

# A GUIDE TO THE GENERA OF STICK- AND LEAF- INSECTS (INSECTA: PHASMIDA) OF NEW GUINEA AND THE SURROUNDING ISLANDS.

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## ABSTRACT

*190 species of stick- and leaf- insects in 58 genera are known to occur in New Guinea and the surrounding islands. This paper, based on a literature study, provides keys to identify species up to their genus following the current accepted classification. For each genus a summarised description and where available a schematic reproduction of an existing illustration of a representative is given, as well as a list of species occurring in the subregion. For each species the reference of the original description including page number, sex of the type material, illustrations, and the location of the type material are given. When applicable, references to first description of opposite sex and synonyms followed by the reference containing the nomenclatural act are included. For each species a general geographic distribution is given. In addition, a gazetteer has been compiled including all known localities of type and non-type specimens reported in the literature from the New Guinea subregion. Technical terms used are described in the glossary.*

Keywords: Insecta, Phasmida, New Guinea, identification, taxonomy.

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## INTRODUCTION

The stick- and leaf- insects (Phasmida) include some of the most impressive insects in terms of size and body shape. The New Guinea fauna is especially interesting as it includes a number of large species with spectacular wings, spines etc. To date 190 species and 17 subspecies of phasmids in 58 different genera are recognised to occur on New Guinea and the surrounding islands. This equals about 6.3 % of the total 3037 species described worldwide (Bragg, 1998). Taking into account that Bragg's database is not corrected for synonyms and names that have been lowered to subspecies level this percentage in reality may be much higher.

In the 19<sup>th</sup> century some of these beautiful and remarkable creatures had

been collected for study and preserved in a number of European museums. Initially, only few species were collected from the coastal areas and adjoining mountain ranges in New Guinea. The first species reported from the island were earlier described from other areas by Linnaeus (1758), De Haan (1842), Boisduval (1835) and Gray (1835). These were followed by descriptions of endemic species by Westwood (1859), Bates (1865), Kaup (1871) and Kirby (1896, 1904b).

Up to the turn of the century a limited number of phasmids had been collected and classified, and only in 1906 did the first coherent paper dealing with a collection of phasmids gathered by the "Dutch New Guinea Expedition in 1903" (Brunner von Wattenwyl, 1906) appear. Brunner von Wattenwyl and Redtenbacher however, first

published the descriptions of these species in the comprehensive Monograph of Phasmids in 1906-1908, which also included many other species from New Guinea. Unfortunately few specific locations were given in this work (see Brock, 1998, for the details recorded on the data labels). In the early years of the 20th century several zoological expeditions were equipped to explore predominantly the northern part of the island. Some of these penetrated deep into the interior. This resulted in the establishment of several larger collections that were described in detail by Günther (1929, 1930, 1936, and 1937). The largest of these is the collection of the "Deutschen Kaiserin Augusta-Fluss-Expedition 1912/13" from the Sepik basin and the slopes of the adjoining mountain ranges with 70 species in 32 genera (Günther, 1929). The last comprehensive paper dealing with New Guinea phasmids is from the same author, published in 1937, and deals with a group of phasmids collected from the Torricelli Range by Dr. Schlaginhaufen in 1909 which counts 32 species from 17 genera. Despite these efforts, the Phasmatodea of New Guinea remain poorly studied. Most research has been almost exclusively focused on the northern part of the island and the surrounding islands (Figure 1).

Very few species have been reported in the literature from the southern part or from the higher altitudes of the central mountain ranges. Günther (1929) noted a vertical segregation on the basis of his data, but it remains difficult to draw more definite conclusions about the distribution of this group.

#### HOW TO USE THIS GUIDE

The aim of this guide is to provide scientists and those interested in phasmids with a tool for identification of the genera associated with New Guinea and the surrounding islands (hereafter also referred to as the subregion). In addition, an overview of the species and junior synonyms reported in the literature is given. Since

this guide is almost fully based on a literature study it is not the purpose to further refine or give comments on the taxonomic arrangement, nor to settle outstanding taxonomic problems. Few taxa have undergone a thorough taxonomic revision and as a result there appear to be large gaps in the knowledge of phasmids. It may be obvious that more research is required and that taxonomic revision might change the status of some taxa included in this paper. With few amendments, the classification according to Günther (1953) or Bradley & Galil (1977), which is a slight update of the former, is followed in this guide.

This work consists of three parts to identify the genera: keys, descriptions of the main characteristics and schematic sketches of representatives of the genera. When used in combination these components will enable the reader to easily identify species up to genus level.

The keys to tribe level are based on the ones given by Bradley and Galil (1977), modified in a few cases. The keys to the genera have been compiled using the keys from the monograph of Brunner von Wattenwyl and Redtenbacher, modified to incorporate taxonomic changes. It must be noted here that the keys provided, although sufficient to identify the known genera associated with New Guinea, have limited use in relation to other geographic areas. It is recommended that keys be used in conjunction with the generic descriptions given in the 'main characteristics' sections. In these characterisations the differences between related genera have been taken into account, not only for genera represented in the subregion, but often also for other genera. In this context it should be noted that new material from an island with so many large unexplored areas may include undescribed taxa. The drawings in the Figures are schematic reproductions of illustrations in the literature. For each illustration the reference of the source is given. Where possible illustrations are derived from the type species of the genera, otherwise

priority was given to a representative in the subregion, or alternatively to a species from elsewhere. The reference to the original description of each genus and its type species is included as well as junior synonyms for the genera where applicable for New Guinea species. For each genus the global distribution and a chronological list of species and subspecies from the subregion are included. Junior synonyms and misidentified specimens are listed. References and page numbers for the original description including the sex of the specimens and illustrations are given for all records. When applicable, references to descriptions of opposite sex are given. References for the synonymies are restricted to the first author to adopt this name and are followed by the reference containing the nomenclatural act between round brackets. The location of the type specimens are given between square brackets following each citation.

An attempt has been made to update the current locations of the type specimens. For a number of species the present type location is unknown, while others have been reported lost [HNHM] or missing. In case the type location is unknown the reference has been marked with a question mark. However, when other type specimens of the same type series have been reported from other

Collections or Museums then the locations of the types that have been reported lost or missing have been omitted. The type localities are not included in this guide but can be retrieved from the original descriptions or from a number of catalogues recently published on this subject (Bragg, 1996; Brock, 1995, 1997 and 1998; Hennemann & Conle, 1996; Vickery, 1982). The distribution of the species listed includes the mainland of New Guinea unless otherwise specified in the heading or attached to the reference. For geographical reference most of the type and non-type localities reported in the literature are listed in the gazetteer. (see also Figure 1).

The locality 'New Guinea' has been reported to be in error for several species. These species which are omitted from this guide include: *Dares haematacanthus* Redtenbacher, 1906b, junior synonym of *Hoploclonia draconia* (Westwood), 1848 (*Pachymorpha draconia*) withdrawn by Günther (1937); *Paranecroscia operculata* Redtenbacher, 1908, which material was lost in fire, stated as likely misidentified by Brock (1995); *Haaniella errintoniae novaeguineae* Günther, 1930, data label stated as probably incorrect by Brock (1995); and *Lonchodes hosei papuanus* Günther, 1930, withdrawn by Günther, (1932b).

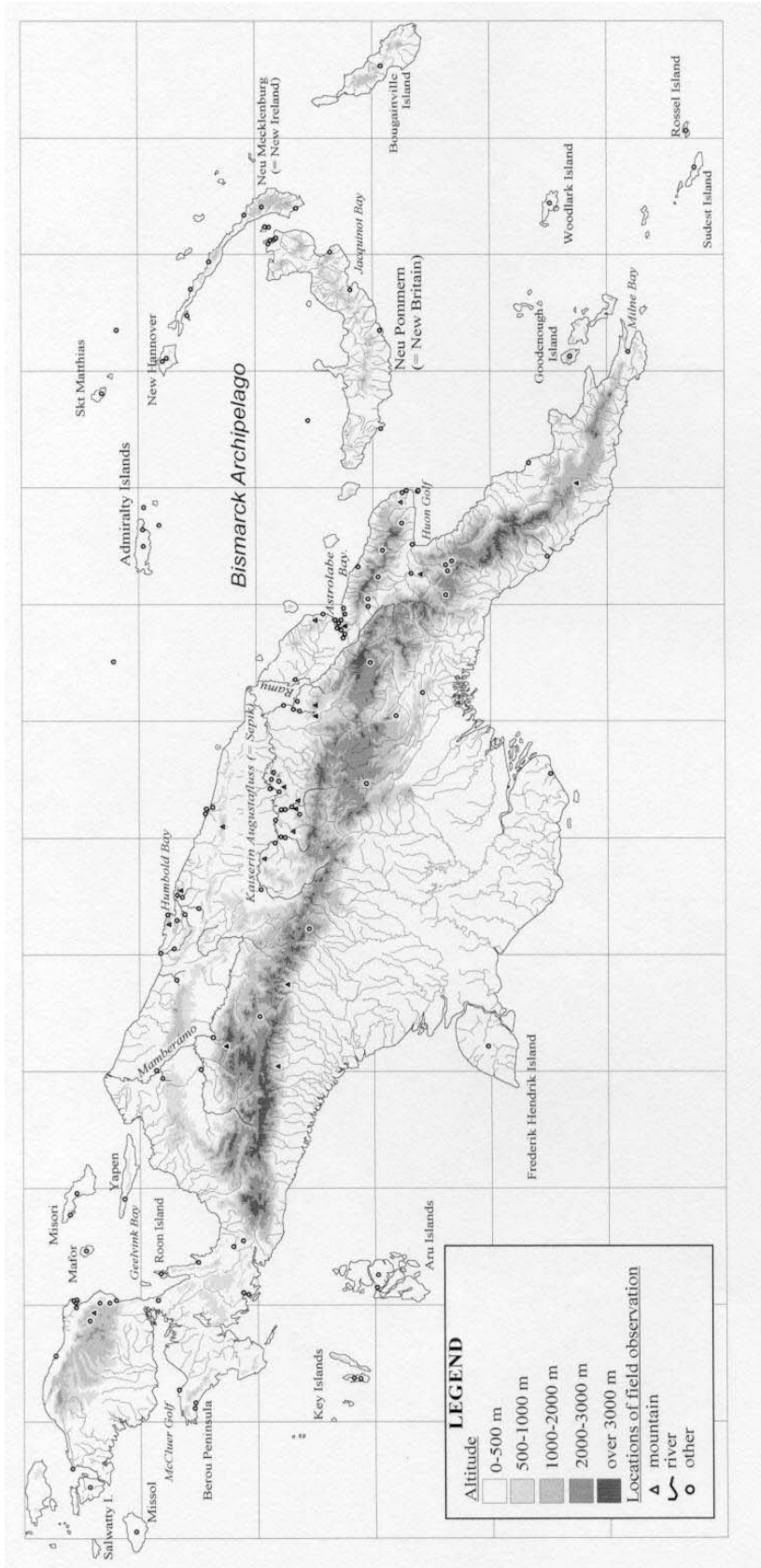


Figure 1. New Guinea and nearby islands including the localities of the specimens reported in the literature

## KEY TO THE FAMILIES, SUBFAMILIES TRIBES AND GENERA OF PHASMIDA

Italic figures in parenthesis are page numbers of continuing keys or generic accounts.

### Key to the families of Phasmatodea

1. Middle and hind tibiae with ventro-apical sunken areola. (suborder AREOLATAE) 3  
Middle and hind tibiae without ventro-apical sunken areola. (suborder ANAREOLATAE) 2
2. Antennae filiform and indistinctly segmented, especially beyond middle, longer than fore femora and often longer than body length; if shorter than fore femora and distinctly joined, then ventral surface of all femora smooth; ventral carinae of middle and hind femora not evenly serrated, usually only with few distal teeth or unarmed. HETERONEMIIDAE (p.59)  
Antennae powerful and distinctly segmented, usually shorter than fore femora, and then femora of females are distinctly serrated dorsobasally, or longer than fore femora, but never as long as body, and then ventral carinae of middle and hind femora distinctly and evenly serrated. PHASMATIDAE (p.61)
3. Median segment as long as or longer than metanotum and fused with it. 4  
Median segment shorter than metanotum and not fused with it; apterous. BACILLIDAE (p.64)
4. Antennae long in both sexes; metanotum longer than wide, not leaf-like; margins of abdomen without lateral outgrowths. PSEUDOPHASMATIDAE (p.102)  
Antennae of females barely as long as head, those of males longer and bristly; metanotum not longer than wide; leaf-like; margins of abdomen strongly foliaceously dilated; leaf-like dilations also on femora and sometimes tibiae; elytra of females often covering almost entire abdomen, those of males scarcely longer than thorax. PHYLLIIDAE (p.64)

### Key to the subfamilies of Heteronemiidae

1. Antennae distinctly segmented, usually shorter than fore femora, never as long as body; ventral surface of hind femora unarmed. PACHYMORPHINAE (p.60)  
Antennae filiform and indistinctly segmented, especially beyond middle, longer than fore femora, often longer than body length; ventral carinae of four hind femora not evenly serrated, usually only with few distal teeth or completely unarmed; mostly wingless, thin, stick-like animals. 2
2. Winged or with wing rudiments; if wingless than the median segment is longer than metanotum or at least anal segment of males are not split and bilobed and females without oviscapt. NECROSCIINAE (p.60)  
Wingless; median segment usually shorter than metanotum; anal segment of males split and bilobed, or at least with 2 finger-shaped, curved medioventral processes. LONCHODINAE (p.61)

**Key to the tribes and genera of Pachymorphinae**

1. Anal segment of males truncate or slightly emarginate, those of females variable; antennae shorter than fore femora; second abdominal segment 2 times longer than wide (except *Parapachymorpha*); cerci sometimes elongate but never with dilated lobes; middle and hind femora unarmed or rarely spinulose. GRATIDIINI (*Parapachymorpha*)(p.65)  
Antennae shorter than fore femora and operculum acuminate. HEMIPACHYMORPHINI – 2
2. Hind margin of anal segment in males extended into 2 very slender nearly straight lobes which are finely serrate at the inside. *Oreophasma* (p.65)  
Anal segment of males without lobes, straight or slightly round at hind margin. *Pseudopromachus* (p.65)

**Key to the genera of Necrosciinae**

1. Fore femora at base distinctly curved and carinate. 2  
Fore femora at base straight or nearly straight, cylindrical in cross-section or indistinctly carinate. 13
2. Elytra, at least in females, not present or minimal, lobular; apterous, brachypterous or micropterous. 3  
Elytra distinct, rarely spine-shaped; wings more or less explicit; ovipositor not developed. 6
3. Front metatarsus crested. 4  
Front metatarsus simple. 5
4. Operculum deep-seated navicular, crested, median distinctly and sharply carinate. *Leprocaulinus* (p.65)  
Operculum plane, not carinate. *Phenacocephalus* (p.69)
5. Operculum blunt. *Parasipyloidea* (p.69)  
Operculum narrow, totally corneous, tube-like, together with ovipositor elongate. *Orxines* (p.69)
6. Operculum excised or emarginate at the hind margin. 7  
Operculum acuminate or round at the hind margin, not tubular. 9
7. Operculum plain, apex never tubular. 8  
Operculum narrow at the hind margin, convoluted, almost tubular and emarginate, usually smooth, shiny, almost corneous; ocelli present. *Aruanoidea* (p.69)
8. Head depressed. *Asceles* (p.70)  
Head globular. *Neoclides* (p.70)
9. Back of head globular elevated. 10  
Head elongate, depressed. 11
10. Elytra with small hump-like elevation; brachypterous. *Micadina* (p.70)  
Elytra sometimes with distinct hump. *Sosibia* (p.70)
11. Females apterous or micropterous; four hind femora with 1-2 ventro-apical teeth. *Lopaphus* (p.70)  
Wings in females long; four hind legs ventrally unarmed. 12
12. Eyes positioned at front of head. *Sipyloidea* (p.73)  
Eyes positioned in middle of head. *Platysosibia* (p.73)

13. Elytra and wings absent. Elytra and wings long.	<i>Meionecroscia</i> (p.73) <i>Nescicroa</i> (p.74)
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**Key to the tribes and genera of Lonchodinae**

1. Anal segment of males split and extended into 2 lobes and with 2 finger-form processes on hind margin; operculum of females simple.	LONCHODINI - 2
Anal segment of males not truly split but with two weak finger-form processes on the hind margin; supra-anal plate of females often attached to anal segment without suture, anal segment and supra-anal plate plus elongated operculum form oviscapt.	NEOPROMACHINI - 8
2. Middle femora longer than metanotum plus median segment.	3
Middle femora as long as or shorter than metanotum plus median segment.	7
3. Second abdominal segment in females transverse or quadrate, in males not more than 1½ times longer than wide.	4
Second abdominal segment in females 1½ to 2 times longer than wide, in males 2 to 3 times longer than wide.	5
4. Operculum plane not carinate, hind margin broadly emarginate.	<i>Pericentropsis</i> (p.75)
Operculum navicular, acuminate.	<i>Menexenus</i> (p.74)
5. Thorax and abdomen heavily armed.	<i>Echinothorax</i> (p.74)
Thorax and abdomen smooth.	6
6. Median segment in both sexes at least half as long as the metanotum.	<i>Chondrostethus</i> (p.75)
Median segment in both sexes at most one third as long as the metanotum.	<i>Lonchodes</i> (p.75)
7. Mesosternum with median carina; middle femora of females ventrally smooth.	<i>Carausius</i> (p.75)
Mesosternum not carinate, usually densely granulate; middle femora in females dorsally lobed.	<i>Lonchodes</i> (p.75)
8. Meso- and metapleurae spined.	<i>Neopromachus</i> (p.78)
Meso- and metapleurae not spined.	9
9. Body opaque and tectiform depressed; second abdominal segment hardly longer than wide.	<i>Eupromachus</i> (p.81)
Body shiny, cylindrical and smooth or minutely granulated; second abdominal segment much longer than wide.	10
10. Thorax smooth or sparsely granulate.	<i>Hyrtacus</i> (p.81)
Thorax densely and minutely granulate.	<i>Brachyrtacus</i> (p.82)

**Key to the subfamilies of Phasmatidae**

1. Fore femora rarely triangular in cross-section, but if they are, then neither serrate nor dentate at base; fore femora usually with four distal carinae, and if so, not serrate at base nor on dorsal carinae.	2
Fore femora approximately triangular in cross-section, serrate at least dorsobasally.	PHASMATINAE (p.62)

2.	Operculum and supra-anal plate of females form an oviscapt (except <i>Thaumatolectron</i> ); hind femora of males often thickened and armed.	EURYCANTHINAE (P.63)	
	Operculum and supra-anal plate of females do not form an oviscapt; hind femora of males never thickened and armed.		3
3.	Ventro-lateral carinae of middle and hind femora finely serrate or smooth; fore femora not compressed at base.		4
	Femora with blunt teeth or lobes on carinae; fore femora distinctly compressed.	XERODERINAE (P.63)	
4.	Cheeks not wider than eyes; wings usually well developed, elytra elongate oval, weakly umbonate.	TROPIDODERINAE (P.63)	
	Cheeks wider than eye; elytra and often wings short or not present.	PLATYCRANINAE (P.63)	

**Key to the tribes and genera of Phasmatinae**

1.	Both sexes, or at least females, apterous.		4
	Both sexes alate or with wing rudiments.		2
2.	Cerci of females short and slender; males without ocelli; elytra and wings of females often strongly reduced.		3
	Cerci of females strongly flattened and widened or elongate and lanceolate; ocelli in males distinct.	PHASMATINI - 5	
3.	Operculum of females not exceptionally long; head swollen; middle and hind femora with tooth-like serrate ventral carinae.	STEPHANACRIDINI ( <i>Stephanacridini</i> ) (P.87)	
	Operculum of females extended widely over apex of abdomen; body slender, elongate, unarmed.	PHARNACIINI ( <i>Hermarchus</i> ) (P.88)	
4.	Both sexes completely lacking organs of flight; median segment distinctly shorter than metanotum, usually much shorter.	BACULINI ( <i>Baculum</i> ) (p.88)	
	Males alate; median segment of females at most as long as metanotum.	PHARNACIINI ( <i>Hermarchus</i> ) (P.88)	
5.	Hind tibiae ventrally with three series of spines, ventro-posterior carinae without large spines.		6
	Hind tibiae heavily spined or pointed on the ventro-posterior carinae, ventro-anterior carinae unarmed.	<i>Eurycnema</i> (p.82)	
6.	Metatarsus longer than other tarsal joints together; wings in females short.	<i>Ctenomorpha</i> (p.82)	
	Metatarsus shorter than other tarsal joints together; wings of females elongate.		7
7.	Hind tibiae ventrally with a single apical spine.		8
	Hind tibiae ventrally with two, or an aggregate of apical spines.	<i>Phasma</i> (p.86)	
8.	Mesonotum granulate or bluntly tuberculated, rarely bispined.		9
	Mesonotum strongly spined; head unarmed.		10
9.	Back of the head with cone-shaped elevation and irregularly bituberculated.	<i>Peloriana</i> (p.86)	
	Back of the head without cone-shaped elevation.	<i>Anchiale</i> (p.86)	



10. Fore femora with distinct dentation and ventrally strongly serrate-toothed.	<i>Acrophylla</i> (p.87)
Fore femora with weak dentation.	<i>Vetilia</i> (p.87)

**Key to the genera of Eurycanthinae**

1. Operculum and supra-anal plate of females elongate, forming a oviscapt; body surface more or less rough; femora and tibiae sharply carinate.	2
Anal segment and operculum of females not extended; body smooth, shiny, femora and tibiae nearly cylindrical in cross-section.	<i>Thaumatolectron</i> (p.88)
2. Front margin of the mesonotum narrow or as wide as the hind margin; femora dorsally and ventrally spined.	3
Front margin of the mesonotum wider than the hind margin; femora ventrally dentate.	<i>Trapezaspis</i> (p.90)
3. Large body; mesonotum in females longer than wide, in males at least 1½ times longer than wide; tibiae carinate and spined.	<i>Eurycantha</i> (p.90)
Small body; mesonotum in females quadrate, in males less than 1½ times as long as wide; tibiae slender, almost cylindrical in cross-section and unarmed.	<i>Symetriophasma</i> (p.92)

**Key to the genera of Xeroderinae**

1. Antennae extended far beyond fore femora.	2
Antennae as long as or shorter than fore femora.	<i>Dimorphodes</i> (p.92)
2. Fore femora with lobe-dilated ventro-posterior carinae.	<i>Leosthenes</i> (p.93)
Fore femora ventrally with sharp spine-like or leaf-like dentations.	<i>Xeroderus</i> (p.93)

**Key to the tribes and genera of Tropicoderinae**

1. Back of the head with spined cone-like elevation; femora and tibiae leaf-like and irregularly dentated.	EXTATOSOMATINI ( <i>Extatosoma</i> ) (p.93)
Back of the head not conically elevated; femora and tibiae without large leaf-like teeth.	TROPIDODERINI - 2
2. Fore femora distinctly longer than hind femora.	<i>Didymuria</i> (p.96)
Fore femora as long as hind femora.	<i>Tropicoderus</i> (p.96)

**Key to the genera of Platycraninae**

1. Back of the head distinctly globularly-swollen.	<i>Platycrana</i> (p.96)
Back of the head not globularly-swollen.	2
2. Apex of the ventro-median carina of the four hind tibiae unarmed or with a short spine.	3
Apex of the ventro-median carina of the four hind tibiae distinctly spined.	<i>Ophicrania</i> (p.98)
3. Big body; hind metatarsi short, hardly longer than second joint.	<i>Megacrana</i> (p.98)
Small body; hind metatarsi long, slightly shorter than the other joints together.	4
4. Four hind femora dorsally distinctly carinate.	<i>Graeffea</i> (p.98)
Four hind femora dorsally oval (male) or vaguely carinate (female).	<i>Erastus</i> (p.100)

**Key to the tribes and genera of Bacillidae, Heteropteryginae**

- |    |   |   |
|----|---|---|
| 1. | Apical area of tibiae without spines; supra-anal plate not distinct; basal antennal segments without teeth.<br>Apex of tibiae armed with spine (except <i>Heterocopus</i> ); supra-anal plate of females obvious and clearly separated from 10th abdominal segment. | DATAMINI - 2<br><br>OBRIMINI ( <i>Heterocopus</i> ) (p.100) |
| 2. | Metanotum with paired spines in the middle.<br>Metanotum with transverse row of spines.   | <i>Pylaemenes</i> (p.100)<br><i>Woodlarkia</i> (p.100)      |

**Key to the genera of Phyllidae**

- |    |  |   |
|----|--|---|
| 1. | Front part of the mesonotum (in front of elytra) quadrate. Large.<br>Front part of the mesonotum short, transverse. Small.   | <i>Phyllium</i> (p.102)<br>2                              |
| 2. | Prosternum tuberculated. Four fore femora dorsally weakly dilated, ventrally strongly dilated at apex.<br>Prosternum unarmed. Four fore femora of males strongly lobed in middle at both sides. Minimal in size. | <i>Chitoniscus</i> (p.103)<br><i>Nanophyllium</i> (p.103) |

In the following systematic account valid genera and species are in **bold type**. Synonyms follow in *light type*.

