posterior to cell between Cu_{1b} and $1A$ in some specimens ; trace of pale, subterminal, neural spots. Ground-colour of upper surface of hind wing buff or greyish buff, darkest between medial fascia and weakly marked sub-basal fascia ; speckled with brown distal to medial fascia, most strongly at outer angle ; wing lustrous in broad band distal to medial fascia in some specimens ; discocellular spot black ; colour of medial fascia as for postmedial of fore wing ; trace of pale, subterminal, neural dashes in some specimens. Under surface of fore wing scarlet-orange along costa and posterior to cell, intermediate area orange, all lightly speckled with red or brown ; discocellular spot black ; weakly marked postmedial fascia scarlet-orange or greyish scarlet. Under surface of hind wing scarlet-orange along costa, anal margin and at anal angle, lightly speckled with scarlet or reddish brown ; discocellular spot black ; fasciae absent.

Colour of dorsal surface of abdomen doubtful, but probably as for upper surface of ground-colour of wings ; reddish brown along medial line of one specimen from Gabon. Ventral surface buff, with scarlet posterior margin to each segment.

♂ GENITALIA (Text-figs. 95-97) : valve with short central process and long, acuminate, anterior process ; medial part of gnathus undivided ; uncus weakly bifurcate ; aedeagus with curious, flat process at base on side opposite caecum penis ; apex of aedeagus with group of stout spines ; vesica scobinate ; posterior processes of eighth tergum widely separated ; eighth sternum as in figure.

♀ (Plate 6, fig. 292). Similar to male but with following differences : apex of fore wing strongly falcate ; outer margin and postmedial fascia of fore wing strongly convex ; colour of upper surface darker—reddish or greyish brown ; subterminal markings more clearly marked ; (tornus and most of medial area on fore wing and whole of area distal to medial fascia conspicuously lustrous in one example from Liberia) ; ground-colour of under surface of fore wing scarlet-orange except for yellow costal streak near apex and narrow, marginal, yellow area between M_2 and Cu_{1a} ; ground-colour of under surface of hind wing scarlet orange, but yellow in cell and along outer margin between R_s and Cu_{1a} , and pale grey between Cu_{1a} and anal angle.

♀ GENITALIA (Text-fig. 98) : bursa copulatrix with simple signum ; ductus bursae sclerotized and sharply bent posteriorly ; ninth segment hood-like dorsally.

MEASUREMENTS. A.P.R. : ♂. 17 ; ♀. 10. Wing : ♂. 25.0, 23.0-26.5 mm. (8) ; ♀. 27.0, 24.5-29.5 mm. (5).

DISCUSSION. The males of this species can be separated from the rest of the genus by the straight outer margin of the fore wing and the proximity to it of the post-

medial fascia of the upper surface of the wing, and from all species except *natalensis* by the presence of dark striations at right-angles to the postmedial fascia on the fore wing. The shape of the valve, tegumen, saccus, uncus and gnathus, the presence of a flattened process at the base of the aedeagus, and the widely separated posterior processes of the eighth tergum characterize the male genitalia and distinguish *bimaculata* from each of the remaining species of *Negeera*.

Apart from *bimaculata* the females of only *natalensis*, *unispinosa* and *quadricornis* are known. It is therefore difficult to assess the diagnostic value of the specific characters of the female of *bimaculata* though it seems probable that the strongly convex outer margin and postmedial fascia of the fore wing will prove to distinguish it from *ramosa*, *disspinosa*, *clenchi* and *confusa* as well as from the species mentioned above whose females are known.

The variation in the intensity of coloration of the large spot on the fore wing posterior to the cell between *Cu*_{1b} and 1A misled Gaede (1927) into describing *immaculata* (holotype with spot hardly visible), a junior synonym of *bimaculata* (holotype with conspicuous spot). There is also considerable variation in the ground-colour of the wings (see description).

The genus *Ancistrota* Hübner, in which *bimaculata* was first placed, is a genus of Syssphingidae.

DISTRIBUTION (Map 3). Known from the rain-forest regions of LIBERIA, IVORY COAST, GHANA, CAMEROUN and GABON. There is a female from Paulis (north-east CONGO), in the collection of the Musée Royal de l'Afrique centrale, Tervuren, which belongs to this species but may prove to represent a new subspecies when male specimens become available for comparison. A single male from Boukoko (CENTRAL AFRICAN REPUBLIC) in the Institut d'Enseignement et de Recherches tropicales, Bondy, which almost certainly represents a new subspecies of *bimaculata* may be consubspecific with the female from Paulis.

MATERIAL EXAMINED. Types. Holotype ♂ of *bimaculata* Holland, "Ogové" [Ogowe River, CAMEROUN], "C. M. Ent. type series 200"; in the Carnegie Museum, Pittsburgh; (examined for me by Dr. Clench). Holotype ♂ of *immaculata* Gaede, Ogowe [CAMEROUN]; in the Zoologisches Museum, Berlin.

Other material. *British Museum (Natural History)*. LIBERIA: 1 ♀, Kitoma (7° 19' N, 8° 47' W), 1,600 ft., 29.viii.1953 (*Peters*). GHANA: 1 ♂, W. Provinces, Aiyinasie, vi.1925 (*Hyatt*). CAMEROUN: 2 ♂, 4 ♀, Bitje, Ja River, 2,000 ft., x, xi.1915 (*Bates* and others). GABON: 2 ♂, Tchibanga (*Rougeot*).

***Negeera natalensis* (Felder) comb. n.**

(Text-figs. 99–108; Pl. 6, fig. 294; Map 3)

Ctenogyna natalensis Felder, 1874: 3, pl. 85, fig. 4.

Ctenogyne [sic] *natalensis* Felder; Gaede, 1931: 50.

DESCRIPTION. ♂, ♀. Dorsal surface of palpi brown or brownish scarlet, ventral surface yellow or buff. Front of head pale orange, vertex yellow or buff; posterior margin of head with dark reddish brown fringe laterally and ventrally. Antenna buff.

Dorsal surface of thorax pale buff or pale greyish buff, palest anteriorly. Ventral surface pale yellow.

Shape of wings as in Plate 6, fig. 294 ; hind wing produced at M_3 . Ground-colour of upper surface of both wings buff (holotype), reddish buff, greyish buff or purplish buff with brown maculations and transverse striations. Upper surface of fore wing with antemedial fascia, edged distally by large brown maculations ; small dark discocellular spot ; large brown maculation distal to end of cell ; grey, lunulate postmedial fascia, edged distally with white posteriorly ; pale buff, lunulate subterminal fascia, weakly marked anteriorly, bordered distally and proximally by broad brown band at tornus. Antemedial fascia of hind wing weakly marked ; dark discocellular spot larger than on fore wing ; postmedial fascia slightly sinuous, strongly marked, dark brown edged distally with white ; subterminal fascia dentate, pale buff or white edged proximally with broad pale brown band. Under surface of fore wing yellow with pale purplish brown area at apex, at tornus and along distal margin of dark brown, straight postmedial fascia ; lightly transversely striate in most specimens (including holotype) ; cell-spot as for upper surface ; trace of whitish subterminal fascia at tornus. Under surface of hind wing pale pinkish buff (holotype) or pale reddish buff ; striations as for fore wing ; cell-spot larger than on fore wing ; postmedial fascia faintly marked, brown or grey (holotype) ; trace of orange or pale reddish brown subterminal fascia.

♂ GENITALIA : valve with one, two or three strongly sclerotized pre-apical processes ; lateral arms of gnathus massive ; vesica of aedeagus without cornuti ; posterior margin of both eighth tergite and sternite concave or emarginate medially.

♀ GENITALIA : post-ostial segment strongly modified and sclerotized dorsally.

MEASUREMENTS. A.P.R. : ♂. 23 ; ♀. 17.

DISCUSSION. The angulate hind wing and the distinctive colour-pattern at once separate *natalensis* from the rest of the genus. The male genitalia are equally diagnostic.

The name *carnea* Saalmüller, listed by Gaede (1931 : 50) as a junior synonym of *natalensis*, has been recalled from synonymy and the species transferred to *Epicampoptera* Bryk. Also recalled from synonymy is *geometroides* Holland which is now applied to a newly recognized subspecies of *natalensis*. *C. lytaea* Druce placed by Gaede (1927 b : 288) in the synonymy of *natalensis* is in fact synonymous with *Negera confusa* Walker.

There is some individual variation in the wing coloration but this is less evident than in most species of *Negera*.

DISTRIBUTION (Map 3). This species has a particularly wide distribution. The nominate subspecies is known chiefly from the coastal forest-savanna of NATAL and CAPE PROVINCE. The subspecies *geometroides* ranges across the CONGO BASIN, and is known from the forest-savanna of UGANDA, the montane vegetation of Arusha, TANGANYIKA, and at least the northern part of NORTHERN RHODESIA. The third subspecies, *parviluma*, occurs in the rain-forests of WEST AFRICA but is also known from the mangroves of SENEGAL and from one Gambian specimen (without further locality data). A female from FERNANDO PO, in the collection of the British Museum (Natural History), probably also represents the species *natalensis*, but additional material is needed before this can be confirmed.

Negera natalensis natalensis (Felder)

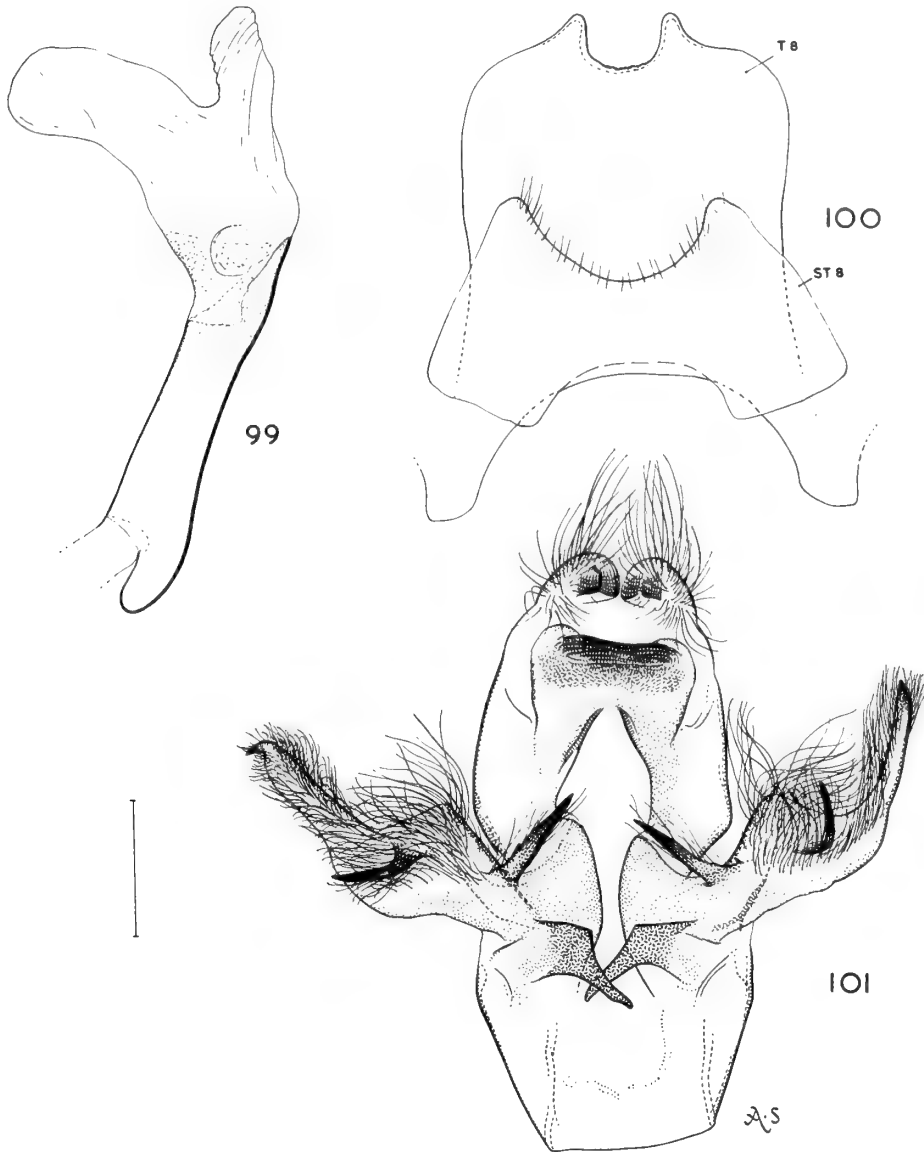
(Text-figs. 99-102 ; Map 3)

DIAGNOSIS. Separable from the other two subspecies apparently only by the genitalia (Text-figs. 99-102). In the male the three sclerotized valve processes are distinctive. The post-

eriorly slender, bifurcate, eighth tergite in the female distinguishes it from *geometroides* and *parviluma*.

MEASUREMENTS. Wing : ♂. 21.0, 18.5-24.5 mm. (19) ; ♀. 23.5, 20.0-27.5 mm. (27).

DISTRIBUTION (Map 3). Known with certainty from the coastal forest-savanna of NATAL and CAPE PROVINCE. A single male from SOUTHERN RHODESIA (Vumba Mountains), in the Collection of the National Museum of Southern Rhodesia, may

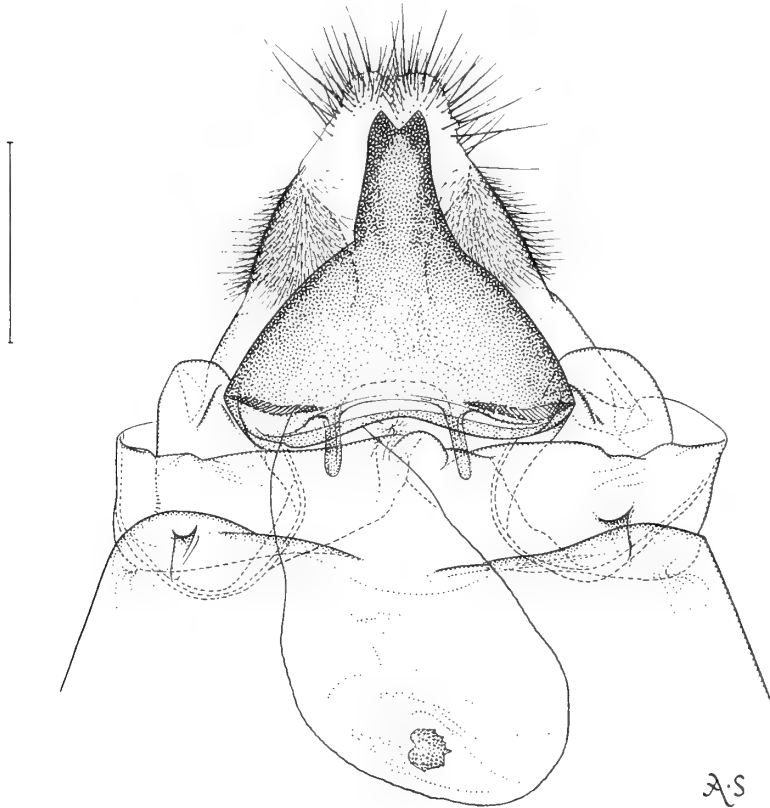


FIGS. 99-101, *Negera natalensis natalensis*, ♂ genitalia. 99, aedeagus ; 100, eighth abdominal tergite and sternite ; 101, ♂.

prove to belong to this subspecies when further material is available for comparison. A female labelled "Mkubwa" (stated by Dr. L. Vari, in correspondence, to be "Bwana M'kubwa," a small town near N'dola, NORTHERN RHODESIA) belongs with little doubt to the nominate subspecies. More material from this area should show whether this is an accidental occurrence or whether the boundary between this subspecies and *geometroides* lies somewhere between Bwana M'Kubwa and Solwezi (some 150–200 miles north-west of the former).

MATERIAL EXAMINED. Type. Holotype ♀, NATAL, Durban, ii.1867; Drepanidae genitalia slide No. 1011; in the British Museum (Natural History).

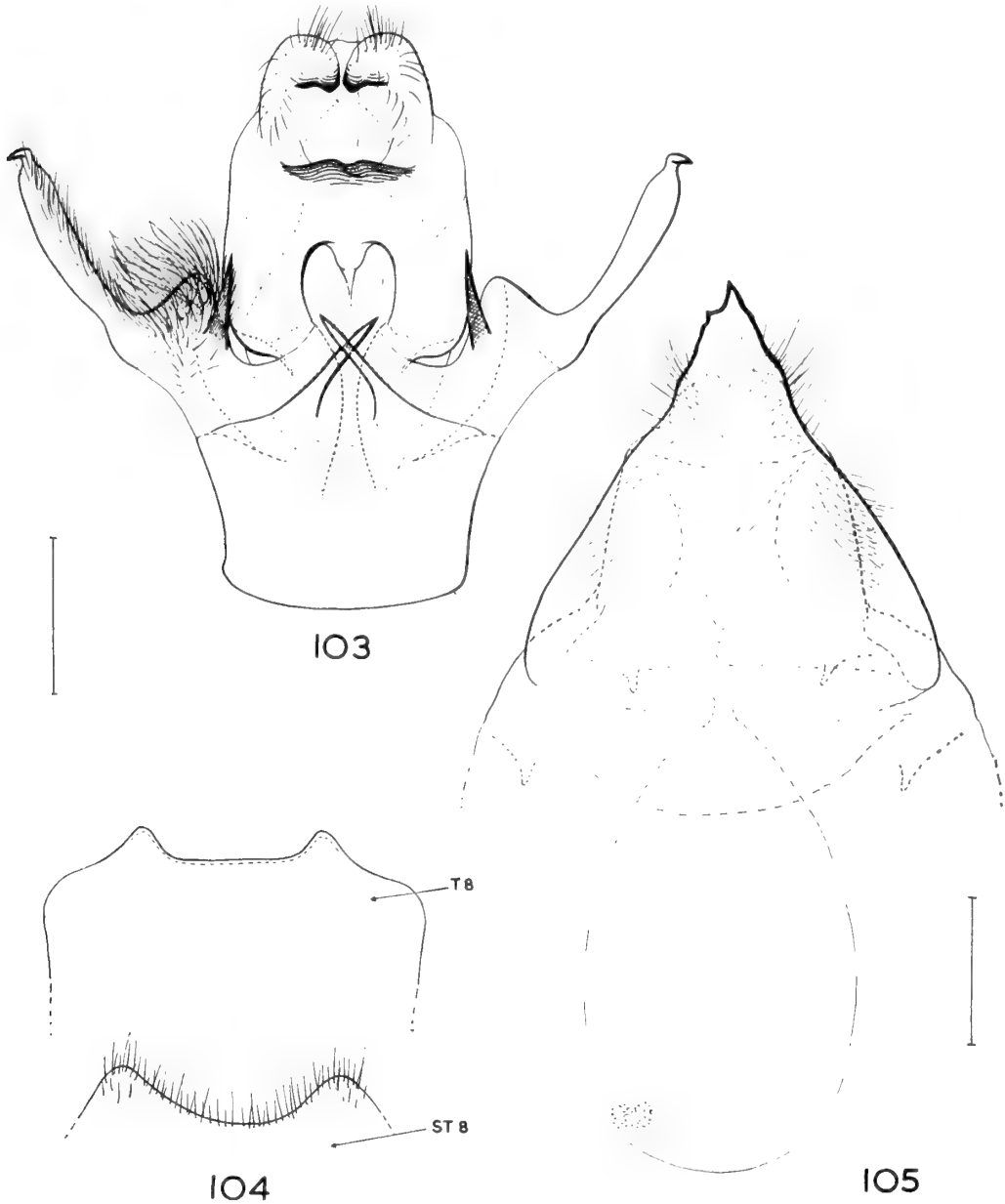
Other material. *British Museum (Natural History)*. NATAL: 1 ♂, Durban, ii.1905 (Cooke); 6 ♂, 6 ♀, Durban, 1903; 16 ♂, 16 ♀, Durban, xi.1900, viii.1901, 21.x.1908, 9.iv, vii.1909, viii–6.x.1922 (Leigh); 1 ♀, Durban, iv.1908 (Fontaine); 1 ♀, Krantzkloof, 21.i.1918 (Hargreaves); 3 ♂, Pinetown. CAPE PROVINCE: 1 ♂, Grahamstown. *Transvaal Museum, Pretoria*. NATAL: 4 ♂, 3 ♀, Durban, 1906 (Leigh), 1.i.1910 (Cooke), iv.1919; 1 ♀, Nyalazi R., ix.1910 (Bell-Marley); 1 ♂,



102

FIG. 102, *Negera natalensis natalensis*, ♀ genitalia (dorsal view).

Umlaas R., i.v.1928 (*Marley*) ; 1 ♂, Kloof, xi.1929 (*Marley*). *Durban Museum, South Africa*. NATAL : 3 ♂, Durban, i.1904 (*Marley*), 4.x.1916 (*Platt*), 23.iv.1935 (*Winfield*) ; 1 ♂, Stanger, ii.1958 (*Schulz*).



FIGS. 103-105, *Negera natalensis geometroides*, genitalia. 103, ♂ ; 104, posterior margin of ♂ eighth abdominal tergite and sternite ; 105, ♀ (dorsal view).

***Negera natalensis geometroides* (Holland) ssp. rev., comb. n.**

(Text-figs. 103–105 ; Map 3)

Ancistrota geometroides Holland, 1893 : 177.

DIAGNOSIS. Distinguished from *parviluma* and the nominate subspecies by the genitalia (Text-figs. 103–105). The two heavily sclerotized processes of each valve characterize the male, and the irregularly shaped apex of the eighth tergite (subject to individual variation in dentation) serves to distinguish the female.

MEASUREMENTS. Wing : ♂. 23.5, 21.5–27.0 mm. (11) ; ♀. 26.5, 27.0–29.0 mm. (11).

DISCUSSION. Gaede (1927 b : 289) was the first to synonymize *geometroides* and *natalensis*. However, a comparison of the genitalia of specimens from the type locality of *geometroides* (the holotype lacks an abdomen) and the holotype of *natalensis* has shown that they are subspecifically distinct.

DISTRIBUTION (Map 3). Known from the rain-forest areas of CAMEROUN, CONGO, and CENTRAL AFRICAN REPUBLIC, but also from the forest-savanna of UGANDA and the myombo woodlands of NORTHERN RHODESIA (Solwezi). The subspecies is also represented in TANGANYIKA, at Arusha at the foot of Mt. Meru.

Type. Holotype (sex not known), CAMEROUN, Ogové [Ogowe River] ; Carnegie Museum type series 199 ; Carnegie Museum Neg. No. 206 M–9 ; in the Carnegie Museum, Pittsburgh. (Type without abdomen.) The holotype has not been seen, but a photograph of the holotype has been seen.

MATERIAL EXAMINED. *British Museum (Natural History)*. N. RHODESIA : 4 ♂, 4 ♀, Solwezi, vii.1917 (*Dollman*). UGANDA : 1 ♀, Port Alice [=Entebbe], 3.ii.1897 (*Ansorge*). TANGANYIKA : 2 ♀, Arusha district (*Moore*). CONGO : 1 ♀, Kassai, Kapulumbo (*Landoek*) ; 2 ♂, Elisabethville, 24.v.1950, 23–31.vii.1957 (*Seydel*). CENTRAL AFRICAN REPUBLIC : 1 ♂, Bangui (*le Moult*). CAMEROUN : 3 ♂, 3 ♀, Ja River, Bitje, 2,000 ft., vi, Dry Season, ix–xi, Wet Season (*Bates*). *Muséum d'Histoire naturelle, Geneva*. CONGO : 1 ♂, Mt. Katanga, Panda, éclosion 24.v.1930 (*Romieux*). *Coryndon Museum, Nairobi*. UGANDA : 1 ♂, Kawanda, 10.x.1941 (*Taylor*) ; 1 ♂, Entebbe, vi.1957 (*Carcasson*). *Institut d'Enseignement et de Recherches tropicales, Bondy*. CENTRAL AFRICAN REPUBLIC : 1 ♂, Boukoko M'Baiki, 10.ii.1950 (*Réal*). *Muséum national d'Histoire naturelle, Entomologie agricole tropicale, Paris*. CAMEROUN : 1 ♂, N'kolbisson (Yaoundi), at light, 30.ix.1962 (*Pujol*).

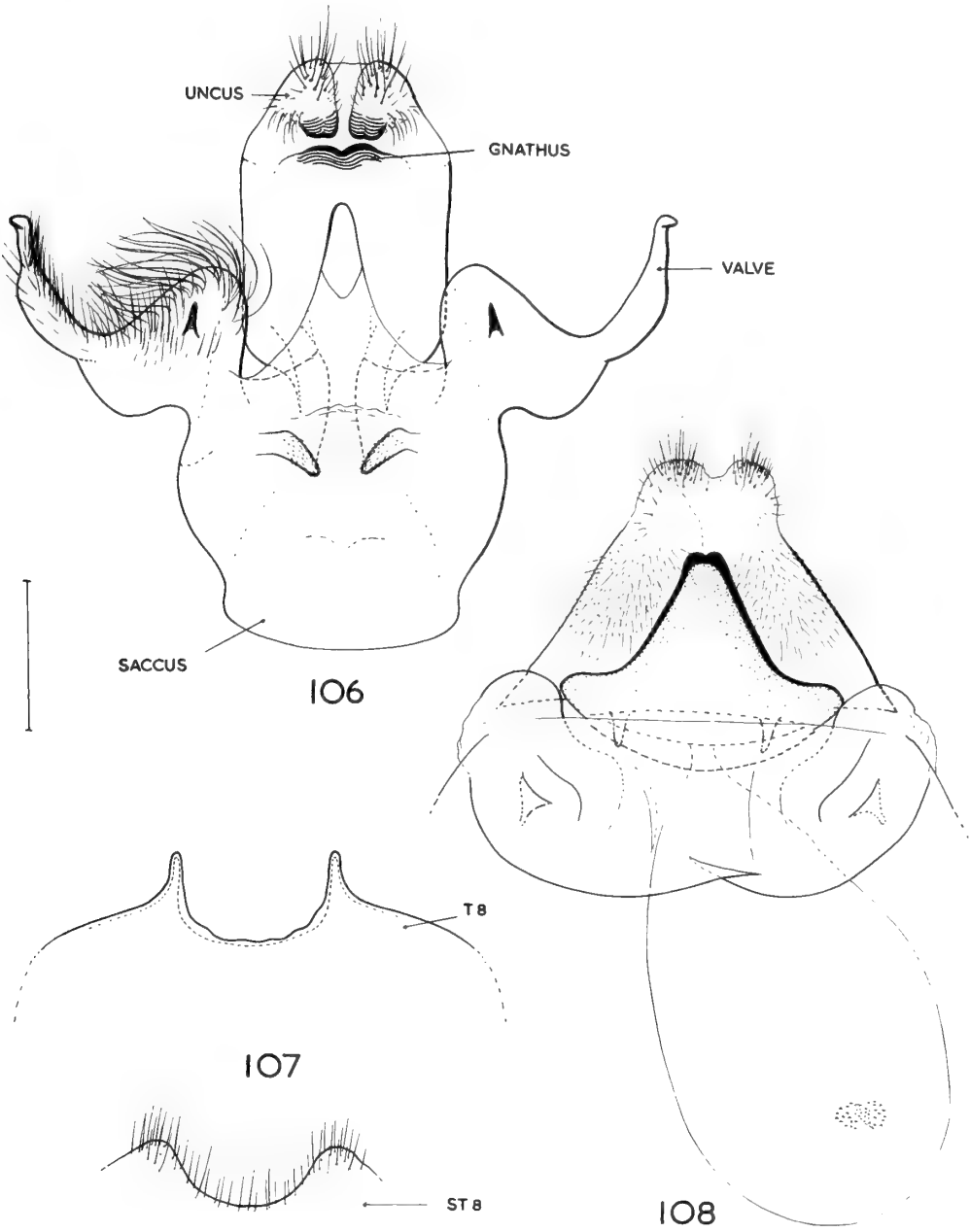
***Negera natalensis parviluma* ssp. n.**

(Text-figs. 106–108 ; Map 3)

DIAGNOSIS. There are apparently no significant external differences between *parviluma* and the previous two subspecies. In the male genitalia (Text-figs. 106, 107) there is a weakly sclerotized process at the base of the valve, and a short, heavily sclerotized spine at the middle of the ventral surface of each valve. The posterior processes of the eighth tergite are longer than in either of the remaining subspecies. The eighth tergite of the female abdomen (Text-fig. 108) is bifurcate, as in the nominate subspecies, but differs in being more evenly tapered posteriorly.

MEASUREMENTS. Wing : ♂. 24.5, 24.0–25.0 mm. (5) ; ♀. 27.5, 26.0–29.5 mm. (6).

DISTRIBUTION (Map 3). Known from the rain-forest areas of IVORY COAST, GHANA and NIGERIA, and from the mangroves of SENEGAL. The specimen recorded



FIGS. 106-108, *Negera natalensis parviluma* genitalia. 106, ♂; 107, posterior margin of ♂ eighth abdominal tergite and sternite; 108, ♀ (dorsal view).

below from GAMBIA bears no further details concerning locality. A female from FERNANDO PO, in the collection of the British Museum (Natural History), probably represents this subspecies, but more material is needed to confirm this.

MATERIAL EXAMINED. Type. Holotype ♂, S. NIGERIA, Oshogbo (*Hiscock*); Drepanidae genitalia slide No. 1096; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. NIGERIA: 2 ♀, Lagos; 1 ♂ [no further data]; 1 ♂, 1 ♀, Old Calabar; 1 ♀, Oruga. GHANA: 1 ♂ near Anamabu, 30.iii.1940, reared from larva on *Pavetta* sp. (*Box*). IVORY COAST: 1 ♀, [no further data]; 1 ♀, Bingerville, 1915 (*Mélou*). SENEGAL: 1 ♂, Casamance (*Lagraize*). GAMBIA: 1 ♀, (*Moloney*). *Muséum national d'Histoire naturelle, Entomologie agricole tropicale, Paris*. IVORY COAST: 1 ♂, 2 ♀, Bingerville, on *Trichalysia* and *Pavetta* (Rubiaceae), 6-27.x.1956 (*Daguatiguy*). *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST: 1 ♀, Adiopodoumé, 13.xi.1953 (*Réal*).

GONORETA Warren, 1902

(Text-figs. 109-148; Pls. 7, 8, figs. 295-304; Map 4)

Gonoreta Warren, 1902: 488. Type-species, by monotypy, *Gonoreta ansorgei* Warren, 1902.

Gonoreta Warren; Gaede, *in* Seitz, 1927 b: 290.

Gonoreta Warren; Gaede, 1931: 41.

Lomadontophana Bryk, 1913: 8. Type-species, by original designation, *Lomadontophana subtilis* Bryk, 1913. **syn. n.**

Lomadontophana Bryk; Gaede, *in* Seitz, 1927 b: 290.

Lomadontophana Bryk; Gaede, 1931: 51.

DESCRIPTION. ♂, ♀. Proboscis vestigial; palp minute, not extending as far as labrum; labrum smooth, not globose; antenna unilamellate from base to tip.

Meso- and metathoracic legs with one pair of very short apical spurs. Outer margin of fore wing produced at Cu_{1a} or immediately anterior to this vein. Outer margin of hind wing entire; anal margin straight or slightly convex proximally. Venation of fore wing as in Text-fig. 109. $Sc + R_1$ in the hind wing approximated to R_s for short distance distal to end of cell. Upper surface of both wings greyish, reddish or yellowish brown; both wings usually speckled or striate with darker brown. Fore wings usually with dark medial shade; double subterminal fascia, dentate and sometimes edged with greyish white distally, most strongly marked posteriorly; discocellular spot and less distinct posterior cell-spot brown or greyish white. Hind wing sometimes with dark medial shade; cell-spots as on fore wing, but invariably greyish white. Under surface of both wings red, orange or yellow, speckled or striate with a darker colour, usually paler at apical part of costa on fore wing and proximally on hind wing; only marking is a blackish postmedial fascia on fore wing, with trace of same fascia on anterior part of hind wing. (See Plates 7 and 8.)

Colour of abdomen as for corresponding adjacent surface of hind wing.

♂ **GENITALIA** (see labelled text-fig. 110). Diaphragma with ovoid, sclerotized, medial plate. Gnathus well developed. Uncus bifurcate; lateral lobe present. Valve pouch-like, sclerotized proximally, membranous distally. Aedeagus without cornutus; with lateral process in some species. Eighth sternum strongly sclerotized; one or more acuminate posterior processes on either side; usually asymmetric.

♀ **GENITALIA** as in text-figures. Signum absent in *opacifinis* sp. n. and *bispina* sp. n.

TAXONOMIC HISTORY. The genus *Gonoreta* was erected in 1902 by Warren for a new species *ansorgei*, (Warren, 1902). Bryk (1913) subsequently described a new genus *Lomadontophana*, without reference to *Gonoreta*. Bryk included two new

species in his genus, *subtilis* and *differenciata*, and selected the former as the type-species. Comparison of the holotypes and topotypical material of the type-species of *Gonoreta* and *Lomadontophana* has shown that they are congeneric and that *Lomadontophana* is a junior synonym of *Gonoreta*. Warren (1923 : 447) added *subrosea* to *Gonoreta*. Gaede, in Seitz, (1927 b : 290) listed under *Lomadontophana* the two originally included species and added *Oreta contracta* Warren and *Oreta gonioptera* Hampson, and under *Gonoreta* listed only *ansorgei* Warren. In his catalogue Gaede (1931 : 41 and 51) followed his previous revision in Seitz (1927 b : 290) but included *subrosea* Warren under *Gonoreta*.

There has been some confusion concerning the location in the literature of the original description of *G. subrosea* Warren. Gaede (1931 : 41) cites as the reference "Novit. zool 9 : 488 (1902)" which is the same wrong reference as that given by Warren (1923 : 490). It is in fact in this latter work (Warren 1923 : 477) that I believe the first reference and description occur, even though Warren heads the description "*subrosea* Warr." instead of *subrosea* sp. n. The reason for this confusion appears to be that Warren believed that he had already described *subrosea* in 1902 (Novit. zool. 9 : 488), whereas he had in fact described here as new the superficially similar *G. ansorgei*. There seems to be little doubt that the original description of *subrosea* is Warren's description in Seitz (1927 b : 477). Examination of the type of *subrosea* has shown that this species must be removed from *Gonoreta*. It is close to *Oreta fulgens* Warren, another Borneo species, and can be placed in the same genus until a revision of *Oreta* Walker is undertaken: *Oreta subrosea* (Warren) **comb. nov.**

In the following pages one species name is relegated to synonymy and six new species are added to the genus *Gonoreta*. A new subspecies is also described. Ten species are now included in this genus.

DISCUSSION. This genus is probably most closely related to the endemic Madagascan genus *Gonoretodes*, from which it can be separated by the lamellate (not pectinate) antennae, the genitalia, and by the fact that $Sc + R_1$ approximates to R_s for a short distance distal to end of the cell and does not anastomose with R_s as in *Gonoretodes*. The shape of the wings distinguishes *Gonoreta* and *Gonoretodes* from the remaining Ethiopian genera of Drepanidae.

The colour-pattern of the wings, antennal pectination ratio and the lack of a signum in the female genitalia separate *opacifinis* and *bispina* from the rest of the genus, though it can not be divided into species-groups until females of *albiapex*, *cymba*, *angulosa* and *gonioptera* have been examined.

In those species where a large enough series was available, considerable, individual variation in the coloration of the wings was evident.

Only *subtilis* is known to be polytypic.

DISTRIBUTION. Three species of *Gonoreta* have extensive ranges. For example, *subtilis* is known from the IVORY COAST and SIERRA LEONE as subspecies *reali*, and as the nominate subspecies from much of the CONGO BASIN, the rain-forests of the Usumbara Mountains in eastern TANGANYIKA and the Malaba Forest of KENYA. The most extensive distribution is that of *opacifinis* which not only extends across

much of humid central Africa, from SIERRA LEONE to UGANDA, but also occurs in the thick woodland of the Vumba Mountains of SOUTHERN RHODESIA. The species *cymba* is also widespread, occurring in forested regions of NIGERIA and UGANDA and probably in much of the intervening territory. One species, *bispina*, is endemic to MADAGASCAR. Apart from *subtilis* and *opacifinis*, the species of *Gonoreta* are at present poorly represented in national collections.

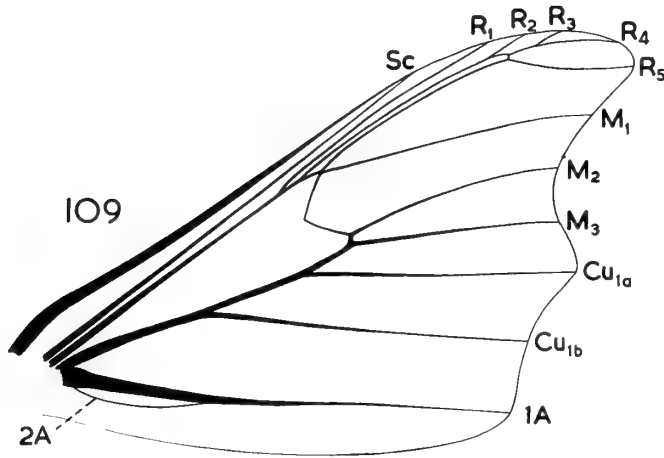


FIG. 109, *Gonoreta opacifinis*, ♂ fore wing venation.

KEY TO SPECIES

MALES

- | | | |
|---|---|------------------------------|
| 1 | Outer margin of hind wing sharply angled at vein Cu_{1a} (Plate 8, fig. 299) ; aedeagus with hooked, thorn-like process at apex (Text-fig. 139) | <i>angulosa</i> (p. 86) |
| - | Hind wing not sharply angled at vein Cu_{1a} ; aedeagus not as in Text-fig. 139 | 2 |
| 2 | Eighth sternum strongly asymmetric ; valve with short, flattened seta posterodistally (Text-figs. 110, 111, 114, 115) | <i>subtilis</i> (p. 73) |
| - | Eighth sternum only slightly asymmetric ; valve without flattened seta | 3 |
| 3 | Aedeagus strongly arcuate apically (Text-figs. 122, 137) | 4 |
| - | Aedeagus not strongly arcuate apically (e.g. Text-figs. 121, 130) | 5 |
| 4 | Posterior processes of eighth sternum multispinous (Text-fig. 121) | <i>gonioptera</i> (p. 77) |
| - | Each process of eighth sternum forcipulate (Text-fig. 136) | <i>forcipulata</i> (p. 85) |
| 5 | Posterior processes of eighth sternum antler-like, multispinous ; aedeagus with short, apical spine (Text-figs. 142, 143) | <i>opacifinis</i> (p. 87) |
| - | Eighth sternal processes not multispinous ; aedeagus without apical spine | 6 |
| 6 | Posterior processes of eighth sternum long, arcuate, each twice as long as distance between bases of the two processes | 7 |
| - | Length of eighth sternal processes equal to, or less than, distance between bases of processes | 8 |
| 7 | Genitalia as in Text-figs. 128, 129 | <i>contracta</i> (p. 79) |
| - | Genitalia as in Text-figs. 118-120 | <i>albiapex</i> (p. 75) |
| 8 | Eighth sternum possessing two pairs of posterior processes (Text-fig. 125) | <i>differenciata</i> (p. 79) |

- Eighth sternum with one pair of posterior processes 9
- 9 Processes of eighth sternum strongly arcuate ; aedeagus with lateral bulge, without apical spine (Text-figs. 132, 133) *cymba* (p. 82)
- Processes of eighth sternum nearly straight ; aedeagus without lateral bulge but with short apical spine (Text-figs. 146, 147) *bispina* (p. 89)

***Gonoreta subtilis* (Bryk) comb. n.**

(Text-figs. 110-117 ; Pl. 7, fig. 297 ; Map 4)

Lomadontophana subtilis Bryk, 1913 : 9.

Lomadontophana subtilis Bryk ; Gaede in Seitz, 1927 b : 290.

Lomadontophana subtilis Bryk ; Gaede 1931 : 51. [Inaccurate fig.]

DIAGNOSIS. ♂, ♀. Wing markings of upper surface obscure in male (Plate 7, fig. 297), slightly more emphasized in female. Ground-colour of upper surface pale buff or pale reddish buff ; markings more reddish. Ground colour of under surface of male dull greyish scarlet except for buff costa on fore wing and buff basal half of hind wing ; trace of postmedial fascia on fore wing. Under surface of female more yellowish than male.

♂ GENITALIA with distinctive aedeagus, asymmetric eighth abdominal sternum, and conspicuous lamellate seta on posterior margin of valve. Ductus bursae of female heavily sclerotized ; ventral lip of ostium emarginate ; two-pronged signum present, as in Text-fig. 144 of *opacifinis*.

MEASUREMENTS. A.P.R. : ♂. 9 ; ♀. 7. (Wing measurements given under subspecies.)

DISCUSSION. The shape of the aedeagus and eighth abdominal sternum together with similarities in colour-pattern suggest affinities with *albiapex*, but the distinctive genitalia and small differences in the colour-pattern and in the coloration render identification of both sexes an easy matter.

Little individual variation is apparent in the material examined. The more strongly marked colour-pattern of the upper surface of the females contrasts with the obscurely marked wings of the males.

Two subspecies are known : *reali* is known only from the IVORY COAST and SIERRA LEONE while the nominate subspecies ranges from ANGOLA across the CONGO to the Usambara Mountains of TANGANYIKA. No material was available from NIGERIA where it would be reasonable to expect the species to occur.

MATERIAL EXAMINED. Type. Holotype ♂, TANGANYIKA, West Usambara (*Weise*) ; in the Zoologisches Museum, Berlin.

Other material. (See under subspecies.)

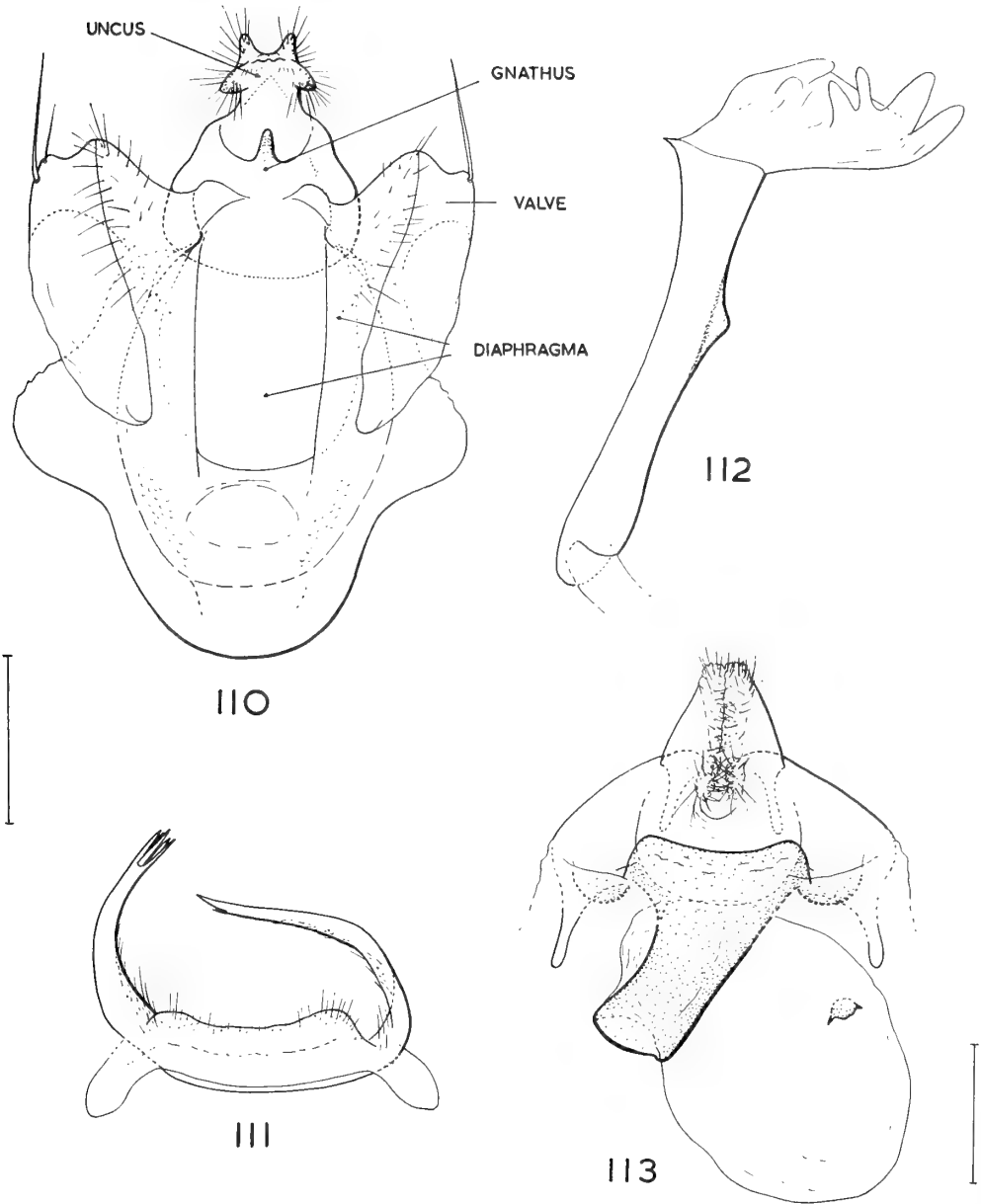
***Gonoreta subtilis subtilis* (Bryk)**

(Text-figs. 110-113 ; Map 4)

DIAGNOSIS. ♂, ♀. Separable from *reali* apparently only by the genitalia ; especially by the eighth sternum and the pointed processes of the valve of the male (Text-figs. 110-112) and by the less deeply emarginate ventral lip of the ostium in the female (Text-fig. 113).

MEASUREMENTS. Wing : ♂. 19.0, 16.5-20.5 mm. (19) ; ♀. 20.0, 18.5-22.0 mm. (6).

DISTRIBUTION (Map 4). Known from TANGANYIKA, KENYA, NYASALAND, CONGO, CAMEROUN and ANGOLA.



FIGS. 110-113, *Gonoreta subtilis subtilis*, genitalia. 110, ♂; 111, ♂ eighth abdominal sternite; 112, aedeagus; 113, ♀.

MATERIAL EXAMINED. *British Museum (Natural History)*. TANGANYIKA : 1 ♂, Usambara, Nguelo (*Rolle*) ; 3 ♂, Usambara, Amani, xii.1956 (*Verdcourt*) ; 1 ♂, Bukoba, 3.ix.1921 (*Miller*). NYASALAND : 1 ♀, Limbe, ix-x.1926 (*Barlow*). CONGO : 1 ♂, 1 ♀ Elisabethville, 24.iii.1955, 2.vi.1956 (*Seydel*). CAMEROUN : 1 ♂, xi (*Schwab*) ; 1 ♂, 1 ♀, Lolodorf, 1894-95 (*Condradt*) ; 1 ♀ (*Rutherford*). ANGOLA : 1 ♂, Amboim district, Fazenda Congulu, 7-800 m., 7-II.iv.1934 (*Jordan*). *Coryndon Museum, Nairobi*. TANGANYIKA : 4 ♂, Usambara Mts., Amani, ii.1953 (*Pinhey*). CONGO : 1 ♂, Loilo R., Ikela, iv.1959 (*Carcasson*). *National Museum S. Rhodesia*. TANGANYIKA : Usambaras, Amani, iv.1955. KENYA : 1 ♂ Malaba forest, vi.1957 (*Howard*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO : 1 ♀, Eala, viii.1936 (*Ghesquière*) ; 3 ♂, Kivu, Nyamunyunye (Mulungu), 2.xii.1955, 11, 14.i.1956 (*Hecq*) ; 4 ♂, Uele, Paulis, 1.iv.1957, 15, 19.vi.1958, 1.vii.1959 (*Fontaine*) ; 1 ♀, Kasai, Luluaburg, 5.vi.1953 (*Fontaine*).

Gonoreta subtilis reali ssp. n.

(Text-figs. 114-117 ; Map 4)

DIAGNOSIS. ♂, ♀. Characterized by the male genitalia (Text-figs. 114-116) and female genitalia (Text-fig. 117). No external diagnostic characters have been found in the material examined.

MEASUREMENTS. Wing : ♂. 20.0, 19.5-20.5 mm. (2).

DISTRIBUTION (Map 4). Known only from the IVORY COAST and SIERRA LEONE, but may also occur in moist regions West of GHANA.

MATERIAL EXAMINED. Type. Holotype ♂, IVORY COAST, near Nimba, 25.iii.1955 (*Réal*) ; Drepanidae genitalia slide No. 1117 ; in the Institut d'Enseignement et de Recherches tropicales, Bondy.

Paratypes. *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST : 1 ♀, Adiopodoumé 19.viii.1954 (*Réal*). *British Museum (Natural History)*. IVORY COAST : 1 ♂, Adiopodoumé (*Réal*). SIERRA LEONE : 1 ♂, Freetown, Mt. Aureol, ii.1956 (*Phipps*).

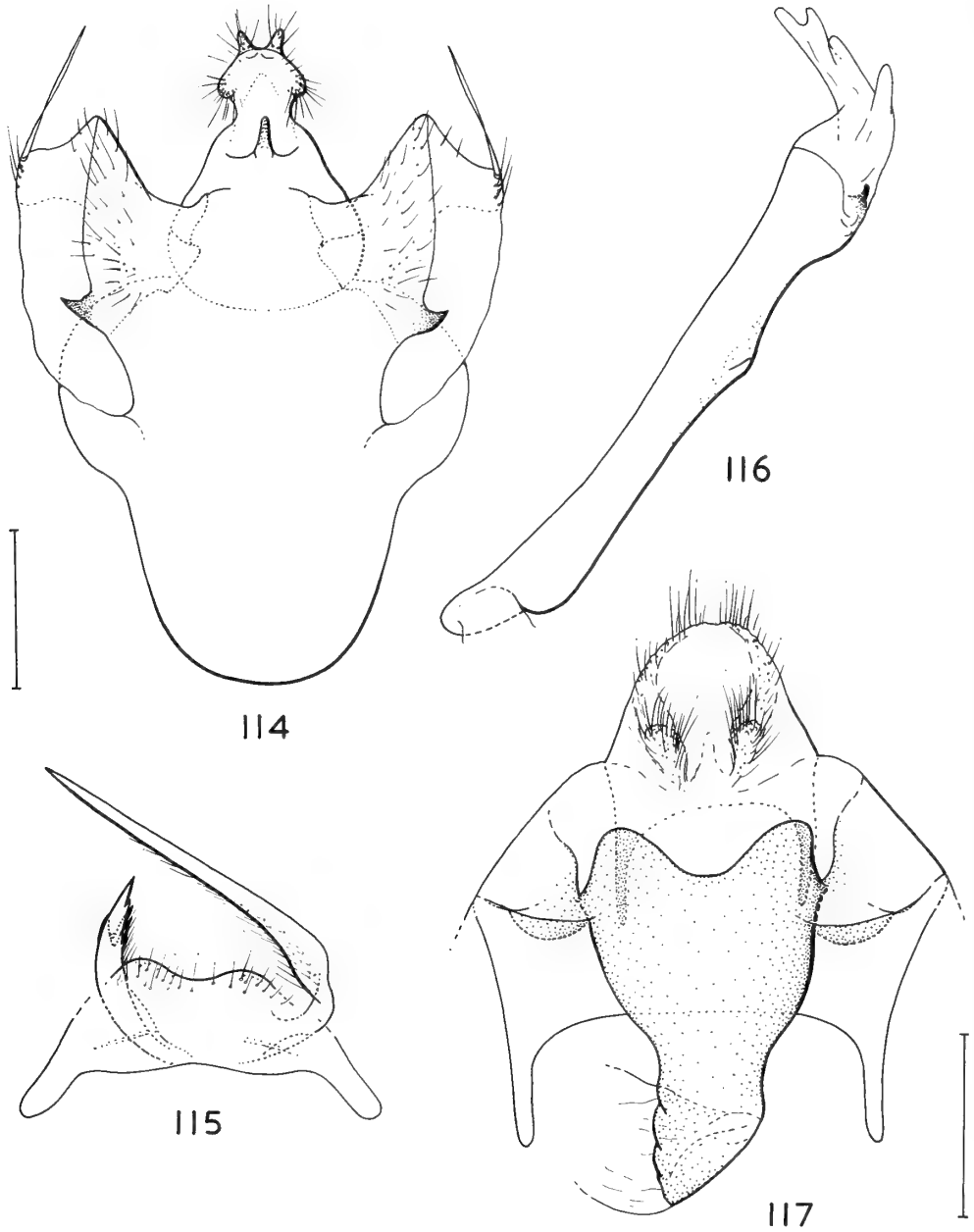
Gonoreta albiapex sp. n.

(Text-figs. 118-120 ; Pl. 8, fig. 302 ; Map 4)

DESCRIPTION. ♂. Palp greyish brown. Head greyish brown except for dark brown patch anterior to base of each antenna. Antennal shaft and dorsoposterior margin of head dull buff.

Thorax pale brownish grey dorsally, the scales white-tipped with dark band just before tip. Ventral surface of thorax dull buff except for dark brown band at sides of, and below, eyes. Front surface of fore legs proximal to tarsus and distal margin of each tarsal segment dark brown ; colour of rest of legs doubtful but probably dull buff.

Wing shape and colour-pattern as in Plate 8, fig. 302. Wing coloration similar to *gonioptera* except for well marked, white, distal edge to apical part of subterminal fascia. Ground-colour of



FIGS. 114-117, *Gonoreta subtilis reali*, genitalia. 114, ♂; 115, ♂ eighth abdominal sternite; 116, aedeagus; 117, ♀.

upper surface of both wings, slightly yellowish brown with greyish brown markings. Under surface of both wings dull pinkish grey, speckled and striate with darker grey; oblique, dark grey, postmedial fascia on fore wing and trace at anterior margin of hind wing, bent away from apex just before costa on fore wing.

Coloration of abdomen doubtful.

♂ GENITALIA as in Text-figs. 118-120.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 9. Wing : ♂. 18.7, 18.5-19.0 mm. (2).

DISCUSSION. The phylogenetic position of this species is doubtful, although the shape of the aedeagus and eighth abdominal sternum suggest affinities with *subtilis* Bryk. The colour-pattern readily distinguishes it from *subtilis*, and from *gonioptera* which is similar to *albiapex* in coloration.

DISTRIBUTION (Map 4). Only two specimens are known: one from the CONGO and one from UGANDA. A male from the Usambara Mountains, TANGANYIKA (in the collection of the National Museum of Southern Rhodesia), which differs in minor respects in the male genitalia, will probably prove to represent a new subspecies of *albiapex* when further material becomes available for comparison.

MATERIAL EXAMINED. Type. Holotype ♂, UGANDA, Ankole, Kalinzu Forest, xi.1961 (*Carcasson*); Drepanidae genitalia slide No. 1365; in the British Museum (Natural History).

Paratype. *Musée Royal de l'Afrique centrale, Tervuren*. CONGO : 1 ♂, Ituri, Nioka, i-xi.1953 (*Hecq*).

***Gonoreta gonioptera* (Hampson) comb. n.**

(Text-figs. 121-123; Pl. 7, fig. 298; Map 4)

Oreta gonioptera Hampson, 1914 : 103.

Lomadontaphana gonioptera (Hampson); Gaede *in* Seitz, 1927 b : 290.

Lomadontaphana gonioptera (Hampson); Gaede, 1931 : 51.

DIAGNOSIS. ♂. Wing shape and colour pattern as in Plate 7, fig. 298. Ground-colour of upper surface of wings dull yellowish brown; under surface dull greyish scarlet distally, reddish buff at base, fore wings more greyish distally than hind wings. Legs scarlet on front surface, buff on rear surface, fore legs most intensely coloured. Aedeagus arcuate apically; eighth abdominal sternum with characteristic antler-like posterior processes (Text-figs. 121-123).

Similar in coloration to *albiapex* but with distinctive genitalia.

♀. Not known.