The institutional abbreviations (Arnett. *at al.*) are as follows.

AMSA Australian Museum, Sydney, Australia.  
 ANSP Academy of Natural Sciences, Philadelphia, USA.  
 BMNH The Natural History Museum, London, United Kingdom.  
 BPBM Bernice P. Bishop Museum, Honolulu, Hawaii, USA.  
 CUMZ University Museum, Cambridge, United Kingdom.  
 DEIC Deutsches Entomologisches Institut, Eberswalde Germany.  
 ETHZ Entomologisches Institut, Iedgenossische Technische Hochschule-Zentrum, Zurich, Switzerland.  
 FICB Forest Research Centre, Lae, Papua New Guinea.  
 HLDH Hessisches Landesmuseum Darmstadt, Darmstadt, Germany.  
 HNHM Hungarian Natural History Museum, Budapest, Hungary.  
 ISNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium.  
 MAMU Macleay Museum, Sydney, Australia.  
 MBBJ Museum Zoologicum Bogoriense, Bogor, Java, Republic of Indonesia.  
 MCSN Museo Civico di Storia Naturale "Giacomo Doria", Genoa, Italy.  
 MHNG Museum d'Histoire Naturelle, Geneva, Switzerland.  
 MNHN Museum National d'Histoire Naturelle, Paris, France.  
 MNMS Museo Nacional de Ciencias Naturales, Madrid, Spain.  
 MVMA Museum of Victoria, Abbotsville, Melbourne, Australia.

NHMB Naturhistorisches Museum, Basel, Switzerland.  
 NHMN Nottingham Natural History Museum, Nottingham, United Kingdom.  
 NHMW Naturhistorisches Museum Wien, Vienna, Austria.  
 NHRS Naturhistoriska Riksmusset, Stockholm, Sweden.  
 NZSI Zoological Survey of India, Calcutta, India.  
 OXUM University Museum, Oxford, United Kingdom.  
 RMNH Nationaal Natuurhistorisch Museum, Leiden, The Netherlands.  
 MRSN Museo Regionale di Scienze Naturali, Torino, Italy.  
 SMNG Staatliches Museum für Naturkunde, Görlitz, Germany.  
 SMNS Staatliches Museum für Naturkunde, Stuttgart, Germany.  
 SMTD Staatliches Museum für Tierkunde, Dresden, Germany.  
 TPNG Central Reference Insect Collection, Department of Agriculture and Livestock, Port Moresby, Papua New Guinea.  
 UPNG University of Papua New Guinea, Port Moresby, Papua New Guinea.  
 UZIU Universitets Zoologiska Institut, Uppsala, Sweden.  
 WEIC Wau Ecology Institute, Wau, Papua New Guinea.  
 ZMAN Zoologisch Museum, Amsterdam, The Netherlands.  
 ZMAS Zoological Museum, Academy of Science, St. Petersburg, Russia.  
 ZMHB Museum für Naturkunde der Humboldt Universität zu Berlin, Berlin, Germany.  
 ZMPA Museum and Institute of Zoology, Polish Academy of Science, Warszawa, Poland.  
 ZMUH Zoologisches Institut und Zoologische Museum, Universität von Hamburg, Hamburg, Germany.  
 ZSMC Zoologische Staatssammlung, München, Germany.

## SYSTEMATIC ACCOUNT

**PARAPACHYMORPHA** Brunner von Wattenwyl

(Figure 2 : 1ab)

*Parapachymorpha* Brunner von Wattenwyl, 1893, p. 95.

Type species. - *Parapachymorpha nigra* Brunner von Wattenwyl, 1893, p. 96, designated by Kirby, 1904a, p. 342.

Main characteristics. - Body and four hind legs compact, rough and often armed; head almost globular or head elevate at the hind margin; antennae scarcely extended beyond the middle of fore femora; second abdominal segment in females transverse, in males at most 1½ times longer than wide.

Distribution. - Indo-China, the Philippines and New Guinea (?).

Represented in New Guinea by:

**P. centurio** Brunner von Wattenwyl, 1907, p. 217 &, pl. 9 fig. 3f [MCSN]. [possibly similar to *Dimorphodes mancus centurio* (Redtenbacher), 1908, p. 366 & (*Dimorphodes centurio*)].

**OREOPHASMA** Günther

(Figure 2: 2)

*Oreophasma* Günther, 1929, p. 659.

Type species. - *Oreophasma polycanthum* Günther, by original designation.

Main characteristics. - Body surface rough, all segments abundantly and prominently spined; hind margin of anal segment in males extended into two very slim nearly straight lobes; legs very slender and elongate, femora and tibiae furnished with large paired leaf-like lobes or spines; fore tibiae distinctly longer than fore femora. This genus resembles *Neopromachus* (see p. 78) from which it easily can be distinguished by its very short antennae.

Distribution. - New Guinea.

Represented in New Guinea by:

**O. exilis** (Brunner von Wattenwyl), 1907, p. 298 & % (*Promachus*) [MCSN, NHMW].

*Oreophasma exile* (Brunner von Wattenwyl) Günther, 1929, p. 743.

**O. polycanthum** Günther, 1929, p. 659 % [ZMBH].

**PSEUDOPROMACHUS** Günther

(Figure 2: 3)

*Pseudopromachus*, Günther 1929, p. 745.

Type species. - *Pseudopromachus perspinosus* (Brunner von Wattenwyl) [*Promachus perspinosus*], by original designation.

Main characteristics. - This genus shows great similarities to *Neopromachus* (see p. 78) and *Oreophasma*. It differs from the former by the very short antennae and from the latter by the straight or slightly rounded hind margin of the anal segment in males.

Distribution. - New Guinea.

Represented in New Guinea by:

**P. perspinosus** (Brunner von Wattenwyl), 1907, p. 299 % (?) (*Promachus*) [NHMW].

*Promachus perspinosus* Brunner von Wattenwyl, 1906, p. 14. (nomen nudum).

*Pseudopromachus perspinosus* (Brunner von Wattenwyl) Günther, 1929, p. 745.

**LEPROCAULINUS** Uvarov

(Plate 3: 1ab)

*Leprocaulinus* Uvarov, 1940a, p. 176, (replacement name for preoccupied *Leprocaulus* Redtenbacher, 1908, p. 473).

No type species selected.

Main characteristics. - Similar to *Chondrostethus* Kirby (see p. 75). Body elongate; head between the eyes equipped with two elevate transverse scales (&) or spines (%); mesosternum with distinct median carina; elytra of females often only rudimentary present, females wingless, males winged; operculum round at apex, median carina strongly crested or globular elevated; fore legs elongate; fore tibiae dorsally compressed-lamellated; metatarsi similarly equipped with large crest.

Distribution. - The Indo-Malayan Archipelago from Java and Borneo through the Moluccas and the Talaud Islands to New Guinea, the Key- and Aru Islands and the Solomon Islands.

Represented in New Guinea by:

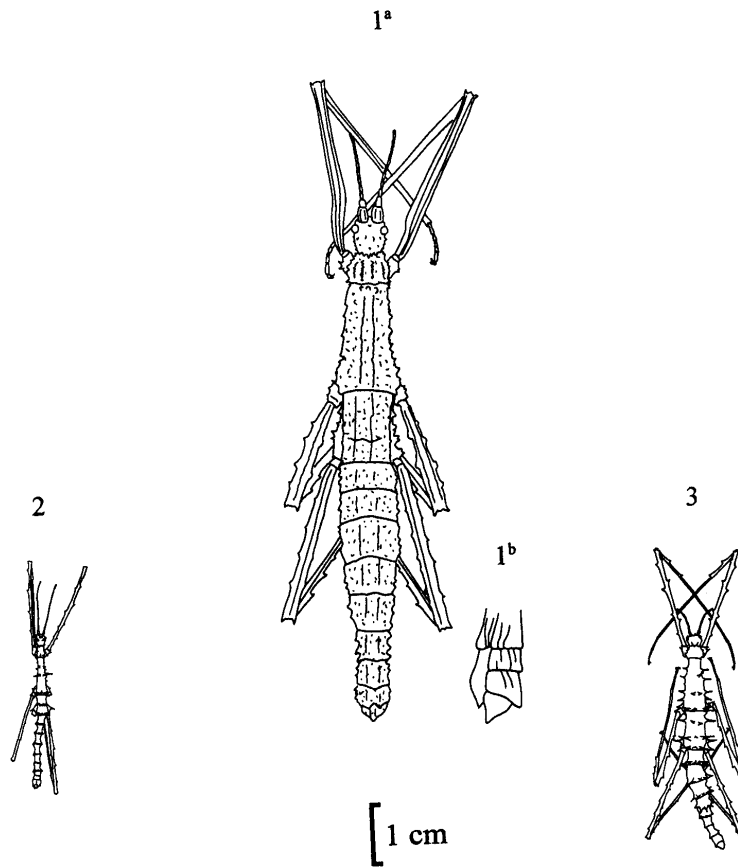


Figure 2. Pachymorphinae: 1 *Parapachymorpha nigra* Brunner von Wattenwyl, 1a & dorsal view, 1b & apex abdomen lateral view (enlarged), (type species, exotic, after Brunner von Wattenwyl, 1893, pl. 4 fig. 35); 2. *Oreophasma exilis* (Brunner von Wattenwyl), % dorsal view (after paralectotype [NHMW]); 3 *Pseudopromachus perspinosus* (Brunner von Wattenwyl), & dorsal view, (after type [NHMW]).

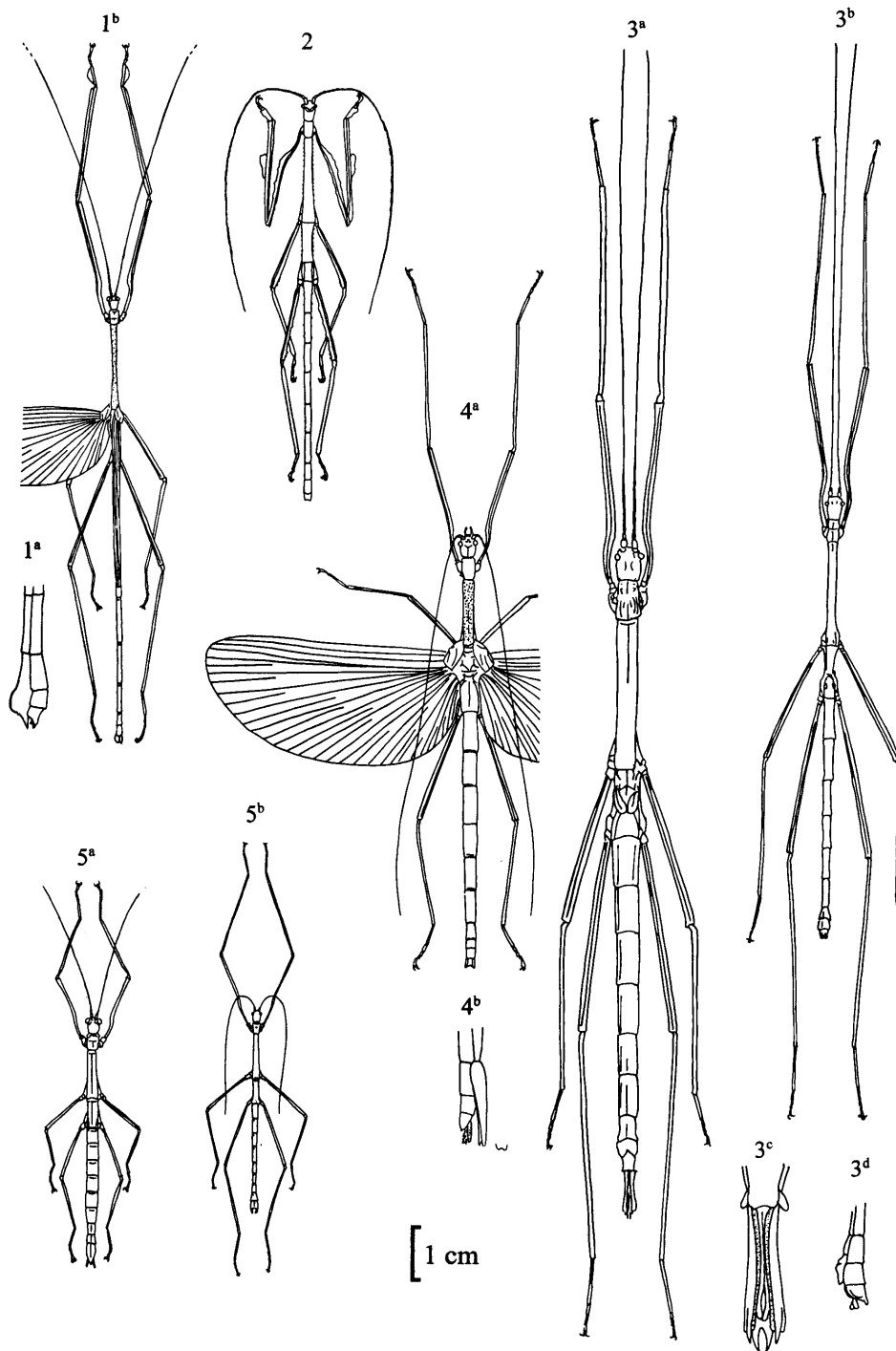


Figure 3. Necrosciinae: 1 *Leprocaulinus vipera* (Kaup), 1a & apex abdomen lateral view, 1b % dorsal view; 2 *Phenacocephalus coronatus* Werner, & dorsal view, (type species, after Günther, 1936, fig. 15); 3 *Orxines xiphias* (Westwood), 3a & dorsal view, 3b % dorsal view, 3c & apex abdomen dorsal view (enlarged), 3d % apex abdomen lateral view, (enlarged), (after Westwood, 1859, pl. 4 fig. 4 & 5); 4 *Aruanoidea aruana* (Westwood), 4a & dorsal view, 4b & apex abdomen lateral view (enlarged), (type species, after Westwood, 1859, pl. 39 fig. 4ab); 5 *Parasipylodea aenea* Redtenbacher, 5a & dorsal view, 5b % dorsal view, (type species, exotic, after Redtenbacher, 1908, pl. 24 fig. 4ab).

- L. vipera vipera** (Kaup), 1871, p. 39 % (*Necrosia*) [HLDH].
- Sosibia vipera* (Kaup) Kirby, 1904a, p. 369.
- Diardia vipera* (Kaup) Redtenbacher, 1908, p. 485 %.
- Leprocaulus vipera* (Kaup) Günther, 1935a, p. 82.
- Carausius reductus* Brunner von Wattenwyl, 1907, p. 269 & [NHMW]. (synonymised by Günther, 1935a, p. 82).
- Carausius raffrayi* Brunner von Wattenwyl, 1907, p. 272 & [MNHN?]. (synonymised by Günther, 1935a, p. 82).
- Carausius huonicus* Brunner von Wattenwyl, 1907, p. 272 & [HNHM lost in fire]. (synonymised by Günther, 1935a, p. 82).
- Carausius huonicus* Brunner von Wattenwyl Giglio-Tos, 1912b, p. 93 description of % [?].
- Leprocaulus rigidus* Redtenbacher, 1908, p. 473 & [NHMW]. (synonymised by Günther, 1935a, p. 82).
- Diardia papuana* Redtenbacher, 1908, p. 485 % [NHMW]. (synonymised by Günther, 1935a, p. 82).
- Diardia tibialis*, Redtenbacher, 1908, p. 485 % [HNHM lost in fire]. (synonymised by Günther, 1935a, p. 82).
- L. insularis insularis** (Kirby), 1896, p. 460 & (*Dixippus*) [BMNH].
- Phasgania insularis* (Kirby) Kirby, 1904a, p. 323.
- Carausius insularis* (Kirby) Brunner von Wattenwyl, 1907, p. 269.
- Leprocaulinus insularis* (Kirby) Günther, 1935a, p. 82.
- Carausius excelsus* (Brunner von Wattenwyl), 1907, p. 296 & [NHMW]. (synonymised by Günther, 1935a, p. 82).
- Leprocaulinus altecornutus* (Redtenbacher), 1908, p. 473 & (*Leprocaulus alte-cornutus*) [NHMW]. (synonymised by Günther, 1935a, p. 82).
- Diardia brevatarsis* Redtenbacher, 1908, p. 485 % [NHMW]. (synonymised by Günther, 1935a, p. 82).
- Diardia vicinissima* Redtenbacher, 1908, p. 485 %. [ANSP, MNMS, NHMW] (synonymised by Günther, 1935a p. 82).
- L. vipera bituber** (Sharp), 1898, p. 82 & (*Myronides bituber*) [CUMZ] New Guinea and New Britain. (lowered to subspecies level by Günther, 1935a p. 83).
- Leprocaulus bituber* (Sharp) Günther, 1933, p. 160.
- Carausius mammatus* Rehn, 1904, p. 44 & [ANSP]. (synonymised by Günther, 1935a, p. 83).
- Leprocaulus rudis* Redtenbacher, 1908, p. 473 & [NHMW]. (synonymised by Günther, 1935a, p. 83).
- L. obiensis** (Rehn), 1904, p. 46 & (*Carausius*) [ANSP].
- Leprocaulinus obiensis* (Rehn) Günther, 1935a, p. 83.
- Carausius bilobulatus* Brunner von Wattenwyl, 1907, p. 273 & [NMNS or Lisbon]. (synonymised by Günther, 1935a, p. 83).
- Carausius stultus* Brunner von Wattenwyl, 1907, p. 273 & [NMNS or Lisbon]. (synonymised by Günther, 1935a, p. 84).
- Diardia modesta* Redtenbacher, 1908, p. 485 % [MNHN ? and NMNS or Lisbon]. (synonymised by Günther, 1935a, p. 84).
- L. vipera bilineatus** (Brunner von Wattenwyl), 1907, p. 270 & (*Carausius bilineatus*) [ZMAN not traced].
- Carausius bilineatus* Brunner von Wattenwyl, 1906, p. 13. (nomen nudum).
- Leprocaulus vipera bilineatus* (Brunner von Wattenwyl) Günther, 1935a, p. 83).
- L. vipera praestantior** (Brunner von Wattenwyl), 1907, p. 271 & (*Carausius praestantior*) [SMTD, ZMUH] New Guinea and Key Islands.
- Carausius praestantior* Brunner von Wattenwyl, 1906, p. 13. (nomen nudum).
- Leprocaulus vipera praestantior* (Brunner von Wattenwyl) Günther, 1935a, p. 83).

*Diardia divergens* Redtenbacher, 1908, p. 485 % [NHMW, ZMHB].  
(synonymised by Günther, 1935a, p. 83).

**L. insularis verrucifer** (Günther), 1935a, p. 82 (*Leprocaulus*).  
(replacement name for *Leprocaulinus rigidus rudis* Günther, 1930 p. 745 & % [ZMUH], (not Redtenbacher, 1908 p. 473)).

**PHENACOCEPHALUS** Werner  
(Plate 3: 2)

*Phenacocephalus* Werner, 1930, p. 179.

Type species. - *Phenacocephalus coronatus* Werner, by monotypy.

Main characteristics. - Related to *Leprocaulinus* and like this taxon characterised by the elevated leaf-like lobe between the eyes; the distinct median carina on the mesosternum; and the compressed-lamellated tibiae. Differing from the former genus by the operculum which is plain and totally lacks any kind of crest or spherical shape.

Distribution. - New Guinea.

Represented in New Guinea by:

**P. coronatus** Werner, 1930, p. 179 & [ISNB].

**PARASIPYLOIDEA** Redtenbacher  
(Plate 3:5ab)

*Parasipyloidea* Redtenbacher, 1908, p. 479.

Type species. - *Parasipyloidea aenea* Redtenbacher, 1908, p. 480, designated by Vickery, 1983, p. 93.

Main characteristics. - Head unarmed, elongate, narrow and depressed; elytra and wings absent or poorly developed; operculum lanceolate, acuminate or blunt; legs unarmed.

Distribution. - North India, Sri Lanka, Peninsular Malaysia, Java, New Guinea, and Australia.

Represented in New Guinea by:

**P. novaeguineae** Redtenbacher, 1908, p. 480 % [NHMW].

**ORXINES** Stål  
(Plate 3: 3abcd)

*Orxines* Stål, 1875, p. 43 & 87.

Type species. - *Orxines xiphias* (Westwood) [*Anophelepis xiphias*] designated by Rehn, 1904, 71.

Main characteristics. - Head unarmed and elongate as in preceding genus but not flattened nor narrow; elytra absent or poorly developed and scale-like; micropterous, wings scale-like in males, and spatulate or oval in females; operculum in females extended far beyond abdomen, corneous, tubular, hind margin split or emarginate, with long free ovipositor; legs slender and unarmed, but distinctly carinate.

Distribution. - Sumatra, Java, the Moluccas and New Guinea.

Represented in New Guinea by:

**O. xiphias** (Westwood), 1859, p. 71 & %, pl. 4 figs. 4 & 5 (*Anophelepis*) [OXUM].

*Orxines xiphias* (Westwood) Stål, 1875b, p. 87.