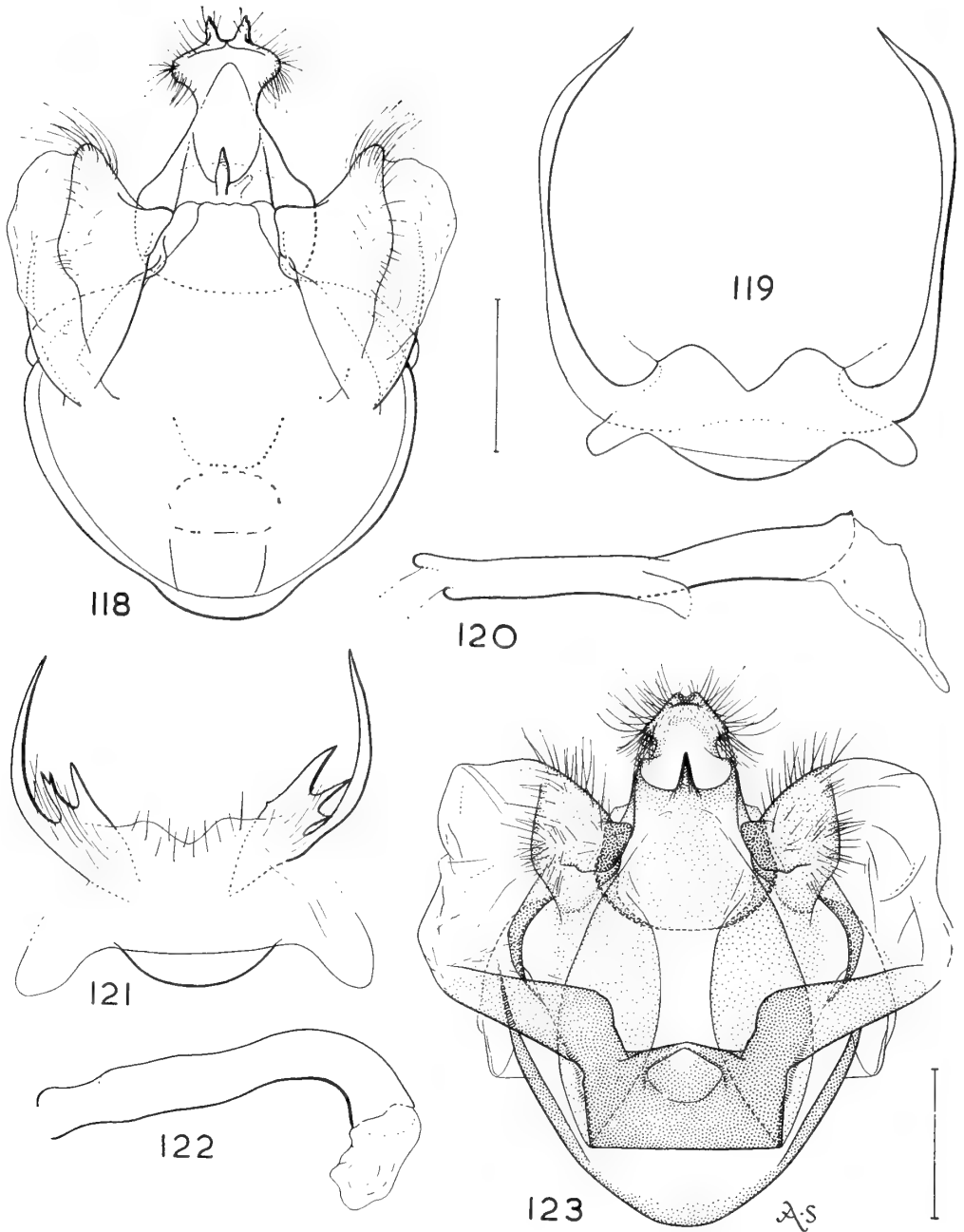
MEASUREMENTS. A.P.R. : ♂. 9. Wing : ♂. 19.5 mm. (2).

DISCUSSION. The affinities of this species are uncertain until female material can be examined.

DISTRIBUTION (Map 4). Known only from NIGERIA and CAMEROUN.

MATERIAL EXAMINED. Type. Holotype ♂ (not ♀ as stated by Hampson), S. NIGERIA, Ilesha (*Humfrey*); Drepanidae genitalia slide No. 621; in the British Museum (Natural History).

Other material. *British Museum (Natural History)*. CAMEROUN : 1 ♂, Johann-Albrechts Höhe (*Conradt*). *Naturhistoriska Riksmuseet, Stockholm*. CAMEROUN : 1 ♂.



FIGS. 118–123, *Gonoreta*, ♂ genitalia. 118–120, *albiapex*. 118, ♂; 119, eighth abdominal sternite; 120, aedeagus. 121–123, *gonioptera*. 121, eighth abdominal sternite; 122, aedeagus; 123, ♂.

***Gonoreta diferenciata* (Bryk) comb. n.**

(Text-figs. 124-127 ; Pl. 8, fig. 301 ; Map 4)

Lomadontophana diferenciata Bryk, 1913 : 10.*Lomadontophana diferenciata* Bryk ; Gaede, *in* Seitz, 1927 b : 290. (Plate reasonably good, but see below.)*Lomadontophana diferenciata* Bryk ; Gaede, 1931 : 51.

DIAGNOSIS. ♂, ♀ (see Plate 8, fig. 301). The coloured illustration in Seitz is a good guide to the external appearance of this species but is inaccurate in coloration. The male can be distinguished from the female by the more strongly produced outer-marginal tooth in the fore wing.

The shape of the eighth abdominal sternum in the male (Text-fig. 125) distinguishes this species from all the other known species of the genus. The female genitalia (Text-fig. 124) separates *diferenciata* from those species whose females are known.

MEASUREMENTS. A.P.R. : ♂. 9 ; ♀. 8. Wing : ♂. 15.5, 15.0-16.0 mm. (2) ; ♀. 16.0 mm. (1).

DISCUSSION. Similar in coloration to *forcipulata* and *contracta* but readily distinguished from them by the male and female genitalia.

DISTRIBUTION. CAMEROUN and IVORY COAST.

MATERIAL EXAMINED. Type. Holotype ♀, " KAMERUN, Namiong b. Lolodorf B. Lokundjefluss " ; Drepanidae genitalia slide No. 1242 ; in the Zoologisches Museum, Berlin.

Other material. *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST : 1 ♂, Adiopodoumé (*Réal*) ; 1 ♂, near Nimba, I.viii.1958 (*Réal*).

This species has previously been known only from the female holotype. The two males listed above, recently collected by Dr. P. Réal in the IVORY COAST, exactly match the holotype in coloration and colour-pattern and probably belong to this species, although further material from CAMEROUN must be studied before the identity of these males can be confirmed.

***Gonoreta contracta* (Warren) comb. n.**

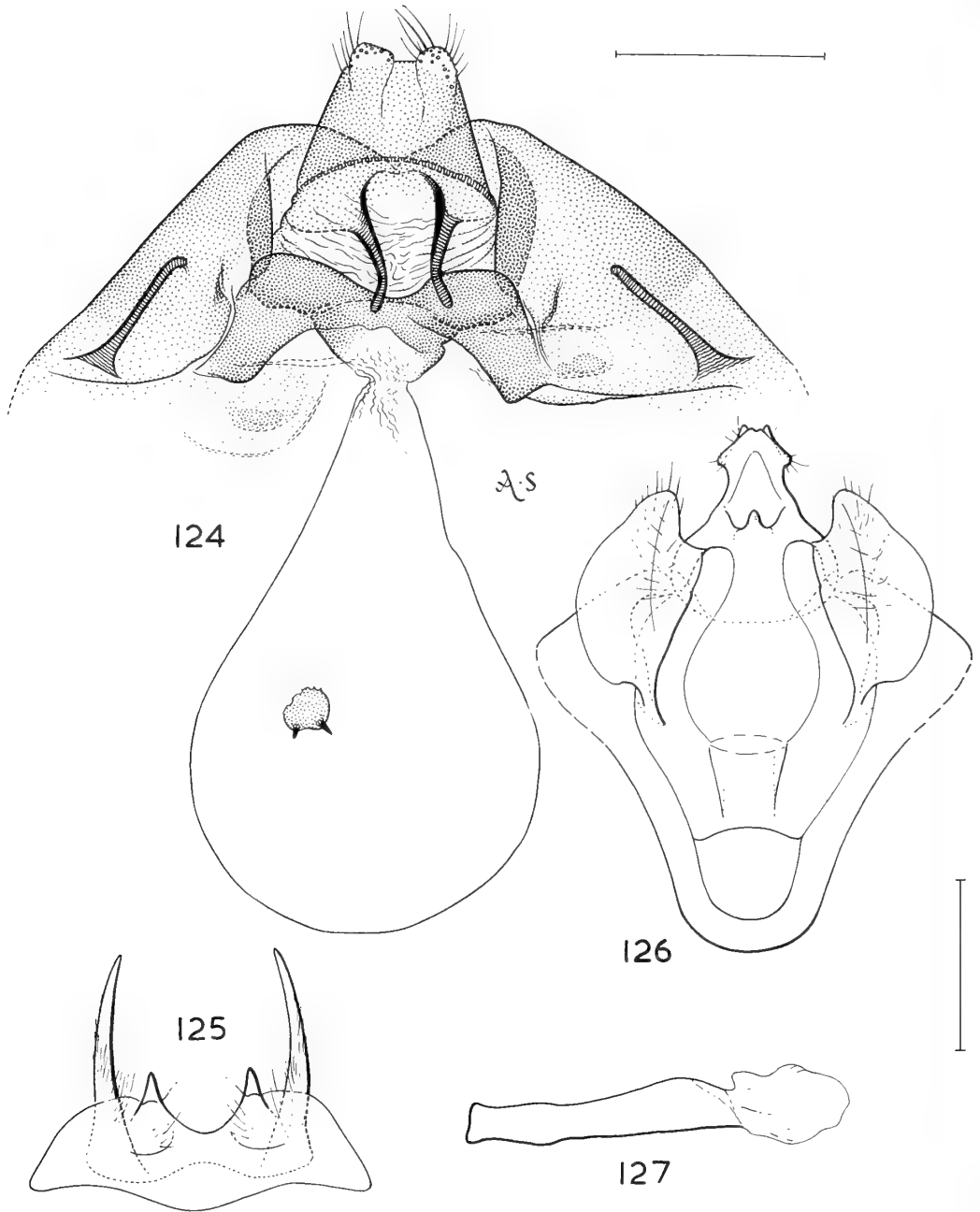
(Text-figs. 128-130 ; Pl. 8, fig. 303 ; Map 4)

Oreta contracta Warren, 1897 : 16.*Lomadontophana contracta* (Warren) ; Gaede, *in* Seitz, 1927 b : 290.*Lomadontophana contracta* (Warren) ; Gaede, 1931 : 51.*Gonoreta ansorgei* Warren, 1902 : 488. **syn. n.***Gonoreta ansorgei* Warren ; Gaede, 1931 : 41.

DIAGNOSIS. ♂. Plate 8, fig. 303 illustrates a male from Lagos, Nigeria. In some specimens (including the lectotype) the medial shade and posterior subterminal markings on the fore wing are relatively darker. The colour-pattern is very similar to that in *diferenciata* and *forcipulata*. The eighth abdominal sternum in the genitalia is distinctive (Text-fig. 129). The aedeagus is half the length of genitalia (measured from tip of uncus to saccus), slightly arcuate, unornamented.

♀. Similar to male, but the outer margin of the fore wing is less strongly produced at *Cu*_{1a}. The shape of the ostial region of the genitalia (Text-fig. 130) distinguishes this species from *diferenciata* and *forcipulata*.

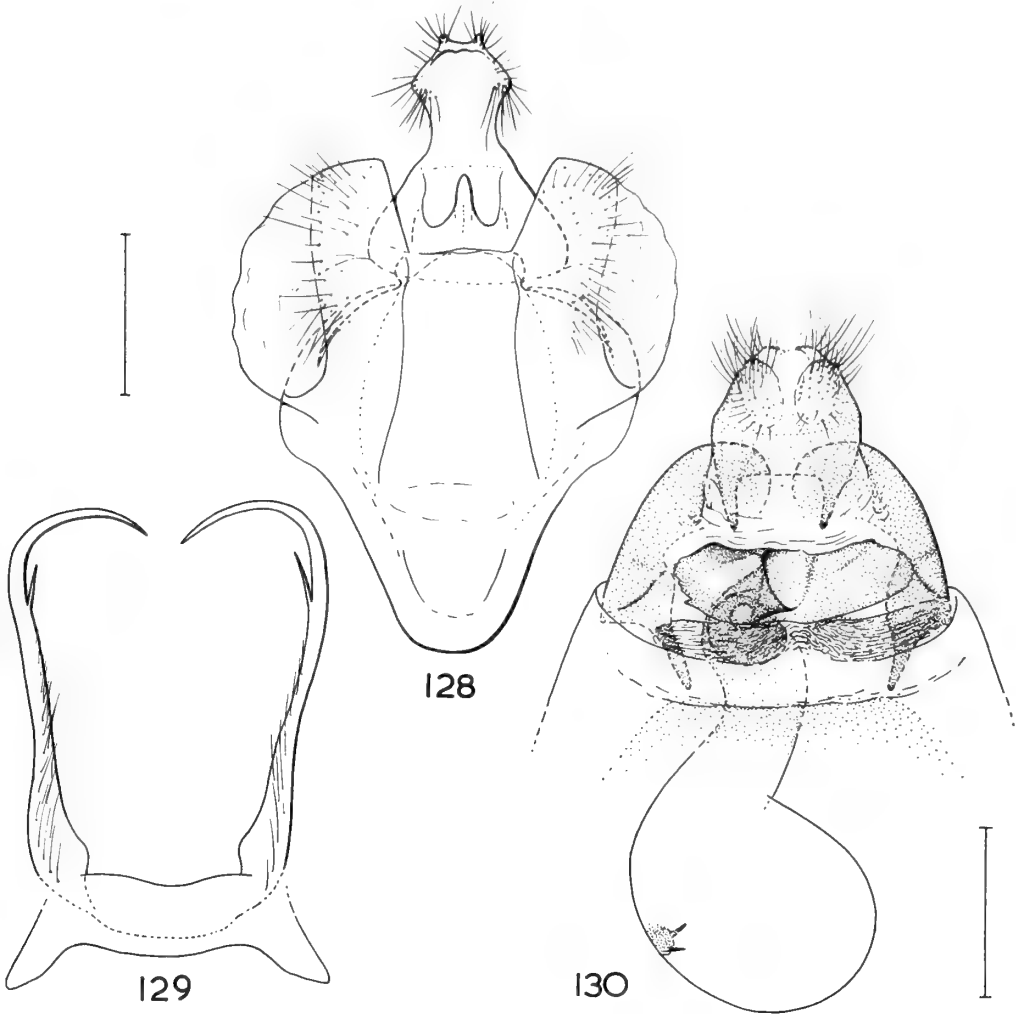
MEASUREMENTS. A.P.R. : ♂. 9 ; ♀. 8. Wing : ♂. 16.0, 16.0 mm. (2) ; ♀. 16.0, 15.5-16.5 mm. (4).



FIGS. 124-127, *Gonoreta diferenciata*, genitalia. 124, ♀; 125, ♂ eighth abdominal sternite; 126, ♂; 127, aedeagus.

DISCUSSION. The individual variation found in the short series available for study is noteworthy. One form of colour-pattern is shown in Plate 8, fig. 303 : this is similar to that in the lectotype. In the Nigerian male collected in Lagos by Boorman, the whole of the distal third of the fore wing is densely irrorate with black. In one male examined from CAMEROUN the short lateral branch on each posterior process of the eighth abdominal sternum is absent.

A single male from GABON collected by Rougeot (in the Muséum national d'Histoire naturelle, Entomologie agricole tropicale, Paris) belongs to this species but possesses small genitalic differences in the male, and when further material is available may prove to represent a new subspecies.



FIGS. 128-130, *Gonoreta contracta*, genitalia. 128, ♂ ; 129, ♂ eighth abdominal sternite ; 130 ♀.

DISTRIBUTION (Map 4). NIGERIA, CAMEROUN and GABON.

MATERIAL EXAMINED. Type. In his description Warren listed two syntypes. I have labelled the male, which bears the following data, as the LECTOTYPE : " Warri, NIGER C.P., Febr. 96 Dr. Roth Oreta contracta Type ♂ Warr. ; Drepanidae genitalia slide No. 662 ". In the British Museum (Natural History).

Type of *Gonoreta ansorgei* Warren. Holotype ♀, NIGERIA, Agberi, 4.vii.1901 (*Ansorge*) ; Drepanidae genitalia slide No. 665. In the British Museum (Natural History).

Paralectotype. Same data as lectotype ; Drepanidae genitalia slide No. 663. In the British Museum (Natural History).

Other material. *British Museum (Natural History)*. NIGERIA : 1 ♂, Lagos, 25.vii.1906 (*Boag*) ; 1 ♀, Lagos, iv.1961 (*Boorman*) ; 1 ♂, Old Calabar. CAMEROUN : 1 ♂, Johann-Albrechts Höhe, 1896 (*Conradt*). *Zoologisches Museum, Berlin*. CAMEROUN : 1 ♀, Kribi.

Gonoreta cymba sp. n.

(Text-figs. 131-133 ; Pl. 8, fig. 300 ; Map 4)

DESCRIPTION. ♂. Palp dull scarlet. Front of head dull scarlet becoming reddish brown anterior to antennae, vertex reddish brown. Antenna buff.

Thorax brownish white, darker posteriorly ; scales with dark band just before apex. Anterior part of ventral surface of thorax dull scarlet below and at sides of eye, buff above eye ; rest of thorax pale buff. Front surface of front fore legs dull scarlet ; outer surface of mid and hind legs scarlet or orange, with some buff scales ; remaining surfaces of legs buff.

Shape and colour-pattern of wings as in Plate 8, fig. 300 (only two specimens from Uganda, mentioned below, do not accurately match the figured colour-pattern). Ground-colour of upper surface of both wings very pale greyish brown (holotype), or reddish grey (two Uganda males) ; weakly marked with darker speckles and striations, except for one of the males from Uganda which is strongly marked on the fore wing and anal margin of hind wing. Subterminal fascia of fore wing brown or dark brown ; edged distally with white, especially near tornus. Brown medial shade distinctly marked on fore wing only. Under surface of fore wing dull greyish red faintly speckled with grey ; costa buff ; grey postmedial fascia turned inwards just before costa ; under surface of hind wing pale buff proximally, dull greyish red distally ; very faintly speckled and striate with grey.

GENITALIA as in Text-figs. 131-133. Stout, arcuate, posterior arms of eighth abdominal sternum characteristic. The eighth sternum is slightly asymmetric.

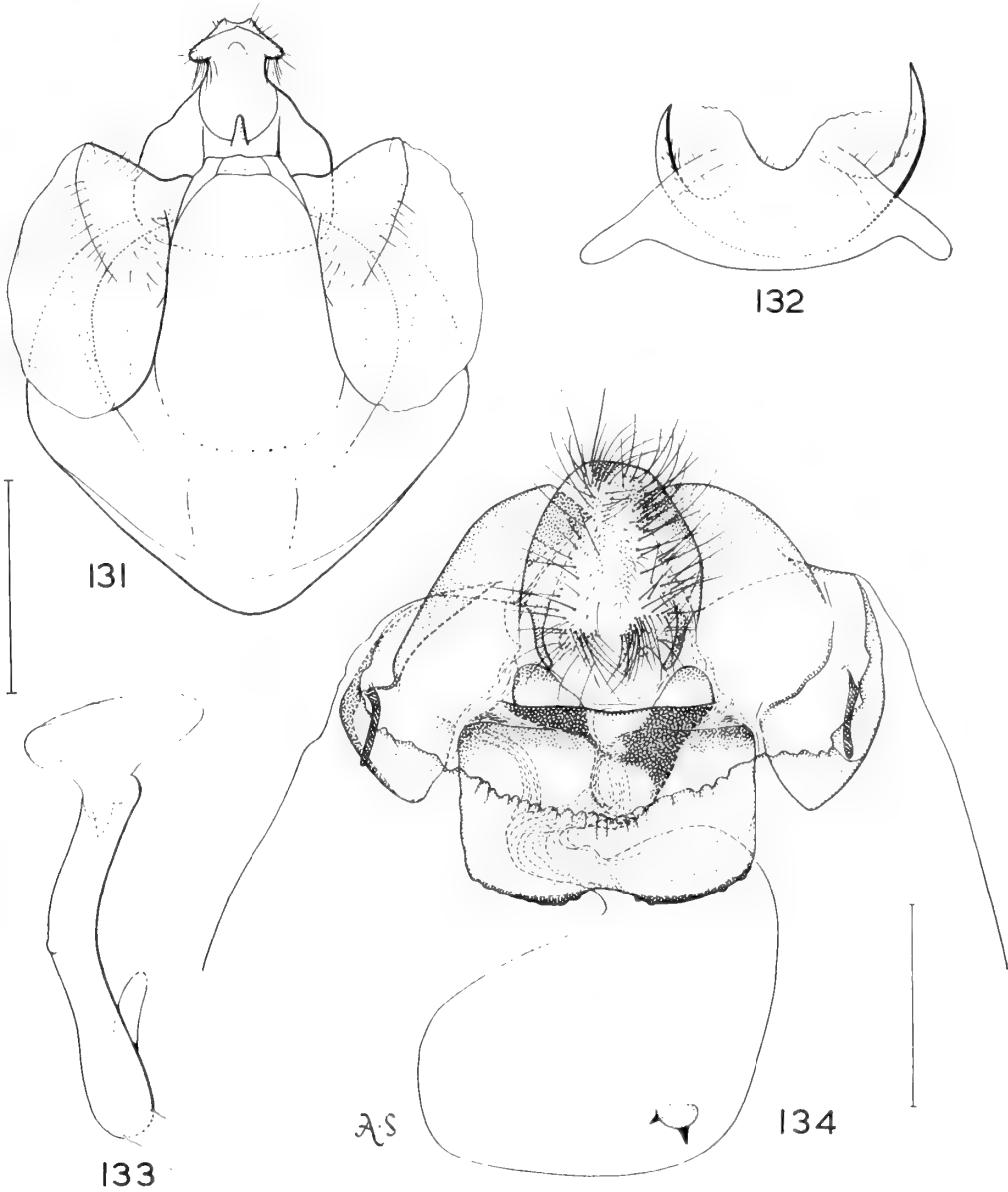
♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 9. Wing : ♂. 15.0, 14.5-15.0 mm. (5).

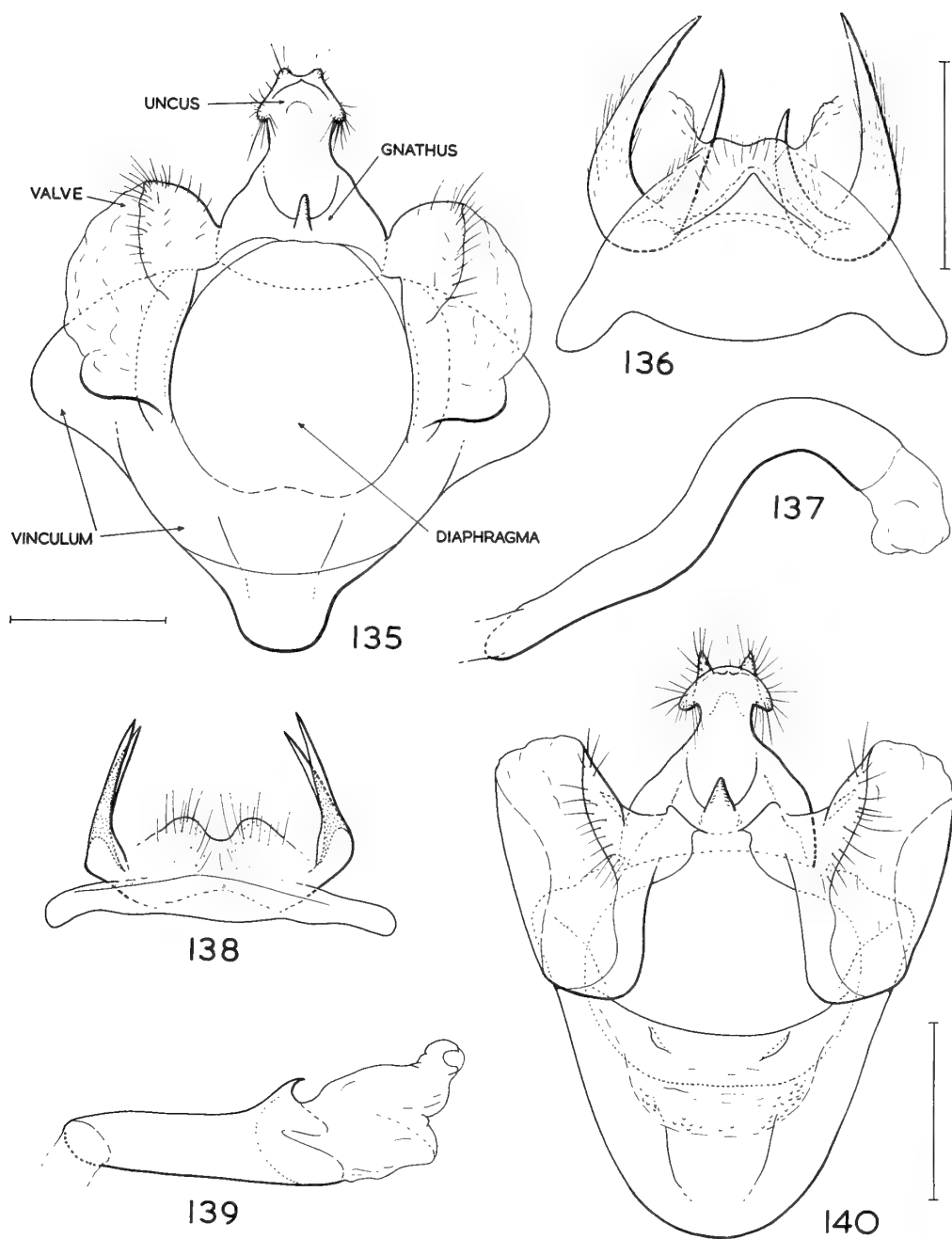
DISCUSSION. This species may be closely allied to *contracta*, but until female specimens are available there is insufficient evidence for this to be stated with certainty.

The variation in the colour of the ground-colour of the upper surface of the wings is mentioned in the description. The majority of the remaining specimens are relatively uniform in coloration and colour-pattern and can be distinguished from most specimens of *contracta*, which *cymba* resembles externally, by the almost complete absence of dark speckles and striations.

DISTRIBUTION (Map 4). Known only from NIGERIA and UGANDA.



FIGS. 131-134, *Gonoreta*, genitalia. 131-133, *cymba*. 131, ♂; 132, ♂ eighth abdominal sternite; 133, aedeagus. 134, *forcipulata*, ♀.



FIGS. 135-140, *Gonoreta*, ♂ genitalia. 135-137, *forcipulata*. 135, ♂; 136, eighth abdominal sternite; 137, aedeagus. 138-140, *angulosa*. 138, eighth abdominal sternite; 139, aedeagus; 140, ♂.

MATERIAL EXAMINED. Type. Holotype ♂, NIGERIA, Port Harcourt (at light), 21.iv.1958 (*MacNulty*); Drepanidae genitalia slide No. 1244; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. NIGERIA: 3 ♂, Port Harcourt, 20.ii.-27.x.1955 (*MacNulty*); 1 ♂, Lagos, 23.v.06 (*Boag*). *Coryndon Museum, Nairobi*. UGANDA: 1 ♂, Toro, Bwamba, ix.1961 (*Mitton*); 3 ♂, Masaka, Sango Bay, Katera, x.1960 (*Carcasson*). *National Museum of Southern Rhodesia, Bulawayo*. UGANDA: 1 ♂, Sango Bay, Katera, x.1960.

Gonoreta forcipulata sp. n.

(Text-figs. 134-137; Pl. 7, fig. 295; Map 4)

DESCRIPTION. ♂, ♀. Palp scarlet. Head scarlet immediately above labrum becoming darker dorsally except at base of antenna. Dorsal surface of antennal shaft and dorso-posterior margin of head buff.

Dorsal surface of thorax nearly white anteriorly; remainder greyish white, each scale whitish with dark band near apex. Ventral surface of thorax pale buff except for region surrounding eyes which is buff above eyes and scarlet lateral to and below eyes. Front surface of prothoracic leg scarlet, rest of leg buff; other legs with some scarlet scales on front surface.

Wing shape and colour-pattern as in Plate 7, fig. 295. Ground-colour of upper surface of fore wing pale grey, with reddish brown medial shade and dark brown speckling and striations; subterminal markings very dark brown near tornus; fringe dark brown. Upper surface of hind wing pale pinkish brown proximally, becoming darker distally; fringe light reddish brown with dark brown outer edge; trace of medial shade in some specimens (e.g. Plate 7, fig. 295) but not in holotype. Under surface of both wings orange (holotype), reddish orange or orange-buff, sometimes suffused with grey on fore wing (holotype), usually slightly paler at base of hind wing; both wings speckled and striate with grey; grey postmedial fascia present on fore wing, nearly straight posteriorly but turned sharply inwards away from apex near costal margin of wing.

♂ GENITALIA as in Text-figs. 135-137. The forcipulate posterior processes of the eighth sternum are particularly characteristic.

♀ GENITALIA with unusual, slightly concave plate immediately anterior to ostium (Text-fig. 134).

MEASUREMENTS. A.P.R.: ♂. 9; ♀. 8. Wing: ♂. 18.0, 17.0-18.5 mm. (3); ♀. 19.0, 18.0-19.5 mm. (2).

DISCUSSION. The colour-pattern and coloration is similar to that of both *differenciata* and *contracta* but the three species can be readily distinguished by the male and female genitalia. The closest relative of *forcipulata* is probably *angulosa*, but the greyer coloration and the shape of the hind wing make separation of the two species a simple matter without the use of genitalic characters.

The ground-colour of both surfaces of the wings is subject to considerable individual variation: it may be one of many shades of mainly pinkish grey on the upper surface of the fore wing, and on the hind wing one of a similiar range of colours including darker tones than on the fore wing. The degree of speckling or striation also varies.

DISTRIBUTION (Map 4). CONGO, NORTHERN RHODESIA and UGANDA.

MATERIAL EXAMINED. Type. Holotype ♂, CONGO, Elisabethville, 21.v.1953 (*Seydel*); Drepanidae genitalia slide No. 672; in the Musée Royal de l'Afrique centrale, Tervuren.

Paratypes. *British Museum (Natural History)*. N. RHODESIA: 1 ♀, N'kana (*Ellison*). CONGO: 1 ♀, Ishibwili, 25.iii.25; 1 ♂, Elisabethville, 20.v.1953 (*Seydel*). UGANDA: 1 ♀, Kigezi District, Kanunga, Impenetrable forest, 4,500 ft., v.1952. (*Burgess*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO: 1 ♀, Paulis, 2.iv.1957 (*Fontaine*). *Coryndon Museum, Nairobi*. UGANDA: 2 ♂, Ankole, Kalinzu forest, v.1952, xi.1961 (*Pinhey, Carcasson*).

Gonoreta angulosa sp. n.

(Text-figs. 138-140; Pl. 8, fig. 299; Map 4)

DESCRIPTION. ♂. Palp dull scarlet. Head buff (holotype) or dull scarlet above labrum, becoming dark reddish brown dorsally between and below antennae; dorso-posterior margin of head buff. Antenna buff. Anterior margin of dorsal surface of thorax nearly white; rest of thorax very pale grey. Ventral surface of thorax dull scarlet anteriorly lateral and ventral to eyes, buff dorsal to eyes; remainder pale buff. Front surface of fore legs dull scarlet, rear surface pale buff; remaining legs similarly coloured but less intensely red on outer surface.

Wing shape and colour-pattern as in Plate 8, fig. 299. Outer margin of hind wing distinctly angled at Cu_{1a} . Ground-colour of upper surface of both wings pale grey with weak pink suffusion, speckled with black; costal markings nearly black; medial shade of fore wing greyish brown; subterminal fascia markings almost black anterior to Cu_{1b} , remainder brown; fringe dark brown between ends of veins, buff at vein ends. Hind wing with greyish brown distal area not extending to outer margin, leaving narrow grey band at margin; fringe as for fore wing. Under surface of fore wing dull reddish grey, speckled with grey; costa dull buff; postmedial fascia grey, angled inwards just before costa. Under surface of hind wing more reddish than fore wing distally, dull buff proximally; speckled with grey, more densely at anterior margin.

♂ GENITALIA as in Text-figs. 138-140. The hooked thorn-like process at the end of the aedeagus and the four elongate eighth sternal processes are particularly characteristic.

♀. Not known.

MEASUREMENTS. A.P.R.: ♂. 9. Wing: ♂. 15.5, 15.0-16.0 mm. (3).

DISCUSSION. The facies of this species most closely resembles that of *forcipulata* but the angulate hind wing and the distinctive male genitalia of *angulosa* readily diagnose it. It would be particularly interesting to discover whether the female genitalia of *angulosa* has a pre-ostial plate as in *forcipulata*.

DISTRIBUTION (Map 4). UGANDA and N. E. CONGO.

MATERIAL EXAMINED. Type. Holotype ♂, UGANDA, Masaka, Sango Bay, Katera, x.1960 (*Carcasson*); Drepanidae genitalia slide No. 1363; in the British Museum (Natural History).

Paratypes. *Coryndon Museum, Nairobi*. UGANDA: 18.x.1960 (*Carcasson*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO: 1 ♂, Uele, Paulis, 4.iii.1959 (*Fontaine*).

Gonoreta opacifinis sp. n.

(Text-figs. 141-144 ; Pl. 7, fig. 296 ; Map 4)

DESCRIPTION. ♂. Palp scarlet. Head scarlet except for buff dorsoposterior margin and reddish brown medial patch anterior to base of antennae. Antennae buff.

Dorsal surface of thorax pale purplish grey ; ventral surface of thorax buff, but with scarlet anterior margin below eyes. Legs scarlet on front or outer surface, buff on inner surface ; fore legs most intensely coloured.

Colour-pattern of wings as in Plate 7, fig. 296. Ground-colour of upper surface of fore wing purplish grey (holotype) reddish grey, or reddish buff distal to end of cell, reddish buff at base of wing, weakly striate ; costa orange-buff ; medial shade purplish grey (holotype) or reddish brown ; cell-spots dark grey ; subterminal fascia reddish brown, less lustrous than rest of wing, irregularly edged distally with white scales, especially at tornus which is dark purplish grey (holotype) or reddish brown ; fringe reddish brown. Ground-colour of hind wings as for fore wing proximally, but reddish brown and less lustrous distally posterior to *Rs* ; trace of medial shade ; cell-spots white ; fringe reddish brown. Under surface of fore wing proximally orange-scarlet posterior to cell but orange in and above cell ; reddish grey distal to end of cell, with marginal, darker, purplish grey region between tornus and *Cu*_{1a} ; speckled and striate with purplish grey. Under surface of hind wing orange, becoming purplish grey distally and anterior to cell ; speckled and striate distally and anteriorly.

Abdomen as for corresponding adjacent surfaces of wings except for longitudinal, narrow, scarlet band on either side.

♂ GENITALIA as in Text-figs. 141-143. Processes of eighth abdominal sternum massive, multispinous ; diaphragma with ventrally directed, medial diverticulum (displaced to right in Text-fig. 141).

♀. As for male. ♀ GENITALIA as in Text-fig. 144.

MEASUREMENTS. A.P.R. : ♂. 10 ; ♀. 9. Wing : ♂. 20.0, 18.5-21.0 mm. (16) ; ♀. 23.5 mm. (1).

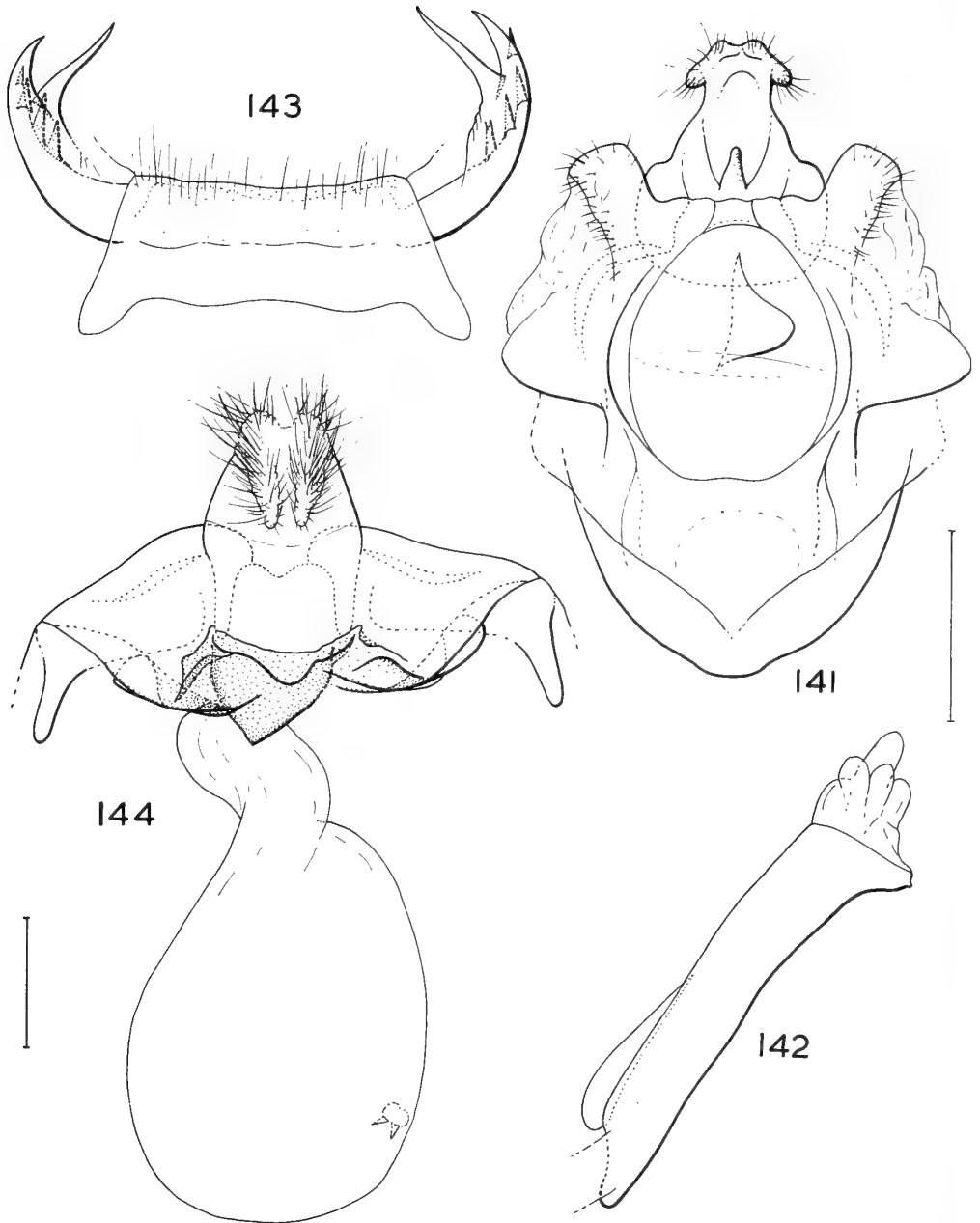
DISCUSSION. The similarity in the colour-pattern of the wings, the length of the antennal pectinations and the shape of the apical part of the aedeagus suggest that there may be close affinities between *opacifinis* and *bispina*, and that either *bispina* (a Madagascan species) is a derivative of *opacifinis* or that at least these two species have a common origin. The male genitalia (especially the shape of the eighth sternum), the presence of a signum in the female genitalia, and the more conspicuous, white-edged, subterminal fascia of the fore wing separate *opacifinis* from *bispina*.

Individual variation in the coloration has been mentioned in the description. Fresh specimens such as those recently collected in Uganda by R. H. Carcasson clearly show this variation in the intensity of the coloration of the upper surface of the wings.

DISTRIBUTION (Map 4). Known to occur in SIERRA LEONE, IVORY COAST, NIGERIA, CONGO, UGANDA, and as far south as SOUTHERN RHODESIA.

MATERIAL EXAMINED. Type. Holotype ♂, UGANDA, Ankole, Kalinzu Forest, xi.1961 (Carcasson) ; Drepanidae genitalia slide No. 1367 ; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. CONGO : 1 ♂, Région de M'Pala (Guillemé) ; 1 ♂, W. Kivu, Upper Lowa Valley near Masisi, forest and long grass, 5,000-6,000 ft., ii.1924 (Barns). NIGERIA : 1 ♂, Lagos, ii.1961 (Boorman) ; 1 ♀, Ibadan, 29.iv.1962 (Sutton). IVORY COAST : 4 ♂, Bingerville, 1914, vii-viii.1914



FIGS. 141-144, *Gonoreta opacifinis*, genitalia. 141, ♂; 142, aedeagus; 143, ♂ eighth abdominal sternite; 144, ♀.

(Mélou). SIERRA LEONE : 1 ♂, Freetown, Mt. Aureol, xii.1955 (*Phippis*). *Coryndon Museum, Nairobi*. UGANDA : 2 ♂, type locality, xi.1961 (*Carcasson*). *National Museum, Bulawayo*. S. RHODESIA : 2 ♂, Umtali, Vumba Mts., ii,iii.1961. *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST : 3 ♂, Nimba, i.viii.1956, 29.i.1957 (*Réal*) ; 1 ♂, Adiopodoumé (*Réal*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO : 1 ♂, Uele, Paulis, 3.vii.1956 (*Fontaine*) ; 1 ♂, Rwankwi, 19.ix.1947 (*Leroy*). *Muséum national d'Histoire naturelle, Entomologie agricole tropicale, Paris*. IVORY COAST : 1 ♂, Bingerville, U.V., 20.ix.1962 (*Pujol*) ; 1 ♂, Bouaki, 3.ii.1946 (*Delattre*).

Gonoreta bispina sp. n.

(Text-figs. 145-148 ; Pl. 8, fig. 304 ; Map 4)

DESCRIPTION. ♂. Palp scarlet. Head scarlet with buff dorsoposterior margin. Antennal shaft buff dorsally.

Dorsal surface of thorax purplish brown with nearly white anterior margin ; except at anterior margin of thorax the scales are white-tipped with dark band immediately below tip. Ventral surface of thorax orange, but scarlet anteriorly at side of eye and buff above level of eyes. Legs scarlet on outer surface, orange on inner surface ; fore legs the most intensely coloured.

Colour-pattern and shape of wings as in Plate 8, fig. 304. Ground-colour of upper surface of fore wing purplish grey, transversely striate with dark grey especially posteriorly ; medial shade and cell-spots purplish grey ; subterminal fascia reddish brown, edged distally with white. Upper surface of hind wing dull purplish brown, with darker medial shade and whitish cell-spots. Under surface of both wings dull scarlet-orange, becoming less reddish proximally on fore wing and posteriorly on hind wing ; irregularly marked with red and grey striations. Fore wing with well marked, broad, dark grey, postmedial fascia ; hind wing with trace of this fascia at anterior margin.

Abdomen purplish brown above, except for orange posterior tufts ; scarlet-orange beneath.

♂ GENITALIA as in Text-figs. 145-147. Aedeagus with short apical spine.

♀. Most specimens differ from the male in the following respects : fore wing less strongly falcate ; ground-colour of fore wing usually yellowish brown, strongly striate, and ground-colour of hind wing dull yellow-brown ; under surface of both wings buff or pale orange, usually without, but in some specimens with, trace of postmedial fascia ; abdomen as for colour of adjacent surfaces of hind wing. Four of the females examined, however, were similar in colour to males.

♀ GENITALIA (Text-fig. 148) without signum on bursa copulatrix.

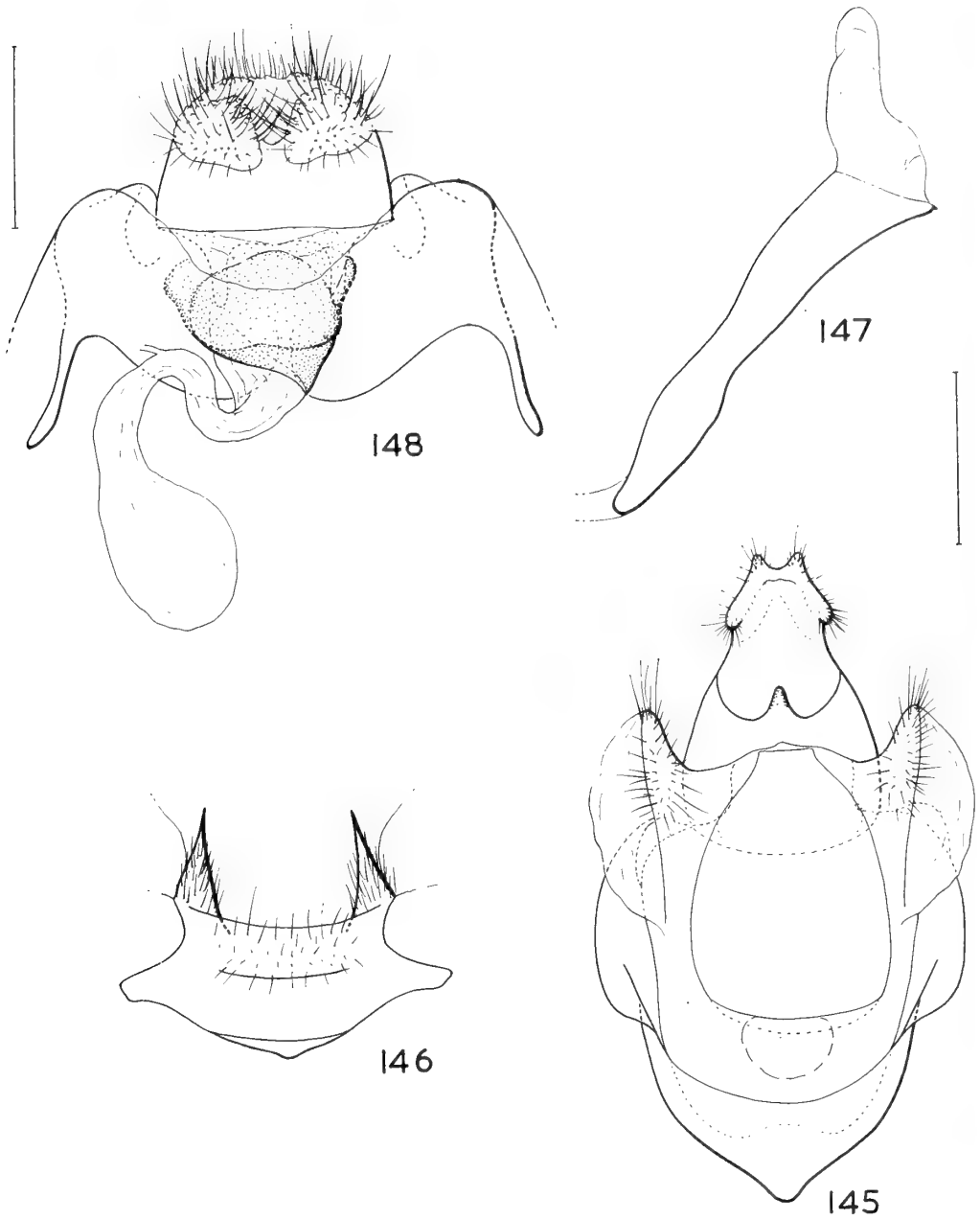
MEASUREMENTS. A.P.R. : ♂. 10 ; ♀. 6. Wing : ♂. 17.0, 14.5-18.0 mm. (7) ; ♀. 18.5, 17.0-21.0 mm. (11).

DISCUSSION. The close similarity in the colour-pattern, the shape of the apical part of the aedeagus, and the length of the antennal pectinations in the males (A.P.R. = 1 in both species) suggest a close affinity between this species and the African *opacifinis*. The shape of the eighth abdominal sternum in the male readily separates *bispina* from *opacifinis*.

There is little individual variation in the males examined, but four of the females have darker, less strongly striate wings as in the males.

DISTRIBUTION (Map 4). MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR EST, Route d'Anisobe km. 57, 18.ii.1955 (*Viette*) ; Drepanidae genitalia slide No. 619 ; in the Muséum national d'Histoire naturelle, Paris.



FIGS. 145-148, *Gonoreta bispina*, genitalia. 145, ♂; 146, ♂ eighth abdominal sternite; 147, aedeagus; 148, ♀.

Paratypes. *Muséum national d'Histoire naturelle, Paris*. EAST MADAGASCAR : Type locality, 1 ♂, 1 ♀, 15–18.ii.1955 (*Viette*) ; 7 ♀, env. de Périnet, forêt d'Analamazoatra, 910 m., 12.i.–18.iii.1955 (*Viette*) ; 1 ♂, 3 ♀, route de Lakato, km. 15 Ankasoka, 1,100 m., 2–10.i.1959, (*Viette*), 3.xi–1.xii.1956, 23.x.1957 (*Griveaud*) ; 2 ♂, 1 ♀, Sud Moramanga, Ampitameloka, 840 m., 2, 6.viii.1956 (*Griveaud*) ; 2 ♂, Réserve nat. III, Ambatovositra, Andranomalaza, xi.1956, ii.1957 (*Soga*). SOUTH-EAST MADAGASCAR : 1 ♂, forêt de Befotaka, Midongy du Sud, 950 m., 3–7.iii.1959 (*Viette and Griveaud*). *Institut de Recherche scientifique, Madagascar*. EAST MADAGASCAR : 1 ♂, Réserve nat. III Andranomalaza, Ambatovositra, xii.1956 (*Soga*) ; 2 ♂, dct. Moramanga, Fanovana, xi.1960 (*Griveaud*) ; 5 ♂, Sud Moramanga Ampitameloka, 840 m., 1–6.viii (*Griveaud*) ; 1 ♀, Moramanga, Ankasoka, 1,130 m., 1.x.1957 (*Griveaud*). CENTRAL MADAGASCAR : 2 ♂, La Mandraka, Manjakandriana, 1, 2.xi.1956 (*Griveaud*). N.W. MADAGASCAR : 1 ♂, Sambirano, Analava, Poste Marômandia, Manongarivo, 1,150 m., xii.1960 (*Griveaud*).

GONORETODES gen. n.

(Gender : feminine)

(Text-figs. 149–152 ; Pl. 17, fig. 341)

Type-species : *Gonoretodes timea* sp. n.

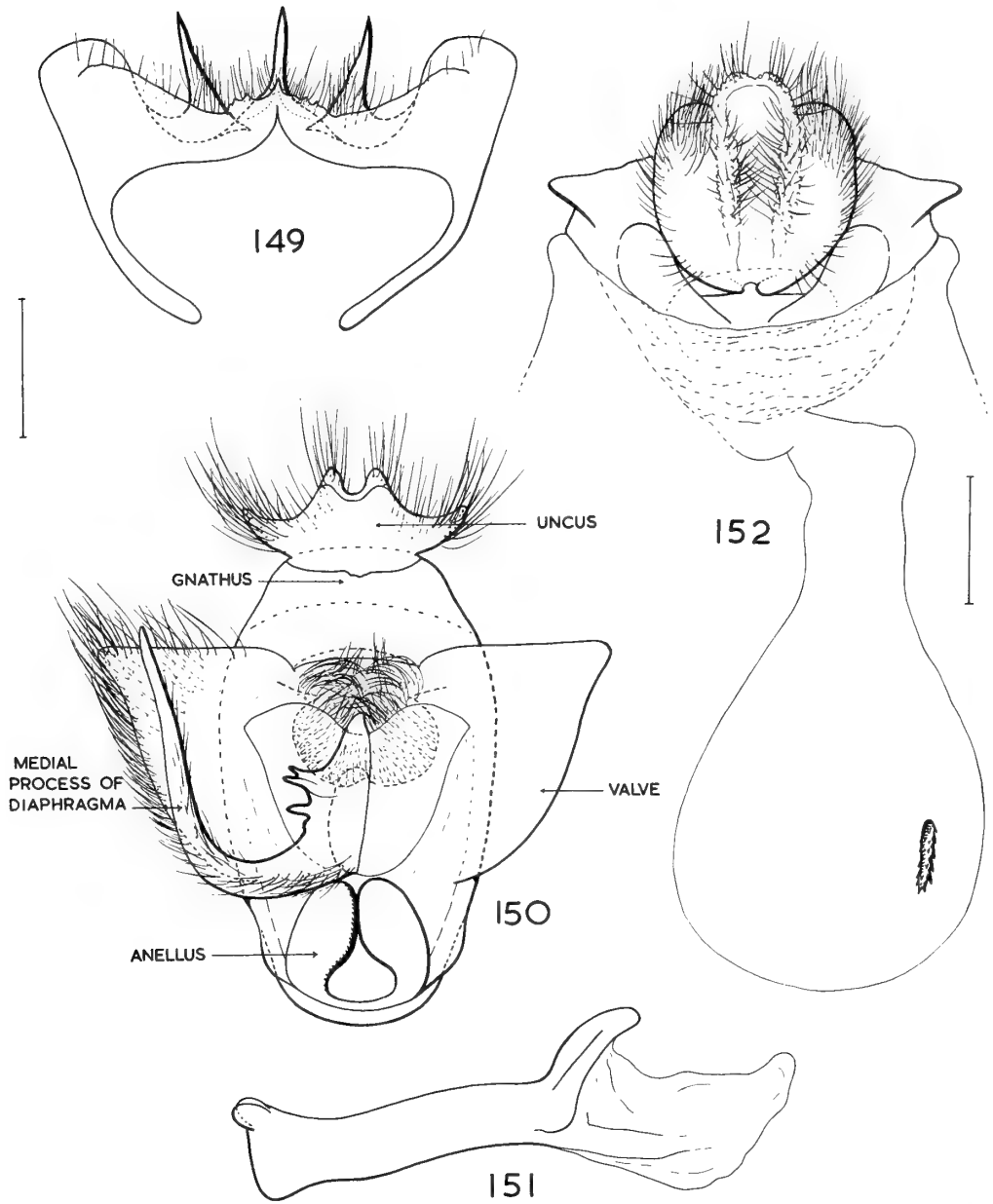
DESCRIPTION. ♂, ♀. Clypeo-frons swollen ventrally ; palp minute, not extending as far as labrum ; galeae of maxilla short, not fused ; antenna unipectinate from base to apex.

Mid and hind tibia each with one pair of short terminal spurs. Costa of fore wing slightly concave ; outer margin bluntly toothed at Cu_{1a} . Outer margin of hind wing convex ; anal margin slightly concave. Venation similar to *Gonoreta* Warren but vein R_1 in fore wing arises from distal half of areole, and $Sc + R_1$ anastomoses with R_s for short distance distal to end of cell in hind wing. Upper surface of both wings yellow speckled with brown ; fore wing with antemedial fascia, postmedial fascia, terminal fascia, and white discocellular spot ; hind wing with poorly marked antemedial fascia and postmedial fascia posteriorly, and with terminal fascia anteriorly, cell-spot as for fore wing. Under surface of both wings a more intense yellow than upper surface, both similarly speckled with brown ; fore wing with reddish postmedial fascia and terminal fascia and dark-edged white discocellular spot ; hind wing with small discocellular spot, and trace of postmedial and terminal fasciae anteriorly.

♂ GENITALIA : valve broad, without sclerotized processes ; diaphragma well sclerotized ventrally, with long medial process arising near aedeagus, and bilobed, invaginate, setose, sensory sac immediately anterior to gnathus ; anellus strongly developed ; gnathus a broad plate ; uncus with two pairs of setose processes ; caecum penis bilobed ; eighth tergum little modified, with very short lateral apodemes ; eighth sternite with long apodemes and three heavily sclerotized posterior processes.

♀ GENITALIA : bursa copulatrix with single, elongate, scobinate signum ; eighth segment with digitate, lateral processes on either side ; ninth segment densely setose.

DISCUSSION. Superficially this new genus resembles *Gonoreta* Warren, but the conspicuous unipectinate (not unilamellate) antennae at once separate it from the latter. The anastomosis of $Sc + R_1$ with R_s for a short distance in the hind wing and the position of R_1 in the fore wing (R_1 arises from the areole, not the cell) also distinguish this genus from *Gonoreta*. The male and female genitalia are strikingly different from those of *Gonoreta* except in the shape of the uncus. The sensory sac



FIGS. 149-152, *Gonoretodes timea*, genitalia. 149, ♂ eighth abdominal sternite; 150, ♂; 151, aedeagus; 152, ♀.

and medial process in the diaphragma of the male genitalia are particularly distinctive. In coloration *Gonoretodes* most closely resembles the genera *Oreta* Walker and *Psiloreta* Warren, more especially the Indian *Psiloreta sanguinea* (Moore), although the affinities are probably less close than between *Gonoretodes* and *Gonoreta*.

The genus is at present known only from the type-species, which is confined to Madagascar and perhaps the islands of the Comores Archipelago.

Gonoretodes timea sp. n.