*Acacus buruensis* Brunner von Wattenwyl, 1907, p. 252 [ZMAS].  
(synonymised by Günther, 1935a, p. 79).

**ARUANOIDEA** Brunner von Wattenwyl  
(Plate 3: 4ab)

*Aruanoidea* Brunner von Wattenwyl, 1893, p. 84.

Type species. - *Aruanoidea aruana* (Westwood) [*Necroschia aruana*] designated by Rehn, 1904, p. 78.

Main characteristics. - Head elongate and depressed; ocelli distinctly present; mesothorax totally granulate; elytra and wings long; fore femora sharply carinate; anal segment in both sexes, but especially in males, profoundly emarginate; in females operculum narrow, corneous, emarginate, and extended beyond abdomen.

Distribution. - Indo-China, Sumatra, Borneo, New Guinea, the Aru Islands, New Britain, and Australia.

Represented in New Guinea by:

**A. aruana** (Westwood), 1859, p. 134 & %, pl. 39 fig. 4 (*Necroschia*) [OXUM] New Guinea, New Britain and Aru Islands.

*Aruanoidea aruana* (Westwood) Rehn, 1904, p. 78.

- Aruanoidea bipunctata* Redtenbacher, 1908, p. 524 & [NHMW].  
(synonymised by Günther, 1935a, p. 85).  
**A. flavoguttulata** Redtenbacher, 1908, p. 524 % [ZMUH].

**ASCELES** Redtenbacher

(Figure 4: 2)

*Asceles* Redtenbacher, 1908, p. 493.

Type species. - *Asceles malaccae*

(Saussure) [*Necrosia malaccae*], 1868, p. 69, designated by Brock, 1995, p. 87.

Main characteristics. - Head depressed and elongate, usually unarmed; ocelli rarely distinct; thorax more or less granulate; mesonotum laterally unarmed; elytra bluntly humped or spiniform; wings long; hind margin of anal segment and operculum in both sexes emarginate or excised; operculum of females plain and lanceolate.

Distribution. - Sri Lanka, Indo-China, the Indo-Malayan Archipelago up to the Moluccas, the Philippines, and New Guinea.

Represented in New Guinea by:

- A. mancinus** (Westwood), 1859, p. 144 % , pl. 14 fig. 3, (*Necrosia*) [BMNH].

*Asceles mancinus* (Westwood) Redtenbacher, 1908, p. 500.

- A. rulanda** Redtenbacher, 1908, p. 497 &% [NHMW, MNHN, ZMHB].

- A. glaber** Günther, 1938, p. 135 &% [NZSI, SMTD]. (Location "New Guinea" probably in error, Brock, 1995, p 87).

**NEOCLIDES** Uvarov

(Figure 4: 4)

*Neoclides* Uvarov, 1940b, p. 113, (replacement name for preoccupied *Neocles* Stål, 1875, p. 59).

Type species. - *Neoclides simyra* (Westwood) [*Creoxylus simyra*] 1859, p. 105, by indication (Kirby, 1904a, p. 404).

Main characteristics. - Head globular at the back and, together with the thorax, more or less spined or roughly granulate; ocelli not present; legs short; fore femora strongly compressed, dilate, ventrally lobulate or with blunt teeth; wings long or slightly abbreviated.

Distribution. - Sumatra, Borneo and New Guinea.

Represented in New Guinea by:

- N. epombrus** (Günther), 1929, p. 696 % (*Neocles*) [ZMHB].

**MICADINA** Redtenbacher

(Figure 4: 1ab)

*Micadina* Redtenbacher, 1908, p. 533.

No type species selected.

Main characteristics. - Head smooth, elongate and weakly swollen; wings in females short, in males slightly but distinctly extended beyond hind femora; operculum of females lanceolate, acuminate, never extended beyond abdomen; legs short and unarmed.

Distribution. - China, Japan, Taiwan and New Guinea.

Represented in New Guinea by:

- M. bicolor** Redtenbacher, 1908, p. 533 % [HNHM lost in fire].

**SOSIBIA** Stål

(Figure 4: 3ab)

*Sosibia* Stål, 1875, p. 42 & 87.

Type species. - *Sosibia nigrispina* Stål, 1875, p. 87, designated by Rehn, 1904, p. 71.

Main characteristics. - Head short, globular or weakly depressed; ocelli not present; wings long; anal segment of males transverse; operculum lanceolate, plain, hind margin round, rarely acuminate; legs, especially the front ones, short.

Distribution. - The Indian Subcontinent, Sri Lanka, Indo-China, Sumatra, Borneo, the Philippines, the Key and Aru Islands and Australia.

Represented on the Aru & Key Islands:

- S. dubia** Redtenbacher, 1908, p. 537 &% [NHMW, MCSN, ZMHB].

**LOPAPHUS** Westwood

(Figure 5: 1)

*Lopaphus* Westwood, 1859, p. 99.

Type species. - *Lopaphus brachypterus* (Haan) [*Phasma brachypterus*] 1842, p. 125, designated by Kirby, 1904a, p.360.

Main characteristics. - Head elongate and depressed; elytra explicit, wings in females short and not extended beyond the third abdominal segment (in New



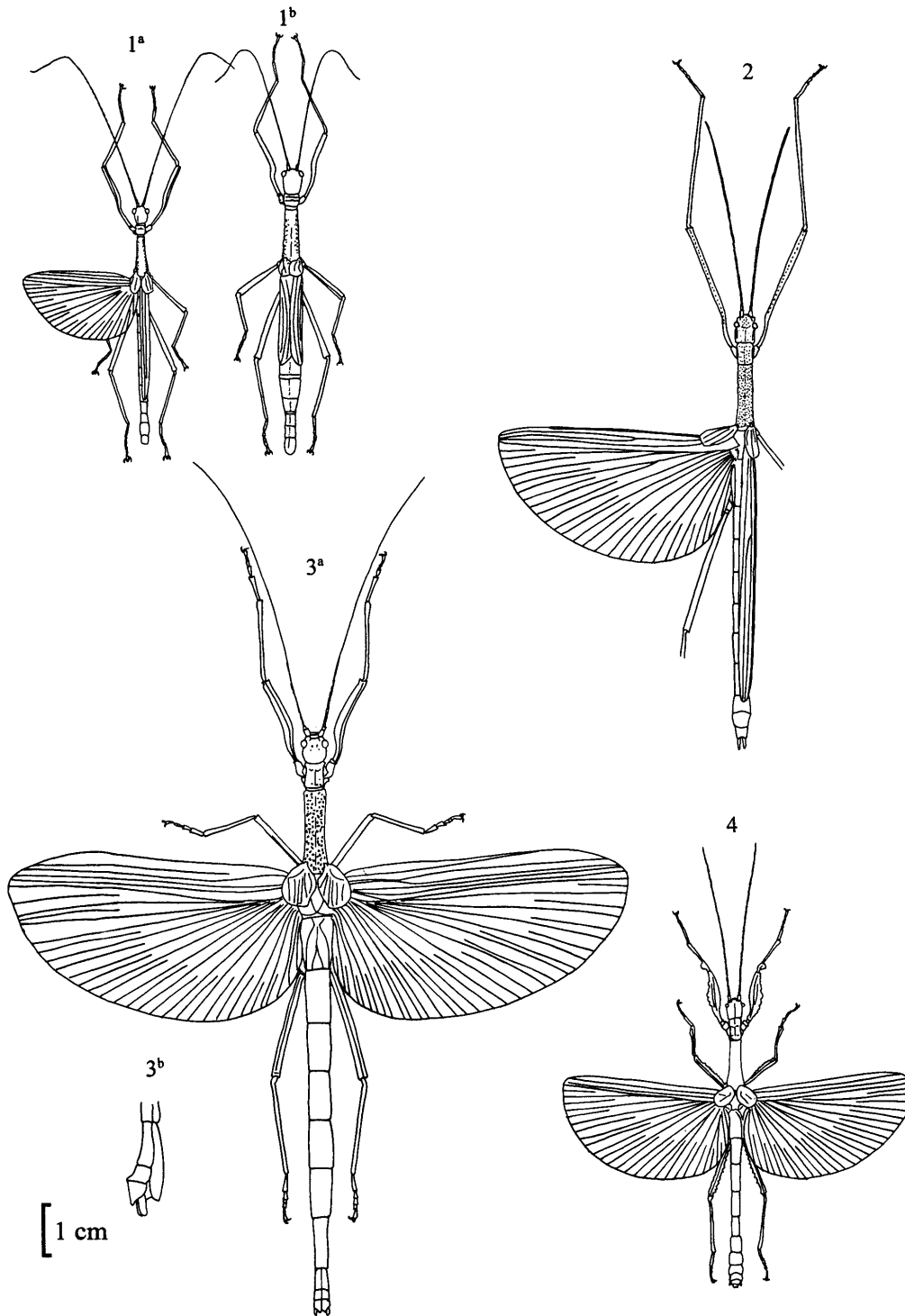


Figure 4. Necrosiinae (Continued): 1 *Micadina phlucaenoides* (Rehn), 1a & dorsal view, 1b % lateral view, (exotic, after Redtenbacher 1908, pl. 27 fig. 4ab); 2 *Asceles malaccae* (Saussure), & dorsal view, (type species, exotic, after Saussure, 1869, pl. 3 fig. 13); 3 *Sosibia pholidotus* (Westwood), 3a & dorsal view, 3b & apex abdomen lateral view (enlarged), (exotic, after Westwood, 1859, pl. 17 fig. 4); 4 *Neoclides simyra* (Westwood), % dorsal view, (type species, exotic, after Westwood 1859, pl. 32 fig. 3).

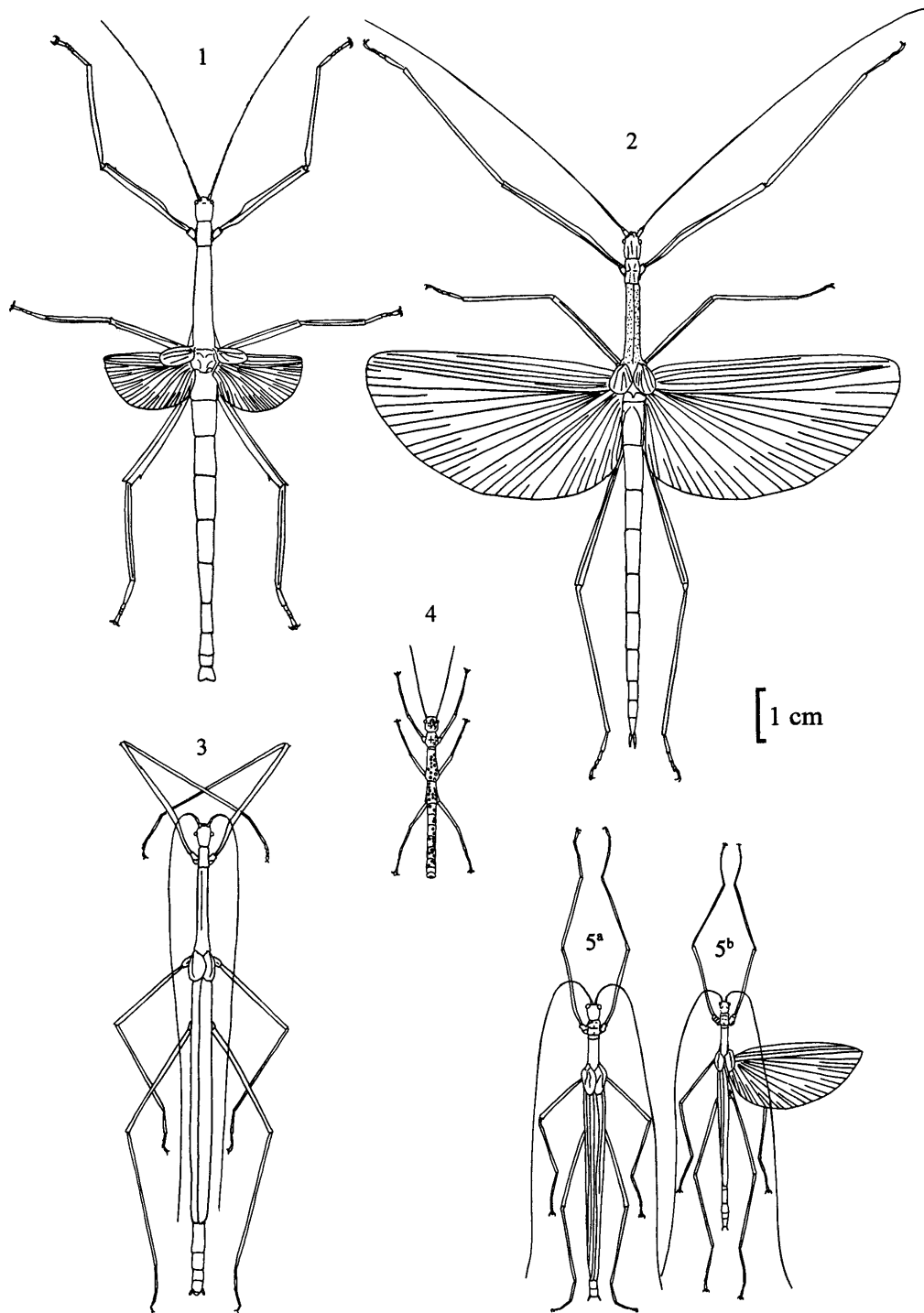


Figure 5. Necrosciinae (Continued): 1 *Lopaphus brachypterum* (Haan), & dorsal view, (type species, exotic, after Haan, 1842, pl. 15 fig. 2); 2 *Sipyloidea sipylus* (Westwood), & dorsal view, (type species, exotic, after Westwood, 1859, pl. 18 fig. 4); 3 *Platysosibia soluta* Redtenbacher, & dorsal view, (after Redtenbacher, 1908, pl. 26 fig. 4); 4 *Meionecrosia biroi* Redtenbacher, & dorsal view, (type species, after Redtenbacher, 1908, pl. 27 fig. 9); 5 *Nesciroa terminalis* (Redtenbacher), 5a & dorsal view, 5b % dorsal view, (type species, exotic, after Redtenbacher 1908, pl. 27 fig. 6).

Guinea species even shorter than metanotum), in males long; operculum in females navicular, sharply carinate and hind margin acuminate; four hind femora ventrally with 1-2 subapical teeth.

Distribution. - Indo-China, Sumatra, Java, the Philippines and New Guinea.

Represented in New Guinea by:

*L. buegersi* Günther, 1929, p. 697 & [ZMHB].

**SIPYLOIDEA** Brunner von Wattenwyl (Figure 5:2)

*Sipyloidea* Brunner von Wattenwyl, 1893, p. 86.

Type species. - *Sipyloidea sipylus* (Westwood) [*Necrosia sipylus*] 1859, p. 138, by original designation.

Main characteristics. - Head elongate and depressed; eyes typically positioned at the front of the head; elytra and wings long, former depressed and usually bluntly humped; operculum acuminate or hind margin round; legs elongate and femora usually unarmed.

Distribution. - Widely spread from the Indian Subcontinent up to China, and to New Guinea and Australia

Represented in New Guinea by:

*S. poeciloptera* Rehn, 1904, p. 77 & % [ANSP] New Guinea, New Ireland, Aru Islands and Key Islands.

*Necrosia poeciloptera* (Rehn) Kirby, 1904a, p. 375.

*Sipyloidea normalis* Redtenbacher, 1908, p. 547 & % [NHMW, ZMUH]. (synonymised by Günther, 1933, p. 161).

*S. roseonotata* Redtenbacher, 1908, p. 544 % [NHMW, ZMUH].

*S. supervacanea* Redtenbacher, 1908, p. 545 % [ZMHB] Key Islands.

*S. pseudosipylus pseudosipylus* Redtenbacher, 1908, p. 546 & [NHMW, and probably ZMHB].

*Sipyloidea pseudosipylus* Brunner von Wattenwyl, 1906, p. 14. (nomen nudum).

*Sipyloidea pseudosipylus* Redtenbacher Günther, 1929, p. 693. (description of %).

*S. pseudosipylus laevis* Günther, 1936, p. 341 & % [SMTD].

*S. dolorosa* Redtenbacher, 1908, p. 547 & %. [NHMW, ISNB] Key Islands and Misool Island.

*S. foenosa* Redtenbacher, 1908, p. 547 & [NHMW].

*S. abnormis* Redtenbacher, 1908, p. 548 & % [NHMW].

*S. excellens* Günther, 1929, p. 693 &, pl. 1 fig. 4 [ZMHB].

*S. reticulata* Günther, 1930, p. 735 &, fig. 3 [ZMHB].

*S. robusta* Günther, 1936, p. 343 &, fig. 17 [SMTD].

*S. sp.* Günther, 1936, p. 343 & [SMTD ?].

**PLATYSOSIBIA** Redtenbacher

(Figure 5: 3)

*Platysosibia* Redtenbacher, 1908, p. 552.

No type species selected.

Main characteristics. - This genus has similarities with *Sipyloidea* and *Sosibia*; it differs from the former by the eyes which are positioned in the middle of the head, and from the latter by: the elongated head, the depressed body shape, and the elongated fore femora.

Distribution. - The Moluccas and New Guinea.

Represented in New Guinea by:

*P. soluta* Redtenbacher, 1908, p. 552 &, pl. 26 fig. 4 [MCSN].

**MEIONECROSCIA** Redtenbacher

(Figure 5: 4)

*Meionecrosia* Redtenbacher, 1908, p. 572.

Type species. - *Meionecrosia biroi* Redtenbacher, by monotypy.

Main characteristics. - Head depressed; elytra and wings not present; femora short and cylindrical in cross-section, fore femora totally straight.

Distribution. - New Guinea.

Represented in New Guinea by:

*M. biroi* Redtenbacher, 1908, p. 572 %, pl. 27 fig. 9 [HNHM lost in fire].

(The taxonomic position of this species is doubtful, a specimen quoted in Günther, 1937, p. 95 probably is a male of *Periphetes rammei* Günther, 1929, p. 661).

**NESCICROA** Karny

(Figure 5:5ab)

*Nescicroa* Karny, 1923, p. 242 (= *Necroscia* Redtenbacher 1908, p. 557).Type species. - *Nescicroa terminalis* (Redtenbacher) [*Necroscia terminalis*] 1908, p. 561, by original designation.

Main characteristics. - Head short, globular or almost depressed; ocelli absent; mesonotum elongate; elytra short and oval; wings long and narrow; operculum flat, lanceolate, hind margin acuminate, emarginate or round; fore femora near the base straight or weakly curved, and together with other femora and tibiae oval in cross-section.

Distribution. - The Indian Subcontinent, the Indo-Malayan Archipelago up to the Moluccas, the Philippines and New Guinea.

Represented in from New Guinea by:

*N. smaragdula* (Bates), 1865, p. 357 % pl. 45 fig. 7 (*Necroscia*) [OXUM] New Guinea and New Ireland.*N. papuana* (Brancsik), 1897, p. 65 &, pl. 2 fig. 11 (*Necroscia*) [ZMAS ?].*Marmessoidea papuana* (Brancsik) Kirby, 1904a, p. 371.*Necroscia papuana* (Brancsik) Redtenbacher, 1908, p. 563.*N. distincta* (Brancsik) 1897, p. 66 % [ZMAS ?].*N. tumescens* (Redtenbacher), 1908, p. 560 &% (*Necroscia*) [NHMW].*N. sanguinata* (Redtenbacher), 1908, p. 560 % (*Necroscia*) [SMTD].*N. resignata* (Redtenbacher), 1908, p. 560 % (*Necroscia*) [NHMW].*N. tereticollis* (Redtenbacher), 1908, p. 561 &% (*Necroscia*) [NHMW].*N. obliterata* (Redtenbacher), 1908, p. 561 &% (*Necroscia*) [NHMW].**PERICENTROPSIS** Günther

(Figure 6: 2)

*Pericentropsis* Günther, 1936, p. 336.Type species. - *Pericentropsis aculeata* Günther, by original designation.

Main characteristics. - Body shape of this strongly armed genus robust; mesonotum elongate and narrow in the middle; pro- and metanotum wide; elytra rudimentary present but wings absent; first five abdominal segments transverse, hind edges pointing

outwards; operculum widely emarginate, flat, not extending beyond the end of the ninth abdominal segment.

Distribution. - New Guinea.

Represented in New Guinea by.

*P. aculeata* Günther, 1936, p. 336 &, fig. 13 [SMTD].**MENEXENUS** Stål

(Figure 6: 3abc)

*Menexenus* Stål, 1875, p. 18 & 73.Type species. - *Menexenus lacertinus* (Westwood) [*Phasma (Acanthoderus) lacertinum*] 1848, p. 80, by monotypy.Main characteristics. - Similar to *Parapachymorpha*, differing from it by, the long antennae which extend beyond the fore femora. It can be distinguished from the genera in this group by: the median segment which is half as long as the metanotum, not shorter; and the lobe-toothed middle femora.

Distribution. - The Indian Subcontinent, Indo-China, Sumatra, Sulawesi, the Moluccas and New Guinea.

Represented in New Guinea by.

*M. horridus* Brunner von Wattenwyl, 1907, p. 244 & [ZMAS ?].**ECHINOTHORAX** Günther

(Figure 6: 1)

*Echinothorax* Günther, 1932a, p. 757.Type species. - *Echinothorax gazellae* (Brunner von Wattenwyl) [*Menexenus gazellae*] 1907, p. 246, by original designation.Main characteristics. - Similar to *Menexenus*, differing from it by: the elongate and rather narrow body shape of the females; the extensive spination; the distinct median carinae on the upper surface of the body and especially on the meso- and metasternum; and the second abdominal segment which is twice as long as wide.

Distribution. - The Bismarck Archipelago.

Represented in New Britain and New Hannover by:

*E. gazellae* (Brunner von Wattenwyl), 1907, p. 246 &, pl. 11 fig. 4 (*Menexenus*) [ZMHB] New Britain and New Hannover.*Echinothorax gazellae* (Brunner von Wattenwyl) Günther, 1932a, p. 758.

**CHONDROSTETHUS** Kirby

(Figure 7: 1abc)

*Chondrostethus* Kirby, 1896, p. 455.

Type species. - *Chondrostethus woodfordi* Kirby, by monotypy.

Main characteristics. - Mesosternum of the females with sharp median carina; median segment in both sexes at least half as long as the metanotum; second abdominal segment in females 1½ to 2, and in males 2 to 3, times longer than wide; femora ventrally with 1-3 subapical teeth. Males are easily identified by the tiny wing rudiments on the hind margin of the metanotum.

Distribution. - New Guinea, the Bismarck Archipelago and Bougainville Island.

Represented by:

**C. woodfordi** Kirby, 1896, p.455 &%, pl. 39 fig. 1 & 2. [BMNH] New Guinea, New Britain and New Ireland.

*Myronoides woodfordi* (Kirby) Brunner von Wattenwyl, 1907, p. 255 &%.

*Myronides simplex* Sharp, 1898, p. 82 [CUMZ]. (synonymised by Brunner von Wattenwyl, 1907, p. 255, disputed by Günther, 1932a, p. 759).

*Myronides sordides* Sharp, 1898, p. 83 & [CUMZ]. (doubtfully synonymised by Günther, 1932a, p. 759).