(Text-figs. 149-152 ; Pl. 17, fig. 341)

DESCRIPTION. ♂, ♀. Palp scarlet. Front of head scarlet except for buff medial patch ventrally ; vertex dull yellow ; shaft of antennae yellow, darkest proximally, with scarlet tuft at base ; posterior margin of head with scarlet fringe laterally and ventrally.

Dorsal surface of thorax purplish white, darkest posteriorly, but with yellow transverse band at anterior margin. Ventral surface of thorax buff. Front surface of whole of fore leg scarlet, rear surface dull yellow ; mid and hind leg yellow except for scarlet outer surface of tarsus.

Upper surface of both wings (Plate 17, fig. 341) yellow ; moderately lustrous except for marginal band of hind wing between M_2 and anal angle ; variably speckled with reddish brown. Fore wing with reddish brown antemedial and postmedial fascia ; reddish brown medial shade sometimes present between latter fasciae ; discocellular spot white, conspicuous ; terminal markings dark brown, edged distally with white, most strongly developed at tornus, absent at Cu_{1a} ; fringe pale grey apically and at Cu_{1a} , remainder dark grey, tipped with pale grey. Hind wing with conspicuous, white discocellular spot ; weakly developed antemedial fascia, postmedial fascia and medial shade in anterior half of wing ; white subterminal markings at outer angle bordered by reddish brown area ; fringe pinkish white posterior to R_s , dark brown anterior to R_s .

Under surface of both wings yellow (more deeply saturated yellow than upper surface) lightly speckled with reddish brown and dark brown. Discocellular spot of fore wing dark reddish brown with whitish centre ; postmedial fascia reddish brown, less strongly marked than on upper surface ; terminal fascia purplish brown edged distally with purplish white, interrupted at Cu_{1a} ; fringe as for upper surface. Discocellular spot of hind wing as for fore wing ; weakly developed postmedial fascia present anterior to cell ; terminal fascia as for upper surface but less strongly marked ; fringe pale yellow posterior to R_s , dark brown anterior to R_s .

Dorsal surface of abdomen reddish buff except for yellow caudal vestiture. Ventral surface of segments 3 to 6 dull scarlet ; remaining sterna pale buff.

♂ GENITALIA (Text-figs. 149-151) : valve broad, flattened ; gnathus without processes ; diaphragma heavily sclerotized medially, with long, posteriorly directed, medial process (displaced to left in Text-fig. 150) bilobed, invaginate, setose, sensory sac immediately anterior to gnathus ; anellus strongly sclerotized ; uncus with two pairs of digitate processes ; apodemes of eighth sternite arcuate, posterior margin of sternite with three large heavily sclerotized spines.

♀ GENITALIA (Text-figs. 152) : ostium opening into sclerotized invaginate pocket ; eighth segment with digitate process laterally ; ninth segment densely setose.

MEASUREMENTS. A.P.R. : ♂. 25 ; ♀. 18. Wing : ♂. 21.5, 18.5-24.5 mm. (12) ; ♀. 24.0, 22.0-24.5 mm. (5).

DISCUSSION. Some individual variation is present in the intensity of the coloration of the wings. There is also variation in the medial shade, which may be poorly marked (holotype) or well marked on the upper surface of both wings.

DISTRIBUTION. Known only from central, east, north-east and north-west MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, dct. de Moramanga, Fanovana, xi.1960 (*Griveaud*) ; Drepanidae genitalia slide No. 1540 ; in the Institut scientifique, Madagascar.

Paratypes. *Institut scientifique, Madagascar*. CENTRAL MADAGASCAR : 1 ♀, District d'Ambatalampy, Andranotobaka, 1,400 m., iv.1957 (*Griveaud*). EAST MADAGASCAR : 3 ♂, District de Moramanga, Route de Lakato, Ankasoka 1,130 m., 21.x.1957 (*Griveaud*) ; 1 ♀, Moramanga, Fanovana, xi.1960 (*Griveaud*) ; 2 ♂, Moramanga, Italaviana, 6 km., N.O. de Fanovana, 4,9.vi.1956 (*Griveaud*) ; 2 ♂, sud Moramanga, Ampitameloka, 840 m., 1.viii.1956 (*Griveaud*). N.E. MADAGASCAR : 2 ♂, dct. de Sambava, Andasy II, 1,550 mm., xii.1958 (*Griveaud*), v.1959 (*Soga*) ; 3 ♂, Sambava, Réserve naturelle intégrale XII, Morojejy Ouest, 1,140 m., xi.1959, ii.1960 (*Soga*). N.W. MADAGASCAR : 2 ♂, Sambirano, Manongarivo, dct. d'Analalava, Poste Maromandia, 1,150 m., xii.1960 (*Griveaud*).

SPIDIA Butler

(Text-figs. 153-187 ; Pls. 9, 10, figs. 305-311 ; Map 5)

Spidia Butler, 1878 : 460. Type-species, by original designation and monotypy, *Spidia fenestrata* Butler, 1878.

Spidia Butler ; Gaede, in Seitz, 1927 b : 287.

Spidia Butler ; Gaede, 1931 : 51.

Spidia Butler ; Watson, 1957 : 113.

Hemictenarcha Warren, 1898 : 221. Type-species, by original designation and monotypy, *Hemictenarcha rubrisecta* Warren, 1898.

Hemictenarcha Warren ; Gaede, 1939 : 53.

Phalacrothyris Warren, 1899 : 287. Type-species, by original designation and monotypy,

Phalacrothyris subviridis Warren, 1899. **syn. n.**

Phalacrothyris Warren ; Gaede, 1931 : 52.

Butler established *Spidia* for a single new species, *fenestrata*. Aurivillius (1906) added *divisa*, Strand (1912) *excentrica*, and Gaede (1914) *fenestriculata*. The present author (Watson, 1957) synonymized *Hemictenarcha* Warren, 1898, as a junior synonym of *Spidia* Butler, 1878, sank *fenestriculata* as a synonym of *fenestrata*, relegated *divisa* to subspecific rank (*fenestrata* subsp.), described *goniata* as a new subspecies of *fenestrata* and transferred *excentrica* to *Phalacrothyris* Warren, 1899.

Phalacrothyris, which was erected for a new species *subviridis*, is treated as a junior synonym of *Spidia* in this paper. Warren (1902) subsequently added *smithi*, and Gaede (1927 b : 292) transferred *excentrica* from *Spidia* to *Phalacrothyris*. Gaede (1931) listed *smithi* and *subviridis* under *Phalacrothyris* and *excentrica* under both *Phalacrothyris* and *Spidia*.

Viette (1954 : 79) added *vohilava* to *Spidia* but it has been found necessary to establish a new genus *Oretopsis* for this Madagascan species (see page 145).

Three new species are added to *Spidia* in this revision and *Thymistida miserrima* Holland is transferred to *Spidia* from *Epicampoptera* Bryk, bringing the total number of included species to nine.

DESCRIPTION. ♂, ♀. Proboscis vestigial ; labrum globose ; antenna unipectinate or unilamellate.

Meso- and metathoracic legs with one pair of apical spurs. Apex of fore wing variously falcate; outer margin evenly convex, or convex only anterior to Cu_{1b} . Hind wing either sharply angled at outer angle with almost straight outer margin, or with rounded outer angle and slightly convex outer margin. Venation of fore wing as in Text-figs. 153, 162. In the hind wing $Sc + R_1$ anastomoses with R_s for some distance distal to end of cell.

Upper surface of both wings brown or yellow, speckled with darker tones. Oblique post-medial fascia usually present on fore wing from near apex to about middle of anal margin; several circular or irregularly shaped hyaline patches in and around distal end of cell; three dark markings equally spaced along distal half of costa. Sub-basal fascia of hind wing continuous with postmedial fascia on fore wing; discocellular spot and posterior cell-spot very dark; hyaline patches present distal to end of cell in some specimens of *subviridis*, *planola* and *excentrica*. (See Plates 9 and 10.)

Under surface of both wings paler than upper surface; variously coloured, but invariably strongly speckled with dark brown; postmedial fascia of fore wing sometimes present, hyaline patches often edged with dark scales; hind wing with trace of postmedial fascia in a few specimens (not present on upper surface).

Colour of abdomen doubtful but probably similar to corresponding adjacent surface of hind wing.

♂ GENITALIA (see labelled Text-fig. 180): uncus hood-like; gnathus with single, pointed, medial process; saccus broad, shallow; diaphragma membranous; valve bifurcate; vinculum variously produced anterior to base of valves into heavily sclerotized processes; aedeagus sometimes with lateral lobes, vesica without cornuti; eighth tergum little modified, but with short apodemes; eighth sternum weakly sclerotized, posterior margin arcuate or emarginate, apodemes long.

♀ GENITALIA variously shaped; anterior and posterior apophyses well developed; bursa copulatrix with single pair of scobinate signa; ostial segment sometimes with globose, medial lobe dorsally.

DISCUSSION. *Spidia* is probably most closely related to the Madagascan *Crociniis* Butler, which may be a derivative of *Spidia*. It can be distinguished from *Crociniis*, in the male, by the shape of the valves, saccus and eighth abdominal sternite, and by the presence of a gnathus and a poorly developed anellus. The colour-pattern and, to a lesser extent, the coloration of *Spidia* are similar to *Isospidia* gen. n., but the genitalia bear little resemblance. In the similarly patterned *Negera* Walker the transverse fasciae are much closer to the outer margin on the upper surface of both fore and hind wings than in *Spidia*, the antennae are bipectinate and the genitalia are diagnostic.

One species of this genus, *fenestrata* Butler, has already been treated critically and attention drawn to the high degree of individual variation of the coloration (Watson, 1957). Similar but less striking variation is exhibited by most species of *Spidia*.

The shape of the antenna is a diagnostic character in *rufinota*. In this species the antenna is closely lamellate unlike that in any other species of the genus, including *fenestrata* to which *rufinota* is probably closely related. The wing shape of *smithi* is quite different from that of *inangulata* but the male genitalia indicate close affinities between these two species. The remaining species, *subviridis*, *excentrica*, *planola* and *miserrima* are clearly closely related to each other.

One species, *fenestrata*, is polytypic. Two further species, *subviridis* and *smithi*, are probably polytypic.

DISTRIBUTION. Known to occur in SIERRA LEONE, IVORY COAST, GHANA, NIGERIA, CAMEROUN, ANGOLA, CONGO and UGANDA. Most of the records are from the main rain-forest regions of the Congo Basin and West Africa but the genus also occurs in areas of rain-forest and montane forest (e.g. *goniata* Watson) in Uganda.

KEY TO SPECIES

MALES

- | | | |
|---|---|----------------------------|
| 1 | Antenna closely lamellate ; genitalia as in Text-figs. 164-166 | <i>rufinota</i> (p. 101) |
| - | Antenna unipectinate ; genitalia not as above | 2 |
| 2 | Posterior margin of eighth abdominal sternum bilobed | 3 |
| - | Posterior margin of eighth abdominal sternum entire | 6 |
| 3 | Outer angle of hind wings evenly rounded | 4 |
| - | Outer angle of hind wing emarginate between $Sc + R_1$ and R_s , angulate between R_s and M (Plate 9, fig. 305) | <i>smithi</i> (p. 106) |
| 4 | Outer margin of fore wing as in Plate 9, fig. 306 ; fore wing fenestrations usually as extensive as in above fig. ; genitalia as in Text-figs. 167-169 | <i>inangulata</i> (p. 103) |
| - | Outer margin of fore wing more evenly arcuate (Text-figs. 153, 162) ; fore wing fenestrations usually much less extensive than in Plate 9, fig. 306 ; male genitalia quite unlike that of above species (see Text-figs. 154-161) ; posterior processes of eighth abdominal sternum small and digitate | 5 |
| 5 | Shape and venation of fore wing as in Text-fig. 153 ; genitalia as in Text-figs. 154-158 | <i>fenestrata</i> (p. 96) |
| - | Shape and venation of fore wing as in Text-fig. 162 ; genitalia as in Text-figs. 159-161 | <i>goniata</i> (p. 101) |
| 6 | Outer angle of hind wing acutely angled (Plate 9, fig. 307) ; genitalia as in Text-figs. 176, 177 | <i>subviridis</i> (p. 110) |
| - | Outer angle of hind wing usually obtusely angled (e.g. Plate 9, fig. 308) ; genitalia not as above | 7 |
| 7 | Aedeagus with small lateral lobe ; innermost process at base of valve not hood-like | 8 |
| - | Aedeagus without lateral lobe ; innermost processes at base of valve hood-like (Text-figs. 182, 184) | <i>excentrica</i> (p. 111) |
| 8 | Processes at base of valve as in Text-fig. 178 | <i>planola</i> (p. 108) |
| - | Processes at base of valve as in Text-fig. 187 | <i>miserrima</i> (p. 112) |

Spidia fenestrata Butler

(Text-figs. 153-158 ; Pl. 10, fig. 311 ; Map 5)

Spidia fenestrata Butler, 1878 : 460.

Spidia fenestriculata Gaede, 1914 : 65.

Spidia fenestrata Butler ; Watson, 1957 : 114.

Hemictenarcha rubrisecta Warren, 1898 : 221.

DIAGNOSIS. This species is probably most closely related to *goniata*. The male genitalia of these two species are similar in many respects but are easily distinguished by the shape of the aedeagus and of the processes at the base of the valve. The male genitalia of the two subspecies of *fenestrata* have already been illustrated (Watson, 1957), but for convenience they have been re-illustrated, in part, (Text-figs. 154-158). Externally, *fenestrata* can be separated from *goniata* by the more strongly arcuate costa, the venation of the fore wing (Text-fig. 153), and by the less strongly pectinate antennae (A.P.R. = 18).

Except for the differently shaped fore wing, the species *inangulata* is externally similar to *fenestrata* but has distinctive genitalia.

There is considerable individual variation in coloration in *fenestrata*. The specimen illustrated in Plate 10, fig. 311 shows one of the more striking colour varieties of the nominate subspecies: fore wing reddish brown proximal to the bright lemon-yellow, oblique, post-medial fascia, but greenish yellow distal to this fascia; posterior subterminal marking dark reddish brown.

DISCUSSION. As mentioned in an earlier paper (Watson, 1957) part of the range of the subspecies *divisa* apparently lies within that of the nominate subspecies, but as there is no evidence of sympatry at any one locality I have continued to treat *divisa* as a subspecies of *fenestrata*. However, a re-appraisal of the characters separating the subspecies, *fenestrata*, *divisa*, and *goniata*, has led to the conclusion that *goniata*, described by me as a subspecies of *fenestrata*, should be treated as a separate species (see page 101).

DISTRIBUTION (Map 5). The species ranges from GUINEA across tropical Africa as far east as UGANDA. Some new material of the nominate subspecies and of *divisa* which has been examined since the last review of the species (Watson, 1957) is listed under the appropriate subspecies headings.

Spidia fenestrata fenestrata Butler

(Text-figs. 154-156; Pl. 10, fig. 311; Map 5)

DIAGNOSIS. ♂. The nominate subspecies is separable from *divisa* probably only by the genitalia (Text-figs. 154-156). The shape of the eighth abdominal sternum and the processes of the vinculum anterior to the valves are particularly characteristic.

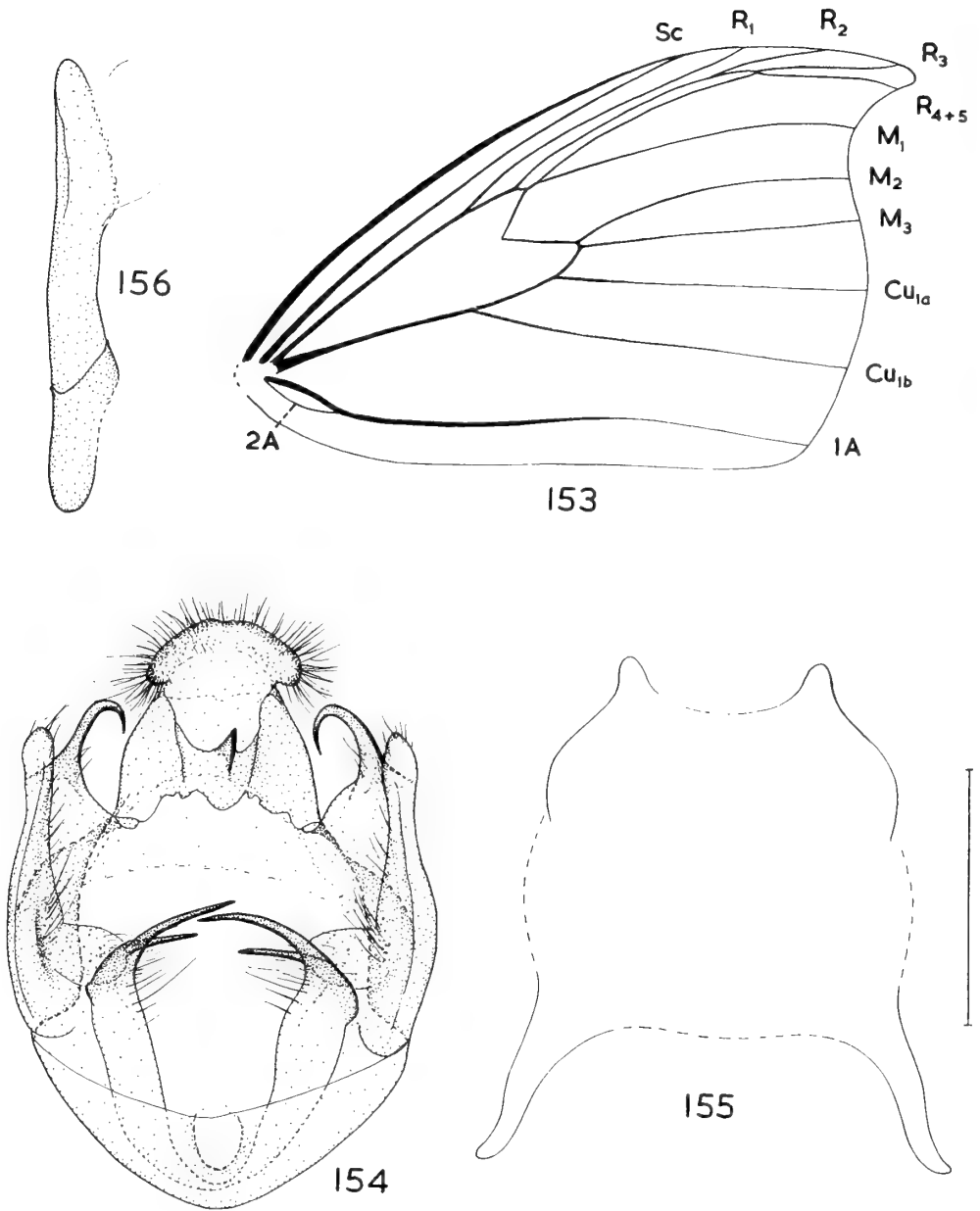
♀. As for male. Genitalia with heavily sclerotised eighth segment, deeply sulcate medially; bursa copulatrix with pair of spinose, invaginate signa.

MEASUREMENTS. A.P.R.: ♂. 18; ♀. 8. Wing: ♂. 20.0. 17.5-22.0 mm. (20); ♀. 23.0, 22.5-24.0 mm. (4).

DISTRIBUTION (Map 5). Known from GUINEA, SIERRA LEONE, LIBERIA, IVORY COAST, GHANA, NIGERIA, CAMEROUN and ANGOLA.

MATERIAL EXAMINED. Types. Holotype ♀ of *fenestrata* Butler, NIGER, Old Calabar; in the British Museum (Natural History). Holotype ♀ [not ♂ as originally stated] of *fenestriculata* Gaede, NIGERIA, Opobo (*Schultze*); in the Zoologisches Museum, Berlin. Holotype ♂ of *rubrisecta* Warren, NIGERIA, Warri, ix.97 (*Roth*); in the British Museum (Natural History).

Other material. In addition to the material listed in a previous paper (Watson, 1957) six more specimens have been discovered: *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST: 1 ♂, Adiopodoumé, 8.i.1957 (*Réal*). *Muséum national d'Histoire naturelle, Entomologie agricoles tropicales, Paris*. GUINEA: 1 ♀, Sérédou, 5.xi.1959 (*Pujol*). *Carnegie Museum, Pittsburgh*. LIBERIA: 2 ♂, Harbel, 13.xii.1955, 14.xii.1956 (*Fox*). CAMEROUN: 1 ♂, Batanga, 24.xi.1910 (*Good*); 1 ♂, Efulen (*Weber*).



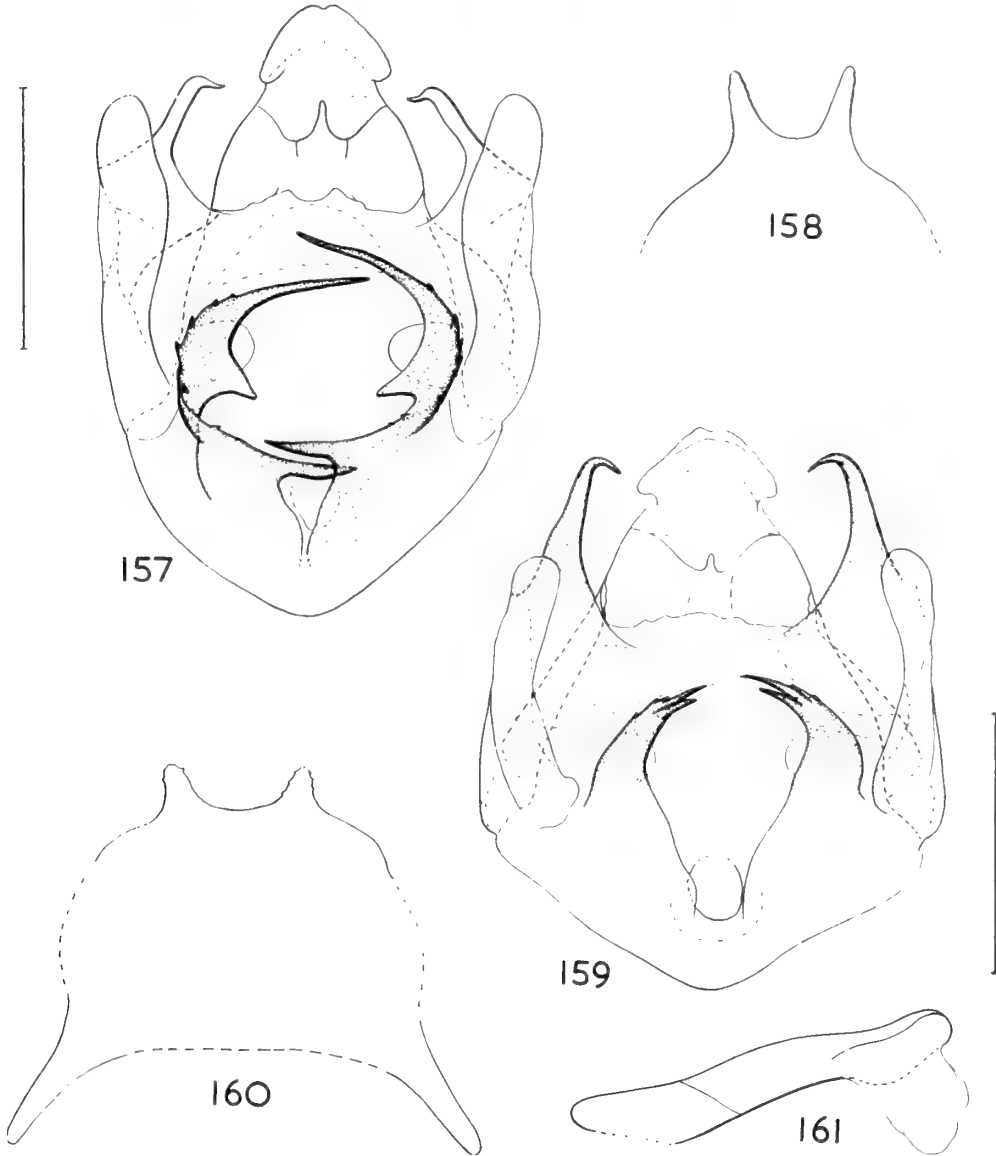
FIGS. 153-156, *Spidia fenestrata fenestrata*. 153, fore wing venation. 154-156, ♂ genitalia. 154, ♂; 155, eighth abdominal sternite; 156, aedeagus.

***Spidia fenestrata divisa* Aurivillius**

(Text-figs. 157, 158 ; Map 5)

Spidia divisa Aurivillius, 1906 : 10. [Good colour plate.]*Spidia fenestrata divisa* Aurivillius; Watson ; 1957 : 117.

DIAGNOSIS. ♂. Distinguished from the nominate subspecies probably only by the male genitalia (see Text-figs. 157, 158).



FIGS. 157-161, *Spidia*, ♂ genitalia. 157-158, *fenestrata divisa*. 157, ♂ ; 158, posterior margin of eighth abdominal sternite. 159-161, *goniata*. 159, ♂ ; 160, eighth abdominal sternite ; 161, aedeagus.

♀. I have recently seen a single female of *divisa* from Mukimbunga (the type locality) from the collection of the Naturhistoriska Riksmuseet, Stockholm. Externally this specimen differs from the males in the slightly more arcuate outer margin of the fore wing. Without further material, however, it is not possible to decide whether there are any significant differences in the genitalia between females of *divisa* and the nominate subspecies.

MEASUREMENTS. A.P.R. : ♂. 18 ; ♀. (Not known, antennae broken.). Wing : ♂. 22.0, 20.5-23.0 mm. (6) ; ♀. 23.5 mm. (1).

DISTRIBUTION (Map 5). As expected from the known distribution in 1957 the recently examined material listed below shows that this subspecies is distributed throughout the CONGO. It is also known from UGANDA.

MATERIAL EXAMINED. Type. Holotype ♂, CONGO, Mukimbunga (near Luozi, W. CONGO) in the Naturhistoriska Riksmuseum, Stockholm.

Other material (additional to that listed by Watson, 1957). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO : 2 ♂, Equateur, Flandria, 25.viii.1931, 1935 (*Hulstaert*) ; 1 ♂, Kasai, Luluabourg, 12.v.1953 (*Fontaine*) ; 1 ♂, Sankuru, Lusambo, 20.viii.1950 (*Fontaine*). *Naturhistoriska Riksmuseet, Stockholm*. CONGO : 1 ♀, Mukimbunga (*Laman*).

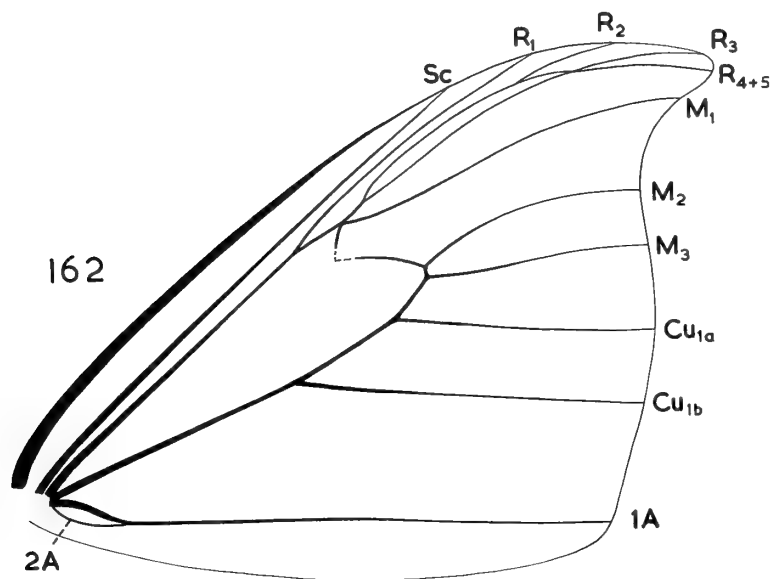


FIG. 162, *Spidia goniata*, ♂ fore wing venation.

***Spidia goniata* Watson stat. n.**

(Text-figs. 159-162 ; Map 5)

Spidia fenestrata goniata Watson, 1957 ; 118.

DIAGNOSIS. ♂. Similar to *fenestrata* ♂ but differing in the following respects. A.P.R. : 27 (compared with 18 in *fenestrata*) ; costal margin of fore wing less strongly arcuate (Text-fig. 162) ; outer margin more strongly arcuate ; venation at base of areole as in Text-fig. 162 ; outer margin of hind wing more strongly arcuate.

The diagnostic characters of the male genitalia were described and figured in the original description, but for convenience have been re-illustrated here (Text-figs. 159-161).

MEASUREMENTS. A.P.R. : ♂. 27. Wing : ♂. 47.5, 45.5-48.5 mm. (2).

DISCUSSION. A re-evaluation of the diagnostic morphological characters had led to the present elevation of *goniata* to specific rank. Although the male genitalia are similar in basic structure to those of *fenestrata* the different venation of the fore wing and the strikingly longer antennal pectinations provide strong evidence of specific distinction.

DISTRIBUTION (Map 5). UGANDA. It is interesting to note that both known specimens were collected in montane forest.

MATERIAL EXAMINED. Type. Holotype ♂, UGANDA, Ruwenzori Range, Nyinataba, 8,650 ft., 7.I3.viii.1952 (*Fletcher*) ; Drepanidae genitalia No. 511 ; in the British Museum (Natural History).

Paratype. *British Museum (Natural History)*. UGANDA : ♂, Ruwenzori Range, Mobuku Valley, 7,800 ft., 29-31.xii.1934 (*Edwards*).

***Spidia rufinota* sp. n.**

(Text-figs. 163-166 ; Pl. 10, fig. 310 ; Map 5)

DESCRIPTION. ♂, ♀. Head and palps greyish brown. Antenna pale brownish buff ; unilamellate.

Coloration of thorax doubtful, but probably similar to ground-colour of wings. Fore legs with very pale brown rear surface and greyish brown front surface ; colour of remaining legs not known. Outer margin and costa of fore wings strongly arcuate (Plate 10, fig. 310) ; venation as for *fenestra* (Text-fig. 153). Ground-colour of fore wing pale reddish brown, lightly speckled with dark brown ; oblique brown postmedial fascia edged distally with pale brown ; three circular, hyaline patches at end of cell, smallest spot between M_2 and M_3 , a large spot between M_3 and Cu_{1a} , and largest spot between Cu_{1a} and Cu_{1b} . Upper surface hind wing darker than fore wing, similarly speckled with dark brown ; antemedial fascia brown, edged distally with pale brown ; large orange-brown spot at posterior angle of cell. Under surface of fore wing very pale brown lightly speckled with brown ; hind wing paler than fore wing, similarly speckled with brown ; greyish brown spot at end of cell corresponding in position with orange-brown spot on upper surface.

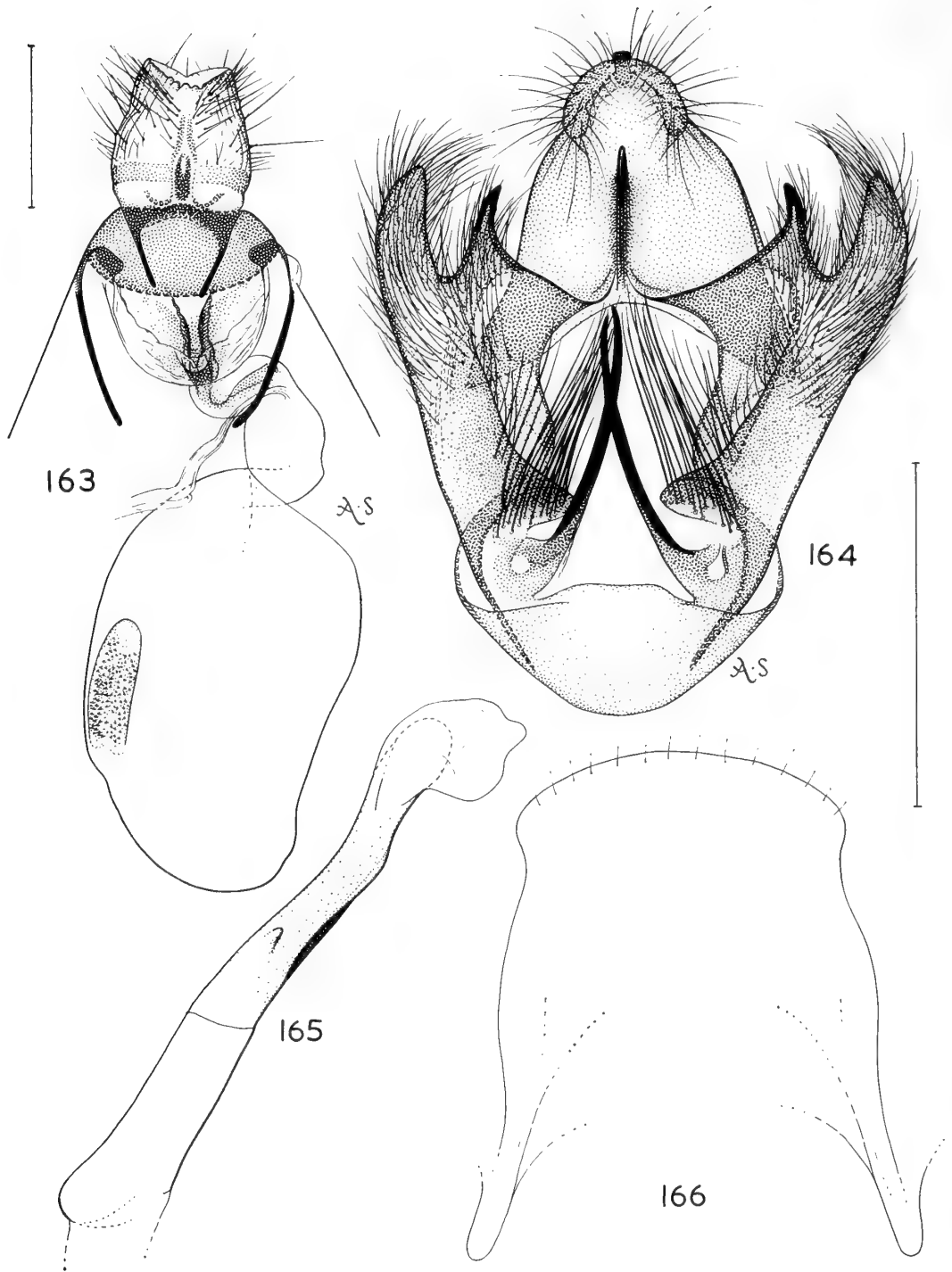
Colour of abdomen not known.

♂ GENITALIA as in Text-figs. 164-166. Strongly sclerotized process near base of valves, apparently arising from vinculum ; aedeagus carinate on one side, with short lobe ; posterior margin of eighth abdominal sternite entire.

♀. Similar to male, but with more slender antennae, upper surface of wing more reddish, both surfaces more strongly speckled and fore wing more distinctly falcate.

♀ GENITALIA as in Text-fig. 163.

MEASUREMENTS. A.P.R. : (antennae broken but probably about ♂. 4, ♀. 2). Wing : ♂. 13.0, 13.0-14.0 mm. (3) ; ♀. 17.0 mm. (1).



FIGS. 163-166, *Spidia rufinota*, genitalia. 163, ♀; 164, ♂; 165, aedeagus; 166, ♂ eighth abdominal sternite.

DISCUSSION. Close similarities in the male genitalia suggest that this species is most closely related to *fenestrata* and *goniata* although it is readily separable from them by the shape of the fore wing, the presence of a large orange-brown spot on the hind wing and by the lamellate antennae.

DISTRIBUTION (Map 5). Known only from CAMEROUN and the CENTRAL AFRICAN REPUBLIC.

MATERIAL EXAMINED. Type. Holotype ♂, CAMEROUN, Bitje, Ja River, 2,000 ft. (*Bates*); Drepanidae genitalia slide No. 1187; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. CAMEROUN: 1 ♂, 1 ♀, type locality, x-xi.1912, 1915. *Institut d'Enseignement et de Recherches tropicales, Bondy*. CENTRAL AFRICAN REPUBLIC: 1 ♂, M'baiki, Boukoko, 23.vi.1949 (*Réal*).

Spidia inangulata sp. n.

(Text-figs. 167-171; Pl. 9, fig. 306; Map 5)

DESCRIPTION. ♂. Head brown anterior to antennal bases, buff posteriorly. Palp brown on upper and outer surface; remainder buff. Antenna unipectinate; upper surface buff.

Thorax pinkish buff dorsally; ventral surface pale buff, but darker around eyes. Outer surface of femur, tibia and proximal part of tarsus of fore leg orange-scarlet, but with medial part of tibia orange. Shape of wings as in Plate 9, fig. 306; venation as for *fenestrata* Butler (Text-fig. 153). Ground-colour of upper surface of fore wing buff (holotype), reddish buff or grey; lightly speckled with dark brown especially in costal area, at apex and near tornus; medial shade usually present, reddish buff (holotype), brown or grey; brown oblique postmedial fascia, well marked and reddish brown in holotype, poorly defined in half of examples examined, trace of broad dentate subterminal fascia. Hyaline patches greenish, iridescent; similarly coloured disco-cellular spot, spot in middle of cell and dark spot just distal to anterior angle of cell (confluent with spot at posterior angle of cell in some specimens, not holotype). One specimen examined (not holotype) with two small hyaline spots instead of one large patch between Cu_{1a} and Cu_{1b} . Upper surface of hind wing often (including holotype) slightly darker than fore wing: varying shades of brown, reddish brown (holotype) or greyish brown, lightly speckled with darker brown (holotype) or greyish brown, lightly speckled with darker brown especially at outer angle. Very dark brown disco-cellular spot and larger spot at posterior angle of cell; broad antemedial fascia continuous with, and same colour as, postmedial fascia of fore wing. Under surface of both wings pale pinkish buff, speckled with very dark brownish grey; fore wing with dark disco-cellular spot, mid-cell spot, and dark-edged hyaline patches; hind wing with large, very dark, brownish grey, disco-cellular spot and trace of posterior cell-spot.

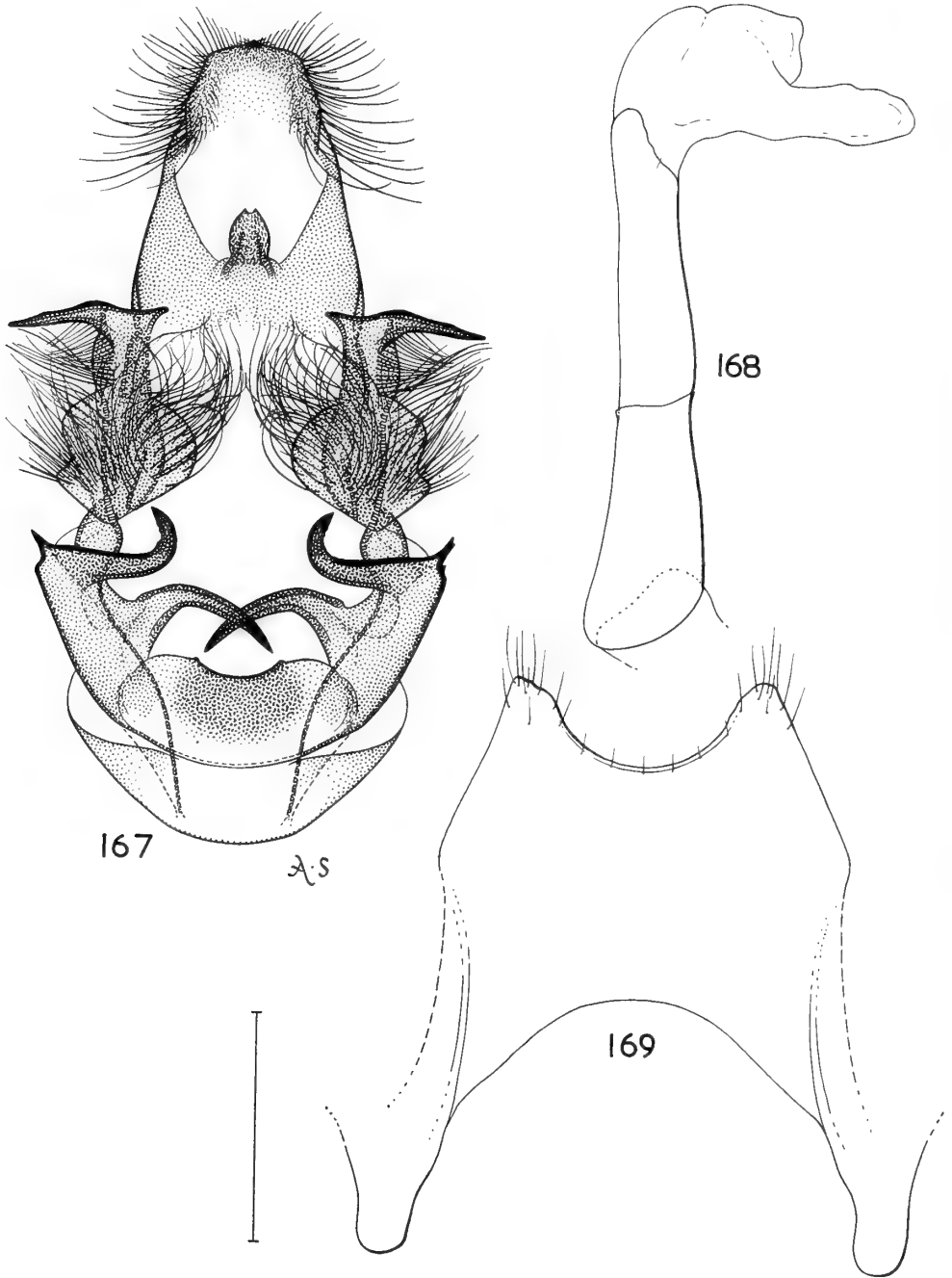
♂ GENITALIA as in Text-figs. 167-169. Vincular and valve processes bifurcate, medial part of gnathus and juxta all particularly heavily sclerotized. Vincular processes not identically paired. Base of aedeagus broad, truncate.

♀. Similar to male but with shorter antennal pectinations and more strongly produced fore wing apex. Wings of all examined specimens with pale grey or greyish buff ground-colour on upper surface and paler, but pinkish, under surface.

♀ GENITALIA as in Text-figs. 170-171.

MEASUREMENTS. A.P.R.: ♂. 7; ♀. 4. Wing: ♂. 22.0, 20.0-23.0 mm. (15); ♀. 24.0, 23.5-25.0 mm. (3).

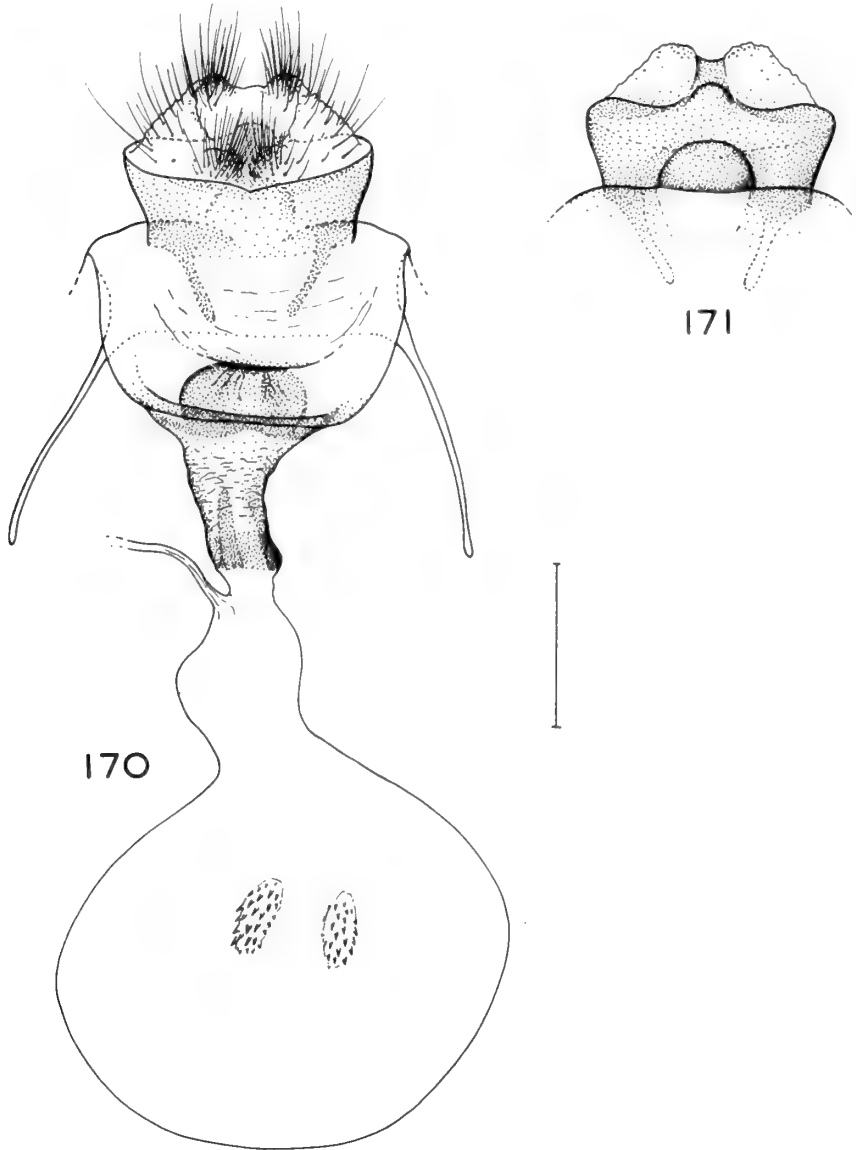
DISCUSSION. This species is very closely related to *smithi* Warren, but the differently shaped hind wing makes separation of the two species a simple matter.



FIGS. 167-169, *Spidia inangulata*, ♂ genitalia. 167, ♂; 168, aedeagus; 169, eighth abdominal sternite.

The only other species likely to be confused with *inangulata* are *fenestrata* and *goniata*, in both of which, however, the outer margin of the fore wing is less strongly arcuate and there are no hyaline patches posterior to Cu_{1b} .

The high degree of individual variation in the coloration of the upper surface of the wings has been dealt with in the description. The iridescent green markings on the fore wings of some specimens are particularly striking.



FIGS. 170-171, *Spidia inangulata*, ♀ genitalia. 170, ventral view; 171, dorsal view of terminal part.

DISTRIBUTION (Map 5). With the exception of one Nigerian specimen the species is known only from CAMEROUN. The Nigerian male probably represents a new subspecies, but further material is needed before this can be verified.

MATERIAL EXAMINED. Type. Holotype ♂, CAMEROUN, Bitje, Ja River, 2,000 ft., x. (Bates); Drepanidae genitalia slide No. 1178; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. CAMEROUN: 15 ♂, 3 ♀, Bitje, Ja River, 2,000 ft., 4.v.—6.vii.1909, iv—xi.1910, x—xi.1913 (Bates). *Carnegie Museum, Pittsburgh*. CAMEROUN: 2 ♂, 1 ♀, Efulen, 10.xi.1911, 12.v., 1.xii.1913 (Weber).

Other material. *British Museum (Natural History)*. NIGERIA: 1 ♂, Port Harcourt, light, 27.xi.1957 (MacNulty).

***Spidia smithi* (Warren) comb. n.**

(Text-figs. 172–175; Pl. 9, fig. 305; Map 5)

Phalacrothyris smithi Warren, 1902: 488.

Phalacrothyris smithi Warren; Gaede in Seitz, 1927 b: 292.

Phalacrothyris smithi Warren; Gaede, 1931: 52.

DIAGNOSIS. ♂, ♀. This species is probably most closely related to *inangulata* from which it can be separated by the angulate outer margin of the hind wing (Plate 9, fig. 305), the more strongly arcuate outer margin and more strongly produced apex of the fore wing, by small but easily recognizable differences in the male genitalia (eighth abdominal sternum, saccus, uncus, gnathus, valves, vincular processes, base of aedeagus), and by the differently shaped female genitalia (Text-figs. ♂ 172–174, ♀ 175). The oblique postmedial fascia on the upper surface of the fore wing is poorly defined in all the specimens examined, whereas about half of the available specimens of *inangulata* have a strongly marked fasciae. The greater size, the absence of dark costal markings in the costal area, and the genitalia distinguish *smithi* from *excentrica*, *planola* and *subviridis*.

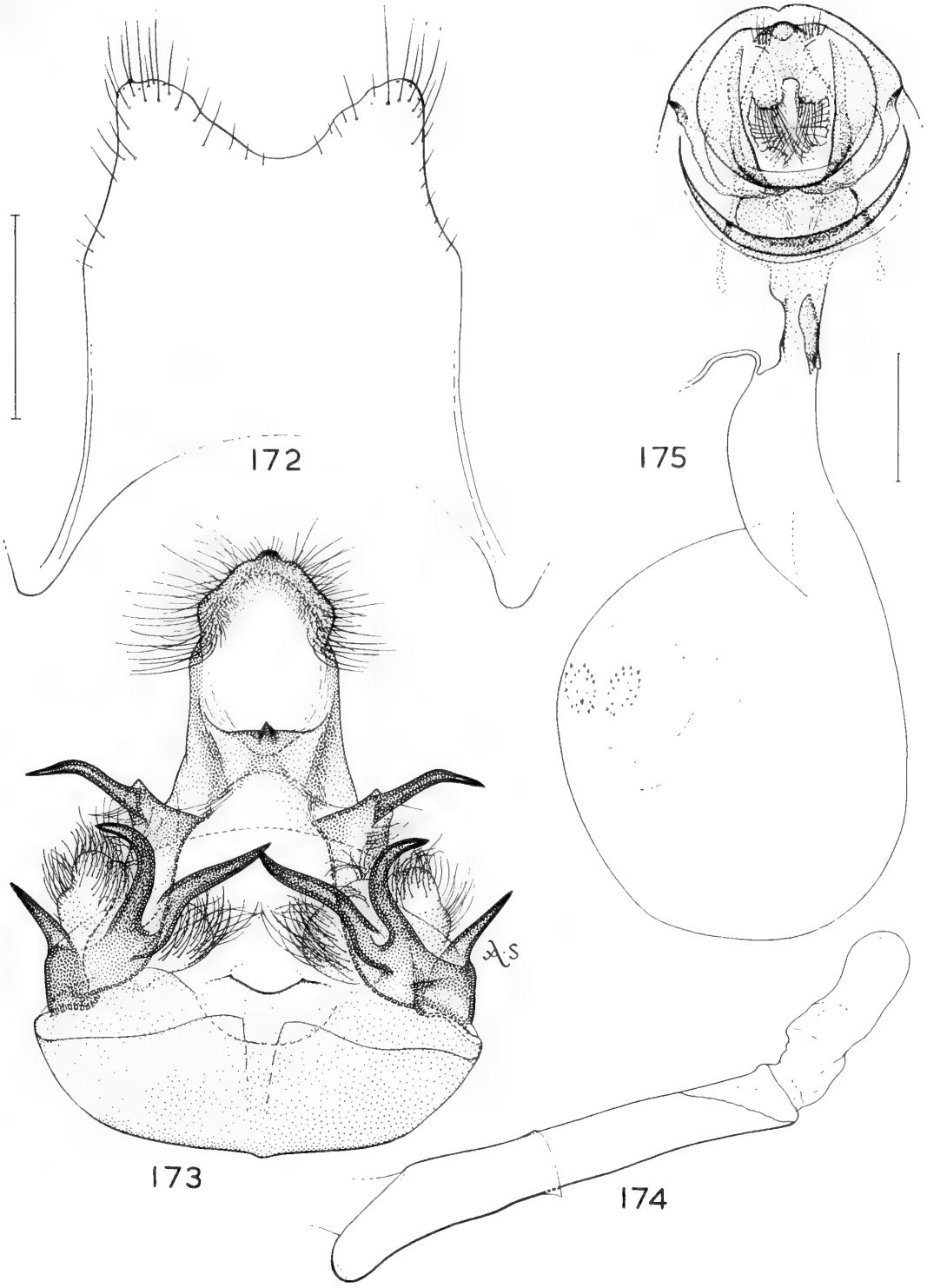
MEASUREMENTS. A.P.R.: ♂. 6; ♀. 4. Wing: ♂. 22.5, 21.5–23.0 mm. (6); ♀. 24.0, 23.0–25.0 mm. (7).

DISCUSSION. The individual variation in the coloration of the upper surface is similar to that found in *inangulata*. Two of the most interesting colour-forms are a reddish brown male from Sankuru (Congo) and a slightly reddish, dark grey female from Uele (Congo).

DISTRIBUTION (Map 5). Known from the CONGO and UGANDA. The single specimen listed below from Uganda doubtless represents a new subspecies, but further material is needed before it can be satisfactorily characterized and described.

MATERIAL EXAMINED. Type. Holotype ♀, U. CONGO, Yakusu (*Smith*); Drepanidae genitalia slide No. 1185; in the British Museum (Natural History).

Other material. *British Museum (Natural History)*. CONGO: 1 ♀, Bopoto (*Smith*); UGANDA: Masaka (*Edwards*). *Musée Royal de l'Afrique centrale, Tervuren* CONGO: 1 ♂, 1 ♀, Uele, Paulis, 7.ix.1956, 7.ix.1957 (*Fontaine*); 2 ♂, Bokuma, ii.1936, 11.ii.1952 (*Hulstaert, Lootens*); 1 ♂, 1 ♀, Flandria, i.1934, 31.x.1946 (*Hulstaert*); 1 ♂, 2 ♀, Sankuru, Katako, Kombe, 21.viii–16.xii.1952 (*Fontaine*); 1 ♀, Sankuru, Djeka-Mbudi, 13.ix.1952 (*Fontaine*); 1 ♂ (*Hulstaert*); 1 ♀, Lusambo, 9.xi.1950 (*Fontaine*). *Naturhistoriska Riksmuseet, Stockholm*. CONGO: 1 ♂.



FIGS. 172-175, *Spidia smithi*, genitalia. 172, ♂ eighth abdominal sternite ; 173, ♂ ; 174, aedeagus ; 175, ♀.

***Spidia planola* sp. n.**

(Text-figs. 178, 179 ; Map 5)

DESCRIPTION. ♂. (Based on a single specimen from the Ivory Coast.) Outer surface of palp brownish buff. Front of head dark greyish brown, vertex pale buff. Antenna buff.

Dorsal surface of thorax buff, ventral surface pale buff. Outer surface of all legs greyish brown, inner surface pale buff ; fore legs darker on outer surface than remaining legs. Wing shape as in Plate 10, fig. 309 of *excentrica* ; hind wing angulate at M_1 . Venation as for *fenestrata*. Ground-colour of both wings buff, lightly speckled with dark brown. Upper surface of fore wing with two dark grey costal markings ; dark reddish brown discocellular spot and similarly coloured spots at posterior and anterior angles of cell ; dark reddish brown streak extending from anterior angle of cell to about half-way along posterior margin of areole ; second dark reddish brown streak extending from discocellular spot along middle of cell to base of wing ; six greenish, iridescent patches in end of cell, distal to end of cell, between M_2 and M_3 , between M_3 and Cu_{1a} between Cu_{1a} and Cu_{1b} , and between Cu_{1b} and $1A$ (Cu_{1a} — Cu_{1b} patch large, about 1 mm. in diameter ; remainder about half this size) ; faintly marked oblique postmedial fascia from near apex to about half length of inner margin ; trace of dark subterminal markings near tornus. Upper surface of hind wing with broad, weakly marked, reddish buff, antemedial fascia continuous with postmedial fascia of upper surface ; dark reddish brown discocellular spot and spot at posterior angle of cell ; small hyaline patch between M_3 and Cu_{1a} close to end of cell ; reddish grey postmedial shade in posterior half of wing ; subterminal area of wing more reddish than remainder of wing. Under surface of both wings very pale grey, lightly striate with dark brownish grey wing ; slightly darker in middle of proximal half of wing and with trace of postmedial fascia (not corresponding in position with postmedial fascia on upper surface) ; hind wing with faintly marked postmedial fascia.

♂ GENITALIA as in Text-figs. 178, 179 (Ivory Coast ♂). Eighth abdominal sternite similar to that of *excentrica* (Text-fig. 183) ; valve with elongate, non-setose arm, and setose, digitate process ; vinculum with two pairs of arcuate, heavily sclerotized arms ; aedeagus with lateral lobe.

♀ (Ivory Coast specimen in the British Museum). Similar to male, but lacks reddish brown streak in cell and along areole, there are relatively larger hyaline patches in fore wing, and a hyaline patch between M_2 and M_3 as well as between M_3 and Cu_{1a} .

♀ GENITALIA similar to those of *subviridis* but more material is needed for comparison.