*Carausius ribbei* Brunner von Wattenwyl, 1907, p. 272 & [NHMW]. (doubtfully synonymised by Günther, 1932a, p. 759).

*Dixippus remanens* Brunner von Wattenwyl, 1907, p. 281 % [NHMW]. (doubtfully synonymised by Günther, 1932a, p. 759).

**C. filum** (Sharp), 1898, p. 81 %, pl. 7 fig. 1 (*Myronides*) [CUMZ] New Britain, Bougainville Island.

*Chondrostethus filum* (Sharp) Günther, 1932a, p. 759.

**C. binodis** (Sharp), 1898, p. 82 &%, pl. 7 fig. 2 (*Myronides*) [CUMZ] New Britain, Bougainville Island.

*Chondrostethus binodis* (Sharp) Günther, 1932a, p. 759.

*Myronides ramulus* Sharp, 1898, p. 83 &, pl. 7 fig. 3 [CUMZ]. (synonymised by Brunner von Wattenwyl, 1907, p. 255).

**C. sp.** Günther, 1932a, p. 768 & [ZMUH] New Britain.

**C. sp.** Günther, 1933, p. 160 & [NHMB] New Ireland.

**C. sp.** Klante, 1969, p. 7 % [SMNG] New Britain.

**CARAUSIUS** Stål

(Figure 7: 2ab)

*Carausius* Stål, 1875, p. 8 & 64, (= *Dixippus* Stål, 1875, p. 66).

Type species. - *Carausius strumosus* Stål, 1875, p. 64, designated by Rehn, 1904, p. 42.

Main characteristics. - Mesosternum smooth and with a more or less sharp median carina; median segment half as long as the metanotum, hardly longer; legs smooth or sparsely lobed; middle femora hardly longer than metanotum.

Distribution. - From the Indian Subcontinent through Indo-China up to China, the Indo-Malayan Archipelago and the Philippines, and few species on New Guinea, the Key Islands, the Solomon Islands, the northern part of Australia and the Seychelles.

Represented in New Guinea by:

**C. simplex** Brunner von Wattenwyl, 1907, p. 272 & [MCSN, NHMW] New Guinea and Witu Islands.

**C. huonicus** Brunner von Wattenwyl sensu Giglio-Tos, 1912b, p. 93 % [?] (not & = Brunner von Wattenwyl, 1907, p. 272), species suggested by Günther, 1929, p. 692.

**LONCHODES** Gray

(Figure 6: 4, Figure 7: 3ab)

*Lonchodes* Gray, 1835, p. 19, (= *Periphetes* Stål, 1877, p. 40, =

*Staelonchodes* Kirby, 1904b, p. 372, = *Prisomera* Brunner von Wattenwyl, 1908, p. 282, [not Gray, 1835, p. 15]).

Type species. - *Lonchodes brevipes* Gray, 1835, p. 19, designated by Kirby, 1904a, p. 321.

Main characteristics. - Back of the head plain, rarely spined; all femora short; middle femora often shorter than metanotum and median segment together; femora of both sexes with bold subapical spines and, at least in females, lobed on the upper surface.

Distribution. - From the Indian  
Subcontinent and Sri Lanka, through

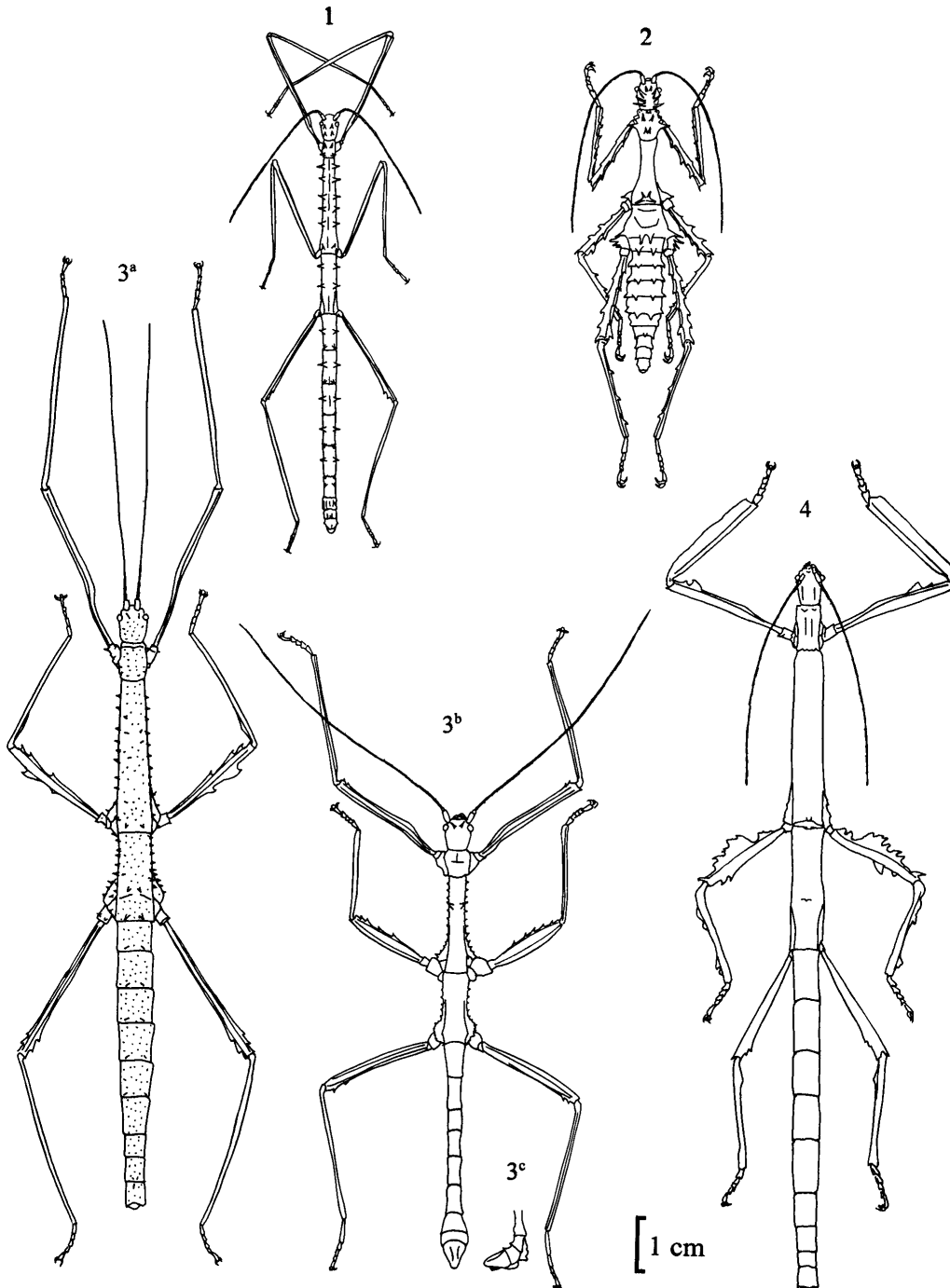


Figure 6. Lonchodini: 1 *Echinothorax gazellae* (Brunner von Wattenwyl), & dorsal view, (type species, after Brunner von Wattenwyl, 1907, pl. 11 fig. 4); 2 *Pericentropsis aculeata* Günther, & dorsal view, (type species, after Günther, 1936, fig. 13); 3 *Menexenus lacertinus* (Westwood), 3a & dorsal view, 3b % dorsal view, 3c % apex abdomen lateral view, (type species, exotic, 3a after Brunner von Wattenwyl, 1907, pl. 11 fig. 3, and 3bc after Westwood, 1848, pl. 39 fig. 6); 4 *Lonchodes hosei papuanus* Günther, & dorsal view, exotic).

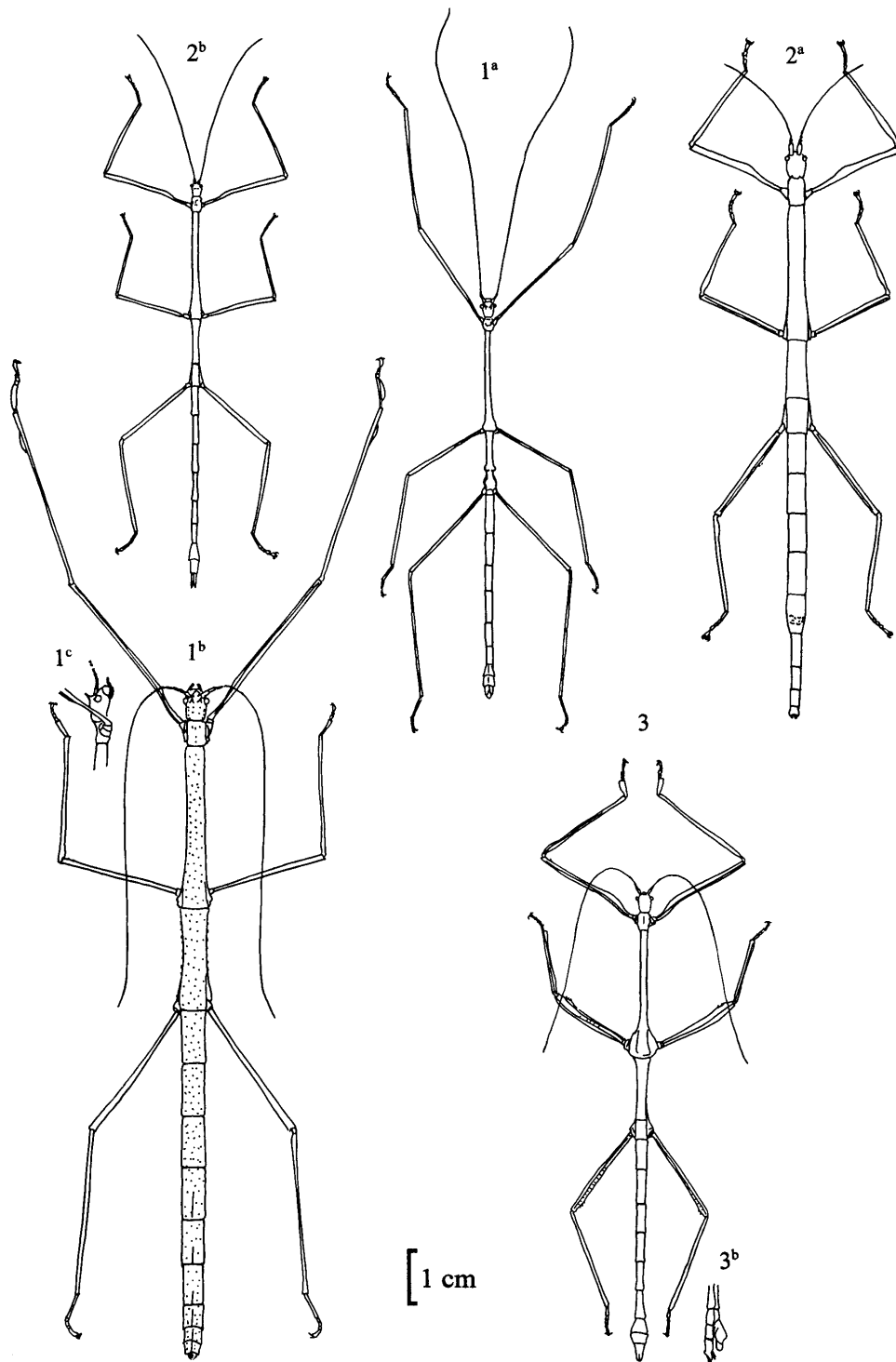


Figure 7. Lonchodini (continued): 1 *Chondrostethus woodfordi* Kirby, 1a % dorsal view, 1b & dorsal view, 1c & head, lateral view, (type species, after Kirby, 1898, pl. 39 fig. 1 & 2); 2 *Carausius strumosus* Stål, 2a & dorsal view, 2b % dorsal view, (type species, exotic, after Brunner von Wattenwyl, 1907, pl. 12 fig. 5ab); 3 *Lonchodes brevipes* Gray, 3a % dorsal view, 3b % apex abdomen lateral view, (type species, exotic, after *Lonchodes uniforme* Westwood, 1848, pl. 39 fig. 3).



Indo-China to China, the Indo Malayan Archipelago, the Philippines and few species on New Guinea, the Key Islands, and northern part of Australia. Represented in New Guinea by:

- L. foliopeda** Olivier, 1792, p. 638 (*Mantis*) [?] Key Islands.  
*Hermagoras foliopeda* (Olivier) Kirby, 1904a, p. 322.  
*Phasma latipes* Lichtenstein, 1796, p. 78 [?]. (indirectly synonymised by Gray, 1835, p. 16).  
*Phasma femorata* (Stoll), 1813, p. 54 & pl. 14 fig. 54 [?]. (synonymised by Kirby, 1904a, p. 322).  
*Lonchodes personatus* Bates, 1865, p. 336 & pl. 44 fig. 7 [OXUM]. (synonymised by Brunner von Wattenwyl, 1907, p. 285).  
*Lonchodes virgatus* Kirby, 1896, p. 452 [BMNH]. (indirectly synonymised by Günther, 1932b, p. 371).  
*Dixippus longithorax* Brunner von Wattenwyl, 1907, p. 280 [NHMW, MCSN].  
*Lonchodes objectum* Brunner von Wattenwyl, 1907, p. 285 [HNHM lost in fire]. (indirectly synonymised by Günther, 1932b, p. 371).  
*Prisomera eximius* (Brunner von Wattenwyl), 1907, p. 285 & (*P. eximium*) [ZMHB]. (indirectly synonymised by Günther, 1932b, p. 371).  
*Prisomera indefinitus* (Brunner von Wattenwyl), 1907, p. 290 %, pl. 13 fig. 3 (*P. indefinitum*) [NHMW]. (indirectly and with doubt synonymised by Günther, 1932b, p. 371).  
**P. spectatus** Brunner von Wattenwyl, 1907, p. 258 % [MCSN].  
*Staelonchodus spectatus* (Brunner von Wattenwyl) Günther, 1929, p. 615.  
**L. imitans** Brunner von Wattenwyl, 1907, p. 260 % [HNHM lost in fire].  
**L. expulsus** (Brunner von Wattenwyl), 1907, p. 285 & (*Prisomera expulsus*) [MCSN] Key islands.  
**L. sangirensis** Dohrn, 1910, p. 408 & figured (*Periphetes*) [ZMPA].  
**L. rammei** Günther, 1929, p. 661 & %, pl. 2 fig. 1 & 2 (*Periphetes*) [ZMBH].

**NEOPROMACHUS** Giglio-Tos

(Figure 8: 1abc)

*Neopromachus* Giglio-Tos, 1912, p. 94, (replacement name for preoccupied *Promachus* Stål, 1875, p. 17 & 73, = *Giglotosea* Aulman, 1918, p. 47).

Type species. - *Neopromachus wallacei* (Westwood) [*Acanthoderus wallacei*], indicated by Kirby, 1904a, p. 326, for *Promachus* Stål.

Main characteristics. - Body often abundantly armed with spines, teeth, lobes and crests; typically with spined meso- and metapleurae; supra-anal plate of females elongate, corneous, fused with anal segment, and to the apex often curved upwards, combined segments together with elongated and lanceolated anal segment forming oviscapt.

Distribution. - New Guinea and the Key and Aru Islands, and few incidental species on Sulawesi and the Moluccas.

Represented in New Guinea by:

- N. servillei** (Montrouzier), 1857, p. 80 & % (*Bacteria*) [?] Woodlark Island.  
*Acanthoderus servillei* (Montrouzier) Westwood, 1859, p. 58.  
*Promachus servillei* (Montrouzier) Kirby, 1904a, p. 326.  
**N. wallacei** (Westwood), 1859, p. 181 & %, pl. 40 fig. 7 & 8 (*Acanthoderus*) [BMNH] New Guinea and Aru Islands.  
*Promachus wallacei* (Westwood), Stål, 1875, p. 73.  
**N. doreyanus** (Bates), 1865, p. 332 & % (*Lonchodes*) [OXUM] New Guinea and Salwatty Island.  
*Promachus doreyanus* (Bates) Stål, 1875, p. 73.  
*Lonchodes hispa* Bates, 1865, p. 333 % [OXUM]. (synonymised by Günther, 1936, p. 331 fig. 8).  
*Acanthoderus hystrix* Kaup, 1871, p. 32 & %, pl. 2 fig. 4 [NLDH]. (indirectly synonymised by Brunner von Wattenwyl, 1907, p. 296).  
**N. spinosus** (Kirby), 1889, p. 230 & (*Promachus*) [BMNH] Louisiade Archipelago.  
**N. insularis** (Kirby), 1889, p. 231 & % (*Promachus*) [BMNH] Louisiade Archipelago.

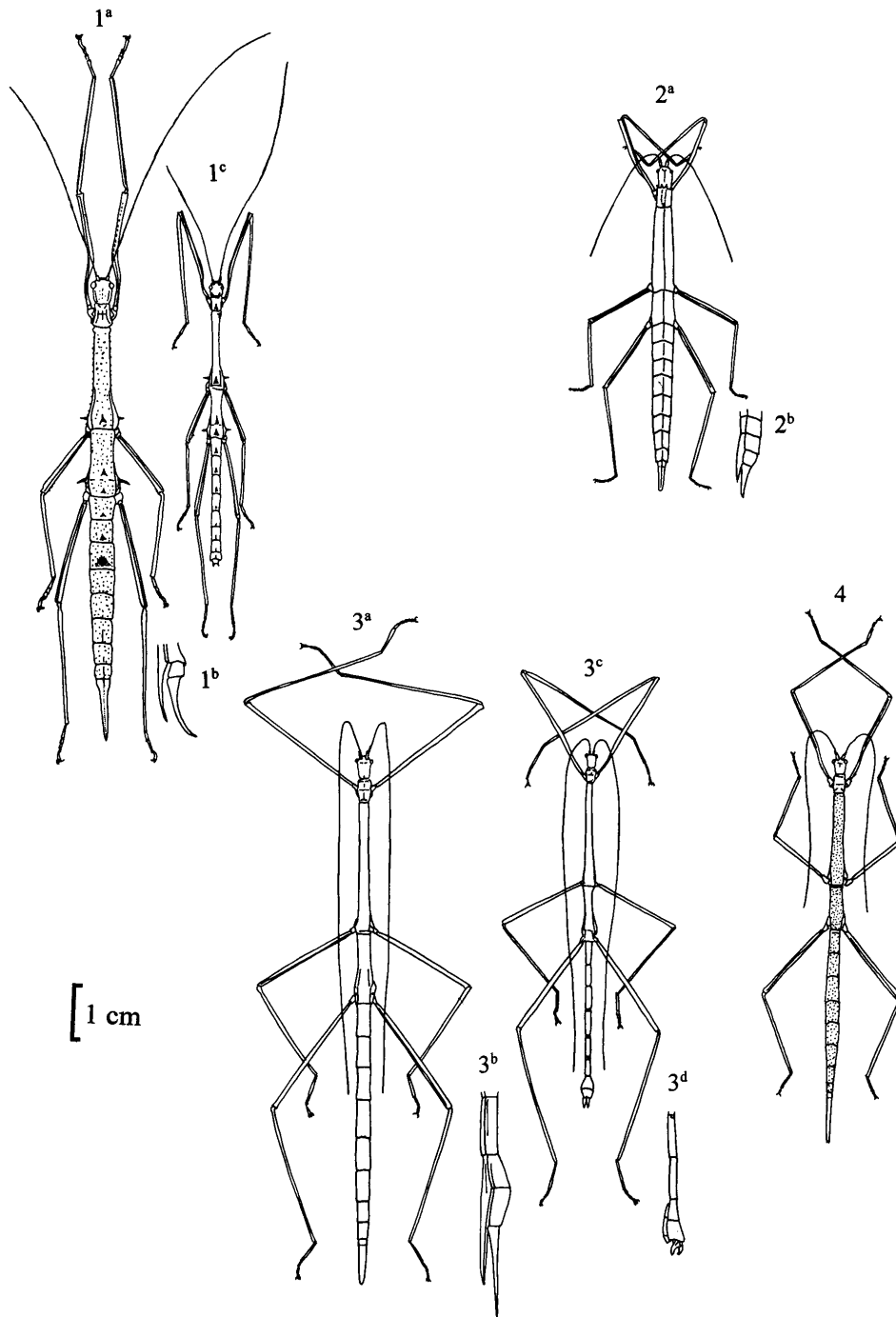


Figure 8. Neopromachini: 1 *Neopromachus wallacei* (Westwood), 1a & dorsal view, 1b & apex abdomen lateral view, 1c % dorsal view, (type species, after Westwood, 1859, pl. 40 fig. 7 & 8); 2 *Eupromachus acutangulus* Brunner von Wattenwyl, 2a & dorsal view, 2b & apex abdomen lateral view, (after Brunner von Wattenwyl, 1907, pl. 13 fig. 7); 3 *Hyrtacus procerus* Brunner von Wattenwyl, 3a & dorsal view, 3b & apex abdomen lateral view, 3c % dorsal view, 3d % apex abdomen lateral view, (after Brunner von Wattenwyl, 1907, pl. 13 fig. 8). 4 *Brachyrtacus celatus* Sharp, & dorsal view, (type species, after Brunner von Wattenwyl, 1907, pl. 13 fig. 9).

- N. sordidus* (Kirby), 1896, p. 463 &, pl. 40 fig. 5 [not 4] (*Promachus*) [BMNH].
- N. muticus* (Brunner von Wattenwyl), 1907, p. 294 &% (*Promachus*) [NHMW, SMTD, ZMHB].  
*Promachus muticus* Brunner von Wattenwyl, 1906, p. 13. (nomen nudum).
- N. semoni* (Brunner von Wattenwyl), 1907, p. 294 &% (*Promachus*) [NHMW].  
*Promachus semoni* Brunner von Wattenwyl, 1906, p. 14. (nomen nudum).
- N. longicaudus* (Brunner von Wattenwyl), 1907, p. 295 & (*Promachus*) [NHMW].
- N. lobatipes* (Brunner von Wattenwyl), 1907, p. 295 &% (*Promachus*) [NHMW].  
*Promachus biroi* Brunner von Wattenwyl, 1907, p. 299 % [lost in fire]. (synonymised by Günther, 1929, p. 737)
- N. nimius* (Brunner von Wattenwyl), 1907, p. 295 &% (*Promachus*) [NHMW].
- N. insignis* (Brunner von Wattenwyl), 1907, p. 296 & (*Promachus*) [NHMW].  
*Neopromachus biroi* Brunner von Wattenwyl sensu Günther, 1929, p. 736 % [HNHM lost in fire]. (synonymised by Günther, 1937, p. 80).
- N. arfacianus* (Brunner von Wattenwyl), 1907, p. 296 &% (*Promachus*) [NHMW, MNMS].  
*Promachus arfacianus* Brunner von Wattenwyl, 1906, p. 13. (nomen nudum).
- N. obrutus* (Brunner von Wattenwyl), 1907, p. 296 &% (*Promachus*) [NHMW, ZMHB].  
*Promachus obrutus* Brunner von Wattenwyl, 1906, p. 13. (nomen nudum).
- Neopromachus signatus* Günther, 1934b, p. 101. (quoted in error).
- N. simulator* (Brunner von Wattenwyl), 1907, p. 297 &% (*Promachus*) [NHMW, MCSN].
- N. robustus* (Brunner von Wattenwyl), 1907, p. 297 & (*Promachus*) [MCSN].  
*Promachus exceptus* Brunner von Wattenwyl, 1907, p. 297 & [MCSN]. (synonymised by Günther, 1936, p. 332).
- N. mejerei* (Brunner von Wattenwyl), 1907, p. 297 & (*Promachus*) [NHMW].  
*Promachus de mejerei* Brunner von Wattenwyl, 1906, p. 13. (nomen nudum).
- N. recedens* (Brunner von Wattenwyl), 1907, p. 298 &% (*Promachus*) [NHMW, SMNS].  
*Promachus recedens* Brunner von Wattenwyl, 1906, p. 14. (nomen nudum).
- N. strumosus strumosus* (Brunner von Wattenwyl), 1907, p. 298 &% , pl. 13 fig. 5 (*Promachus*) [NHMW, MNHN].  
*Promachus strumosus* Brunner von Wattenwyl, 1906, p. 14. (nomen nudum).
- N. vepres vepres* (Brunner von Wattenwyl), 1907, p. 298 &% , pl. 13 fig. 6 (*Promachus vepres*) [MCSN, NHMW, SMNS].
- N. vepres lauterbachi* (Brunner von Wattenwyl), 1907, p. 299 & (*Promachus lauterbachi*) [ZMHB]. (lowered to subspecies level by Günther, 1929, p. 741, but transfer disputed by same author in 1937, p. 95).
- N. fidens* (Brunner von Wattenwyl), 1907, p. 299 & (*Promachus*) [MCSN].
- N. bolivari* (Brunner von Wattenwyl), 1907, p. 299 % (*Promachus*) [MCSN].
- N. frater* (Brunner von Wattenwyl), 1907, p. 299 % (*Promachus*) [NHMW].
- N. vestitus* (Brunner von Wattenwyl), 1907, p. 299 % , (*Promachus*) [NHMW incorrectly labelled as *Promachus postfactus*].
- N. strumosus modestus* (Brunner von Wattenwyl), 1907, p. 299 % (*Promachus modestus*) [NHMW].

- (lowered to subspecies level by Günther, 1929, p. 723).
- N. schultzei* Giglio-Tos, 1912b, p. 93 &% [MRSN, ZMBH].
- N. sepikanus* Giglio-Tos, 1912b, p. 94 % [MRSN].
- N. riparius* Günther, 1929, p. 633 %, fig 1 [ZMBH].
- N. elegans* Günther, 1929, p. 634 &%, fig. 2 & pl. 1 fig. 1 & 2 [ZMHB].
- N. gracilis* Günther, 1929, p. 635 &%, fig. 3 & 4 [ZMHB].
- N. parvulus* Günther, 1929, p. 637 %, fig. 5 [ZMHB].
- Neopromachus. scharleri* Günther, 1929, p. 639 &%, fig. 8 & pl. fig. 3 [ZMHB]. (doubtfully synonymised by Günther, 1937, p. 94).
- N. zernyi* Günther, 1929, p. 638 &%, fig. 6 & 7 [ZMHB].
- N. buergersi* Günther, 1929, p. 641 &%, fig. 9 [ZMHB].
- N. mirus* Günther, 1929, p. 644 &, fig. 10 & 11 [ZMHB].
- N. olbiotyphus* Günther, 1929, p. 646 %, fig. 12 [ZMHB].
- N. nigrogranulatus* Günther, 1929, p. 647 %, pl. 7 fig. 4 [ZMHB].
- N. neglectus* Günther, 1929, p. 648 &% [ZMHB].
- N. vepres flabellatus* Günther, 1929, p. 649 &%, pl. 5 fig. 2 [ZMHB].
- N. vepres olivaceus* Günther, 1929, p. 650 % [ZMHB].
- N. paradoxus* Günther, 1929, p. 651 & [ZMHB].
- N. gibbosus* Günther, 1929, p. 653 &, fig. 13 & pl. 7 fig. 5 [ZMHB].
- N. dyselius* Günther, 1929, p. 654 &, fig. 14 [ZMHB].
- N. velatus* Günther, 1929, p. 656 &, fig. 15 [ZMHB].
- N. pachynotus pachynotus* Günther, 1929, p. 657 &%, pl. 5 fig. 1 [ZMHB].
- N. ramuensis* Günther, 1929, p. 735 % [ZMHB].
- N. exiguus* Günther, 1930, p. 730 &, fig. 1 [ZMHB].
- N. posthumus* Günther, 1930, p. 741 &, fig. 7 & 8 [ZMHB].
- N. pleurospinosus* (Werner), 1930, p. 180 & (*Eupromachus*) [ISNB].
- Neopromachus pleurospinosus* (Werner) Günther, 1936, p. 329.
- N. perminutus* Günther, 1934a, p. 287 %, fig. 2 [SMTD].
- N. extraordinarius* Günther, 1936, p. 326 &, fig. 1 [SMTD].
- N. laetus* Günther, 1936, p. 331 &, fig. 9 [SMTD, MBBJ]. (not Kirby, 1904b, p. 375, which was transferred to *Paramenexenus* by Carl, 1913, p. 52).
- N. iuxtavelatus* Günther, 1937, p. 88 %, pl. 1 fig. 1 [SMTD, RMNH ?].
- N. pachynotus bicolor* Günther, 1937, p. 90 %, pl. 1 fig. 3 [SMTD].
- N. schlaginhauferi* Günther, 1937, p. 91&, pl. 1. fig. 4 & 7 [SMTD].
- N. injucundus* Günther, 1937, p. 93 &% [SMDT].
- N. sp.* Günther, 1936, p. 329 & fig. 5. [MBBJ].
- EUPROMACHUS** Brunner von Wattenwyl  
(Figure 8: 2ab)  
*Eupromachus* Brunner von Wattenwyl, 1907, p. 300.  
No type species selected.  
Main characteristics. - Similar to the genus *Neopromachus*, differing from it by: the smooth body; the unarmed meso- and metapleurae; and the tectiform depressed thorax which is median carinated.  
Distribution. - North India and New Guinea.  
Represented in New Guinea by:  
*E. acutangulus acutangulus* Brunner von Wattenwyl, 1907, p. 300 &, pl. 13 fig. 7 [NHMW, ANSP].  
*Eupromachus acutangulus* Brunner von Wattenwyl, 1906, p. 13. (nomen nudum).  
*Eupromachus acutangulus* Brunner von Wattenwyl Günther, 1929, p. 661 description of %.  
*E. acutangulus mocsaryi* Kuthy, 1911, p. 294 &% [HNHM lost in fire]. (lowered to subspecies level by Günther, 1929, p. 620).
- HYRTACUS** Stål  
(Figure 7: 3abcd)  
*Hyrtacus* Stål, 1875, p. 10 & 67, (= Candovia Stål, 1875, p. 70).

Type species. - *Hyrtaeus tuberculatus* Stål, 1875, p. 67, designated by Kirby, 1904a, 331.

Main characteristics. - Body and legs shiny, elongate and slender; thorax smooth or sparsely granulate; second abdominal segment much longer than wide; supra-anal plate of females fused with anal segment, elongate and apex round; operculum lanceolate, more or less corneous, and not extending beyond hind margin of the supra-anal plate.

Distribution. - New Guinea and Australia.

Represented in New Guinea by:

**H. procerus** Brunner von Wattenwyl, 1907, p. 302 &%, pl. 13 fig. 8 [NHMW].

**H. semoni** Brunner von Wattenwyl, 1907, p. 302 &% [NHMW].

### **BRACHYRTACUS** Sharp

(Figure 8:4)

*Brachyrtacus* Sharp, 1898, p. 84.

Type species. - *Brachyrtacus celatus* Sharp, by monotypy.

Main characteristics. - Similar to *Hyrtaeus*, differing from it by: the densely granulated thorax; the pointed supra-anal plate of the females, which is fused with the anal segment; the lanceolate, acuminate operculum; and the numerous small teeth on the lateral margins of the operculum.

Distribution. - New Britain

Represented by:

**B. celatus** Sharp, 1898, p. 84 &, pl. 7 fig. 4, pl. 9 fig. 32 [CUMZ].

### **EURYCHEMA** Audinet-Serville

(Figure 9: 1)

*Eurycnema* Audinet-Serville, 1838, p. 235.

Type species. - *Eurycnema versirubra* (Audinet-Serville) [Cyphocrania (*Eurycnema*) *versirubra*] 1838, p. 235, designated by Kirby, 1904a, p. 391.

Main characteristics. - Hind tibiae on the ventro-posterior carinae typically armed with large teeth or sharp spines.

Distribution. - Java, Timor, New Guinea, Australia and Tasmania,

Represented in New Guinea by:

**E. goliath** (Gray), 1834, p. 45 & (*Phasma*(*Diura*) *goliath*) [MVMA ?].

*Acrophylla goliath* (Gray) Gray, 1835, p. 39.

*Cyphocrana goliath* (Gray) Brullé, 1835, p. 105 % pl. 7.

*Phasma* (*Cyphocrania*) *goliath* (Gray) Haan, 1842, p. 128.

*Eurecmena goliath* (Gray) Kirby, 1904a, 391.

*Clemacantha regale* Rainbow, 1897, p. 34 & fig. 1-3 [AMSA].

(synonymised by Vickery, 1983, p. 6).

*Eurecnema viridissima* Kirby, 1904b, p. 440 & [BMNH]. (synonymised by Vickery, 1983, p. 6).

*Eurecnema sternocerca* Redtenbacher, 1908, p. 469 & [NHMW].

(synonymised by Vickery, 1983, p. 6).

**E. magnifica** Kirby, 1904b, p. 439 & [BMNH] probably New Guinea.

*Diura magnifica* (Kirby) Günther, 1929, p. 627. (incorrect transfer, Brock personal communication).

**E. nigrospinosa** Redtenbacher, 1908, p. 469 & [NHMW] Key Islands.

*Diura nigrospinosa* (Redtenbacher) Günther, 1929, p. 627 (incorrect transfer, Brock personal communication).

### **CTENOMORPHA** Gray

(Figure 9: 2)

*Ctenomorpha* Gray, 1833, p. 16, (= *Acrophylla* Redtenbacher, 1908, p. 455, not Gray, 1833, p. 27).

Type species. - *Ctenomorpha marginipennis* Gray, 1833, p. 16, designated by Kirby, 1904a, p. 388.

Main characteristics. - Head elongate-oval; wings in females very short, in males long; operculum short; cerci strongly elongate, longer than 9th and 10th abdominal segments together, laminate and often twisted; hind metatarsus in males longer than, and in females as long as, other tarsal joints together.

Distribution. - New Guinea, Australia, Tasmania, New Zealand and the Fiji Islands.

Represented in New Guinea by:

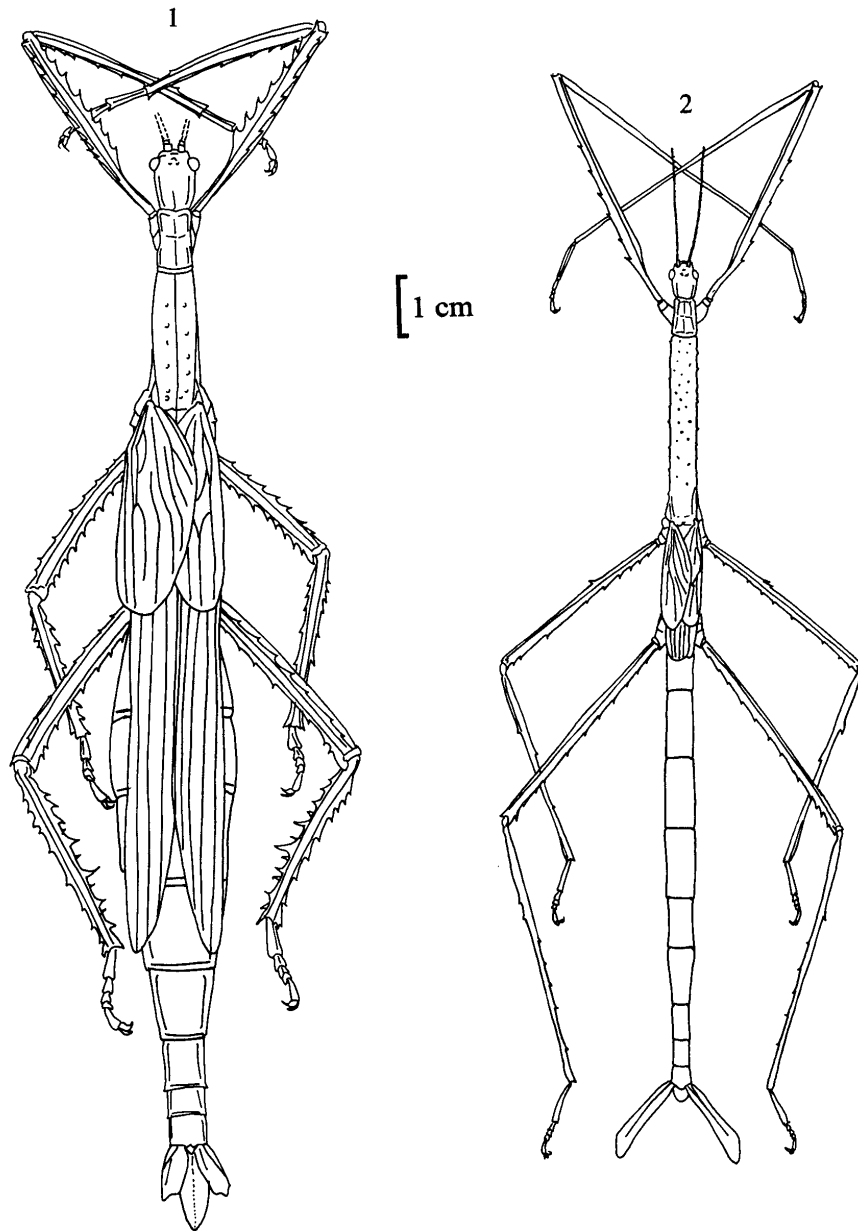


Figure 9. Phasmatini: 1 *Eurycnema goliath* (Gray), & dorsal view, (after Redtenbacher, 1908, p. 23 fig. 4); 2 *Ctenomorpha briareus* (Gray), & dorsal view, (exotic, after Redtenbacher, 1908, p. 22 fig. 6).

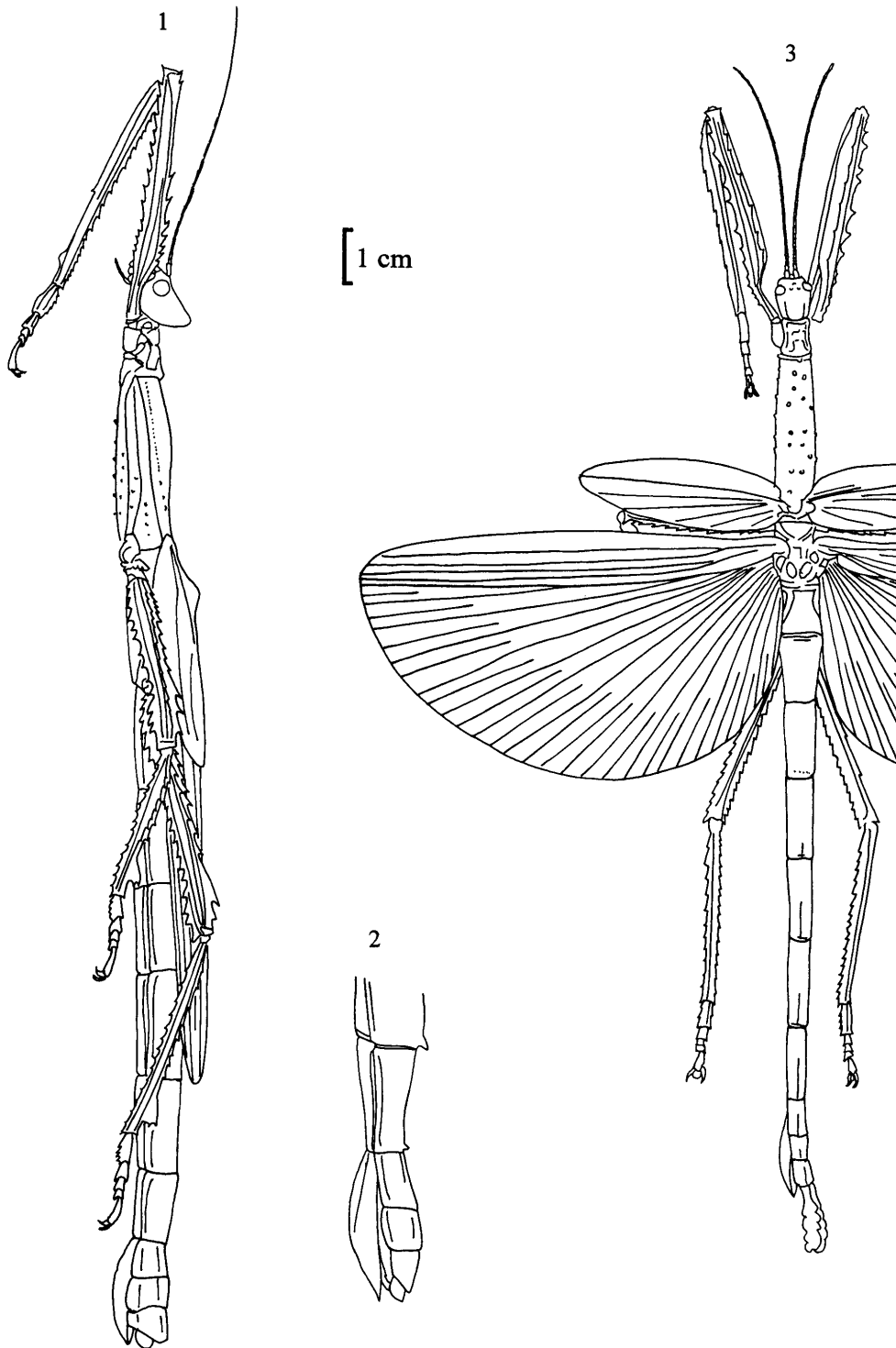


Figure 10. Phasmatini (continued): 1 *Peloriana lobiceps* (Macleay), & lateral view, (type species, after Redtenbacher, 1908, pl. 22 fig. 7b); 2 *Anchirole maculata* (Olivier), & apex abdomen lateral view (enlarged), (type species, after Redtenbacher, 1908, pl. 23 fig. 5b); 3 *Acrophylla titan* (Macleay), & dorsal view, (type species, exotic, after Westwood, 1859, suppl. pl. 4).

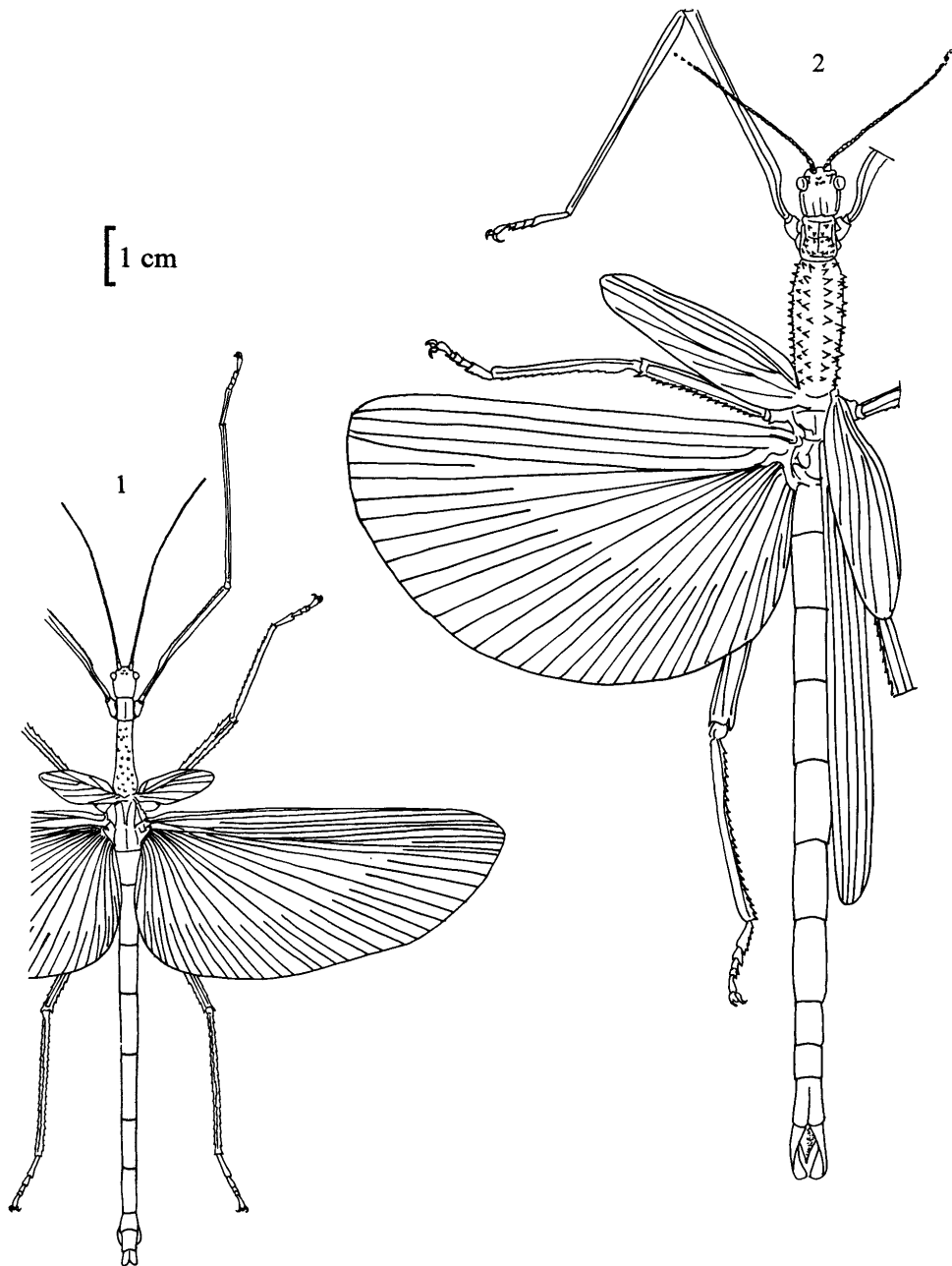


Figure 11. Phasmatini (continued): 1 *Phasma gigas* (Linnaeus), ♀ dorsal view, (type species, After Haan, 1842, pl. 14 fig. 3); 2 *Vetilia enceladus* (Gray), ♂ dorsal view, (type species, exotic, after Westwood, 1859, pl. 39 fig. 2).



*C. marmorata* (Redtenbacher), 1908, p. 456 & (*Acrophylla*) [MCSN].