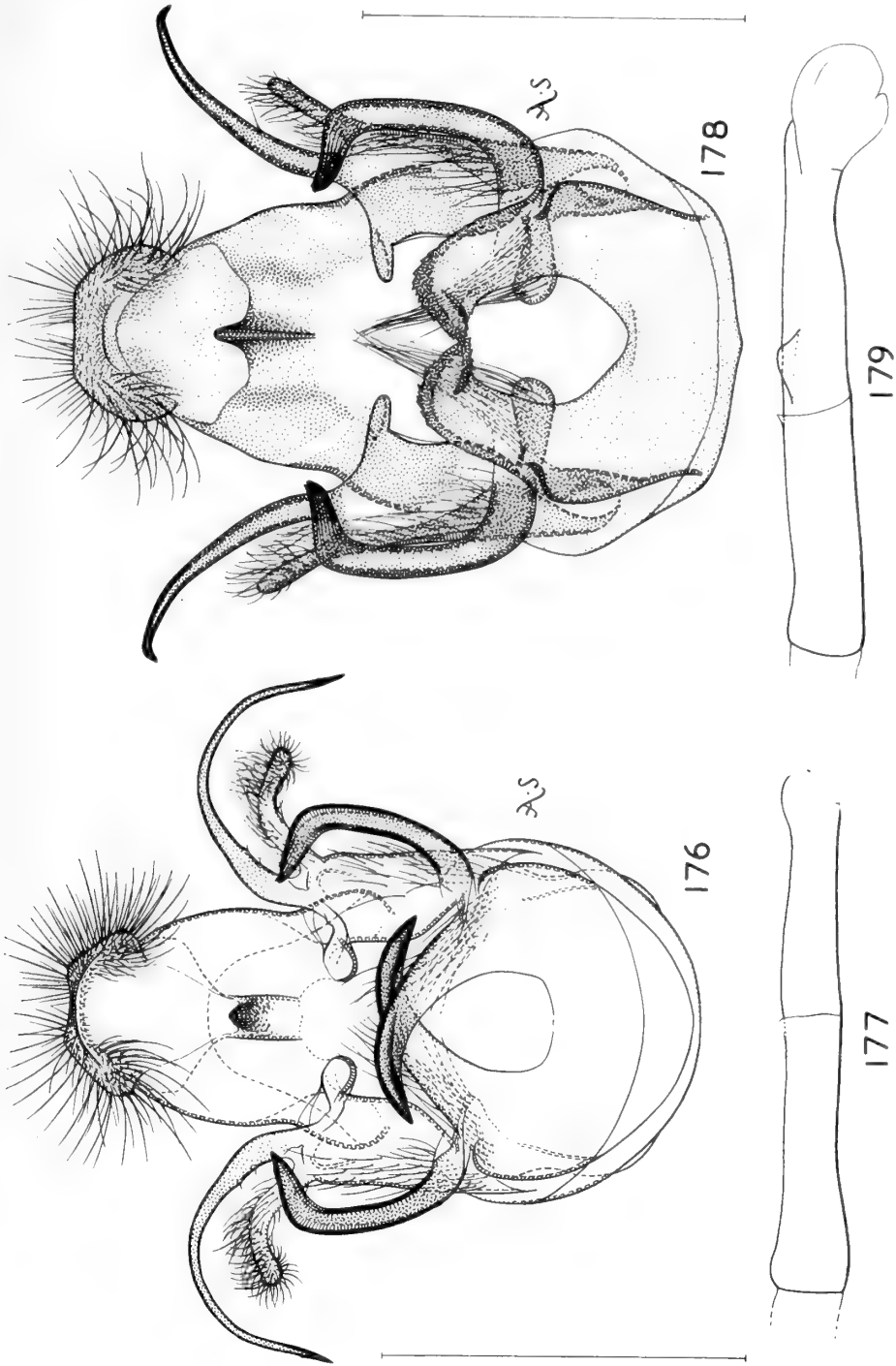
MEASUREMENTS. A.P.R. : ♂. 11 ; ♀. Not known (antennae broken). Wing : ♂. 15.0 mm. (1) ; ♀. 16.0, 15–17.0 mm. (2).

DISCUSSION. This species is probably most closely related to *subviridis*, from which it can be separated, in most specimens, by the less acutely produced outer margin of the hind wing (as in *excentrica* Plate 9, fig. 308) and by the spinose, stouter, innermost vincular processes and the shape of the uncus and gnathus (Text-fig. 178). The species *planola* and *subviridis* apparently form a species-pair in the Ivory Coast.

DISTRIBUTION (Map 5). IVORY COAST ; probably SIERRA LEONE ; possibly GHANA and the CENTRAL AFRICAN REPUBLIC.

MATERIAL EXAMINED. Type. Holotype ♂. IVORY COAST, Bingerville, ix.1915 (*Mélou*) ; Drepanidae genitalia slide No. 1162 ; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. IVORY COAST : 1 ♀. *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST : 1 ♀, Adiopodoumé 17.i.1955 (*Réal*).



FIGS. 176-179, *Spidia*, ♂ genitalia. 176-177, *subviridis*. 176, ♂; 177, aedeagus.
178-179, *planola*. 178, ♂; 179, aedeagus.

Other material. Apart from the specimens collected in the Ivory Coast, several specimens from Sierra Leone doubtless belong to this species, but may represent a new subspecies. The latter examples have not been referred to in the description or labelled as paratypes as more material of both sexes is required before their specific identity can be definitely resolved. There is considerably more doubt about the position of two specimens (Central African Republic and Ghana) which either represent a new subspecies of *planola* or a new species of *Spidia* close to *planola*.

***Spidia subviridis* (Warren) comb. n.**

(Text-figs. 176, 177, 181 ; Pl. 9, fig. 307 ; Map 5)

Phalacrothyris subviridis Warren, 1899 : 287.

Phalacrothyris subviridis Warren ; Gaede in Seitz, 1927 b : 292.

Phalacrothyris subviridis Warren ; Gaede, 1931 : 52.

DIAGNOSIS. ♂, ♀. Similar to *planola* and *excentrica* in coloration and colour-pattern, but most specimens can be readily distinguished from both of the latter species by the more acutely produced outer margin of the hind wing (Plate 9, fig. 307). The male genitalia have many characters in common with those of *planola* but differ in the shape of the uncus, gnathus, and the more medial of the two pairs of vincular arms which are evenly tapered and non-spinose (Text-fig. 176). In the female genitalia (Text-fig. 181) the shape of the post-ostial structures separates *subviridis* from *excentrica*.

MEASUREMENTS. A.P.R. : ♂. 14 ; ♀. Not known (antennae broken). Wing : ♂. 13.0, 11.0-14.5 mm. (6) ; ♀. 16.0, 15.5-16.5 mm. (3).

DISCUSSION. The close similarity in the genitalia between *planola* and *subviridis* suggests a probable monophyletic origin. They form a species-pair in the Ivory Coast where they are apparently sympatric.

There is considerable variation in the coloration of the upper surface of the wings which may be one of many tones of grey or buff variously speckled with brown. The fore wings of one male from Cameroun have dark brown streaks in the cell and beneath the areole as in the holotype of *planola*. The size and number of the hyaline patches in both wings are also subject to much variation : in some specimens they are absent in the hind wing.

DISTRIBUTION (Map 5). Known from the IVORY COAST, NIGERIA, CAMEROUN and the CONGO.

MATERIAL EXAMINED. Type. Holotype ♀, NIGERIA, Warri, vii.97 (*Roth*) ; Drepanidae genitalia slide No. 1164 ; in the British Museum (Natural History).

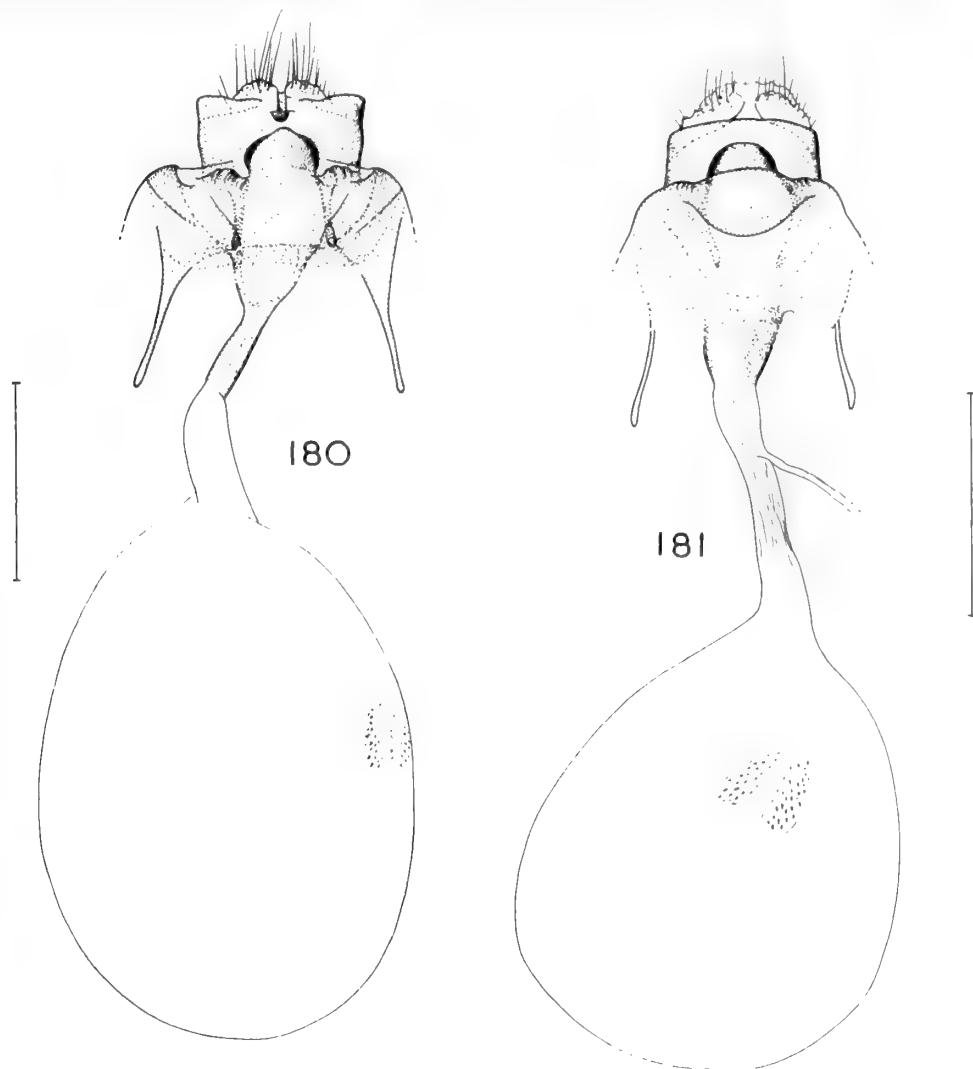
Other material. *British Museum (Natural History)*. CAMEROUN : 4 ♂, 3 ♀, Bitje, Ja River, 2,000 ft., iv-vi.1910, x-xi.1912, x-xi.1913 (*Bates*). *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST ; 1 ♂, Adiopodoumé, 16.i.1955 (*Réal*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO : 1 ♂, Flandria, 29.x.1929 (*Hulstaert*).

Spidia excentrica Strand

(Text-figs. 180, 182-184 ; Pl. 9, fig. 308, Pl. 10, fig. 309 ; Map 5)

Spidia excentrica Strand, 1912 : 122.*Spidia excentrica* Strand ; Gaede, 1931 : 51.*Phalacrothyris excentrica* (Strand) ; Gaede in Seitz, 1927 b : 292. [Very poor fig.]*Phalacrothyris excentrica* (Strand) ; Gaede, 1931 : 52.*Phalacrothyris excentrica* (Strand) ; Watson, 1957 : 113.

DIAGNOSIS ♂, ♀. Similar to *subviridis* in the coloration and the variation in the number and size of the hyaline patches on the wings ; but separable from it externally by the shape of the hind wing (Plate 9, fig. 308) (similar to that of *planola* and *miserrima*) and in the male and



FIGS. 180-181, *Spidia*, ♀ genitalia. 180, *excentrica* ; 181, *subviridis*.

female genitalia by distinct differences (Text-figs. 180, 182-184). The male possesses a third pair of vincular processes not found in either *subviridis* or *planola*.

MEASUREMENTS. A.P.R. : ♂. 15 ; ♀. 9. Wing : ♂. 12.5, 12.0-13.0 mm. (3) ; ♀. 16.5, 15.5-18.5 mm. (5).

DISCUSSION. There are close affinities between this species and *subviridis* and *planola*, but these are not as close as those between the latter two species.

The extent of individual variation in coloration and colour-pattern is similar to that described for *subviridis*. One of the more interesting forms is represented by a male from Nigeria in which there is a dark brown streak in the cell and another below the areole as in the holotype of *planola*.

Gaede (1931 : 51, 52) catalogued this species under both *Spidia* and *Phalacrothyris* in the same publication.

DISTRIBUTION (Map 5). NIGERIA and CAMEROUN. A male from GABON and a female from FERNANDO PO, both in the British Museum (Natural History), probably belong to this species, but further material is needed before this can be confirmed.

MATERIAL EXAMINED. Type. Holotype ♀, CAMEROUN, Buea ; Drepanidae genitalia slide No. 1243 ; in the Zoologisches Museum, Berlin.

Other material. *British Museum (Natural History)*. CAMEROUN ; 2 ♀, Bitje, Ja River, x.1915 (*Bates*). NIGERIA : 1 ♀, $\frac{1}{2}$ mile E. of Oni, bred from larva, emerged 20.ix.1912, larva collected 15.iii-8.xii (*Lambourn*) ; 2 ♂, 1 ♀, $\frac{1}{2}$ mile E. of Oni, 8.xii.1911, 23.iii.1912 (*Lambourn*).

Spidia miserrima (Holland) comb. n.

(Text-figs. 185-187 ; Map 5)

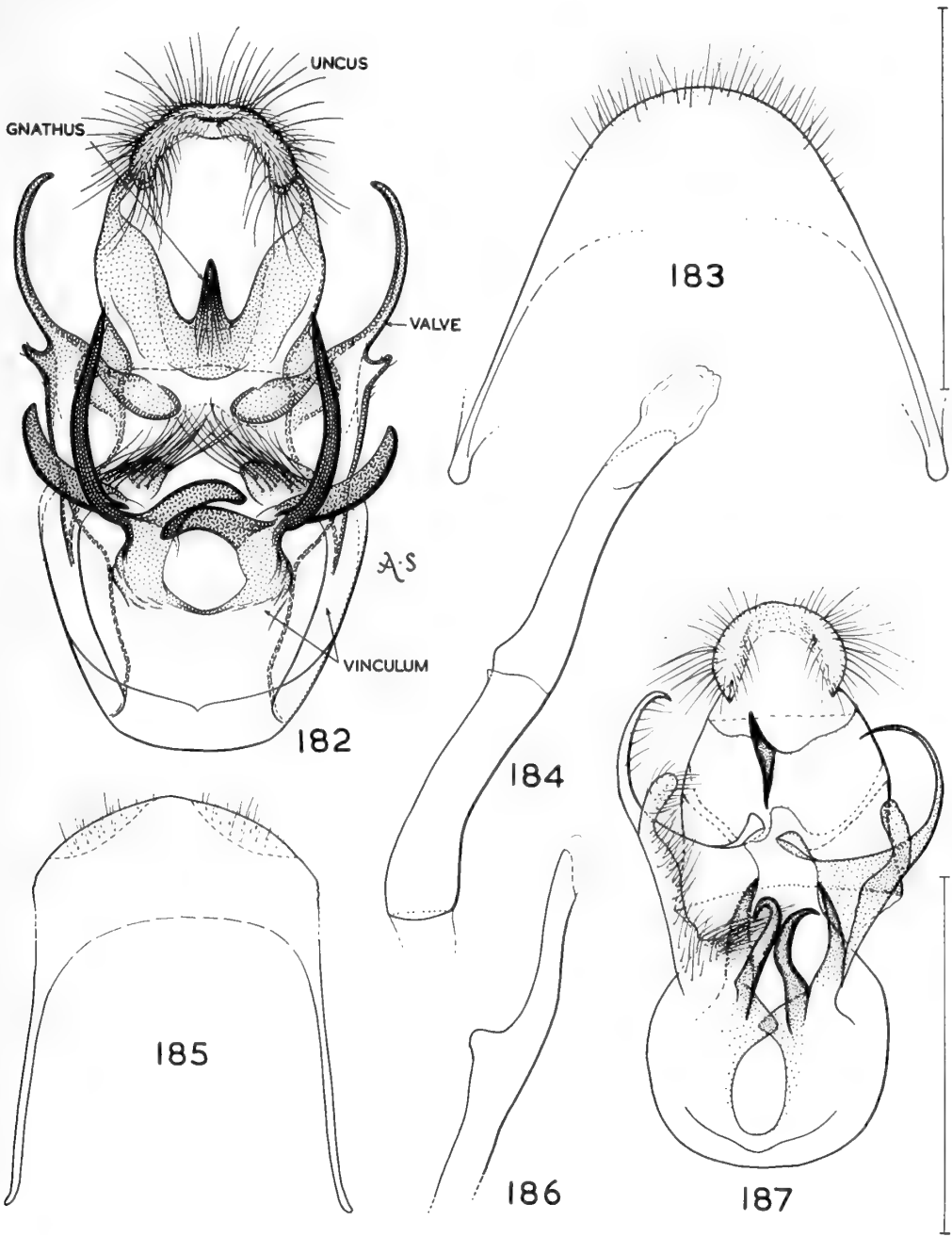
Thymistida miserrima Holland, 1893 : 181.

Epicamoptera miserrima (Holland) ; Gaede, 1931 : 52.

DIAGNOSIS. ♂. Shape and colour-pattern of wings probably similar to *excentrica* and *planola* (see Discussion). ♂ genitalia (Text-figs. 185-187) : vinculum with two pairs of long, heavily sclerotized processes ; medial process of vinculum long and acuminate ; aedeagus with conspicuous lateral lobe ; eighth tergite as in *excentrica* ; (eighth sternite probably accidentally folded at its posterior margin on holotype slide, as in Text-fig. 185).

MEASUREMENTS. A.P.R. : Not known. Wing : ♂. Given as "25 mm." in the original description. It is obvious from the illustrations given by Holland that this measurement is the distance between fore wing apices.

DISCUSSION. Owing to the variability in the coloration and in the size and number of the hyaline patches on the wings it is doubtful whether an examination of the holotype, the only known specimen, would have revealed any significant external difference between *miserrima* and the similarly patterned *excentrica* or *planola*. The genitalia slide of the holotype has, however, been examined and compared with slides of *excentrica* with which *miserrima* has close affinities. The differently shaped vincular processes in the male genitalia (probably slightly displaced in the type-slide of *miserrima* and consequently in Text-fig. 187), the differently shaped valve, and the large lateral lobe on the aedeagus distinguish *miserrima* from *excentrica*.



FIGS. 182-187, *Spidia*, ♂ genitalia. 182-184, *excentrica*. 182, ♂; 183, eighth abdominal sternite; 184, aedeagus. 185-187, *miserrima*. 185, eighth abdominal sternite; 186, aedeagus (base missing); 187, ♂.

This species was not correctly placed in either *Thymistida* Warren, which is a genus of a different subfamily (Drepaninae), or in *Epicampoptera*, all the species of which have differently shaped wings, a different colour-pattern and distinctive male genitalia.

MATERIAL EXAMINED. Type. Holotype ♂, GABON, Valley of the Ogowe [Ogové] River ; slide preparation No. C566 ; in the Carnegie Museum, Pittsburgh.

CROCINIS Butler

(Text-figs. 188–218 ; Pls. 11–13, figs. 313–325)

Crocinis Butler, 1879 : 244. Type-species, by original designation, *Crocinis fenestrata* Butler, 1879.

Drapena Gaede, in Seitz, 1927 b : 289. Type-species, by original designation, *Drepana forata* Warren, 1897. **syn. n.**

Drapena Gaede ; Gaede, 1931 : 51.

DESCRIPTION. ♂. Proboscis vestigial. Palp small, extending to just above labrum. Antennae unipectinate.

Thorax yellow, orange, brown or black. Mid and hind tibia each with one pair of apical spurs. Costa of fore wing weakly arcuate except at base and apex ; apex weakly or strongly falcate, R_1 arises from short distance proximal to end of cell ; R_2 from short distance proximal to end of elongate areole. R_4 fuses with R_3 for short distance immediately after branching from R_{4+5} . Fore wing yellow, orange, brown or grey, usually speckled with dark brown or black and with semi-transparent patch or patches at end of cell ; antemedial fascia usually weakly marked ; discocellular spot and posterior cell-spot usually well marked in species-group *spicata*, usually absent in species-group *fenestrata* ; oblique postmedial fascia usually well-marked. Hind wing with posterior part of outer margin slightly convex in species-group *fenestrata* (except in *felina*), straight or slightly convex in species-group *spicata*. $Sc + R_1$ anastomoses with R_s for short distance distal to end of cell. Colour of hind wing usually similar to fore wing ; double antemedial fascia usually present ; cell-spots present or absent. Under side of both wings, yellow, reddish yellow or light brown ; cell-spots corresponding with spots on upper surface ; post-medial fascia usually well marked on fore wing, absent or poorly marked in hind wing, corresponding in position with same fascia in fore wing but not in hind wing. (See Plates 11–13.)

Coloration of abdomen as for corresponding adjacent surface of hind wing.

♂ GENITALIA. (Species-group *fenestrata*, see labelled Text-fig. 188) : saccus broad, shallow ; valve (or derivatives of vinculum) elongate, digitate, with one or more stout processes at base, and long incurved process arising posteriorly ; tegumen with pair of minute, lateral, setose lobes ; uncus simple, tapered ; diaphragma weakly sclerotized medially ; anellus conical ; aedeagus with variously shaped cornutus or cornuti ; eighth abdominal sternum with one pair of posterior processes, without apodemes. (Species-group *spicata*, see labelled Text-fig. 216) : saccus as above ; valve with four processes, two heavily sclerotized, two weakly sclerotized and digitate ; diaphragma forming a large, weakly sclerotized, anteriorly directed invagination ; anellus a broad, moderately well sclerotized, domed structure surrounding the aedeagus ; tegumen with paired setose lobes ; uncus hood-like, bilobed ; aedeagus large, bilobed at base, vesica partially scobinate but without cornuti ; eighth sternum with bilobed posterior margin, unmodified and without apodemes anteriorly.

♀. (*boboa* is the only species whose females have been definitely identified.) Probably basically similar to male in all species. In *boboa* the antennal pectinations are relatively shorter and the outer margin of hind wing is entirely convex.

♀ GENITALIA : In *boboa* (species-group *fenestrata*) the bursa is ornamented with an irregular band of scobinations ; in unidentified females of species-group *spicata* the bursa bears a T-shaped signum.

DISCUSSION. *Crocinis* was erected for three new species : *fenestrata* (selected as type-species by Butler) *plana*, and *ochracea*. [The latter two species have been transferred to the family Geometridae by previous authors.] *Drapena* was established by Gaede (1927 b : 189) for *Drapena forata* Warren (selected as type-species by Gaede) and *Drepana tetrathyra* Mabille. Examination of the holotypes of *fenestrata* and *forata* has shown them to be conspecific and that *Drapena*, 1927, must be treated as a junior synonym of *Crocinis*, 1879. In this revision eight new Madagascan species are added to the genus *Crocinis*, and *tetrathyra* Mabille is transferred to this genus from *Gogana* Walker (an Indo-australian genus which bears little resemblance to *Crocinis*).

This Madagascan genus is probably most closely related to the African *Spidia* Butler, from which it may have been derived, but can be separated from it in the male genitalia by differences in the form of the valves (or vincular processes) and saccus, the absence of a gnathus, and the presence of a well-developed anellus and an only slightly modified eighth abdominal sternum. The female signum is probably also diagnostic, but the females of only one species of *Crocinis* have been definitely identified.

The species *spicata* and *licina* are apparently identical externally but are separated by small differences in parts of the male genitalia. They are sympatric, however, in the forest of Anamalazoatra, near Périnet, and are therefore probably distinct species, not subspecies of one species.

Considerable individual variation in coloration and in the size and shape of the hyaline patches is present in *spicata* and *viettei*. Similar variation may exist in the remaining species of this genus but there is insufficient material to show this.

Several females of the species-group *spicata* in the Muséum national d'Histoire naturelle, Paris, the Institut scientifique, Madagascar, and the British Museum (Natural History) can not, at present, be associated with the corresponding males. One of these females is illustrated (Plate 13, fig. 325).

The species of *Crocinis* can be readily separated into two groups which are diagnosed below. I have termed them species-group *fenestrata* and species-group *spicata*.

SPECIES-GROUP *fenestrata*

Outer margin of hind wing concave posteriorly (except *felina*) ; cell-spots on both surfaces of fore and hind wing absent or weakly marked. ♂ GENITALIA : posterior digitate process of valve (or derivative of vinculum) without sclerotized spine ; diaphragma without invagination ; uncus simple, not bilobed at base ; vesica of aedeagus with cornutus or cornuti.

SPECIES-GROUP *spicata*

Outer margin of hind wing straight or slightly convex posteriorly ; cell-spots usually well marked. ♂ GENITALIA : posterior digitate process of valve with sclerotized spine ; diaphragma with anteriorly directed invagination medially ; uncus hood-like, bilobed at base ; vesica scobinate but without cornuti.

KEY TO SPECIES

MALES

A : SPECIES-GROUP *fenestrata*

- 1 Apex of fore wing strongly produced ; outer margin of hind wing entirely convex (Plate 11, fig. 316) ; valve with single, basal tooth ; aedeagus with single, thorn-like cornutus ; eighth sternum as in Text-fig. 208 **felina** (p. 126)
- Apex of wing less strongly produced than in Plate 11, fig. 316 ; outer margin of hind wing straight or slightly concave posteriorly ; genitalia with one or two processes at base of valve 2
- 2 Hyaline patch on fore wing more than half width of wing (measured at point mid-way between base and apex) ; postmedial fascia of fore wing weakly marked (Plate 12, fig. 320) ; valve with two processes near base (Text-fig. 199) ; vesica of aedeagus scobinate, with single cornutus ; eighth sternum as in Text-fig. 198 **boboa** (p. 121)
- Hyaline patch on fore wing less than half width of wing at middle ; postmedial fascia usually well-marked on fore wing ; valve with one or two basal processes 3
- 3 Upper surface of fore wing lustrous distal to postmedial fascia 4
- Upper surface of fore wing non-lustrous distal to postmedial fascia 5
- 4 Fore wing with hyaline patch ; outer margin of hind wing concave posteriorly (Plate 11, fig. 314) ; valve with single basal process (Text-fig. 204) ; eighth sternum as in Text-fig. 205 **imaitsoana** (p. 124)
- Fore wing without hyaline patch ; outer margin of hind wing straight or very weakly concave posteriorly (Plate 11, fig. 313) ; valve with two processes (Text-fig. 201) ; eighth sternum as in Text-fig. 202 **canescens** (p. 126)
- 5 Postmedial fascia of upper surface of fore wing with distal border of highly lustrous scales ; valves with two basal processes 6
- Postmedial fascia of upper surface without highly lustrous scales (Plate 11, fig. 315) ; valve with single basal process (Text-fig. 188) **fenestrata** (p. 116)
- 6 Valve processes as in Text-fig. 194 ; vesica of aedeagus scobinate, with two cornuti (Text-fig. 196) **viettei** (p. 119)
- Valve processes as in Text-fig. 193 ; vesica of aedeagus not scobinate, with single cornutus (Text-fig. 192) **prolixa** (p. 117)

B : SPECIES-GROUP *spicata*

- 1 A.P.R. 15 ; genitalia as in Text-figs. 216–218 **tetrathyra** (p. 131)
- A.P.R. 12 ; genitalia as in Text-figs. 210–215 2
- 2 Genitalia as in Text-figs. 210–212 **spicata** (p. 127)
- Genitalia as in Text-figs. 213–215 **licina** (p. 129)

SPECIES-GROUP *fenestrata**Crocini fenestrata* Butler

(Text-figs. 188–190 ; Pl. 11, fig. 315)

Crocini fenestrata Butler, 1879 : 244.*Drepana forata* Warren, 1897 : 15. **syn. n.***Drapena forata* (Warren) ; Gaede, 1927 b : 289.*Drapena forata* (Warren) ; Gaede, 1931 : 51.

DESCRIPTION. ♂. Head, palps, antennae, thorax, legs and ground-colour of wings yellowish orange.

Fore wing weakly falcate (Plate 11, fig. 315) ; outer margin moderately convex. Small group of semi-transparent patches surrounding posterior angle of cell ; largest patch between Cu_{1a} and Cu_{1b} . Upperside of fore wing with trace of antemedial fascia ; reddish brown postmedial fascia from near apex to three-fifths anal margin, bent inwards just before costa, edged distally with lustrous, white scales ; apex and area between postmedial and outer margin brownish orange. Hind wing with moderately convex outer margin anteriorly but slightly concave from Cu_1 to tornus ; trace of double antemedial fascia, continuous with postmedial fascia of fore wing ; distal part of wing lightly speckled with reddish brown. Underside of both wings deep yellow. Fore wing with trace of anterior part of postmedial ; apex of wing and anterior part of area between postmedial and margin brownish orange. Hind wing lightly and irregularly speckled with reddish brown anterodistally ; small dark discocellular spot.

Colour of abdomen doubtful (specimens worn).

♂ GENITALIA (Text-figs. 188–190) : valve with single, sharply pointed, inwardly-directed process near base ; aedeagus with single cornutus ; eighth abdominal sternum as in figure.

♀. Unknown.

MEASUREMENTS. A.P.R. : ♂. Not known (no complete antenna). Wing : ♂. 12.5 mm. (2).

DISCUSSION. The yellow coloration of the upper surface and the presence of only one spine at the base of each valve in the genitalia separate this species from *prolixa* and *viettei* both of which are similar in size to *fenestrata*. It is doubtful, however, if the relationship between *fenestrata* and the two above-mentioned species is any closer than that between *fenestrata* and the rest of the species-group.

DISTRIBUTION. MADAGASCAR. The type of *fenestrata* is stated by Butler to have been taken at Antananarivo (=Tananarive) in central Madagascar.

MATERIAL EXAMINED. Types. Holotype ♂ of *fenestrata* Butler, MADAGASCAR ; Drepanidae genitalia slide No. 591. Holotype ♂ of *forata* Warren, MADAGASCAR ; Drepanidae genitalia slide No. 590. Both types in the British Museum (Natural History).

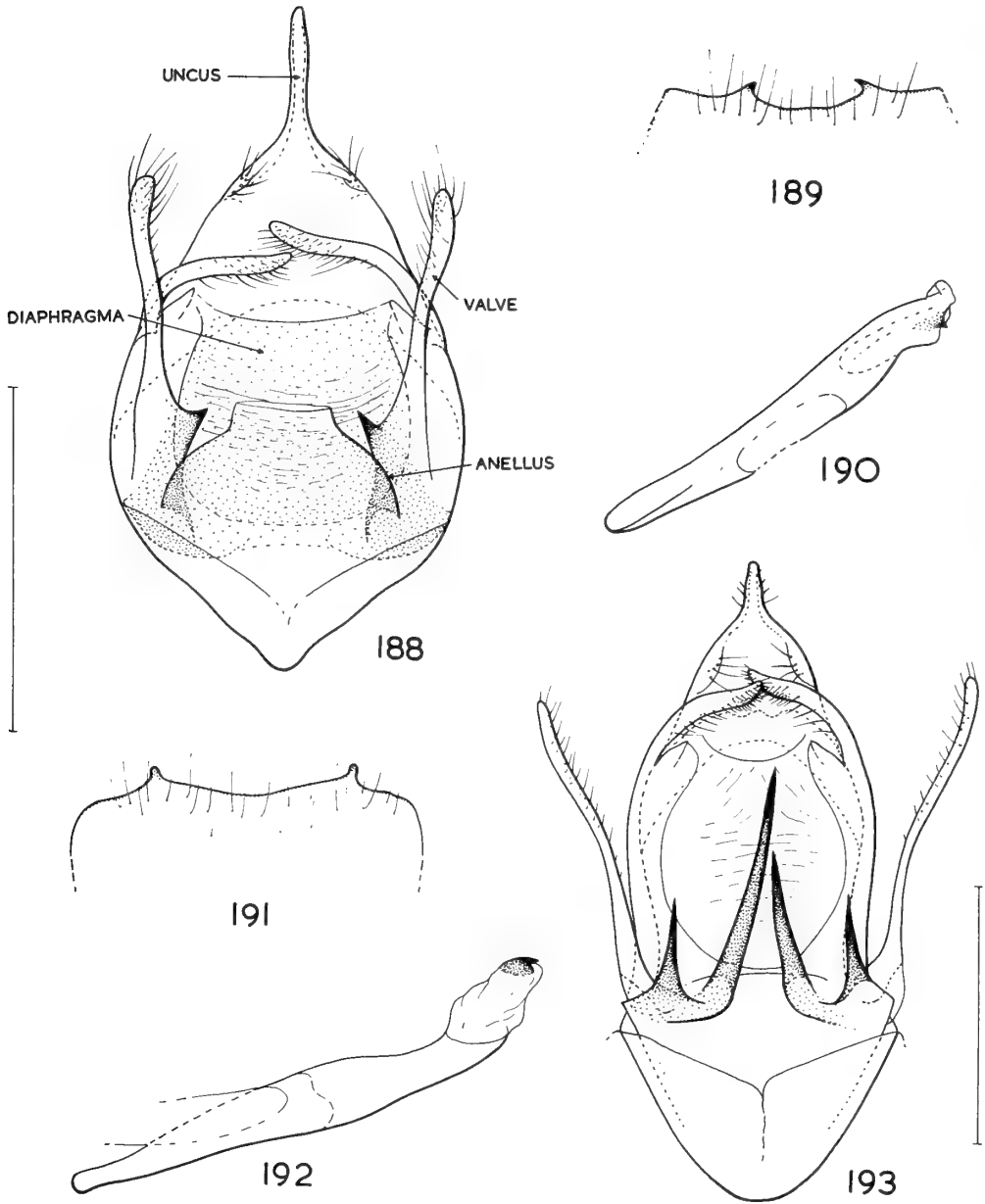
Crociniis prolixa sp. n.

(Text-figs. 191–193 ; Pl. 12, fig. 319)

DESCRIPTION. Palp and head reddish brown. Antenna brownish orange.

Colour of thorax and legs as for corresponding surface of wing, but front surface of prothoracic femur and tibia brownish red.

Fore wing strongly falcate (Plate 12, fig. 319) ; outer margin moderately convex. Small group of hyaline patches distal to end of cell (patches confluent in holotype). Upper surface of fore wing reddish brown (palest at base) lightly speckled with blackish and reddish scales, and speckled with highly lustrous scales in costal area and between postmedial fascia and outer margin. Trace of dark, reddish, antemedial fascia, edged proximally with highly lustrous



FIGS. 188-193, *Crocinis*, ♂ genitalia. 188-190, *fenestrata*. 188, ♂; 189, posterior margin of eighth abdominal sternite; 190, aedeagus. 191-193, *prolixa*. 191, posterior margin of eighth abdominal sternite; 192, aedeagus; 193, ♂.

scales ; hyaline patches edged first with dark brown then with highly lustrous scales ; well marked, postmedial fascia from apex to three-fifths inner margin, bent inwards just before costa, edged distally with highly lustrous scales ; terminal row of interneural, highly lustrous dashes ; fringe dark reddish brown, tipped with black at apex and at middle of wing but with white elsewhere. Outer margin of hind wing strongly convex anteriorly ; concave between Cu_2 and anal margin. Ground-colour of hind wing chiefly brownish orange, but orange anteriorly ; speckled with black, brown and highly lustrous scales between antemedial fascia and outer margin of wing ; antemedial fascia double, continuous with postmedial fascia of fore wing, dark reddish brown (black at anal margin in one paratype) edged proximally and distally with highly lustrous scales ; terminal row of highly lustrous dashes ; fringe dark reddish brown, tipped with white near anal margin of wing.

Under surface of fore wing orange proximally, brownish red between end of cell and outer margin of wing ; lightly speckled with black between postmedial fascia and outer margin. Trace of anterior part of postmedial fascia. Hind wing orange, suffused with brownish red near outer margin ; lightly speckled with black distally. Small black discocellular spot.

♂ GENITALIA (Text-figs. 191–193) : valve with two basal processes, unequal in length ; aedeagus with single, hooked cornutus ; posterior margin of eighth sternum as in figure.

♀. Unknown.

MEASUREMENTS. A.P.R. : ♂. Not known (no complete antenna). Wing : ♂. 13.5, 13.0–14.0 mm. (3).

DISCUSSION. Separated from the closely related *viettei* by the slightly convex outer margin of the fore wing, and in the genitalia by the differently shaped processes of the valve and the presence of only one cornutus on the vesica. The variation in the colour of the antemedial fascia on the hind wing is dealt with above.

DISTRIBUTION. Known from central and east MADAGASCAR. The range of this species overlaps that of *viettei*.

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR, forêts d'Antsianaka, 1888 (*Humblot*) ; Drepanidae genitalia slide No. 594 ; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. CENTRAL MADAGASCAR : 1 ♂, forêts d'Antsianaka [W. of Ambositra], 1888 (*Humblot*). *Muséum national d'Histoire naturelle, Paris*. EAST MADAGASCAR : 1 ♂, Route de Lakato, 15 km. Ankasoka, 1,100 m., 2–10.i.1951 (*Viette*). *Institut scientifique, Madagascar*. N.E. MADAGASCAR : 1 ♂, Sambava, Marojejy, Andasy II, 1,300 m., xii.1958 (*Raharizonina*).

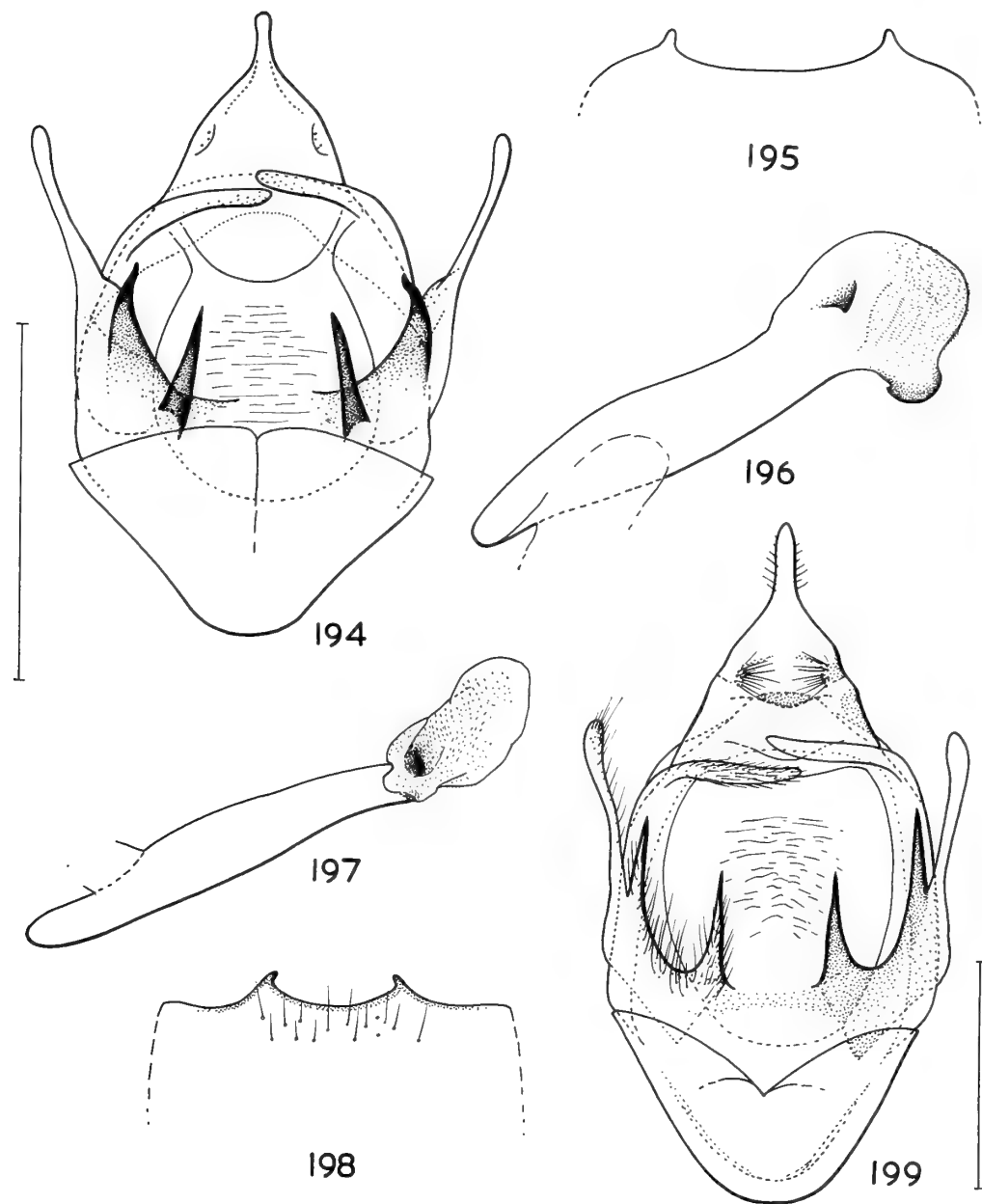
Crociniis viettei sp. n.

(Text-figs. 194–196 ; Pl. 12, figs. 317, 318)

DESCRIPTION. ♂. Head and palps reddish buff, reddish brown (holotype), grey-brown or nearly black. Upper surface of antennal shaft brownish buff (holotype) or buff.

Thorax and abdomen dull orange (holotype), yellow, brown or almost black dorsally ; similar in colour to adjacent surface of wing. Ventral surface of thorax and abdomen buff (holotype) or brownish buff. Legs buff, but front surface of fore leg brownish buff (holotype) or brown.

Costa of fore wing slightly convex (holotype) or straight, except at apex and base (Plate 12, figs. 317, 318) ; outer margin straight except at apex of wing. Colour-pattern of wings as for *prolixa*. Coloration of upper surface variable (see Discussion). Upper surface of fore wing of holotype reddish brown lightly speckled with highly lustrous scales, the latter concentrated at apex and along costal area. Ground-colour of hind wing as for fore wing, speckled with highly



FIGS. 194-199, *Crocinis*, ♂ genitalia. 194-196, *viettei*. 194, ♂; 195, posterior margin of eighth abdominal sternite; 196, aedeagus. 197-199, *boboa*. 197, aedeagus; 198, posterior margin of eighth abdominal sternite; 199, ♂.

lustrous scales; anterior third of wing orange; area between lines of antemedial fascia darker, proximal line bordered proximally with highly lustrous white scales, distal line similarly bordered distally. Arrangement of hyaline patches on fore wing as in holotype of *prolixa* (Plate 12, fig. 318) except that the patch between Cu_{1a} and Cu_{1b} is twice as broad. Under surface of fore wing buff (holotype), orange or yellow anterior and posterior to cell in basal two-thirds of wing, lightly speckled with black; cell and distal third of wing pink (holotype), orange, or reddish brown, or very dark brown in those specimens with dark upper surface coloration.

♂ GENITALIA (Text-figs. 194–196): valve with two basal processes, more distal process arcuate apically; aedeagus with two cornuti, vesica scobinate; posterior margin of eighth sternum as in figure.

♀. Unknown.

MEASUREMENTS. A.P.R.: ♂. II. Wing: ♂. 11.5, 11.0–12.5 mm. (10).

DISCUSSION. This species is externally similar to the closely related *prolixa* except for the straight outer margin to the fore wing. The differently shaped valve processes and the presence of two cornuti on the vesica distinguish the male genitalia from those of *prolixa*.

There is remarkable individual variation in the coloration in this species. Except for an anterior orange or yellow area on that part of the hind wing probably normally overlapped by the fore wing, the upper surface of both wings may be pale buff, pale reddish brown, reddish brown, dark purplish brown or reddish brown, nearly black, or buff heavily speckled with black (Plate 12, fig. 317). In one buff example the area on each wing between the transverse fasciae is heavily speckled with black, and the area distal to the postmedial fascia on the fore wing slightly less heavily speckled. There is striking variation, too, in the size of the hyaline patch on the fore wing which may be slightly larger than in the holotype (Plate 12, fig. 318) or entirely absent (Plate 12, fig. 317).

DISTRIBUTION. Known only from east MADAGASCAR. Apparently sympatric with *prolixa* in this part of the island.

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR EST, env. de Périnet, forêt d'Analamazoatra, 910 m., 13.iii.1955 (*Viette*); Drepanidae genitalia slide No. 592; in the Muséum national d'Histoire naturelle, Paris.

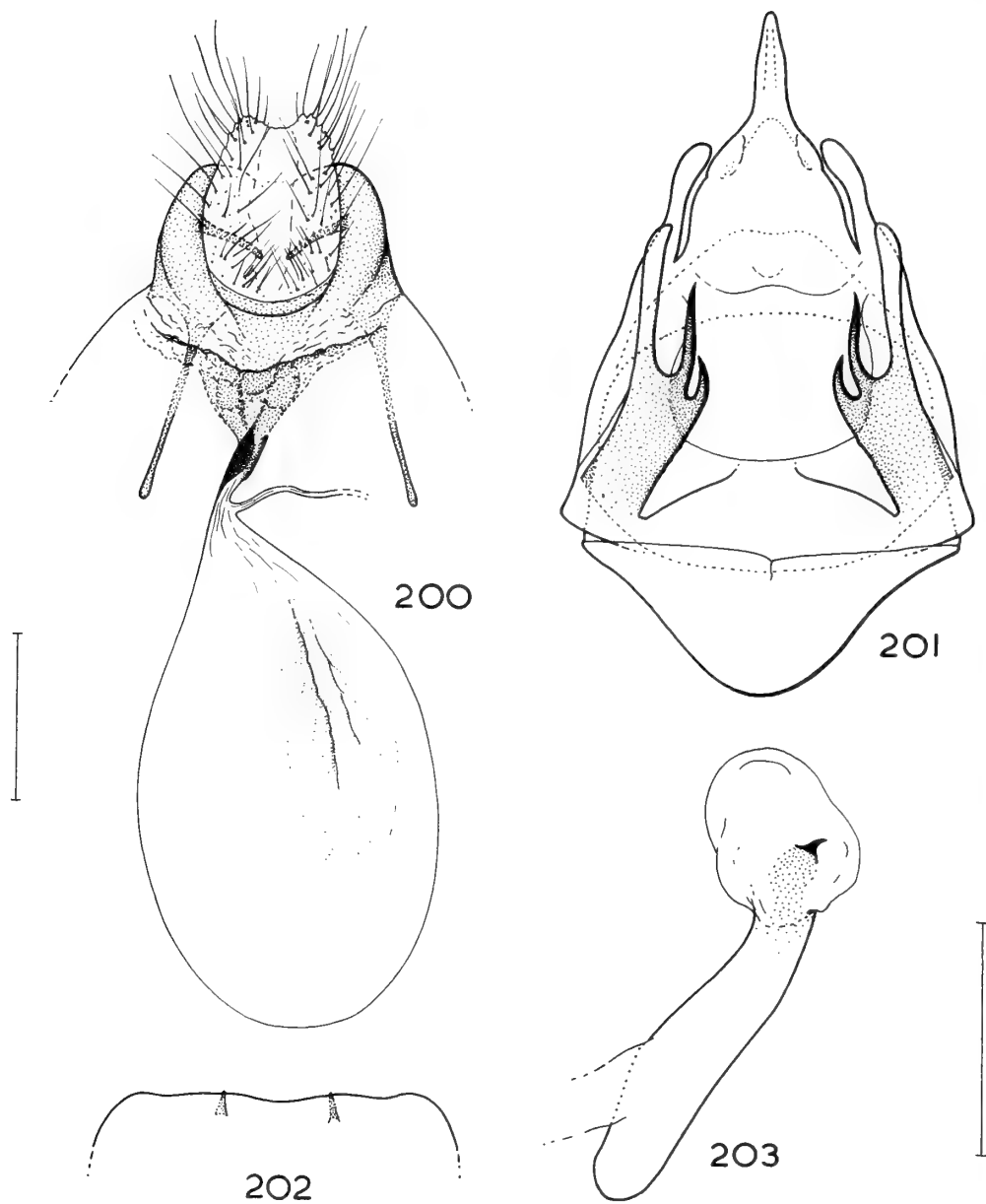
Paratypes. Muséum national d'Histoire naturelle, Paris. EAST MADAGASCAR: 5 ♂, type locality, 11–16.iii.1955 (*Viette*); 6 ♂, Andranotobaka, Ambatolampy, 1,400 m., iii.1957 (*Griveaud*); 1 ♂, Marove, Moramango, 960 m., 1957 (*Griveaud*). Institut scientifique, Madagascar. NORTH-EAST MADAGASCAR: 2 ♂, Sambava, Marojejy, Andasy II, 1,300 m., xii.1958 (*Raharizonina*).

Crociniis boboa sp. n.

(Text-figs. 197–200; Pl. 12, fig. 320)

DESCRIPTION. ♂. Palps and front of head brown (holotype) or pale yellowish brown; vertex of head and upper surface of antennal shaft paler than palps.

Dorsal surface of thorax greyish buff, scales tipped with light grey anteriorly; ventral surface pale buff, but more brownish anteriorly. Trochanter, femur and tibia of fore leg greyish brown; remainder of leg and whole of remaining legs pale buff, except for last tarsal segment which is very dark brown distally.



FIGS. 200-203, *Crocinis*, genitalia. 200, *boboa*, ♀. 201-203, *canescens*, ♂. 201, ♂; 202, posterior margin of eighth abdominal sternite; 203, aedeagus.

Fore wing slightly falcate (Plate 12, fig. 320) ; outer margin slightly convex. Upper surface of both wings lustrous except for posterior cell-spot on hind wing and dark edge of hyaline patch on fore wing. Upper surface of fore wing pale purplish brown proximally and posteriorly, pale buff apically, speckled with black ; trace of arcuate antemedial fascia and postmedial fascia ; hyaline patch bordered with dark reddish brown. Upper surface of hind wing pale purplish brown except for broad yellow terminal band, speckled with black ; trace of postmedial fascia at anterior margin of wing ; black posterior cell-spot and trace of discocellular spot. Under surface of both wings lustrous yellowish white speckled with black ; speckling heaviest distal to cell on fore wing and anterodistally on hind wing ; fore wing with trace of grey postmedial fascia ; hind wing with black discocellular spot and less well-marked posterior cell-spot.

♂ GENITALIA (Text-figs. 197-199) : valve with two nearly equal processes ; aedeagus with single irregularly shaped cornutus ; eighth sternum as in figure.

♀. Known only from one example. Similar to male, but outer margin of fore wing slightly more strongly convex, and ground-colour of upper and under surface of both wings reddish buff except for brownish white area posterior to cell under hind wing.

♀ GENITALIA (Text-fig. 200) : anterior apophyses long ; ostial segment forming sclerotized ring at base of ovipositor lobes ; posterior apophyses short ; signum irregular in shape, elongate.

MEASUREMENTS. A.P.R. : ♂. 12 ; ♀. 9. Wing : ♂. 16.0, 15.0-16.5 mm. (7) ; ♀. 20.5 mm. (1).

DISCUSSION. Similarities in the male genitalia suggest that *boboa* is closely related to *canescens* and *viettei* from which it can be distinguished by the shape and colour-pattern of the wings, and in the male genitalia by the shape of the cornutus and position of the valve processes.

Little individual variation in the coloration of the wings is present in the available material.

DISTRIBUTION. Known only from east MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR EST, env. de Périnet, forêt d'Analamazoatra, 910 m. (*Viette*) ; Drepanidae genitalia slide No. 1266 ; in the Muséum national d'Histoire naturelle, Paris.

Paratypes. *Muséum national d'Histoire naturelle, Paris*. EAST MADAGASCAR : 5 ♂, same locality as type, 17.I-19.IV.1955 (*Viette*) ; 1 ♂, 10 km. Est. Marove, Moramanga, 960 m., v.1957 (*Griveaud*). *British Museum (Natural History)*. EAST MADAGASCAR : 1 ♀, Périnet, 149 km. east of Tananarivo, 20.X-10.XI.1930 (*Olsoufieff*). *Institut scientifique, Madagascar*. EAST MADAGASCAR : 1 ♂, E. Marove, Moramanga, 960 m., x.1957 (*Griveaud*).

Crociniis canescens sp. n.

(Text-figs. 201-203 ; Pl. II, fig. 313)

DESCRIPTION. ♂. Palp and front of head grey ; scales of vertex grey at base, nearly white apically ; upper surface of antenna buff (holotype) or greyish buff.

Dorsal surface of thorax greyish buff (holotype) or grey ; scales whitish apically. Ventral surface of thorax buff (holotype) or greyish buff, except for brown (holotype) or greyish brown band bordering head. Front surface of legs greyish buff (holotype) or grey, remaining surfaces of legs, buff (holotype) or greyish buff ; front leg most intensely coloured ; distal margin of last tarsal segment darker than rest of tibia. Whole of upper surface of both wings lustrous. Outer margin of fore wing slightly convex ; ground-colour of upper surface (Plate II, fig. 313) buff (holotype) or greyish buff, speckled with dark grey over whole of wing and with pale grey proximally, darker and more greyish distal to postmedial fascia and in region between medial fasciae

posterior to cell ; antemedial fascia dark grey at costa, bordered proximally with pale grey posterior to cell ; postmedial fascia edged distally with greyish white except near costa, expanded at costa into dark grey spot. Upper surface of hind wing buff (holotype) or greyish buff, speckled with dark grey ; area between transverse fasciae grey ; sub-basal fascia and antemedial fascia edged proximally and distally respectively with greyish white ; posterior cell-spot dark brown. Under surface of fore wing buff (holotype) or greyish buff, heavily speckled proximally with dark grey ; well marked grey postmedial fascia. Ground-colour of under surface of hind wing as fore wing ; well marked, dark brown, discocellular spot and posterior cell-spot ; weakly marked, grey, postmedial fascia at anterior border of wing.

♂ GENITALIA (Text-figs. 201-203) : valve with two arcuate medial processes, vesica with single hooked cornutus ; eighth abdominal sternum as in figure.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 10. Wing : ♂. 18.0, 16.5-19.0 mm. (3).

DISCUSSION. Although externally unlike *boboa* in many respects, comparison of the genitalia indicates that *canescens* may have close affinities with *boboa*.

DISTRIBUTION. North-west and central MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR, Sambirano, dct. Analalava, poste Maromandia, Manongarivo, 1,150 m., xii.1960 (*Andria*) ; Drepanidae genitalia slide No. 1277 ; in the Muséum national d'Histoire naturelle, Paris.

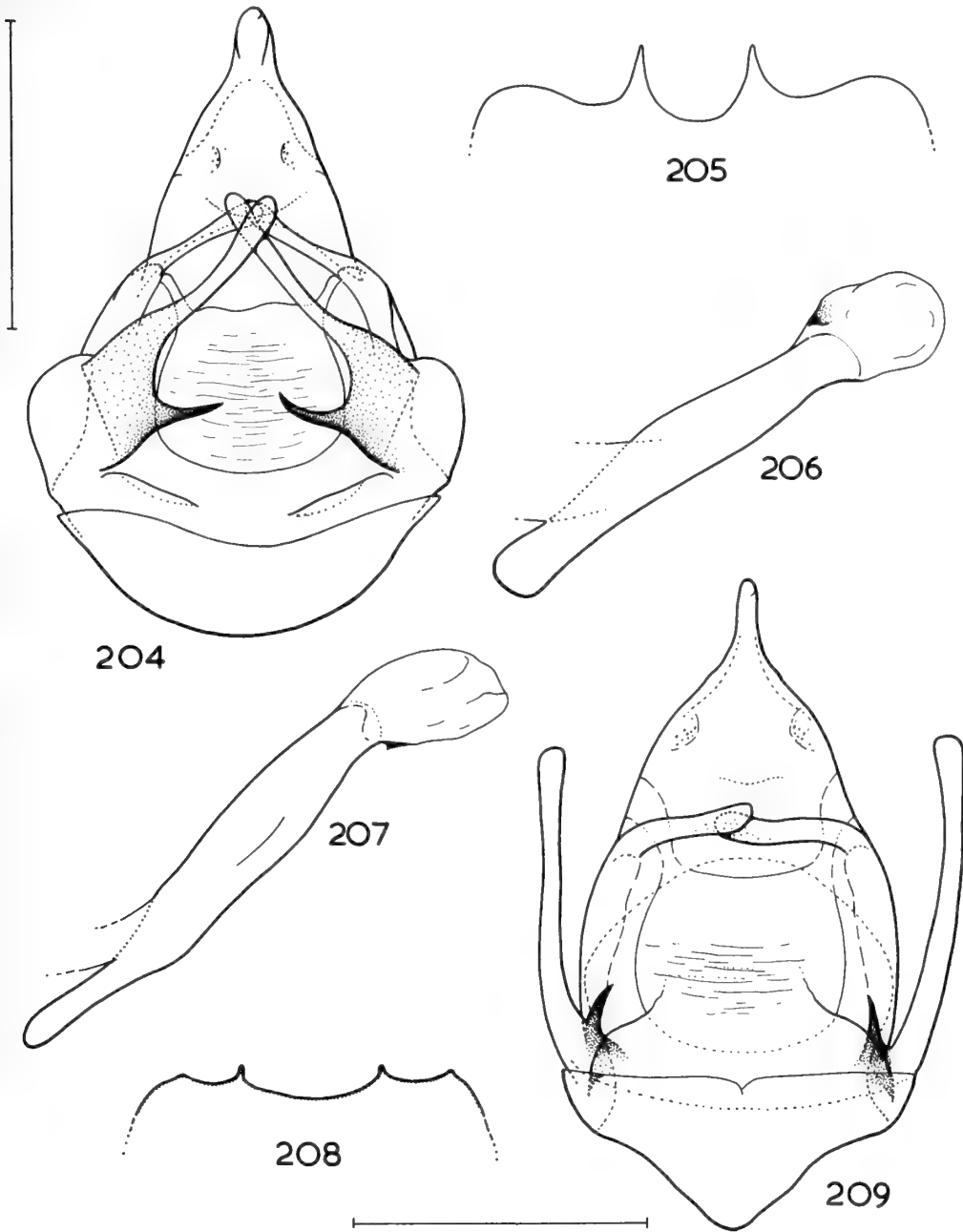
Paratypes. *Muséum national d'Histoire naturelle, Paris*. CENTRAL MADAGASCAR : 1 ♂, Andranotobaka, Ambatolampy, 1,900 m., iii.1957 (*Griveaud*). *Institut scientifique, Madagascar*. N.W. MADAGASCAR : 1 ♂, Sambirano, dct. Analalava, poste Maromandia, Manongarivo, 1,150 m., xii.1960 (*Griveaud*).

Crociniis imaitsoana sp. n.

(Text-figs. 204-206 ; Pl. II, fig. 314)

DESCRIPTION. ♂. Palp and front of head orange-brown (holotype) or reddish brown ; vertex of head and proximal half of upper surface of antennal shaft slightly paler than palp ; distal half of antennal shaft buff.

Dorsal surface of thorax dull orange (holotype) or brown, scales tipped with light grey on anterior part of thorax ; pale pinkish buff ventrally, but reddish brown anteriorly. Front surface of all legs proximal to tarsus pinkish brown, remaining surfaces pale buff ; all tibiae pale buff except for last segment which is pinkish brown distally ; fore legs more intensely coloured than mid or hind legs. Outer margin of fore wing moderately convex (Plate II, fig. 314). Upper surface of fore wing lustrous distal to antemedial fascia ; ground-colour yellowish brown or orange (holotype) lightly speckled with dark brown, orange-brown between medial fasciae in holotype ; antemedial fascia dark brown edged proximally with white ; hyaline patch bordered by non-lustrous reddish brown scales ; postmedial fascia black (holotype) or dark brown, edged distally with white, especially noticeable at apex, fascia bent inwards near apex of wing ; colour of fringe doubtful. Outer margin of hind wing concave posteriorly ; upper surface yellowish brown or orange-brown (holotype), with broad, slightly paler, yellowish brown or orange (holotype) marginal band and pale buff basal area, lightly speckled with dark brown ; area between transverse fasciae of holotype darker than rest of wing ; trace of dark sub-basal fascia edged proximally with white ; well-marked brown or black (holotype) antemedial fascia edged distally with white ; colour of fringe doubtful. Under surface of both wings dull pinkish buff, speckled with grey ; weakly marked postmedial fascia on both wings.



FIGS. 204-209, *Crocinis*, ♂ genitalia. 204-206, *imaitsoana*. 204, ♂ ; 205, posterior margin of eighth abdominal sternite ; 206, aedeagus. 207-209, *felina*. 207, aedeagus ; 208, posterior margin of eighth abdominal sternite ; 209, ♂.

♂ GENITALIA (Text-figs. 204–206) : valve with single basal process ; aedeagus with one hooked cornutus ; posterior processes of eighth sternum close together, unusually long.

♀. Unknown.

MEASUREMENTS. A.P.R. : ♂. 11. Wing : ♂. 17.5, 16.5–18.5 mm. (2).

DISCUSSION. Except for its larger size *imaitsoana* is superficially most like *prolixa*. The genitalia, however, do not indicate a particularly close relationship between these two species.

The difference in coloration, dealt with above, between the two known specimens suggests that this species may prove to be as highly variable as *viettei*.

DISTRIBUTION. Known only from central MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, Andringitra, Ampalavao, Anjavidi-lava, forêt d'Imaitso, 2,030 m., 18.i.1958 (*Griveaud*) ; Drepanidae genitalia slide No. 1579 ; in the Muséum national d'Histoire naturelle, Paris.

Paratype. *Muséum national d'Histoire naturelle, Paris.* CENTRAL MADAGASCAR : same locality data as holotype.

Crocinis felina sp. n.

(Text-figs. 207–209 ; Pl. 11, fig. 316)

DESCRIPTION. ♂. Palp, head and proximal half of upper surface of antennal shaft dark brown ; distal half of antennal shaft slightly paler.

Dorsal surface of thorax dark brown ; ventral surface brownish buff. Front surface of all legs proximal to tarsus dark brown, remaining surfaces brownish buff ; proximal half of tarsus as for rest of leg, last tarsal segment very dark brown. Outer margin of fore wing slightly convex at middle ; apex very strongly produced (Plate 11, fig. 316). Outer margin of hind wing evenly convex. Upper surface of both wings lustrous dark brown, darkest between transverse fasciae on each wing. Antemedial fascia of fore wing and sub-basal fascia of hind wing edged proximally with pale grey ; distal margin of postmedial fascia of fore wing similarly edged between apex and cell. Hyaline patch on fore wing conspicuous. Very dark brown posterior cell-spot on hind wing. Under surface of both wings yellowish brown speckled with dark brown, but with buff posterior band ; hind wing with dark brown discocellular spot and posterior cell-spot ; both wings with numerous, scattered, pale grey scales along outer margin.

♂ GENITALIA (Text-figs. 207–209) : valve with single, short, basal spine ; vesica of aedeagus with single, pointed cornutus ; eighth sternum as in figure.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 10. Wing : ♂. 16.0 mm. (1).

DISCUSSION. The male genitalia of this species most closely resemble those of *fenestrata*, but there is no other evidence of any near relationship between these two species.

Although only one specimen of this striking species is known, I believe there are enough significant specific characters to merit the inclusion of this description.

DISTRIBUTION. Known only from the type locality in N.E. MADAGASCAR.

MATERIAL EXAMINED. Holotype ♂, MADAGASCAR EST, Sambava R.N.XII Marojejy-Ouest, 1,140 m., ix–x.1959 (*Soga*) ; Drepanidae genitalia slide No. 1269 ; in the Muséum national d'Histoire naturelle, Paris.

SPECIES-GROUP *spicata****Crocini* *spicata* sp. n.**

(Text-figs. 210-212 ; Pl. 13, figs. 321, 322)

DESCRIPTION. ♂. Palp, front of head and narrow band at posterior margin of eyes scarlet (holotype and most examples) or reddish brown. Vertex of head reddish brown, each scale tipped with white. Upper surface of antennal shaft buff.

Dorsal surface of thorax buff (holotype) or brown, speckled with white anteriorly. Ventral surface of thorax buff. Front surface of trochanter, femur and tibia of each leg scarlet (holotype) or reddish brown ; front of tarsus grey-brown ; remaining surfaces buff ; fore legs most strongly coloured.

Ground colour of both wings buff (holotype) or one of several shades of light brown and grey, variously speckled with brown (holotype) or black. Colour-pattern as in Plate 13, figs. 321, 322. Upper surface of fore wing usually (including holotype) with faintly marked antemedial fascia ; trace of spot near base of cell ; brown (holotype reddish brown) or black discocellular spot and posterior cell-spot ; reddish brown (holotype), brown or yellow-brown postmedial fascia edged proximally with white near apex ; apex of wing reddish brown (holotype), brownish buff, brown or black proximal to postmedial fascia ; large, conspicuous, black patch at about two-thirds costa in a few specimens (not holotype) ; circular hyaline patch distal to end of cell between Cu_{1a} and Cu_{1b} in five specimens (not holotype) ; second hyaline patch between Cu_{1b} and 1A in one specimen (Plate 13, fig. 322) ; few specimens with diffuse, blackish sub-basal and subterminal fascia, most prominent near anal margin (Plate 13, fig. 322) ; fringe buff (holotype), or shade of brown darker than ground-colour. Upper surface of hind wing with cell-spots as on fore wing ; well-marked antemedial fascia, similar in colour to postmedial fascia on fore wing ; trace of sub-basal fascia ; broad, diffuse blackish postmedial and subterminal fascia in a few specimens (not holotype) ; fringe reddish brown. Under surface of fore wing greyish orange (holotype) or reddish grey ; costa scarlet, speckled with dark grey (holotype) or black ; weakly marked postmedial fascia. Under surface of hind wing similar in colour to fore wing but paler and more heavily speckled with dark grey or black ; cell-spots as for upper surface, otherwise without pattern.

Colour of dorsal surface of abdomen as for ground-colour of upper surface of wings ; ventral surface of abdomen pale buff.

♂ GENITALIA as in Text-figs. 210-212. Some variation exists in the size of the eighth sternal processes. Aedeagus sigmoid. Eighth abdominal tergite as for *tetrathyra* (see Text-fig. 217).

♀. Not known (but see generic description).

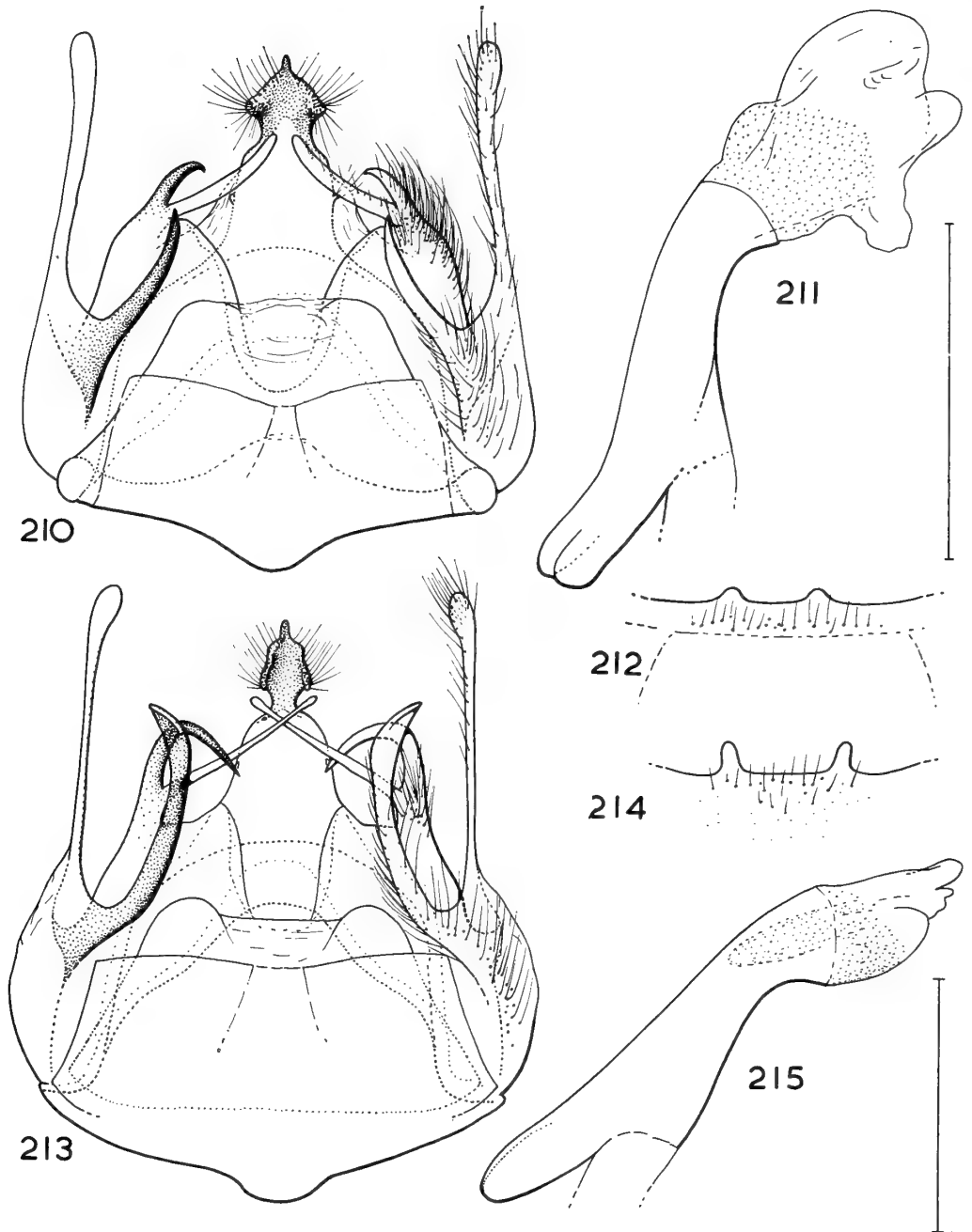
MEASUREMENTS. A.P.R. : ♂. 12. Wing : ♂. 14.5, 13.0-17.0 mm. (18).

DISCUSSION. Although this species is apparently indistinguishable externally from its close relative *licina* it is easily separated from it by the male genitalia, in particular by the shape of the vincular processes but also by the uncus, aedeagus and the usually shorter eighth sternal processes.

The high degree of individual variation in the coloration of the upper surface of the wings has been indicated in the description. Equally striking is the variation in the marking of the fasciae, which may be either conspicuous or hardly discernible, and the presence or absence of hyaline patches in the fore wing.

DISTRIBUTION. Known only from northern and eastern MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR EST, env. de Périnet, forêt d'Analamazoatra, 910 m., 19.ii.1955 (*Viette*) ; Drepanidae genitalia slide No. 605 ; in the Muséum national d'Histoire naturelle, Paris.



FIGS. 210-215, *Crociniis*, ♂ genitalia. 210-212, *spicata*. 210, ♂; 211, aedeagus; 212, posterior margin of eighth abdominal sternite. 213-215, *licina*. 213, ♂; 214, posterior margin of eighth abdominal sternite; 215, aedeagus.

Paratypes. *Muséum national d'Histoire naturelle, Paris*. N. MADAGASCAR: 1 ♂, Montagne d'Ambre, Les Roussettes, 1,000 m., 5.xii.1958 (*Viette*). E. MADAGASCAR: 1 ♂, Sambava. Réserve nationale XII, Andasy II, 1,550 m., v.1959 (*Soga*); 1 ♂, Moromanga, Ankasoka 1,130 m., 21.x.1957 (*Griveaud*); 2 ♂, Ankasoka, Route Lakato, 1,100 m., 1,130 m., 2.xii.1950 (*Griveaud*), 2-10.i.1959 (*Viette*); 14 ♂, env. de Périnet, forêt d'Analamazoatra, 910 m., 24.xi.-25.xii.1954, 15.i.1955 (*Viette*). *British Museum (Natural History)*. E. MADAGASCAR: 1 ♂, Périnet, iii.1935 (*Olsoufieff*).

Crociniis licina sp. n.

(Text-figs. 213-215; Pl. 13, fig. 323)

DESCRIPTION. ♂. Palp, front of head and narrow band bordering posterior margin of eyes reddish brown (holotype) or scarlet. Vertex of head reddish brown, each scale with white apex. Upper surface of antennal shaft buff (dark brown at base in Périnet paratype).

Thorax as for *spicata*. Fore legs as for *spicata*, outer surface of femur and tarsus reddish brown; (remaining legs damaged, coloration probably as for *spicata*).

Ground-colour of upper surface of both wings very pale, slightly yellowish brown, lightly speckled with greyish brown in holotype, more heavily speckled in paratypes (see discussion). Costa reddish brown (holotype) or scarlet basally. Colour-pattern of upper surface as in Plate 13, fig. 323; trace of sub-basal fascia and spot near base of cell; weakly marked antemedial fascia, white in holotype, dark brown or dark brown and white in paratypes; discocellular spot white, edged with yellowish brown in holotype, entirely yellowish brown in paratypes; posterior cell-spot yellowish brown; oblique postmedial fascia either very pale yellowish brown, but white near apex of wing (holotype and one paratype), or entirely white (remaining paratype) edged proximally with greyish brown and distally with yellowish brown; fringe reddish brown; circular hyaline patch distal to end of cell between Cu_{1a} and Cu_{1b} ; smaller hyaline patch immediately posterior to latter between Cu_{1b} and $1A$ only on left fore wing of holotype. Upper surface of hind wing with very dark brown discocellular spot and posterior cell-spot; weakly marked, dentate, whitish sub-basal fascia; oblique antemedial fascia same colour as, and continuous with, postmedial fascia of fore wing; fringe reddish brown. Under surface of fore wings pale reddish buff, but more yellowish near costa, lightly speckled with dark brown in holotype and one paratype, heavily speckled in remaining paratype; trace of postmedial fascia. Under surface of hind wing reddish buff distally, pale buff proximally; dark brown cell-spots as on upper surface; trace of postmedial fascia anteriorly, approximately parallel to outer margin.

Colour of abdomen as for corresponding adjacent surface of hind wing.

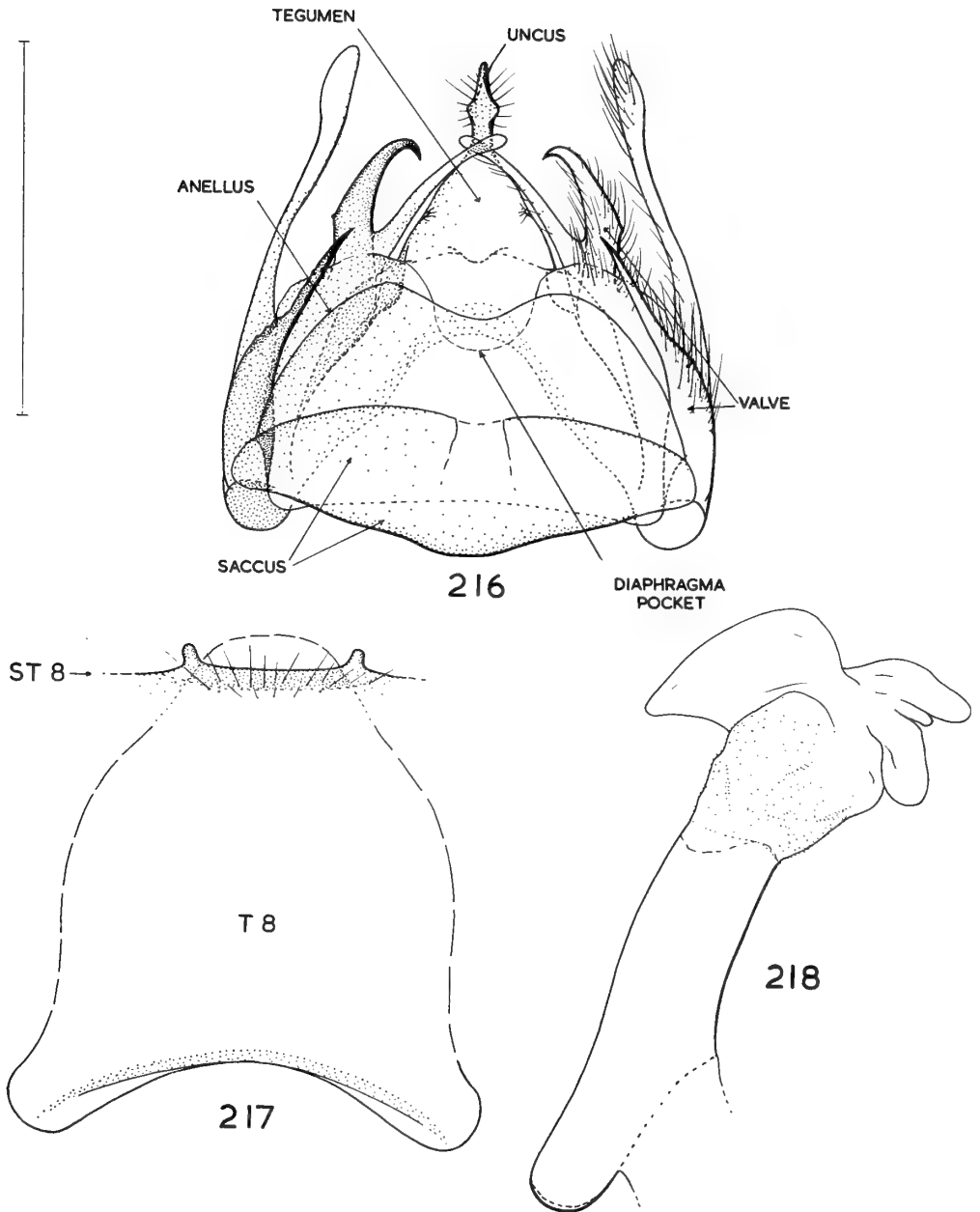
♂ GENITALIA as in Text-figs. 213-215. Most anterior of more heavily sclerotized processes of vinculum hood-like apically; side of aedeagus opposite point of entry of ductus seminalis almost straight; posterior processes of eighth abdominal sternum as in Text-fig. 214 in all three specimens examined. Eighth abdominal tergum as for *tetrathyra* (see Text-fig. 217).

♀. Not known (but see generic description).

MEASUREMENTS. A.P.R.: ♂. 12. Wing: ♂. 16.5, 15.0-18.0 mm. (3).

DISCUSSION. This species appears to be indistinguishable from *spicata* externally, but the shape and relative sizes of all four pairs of vincular processes of the male genitalia are diagnostic. The shape of the uncus, aedeagus and the eighth sternal processes also differentiate the two species.

Some aspects of the individual variation in coloration have been mentioned in the description. Most striking is the variation in the ground-colour of the upper surface of the wings which is basically pale yellowish brown. In the holotype there is a



FIGS. 216-218, *Crocinis tetrathyra*, ♂ genitalia. 216, ♂; 217, eighth abdominal tergite and posterior margin of sternite; 218, aedeagus.

light speckling of greyish brown ; in one paratype the ground is almost completely obscured with dark greyish brown except for the posterodistal part of the hind wing ; and in the second paratype the hind wing is entirely dark greyish brown (except for wing markings), while the fore wing is similarly coloured except for a pale yellowish brown area distal to the end of the cell and anterior to Cu_{1b} .

DISTRIBUTION. Known only from eastern MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR EST, env. de Périnet, forêt d'Analamazoatra, 910 m., 27.xi.1954 (*Viette*) ; Drepanidae genitalia slide No. 603 ; in the Muséum national d'Histoire naturelle, Paris.

Paratypes. *Museum national d'Histoire naturelle, Paris*. E. MADAGASCAR : 1 ♂, env. de Périnet, forêt d'Analamazoatra, 910 m., 18.iii.1955 (*Viette*) ; 1 ♂, Sambava, Marojejy Ambinanitelo, 500 m., xii.1958 (*Griveaud*).

***Crociniis tetrathyra* (Mabille) comb. n.**

(Text-figs. 216–218 ; Pl. 13, fig. 324)

Drepana (*Gogane*) *tetrathyra* Mabille, 1899 : 724.

Drapena tetrathyra (Mabille) ; Gaede in Seitz, 1927 b : 289.

Gogana tetrathyra (Mabille) ; Gaede, 1931 : 12.

DESCRIPTION. ♂. Palp, front of head and narrow band bordering posterior margin of eyes reddish brown or brown ; vertex of head pale buff or reddish buff, each scale tipped with white.

Dorsal surface of thorax pale buff or reddish buff, each scale of anterior part of vestiture tipped with white ; ventral surface very pale buff. Front surface of fore trochanter and femur reddish brown or greyish brown, front surface of tibia and tarsus pale brown or pale buff ; front surface of remaining legs pale brown or pale buff, as for inner surface of all legs.

Ground-colour of both wings very pale slightly yellowish grey or very pale buff, usually only lightly speckled with dark brown. Colour-pattern of wings as in Plate 13, fig. 324. Upper surface of fore wing with trace of sub-basal fascia ; trace of diffuse antemedial fascia in some specimens ; dark brown or black discocellular spot, and usually posterior cell-spot ; sometimes with small hyaline patch immediately distal to end of cell between M_2 and M_3 , another between M_3 and Cu_{1a} , and larger patch between Cu_{1a} and Cu_{1b} ; latter hyaline patch usually present ; no patches in two examples ; oblique, pale buff, postmedial fascia, white near apex, bordered proximally by brown and distally by yellowish brown ; two dark brown or black streaks at right-angles to postmedial fascia usually present at costa (see Plate 13, fig. 324). Upper surface of hind wing with trace of sub-basal fascia ; usually well-marked antemedial fascia continuous and concolorous with postmedial fascia on fore wing ; dark cell-spots (as on fore wing) sometimes present. Under surface of both wings pale buff, lightly speckled with brown, but middle of fore wing slightly darker and pinkish as for band along outer margin in hind wing.

♂ **GENITALIA** (Text-figs. 216–218) : uncus slender, vincular processes as in figure ; aedeagus stout, nearly straight on side opposite point of entry of ductus seminis ; eighth abdominal sternum unmodified except at posterior margin ; eighth tergum well sclerotized in anterior region.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 15. Wing : ♂. 12.5, 12.0–13.0 mm. (10).

DISCUSSION. Some specimens of this species are separable externally from the closely related *spicata* and from *licina* by the presence on the fore wing of two well marked, dark, costal streaks ; and most specimens are smaller than nearly all the examples of *spicata* and *licina* studied. A reliable diagnosis of *tetrathyra* can only be made, however, by examining the shape of the uncus and vincular processes.

There is apparently less individual variation in *tetrathyra* than in the other two species of this species-group.

MATERIAL EXAMINED. Type. The type material of this species is lost. A thorough search by Dr. P. Viette in the Muséum national d'Histoire naturelle and by myself and my colleagues in the collections of the British Museum (Natural History), in one of which museums the original material was probably deposited, has failed to reveal any of the material of *tetrathyra* examined by Mabilie. Because of the close similarity between *tetrathyra* and the two other species of the species-group it is necessary to designate a neotype for *tetrathyra*. The above description is based on a series of ten males (originally in the Rothschild collection) from Diego Suarez in northern Madagascar; they closely match the original description and are probably correctly identified as *tetrathyra*. Neither the sex nor the exact source of Mabilie's material are known accurately as no details other than "Madagascar" accompany the original description. I have selected one of the ten males as the NEOTYPE. It bears the following data: "Diego Suarez, 8 March 1917 (*G. Mélou*); Rothschild bequest B.M. 1939-1; Photographed B.M. negative No. 31063; Drepanidae genitalia slide No. 608; *Crocini's tetrathyra* (Mabilie), det. A. Watson 1963, Neotype" (data from each label separated by a semi-colon).

Other material. *British Museum (Natural History)*. N. MADAGASCAR: 9 ♂, Diego Suarez, i,vii.1917 (*Mélou*).

ISOSPIDIA gen. n.

(Gender: feminine)

(Text-figs. 219-227; Pl. 14, figs. 326-330; Map 6)

Type-species: *Oreta angustipennis* Warren, 1904.

DESCRIPTION. ♂, ♀. Proboscis vestigial; palp extending to just above labrum, with vestiture of elongate scales on ventral or anterior surface; antennae closely lamellate, each lamella touching adjacent lamellae only at its base and apex.

Meso- and metathoracic tibia each with one pair of terminal spurs. Costa of fore wing nearly straight except at base and apex; apex distinctly falcate; outer margin straight or slightly convex. Outer margin of hind wing evenly rounded. Fore wing venation: R_1 arising from close to end of cell or on short stalk with R_{2+3} ; R_{2+3} and R_{4+5} closely apposed, sometimes on short stalk from cell, separating into their elements near apex without forming areole or with R_4 anastomosing at a point or for short distance with R_3 to form areole. $Sc + R_1$ anastomoses with R_3 for short distance distal to end of cell in hind wing. Antemedial fascia of upper surface of fore wing present in *brunneola*, absent in *angustipennis*; conspicuous discocellular spot and in a few specimens a weakly marked posterior cell-spot; well marked oblique postmedial fascia. Upper surface of hind wing with well-marked antemedial fascia continuous with postmedial fascia of fore wing; otherwise unmarked. Upper surface of hind wing unmarked, but fore wing either with trace of upper surface pattern or as strongly marked as upper surface. (See Plate 14.)

GENITALIA. ♂: uncus clothed with long setae, shielded ventrally by a pair of acuminate arms; vinculum approximately "8"-shaped; valve attenuate, apically acuminate; aedeagus with stout, spinose, apical process; eighth abdominal sternum and tergum modified to form part of genitalia, posterior margin of each emarginate or concave, anterior apodemes well developed. ♀: eighth segment considerably modified and heavily sclerotized dorsally and laterally; two pairs of setose ovipositor lobes; signum a pair of spinose, invaginate, hemispherical cups (*angustipennis*) or a single spinose cup (*brunneola*).

DISCUSSION. The presence of paired elongate processes (possibly representing the gnathus) ventral to the uncus in the male, a highly modified eighth abdominal segment in the female, together with similarities in the coloration and colour-pattern, suggest that *Isospidia* is probably most closely allied to *Uranometra* Bryk. The colour-pattern, and to some extent the coloration, suggest affinities with *Spidia* Butler, though neither the male nor female genitalia indicate a close relationship.

Particularly striking individual variation in the coloration is present in *angustipennis*, and in both known species of the genus the areole in the fore wing may be either present or absent.

Notable morphological characters in the genitalia include the highly modified eighth segment in the female, and in the male the slender acuminate processes lying beneath the uncus which are possibly homologous with the similarly placed processes in the genitalia of *Uranometra* Bryk.

One species, *angustipennis*, is represented by two subspecies.

The species *brunneola* has been transferred to this genus from *Uranometra* Bryk.

DISTRIBUTION (Map 6). SIERRA LEONE, IVORY COAST, GHANA, CAMEROUN, CONGO, CENTRAL AFRICAN REPUBLIC and UGANDA ; almost exclusively from rain-forest or montane forest regions.

***Isospidia angustipennis* (Warren) comb. n.**

(Text-figs. 219-224 ; Pl. 14, figs. 326-329 ; Map 6)

Oreta angustipennis Warren, 1904 : 461.

Oreta angustipennis Warren ; Gaede in Seitz, 1927 b : 288. [Fair fig.]

Oreta angustipennis Warren ; Gaede, 1931 : 43.

Oreta (?) *hylaecina* Aurivillius, 1925 : 1290.

Oreta glaucinoe Hampson, 1914 : 104. **syn. n.**

Oreta glaucinoe Hampson ; Gaede, 1931 : 44.

DESCRIPTION. ♂, ♀. Palp, front of head and narrow band bordering posterior margin of eyes brownish pink (holotype), brownish scarlet or scarlet, vertex of head yellowish brown ; upper surface of base of antennal shaft as for front of head, remainder pale buff.

Dorsal surface of thorax buff (holotype), pale yellow or yellow ; ventral surface very pale buff. Front surface of whole of fore leg pink (holotype) or scarlet ; front of mid and hind legs pink and buff ; remaining surfaces of legs very pale buff.

Ground-colour of upper surface of wings yellow, pale yellow (holotype), pale yellowish brown, pink, brown, or grey variously speckled with brown (see account of individual variation below). Colour-pattern as in Plate 14, figs. 326-329. Fore wing with conspicuous dark brown (holotype) or black discocellular spot and trace of posterior cell-spot ; well-marked, oblique, variously coloured postmedial fascia (pale brown bordered distally with yellow in holotype), extending from near apex to one-half anal margin or to a point nearer to base than tornus ; dark dash on costa near apex ; dark patch on anal margin of both wings in holotype of Ugandan subspecies and in seven other specimens of the species, this patch usually associated with broad dark band extending along proximal side of postmedial fascia from cell to anal margin ; fringe yellow at apex of wing, then brown to about mid-point of outer margin, remainder yellow or buff. Antemedial fascia of upper surface of hind wing same colour as, and continuous with, postmedial fascia of fore wing. Ground-colour of under surface of fore wing pale yellow (holotype), lemon-yellow, dull pink or yellowish grey, but usually (including holotype) more brownish proximal to post-medial fascia.

Abdomen same colour as corresponding adjacent surface of hind wing. Antemedial fascia of hind wing continued across abdomen as a transverse band.

♂ GENITALIA as in Text-figs. 219–220. Setose lobes at base of valve less pronounced in *torulus* than in nominate subspecies. Digitate apical process of aedeagus subject to slight individual variation in length in both subspecies. Each lobe of posterior margin of eighth abdominal sternum with short digitate process in *torulus*. Eighth abdominal tergum similar to that in *brunneola*, weakly sclerotized posteriorly.

Dorsal region of eighth segment in ♀ GENITALIA highly modified and heavily sclerotized (Text-figs. 223, 224). Signum a pair of hemispherical invaginate cups, spinose on internal convex surface.

MEASUREMENTS. A.P.R. : ♂. 5 ; ♀. 3.

DISCUSSION. The differences in colour-pattern between this species and *brunneola* are well-defined. In *angustipennis* the postmedial fascia on the upper surface of the fore wing reaches the anal margin at its mid-point or just proximal to this (not distal to mid-point as in *brunneola*), and neither the antemedial fascia nor the dark streak extending outwards from the cell are present (both present in *brunneola*). In the male genitalia the shape of the saccus, aedeagus, eighth abdominal sternum and the processes at the base of the valve distinguish the two species. The female signum is diagnostic : it is double in *angustipennis* and simple in *brunneola*.

The individual variation in the colour-pattern and coloration is perhaps more striking in this species than in any other African species of the Drepanidae. The most conspicuous specimens are those which possess large dark brown or pinkish patches at about the middle of the anal margin on both wings, e.g. Plate 14, fig. 329. Another striking form is that illustrated in Plate 14, fig. 327 : in this form the normal, yellow ground-colour of the fore wings is replaced, except at the base, by pink or brownish pink ; the hind wing is yellow proximal to the antemedial fascia, but is either entirely pink or brownish pink distal to this fascia or has a broad pink band as in the illustrated specimen. A further interesting colour variation is that illustrated in Plate 14, fig. 326, represented by only two females : in this form the whole of the upper surface of wings is densely speckled with brownish grey.

There is little doubt that *hylaeina* has been correctly synonymized with *angustipennis* as although the holotype of *hylaeina* is certainly lost (it was deposited in the collection of the Hamburg Museum, which was destroyed during the 1939–45 war) its identity is clear from the reasonably good figure accompanying the original description. The holotype of *glaucinoe* has been compared with the type of *angustipennis* and found to be conspecific.

DISTRIBUTION (Map 6). Ranges from the IVORY COAST to UGANDA. Two specimens from the CONGO (1 ♂, Elisabethville, in the British Museum (Natural History) and 1 ♂, Kapanga, in the Tervuren Museum) belong to this species but their subspecific identity is doubtful.

***Isopidia angustipennis angustipennis* (Warren)**

(Text-figs. 219–221, 223 ; Pl. 14, 326–328 ; Map 6)

DIAGNOSIS. ♂, ♀. Separable from the Ugandan subspecies apparently only by the genitalia. In the male the lobe on the ventral surface of the base of each valve is larger than in *torulus* and the posterior margin of the eighth abdominal sternum lacks the small digitate lobes of *torulus*

(Text-figs. 219, 220). The shape of the dorsal region of the eighth abdominal segment in the female genitalia is also diagnostic (Text-fig. 223).

MEASUREMENTS. Wing: ♂. 14.0, 12.0-18.0 mm. (34); ♀. 16.0, 14.0-19.0 mm. (7).

DISCUSSION. The high degree of colour variation has been mentioned in the species description. Two females examined belong to the grey form (Plate 14, fig. 326) (including the holotype of *glaucinoe*), two to the brown-spotted (Plate 14, fig. 329) (one of the latter has pink fore wings), and the remainder (including the holotype) to the yellow form of the species (Plate 14, fig. 328). Two of the males belong to the brown-spotted form, five to the pink and yellow form (Plate 14, fig. 327), three to a form similar to the latter but with the whole of the hind wing pink or brownish pink, and the remainder to the yellow form.

DISTRIBUTION (Map 6). Known from the IVORY COAST, GHANA, NIGERIA, CAMEROUN and the CENTRAL AFRICAN REPUBLIC.

MATERIAL EXAMINED. Types. Holotype ♀ of *Oreta angustipennis* Warren; NIGERIA, Anambara Creek; Drepanidae genitalia slide No. 1190. Holotype ♀ of *Oreta glaucinoe* Hampson; GHANA, Bibianaka, 700 ft., 27.ix.1911 (*Spurrell*); Drepanidae genitalia slide No. 1191. Both types in the British Museum (Natural History). (Type of *Oreta hylaeina* Aurivillius not seen; ♂ holotype, "S. Cameroun, Assobam-Urwald, 21-24.iv.11". See Discussion of species.)

Other material. *British Museum (Natural History)*. IVORY COAST: 1 ♀, 17.i.1956 (*Réal*); 1 ♂, 1 ♀, Bingerville, 14.vi.-14.viii.1915 (*Mélou*). GHANA: 1 ♂, Kumasi; 1 ♂, Aburi, viii.1901 (*Johnson*). NIGERIA: 1 ♂, Ogruga; 2 ♀, Old Calabar (*Crompton*). CAMEROUN: 24 ♂, 1 ♀, Bitje, 2,000 ft., xii.1907, i-iii.1908, vi-vii.1909, x-xi.1910, x-xi.1912, x-xi.1913 (*Bates and others*); 1 ♀, xi (*Schwab*); 1., Johann-Albrechts Höhe, 1898 (*Condradt*). CENTRAL AFRICAN REPUBLIC: 2 ♂, Boukoko, 12.i.1950, 13.xii.1959 (*Réal*). *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST: 1 ♂ (*Réal*); Adiopodoumé (*Réal*). CENTRAL AFRICAN REPUBLIC: 5 ♂, Boukoko M'Baiki, 7-16.ix, 10.xii.1949 (*Réal*).

Isospidia angustipennis torulus ssp. n.

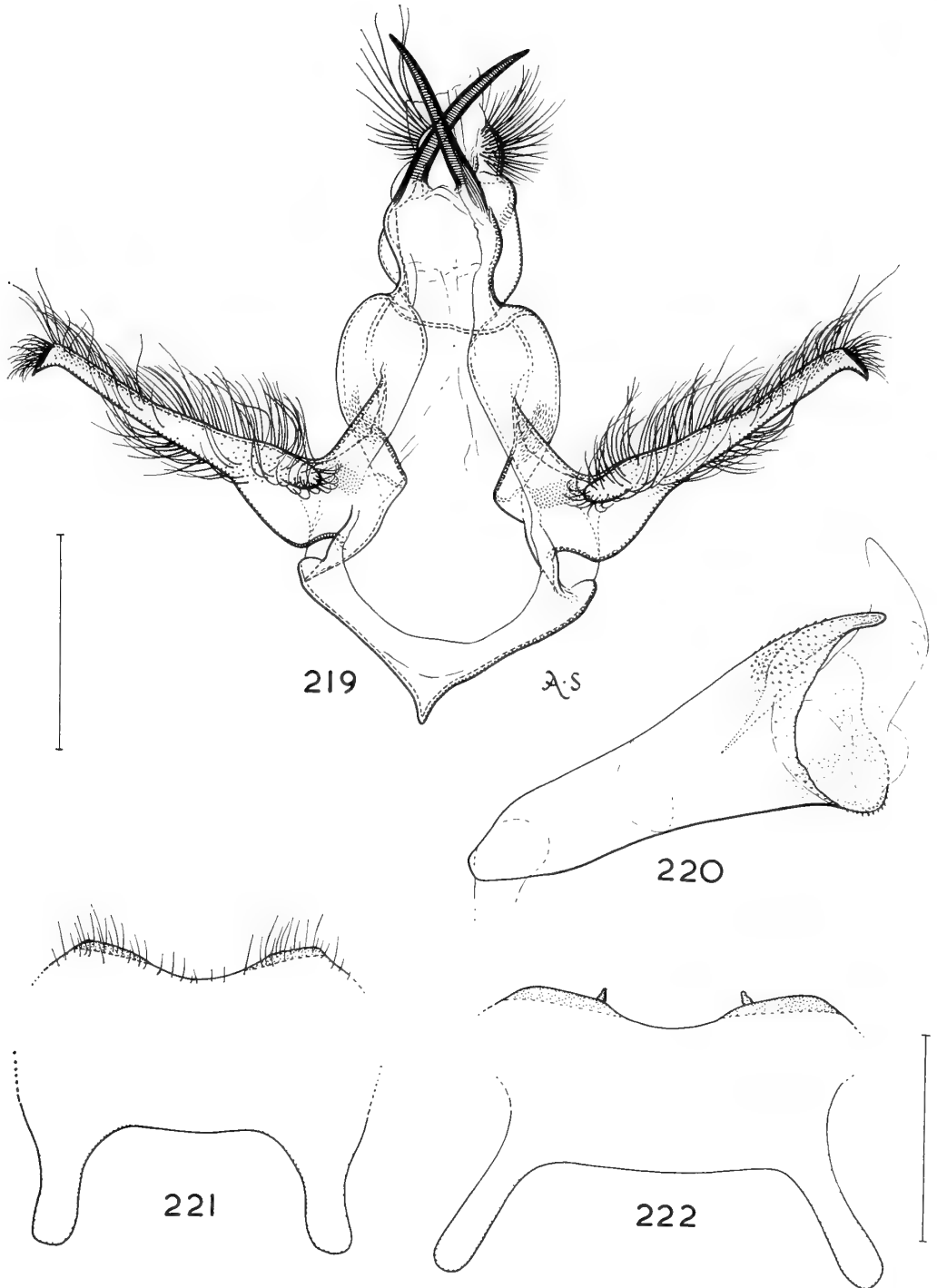
(Text-figs. 222, 224; Pl. 14, fig. 329; Map 6)

DIAGNOSIS. ♂, ♀. Distinguished from the nominate subspecies by the genitalia. The lobe at the base of the valve is smaller than in the nominate subspecies and two small digitate processes are present at the posterior margin of the eighth abdominal sternum (Text-fig. 222) unlike the nominate subspecies. In the female the shape of the dorsal plate of the eighth segment separates the two subspecies (Text-fig. 224).

MEASUREMENTS. Wing: ♂. 16.0, 15.5-16.5 mm. (5); ♀. 18.0 mm. (1).

DISCUSSION. The holotype, a male paratype, and the only female paratype belong to the brown-spotted form of the species (Plate 14, fig. 329); the remaining two male paratypes to the yellow form (Plate 14, fig. 328).

DISTRIBUTION (Map 6). Known only from UGANDA.



FIGS. 219-222, *Isospidia*, ♂ genitalia. 219-221, *angustipennis angustipennis*. 219, ♂; 220, aedeagus; 221, eighth abdominal sternite. 222, *angustipennis torulus*, eighth abdominal sternite.

MATERIAL EXAMINED. Type. Holotype ♂, S.W. UGANDA, Kigesi District, Kanungu, Impenetrable forest, 4,500 ft., v.1952 (*Burgess*); Drepanidae genitalia slide No. 1195; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. UGANDA: 1 ♂, Fort Portal, xii.1934-i.1935 (*Edwards*); 1 ♀, Fort Portal, 5,000 ft.; 31.i.1935 (*Fontaine*). *Coryndon Museum, Nairobi*. UGANDA: 1 ♂, Fort Portal, iii.1959 (*Carcasson*); 1 ♂, Ankole, Kalinzu Forest, xi.1961 (*Carcasson*).

***Isospidia brunneola* (Holland) comb. n.**

(Text-figs. 225-227; Pl. 14, fig. 330; Map 6)

Callidrepana brunneola Holland, 1893: 172. [Poor figure.]

Uranometra brunneola (Holland); Gaede in Seitz, 1927 b: 287.

Uranometra brunneola (Holland); Gaede, 1931: 50.

DESCRIPTION. ♂, ♀. Palp, front of head, and narrow band bordering posterior margin of eyes brownish scarlet. Vertex of head and upper surface of antennal shaft buff.

Dorsal surface of thorax brown, with scales of anterior margin white-tipped; ventral surface buff. Front surface of whole of fore leg brownish scarlet, remainder of leg buff. Mid and hind leg buff, sometimes with trace of scarlet on front surface of mid leg. Shape and colour-pattern of wings as in Plate 14, fig. 330. Ground-colour of both wings brownish buff speckled with brown. Fore wing with arcuate, brown antemedial fascia; large, dark brown discocellular spot; oblique, brown postmedial fascia from near apex to a point over half-way along anal margin from base of wing; apical area of fore wing darker than rest of wing; dark streak extending from near apex to discocellular spot; fringe dark brown proximally, pale brown distally. Upper surface of hind wing with brown antemedial fascia bordered distally with broad, diffuse, brown band; wing otherwise unmarked; fringe as for fore wing. Under surface of fore wing pink, lightly speckled with grey; usually with well-marked, grey postmedial fascia. Hind wing pink or dull yellow beneath, lightly speckled with grey; without fasciae.

Coloration of abdomen doubtful.

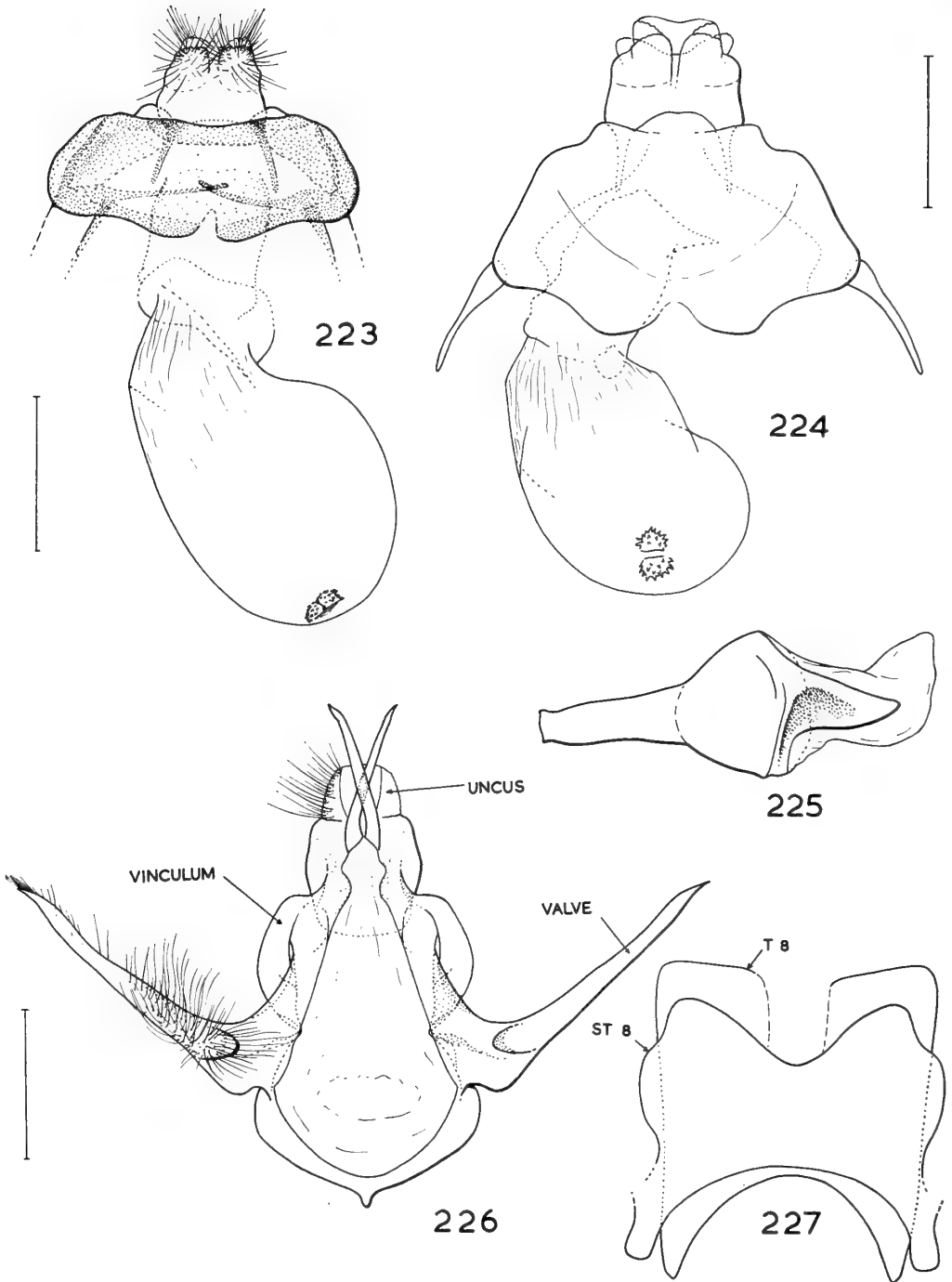
♂ **GENITALIA** (Text-figs. 225-227): basal lobe of valve well developed; aedeagus swollen apically, with broad, spinose process; eighth abdominal sternum deeply emarginate posteriorly; eighth tergum as in figure. ♀ **GENITALIA** (damaged in both females examined): heavily sclerotized dorsal plate of eighth segment probably distinguishable from that of *angustipennis*; signum a single, invaginate, spinose cup.

MEASUREMENTS. A.P.R.: ♂. 5; ♀. 3. Wing: ♂. 13.0, 12.5-14.0 mm. (3); ♀. 16.0, 15.5-16.5 mm. (2).

DISCUSSION. The colour-pattern of the upper surface at once separates this species from *angustipennis*. In *brunneola*, unlike *angustipennis*, an antemedial fascia is present on the fore wing, and the postmedial fascia meets the anal margin at a point over one-half distance from base of wing to tornus. In the male genitalia the larger lobe at the base of the valve, the differently shaped aedeagus and saccus process, and the more deeply emarginate eighth sternum separate this species from *angustipennis*. The simple signum characterizes the female genitalia.

No individual variation, or sexual dimorphism in coloration or wing shape has been found in the material available.

DISTRIBUTION (Map 6). SIERRA LEONE, CAMEROUN, CONGO.



FIGS. 223-227, *Isospidia*, genitalia. 223, *angustipennis angustipennis*, ♀ (dorsal view). 224, *angustipennis torulus*, ♀ (dorsal view). 225-227, *brunneola*. 225, aedeagus; 226, ♂; 227, ♂ eighth abdominal tergite and sternite.

MATERIAL EXAMINED. Type. The holotype of *brunneola* (♂, Cameroun, Ogowe River) deposited in the Carnegie Museum has not been seen, but Dr. H. K. Clench kindly sent me drawings of the genitalia and a photograph of the whole insect which enabled me to identify as this species the material listed below.

Other material. *British Museum (Natural History)*. SIERRA LEONE : 1 ♂. CAMEROUN : 1 ♂, Bitje, Ja River, 2,000 ft., x-xi.1912. CONGO : 1 ♀, Lowa Valley, near Walikale, 3,000-4,000 ft., ii.1924 (*Barns*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO : 1 ♂, Uele, Paulis, 5.i.1960 (*Fontaine*) ; 1 ♂, Luluabourg, 12.vi.1953 (*Fontaine*).

URANOMETRA Bryk

(Text-figs. 228, 229 ; Pl. 10, fig. 312 ; Map 6)

Uranometra Bryk, 1913 : 7. Type-species, by original designation, *Callidrepana oculata* Holland.

Uranometra Bryk ; Gaede in Seitz, 1927 b : 287.

Uranometra Bryk ; Gaede, 1931 : 50.

DESCRIPTION. ♂, ♀. Proboscis vestigial ; palp not extending dorsal to ventral margin of labrum ; antenna unipectinate from base to apex.

Meso- and metathoracic tibia each with single pair of short terminal spurs. Fore wing weakly falcate ; areole elongate ; R_1 and R_2 arising from stem of R_s towards distal end of areole (as in Text-fig. 1 of *Epicampoptera* Bryk, species-group *erosa*). $Sc + R_1$ anastomosing with R_s for short distance distal to end of cell on hind wing. Upper surface of fore wing with conspicuous apical spot, two spots at tornus, strongly marked oblique postmedial fascia, white discocellular spot, and antemedial fascia. Under surface with postmedial fascia corresponding exactly in position with same fascia on upper surface. Hind wing with antemedial fascia on upper surface ; unmarked ventrally.

♂ GENITALIA remarkable in that the eighth abdominal sternum is fused to the saccus, and the aedeagus to the diaphragma. The diaphragma is invaginated to form a pair of large sacs, enclosing numerous elongate setae.

♀ GENITALIA also characteristic ; heavily sclerotized.

TAXONOMIC HISTORY. Bryk (1913) erected this genus for the two species *Callidrepana oculata* Holland and a new species *diagonalis*. Gaede (1927 b) in the first revision of the genus added *Callidrepana brunneola* Holland. In the present revision *diagonalis* is sunk as a synonym of *oculata*, and *brunneola* is transferred to *Isospidia* gen. n. (see page 132). A further name, *Oreta sulphurea* Hampson, is added to the synonymy of *oculata*.

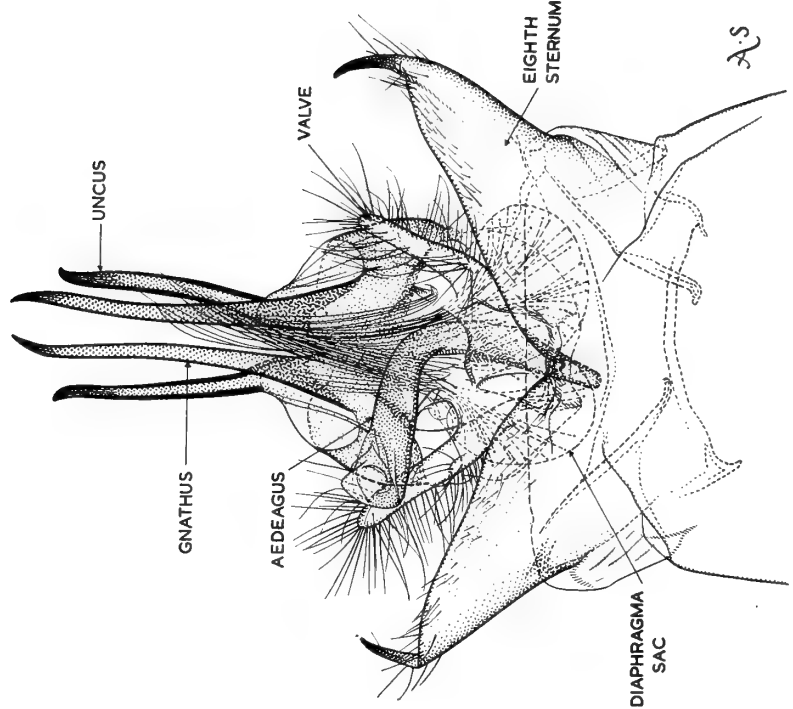
DISCUSSION. Characteristic of this monotypic genus is the conspicuous dark apical marking on the fore wing, which immediately separates it from the otherwise similarly patterned and coloured *Isospidia* gen. n. with which *Uranometra* has some affinities. The male genitalia, although strikingly different from those of *Isospidia* in many respects, possess paired elongate processes (possibly representing the gnathus) as in the latter. The eighth abdominal sternum in the female is highly modified in both genera.

There is apparently no sexual dimorphism in the wing shape and coloration nor in the shape of the antennae. There is some individual variation in coloration.

DISTRIBUTION (Map 6). *Uranometra* is known to range from GHANA across humid central Africa as far as western UGANDA.



228



229

FIGS. 228-229, *Uranometra oculata*, genitalia. 228, ♂; 229, ♀.

Uranometra oculata (Holland)

(Text-figs. 228, 229 ; Pl. 10, fig. 312, ; Map 6)

Callidrepana oculata Holland, 1893 : 171. [Poor fig.]*Uranometra oculata* (Holland) ; Gaede in Seitz, 1927 b : 287. [Poor fig.]*Uranometra oculata* (Holland) ; Gaede, 1931 : 50.*Uranometra diagonalis* Bryk, 1913 : 9. **syn. n.***Uranometra diagonalis* Bryk ; Gaede, 1931 : 50.*Oreta sulphurea* Hampson, 1914 : 103. **syn. n.***Oreta sulphurea* Hampson ; Gaede, 1931 : 47.