**PHASMA** Lichtenstein

(Figure 11: 1)

*Phasma* Lichtenstein, 1796, p. 77, (= *Cyphocrania* Saint Fargeau & Audinet-Serville, 1825, p. 445), (= *Papuanoidea* Werner, 1930, p. 181).

Type species. - *Phasma empusa*

Lichtenstein, 1796 (= *Phasma gigas* (Linnaeus)) designated by Kirby, 1904a, p. 493,

Main characteristics. - Mesonotum covered with cone-shaped spines or tubercles; fore legs dorsally and ventrally with serrate dentations. Easily distinguishable from the other genera in this group by the aggregations of minute spines at the apex of the three ventral carinae of the four hind tibiae.

Distribution. - Sumatra, Java, Sulawesi, the Moluccas, New Guinea, the Aru Islands and New Britain.

Represented in New Guinea by:

*P. gigas* (Linnaeus), 1758, p. 425 (*Gryllus (Mantis) gigas*) [UZIUI] New Guinea, New Britain and Aru Islands.

*Spectrum gigas* (Linnaeus) Lamarck, 1817, p. 254.

*Cyphocrania gigas* (Linnaeus) Saint Fargeau & Audinet-Serville, 1825, p. 445.

*Phasma empusa* Lichtenstein, 1796, p. 77 [?]. (indirectly synonymised by Redtenbacher, 1908, p. 467).

*Phasma necydaloides* (Linnaeus) sensu Thunberg, 1815, p. 296 [?].

*Cyphocrania beauvoisi* Audinet-Serville, 1831, p. 60 new name for *Phasma gigas* (Linnaeus) sensu Palisot de Beauvois, 1805, p. 109 pl. 13 fig. 1 [?]. (synonymised by Redtenbacher, 1908, p. 467).

*Cyphocrania goliath* (Gray) sensu Haan, 1842, p. 128. (synonymised by Redtenbacher, 1908, p. 467).

*Papuanoidea straeleni* Werner, 1930, p. 29 % (not &) [ISNB]. (synonymised by Günther, 1936, p. 339).

*P. reinwardti* Haan, 1842, p. 130 &, pl. 10 fig. 1 (*Phasma (Cyphocrania) reinwardtii*) [RMNH].

*Phasma (Cyphocrania) reinwardti* (Haan) Redtenbacher, 1908, p. 467 &.

*Phasma reinwardtii* (Haan), Hennemann & Conle, 1997b, p. 291 (description of %) [coll. Hennemann].

*Cyphocrania maclayi* Macleay, 1885, p. 710 & [MAMU]. (synonymised by Redtenbacher, 1908, p. 467).

**PELORIANA** Uvarov

(Figure 10: 1)

*Peloriana* Uvarov, 1940b, p. 115 (replacement name for preoccupied *Peloria* Redtenbacher 1908, p. 462).

Type species. - *Peloriana lobiceps* (Macleay) [*Cyphocrania lobiceps*], by monotypy.

Main characteristics. - Back of the head with typical cone-shaped elevation, tip blunt and irregularly bituberculated; mesothorax ventrally smooth, partly covered with few scattered granules; wings extended for some distance beyond the hind femora; carinae of four hind legs with spine-like dentations near the base and apex which are more or less dilate and strongly toothed; dorsal carinae of the tibiae with large foliate teeth near the apex.

Distribution. - New Guinea and the Aru Islands.

Represented in New Guinea and the Aru Islands by:

*P. lobiceps* (Macleay), 1885, p. 711 %, (*Cyphocrania lobiceps*) [MAMU].

*Phasma lobiceps* (Macleay) Kirby, 1904a, p. 391.

*Peloria lobiceps* (Macleay) Redtenbacher, 1908, p. 462.

**ANCHIALE** Stål

(Figure 10: 2)

*Anchiale* Stål, 1875, p. 36 & 84.

Type species. - *Anchiale maculata* (Olivier) [*Mantis maculata*], by monotypy.

Main characteristics. - Mesonotum cylindrical, granulate or covered with cone-shaped tubercles; wings extended for some distance beyond hind femora, hind margin dark-tessellate; operculum hardly extended beyond abdomen; cerci widely lanceolated, short; four hind

femora dorsally evenly spined; tibiae ventrally with three series of spines, apically single spined; hind metatarsus carinate, spined (&) or crenulate (%), shorter than other tarsal joints together (&) or same length in (%).

Distribution. - Java, the Moluccas, New Guinea, the Key Islands, New Britain and Australia.

Represented in New Guinea by:

**A. maculata** (Olivier), 1792, p. 636 (*Mantis*) [?] New Guinea, New Britain and Key Islands.

*Cyphocrana maculata* (Olivier) Saint-Fargeau & Audinet-Serville, 1825, p. 445.

*Platycrana maculata* (Olivier) Gray, 1835, p. 36.

*Phasma (Cyphocrania) maculata* (Olivier) Haan, 1842, p. 129.

*Cyphocrania maculata* (Olivier) Westwood, 1859, p. 111.

*Anchiale maculata* (Olivier) Stål, 1875, p. 84.

*Phasma naevium* Lichtenstein, 1802, p. 13 (new name for a combination of valid species: *Gryllus (Mantis) necydaloides* Linnaeus (= *Pseudophasma phthisicum* (Linnaeus), 1758, p. 425), *Mantis cylindrica* Gmelin, 1788, p. 2048 and indirectly *Anchiale maculata* (Olivier). (Synonymised by Gray, 1835, p. 36).

*Mantis necydaloides* Linnaeus sensu Stoll, 1813 p. 8 & 10 pl. 3 fig. 8, pl. 4 fig. 11. (Synonymised by Gray, 1835, p. 36).

*Anchiale stollii* Sharp, 1898, p. 89 pl. 9 fig. 16, 19 & 27 &% [CUMZ]. (Synonymised by Redtenbacher, 1908, p. 460).

*Anchiale confusa* Sharp, 1898, p. 90 pl. 9 fig. 17 & 18 &% new name for *Cyphocrania maculata* (Olivier) sensu Westwood, 1859 p. 111 [BMNH]. (Synonymised by Redtenbacher, 1908, p. 460).

**A. grayi** (Montrouzier), 1857, p. 80 (*Pachymorpha*) [?] Woodlark Island.

*Anchiale grayi* (Montrouzier) Kirby, 1904a, p. 393.

**A. longipennis** (Montrouzier), 1857, p. 81 [?] (*Pachymorpha*) Woodlark Island.

*Anchiale longipennis* (Montrouzier) Kirby, 1904a, p. 393.

**A. modesta** Redtenbacher, 1908, p. 461 & [ETHZ].

**A. simplex** Redtenbacher, 1908, p. 461 & [NHMW] Witu Islands.

### **ACROPHYLLA** Gray

(Figure 10:3)

*Acrophylla* Gray, 1835, p. 38. (= *Vetilia* Redtenbacher, 1908, p. 463, section 1. of key)

Type species. - *Acrophylla titan* (MacLae) [*Phasma titan*] 1827, p. 454, designation by Kirby, 1904, p. 338.

Main characteristics. - Mesonotum covered with large cone-shaped spines; fore femora ventrally with strong serrate dentations; ventral carinae of four hind tibiae with a single apical spine.

Distribution. - New Guinea and Australia

Represented in New Guinea by:

**A. ligula** (Redtenbacher), 1908, p. 464 & (*Vetilia*) [MCSN].

**A. maindroni** (Redtenbacher), 1908, p. 464 & (*Vetilia*) [MNHN ?].

### **VETILIA** Stål

(Figure 11: 2)

*Vetilia* Stål, 1875, p. 36 & 84.

Type species. - *Vetilia enceladus* (Gray) [*Acrophylla enceladus*] 1835, p. 39, by monotypy.

Main characteristics. - Similar to *Acrophylla*; differing from it by the poorly toothed fore femora.

Distribution. - New Guinea and Australia.

Represented in New Guinea by:

**V. caesarea** Redtenbacher, 1908, p. 465 % [NHMW].

### **STEPHANACRIS** Redtenbacher

(Figure 12: 1ab)

*Stephanacris* Redtenbacher, 1908, p. 441.

No type species selected.

Main characteristics. - Head globular, back of the head swollen and irregularly spined; mesonotum sharply tuberculate; elytra humped, short, laterally oval; wings in males extending beyond hind legs, in females hardly extending beyond median segment.

Distribution. - New Guinea.

Represented in New Guinea by:

*S. globiceps* Redtenbacher, 1908, p. 441 & [HNHM lost in fire].

*S. brevipes* Redtenbacher, 1908, p. 441 & %, pl. 21 fig. 4 [NHMW, ZMUH].

*S. sp.* Gunther, 1936, p. 339 & fig. 17. [SMTD ?].

**HERMARCHUS** Stål

(Figure 12: 2)

*Hermarchus* Stål, 1875, p. 45 & 89.

Type species. - *Hermarchus pythonius* (Westwood) [*Phibalosoma pythonius*] 1859, p. 73, designated by Kirby, 1904a, p. 360.

Main characteristics. - Females large and wingless, males slender, cylindrical and winged; mesonotum elongate, front margin in females constricted, widest just before the middle; meso- and metapleurae with round dilations or with series of spines, lamellate teeth, tuberculations or granulations; median segment as long as metanotum; abdominal segments of females often laterally roundly-dilated; fore femora with spines or serrate dentations on dorso-anterior carinae, four hind femora and tibiae serrated or spined on carinae.

Distribution. - New Guinea, New Britain, Australia, New Caledonia, the Fiji Islands, the Caroline Isles, and the New Hebrides.

Represented in New Guinea by:

*H. novaebritanniae* (Wood-Mason), 1877, p. 75 & (*Phibalosoma novaebritanniae*) [NZSI] New Britain.

*Hermarchus novaebritanniae* (Wood-Mason) Kirby, 1904a, p. 361.

*Hermarchus novaebritanniae* (Wood-Mason) Redtenbacher, 1908, p. 447 & %, pl. 21 fig. 6 (description of %).

*H. biroi* Redtenbacher, 1908, p. 445 & % [NHMW, ZMUH].

*H. muelleri* Redtenbacher, 1908, p. 446 & [ZMHB].

*H. lyratus* Redtenbacher, 1908, p. 447 & [ZMHB].

*H. oreitrephe* Günther, 1929, p. 687 &, pl. 6 [ZMHB].

*H. annulatus* Günther, 1929, p. 689 & [ZMHB].

**BACULUM** Saussure

(Figure 12: 3abc)

*Baculum* Saussure, 1861, p. 127.(= *Clitumnus* Stål, 1875, p. 9 & 66, = *Cuniculina* Brunner von Wattenwyl, 1907, p. 196).

Type species. - *Baculum ramosus* (Saussure) [*Bacillus (Baculum) ramosus*] 1861, p. 127, by monotypy.

Main characteristics. - Head smooth between the eyes, or bispined or bicornuted or with transverse crest; antennae hardly longer than one third of fore femora; legs smooth or lobed; anal segment in males incised and lobed, in females usually truncate or profoundly triangularly emarginated; operculum navicular, slightly dilated and compressed.

Distribution. - From the Indian Subcontinent through Sri Lanka, Indo-China, China, up to Far East Russia and Japan, the Indo-Malayan Archipelago up to the Moluccas, the Philippines, New Guinea and the Key Islands.

Represented on the Key Islands by:

*B. recessum* (Brunner von Wattenwyl), 1907, p. 207 & (*Cuniculina recessa*) [NHMW].

**THAUMATOBACTRON** Günther

(Figure 13 1ab)

*Thaumatolectron* Günther, 1929, p. 663.

Type species. - *Thaumatolectron poecilosoma* Günther, by original designation.

Main characteristics. - Body surface smooth and shiny; posterior of mesonotum, metanotum totally, and in females the abdomen, strongly widened; all femora almost cylindrical in cross-section and powerful, hind femora in males thickened and heavily armed; hind tibiae round in cross-section, in males strongly bent the first half of its length and ventrally strongly toothed, in females weakly toothed. The anal segment, and operculum of females, are short, unlike the other genera in this tribe.

Distribution. - New Guinea.

Represented in New Guinea by:

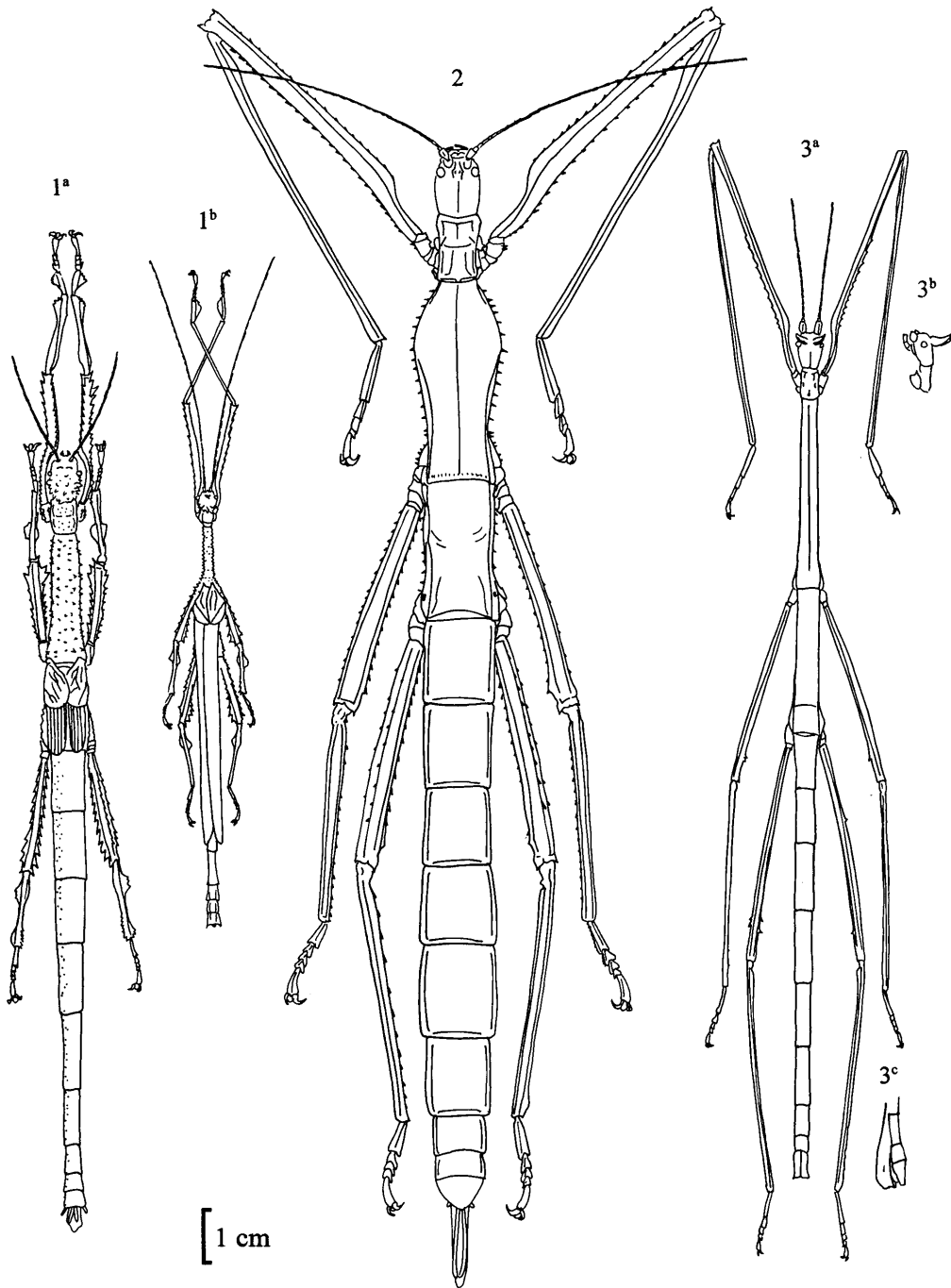


Figure 12. other Phasmatini: 1 *Stephanacris brevipes* Redtenbacher, 1a & dorsal view, 1b % dorsal view, (after Redtenbacher, 1908, pl. 21 fig. 4ab); 2 *Hermarchus pythonius* (Westwood), & dorsal view, (type species, exotic, after Westwood, 1859, pl. 12 fig. 1); 3 *Baculum cuniculus* (Westwood), 3a & dorsal view, 3b & head lateral view, 3c & apex abdomen lateral view, (exotic, after Westwood, 1859, pl. 6 fig. 2abc).

- T. poecilosoma* Günther, 1929, p. 664 &%, fig. 16 & 17, pl. 7 fig. 1 & 2 [ZMHB].  
*T. mayri* Günther, 1930, p. 732 %, fig. 2 [ZMHB].  
*T. granulosa* Hennemann & Conle, 1997a, p. 176 %, fig. 1, 3b, 4efh [ZMHB].  
*T. guentheri* Hennemann & Conle, 1997a, p. 178 &%, fig. 2, 3b, 4abcd [ZMHB, Coll. Hennemann].

**TRAPEZASPIS** Redtenbacher

(Figure 13: 3)

*Trapezaspis* Redtenbacher, 1908, p.348.

No type species selected.

Main characteristics. - Body wingless, rough and small; pro- and mesonotum typically trapezoid shaped, pronotum posteriorly, and the mesonotum anteriorly, widened; front edges of the mesonotum pointed; metapleurae extended into powerful teeth in front of hind coxae.

Distribution. - New Guinea.

Represented in New Guinea by

- T. kaiman* Redtenbacher, 1908, p. 348 &%, pl. 16 fig. 5 [NHMW].  
*T. loricatus* Redtenbacher, 1908, p. 348 & [NHMW].

**EURYCANTHA** Boisduval

(Figure 13: 4abcd)

*Eurycantha* Boisduval, 1835, p. 647.

Type species. - *Eurycantha horrida* Boisduval, by monotypy.

Main characteristics. - Body wingless, robust, flattened; surface dorsally tuberculated, spined or granulated, ventrally smooth; anal segment of males bluntly carinated, hind margin triangularly emarginated, lateral lobes deflexed; anal segment of females fused with the strongly elongated sword-like supra-anal plate, carinate; operculum in females long but hind margin not extended beyond anal segment; all femora square in cross-section, carinae with spined dentations, hind femora in males often thickened, ventrally with powerful spines.

Further reading: Bedford, 1976, (defensive behaviour).

Distribution. - New Guinea, Australia and throughout Melanesia.

Represented in New Guinea by:

- E. horrida* Boisduval 1835, p. 647 %, pl. 10 fig. 2 [?] New Guinea, Bismark Archipelago, Woodlark Island and d'Entrecasteau Islands.  
*Karabidion horridum* (Boisduval) Montrouzier, 1857, p. 82.  
*E. micracanthum* Montrouzier, 1857, p. 85 [?] Woodlark Island.  
*E. calcarata* Lucas, 1869, p. 25 [?] New Guinea, Bismark Archipelago.  
*Eurycantha diabolus* Redtenbacher, 1908, p. 343 &% [ZMHB, ZMUH, MNHN]. (synonymised by Günther, 1929, p. 621).  
*E. insularis* Lucas, 1869, p. 25 &% [?] New Guinea, New Ireland and Woodlark Islands]. (synonymy with *E. micracanthum* Montrouzier, suggested by Redtenbacher, 1908, p. 345).  
*Eurycantha calcarata* Lucas sensu Lucas, 1872, p. 26 & 29 %, pl. 10. (synonymised by Redtenbacher, 1908, p. 345) [?].  
*Eurycantha coenosa* Redtenbacher, 1908, p. 344 &%, pl. 16 fig. 1 & 2 [SMDT, NHMW, MCSN]. (synonymised by Günther, 1929, p. 621).  
*E. rosenbergii* Kaup, 1871, p. 35 % [HLDH].  
*Eurycantha rosenbergii* Kaup Redtenbacher, 1908, p. 344 &% (description of both sexes).  
*Eurycantha echinata* Lucas, 1878, p. 163 &% [?]. (synonymised by Redtenbacher, 1908, p. 344).  
*E. willeyi* Kirby, 1904b, p. 442 % new name for *Eurycantha horrida* Boisduval sensu Sharp, 1898. p. 85. [BMNH] New Britain.  
*E. portentosa* Kirby, 1904b, p. 442 & [BMNH] Louisiade Archipelago.  
*E. sifia* Kirby, 1904b, p. 443 &% [BMNH].  
*E. immunis* Redtenbacher, 1908, p. 342 & [ZMAN].  
*Eurycantha immunis* Redtenbacher, 1906a, p. 15. (nomen nudum).  
*Eurycantha immunis* Redtenbacher Günther, 1929, p. 668 (description of male).

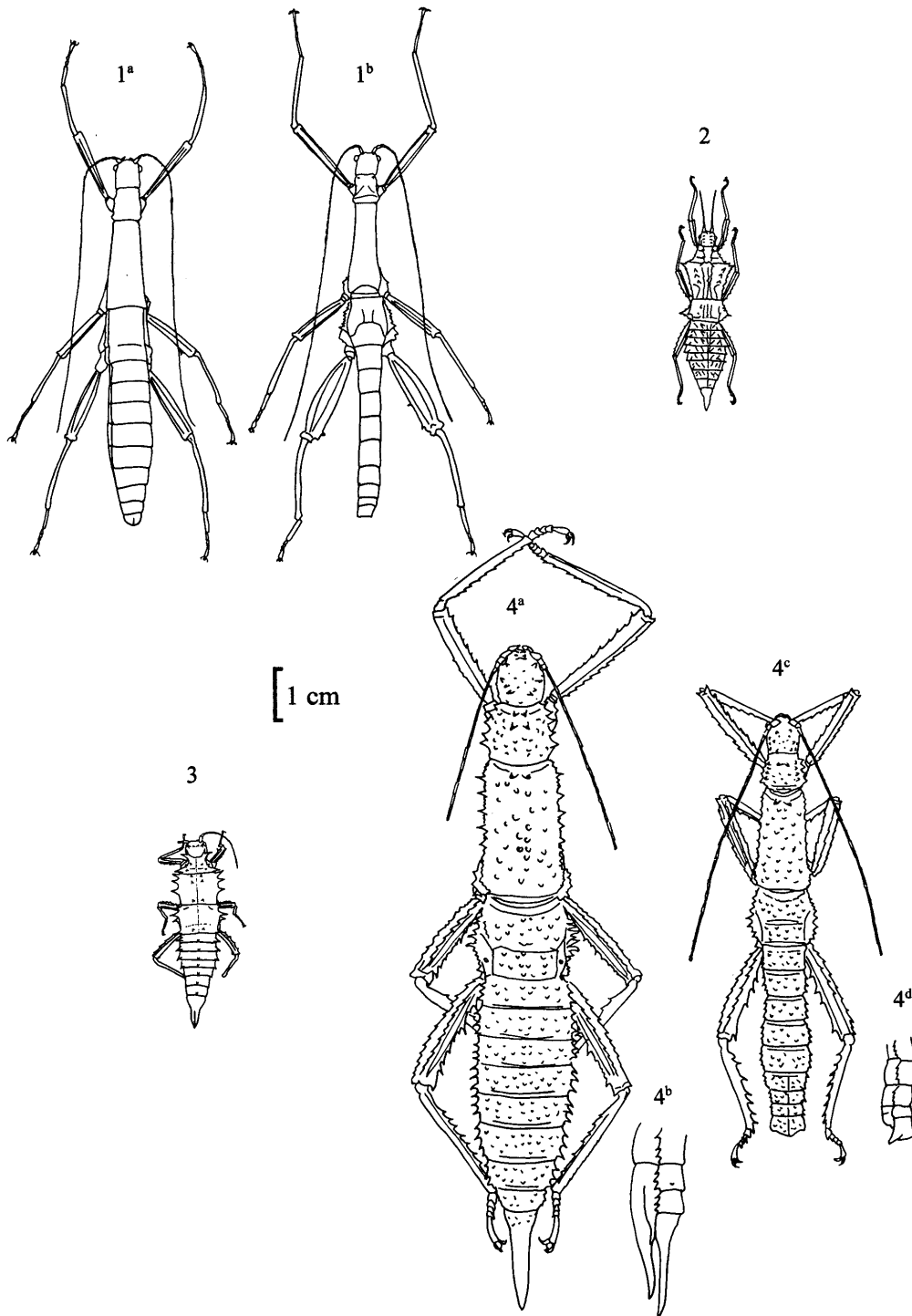


Figure 13. Eurycanthinae: 1 *Thaumatolectron poecilosoma* Günther, 1a & dorsal view, 1b % dorsal view, (type species, after Günther, 1929, pl. 7 fig. 1 & 2); 2 *Trapezaspis kaiman* Redtenbacher, & dorsal view, (after Redtenbacher, 1908, pl. 16 fig. 5); 3 *Symetriophasma brevitarsus* Hennemann & Conle, & dorsal view, (type species, after Hennemann & Conle, 1996, fig. 1); 4 *Eurycantha insularis* Lucas, 4a & dorsal view, 4b & apex abdomen lateral view, 4c % dorsal view, 4d % apex abdomen lateral view, (after Redtenbacher, 1908, pl. 16 fig. 1 & 2).

*E. latro* Redtenbacher, 1908, p. 343 % [MSCN].

*E. coronata* Redtenbacher, 1908, p. 344 & [NHMW].

*Eurycantha coronata* Redtenbacher  
Hennemann & Conle, 1998, p. 342  
fig. 1 & 2 (description of male) [Coll.  
Hennemann].

*E. coriacea coriacea* Redtenbacher,  
1908, p. 345 & % [NHMW].

*E. coriacea maluensis* Günther, 1929,  
p. 673 & [ZMHB].

**SYMETRIOPHASMA** Hennemann &  
Conle

(Figure 13: 3)

*Symetriophasma* Hennemann & Conle,  
1996, p. 457.

Type species. - *Symetriophasma*  
*brevitarsa* Hennemann & Conle, by  
original designation.

Main characteristics. - Small body;  
mesonotum in females quadrate, in  
males less than 1½ times as long as  
wide; abdominal apex of females as in  
*Eurycantha*; anal segment of males with  
median incision, lobes elongate and  
acuminate; femora straight, square in  
cross-section and dorsally armed; tibiae  
slender, cylindrical in cross-section and  
unarmed, in males elongate.

Distribution. - New Guinea.

Represented in New Guinea by:

*S. echinata* (Günther), 1936, p. 335 %  
fig. 12 (*Trapezaspis*) [SMTD].

*Symetriophasma echinata* (Günther)  
Hennemann & Conle, 1996, p. 458.

*S. brevitarsa* Hennemann & Conle,  
1996, p. 459 & [ZSMC].

**DIMORPHODES** Westwood

(Figure 14: 1ab)

*Dimorphodes* Westwood, 1859, p. 80.

Type species. - *Dimorphodes prostatesis*  
Westwood, by monotypy.

Main characteristics. - Body rough;  
antennae much shorter than fore legs;  
front margin of the mesonotum with  
elevation which is armed with a pair of  
powerful spines or tubercles;  
metapleurae in front of coxae with  
series of dilated teeth; elytra in males  
lobular, in females absent; males alate,  
brachypterous or micropterous, females

wingless; ninth abdominal segment  
dorsally with elevated teeth or scale.

Distribution. - Borneo(?), Sulawesi, the  
Moluccas, New Guinea, and the Key  
and Aru Islands,

Represented in New Guinea by:

*D. prostatesis prostatesis* Westwood, 1859,  
p. 81 & %, pl. 34 fig. 4 & 5 [OXUM]  
New Guinea and Aru Islands.

*D. mancus mancus* Bates, 1865, p. 345  
& %, pl. 44 fig. 3 & 8 [OXUM].

*Pachymorpha novaeguineae* Kaup,  
1871, p. 26 & [HLDH].  
(synonymised by Günther, 1935a, p.  
88).

*Eupromachus brevis* Werner, 1930, p.  
27 & nymph (not %) [ISNB].  
(synonymised by Günther, 1936, p.  
335).

*D. prostatesis asper* (Redtenbacher),  
1908, p. 363 & (*Dimorphodes*  
*asper*) [NHMW]. (treated as  
subspecies by Günther, 1935a, p.  
88).

*D. prostatesis gibbonotus*  
(Redtenbacher), 1908, p. 364 &  
(*Dimorphodes gibbonotus*) [HNHM  
lost in fire]. (treated as subspecies by  
Günther, 1935a, p. 88).

*D. carinatus* Redtenbacher, 1908, p.  
364 & [ZMHB, ZMAN, SMTD].

*Dimorphodes carinatus* Redtenbacher,  
1906a, p. 15. (nomen nudum).

*Dimorphodes glaber* Redtenbacher,  
1908, p. 366 & [SMTD].  
(synonymised by Günther, 1935a, p.  
90).

*D. prostatesis serripes* (Redtenbacher),  
1908, p. 364 pl. 16 fig. 14 & 15 & %  
(*Dimorphodes serripes*) [SMTD,  
ZMAN, NHMW, MCSN]. (treated  
as subspecies by Günther, 1935a, p.  
88).

*Dimorphodes serripes* Redtenbacher,  
1906a, p. 15. (nomen nudum).

*D. prostatesis flabellatus* (Redtenbacher),  
1908, p. 365 % (*Dimorphodes*  
*flabellatus*) [NHMW]. (treated as  
subspecies by Günther, 1935a, p.  
88).

*D. mancus catenulatus* (Redtenbacher),  
1908, p. 365 & (*Dimorphodes*  
*catenulatus*) [NHMW] New Guinea  
and Key Islands. (treated as  
subspecies by Günther, 1935a, p.88).

*Dimorphodes catenulatus* Redtenbacher, 1906a, p. 15. (nomen nudum)

**D. *mancus cristatipennis*** (Redtenbacher), 1908, p. 365 % (*Dimorphodes cristatipennis*) [ZMUH not traced]. (treated as subspecies by Günther, 1935a, p.89).

*Dimorphodes clypeatus* Redtenbacher, 1908, p. 366 % [ZMAN]. (synonymised by Günther, 1935a, p. 89).

**D. *mancus bos*** (Redtenbacher), 1908, p. 365 & (*Dimorphodes bos*) [MCSN]. (treated as subspecies by Günther, 1935a, p. 89).

**D. *mancus centurio*** (Redtenbacher), 1908, p. 366 & (*Dimorphodes centurio*) [MCSN not traced]. (treated as subspecies by Günther, 1935a, p. 89).

**D. *miles*** Redtenbacher, 1908, p. 367 &% [MCSN, NHMW]. (synonymised by *Dimorphodes mancus* by Günther, 1935a, p. 88 found unjustified by Hausleithner, 1989, p. 261).

**D. *mancus cuspidatus*** (Redtenbacher), 1908, p. 367 % (*Dimorphodes cuspidatus*) [ZMAN]. (treated as subspecies by Günther, 1935a, p.89).

*Dimorphodes cuspidatus* Redtenbacher, 1906a, p. 15. (nomen nudum).

**D. *prostasis dorsatus*** Günther, 1929, p. 676 % [ZMHB].

**D. *flavostriatus*** Günther, 1929, p. 677 % [ZMHB].

**D. *mancus buergersi*** Günther, 1935a, p. 89 new name for *Dimorphodes novaeguineae* (Kaup) sensu Günther, 1929, p. 679 % [ZMHB].

**D. *mancus mayri*** Günther, 1935a, p. 89 new name for *Dimorphodes cuspidatus* Redtenbacher sensu Günther, 1930, p. 734 % [ZMHB].

### **LEOSTHENES** Stål

(Figure 14: 2ab)

*Leosthenes* Stål, 1875, p. 102.

Type species. - *Leosthenes aquatilis*

Stål, 1875, p. 60 & 102, by monotypy.

Main characteristics. - Body in females wingless, in males winged and slender; lateral margin of metathorax dilated and undulating, in front of the coxae with 1-

3 free fringe-like lobes; sterna smooth and concave; all femora and tibiae strongly compressed and with leaf-like dilations, all carinae or at least ventro-posterior carinae of four front femora, and ventro-anterior carinae of hind femora, with undulating and fringed lobes; medio-ventral carinae not present on femora.

Distribution. - New Guinea, the Loyalty Islands, New Caledonia.

Represented in New Guinea by:

**L. *rubripes*** Redtenbacher, 1908, p. 438 & [NHMW].

### **XERODERUS** Gray

(Figure 14: 3)

*Xeroderus* Gray 1835, p. 32.

Type species. - *Xeroderus kirbii* Gray, by monotypy.

Main characteristics. - Antennae in females slightly longer than fore femora, in males longer and bristly; pronotum plain, lateral margins dilated and elevated; mesonotum on upper surface spinous-tuberculated, roundly-dilated at the front, in males slender; elytra and wings in both sexes more or less explicit; abdomen in males slender, cylindrical, in females laterally depressed, all segments laterally with angled membranous lobes.

Distribution. - New Guinea, Australia and the Solomon Islands.

Represented in New Guinea by:

**X. *kirbii*** Gray, 1835, p. 32 &% [OXUM, MVMA].

### **EXTATOSOMA** Gray

(Figure 15: 1ab)

*Extatosoma* Gray, 1833, p. 23.

Type species. - *Extatosoma tiaratum* (Macleay) [*Phasma tiaratum*] 1826, p. 455, designated by Kirby, 1904a, p. 380.

Main characteristics. - Body leaf-like and spined, in males slender and elongate, in females dilated and depressed; back of the head conically elevated and spined; males alate, females micropterous; legs triangular in cross-section; carinae of femora and tibiae, especially in females, partially



with strong laminate-dilatations and serrate-dentations.

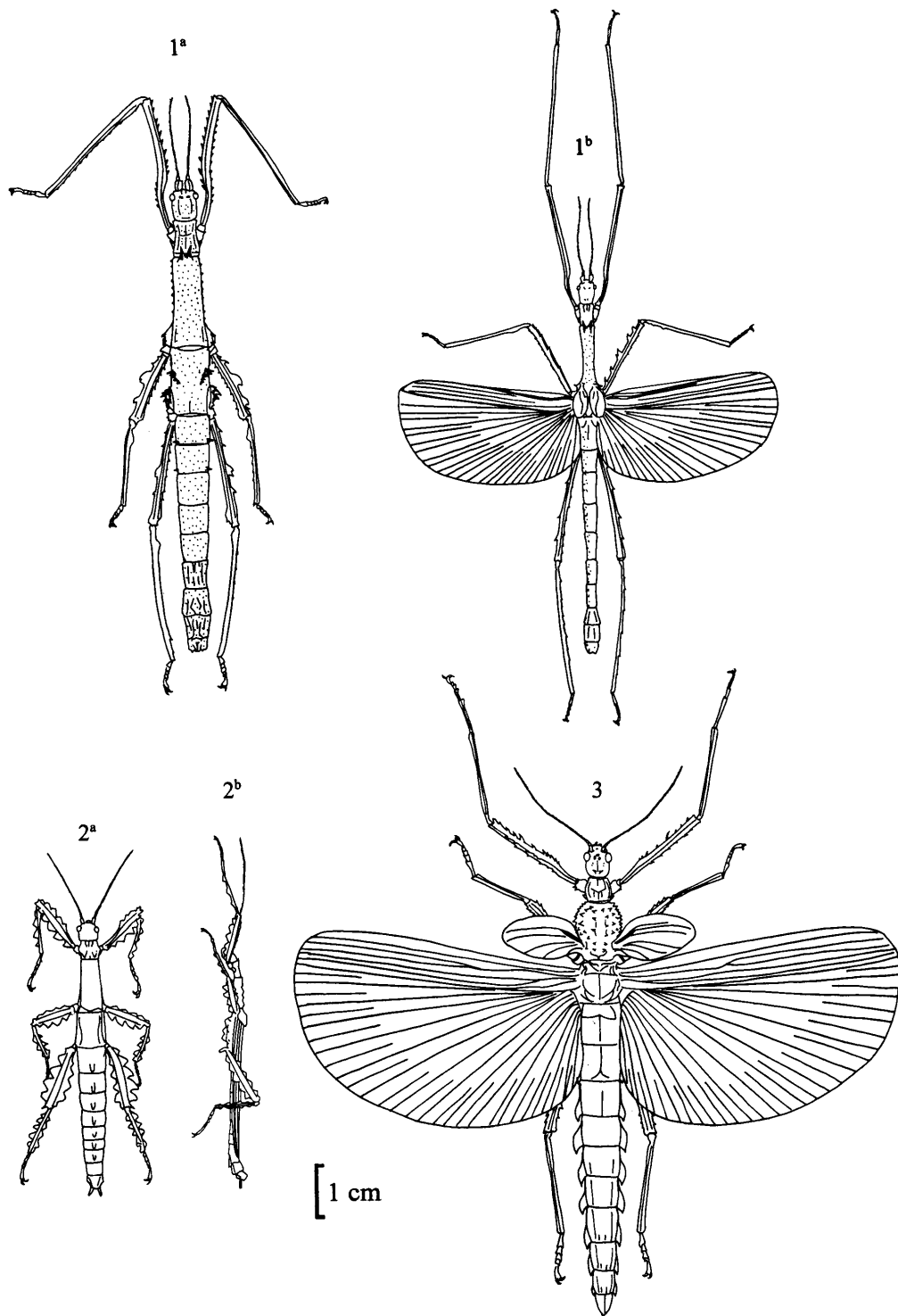


Figure 14. Xeroderinae: 1 *Dimorphodes prosthesis* Westwood, 1a & dorsal view, 1b % dorsal view, (type species, after Westwood, 1859, pl. 34 fig. 4 & 5); 2 *Leosthenes aquatilis* Stål, 2a & dorsal view, 2b % lateral view, (type species, exotic, after Redtenbacher 1908, pl. 21 fig. 1 & 2); 3 *Xeroderus kirbii* Gray, & dorsal view, (type species, after Westwood, 1859, p. 31 fig. 7).

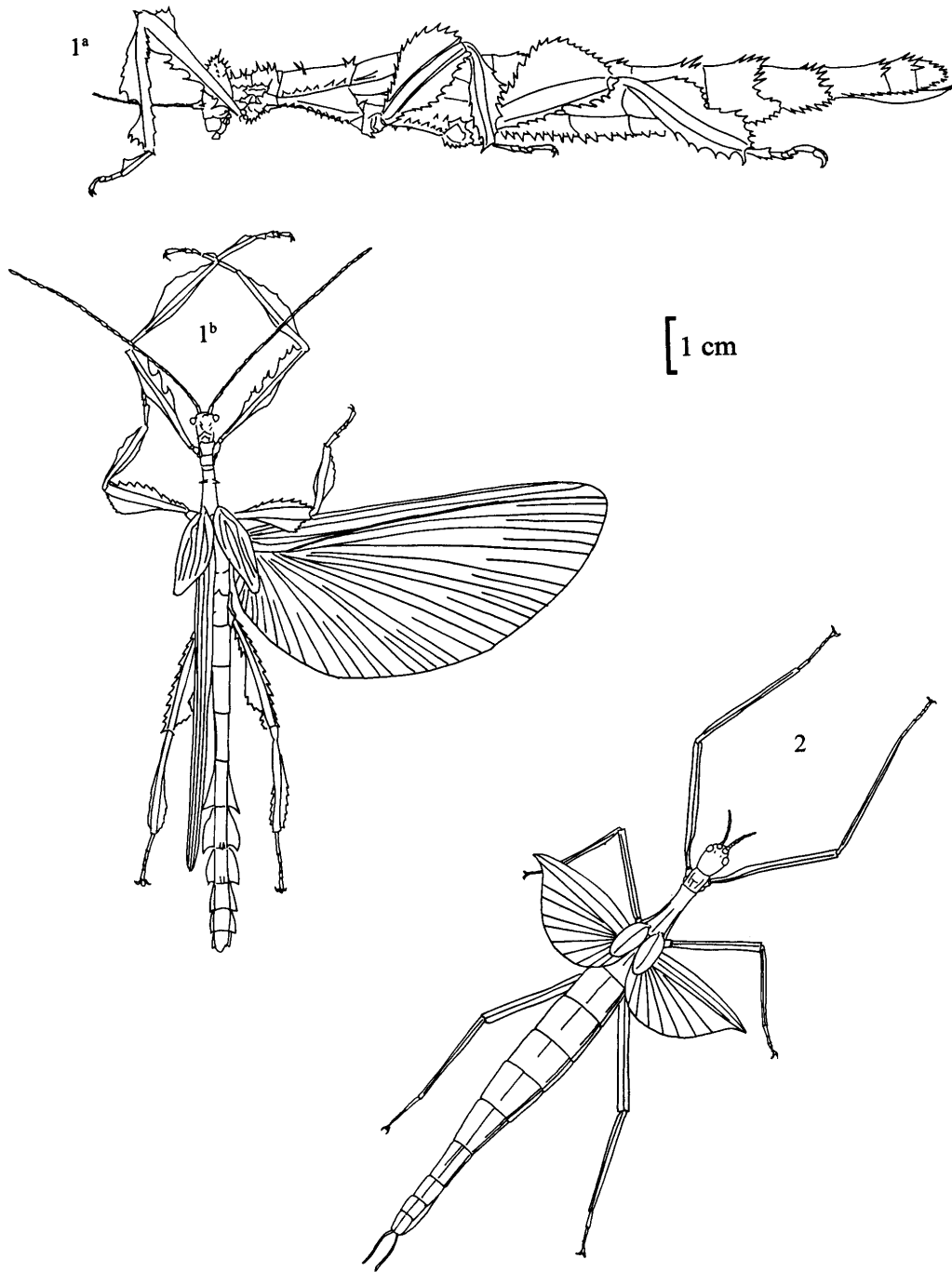


Figure 15. Tropidoderini: Fig.1 *Extatosoma tiaratum* (Macleay), 1a & lateral view, 1b % dorsal view, (type species, exotic, after Redtenbacher 1908, pl. 17 fig. 5ab); 2 *Didymuria violescens* (Leach), & dorsal view, (type species, exotic, after Westwood, 1859, suppl. pl. 7 fig. 2).

Distribution. - New Guinea, and Australia.

Represented in New Guinea by:

**E. popa** Stål, 1875, p. 84 new name for *Phasma (Extatosoma) tiaratum* (Macleay) sensu Haan, 1842, p. 110 & pl. 10 fig. 2 [RMNH].

**E. carlbergi** Beccaloni 1993, p. 113 & figs. 1-15 [NHMN, WEIC, BPBM, FICB, TPNG, BMNH, UPNG].

**DIDYMURIA** Kirby

(Figure 15: 2)

*Didymuria* Kirby, 1904a, p. 381, (replacement name for preoccupied *Diura* Gray, 1833).

Type species. - *Didymuria violescens* (Leach) [*Phasma violescens*] 1815, p. 26, by original designation.

Main characteristics. - More slender than *Extatosoma*, cylindrical; females thickened, spool-like, slightly depressed; wings in males long, in females short; cerci elongate, narrow and acuminate; fore legs unarmed and longer than hind legs; middle and hind femora at upper surface unarmed, underside on both lateral and median carinae spined; hind femora in males thickened, medio-ventral carinae armed with large spines in middle.

Distribution. - New Guinea, the Key Islands, Australia and Tasmania.

Represented in New Guinea by:

**D. schultzei** (Giglio-Tos), 1912b, p. 94 % (*Diura*) [?].

**TROPIDODERUS** Gray

(Figure 16: 1)

*Tropidoderus* Gray, 1835, p. 31, (replacement name for preoccupied *Trigonoderus* Gray, 1833. p 26).

Type species. - *Tropidoderus childrenii* (Gray) [*Trigonoderus childrenii*] 1833, p. 18, by indication (Gray, 1833 p. 18).

Main characteristics. - Body size larger than in *Didymuria*; both sexes alate, wings extended far beyond hind femora; fore femora as long as hind femora and simple, in males ventrally finely, in females distinctly, serrate; four hind femora dorsally poorly, ventrally strongly, serrate-spined; ventro-anterior

carinae of four hind femora in females with strong leaf-like dilations.

Distribution. - The Woodlark Islands and Australia.

Represented from the Woodlark Islands by:

**T. viridus** Montrouzier, 1857, p. 80 (*Tropidoderus viridis*) [?] Woodlark Island.

*Necrosia* (?) *viridus* (Montrouzier) Kirby, 1904a, p. 378.

**PLATYCRANA** Gray

(Figure 17: 1)

*Platycrana* Gray, 1835, p. 36, (= *Platycrania* Westwood, 1859, p. 112).

Type species. - *Platycrana viridana* (Olivier) [*Mantis viridana*], designation implied by Kirby, 1904a, p. 385.

Main characteristics. - Head convex, with large globular elevation at the back; wings in males long, in females short; cerci straight, slender and almost filiform; operculum navicular, and extended far beyond the apex of the abdomen; hind metatarsi short and dorsally grooved.

Distribution. - The Aru Islands and Manus.

Represented on the Aru Islands and Admiralty Islands by:

**P. viridana** (Olivier), 1792, p. 636 (*Mantis*) [?].

*Cyphocrana viridana* (Olivier) Audinet-Serville, 1831, p. 60.

*Platycrana viridana* (Olivier) Gray, 1835, p. 36.

*Platycrania viridana* (Olivier) Audinet-Serville, 1838, p. 241.

*Cyphocrania viridana* (Olivier) Burmeister, 1839, p. 578.

*Phasma jamaicensis* (Fabricius) sensu Stoll, 1813 p. 15 & 17 pl. 6 fig. 20 & 21 [?].

*Phasma grandis* Thunberg, 1815, p 295 [?]. (synonymised by Stål, 1875, p. 85).

*Phasma edulis* (Lichtenstein), 1796, p. 77 (*Phasma edule*) new name for a combination of species: *Haplopus jamaicensis* Fabricius, *Pseudophasma phthisica* (Linnaeus). (indirectly synonymised by Gray, 1835, p. 36).