DESCRIPTION. ♂, ♀. Palp dull scarlet. Head yellow above labrum, reddish brown below antennae, buff between and posterior to antennae. Antennal shaft pale buff dorsally.

Anterior margin of thorax very pale yellow dorsally, becoming darker yellow then dull pink posteriorly. Ventral surface of thorax pale yellow, with scarlet band ventral and lateral to eye. Fore legs with scarlet front surface, rest yellow ; remaining legs similarly but less intensely coloured or uniformly yellow.

Wing shape as in Plate 10, fig. 312. Ground-colour of upper surface of both wings yellow striate with brown and reddish brown, sometimes speckled with reddish brown or entirely reddish brown proximal to postmedial fascia on fore wings and proximal to antemedial fascia on hind wing (see remarks below on variation) ; costal area of fore wing, apical part of fore wing (except for black apical spot and narrow surrounding area) and narrow terminal band on hind wings much more lustrous than rest of wing. Upper surface of fore wing with white discocellular spot ; reddish brown postmedial fascia ; black comma-shaped apical marking ; reddish brown subterminal marking immediately anterior to Cu_{1b} and another above 1A ; marginal area speckled with reddish brown scales or entirely reddish brown. Reddish brown antemedial fascia clearly marked on upper surface of hind wing ; area proximal to this fascia occasionally speckled with reddish brown or entirely reddish brown. Under surface of both wings pale yellowish buff, striate or speckled with reddish brown in some specimens. Fore wing more reddish at base, especially in costal area and in narrow terminal band ; postmedial fascia reddish brown often faintly marked.

Abdomen similar in colour to the adjacent parts of the corresponding surfaces of the hind wings. Antemedial fascia of hind wing continued across abdomen as transverse band.

♂ GENITALIA (Text-fig. 228) : uncus and (?) gnathus bifid ; diaphragma with paired, setose, dorsoventrally flattened invaginations ; valves digitate, setose ; aedeagus arcuate ; eighth sternum greatly modified, deeply emarginate medially at posterior margin.

♀. Similar to male externally.

♀ GENITALIA (Text-fig. 229) : heavily sclerotized ; ostial segment forming thick collar round ovipositor lobes ; ostium covered ventrally by deeply emarginate plate ; bursa copulatrix with single, ovate, concave, spinose signum.

MEASUREMENTS. A.P.R. : ♂, ♀. 19. Wing : ♂. 15.0, 13.5-17.0 mm. (12) ; ♀. 16.5, 15.5-17.5 mm. (3).

DISCUSSION. The presence of individual variation has been mentioned in the description. There is a tendency towards a darkening of the coloration of the area proximal to the postmedial fascia on the upper surface of the fore wing and proximal to the antemedial fascia on the hind wing. In most specimens there is only a light speckling of reddish brown scales on these areas, but in a few examples the wings may be almost uniformly coloured and in others the basal areas are almost completely reddish brown. In the latter darker specimens the terminal part of the fore wing is also a darker reddish brown colour and that part of the dorsal surface of the abdomen adjacent to the dark basal part of the hind wing is reddish brown.

The male genitalia of this species are particularly interesting, although the homologies of the various parts are by no means clear. The most dorsal of the two pairs of acuminate posterior processes probably represent the uncus, and the ventral pair the gnathus. The curious, setose diaphragma pockets may be sensory, but they apparently do not function as scent organs as the setae are less densely arranged and more firmly attached at their base than in typical brush-organ setae. Both the aedeagus and the eighth abdominal sternum are firmly attached by sclerotized connections to the sternal region of the vinculum.

DISTRIBUTION (Map 6). Known from the IVORY COAST, GHANA, TOGO, CENTRAL AFRICAN REPUBLIC, CAMEROUN, CONGO and UGANDA. It is quite possible that the Ugandan specimen listed below represents a new subspecies, but as only one female was available for study it has not been possible to establish this with any certainty.

MATERIAL EXAMINED. Types. Holotype ♂ of *oculata*; GABON, Ogowe River; in the Carnegie Museum, Pittsburgh. I have not seen this type, but Dr. H. K. Clench has kindly dissected it and sent me photographs and drawings of the whole insect and the genitalia. Holotype ♂ of *diagonalis*; GABON; in the Zoologisches Museum, Humboldt Universität, Berlin. Holotype ♂ of *sulphurea*; GHANA; in the British Museum (Natural History).

Other material. *British Museum (Natural History)*. GHANA: 1 ♂, Gambaga (Bury); 1 ♂, Kumasi, 24.v-18.vii (Sanders). NIGERIA: 1 ♂, Ibadan, 27.vi.1957 (Sutton). CAMEROUN: 2 ♀, Bitje, Ja River, 2,000 ft.; x-xi.1912. CONGO: 2 ♂, Elisabethville, 14.v.51, 14.iv.1952 (Seydel). CENTRAL AFRICAN REPUBLIC: 1 ♂, Boukoko, vii.1949 (Réal). *Institut d'Enseignement et de Recherches tropicales, Bondy*. IVORY COAST: 1 ♀, near Nimba, 29.i.1957 (Réal). CENTRAL AFRICAN REPUBLIC: 2 ♂, Oubangui-Chari; Boukoko, M'Baiki, 10.ix, 6.x.1949 (Réal). *Zoologisches Museum, Humboldt Universität, Berlin*. TOGO: 1 ♂, Bismarckburg [8° 12'N, 0° 33'E], 1-15.ix.1891 (Büttner). CAMEROUN: 1 ♂, Akoafim, 1914 (Tessman). *Muséum d'Histoire naturelle, Geneva*. CONGO: 1 ♂, Katanga, Tshituru, 12.iv.29 (Romieux). *Coryndon Museum, Nairobi*. UGANDA: 1 ♀, Fort Portal, iii.1959 (Carcasson).

ARCHIDREPANA Warren

(Text-figs. 230-234; Pl. 15, figs. 331-333)

Archidrepana Warren, 1902: 487. Type-species, by monotypy and original designation, *Archidrepana saturniata* Warren, 1902.

DESCRIPTION. ♂. Proboscis absent. Palp extending short distance above labrum. Whole of antennal flagellum unipectinate.

Meso- and metathoracic tibia each with single pair of short terminal spurs. Fore wing falcate; areole elongate; R_1 arising from near anterior angle of cell, R_2 and R_3 from areole; R_4 anastomosing at a point with R_5 (Text-fig. 230). Outer margin of hind wing weakly concave near anal angle; $Sc + R_1$ approximating to Rs for short distance distal to end of cell. Upper surface of fore wing with strongly marked antemedial and postmedial fascia, both sharply bent inwards near costa; usually with several irregularly shaped pale patches at distal end of cell and dark subterminal spot between Cu_{1a} and Cu_{1b} . Upper surface of hind wing with well marked sub-basal fascia and medial fascia (continuous respectively with antemedial fascia and postmedial

fascia of fore wing) and dark subterminal spot between Cu_{1a} and Cu_{1b} . Postmedial fascia of under surface of fore wing weakly marked except at costa, corresponding in position with same fascia on upper surface of wing. Under surface of hind wing with weakly marked medial fascia corresponding in position with medial fascia of upper surface) and well marked subterminal spot between Cu_{1a} and Cu_{1b} . (See Plate 15.)

♂ GENITALIA : uncus simple, directed anteriorly ; homologues of remaining structures in main body of genitalia doubtful ; vesica of aedeagus spinose ; eighth abdominal sternite with long apodemes ; eighth abdominal tergum little modified.

♀. Similar to male but with outer margin of fore wing more strongly convex at middle.

♀ GENITALIA : bursa copulatrix without signum ; eighth segment narrow anteroposteriorly, with long apophyses : ninth segment well sclerotized laterally and ventrally, apophyses shorter than those of eighth segment.

DISCUSSION. I have been unable to find any reference to this genus in the literature subsequent to the date of the original description, Gaede (1927 b and 1931) does not mention *Archidrepana*.

The colour-pattern of the wings is similar in many respects to that of the species-group *erosa* of *Epicampoptera*, but the venation, antennal structure and genitalia are quite different. The curiously modified male genitalia and the absence of a proboscis separate *Archidrepana* from all other African and Madagascan Oretinae.

The only known species, *saturniata*, is remarkably variable in coloration.

DISTRIBUTION. Known only from MADAGASCAR and the COMORES ARCHIPELAGO.

***Archidrepana saturniata* Warren**

(Text-figs. 230-234 ; Pl. 15, figs. 331-333)

Archidrepana saturniata Warren, 1902 : 487.

DESCRIPTION. ♂, ♀. Outer surface of palp brown or dark brown, inner surface buff ; terminal segment sometimes paler than more proximal segments. Front of head buff ; vertex very pale buff, nearly white ; dark brown fringe at posterior margin of head laterally and ventrally. Upper surface of antennal shaft very pale buff.

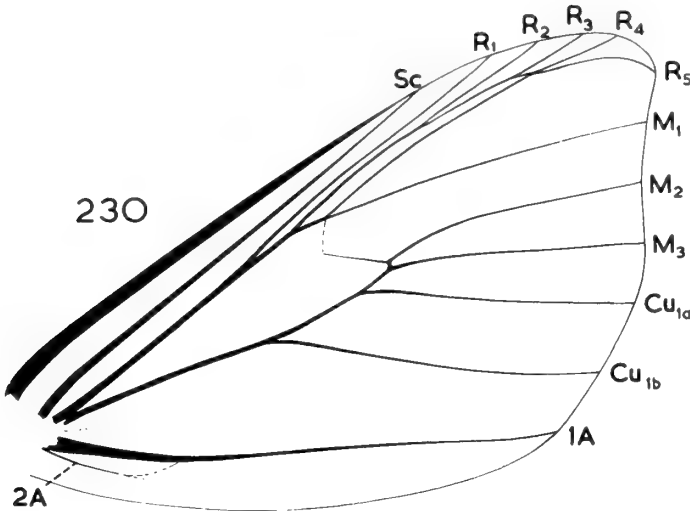
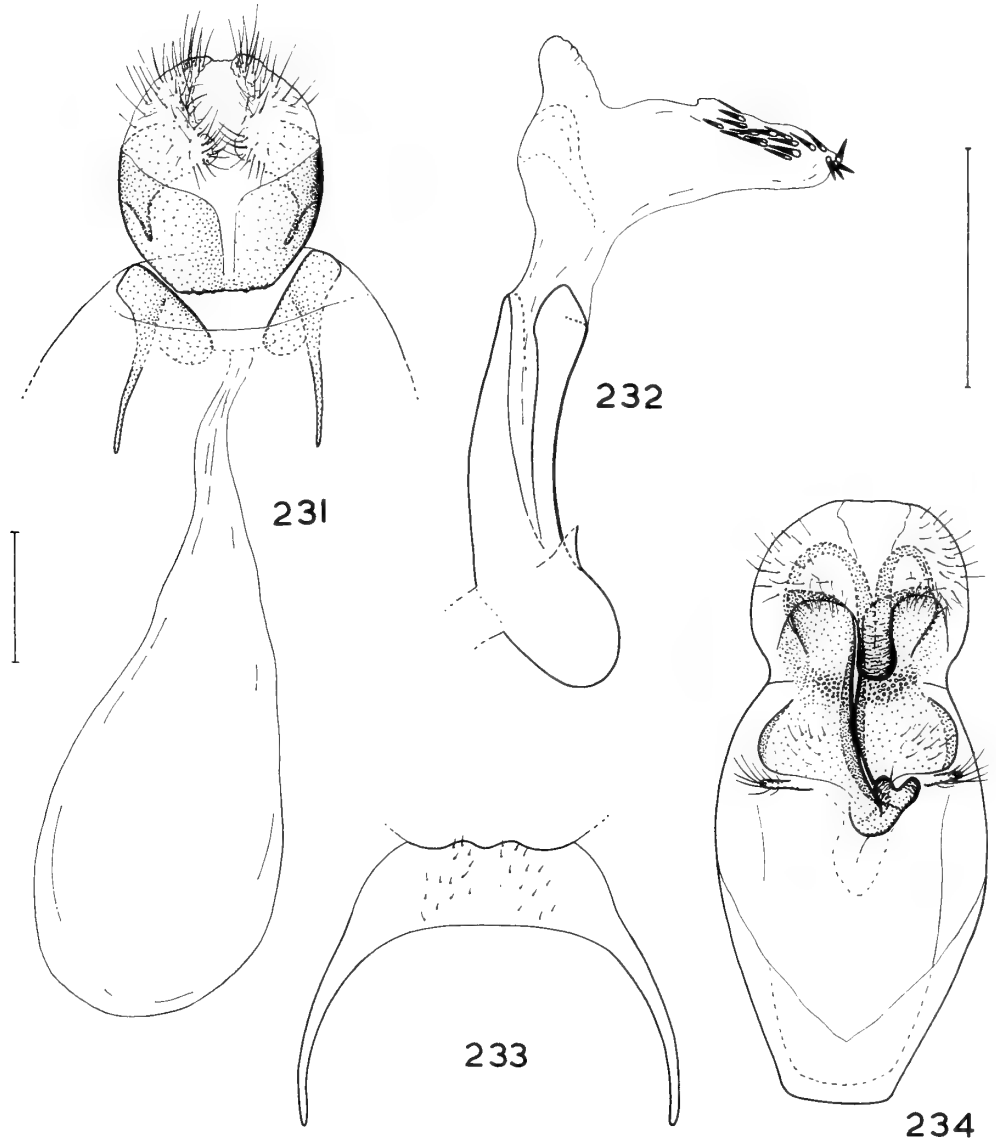


FIG. 230, *Archidrepana saturniata*, ♂ fore wing venation.

Dorsal surface of thorax chiefly buff, pink or orange-scarlet, but invariably very pale buff anteriorly ; two weakly marked, greyish, transverse bands, one near anterior margin, the other across posterior half of tegulae. Ventral surface of thorax very pale buff. Outer surface of trochanter of fore leg brown or greyish brown ; femur and tibia paler, often pinkish ; tarsus pinkish buff ; inner surface of whole of fore leg buff. Colour of remaining legs doubtful, but usually with some dark brown scales at distal end of tibia and at distal margin of each tarsal segment.



FIGS. 231-234, *Archidrepana*, genitalia. 231, ♀ ; 232, aedeagus ; 233, ♂ eighth abdominal sternite ; 234, ♂ (medial processes slightly displaced to right).

Venation of fore wing as in Text-fig. 230 (R_1 may arise closer to end of cell or slightly nearer base of wing than in figure; R_2 may arise distal or proximal to the position illustrated). Ground-colour of upper surface of both wings (see Plate 15, figs. 331-333) pale buff (holotype), yellow, pink or orange-scarlet, variably speckled with orange-scarlet, reddish grey (holotype) or yellowish grey; highly lustrous distal to postmedial fascia on fore wing, otherwise moderately lustrous; fasciae and subterminal spot (latter sometimes absent on fore wing) dark brown; under surface of both wings very pale buff or pinkish buff. Fore wing lightly speckled with brown proximal to weakly marked postmedial fascia; strongly speckled and suffused with brown distally, especially in patch near posterior end of postmedial fascia; conspicuous dark brown marking at costal end of postmedial fascia. Hind wing lightly speckled with brown; weakly marked postmedial fascia placed approximately parallel to outer margin, expanded into large brown spot anteriorly; conspicuous dark brown subterminal spot.

Dorsal surface of abdomen as for adjacent part of thorax, but more yellowish posteriorly and with trace of dark, transverse band continuous with sub-basal fascia of hind wing. Ventral surface of abdomen very pale buff.

♂ GENITALIA (Text-figs. 232-234): valves apparently absent; (?) gnathus bifurcate, with short, setose, digitate process; uncus slightly clavate; aedeagus with longitudinal sulcus apically, vesica with group of stout spines; eighth sternite as in figure.

♀ GENITALIA as in Text-fig. 231.

MEASUREMENTS. A.P.R.: ♂. 23; ♀. 20. Wing: ♂. 17.5, 15.5-19.0 mm. (6); ♀. 23.5, 22.0-25.5 mm. (3).

DISCUSSION. The considerable variation in the coloration and degree of striation of the upper surface of the wings mentioned in the description merits special mention. There is also some variation in the venation of the fore wing (see description).

DISTRIBUTION. Known only from the COMORES ARCHIPELAGO (holotype) and MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♀, GR. COMORE; Drepanidae genitalia slide No. 588: in the British Museum (Natural History).

Other material. *Muséum national d'Histoire naturelle, Paris*. N. MADAGASCAR: 1 ♂, Montagne d'Ambre, Les Roussettes, 1,000 m., 3.xii.1958 (*Viette*); 1 ♂, forêt d'Analamerana, 50 km. S.E. Diego-Suarez, 80 m., 29.i-3.ii.1959 (*Viette*). N.E. MADAGASCAR: 1 ♀, env. de Maroantsetra, Ambodivoangy (*Vadon*). E. MADAGASCAR: 1 ♂, Reserve nationale III, Ambatovositra, Andranomalaza, ii.1957 (*Soga*); 1 ♂, Réserve nationale III, Andranomalaza, Manarilaza, iii.1957 (*Soga*); 1 ♀, Route de Lakato, km. 15 Ankasoka, 1,100 m., 2-10.i.1959 (*Viette*). *British Museum (Natural History)*. N. MADAGASCAR: 2 ♂, Diego Suarez, vi.1917, 9-14.vii.1917 (*Mélou*).

ORETOPSIS gen. n.

(Gender: feminine)

(Text-figs. 235-239; Pl. 17, fig. 339)

Type-species: *Spidia vohilava* Viette, 1954.

DESCRIPTION. ♂, ♀. Proboscis vestigial; palp small, not extending above labrum, with vestiture of long hair-scales on ventral or anterior surface; antenna closely lamellate from base to apex, each lamella touching adjacent lamellae.

Meso- and metathoracic tibiae each with one pair of apical spurs. Costa of fore wing nearly straight except at base and apex; outer margin nearly straight in male, arcuate in female.

Outer margin of hind wing evenly arcuate. Venation of fore wing as in Text-fig. 235 ; R_1 arising from cell ; areole absent, R_4 stalked with R_5 and not anastomosed with R_3 . $Sc + R_1$ in hind wing anastomoses for short distance with R_5 distal to end of cell. Upper surface of fore wing with weakly marked antemedial fascia ; two cell-spots ; oblique, well marked postmedial fascia ; dark costal marking at about three-quarters distance from base to apex ; two closely apposed dark spots near tornus, one on either side of vein 1A. Upper surface of hind wing sometimes with trace of antemedial fascia, continuous with postmedial fascia of fore wing ; otherwise unmarked. Under surface of fore wing sometimes with weakly marked postmedial fascia ; hind wing seldom with trace of antemedial fascia ; both fasciae corresponding exactly in position with same fasciae on upper surface. (See Plate 17.)

GENITALIA. (See description of type-species.)

DISCUSSION. In external facies this genus closely resembles *Oreta* Walker (1855 : 1166), type-species by subsequent designation (Kirby, 1892 : 728) *Oreta extensa* Walker (1855 : 1166), except for the absence of cell-spots on hind wing. It differs from *Oreta* in the following important respects : the fore wing of the female is strongly falcate, more (not less) falcate than the male fore wing ; there is no areole in the fore wing ; in the male genitalia the uncus is bifid and directed anteriorly, the gnathus has no lateral arms, the diaphragma has become modified to form a sclerotized pocket, and the eighth abdominal sternum is longer (antero-posteriorly) than wide. This kind of sexual dimorphism in the shape of the fore wing together with the form of the eighth sternite are characters shared with *Spidia* Butler.

There is considerable individual variation in the coloration of the wings.

The genus is monotypic and apparently confined to MADAGASCAR.

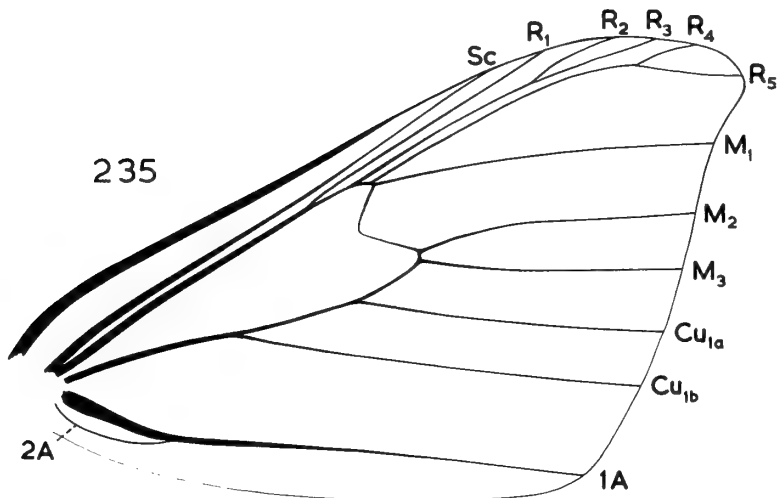
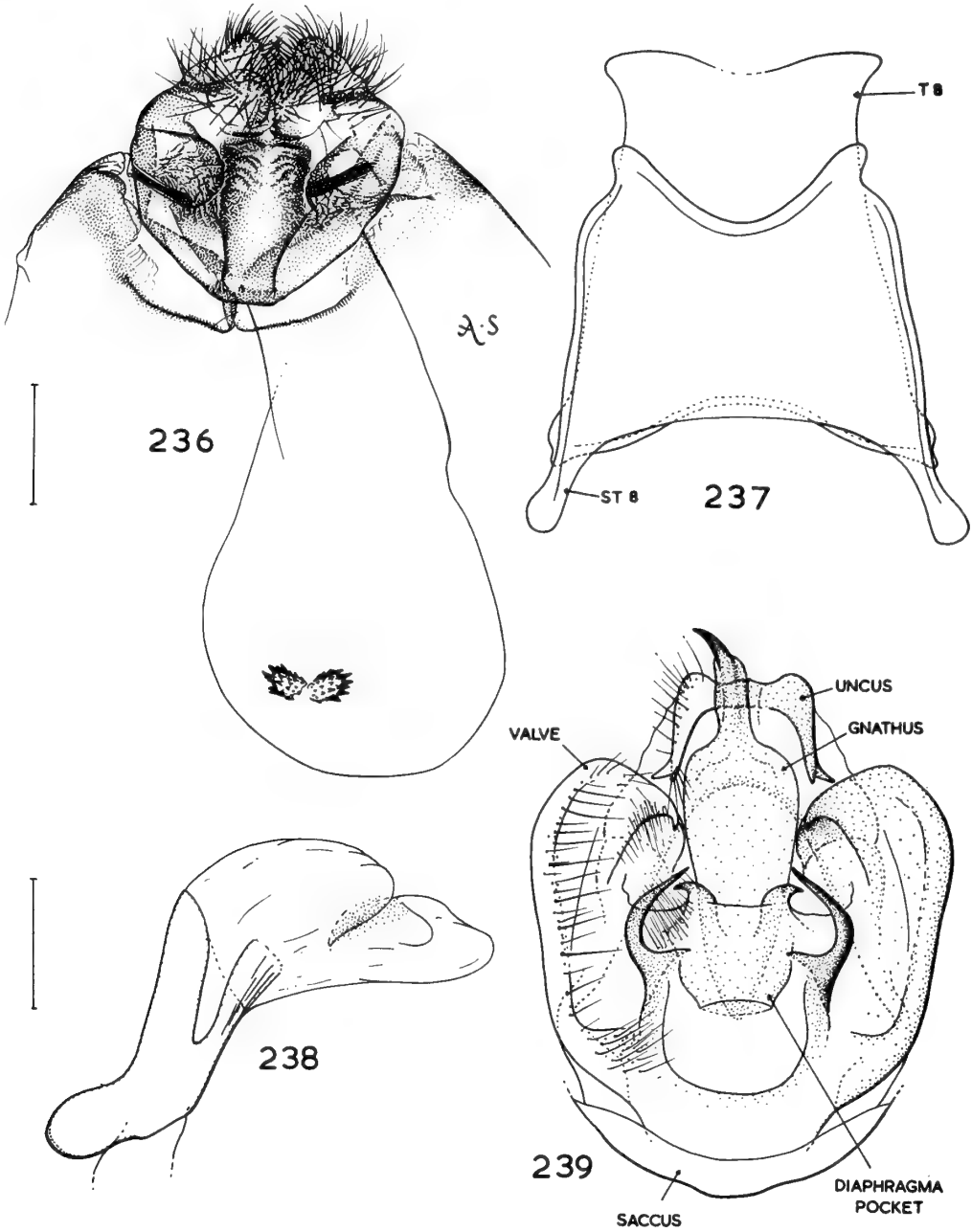


FIG. 235, *Oretopsis vohilava*, ♂ fore wing venation.



FIGS. 236-239, *Oretopsis vohilava*, genitalia. 236, ♀; 237, ♂ eighth abdominal tergite and sternite; 238, aedeagus; 239, ♂.

***Oreopsis vohilava* (Viette) comb. n.**

(Text-figs. 235-239 ; Pl. 17, fig. 339)

Spidia vohilava Viette, 1954 : 79.

DESCRIPTION. ♂. Palp reddish brown. Front of head reddish brown, palest ventrally ; scales between base of antennae dark greyish brown, tipped with white, elongate to form fringe ; vestiture of head posterior to antennal bases buff or greyish white. Upper surface of antennal shaft pale buff except for few pink basal segments.

Dorsal surface of thorax buff or pinkish grey, paler at anterior margin ; each scale tipped with white or very pale buff. Ventral surface of thorax pale pink or orange. Legs pale pink or orange, with front surface of fore leg, and sometimes of remaining legs, clothed with grey or grey and white scales.

Ground-colour of upper surface of both wings buff, greenish grey or pinkish grey, variously speckled with black ; fore wing usually darker between antemedial and postmedial fascia, colour pattern as in Plate 17, fig. 339. Upper surface of fore wing with trace of black or brown antemedial fascia, strongly marked at costa ; white discocellular spot and posterior cell-spot ; well marked, oblique, very pale buff or grey postmedial fascia, usually white near apex, bordered proximally with black, greyish brown or greenish brown and distally with pale brown or grey ; black or grey marking at about three-quarters distance from base along costa ; tornal spots usually very dark brown, buff in one specimen ; fringe much darker than ground-colour of wing. Upper surface of hind wing usually with trace of antemedial fascia, otherwise unmarked ; fringe as for fore wing. Under surface of fore wing with pinkish grey or orange-grey costal and anal area, remainder greenish or yellowish grey lightly speckled with darker grey ; trace of postmedial fascia. Under surface of hind wing pinkish grey or orange-grey lightly speckled with darker grey, paler in anal area ; trace of anterior part of antemedial fascia in some specimens.

Abdomen similar in colour to corresponding adjacent surface of hind wing, but pinkish or orange-grey posteriorly.

♂ GENITALIA (Text-figs. 237-239). Uncus bifid, each arm bifurcate apically ; gnathus lanceolate anteriorly, forming part of dorsal wall of diaphragma pocket, heavily sclerotized, acuminate and down-curved (displaced to left in Text-fig. 239) ; valve auriform, produced into short spine posteriorly ; curved spine arising from near saccular region of valve fused at base with two-spined diaphragma pocket ; saccus broad, shallow ; aedeagus as in Text-fig. 238, base weakly bilobed ; eighth abdominal sternum and tergum as in Text-fig. 237.

♀. Similar to male but with strongly falcate fore wing and strongly arcuate (not nearly straight as in ♂) outer margin (see Viette, 1954 : pl. 2, fig. 8).

♀ GENITALIA with distinctive dorsal structures (Text-fig. 236) ; signum a bilobed scobinate patch.

MEASUREMENTS. A.P.R. : ♂, ♀. 5. Wing : ♂. 19.0, 17.5-20.5 mm. (6) ; ♀. 24.5, 23.5-25.0 mm. (3).

DISCUSSION. As indicated in the description, this species is subject to much individual variation in the coloration, especially of the upper surface of the wings. Particularly noticeable is the variation in the colour of the medial area on the fore wing, which may be only slightly darker than the ground of the wing, dark reddish brown, or almost completely black.

DISTRIBUTION. South, east and south-east MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♀, S.E. MADAGASCAR, vallée du Faraony, Vohilava, 1942 (*Catala*) ; Drepanidae genitalia slide No. 508 ; in the Muséum national d'Histoire naturelle, Paris.

Other material. *Muséum national d'Histoire naturelle, Paris.* S.W. MADAGASCAR: 1 ♂, 12 km. N.E. de Sakaraha, Rés. forêt de Zombitsy, 11-13.iv.1956 (*Griveaud*). S.E. MADAGASCAR: 1 ♂, Lambomakandro, 500 m., 17.vii.1957 (*Griveaud*); 1 ♂, Midongy du Sud, forêt de Befotaka, 950 m., 3-7.iii.1959 (*Viette and Griveaud*). E. MADAGASCAR: 1 ♂, Maroantsetra, Ivontaka, 13.iii.1958 (*Griveaud*); 1 ♂, 6 km., N.W. Fanovano, 18-22.ii.1955 (*Griveaud and Vieu*); 1 ♂, route d'Ansobie, km. 26 forêt de Sandrangato, 18.xii.1954 (*Viette*); 1 ♀, route de Lakato, km. 15 Ankasoka, 1,100 m., 2-10.i.1959 (*Viette*). *British Museum (Natural History)*. E. MADAGASCAR: 1 ♀, Périnet, ii.1935 (*Olsoufieff*). *Institut scientifique, Madagascar*. S.W. MADAGASCAR: 2 ♂, Sakaraha, Zombitsy, 11, 12.iv.1956 (*Griveaud*).

DREPANINAE

Callidrepana Felder

(Text-figs. 240-252; Pl. 16, figs. 334-337; Map 7)

Callidrepana Felder, 1861: 30. Type-species, by monotypy, *Callidrepana saucia* Felder, 1861 [= *Callidrepana argenteola* (Moore), 1858: 360].

Callidrepana Felder; Gaede 1931: 34.

Damna Walker, 1863: 1570. Type-species, by monotypy, *Damna gelidata* Walker, 1863.

Ausaris Walker, 1863: 1632. Type-species, by monotypy, *Ausaris scintillata* Walker, 1863.

Drepanulides Motschulsky, 1866: 192. Type-species, by subsequent designation, (Inoue, 1962)

Drepanulides palleolus Motschulsky, 1866: 193.

Ticilia Walker, 1865: 394. Type-species, by monotypy, *Ticilia argentilinea* Walker, 1865.

Drepanulina Gaede, 1927 b: 287 [*nom. nov.* for *Drepanula* Gaede 1914: 65; preoccupied by

Drepanula Frölich, 1828: 11 (Lep.)]. Type-species, by monotypy, *Drepanula argyrobapta* Gaede, 1914. **syn. n.**

In the following pages two new African species, *serena* and *macnultyi*, are described and added to the list of species in *Callidrepana*. These, together with *argyrobapta* (previously placed in *Drepanula*) are the first African species to be ascribed to *Callidrepana*.

The presence of this genus in the Ethiopian Region is of particular zoogeographical interest as it is the sole representative there of the subfamily Drepaninae.

The three African species are probably most closely related to *nana* Warren, *gelidata* Walker and *splendens* Warren, which are all Malayan or Indonesian species. They share with the rest of the genus the same basic colour-pattern formed partly by lustrous, silvery scales. There are also several characters in the male genitalia common to the African and non-African species.

Callidrepana argyrobapta (Gaede) **comb. n.**

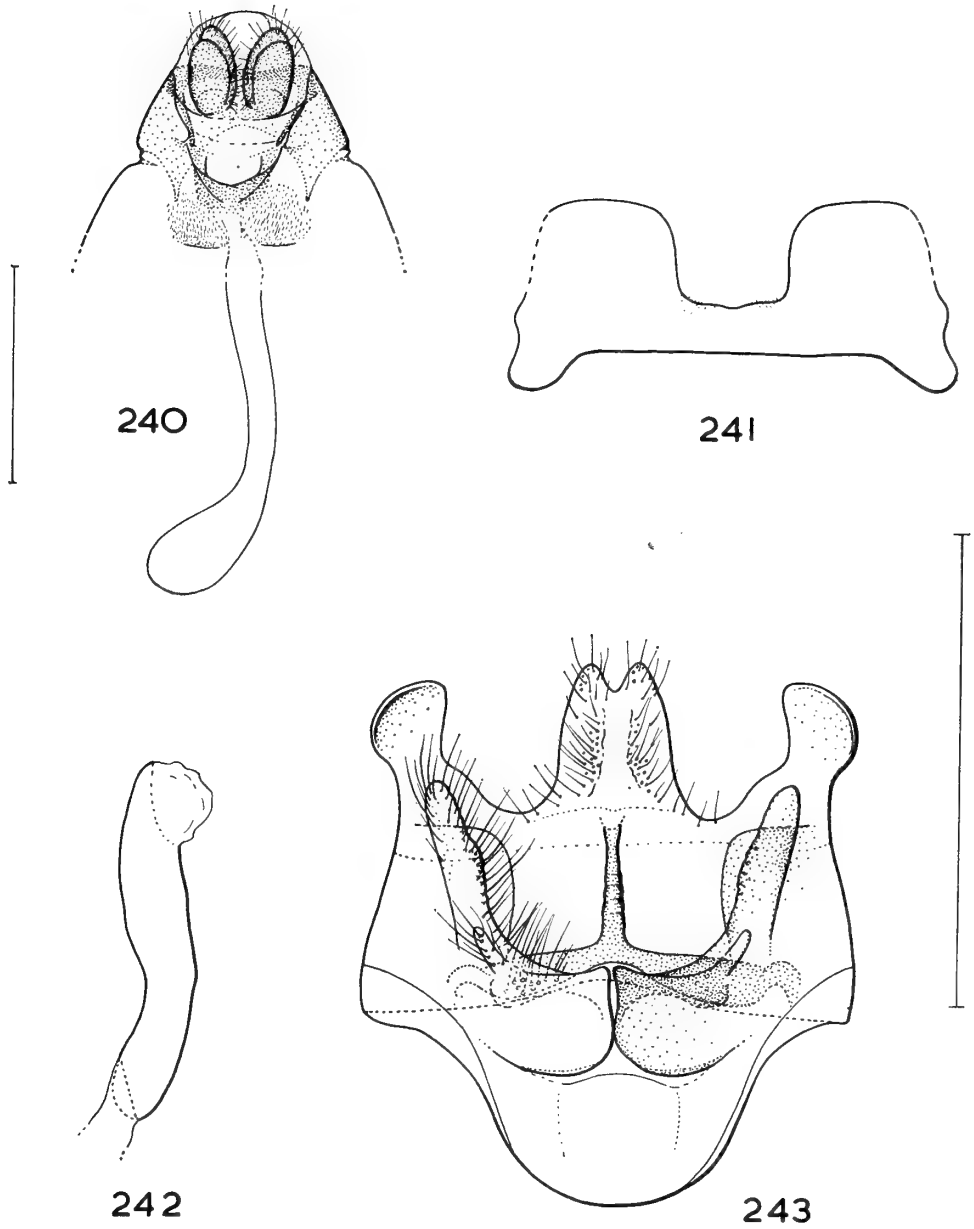
(Text-figs. 241-243; Pl. 16, fig. 336; Map 7)

Drepanula argyrobapta Gaede, 1914: 65.

Drepanulina argyrobapta (Gaede) *in* Seitz, 1927 b: 14. [Poor fig.]

Drepanulina argyrobapta (Gaede), 1931: 50.

DESCRIPTION. ♂. Outer surface of palp brown, inner surface pale greyish buff. Colour of head and antenna doubtful, probably greyish brown. Antenna bipectinate.



FIGS. 240-243, *Callidrepana*, genitalia. 240, *serena serena*, ♀. 241-243, *argyrobapta*.
241, ♂ eighth abdominal sternite ; 242, aedeagus ; 243, ♂.

Thorax and legs of type nearly devoid of scales, probably similar in colour to corresponding surface of wings. Shape and colour-pattern of wings as in Plate 16, fig. 336. Venation of both wings as for *serena*, but R_4 fuses with R_{2+3} just proximal to branching of R_2 from stalk. Ground-colour of both wings pale brownish grey; markings brownish grey. Lustrous scales forming line just below costa on fore wing; scattered at apex, on cell-spots, apical streak, antemedial fascia and anterior half of wing; and forming line along distal border of postmedial fascia. Lustrous scales also present on hind wing on posterior part of antemedial fascia and along distal border of postmedial fascia. Fringe of both wings brown. Underside of both wings lilac-grey, without markings.

Colour of abdomen doubtful.

♂ GENITALIA as in Text-figs. 241–243. Valve with small, digitate, ventral lobe at base. (Aedeagus drawn from side; ventral view similar to Text-fig. 248 of *serena nigeriensis*.)

♀. Not known to me. Gaede listed 1 ♂ and 1 ♀ in his original description, but I was not able to find the female at Berlin.

MEASUREMENTS. A.P.R.: ♂. Not known. (Neither antenna complete.) Wing: ♂ 11.5 mm. (1).

DISCUSSION. This species is separated from both *serena* and *macnultyi* by the straight, uniformly marked postmedial fascia on both wings (Plate fig. 336), and by the position of this fascia well away from the outer margin on the hind wing. The presence of a small, digitate lobe at the base of the valve and the broader processes of the tegumen distinguish the male genitalia from those of *serena*, the species probably most closely related to *argyroabapta*.

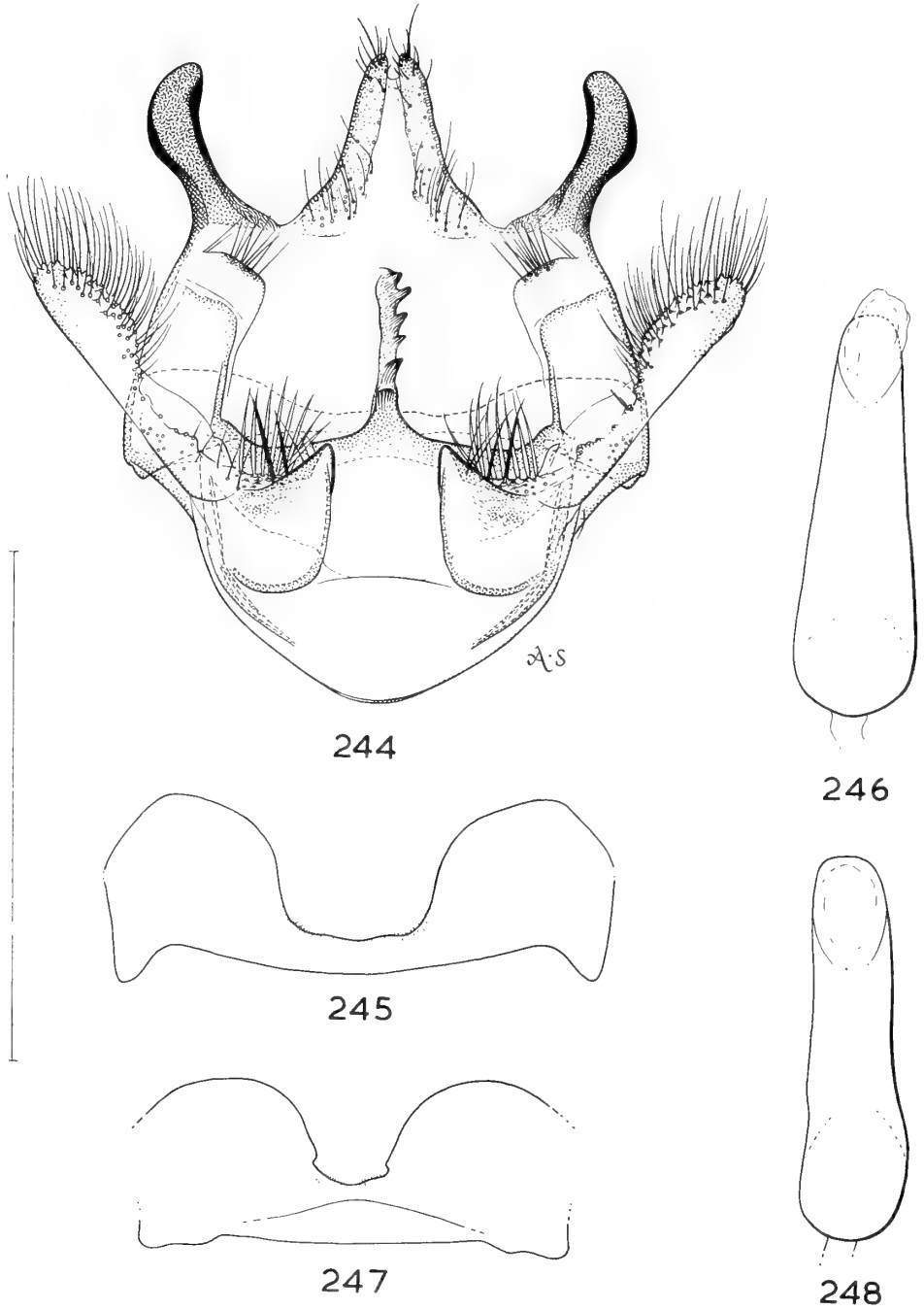
MATERIAL EXAMINED. Type. I have selected and labelled as LECTOTYPE the male syntype: lectotype ♂, SÜD-KAMERUN, Lolodorf, *Erich Konrad* S.G.; Drepanidae genitalia slide No. 1229; B.M. negative No. 31121; in the Zoologisches Museum, Berlin.

Callidrepana serena sp. n.

(Text-figs. 240, 244–248; Pl. 16, figs. 337, 338; Map 7)

DESCRIPTION. ♂. Terminal segment of palp very dark brown; rest of palp brown on outer surface, pale buff on inner surface. Front of head brown, paler towards labrum; vertex similarly coloured but brilliantly lustrous. Upper surface of antennal shaft brown proximally, buff distally.

Collar reddish buff; rest of thorax brownish white. Outer surface of fore tibia and tarsus greyish brown; remaining legs and rest of fore legs brownish white. Venation: R_1 and stalk of R_{2+3} arise close together from near end of cell; shortly after branching from R_2 vein R_3 fuses with R_4 for variable distance to form areole; in the hind wing $Sc + R_1$ anastomoses with R_s for short distance distal to end of cell. Shape and colour-pattern of wings as in Plate 16, figs. 337, 338. Ground-colour of both wings pale buff but in some specimens (not holotype) area between antemedial and postmedial fascia dark brown in posterior three-quarters of fore wing and in posterior half of hind wing. Costa very dark brown at base, remainder pale brown. Upper surface with line of lustrous scales immediately posterior to costa from base to near apex; second line along middle of cell from base of wing; antemedial fascia double, not developed anterior to cell, proximal line brown and lustrous, distal line pale brown, faintly marked; irregular marking at distal end of cell, brown or dark brown (holotype), lustrous except at periphery; irregular, lustrous, brown marking between apex and cell; postmedial fascia double; pale brown proximal line hardly discernible, darker distal line lustrous with black spots on veins, expanded at apex; fringe very dark brown at apex, brown tipped with dark brown posteriorly except at tornus. Upper surface of hind wing with trace of non-lustrous antemedial fascia;



FIGS. 244-248, *Callidrepana*, ♂ genitalia. 244-266, *serena serena*. 244, ♂; 245, eighth abdominal sternite; 246, aedeagus. 247-248, *serena nigeriensis*. 247, eighth abdominal sternite; 248, aedeagus.

postmedial fascia double, similar in colour to that of fore wing ; fringe brown. Under surface of both wings pale brownish buff. Fore wing with trace of single, oblique line from near apex to about two-thirds of distance along inner margin from base (this line does not correspond in position with either line of postmedial fascia on upper surface). Hind wing with trace of single postmedial line (corresponding in position with distal line of postmedial fascia on upper surface).

Abdomen brownish white.

♂ GENITALIA (Text-figs. 244-248) : processes of tegumen well sclerotized ; gnathus T-shaped, medial part dentate ; valve without digitate basal process ; aedeagus tapered towards apex ; posterior margin of eighth abdominal sternum emarginate medially.

♀. Similar to male but fore wing usually slightly more strongly falcate. The GENITALIA are figured in Text-fig. 240.

MEASUREMENTS. A.P.R. : ♂. 17 ; ♀. Not known (no complete antenna, but probably same ratio as ♂).

DISCUSSION. The closest relative of this species is probably *argyrobapta*. In *serena* the processes of the tegumen are more slender than in *argyrobapta* and there is no digitate process at the base of the valve. Externally the shape and position of the postmedial fascia on both fore and hind wings separate the two species.

Individual variation is present in the coloration of the marking at the end of the cell on the fore wing and of that part of both wings between the postmedial and antemedial fascia (see description). There were two males and two females of the dark-banded form in the material examined, all in the nominate subspecies.

DISTRIBUTION (Map 7). The subspecies *nigeriensis* occurs in NIGERIA and probably in SIERRA LEONE (see discussion of subspecies) and the nominate subspecies in CAMEROUN, CENTRAL AFRICAN REPUBLIC and the CONGO.

MATERIAL EXAMINED. Type. Holotype ♂, CONGO, Lusambo, 30.vii.1949 (*Fontaine*) ; Drepanidae genitalia slide No. 1212 ; in the Musée Royal de l'Afrique centrale, Tervuren.

Other material. (See below, under subspecies.)

Callidrepana serena serena ssp. n.

(Text-figs. 240, 244-246 ; Pl. 16, fig. 338 ; Map 7)

DIAGNOSIS. ♂. Separable from *nigeriensis* apparently only by the genitalia : the posterior margin of the eighth sternum has a broader emargination and the aedeagus is more distinctly swollen at the base (Text-figs. 244-246).

♀. As for male. GENITALIA as in Text-fig. 240.

MEASUREMENTS. Wing : ♂. 11.5, 10.5-14.0 mm. (20) ; ♀. 14.0, 13.5-15.0 mm. (5).

DISTRIBUTION. Known from CAMEROUN, CENTRAL AFRICAN REPUBLIC and the CONGO.

MATERIAL EXAMINED. Type. (See species description.)

Paratypes. Musée Royal de l'Afrique centrale, Tervuren. CONGO : 2 ♂, Lusambo, 20.vi, 3.vii.1949 (*Fontaine*) ; 1 ♂, Tshuapa, Flandria, 20.xii.1947 (*Hulstaert*) ; 1 ♂, Sankuru, Katako-Kombe, 16.xi.1951, (*Fontaine*) ; 1 ♀, Uele, Paulis, 5.i.1958 (*Fontaine*). Institut d'Enseignement et de Recherches tropicales, Bondy. CENTRAL AFRICAN REPUBLIC : 10 ♂, 2 ♀, Boukoko M'baiki, 6-21.xi,

4-14.xii.1949 (*Réal*). *British Museum (Natural History)*. CAMEROUN : 1 ♂, Bitje, Ja River, 2,000 ft., x-xi.1912. CONGO : 1 ♂, Yakusu (*Smith*). CENTRAL AFRICAN REPUBLIC : 2 ♂, 2 ♀, Boukoko M'baiki, 6,10.xii.1949, 6,10.xii.1959 (*Réal*). *Coryndon Museum, Nairobi*. CONGO : 1 ♂, Orientale, Opala, Lomami River, iii.1959 (*Carcasson*). *Muséum d'Histoire naturelle, Geneva*. CONGO : 2 ♂, Mt. Katanga, Panda, 26,28.ii.1930 (*Romieux*).

Other material. Two females from Efulen and Lolodorf (CAMEROUN), in the Carnegie Museum, Pittsburgh, probably also represent this subspecies.

***Callidrepana serena nigeriensis* ssp. n.**

(Text-figs. 247, 248 ; Pl. 16, 337 ; Map 7)

DIAGNOSIS. ♂. The small posterior emargination of the eighth abdominal sternum and the weakly tapered aedeagus separate this from the nominate subspecies. The two subspecies are apparently not distinguishable externally.

♀. Not known.

MEASUREMENTS. Wing : ♂. 11.5, 11.0-12.0 mm. (4).

DISTRIBUTION. Known with certainty only from NIGERIA. There are female specimens from SIERRA LEONE in the British Museum (Natural History) which will probably prove to belong to this subspecies when male material becomes available for comparison.

MATERIAL EXAMINED. Type. Holotype ♂, NIGERIA, Port Harcourt, 16.i.1955 (*MacNulty*) ; Drepanidae genitalia slide No. 1232 ; in the British Museum (Natural History).

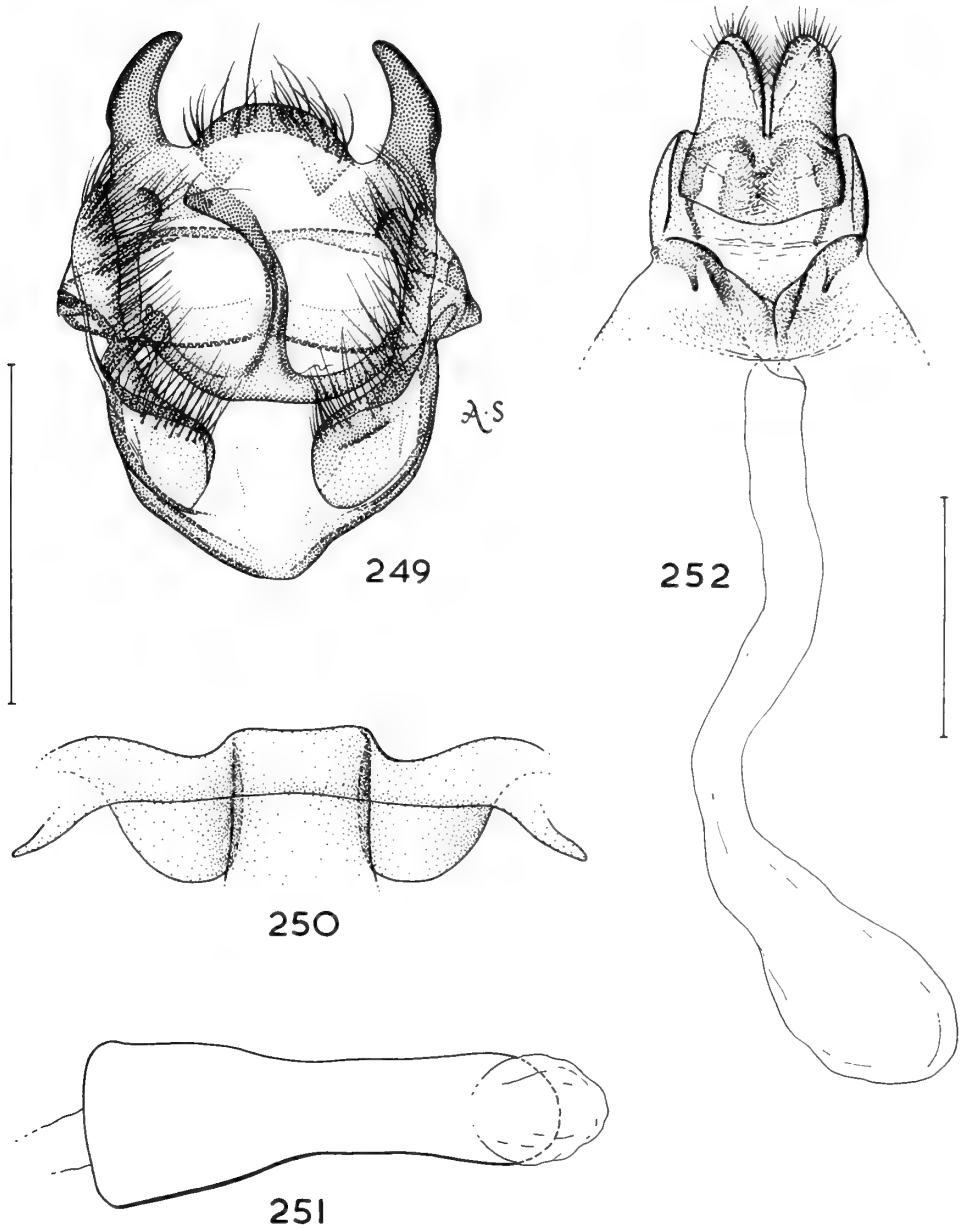
Paratypes. British Museum (Natural History). NIGERIA : 2 ♂, Port Harcourt, 16, 30.i.1955 (*MacNulty*) ; 1 ♂, Ogruga.

***Callidrepana macnultyi* sp. n.**

(Text-figs. 249-252 ; Pl. 16, figs. 334, 335 ; Map 7)

DESCRIPTION. ♂. Outer surface of palp very dark brown. Front of head brown, paler towards labrum, vertex paler brown, highly lustrous. Upper surface of basal segments of antennal shaft brown, remainder very pale brown.

Dorsal surface of thorax brownish white, palest anteriorly ; ventral surface as for colour of anterior margin of dorsal surface. Front surface of whole of fore leg brown ; remaining legs and inner surface of fore leg brownish white. Outer margin of fore wing slightly convex (holotype) or straight, costa strongly arcuate at base ; posterior half of outer margin of hind wing usually slightly convex (including holotype) (Plate 16, fig. 334). Venation of fore wing as for *serena*, except in holotype which has no areole and only four radial veins at the wing margin due to complete anastomosis of R_2 and R_3 or the loss of the distal part of R_3 ; $Sc + R_1$ in the hind wing anastomoses with R_s for short distance distal to end of cell. Ground-colour of upper surface of both wings pale greyish buff ; but in one Nigerian specimen this is replaced by very dark brown near anal margin of fore wing and in posterior half of hind wing between distal line of antemedial fascia and proximal line of postmedial fascia. Fore wing markings brown. Proximal line of antemedial fascia, distal line of postmedial fascia, brown streak extending towards apex from cell, and brown apical patch all highly lustrous ; line of highly lustrous scales concolorous with ground-colour below whole of costa and in cell from base to cell-spots ; cell-spots non-lustrous ; fringe dark brown at apex, remainder pale brown. Colour of hind wing markings as for fore wing ;



FIGS. 249-252, *Callidrepana macnultyi*, genitalia. 249, ♂; 250, ♂ eighth abdominal sternite; 251, aedeagus; 252, ♀.

distal line of postmedial fascia highly lustrous ; some highly lustrous scales on vestige of proximal line of antemedial fascia ; fringe brown. Under surface of both wings very pale greyish buff with trace of grey postmedial fascia on fore wing (not corresponding in position with this fascia on upper surface) and hind wing (position as for upper surface).

Abdomen pale greyish buff dorsally, paler ventrally.

♂ GENITALIA (Text-figs. 249-251) : processes of tegumen heavily sclerotized ; medial part of gnathus not dentate ; valve without basal process ; uncus short, evenly convex ; aedeagus swollen proximally, slightly asymmetric ; eighth abdominal sternum distinctively shaped.

♀. Similar to male but with slightly concave outer margin to fore wing and differently shaped costa (Plate 16, fig. 335).

♀ GENITALIA (Text-fig. 252) : posterior margin of ostial segment emarginate dorsally, concave laterally ; ovipositor lobes robust, both pairs of apophyses short.

MEASUREMENTS. A.P.R. : ♂. 17 ; ♀. (No complete antenna.) Wing : ♂. 11.0, 10.5-12.0 mm. (8) ; ♀. 14.5, 14.0-15.0 mm. (2).

DISCUSSION. The shape of the fore wing costa and the outer margin of the hind wing (see Plate) separates this species from *serena* and *argyrobapta*, both of which are quite closely related to *macnultyi*. The short uncus, the non-dentate gnathus and the distinctive eighth abdominal sternum characterize the male genitalia.

Individual variation in the coloration of the upper surface of the wings has been described above.

DISTRIBUTION (Map 7). Ranges from NIGERIA to the CONGO, with no apparent geographic variation.

MATERIAL EXAMINED. Type. Holotype ♂, NIGERIA, Port Harcourt, 15.viii.1957 (*MacNulty*) ; Drepanidae genitalia slide No. 1231 ; in the British Museum (Natural History).

Paratypes : *British Museum (Natural History)*. NIGERIA : 2 ♂, Port Harcourt, 11.v, 17.viii.1958 (*MacNulty*). CENTRAL AFRICAN REPUBLIC : 2 ♂, Boukoko, 13.xii.1959 (*Réal*). CONGO : 1 ♀, Kassai (*Raymans*). *Institut d'Enseignement et de Recherches tropicales, Bondy*. CENTRAL AFRICAN REPUBLIC : 2 ♂, Boukoko M'baiki, 14.xii.1949, 7.ii.1959 (*Réal*). *Musée Royal de l'Afrique centrale, Tervuren*. CONGO : 1 ♀, Eale, vii.1936 (*Ghesquière*) ; 1 ♀, Kibale, Mount Hoyoy, 23.xii.1956 (*Hecq*).

NIDARINAE subfam. n.

Type-genus : *Nidara* Mabille, 1897.

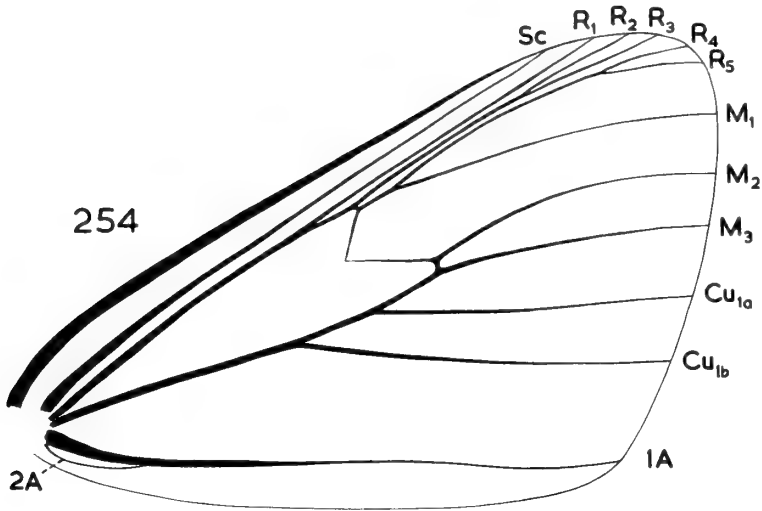
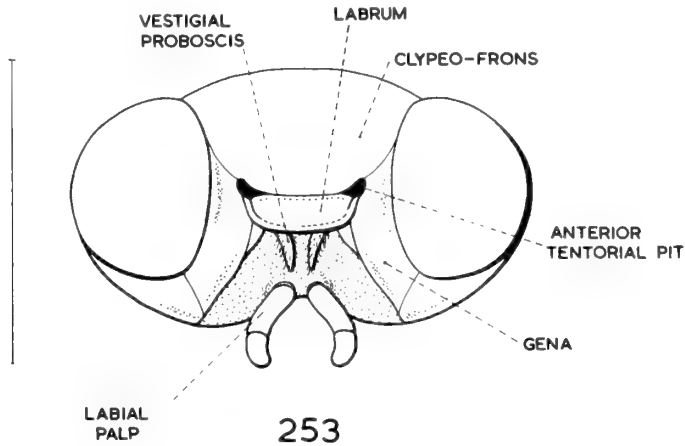
DESCRIPTION. ♂, ♀. Palp short, slender ; proboscis vestigial ; gena large ; labrum broad transversely ; antenna unipectinate, A.P.R. high. (See Text-fig. 253.) Outer margin of both fore and hind wings entire ; fore wing not falcate. Retinaculum and short frenulum present in male. Fore tibia without epiphysis. Mid and hind tibia without spurs. Genitalia : see *Nidara*.

DISCUSSION. The subfamily Nidarinae has been erected for *Nidara* Mabille, a Madagascan genus known only from the imago. It can be distinguished from all other known genera of the two existing subfamilies, Drepaninae and Oretinae, by the absence of an epiphysis on the fore tibia and the absence of spurs on either the mid or hind tibia. *Nidara* possesses a vestigial proboscis, as in the Oretinae

(proboscis well developed in all Drepaninae), but has a frenulum in the male fore wing as in the Drepaninae (absent in all Oretinae).

In external appearance the species of this subfamily resemble Drepaninae more closely than Oretinae. The species *Nidara marcus* has extremely long antennal pectinations and is distinctly "Lymantrid" in appearance. All the known species of *Nidara* bear a superficial resemblance to certain species of *Pseudocrociniis* Swinhoe (Geometridae : Ennominae) which like *Nidara* is endemic to Madagascar.

DISTRIBUTION. Known only from MADAGASCAR.



FIGS. 253-254, *Nidara multiversa*. 253, ventral view of ♂ head. 254, ♂ fore wing venation.

NIDARA Mabille

(Text-figs. 253-270 ; Pl. 17, fig. 340, Pl. 18, figs. 343-348)

Nidara Mabille, 1897 : 222. Type-species, by monotypy, *Nidara croceina* Mabille, 1897.*Nidara* Mabille ; Gaede in Seitz, 1927 b : 292.*Nidara* Mabille ; Gaede, 1931 : 52.

DESCRIPTION. ♂. Head, palp and antenna yellow, orange, or dark brown ; antenna unipectinate, A.P.R. 21-45.

Thorax yellow or orange, legs yellow or orange, sometimes with dark brown front surface. Costa of fore wing slightly convex ; outer margin of both wings convex, entire. Venation of fore wing as in Text-fig. 254 ; hind wing with $Sc + R_1$ anastomosed with R_s for short distance distal to end of cell. Ground-colour of both wings yellow or orange, non-lustrous. Upper surface of wings with dark brown markings in three species, and white spot or spots at the end of the cell in all except *calligola*. Under surface of both wings paler than upper surface ; markings usually reduced in extent and clarity. (See Plates 17 and 18.)

Abdomen similar in colour to ground-colour of upper surface of wings dorsally and laterally ; much paler ventrally.

♂ GENITALIA (see labelled Text-fig. 267) : uncus simple, toothed posteriorly in *marcus* ; tegumen narrow transversely ; saccus strongly developed, with flat lateral continuations into intersegmental membrane ; valve robust, variously shaped ; valves united medially at base ; diaphragma membranous posteriorly, somewhat dilated ; aedeagus variously shaped ; apodemes of eighth sternum short, long posterior processes present in *pumilla*, *calligola* and *multiversa* (extremely attenuate and reflexed in latter).

♀ (known only from one specimen of *calligola* and one specimen of *multiversa*). Similar to male.

♀ GENITALIA : ostium shielded ventrally by paired acuminate processes of eighth segment ; ninth tergum forming large hood-like structure over ovipositor valves ; bursa copulatrix with pair of scobinate, externally concave signa.

DISCUSSION. *Nidara*, the only known genus of the subfamily Nidarinae, was established by Mabille, 1897, for a single new species *croceina*. In the present work four new species are described, all of them from Madagascar.

As the male of *croceina* is not known and the females of only *calligola* and *multiversa* have so far been taken, it is difficult to assess relationships within the genus. The absence of long, posterior, eighth sternal processes, and the peculiarly shaped aedeagus of *marcus* separates it from those remaining species whose males are known.

The most striking morphological feature in the genitalia is the pair of extremely elongate, reflexed, eighth sternal processes in *multiversa*.

The species *calligola* and *marcus* are polymorphic in wing pattern and coloration.

DISTRIBUTION. MADAGASCAR.

KEY TO SPECIES (except *croceina*)

MALES

The male of *croceina* is not known. The female has yellow wings without striations but has two white spots distal at the end of the cell on the upper surface of the fore wing.

- 1 Ground-colour of both surfaces of wings orange ; dark brownish grey terminal band present at outer margin of both surfaces of both wings (sometimes absent on upper surface of fore wing) (Plate 18, figs. 343, 344) ; A.P.R. 24 ; uncus and valve distinctive (Text-fig. 257) ; aedeagus without longitudinal carinae (Text-fig. 258) ; forcipulate eighth sternal processes setose apically (Text-fig. 259) *calligola* (p. 159)

- Ground-colour of wings yellow, without conspicuous terminal band ; A.P.R. 21, 27 or 45 ; uncus and valve not as in Text-fig. 257 ; aedeagus with longitudinal carinae or lateral bulge ; posterior processes of eighth sternum not forcipulate 2
- 2 Dark transverse striations present on upper surface of fore wing ; A.P.R. 27 or 45 ; uncus tapered or toothed posteriorly 3
- Upper surface of fore wing without transverse striations ; A.P.R. 27 ; uncus hood-like
pumilla (p. 166)
- 3 Upper surface of fore wing with several conspicuous blackish striations anterior to cell ; one white patch in distal end of cell, two white patches distal to end of cell (Plate 18, fig. 346) ; A.P.R. 45 ; uncus toothed apically ; valves long, tapered, without processes ; aedeagus with lateral bulge, without longitudinal carina ; posterior margin of eighth sternum weakly emarginate medially (Text-figs. 261, 262) **marcus** (p. 161)
- Whole of upper surface of fore wing densely striate with dark brown, single white patch present distal to end of cell (Plate 17, fig. 340) ; A.P.R. 27 ; uncus simple, tapered ; valve shaped like a bird's head, with single curved process ; aedeagus with longitudinal carina, without lateral bulge ; posterior processes of eighth sternum extremely attenuate, reflexed (Text-figs. 265-267) **multiversa** (p. 163)

***Nidara calligola* sp. n.**

(Text-figs. 255-259 ; Pl. 18, figs. 343, 344)

DESCRIPTION. ♂, ♀. Palp and front of head pale orange ; vertex of head and antennal scape and pedicel orange ; upper surface of rest of antennal shaft very dark brown, nearly black.

Thorax orange dorsally, very pale yellow ventrally. Front surface of legs orange, remainder slightly paler ; fore leg the most intensely coloured. Upper surface of fore wing orange with few dark brownish grey scales along apical part of costa, apex and outer margin (two ♂ paratypes, Plate 18, fig. 343), or with broad, very dark brownish grey terminal band (holotype, Plate 18, fig. 344, and ♀ paratype) ; ground-colour of hind wing as fore wing, with very dark brownish grey terminal band (tapered posteriorly in specimen illustrated in Plate 18, fig. 343 and in remaining ♂ paratype). Fringe of both wings as for dark terminal band. Ground-colour of under surface of both wings slightly paler orange than upper surface ; hind wing pattern as for upper surface ; fore wing pattern as for upper surface of holotype and ♀ paratype, but with blackish terminal band on fore wing of the two ♂ paratypes slightly narrower, and tapered posteriorly.

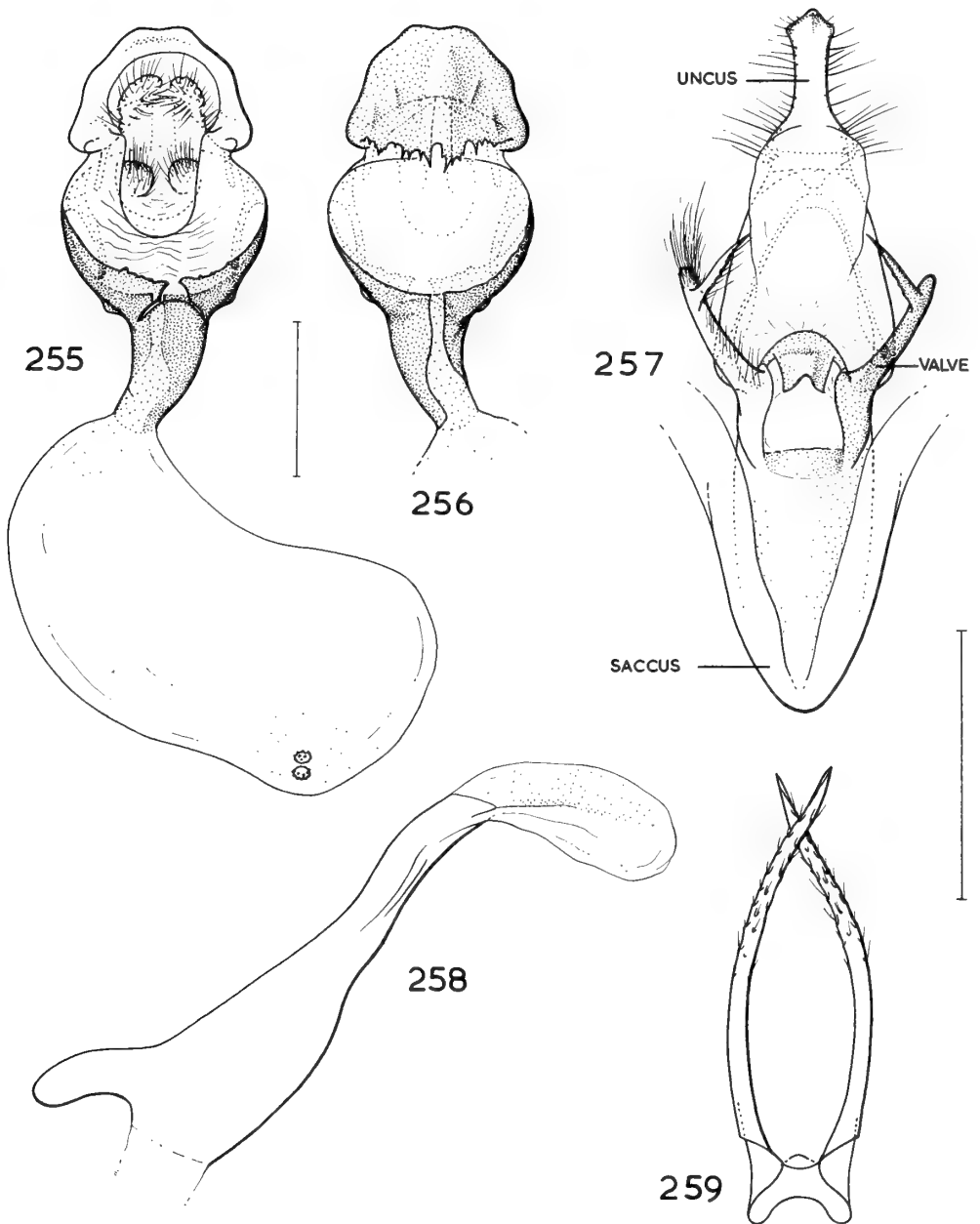
Abdomen orange dorsally and laterally, very pale yellow ventrally.

♂ GENITALIA (Text-figs. 257-259) : uncus pointed apically, with pre-apical shoulders ; saccus elongate ; valve with long, acuminate, medially directed process ; broad plate uniting base of valves ; basal half of aedeagus flattened, distal half flattened in plane at right angles to base, vesica scobinate ; eighth sternum with pair of long, acuminate, posterior processes.

♀ GENITALIA (Text-figs. 255-256) : ostium shielded laterally by flattened, toothed processes of the eighth segment ; ninth tergum hood-like, heavily sclerotized, with irregular sharply toothed posterior margin dorsally ; bursa copulatrix with pair of small, scobinate signa.

MEASUREMENTS. A.P.R. : ♂, ♀. 24. Wing : ♂. 13.5, 13.0-14.0 mm. (3) ; ♀. 18.5 mm. (1).

DISCUSSION. The colour-pattern of this colourful species is quite unlike that found in any other Drepanid : it is in fact similar to that of certain species of *Pseudocrociniis* Swinhoe (Geometridae : Ennominae). The distinctive orange and dark grey coloration, and the diagnostic colour-pattern at once distinguish this species from the rest of the genus. The male genitalia is also diagnostic. The interesting variation found in the three males available for study (see description) is illustrated on Plate 18.



FIGS. 255–259, *Nidara calligola*, genitalia. 255, ventral view of ♀; 256, dorsal view of ♀; 257, ♂; 258, aedeagus; 259, ♂ eighth abdominal sternite.

DISTRIBUTION. Known only from north-west MADAGASCAR.

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR, Ankarafantsika, Ampijoroa, 170 m., i.1957 (*Griveaud*); Drepanidae genitalia slide No. 1387; in the Muséum national d'Histoire naturelle, Paris.

Paratypes. *Muséum national d'Histoire naturelle, Paris*. N.W. MADAGASCAR: 1 ♀ and 2 ♂, Ankarafantsika, Ampijoroa, 120 m., 30.viii, 4.ix.1956 (*Griveaud*).

Nidara marcus sp. n.

(Text-figs. 260–262; Pl. 18, figs. 345, 346)

DESCRIPTION. ♂. Palp yellow; head yellow except for medial black patch short distance anterior to antennae; antennal shaft very dark brownish grey dorsally, buff laterally.

Thorax yellow dorsally, very pale yellow ventrally. Front surface of fore tibia and tarsus black, remainder of leg yellow; front surface of mid tarsus and base of mid tibia black, rest of leg yellow; coloration of hind leg doubtful, probably similar to mid legs. Ground-colour of upper surface of both wings yellow; fore wing speckled with very dark greyish brown apically; diffusely marked antemedial fascia and postmedial fascia in holotype and one paratype (Plate 18, fig. 346), absent in remaining paratype (Plate 18, fig. 345); white spot inside distal end of cell absent on left wing of one paratype, second white spot close to cell between M_3 and Cu_{1a} , and third white spot between Cu_{1a} and Cu_{1b} ; several very dark greyish brown striations between costa and cell; fringe yellow; hind wing unmarked. Under surface of both wings slightly paler yellow than upper surface; apex of wing speckled with brown; costal striations of upper surface show through on fore wing.

♂ GENITALIA (Text-figs. 260–262): uncus with four posterior teeth; saccus narrow; valve long, tapered, with short setae along centre of inner surface; diaphragma strongly dilated; aedeagus with distinctive lateral bulge, vesica scobinate at base; posterior margin of eighth sternum weakly emarginate medially, without processes.

♀. Not known.

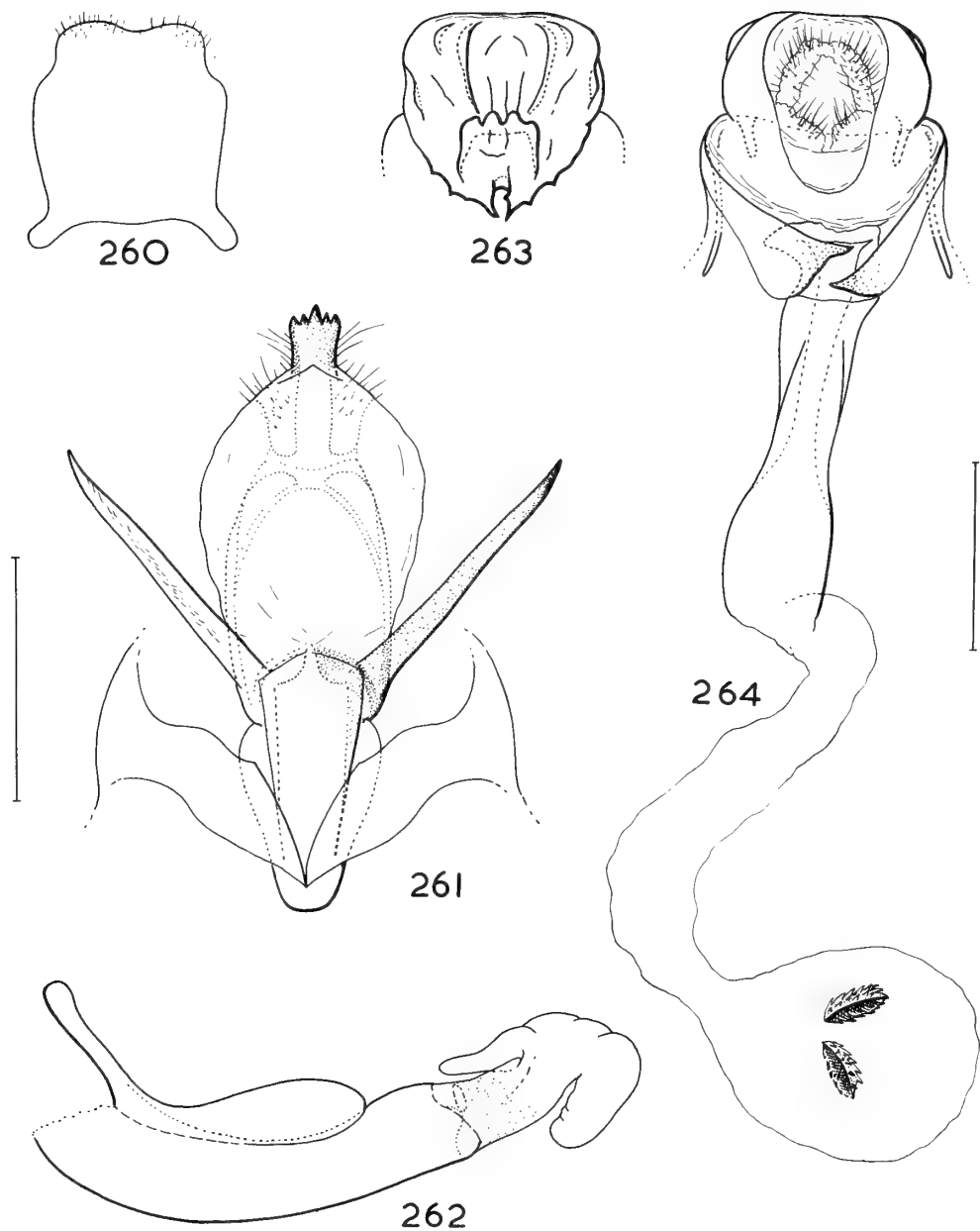
MEASUREMENTS. A.P.R.: ♂. 45. Wing: ♂. 15.0, 14.0–15.5 mm. (3).

DISCUSSION. The colour-pattern, high antennal pectination ratio and distinctive genitalia characterize this species. The species *croceina* and *multiversa* are similar in size and colour to *marcus* but have readily distinguishable colour-patterns.

This species is probably polymorphic. A diffusely marked antemedial fascia and a postmedial fasciae are present in the holotype and one paratype but are absent in the remaining paratype (see Plate 18, figs. 345, 346).

MATERIAL EXAMINED. Type. Holotype ♂, MADAGASCAR, Ambatolampy, Andranotobaka, 1,400 m., iii.1957 (*Griveaud*); Drepanidae genitalia slide No. 1258; in the Muséum national d'Histoire naturelle, Paris.

Paratypes. *Muséum national d'Histoire naturelle, Paris*. CENTRAL MADAGASCAR: 1 ♂, Ambatolampy, Andranotobaka, 1,400 m., iv.1957 (*Griveaud*); 1 ♂, env. Tananarive (*View*).



FIGS. 260-264, *Nidara*, genitalia. 260-262, *marcus*. 260, ♂ eighth abdominal sternite ; 261, ♂ ; 262, aedeagus. 263-264, *multiversa*. 263, dorsal view of ♀ ninth abdominal segment ; 264, ventral view of ♀.

Nidara croceina Mabille

(Pl. 18, fig. 347)

Nidara croceina Mabille, 1897 : 222.*Nidara croceina* Mabille ; Gaede in Seitz, 1927 b : 292.*Nidara croceina* Mabille ; Gaede, 1931 : 52.

DESCRIPTION. ♀. Palps and head yellow ; antennal shaft yellow dorsally and laterally.

Thorax yellow dorsally, much paler ventrally. Legs entirely yellow. Upper surface of both wings (Plate 18, fig. 347) yellow ; large white spot between Cu_{1a} and Cu_{1b} and trace of second smaller white spot between M_3 and Cu_{1a} , both distal to end of cell ; hind wing unmarked. Under surface of fore wing yellow, with whitish spot between Cu_{1a} and Cu_{1b} distal to end of cell ; hind wing yellow, unmarked.

Abdomen missing from lectotype.

♂. Not known.

MEASUREMENTS. A.P.R. : ♀. 21. Wing : ♀. 19.0 mm. (1).

DISCUSSION. Apart from the lack of striations on the fore wing *croceina* superficially resembles *multiversa*.

MATERIAL EXAMINED. Type. The specimen I consider to represent the type material has recently been discovered amongst some unsorted moths from the Oberthür collection in this museum. This specimen, which I have selected as LECTOTYPE, bears two labels, " Ex musaeo P. Mabille 1923 " and " Ex Oberthür Coll. Brit. Mus. 1927-30 " ; but there is no locality label. The original material, according to Mabille (1897 : 222), was collected in northern MADAGASCAR at Diego Suarez by Alluaud. Except for the presence of easily overlooked white spots on the fore wing this specimen matches the short original description.

Nidara multiversa sp. n.

(Text-figs. 253, 254, 263-267 ; Pl. 17, fig. 340)

DESCRIPTION. ♂, ♀. Palp and head buff ; dorsal and lateral surfaces of antennal shaft black.

Thorax buff dorsally, paler ventrally. Legs pale yellow. Upper surface of fore wing (Plate 17, fig. 340) yellowish buff with numerous transverse striations (very dark brown anteriorly, otherwise reddish brown) ; single white spot close to cell between Cu_{1a} and Cu_{1b} ; very faintly marked postmedial fascia in holotype and female paratype. Upper surface of hind wing yellow, with trace of transverse striations along anal margin. Under surface of both wings yellow ; fore wing speckled with grey scales apically (similar to *marcus*), and with whitish spot in same position as on upper surface ; hind wing unmarked.

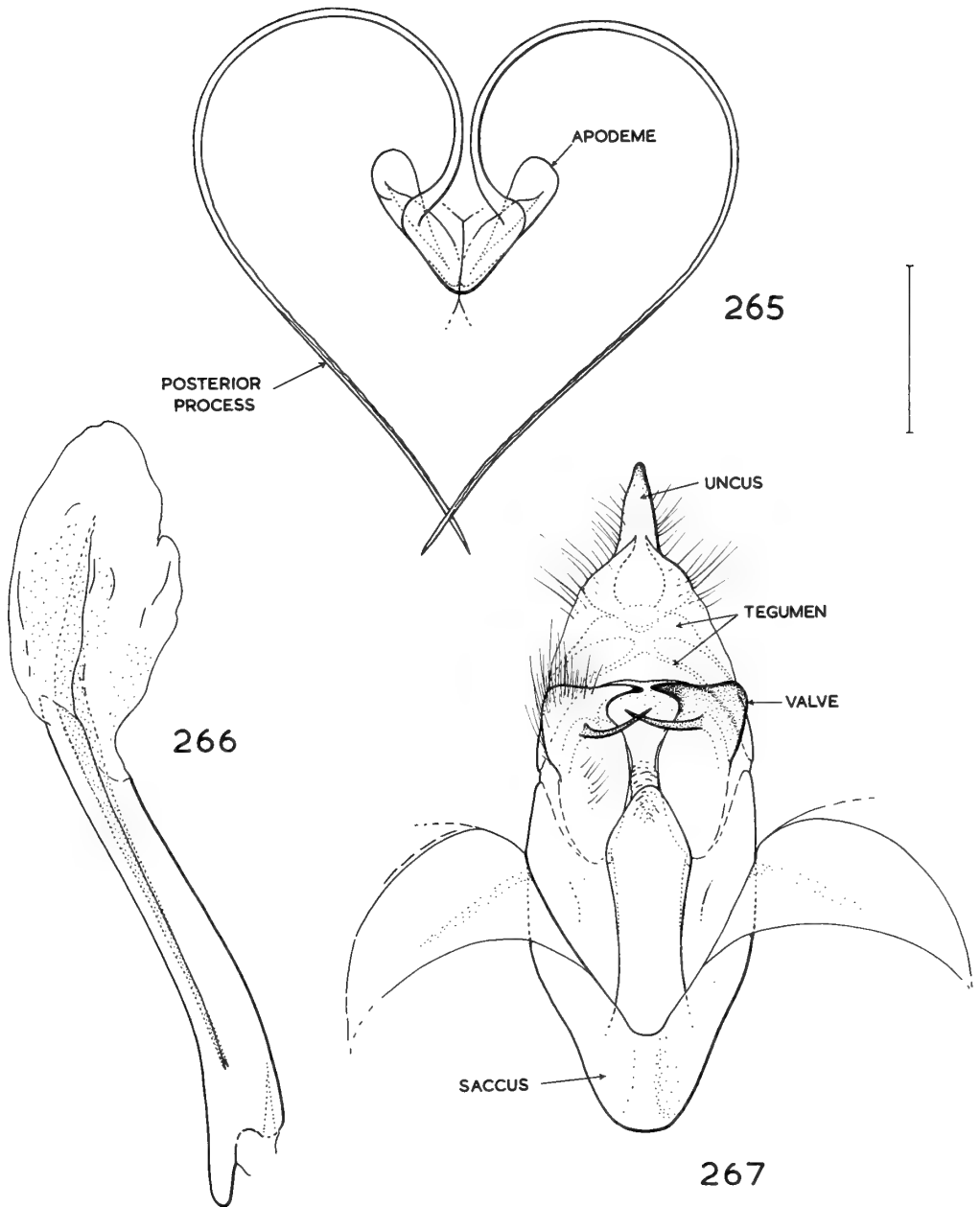
Colour of abdomen as for corresponding surface of hind wing.

♂ GENITALIA (Text-figs. 265-267) : uncus tapered posteriorly ; valve broad, shaped like bird's head apically, with single acuminate process ; valves placed so that only small membranous area of diaphragma remains posterior to sclerotized band uniting bases of valves ; aedeagus with two longitudinal carinae placed on opposite sides of aedeagus ; eighth sternum with extremely attenuate posterior processes ; short broad apodemes of eighth sternum directed posteriorly.

♀ GENITALIA (Text-figs. 263, 264) : paired signa strongly concave externally ; acuminate processes of eighth segment ventral to ostium ; ninth segment strikingly developed dorsally.

MEASUREMENTS. A.P.R. : ♂. 27 ; ♀. 18. Wing : ♂. 17.0, 16.5-18.5 mm. (4) ; ♀. 19.0 mm. (1).

DISCUSSION. The colour-pattern of both surfaces of the fore wing of this species resembles in certain respects that of *marcus* : there are transverse striations and a



FIGS. 265-267, *Nidara multiversa*, ♂ genitalia. 265, eighth abdominal sternite ; 266, aedeagus ; 267, ♂.

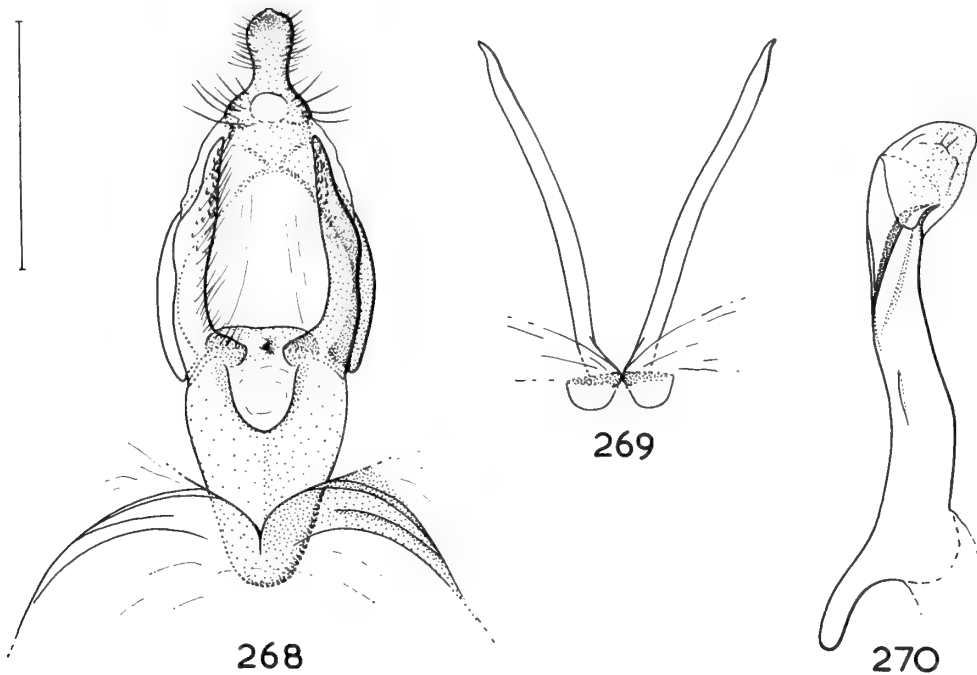
weakly marked postmedial fascia on the upper surface, and a dark apical area on the under surface. The genitalia of *marcus* and *multiversa* are, however, dissimilar and there is probably no particularly close relationship between these two species.

There is no significant individual variation in the colour-pattern of the material available for study.

The unusually long processes of the eighth abdominal sternum are the most striking feature of the male genitalia (Text-fig. 265).

MATERIAL EXAMINED. Type. Holotype ♂, N. MADAGASCAR, Antakares, Isokitraà, Diego Suarez, v-x.1891 (*Perrot*) ; Drepanidae genitalia slide No. 1265 ; in the British Museum (Natural History).

Paratypes. *British Museum (Natural History)*. N. MADAGASCAR : 3 ♂ and 1 ♀, same collection data as holotype.



FIGS. 268-270, *Nidara pumilla*, ♂ genitalia. 268, ♂ ; 269, eighth abdominal sternite ; 270, aedeagus.

***Nidara pumilla* sp. n.**

(Text-figs. 268-270 ; Pl. 18, fig. 348)

DESCRIPTION. ♂. Palp, head and upper surface of antennal shaft yellow.

Dorsal surface of thorax yellow, paler ventrally. Colour of legs doubtful but probably mainly yellow. Both surfaces of fore wings yellow, lightly speckled with pale reddish brown ; upper surface with small whitish spot edged with brown close to cell between Cu_{1a} and Cu_{1b} ; under surface with small brown spot corresponding in position with spot on upper surface. Both surfaces of hind wing yellow. (See Plate 18, fig. 348.)

♂ GENITALIA (Text-figs. 268-270) : uncus hood-like ; valves without processes ; aedeagus with one short and two long carinae ; eighth sternum with pair of long, non-setose, acuminate, posterior processes.

♀. Not known.

MEASUREMENTS. A.P.R. : ♂. 27. Wing : ♂. 11.5 mm. (1).

DISCUSSION. This species is known at present only from the holotype, but as this specimen is in reasonably good condition and the genitalia are so distinctive I believe that description is justified. The size, colour-pattern and genitalia distinguish *pumilla* from the rest of the genus.

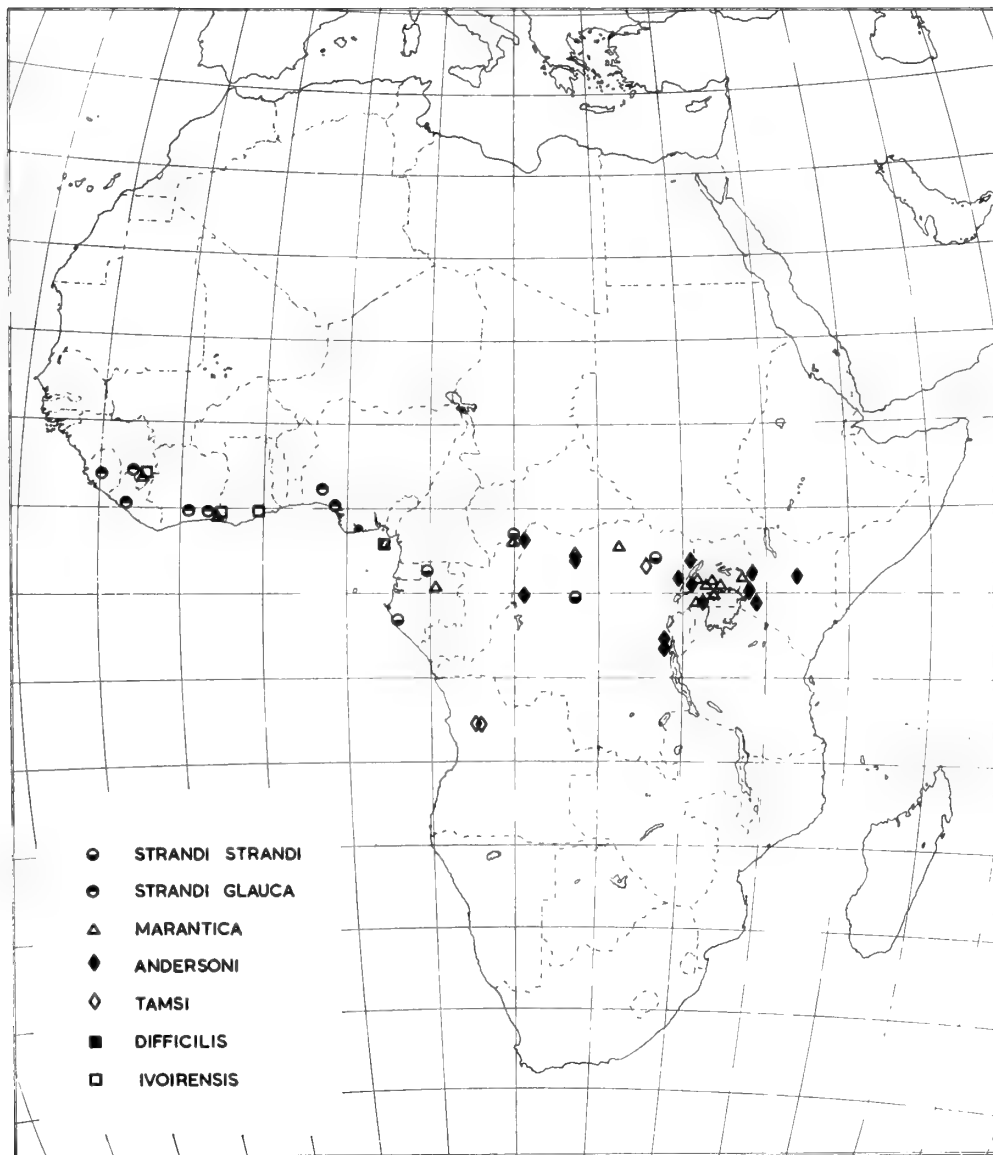
DISTRIBUTION. Known only from south MADAGASCAR.

MATERIAL EXAMINED. Holotype ♂, Ambovombe, 13.i.1932 (*Decary*) ; Drepanidae genitalia slide No. 1255 ; in the Muséum national d'Histoire naturelle, Paris.

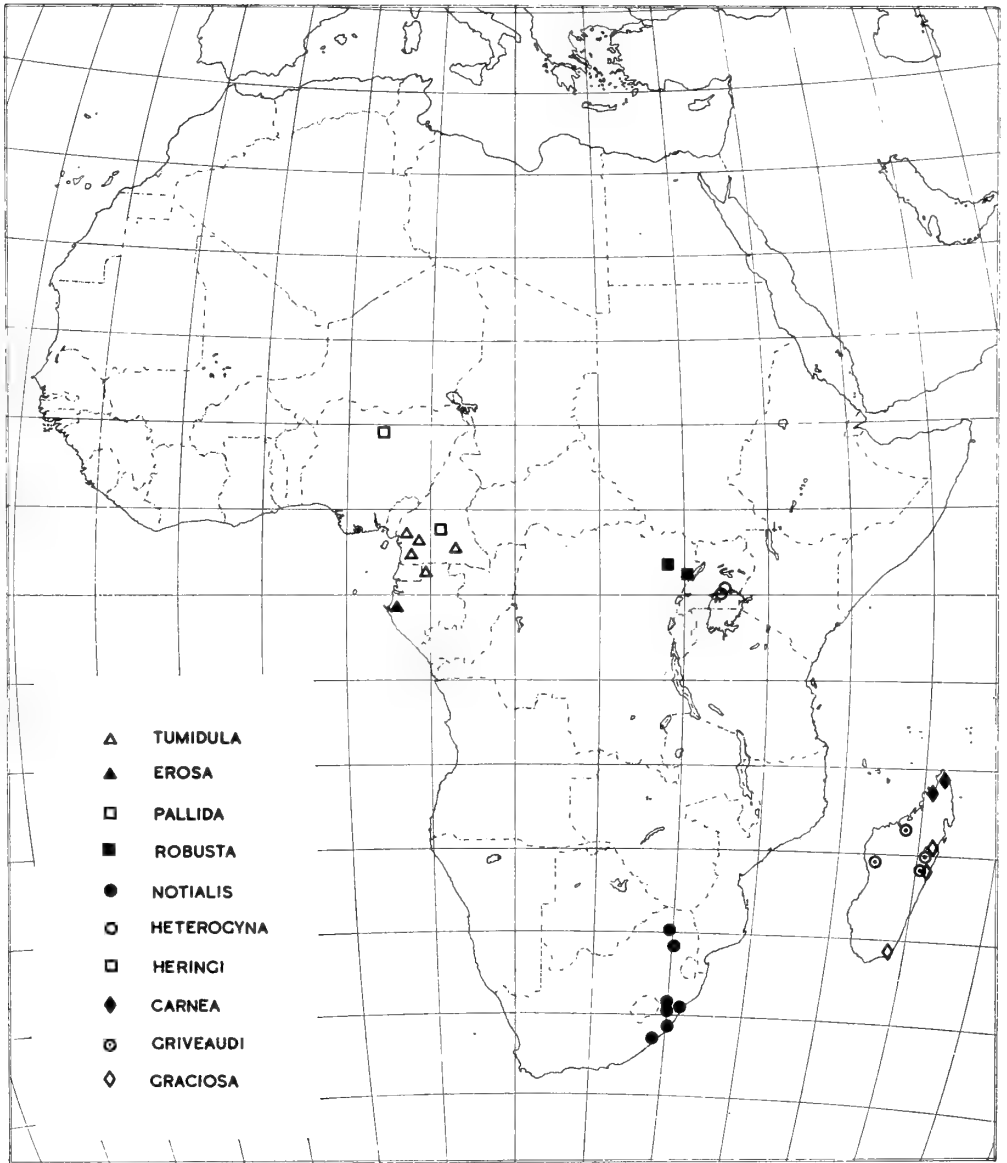
REFERENCES

- AURIVILLIUS, C. 1925. *Ergebnisse der zweiten Deutschen Zentral-Afrika-Expedition 1910-1911*. 1 pt. 4 : 1243-1359, 2 pls., 35 figs. Hamburg.
- BRYK, F. 1913. Die äthiopischen Drepaniden und Drepana-ähnlichen Geometriden des Berliner Zoologischen Museums. *Arch. Naturgesch.* **79** A3 : 1-16, 1 pl.
- BUTLER, A. G. 1878. Descriptions of some new genera and species of Lepidoptera from Old Calabar and Madagascar. *Ann. Mag. nat. Hist.* (5) **2** : 455-465.
- 1879. Descriptions of new species of Lepidoptera from Madagascar, with notes on some of the forms already described. *Ann. Mag. nat. Hist.* (5) **4** : 227-246.
- DRUCE, H. 1896. Descriptions of some new species of Heterocera from tropical Africa. *Ann. Mag. nat. Hist.* (6) **17** : 350-356.
- FELDER, R. 1861. Lepidopterorum Amboinensium species novae diagnosisibus illustratae. *S.B. Akad. Wiss. Wien* **43** : 26-44.
- 1874. *Reise Oesterreichischen Fregatte Novara, Zool.* (2) **2**. 20 pp., 135 pls. Wien.
- FRÖLICH, G. F. 1828. *Enumeratio Tortricum Württembergiae*, 102 pp. Tübingen.
- GAEDE, M. 1914. Neue afrikanische Drepaniden aus dem Berliner Zoologischen Museum. *Int. ent. Z.* **8** : 65-66.
- 1927 a. Eine neue afrikanische Drepanide (Lep.). *Dt. ent. Z.* **1927** : 163-164, 2 figs.
- 1927 b in Seitz, A., (ed.) *Die Gross-Schmetterlinge der Erde*, **14**. Stuttgart.
- 1931. *Lepid. Cat.* **49**. Berlin.
- HAMPSON, G. F. 1914. Descriptions of new genera and species of Drepanidae and Thyrididae. *Ann. Mag. nat. Hist.* (8) **14** : 103-117.
- HERING, M. 1934 a. Alte und neue Epicampoptera-Arten (Lep. Drepan). *Rev. Zool. Bot. afr.* **24** : 400-405, 5 figs.
- 1934 b. Berichtigung. *Rev. Zool. Bot. afr.* **25** : 407.
- HOLLAND, W. J. 1893. New species of West African Drepanulidae. *Ent. News* **4** : 171-181, 1 pl.
- IMMS, A. D. 1957. *A General Textbook of Entomology*. 9th (revised) ed. x × 886 pp., 606 figs. London.
- INOUE, H. 1962. *Insecta Japonica* (2) **1**. *Lepidoptera : Cyclidiidae, Drepanidae*. 54 pp. 3 pls., 128 figs. Tokyo.
- KIRBY, W. F. 1892. *A Synonymic Catalogue of Lepidoptera Heterocera*. 951 pp. London.
- LEROY, J. V. 1936. Observations relatives à quelques insectes attaquant le caféier. *Publ. Inst. nat. agron. Congo Belge* **8** : 1-30, 9 figs.
- MABILLE, P. 1897. Description de Lépidoptères nouveaux. *Ann. Soc. ent. France* **66** : 182-231, 1 pl.
- 1899. Lepidoptera nova Malgassica et Africana. *Ann. Soc. ent. France* **68** : 723-753.
- MOORE, F. 1858. in Horsfield, T., and Moore, F., 1858-1859. *A Catalogue of the Lepidopterous Insects in the Museum of the Honourable East India Company*. 440 pp., 36 pls. London.
- MOTSCHULSKY, V. DE. 1866. Catalogue des insectes reçus du Japon. *Byull. mosk. Obshch. Ispyt. Prir.* **39** : 163-200.
- PUJOL, R. 1960. Les Chenilles-Marteau. *Science et Nature* **42** : 1-10, 10 pls., 2 figs.
- SAALMÜLLER, M. 1884. *Lepidopteren von Madagascar*. Abt. 1, 246 pp., 6 pls. Frankfurt am Main.
- STEMPFER, H., & JACKSON, T. H. E. 1962. A note on the Rhopalocera of Bugalla Island, Sesse Isles, Uganda. *Proc. R. ent. Soc. Lond.* (B) **31** : 33-37.
- STRAND, E. 1911. in Seitz, *Die Gross-Schmetterlinge der Erde* **11**. Stuttgart.
- 1912. Westafrikanische Lepidopteren der Familien Danaididae, Satyridae, Nymphalidae, Notodontidae und Drepanidae. *Arch. Naturgesch.* **77** (1), Suppl. 4 : 107-123.
- 1932. *Miscellanea nomenclatorica zoologica et palaeontologica*. *Folia zool. hydrobiol. Riga* **4** : 133-147.

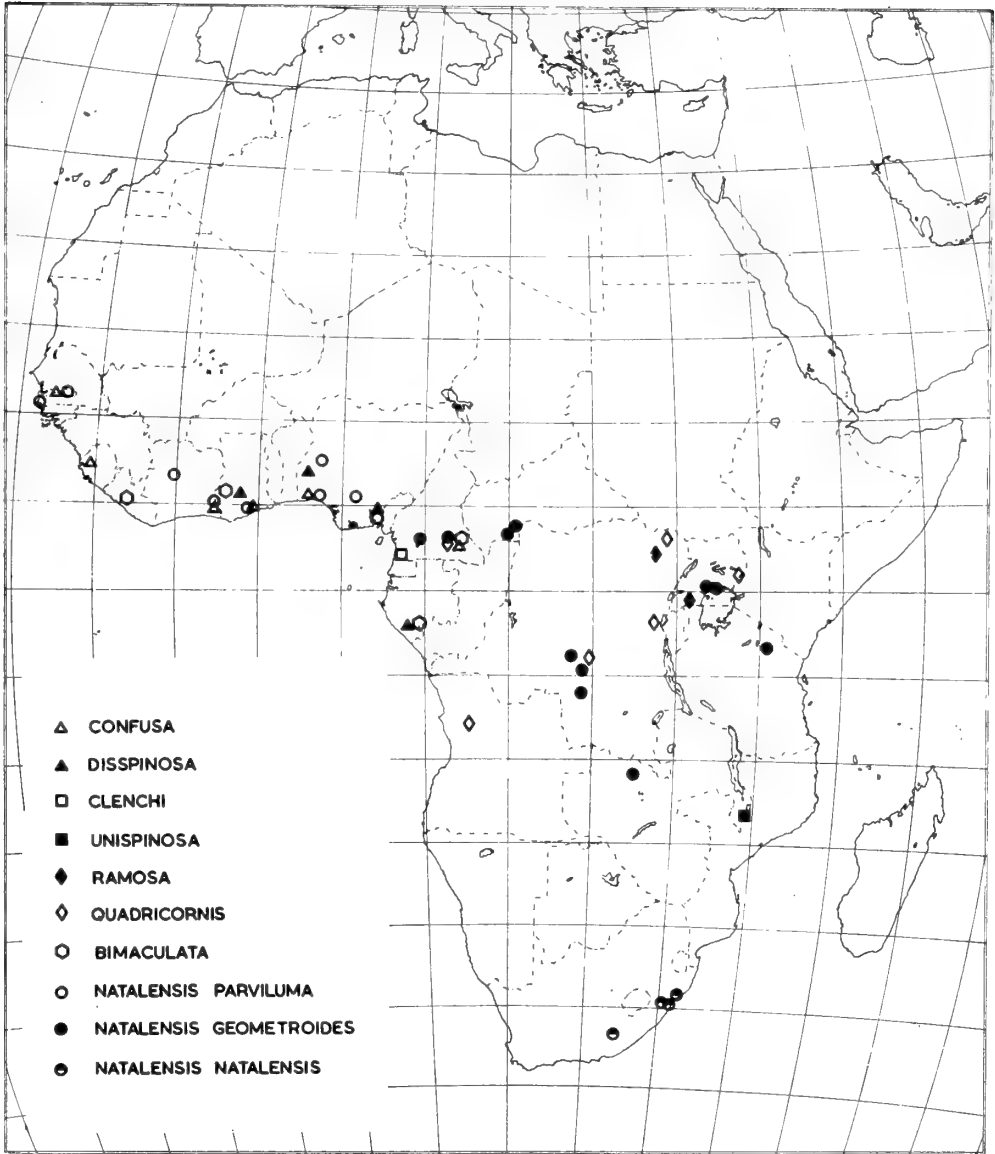
- TAMS, W. H. T. 1925. Descriptions of two new species of the genus *Metadrepana* (Drepanidae, Lep.). *Bull. ent. Res.* **15** : 289-291, 4 figs.
- 1930. Two new moths with larvae injurious to coffee in Uganda. *Bull. ent. Res.* **21** : 73-75, 2 pls.
- VIETTE, P. 1954. Descriptions de nouveaux Macro-hétérocères malgaches. *Mém. Inst. sci. Madagascar* (E) **5** : 67-80, 21 figs.
- WALKER, F. 1855. *List of the specimens of Lepidopterous Insects in the Collection of the British Museum* **5** : 977-1257. London.
- 1863. *Ibid.* **26** : 1479-1770.
- 1865. *Ibid.* **32** : 323-706.
- WALLACE, A. R. 1876. *The Geographical Distribution of Animals*. **1** : 503 pp., 13 pls., 5 maps. London.
- WARREN, W. 1897. New genera and species of moths from the Old World regions in the Tring Museum. *Novit. zool.* **4** : 12-130.
- 1898. New species and genera of the families Drepanulidae, Thyrididae, Uraniidae, Epiplemididae and Geometridae from the Old World regions. *Ibid.* **5** : 221-258.
- 1899. New Drepanulidae, Thyrididae and Geometridae from the Aethiopian Region. *Ibid.* **6** : 287-312.
- 1902. New African Drepanulidae, Thyrididae, Epiplemididae and Geometridae in the Tring Museum. *Ibid.* **9** : 487-536.
- 1904. New Drepanulidae, Thyrididae, Uraniidae and Geometridae from the Aethiopian Region. *Novit. zool.* **11** : 461-482.
- WATSON, A. 1957. Taxonomic notes on the genera *Spidia* Butler and *Hemictenarcha* Warren (Lepidoptera : Drepanidae), with a description of a new subspecies from Mt. Ruwenzori. *Proc. R. ent. Soc. Lond.* (B) **26** : 113-118.



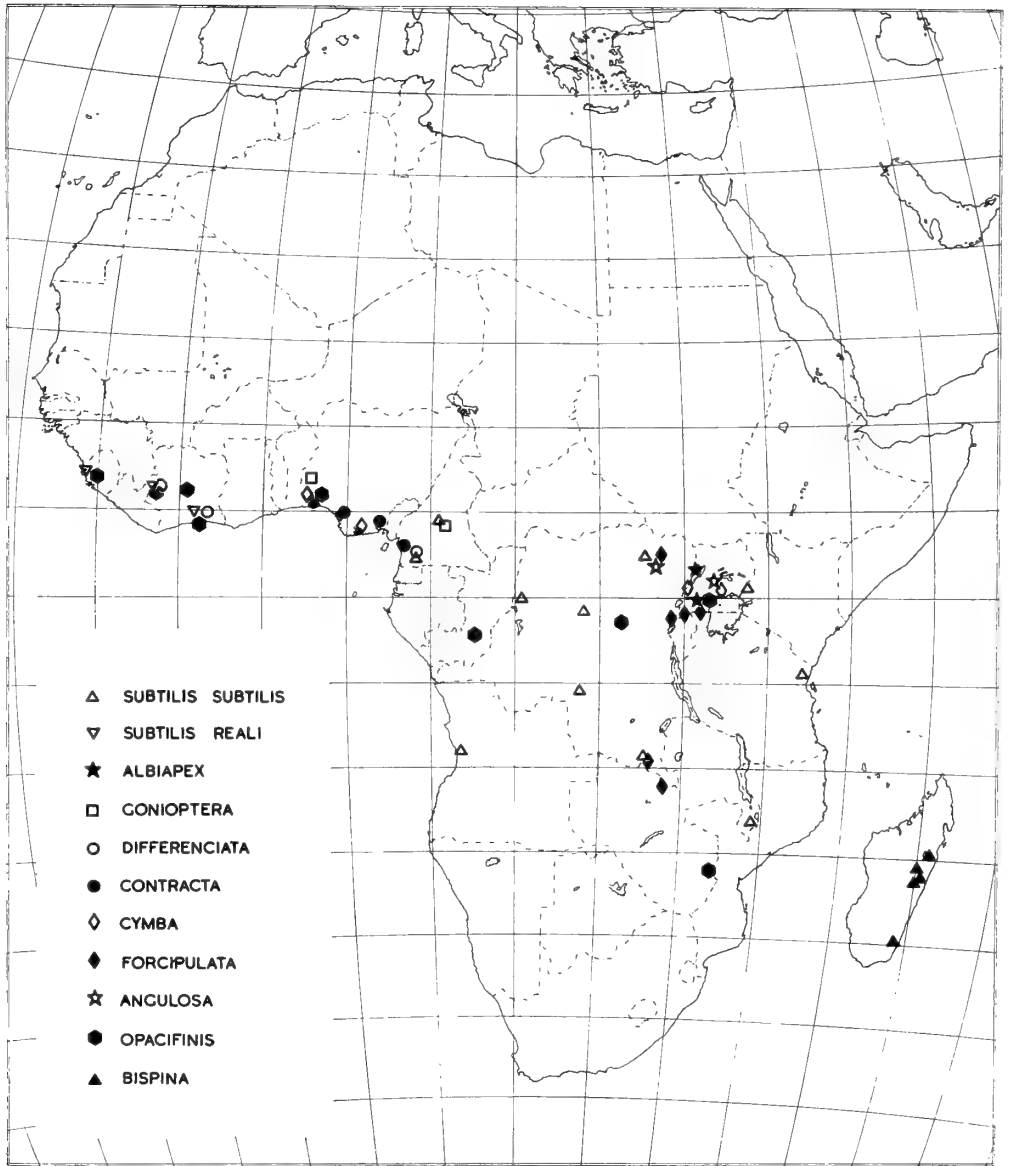
MAP I. Distribution of *Epicamptoptera*, species-group *strandii*.

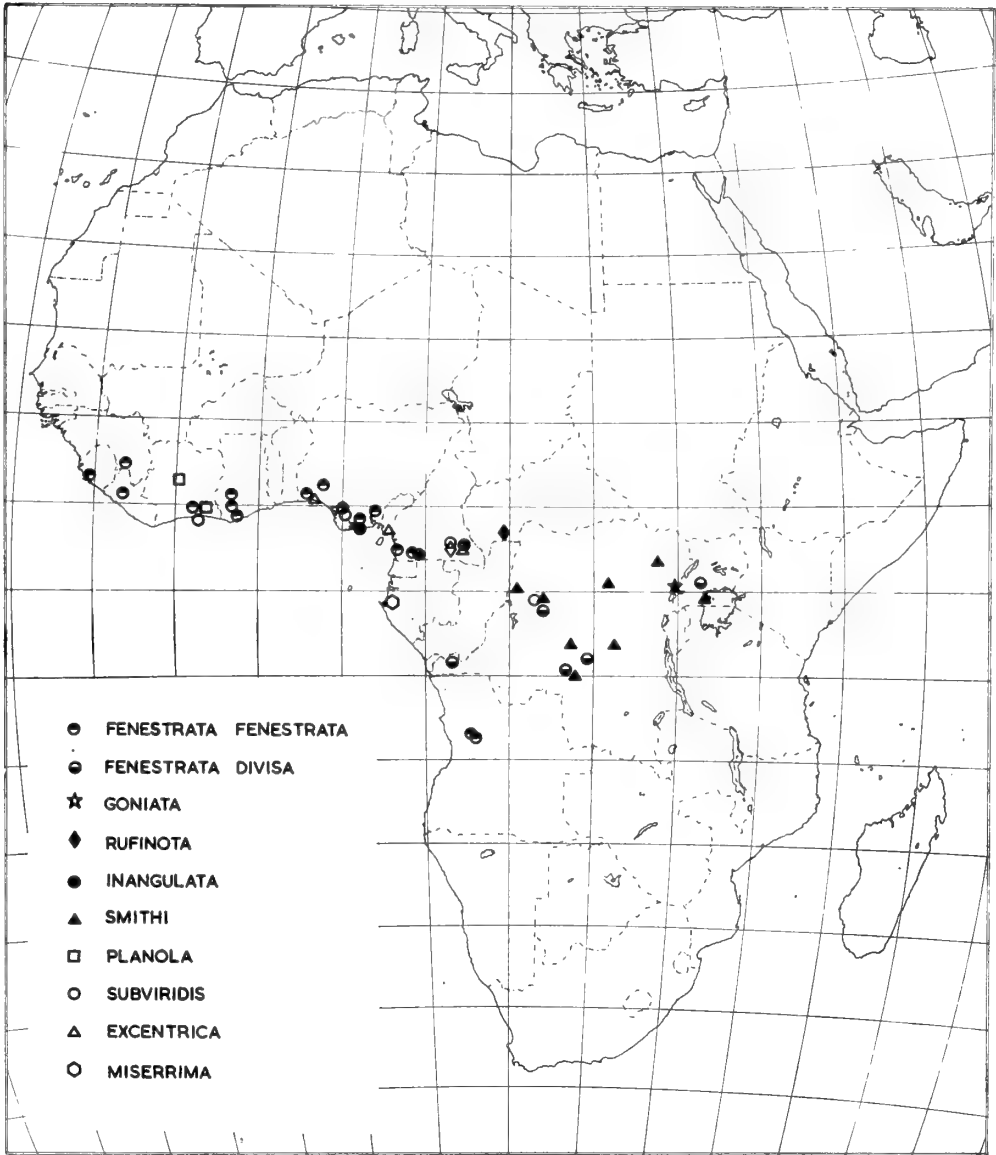


MAP 2. Distribution of *Epicampoptera*, species-group *erosa*.

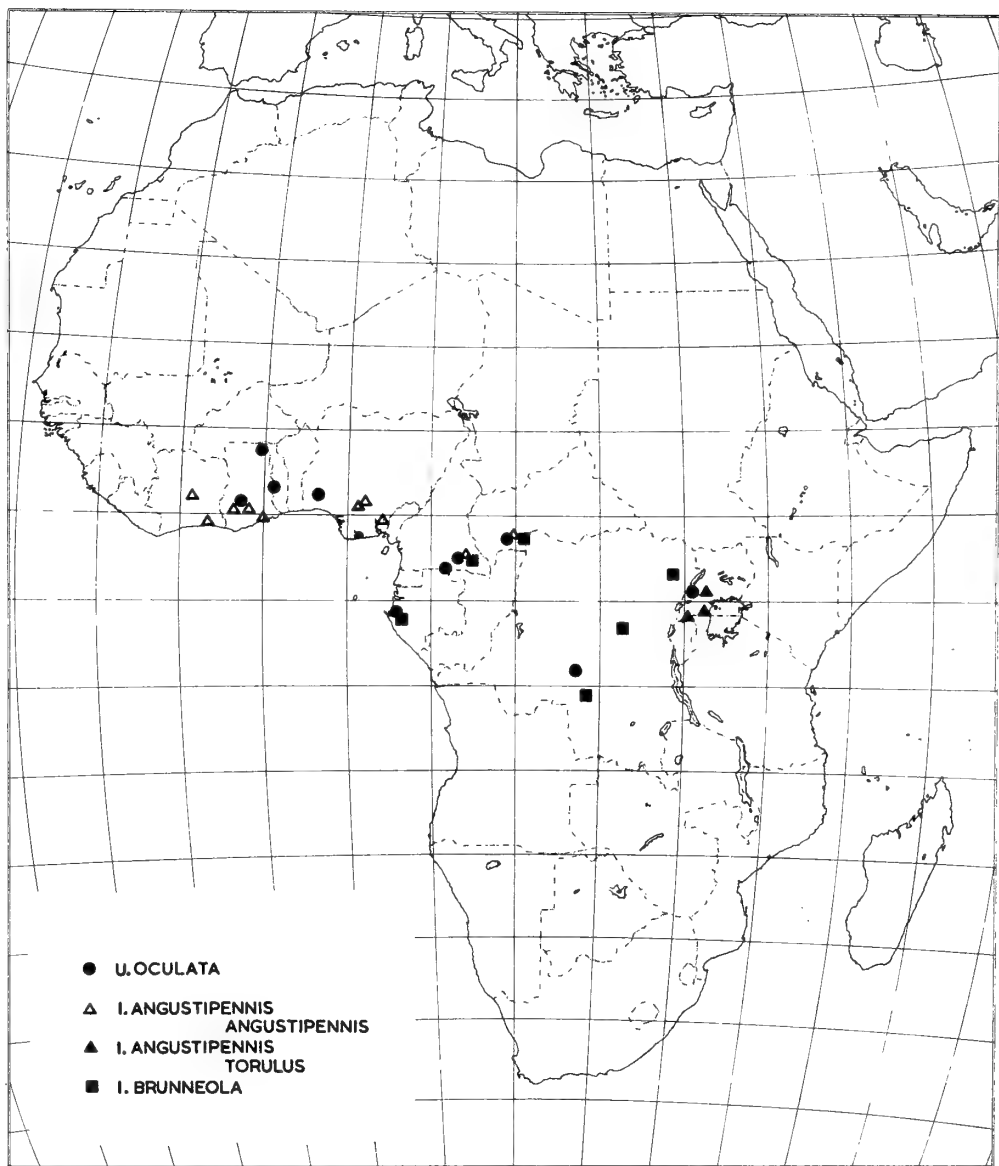


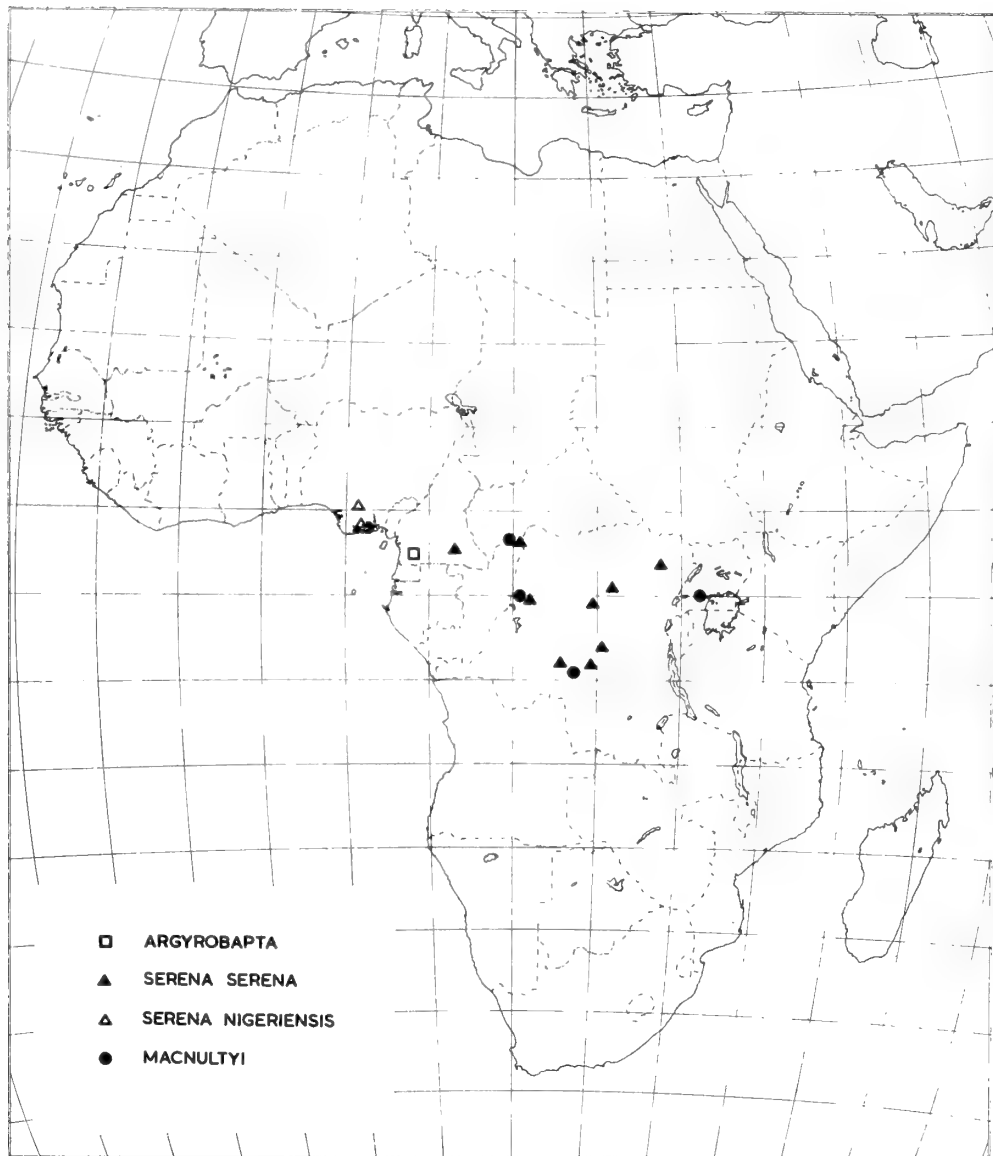
MAP 3. Distribution of *Negea*.

MAP 4. Distribution of *Gonoreta*.



MAP 5. Distribution of *Spidia*.

MAP 6. Distribution of *Uranometra* and *Isospidia*.



MAP 7. Distribution of the African species of *Callidrepana*.

INDEX

Index to nominal subfamilies, genera, species and subspecies
(synonyms and homonyms in italics)

- albiapex sp. n., 75
Ancistrina Gaede, 47
 andersoni Tams, 19
 angulosa sp. n., 86
 angustipennis Warren, 133
ansorgei Warren, 79
Archidrepana Warren, 142
 argyroabapta Gaede, 149
Ausaris Walker, 149
- bimaculata Holland, 62
 bispina sp. n., 89
 boboa sp. n., 121
 brunneola Holland, 137
- Callidrepana* Felder, 149
 calligola sp. n., 159
 canescens sp. n., 123
 carnea Saalmüller, 36
 clenchi sp. n., 55
 confusa Walker, 51
 contracta Warren, 79
 croceina Mabile, 163
 Crocinis Butler, 114
Ctenogyna Felder, 47
 cymba sp. n., 82
- Damna* Walker, 149
diagonalis Bryk, 141
 diferenciata Bryk, 79
 difficilis Hering, 24
 dissipinosa sp. n., 53
 divisa Aurivillius, 99
Drapena Gaede, 114
 Drepaninae, 149
Drepanula Gaede, 149
Drepanulides Motschulsky, 149
Drepanulina Gaede, 149
- efulena sp. n., 45
 Epicampoptera Bryk, 9
 erosa Holland, 31
 excentrica Strand, 111
- felina sp. n., 126
 fenestrata Butler (Crocinis), 116
 fenestrata Butler (Spidia), 96
fenestriculata Gaede, 86
forata Warren, 117
 forcipulata sp. n., 85
- geometroides Holland, 68
 glauca Hampson, 14
glaucinoe Hampson, 133
 goniata Watson, 101
 gonioptera Hampson, 77
 Gonoreta Warren, 70
 Gonoretodes gen. n., 91
 graciosa sp. n., 38
 griveaudi sp. n., 38
- Hemictenarcha* Warren, 94
 heringi Gaede, 43
 heterogyna Hampson, 40
hylaeina Aurivillius, 133
- ignorata Hering, 17
 imaitsoana sp. n., 124
immaculata Gaede, 62
 inangulata sp. n., 103
 Isospidia gen. n., 132
 ivoirensis sp. n., 26
- licina sp. n., 129
Lomadontophana Bryk, 70
 lumaria sp. n., 45
lytaea Druce, 51
 macnultyi sp. n., 154
 marantica Tams, 17
 marcus sp. n., 161
Metadrepana Tams, 9
 miserrima Holland, 112
 multiversa sp. n., 163
- natalensis Felder, 63
 Negera Walker, 47
 Nidara Mabile, 158

- Nidarinae, 156
nigeriensis ssp. n., 154
notialis sp. n., 35
- oculata Holland, 141
opacifinis sp. n., 87
Oretinae, 9
Oretopsis gen. n., 145
- pallida Tams, 31
parviluma ssp. n., 68
Phalacrothyris Warren, 94
Pithania Bryk, 47
planola sp. n., 108
prolixa sp. n., 117
pumilla sp. n., 166
- quadricornis sp. n., 60
- ramosa sp. n., 55
reali ssp. n., 75
robusta sp. n., 33
rubrisecta Warren, 96
rufinota sp. n., 101
- saturniata Warren, 143
serena sp. n., 151
seydeli sp. n., 43
smithi Warren, 106
spicata sp. n., 127
Spidia Butler, 94
strandi Bryk, 13
subtilis Bryk, 73
subviridis Warren, 110
sulphurea Hampson, 141
- tamsi sp. n., 22
tetrathyra Mabilie, 131
Ticilia Walker, 149
timea sp. n., 93
torulus ssp. n., 135
tumidula sp. n., 29
- unispinosa sp. n., 57
Uranometra Bryk, 139
- viettei sp. n., 119
vohilava Viette, 148
vulvornata Hering, 13

PLATE I

Epicampoptera

FIGS. 271 and 272, *strandii strandii*, ♂, ♀ (B.M. negative Nos. 31119, 31118).
FIGS. 273 and 274, *andersoni*, ♂, ♀ (B.M. negative Nos. 31120, 31092). (× 2)

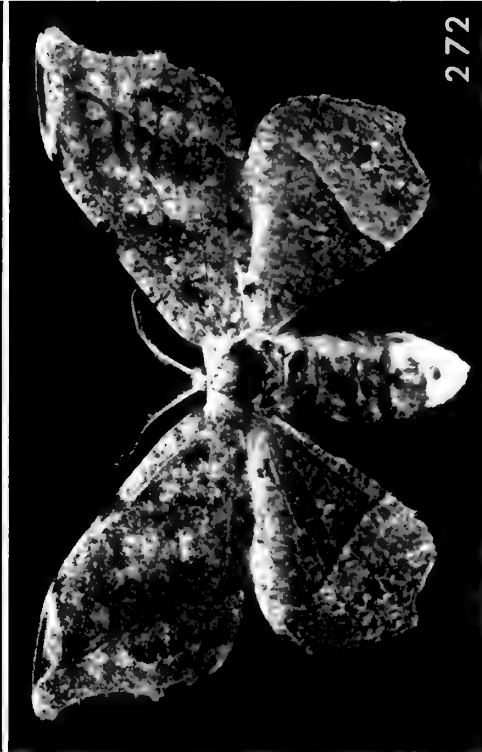
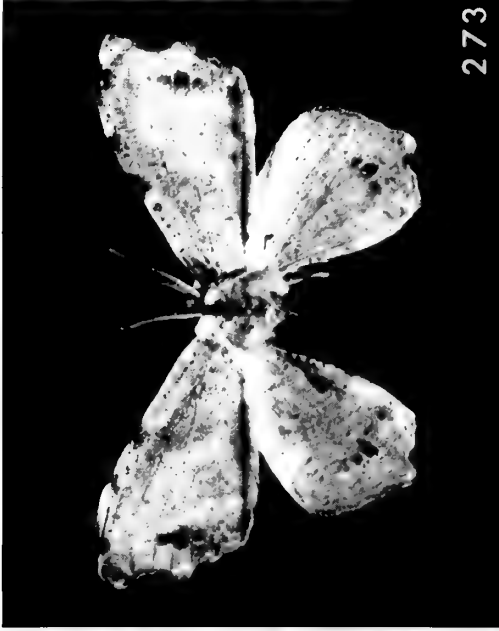


PLATE 2

Epicamptoptera

FIG. 275, *marantica*, ♂ (B.M. negative No. 31104). FIG. 276, *difficilis*, ♂ lectotype (B.M. negative No. 31100). FIG. 277, *tamsi*, ♂ holotype (B.M. negative No. 31091). FIG. 278, *seydeli*, ♂ holotype (B.M. negative No. 31045). (× 2)

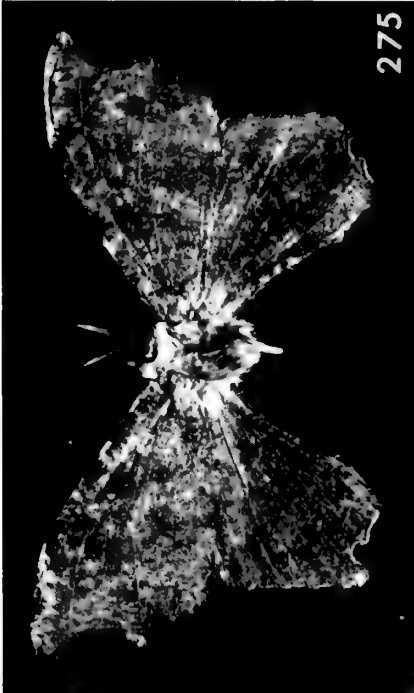
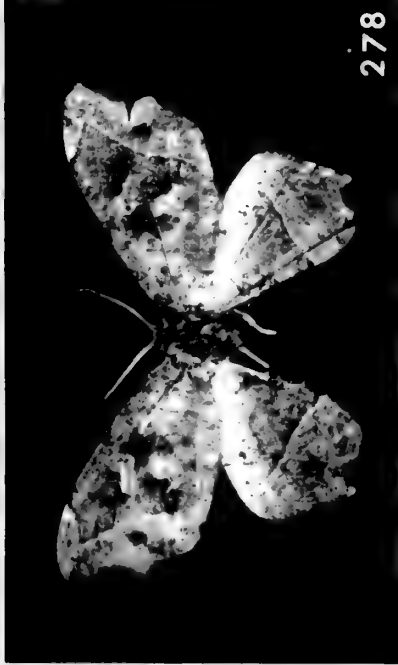


PLATE 3

Epicampoptera

FIG. 279, *carnea*, ♂ (B.M. negative No. 31114). FIG. 280, *griveaudi*, ♀ paratype (B.M. negative No. 31117). FIG. 281, *graciosa*, ♀ holotype (B.M. negative No. 31089). FIG. 282, *notialis*, ♂ paratype (B.M. negative No. 31090). (× 2)

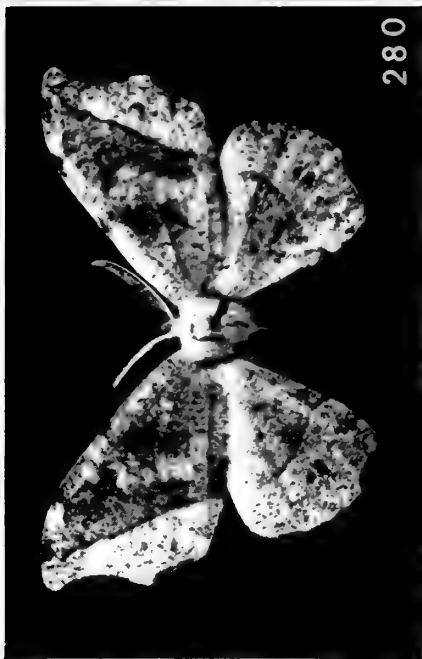
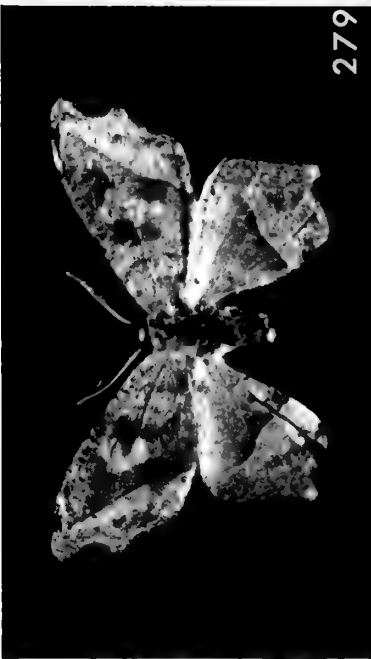
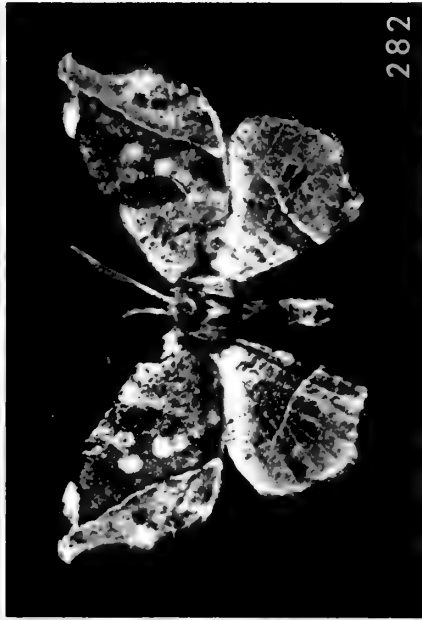
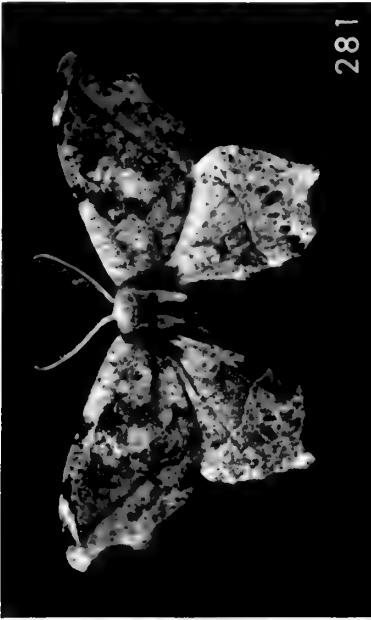


PLATE 4

Epicamptoptera

FIGS. 283 and 284, *heterogyna*, ♂ lectotype, ♀ paralectotype (B.M. negative Nos. 31087, 31086). FIG. 285, *heringi*, ♂ holotype (B.M. negative No. 31103). FIG. 286, *tumidula*, ♂ holotype (B.M. negative No. 31088). (× 2)

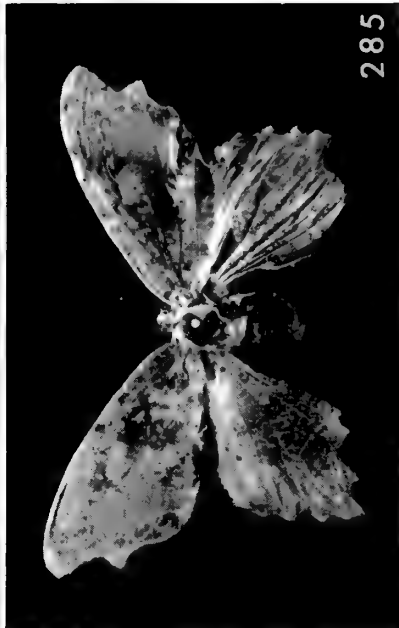
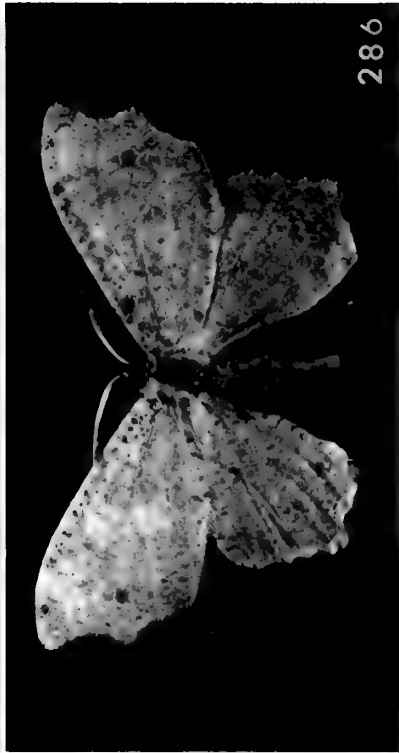
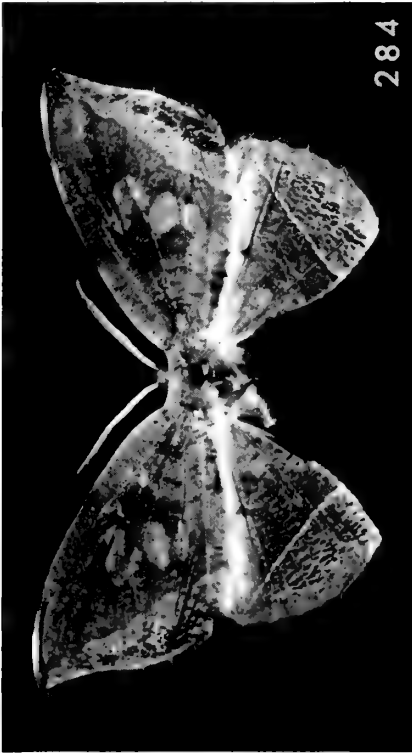


PLATE 5

Negera

FIGS. 287-289, *quadricornis*, ♀ paratype, ♂ holotype, ♂ paratype (B.M. negative Nos. 31094, 36779, 36780). FIG. 290, *disspinosa*, ♂ paratype (B.M. negative No. 31095). (× 2)

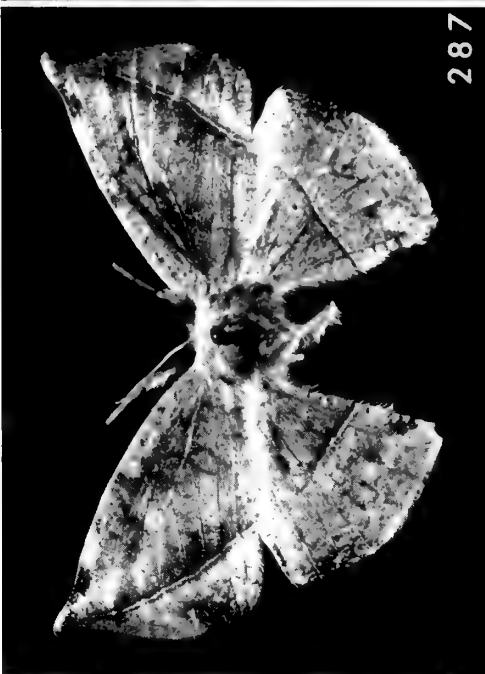
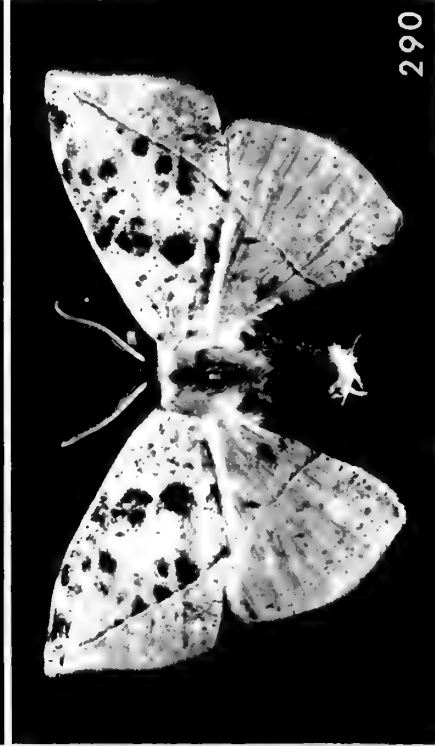


PLATE 6

Negeva

FIGS. 291 and 292, *bimaculata*, ♂ (holotype of *immaculata*), ♀ (B.M. negative Nos. 22660, 31093). FIG. 293, *unispinosa*, ♀ paratype (B.M. negative No. 29583). FIG. 294, *natalensis natalensis*, ♂ (B.M. negative No. 31096). (× 2)

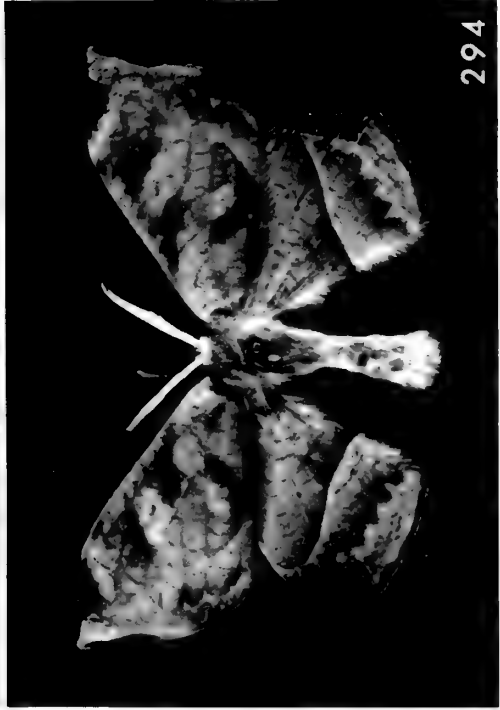


PLATE 7

Gonoreta

FIG. 295, *forcipulata*, ♀ paratype (B.M. negative No. 31084). FIG. 296, *opacifinis*, ♂ paratype (B.M. negative No. 31116). FIG. 297, *subtilis subtilis*, ♂ (B.M. negative No. 31112). FIG. 298, *gonioptera*, ♂ holotype (B.M. negative No. 31085). (× 2)

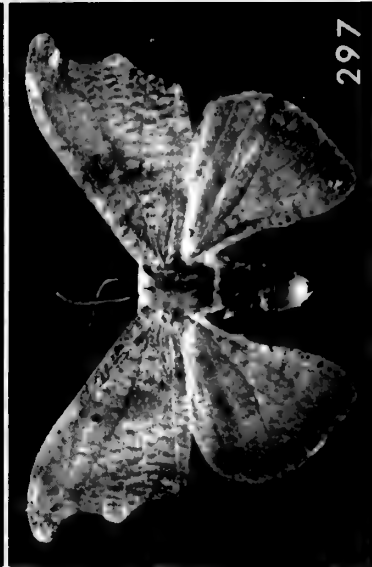
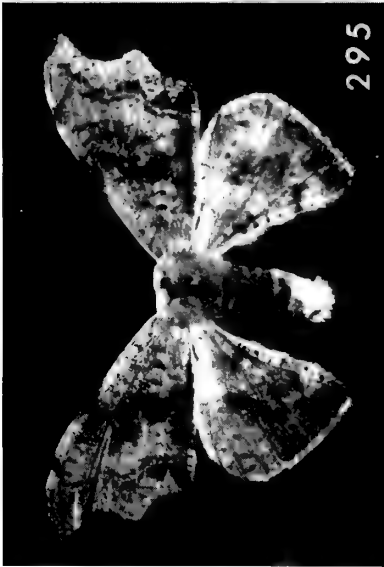


PLATE 8

Gonoreta

FIG. 299, *angulosa*, ♂ paratype (B.M. negative No. 31083). FIG. 300, *cymba*, ♂ holotype (B.M. negative No. 31081). FIG. 301, *differenciata*, ♂ holotype (B.M. negative No. 31102). FIG. 302, *albiapex*, ♂ holotype (B.M. negative No. 32436). FIG. 303, *contracta*, ♂ (B.M. negative No. 31082). FIG. 304, *bispina*, ♂ holotype (B.M. negative No. 31110). (× 2)

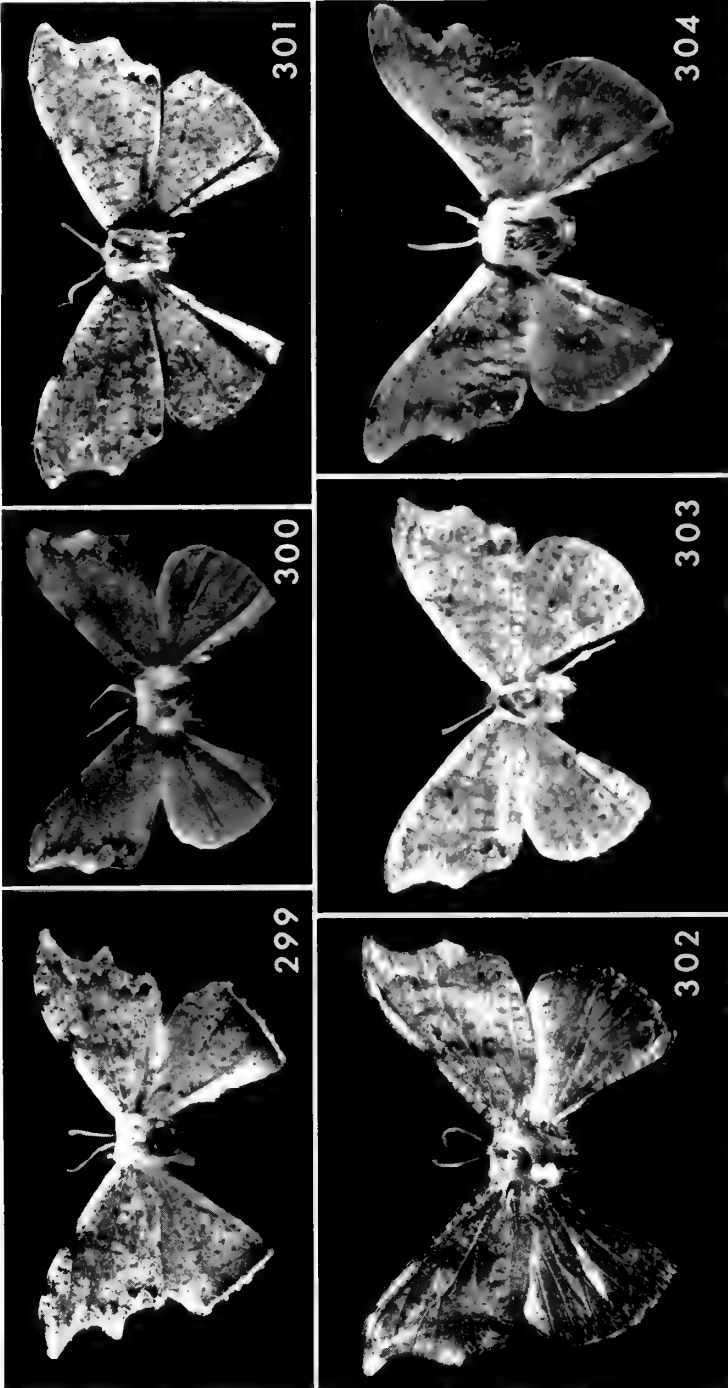


PLATE 9

Spidia

FIG. 305, *smithi*, ♂ (B.M. negative No. 31028). FIG. 306, *inangulata*, ♂ holotype (B.M. negative No. 31079). FIG. 307, *subviridis*, ♀ (B.M. negative No. 31076). FIG. 308, *excentrica*, ♀ (B.M. negative No. 31077). (× 2)

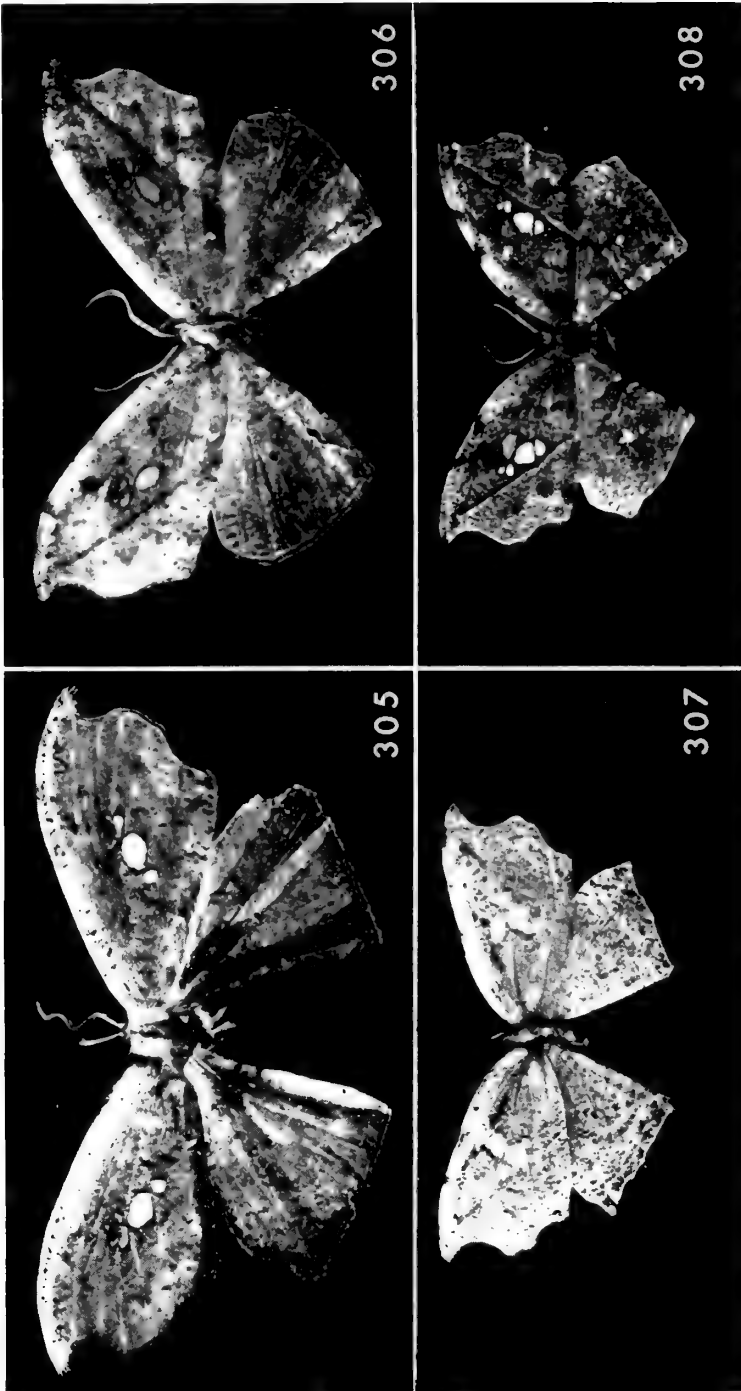


PLATE 10

Spidia

FIG. 309, *excentrica*, ♂ (B.M. negative No. 31075). FIG. 310, *rufinota*, ♂ holotype (B.M. negative No. 31080). FIG. 311, *fenestrata fenestrata*, ♂ (B.M. negative No. 31097).

Uranometra

FIG. 312, *oculata*, ♀ (B.M. negative No. 31099). (× 3 : FIGS. 309, 310 ; × 2 : FIGS. 311, 312)

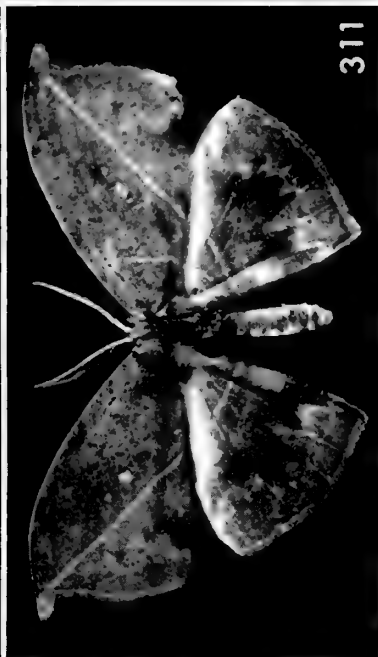
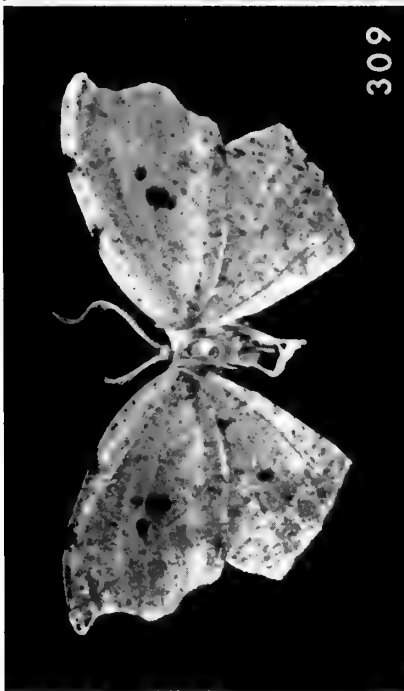
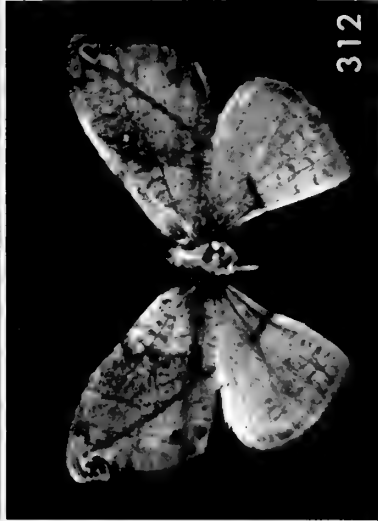
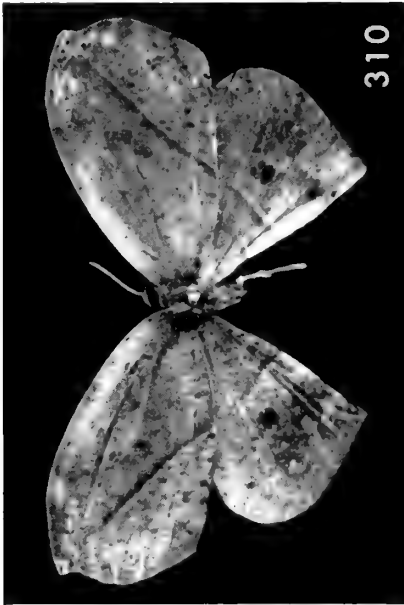


PLATE 11

Crociniis

FIG. 313, *canescens*, ♂ holotype (B.M. negative No. 31064). FIG. 314, *imaitsoana*, ♂ holotype (B.M. negative No. 31050). FIG. 315, *fenestrata*, ♂ holotype (B.M. negative No. 31097). FIG. 316, *felina*, ♂ holotype (B.M. negative No. 31056).
(× 2 : FIGS. 313, 314, 316 ; × 3 : FIG. 315)

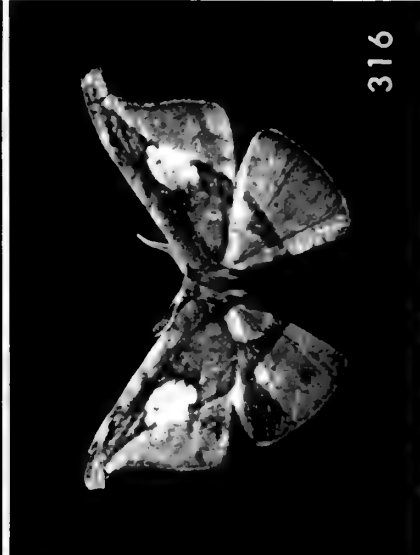
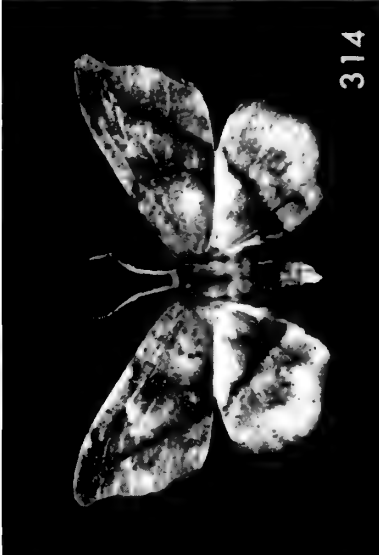


PLATE 12

Crociniis

FIGS. 317 and 318, *viettei*, ♂ paratype, ♂ holotype, (B.M. negative Nos. 31062, 31061). FIG. 319, *prolixa*, ♂ holotype (B.M. negative No. 31060). FIG. 320, *boboa*, ♂ holotype (B.M. negative No. 31105). (× 3 : FIGS. 317-319 ; × 2 : FIG. 320)

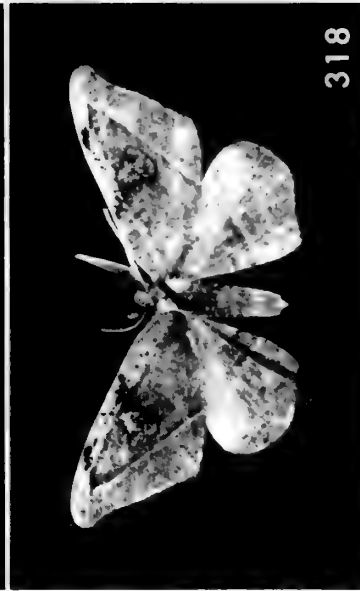
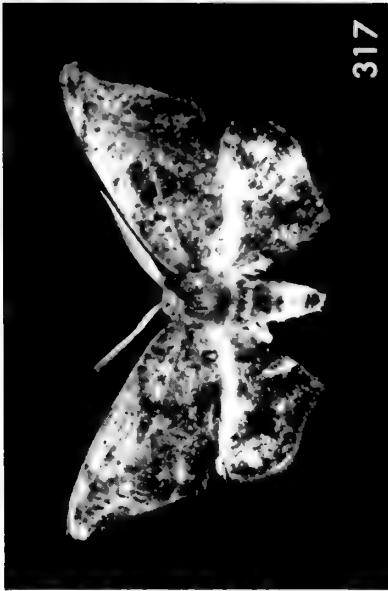
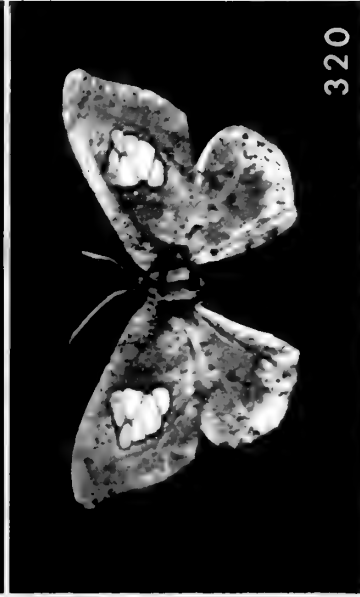


PLATE 13

*Crocini*s

FIGS. 321 and 322, *spicata*, ♂ holotype, ♂ paratype (B.M. negative Nos. 31106, 31101). FIG. 323, *licina*, ♂ holotype (B.M. negative No. 31115). FIG. 324, *tetrathyra*, ♂ (B.M. negative No. 31063). FIG. 325, probably either *spicata* or *licina*, ♀ (B.M. negative No. 31107). (× 2 : FIGS. 321-323, 325 ; × 3 : FIG. 324)

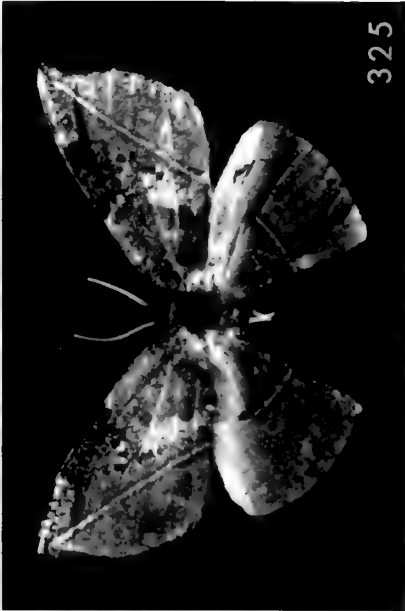
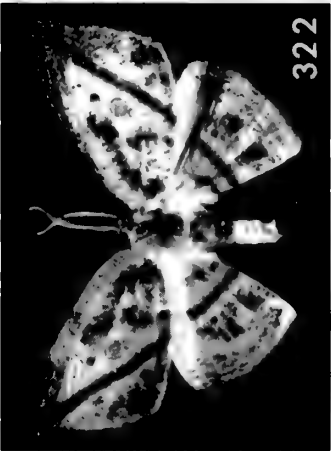


PLATE 14

Isospidia

FIGS. 326–328, *angustipennis angustipennis*, ♀ holotype of *Oreta glaucinoe*, ♂, ♂ (B.M. negative Nos. 31066, 31067, 31068). FIG. 329, *angustipennis torulus*, ♂ holotype (B.M. negative No. 31069). FIG. 330, *brunneola*, ♀ (B.M. negative No. 31070). ($\times 2$)

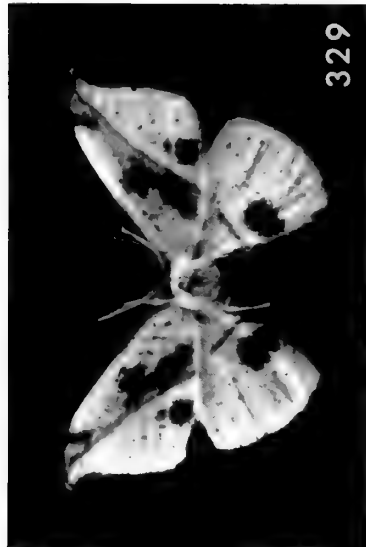


PLATE 15

Archidrepana

FIGS. 331-333, *saturniata*, ♂, ♂, ♀ holotype (B.M. negative Nos. 31058, 31057, 31109). (× 2)

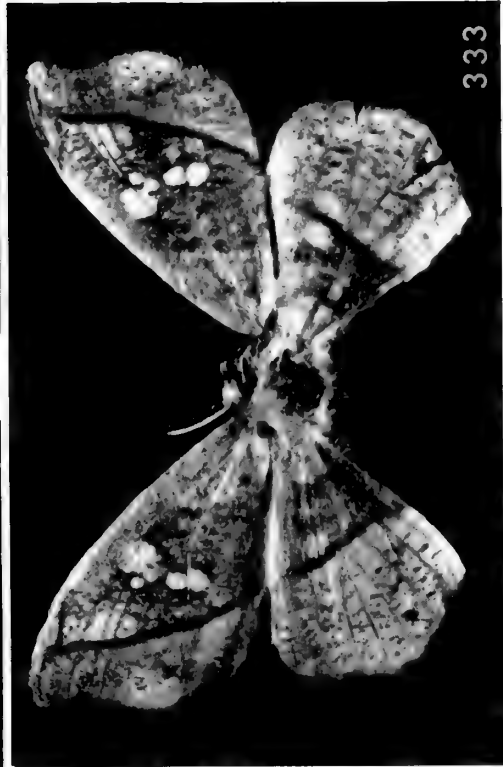


PLATE 16

Callidrepana

FIGS. 334 and 335, *macnultyi*, ♂ holotype, ♀ (B.M. negative Nos. 31071, 31072).
FIG. 336, *argyroabpta*, ♂ lectotype (B.M. negative No. 31121). FIG. 337, *serena
nigeriensis*, ♂ holotype (B.M. negative No. 31074). FIG. 338, *serena serena*, ♂
lectotype (B.M. negative No. 31073). (× 3)



PLATE 17

FIG. 339, *Oretopsis vohilava*, ♂ (B.M. negative No. 31108). FIG. 340, *Nidara multiversa*, ♂ holotype (B.M. negative No. 31111). FIG. 341, *Gonoretodes timea*, ♂ holotype (B.M. negative No. 36778). FIG. 342, *Epicamptoptera efulena*, ♂ holotype (B.M. negative No. 34518). ($\times 2$)

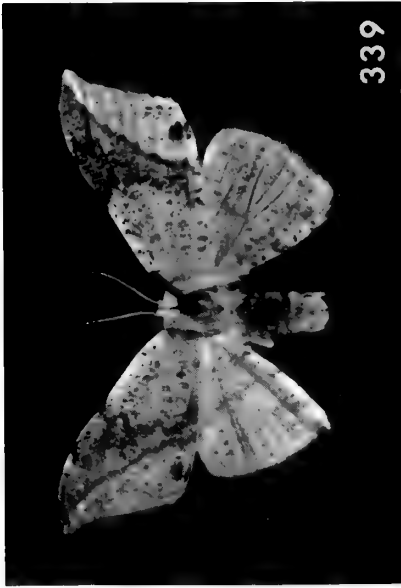
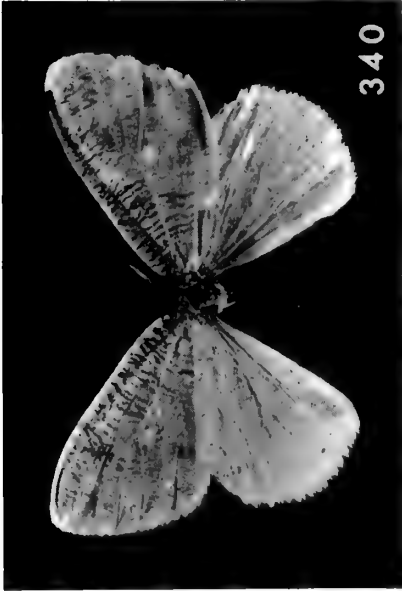
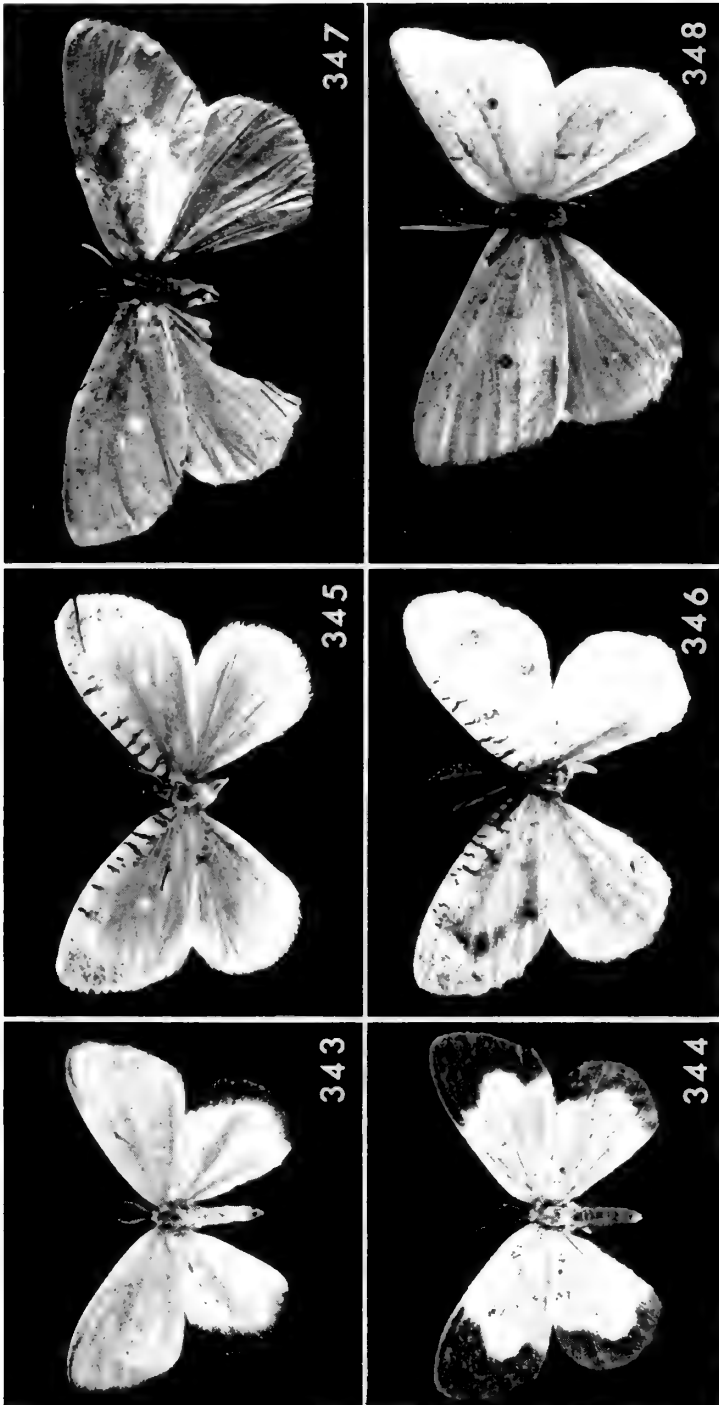


PLATE 18

Nidara

FIGS. 343 and 344, *calligola*, ♂ paratype, ♂ holotype (B.M. negative Nos. 31052, 31051). FIGS. 345 and 346, *marcus*, ♂ paratype, ♂ holotype (B.M. negative Nos. 31053, 31054). FIG. 347, *croceina*, ♂ lectotype (B.M. negative No. 31055). FIG. 348, *pumilla*, ♂ holotype (B.M. negative No. 31098). (× 2)







Printed in England by Staples Printers Limited at their Kettering, Northants, establishment

2