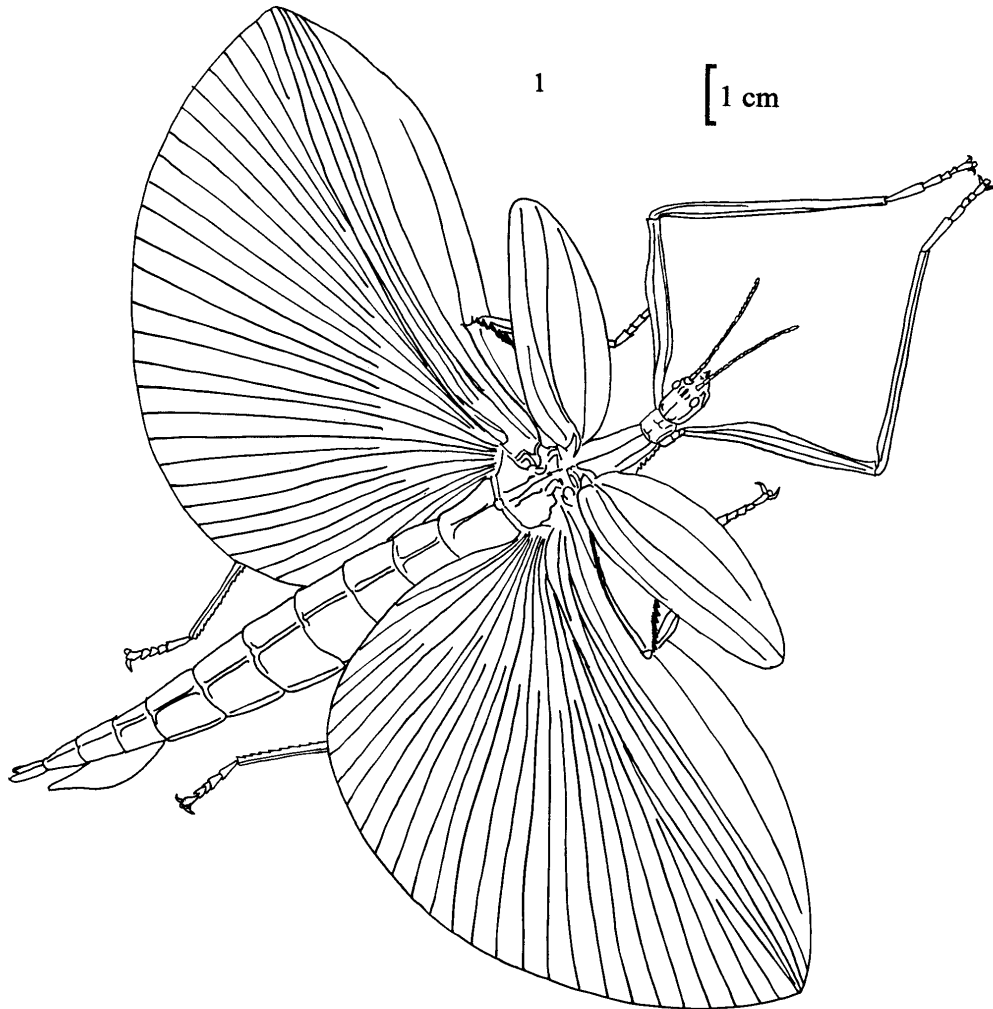


Figure 16. Tropidoderini (continued): 1 *Tropidoderus childrenii* (Gray), & dorsal view, (type species, exotic, after Westwood, 1859, suppl. pl. 3 fig. 1).

*Platycrania alpheus* Westwood sensu  
Bates, 1865, p. 347 % [OXUM].  
(indirectly synonymised by  
Redtenbacher, 1908, p. 369).

**OPHICRANIA** Kaup

(Figure 17: 2ab)

*Ophicrania* Kaup, 1871, p. 38, (= *Arrhidaeus* Stål, 1875, p. 40 & 85, = *Apterrhidaeus* Karny, 1923, p. 238).

Type species. - *Ophicrania striatocollis* Kaup 1871, p. 38, by monotypy.

Main characteristics. - Legs in both sexes unarmed; femora and tibiae, in males almost oval, in females vaguely 4-carinate; ventro-median carinae of four hind tibiae ventrally spined at the apex; fore femora dorsally sometimes sparsely and finely toothed; tibiae with median and lateral ventro-apical spines; metatarsi dorsally without groove. Similar to *Erastus* (p. 100), differing from it by: the elongate mesonotum; the short wings; the navicular operculum; and the shape of the legs.

Distribution. - Java, Borneo, the Moluccas, the Philippines, New Guinea, and the Solomon Islands.

Represented in New Guinea by:

**O. cephalotes** (Bates), 1865, p. 351 & (*Necroscia*) [OXUM].

*Arrhidaeus cephalotes* (Bates)  
Redtenbacher, 1908, p. 376.

**O. lineatus** (Brunner von Wattenwyl), 1907, p. 216 % (*Pachymorpha lineata*) [ZMHB].

*Apterrhidaeus lineatus* (Brunner von Wattenwyl) Günther, 1930, p. 739 description of & [ZMHB].

**O. aemula** (Redtenbacher), 1908, p. 376 % (*Arrhidaeus aemulus*) [ZMAN].

*Arrhidaeus aemulans* Redtenbacher, 1906a, p. 14. (nomen nudum)

*Ophicrania aemula* (Redtenbacher) Günther, 1936, p. 338 & % [MBBJ]. (description of &).

**O. apterus** (Redtenbacher), 1908, p. 378 & (*Arrhidaeus*) [HNHM lost in fire].

**O. bifasciatus** (Redtenbacher), 1908, p. 379 & % (*Arrhidaeus*) [ZMAN not traced].

*Arrhidaeus bifasciatus* Redtenbacher, 1906a, p. 14. (nomen nudum)

**O. xanthopteryx** (Günther), 1929, p. 681 & %, pl. 2 fig. 3 & 4 (*Apterrhidaeus*) [ZMHB].

**O. meridionalis** Günther, 1932a, p. 779 & %, Fig. 3 [NHRS ?] Bougainville Island.

**MEGACRANIA** Kaup

(Figure 17: 3)

*Megacrania* Kaup, 1871, p. 38.

Type species. - *Megacrania phelaus* (Westwood) [*Platycrania phelaus*] 1859, p. 113, designated by Kirby, 1904a, p. 385.

Main characteristics. - Cerci short, wide and flattened; operculum not extended beyond abdomen; hind metatarsi short and dorsally not or weakly grooved. Body size and shape as in *Platycrania*, but head not globularly-swollen at the hind margin, and the length of the wings variable.

Distribution. - Sumatra, Borneo, the Moluccas, the Philippines, New Guinea, the Key and Aru Islands, Melanesia, Australia, and the Fiji Islands.

Represented in New Guinea by:

**M. alpheus** (Westwood), 1859, p. 112, pl. 4 fig. 2 & (*Platycrania*) [BMNH] New Guinea, Biak, Aru and Key Islands and Bismarck Archipelago.

*Megacrania alpheus* (Westwood)  
Kirby, 1904a, p. 385.

*Megacrania batesi* Kirby, 1896, p. 471 new name for *Megacrania alpheus* (Westwood) sensu Bates, 1865 p. 347 & [BMNH]. (synonymised by Günther, 1935b, p. 126).

*Megacrania batesi speiseri* Carl, 1915, p. 193 [MHNG]

*Megacrania bakeri* Willemse, 1926, p. 523 [OXUM]. (synonymised by Willemse, 1955, p. 45.

**M. nigrosulfurea** Redtenbacher, 1908, p. 370 & [NHMW] New Guinea and New Britain.

**GRAEFFEA** Brunner von Wattenwyl  
(Figure 17: 4ab)

*Graeffea* Brunner von Wattenwyl, 1868, p. 46.

Type species. - *Graeffea purpuripennis* Brunner von Wattenwyl, 1868, p. 46, designated by Kirby, 1904a, p. 386.

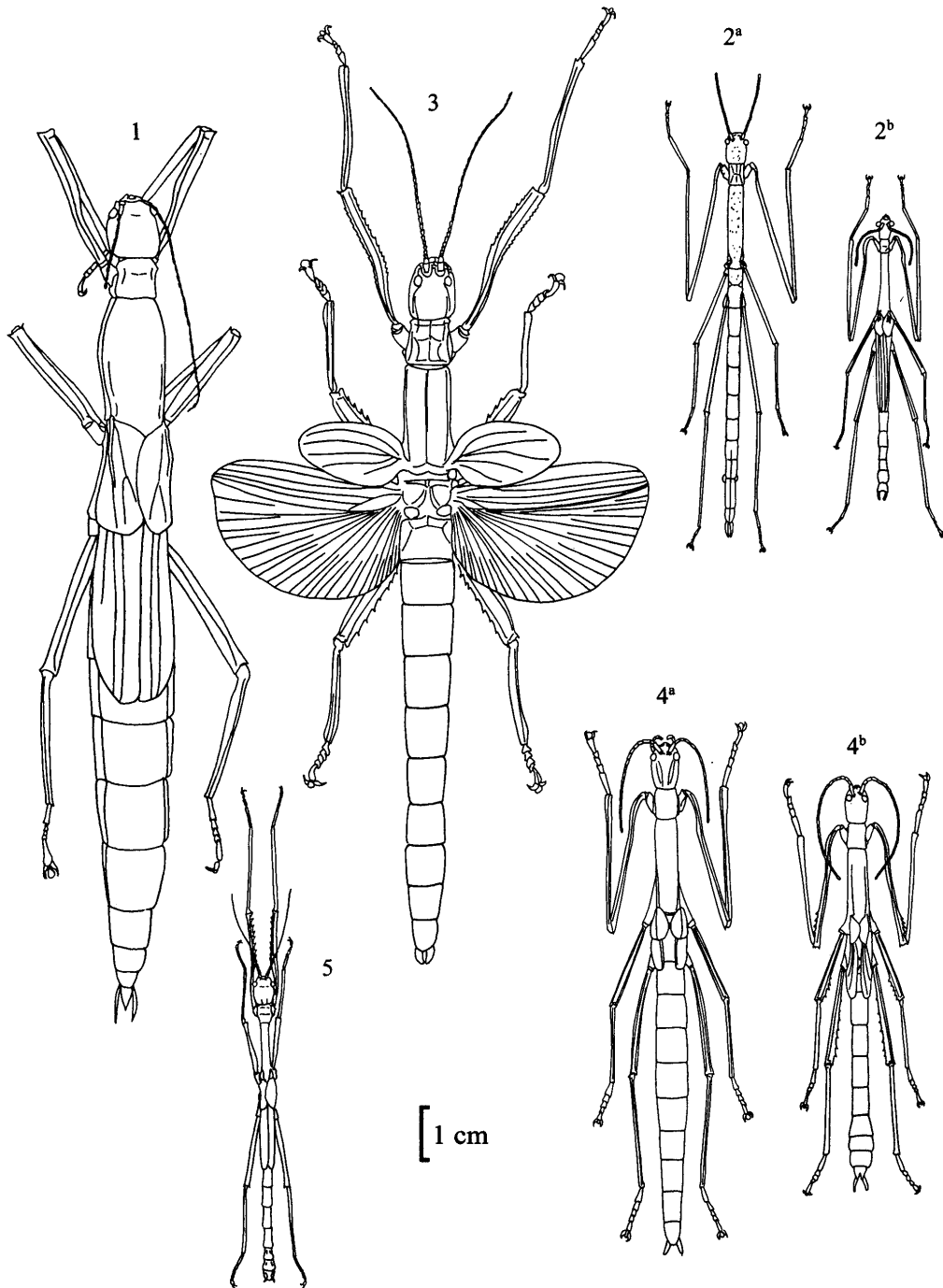


Figure 17. Platycraninae: 1 *Platycrania viridana* (Olivier), & dorsal view, (after non-type [NHMW]); 2 *Ophicrania xanthopteryx* (Günther), 2a & dorsal view, 2b % dorsal view, (after Günther, 1929, pl. 2 fig. 3 & 4); 3 *Megacrania phelaus* (Westwood), & dorsal view, (type species, exotic, after Westwood, 1859, pl. 27 fig. 5); 4 *Graeffea doederleini* Günther, 4a & dorsal view, 4b % dorsal view, (after Günther, 1929, pl. 3 fig. 1 & 2); 5 *Erastus galbanus* Redtenbacher, & dorsal view, (after Redtenbacher, 1908, pl. 17 fig. 3).

Main characteristics. - Elytra present in both sexes; length of wings variable; femora dorsally distinctly carinate, usually unarmed, only spined on ventral median carinae; tibiae unarmed, without ventro-apical spines; metatarsus elongated.

Distribution. - Sulawesi, the Moluccas, New Guinea, Australia, Melanesia, Micronesia, Polynesia and the Seychelles.

Represented in New Guinea by:

**G. erythroptera** (Olivier), 1792, p. 636 (*Mantis erythroptere*) [?] New Guinea and Numfor Island.

*Arrhidaeus erythroptera* (Olivier) Kirby, 1904a, p. 384.

*Phasma rosea* (Fabricius) sensu Stoll, 1813 & pl. 5 fig. 17 (*Phasma roseum*) [?].

**G. doederleini** Günther, 1929, p. 684 &%, pl. 3 fig. 1 & 2 [ZMBH].

**G. sp.** Brunner von Wattenwyl, 1906, p. 15 nymph [ZMAN].

**ERASTUS** Redtenbacher (Plate 17 Fig. 5)

*Erastus* Redtenbacher, 1908, p. 373.

No type species selected.

Main characteristics. - Head wider than pronotum; elytra in both sexes present; wings not extended beyond apex of hind femora; operculum lanceolate; four hind femora of males oval in cross-section, in females bluntly 4-carinate, only spined on the ventro-median line; all tibiae oval, unarmed, four hind tibiae with short apical-spine on the ventro-posterior edges; metatarsi elongate, with subtle groove dorsally.

Distribution. - The Moluccas and New Guinea.

Represented in New Guinea by:

**E. galbanus galbanus** Redtenbacher, 1908, p. 373 %, pl. 17 fig. 3 [NHMW].

*Erastus galbanus* Redtenbacher Günther, 1929, p. 680 description of &.

**E. galbanus monticola** Günther, 1929, p. 681 % [ZMBH].

**PYLAEMENES** Stål (Figure 18: 1ab)

*Pylaemenes* Stål 1875, p. 51 & 93.

Type species. - *Pylaemenes coronatus* (Haan) [*Pachymorpha coronatus*] 1842, p. 137, designated by Kirby, 1904a, p. 400.

Main characteristics. - Back of the head with cone-shaped elevation; mesonotum with parallel lateral carinae, tectiform and, together with the metanotum, bluntly but distinct carinate; meso- and metanotum and at least one abdominal segment with median pair of spines.

Distribution. - Indo-China, Peninsular Malaysia, Java, Borneo, Timor, the Moluccas and New Guinea.

Represented in New Guinea by:

**P. occipitalis** (Kaup), 1871, p. 31 &% (*Acanthoderus*) [HLDH].

*Pylaemenes occipitalis* (Kaup) Stål, 1875, p. 93.

**WOODLARKIA** Günther

*Woodlarkia* Günther 1932a, p. 754.

Type species. - *Woodlarkia scorpionides* (Montrouzier) [*Karabidion scorpionides*], by original designation.

Main characteristics. - The taxonomic position of this genus is questionable. It is supposed to be related to *Pylaemenes* from which it can be distinguished by the transverse row of spines on the metanotum.

Distribution. - Woodlark Islands.

Represented on the Woodlark Islands by:

**W. scorpionides** (Montrouzier), 1857, p. 85, (*Karabidion*) [?].

*Eurycantha* (?) *scorpionides* (Montrouzier) Kirby, 1904a, p. 396.

*Pylaemenes scorpionides* (Montrouzier) Redtenbacher, 1906b, p. 49.

*Woodlarkia scorpionides* (Montrouzier) Günther 1932a, p. 754.

**HETEROCOPUS** Redtenbacher (Figure 17: 2ab)

*Heterocopus* Redtenbacher, 1906b, p. 42.

No type species.

Main characteristics. - Body rough, weakly armed, oval, and bluntly carinate; mesonotum gradually dilating to the back; elytra and wings absent;



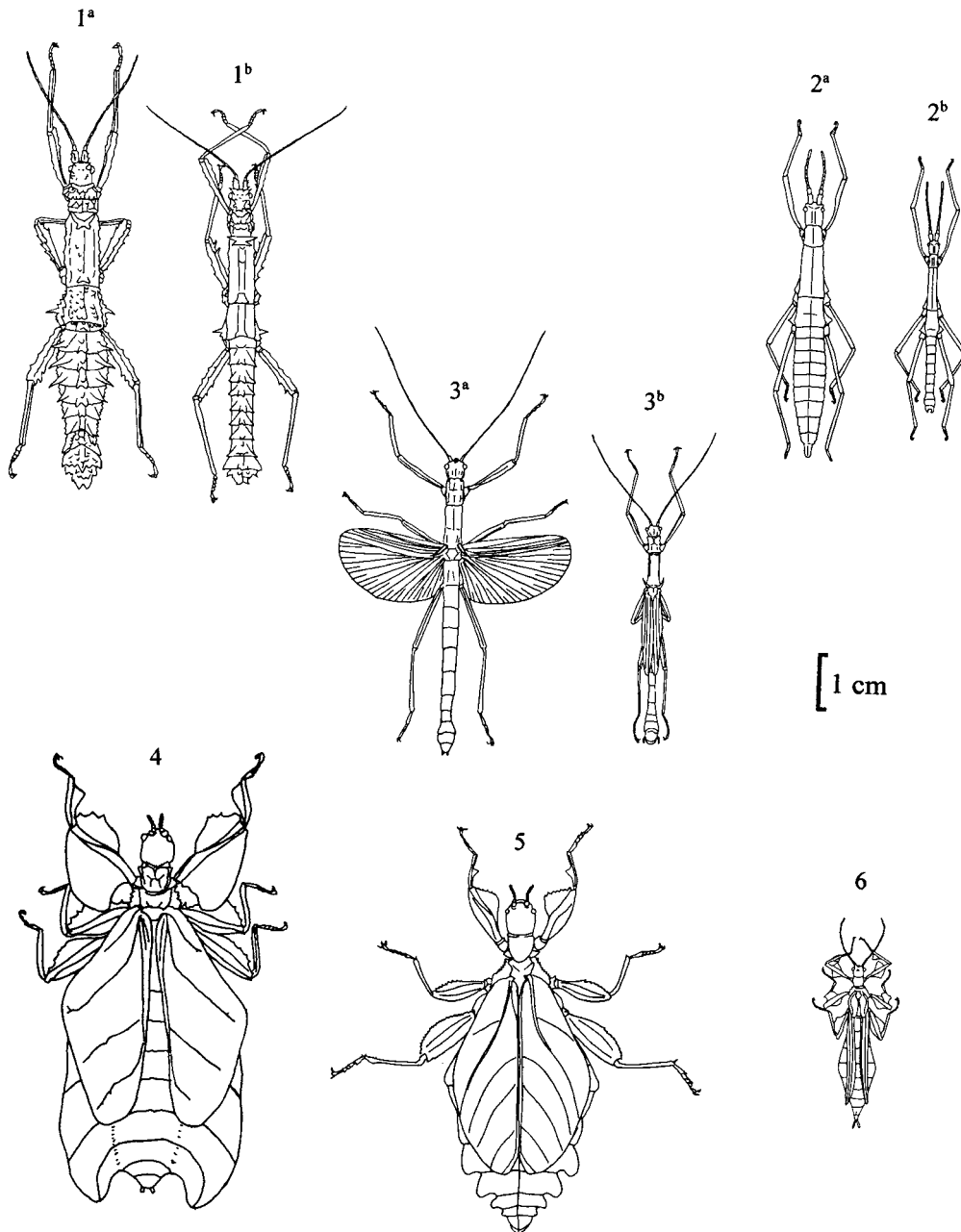


Figure 18. Heteropteryginae, Aschiphasmatinae & Phylliidae: 1 *Pylaemenes coronatus* (Haan), 1a & dorsal view, 1b % dorsal view, (type species, exotic, after Redtenbacher, 1906b, pl. 1 fig. 13 & 14); 2 *Heterocopus carli* Günther, 2a & dorsal view, 2b % dorsal view, (after Günther, 1937, fig. 1 & 2); 3 *Presbistus affinis* (Haan), 3a & dorsal view, 3b % dorsal view, (exotic, sketch 1a after *Aschipasma daunus* Westwood, 1859, pl. 18 fig. 2, and sketch 1b after Redtenbacher, 1906b, pl. 4 fig. 3); 4 *Phyllium frondosum* Redtenbacher, & dorsal view, (after Redtenbacher, 1906b, pl. 6 fig. 13); 5 *Chitoniscus lobiventris* (Blanchard), & dorsal view, (type species, exotic, after Redtenbacher, 1906b, pl. 6 fig. 15); 6 *Nanophyllum pygmaeum* Redtenbacher, % dorsal view, (type species, after Redtenbacher, 1906b, pl. 6 fig. 16).

metapleurae above the coxae dilated and strongly toothed; abdomen densely and minutely granulated; without large spines, in females gradually becoming narrow to the apex; supra-anal plate distinct, straight, more or less elongate. Distribution. - New Guinea and Micronesia.

Represented in New Guinea by:

**H. carli** Günther, 1937, p. 83 &%, fig. 1 & 2 (*Heterocopus* (?) *carli*) [SMTD]. (This species probably does not to this genus and may be classified in or around the genus *Neopromachus* Foglio-Tos).

**PRESBISTUS** Kirby

(Figure 18: 3ab)

*Presbistus* Kirby, 1896, p. 475, (replacement name for preoccupied *Perlamorpha* Brunner von Wattenwyl, 1893), (= *Aschipasma* Brunner von Wattenwyl, 1893, p. 101, not Westwood, 1834, p. 442).

Type species. - *Presbistus peleus* (Gray) [*Perlamorphus peleus*], by original designation.

Main characteristics. - Mesonotum slender and unarmed at the hind margin; all femora carinate, fore femora curved near the base; claws finely pectinate. This genus can be easily distinguished from other winged species in the New Guinea subregion by the spine-like or stalk-like elytra.

Distribution. - From the Indian Subcontinent and Sri Lanka through Indo-China, to the Indo-Malayan Archipelago up to Java and Borneo and one species on the Key Islands.

Represented from Key Islands by:

**P. peleus** (Gray), 1835, p. 22 & (*Perlamorphus*) [BMNH].

*Phasma (Ascephasma) peleus* (Gray) Haan, 1842, p. 115 %.

*Aschipasma peleus* (Gray) Westwood, 1859, p. 96.

*Presbistus peleus* (Gray) Kirby, 1904a p. 419.

*Presbistus ridleyi* Kirby, 1904a, p. 419 new name for *Phasma (Ascephasma) peleus* Gray sensu Haan, 1842 p. 115 &% [RMNH, BMNH].

(synonymised by Brock, 1995, p. 97).

**PHYLLIUM** Illiger

(Figure 18: 4)

*Phyllium* Illiger, 1798, p. 499.

Type species. - *Phyllium siccifolium* (Linnaeus) [*Gryllus* (Mantis) *siccifolius*] by monotypy.

Main characteristics. - Body leaf-like; abdominal segments strongly foliaceously dilated sideways; prosternum usually unarmed; mesonotum in front of elytra almost square; elytra of females extended beyond wings; all femora, especially the four fore femora at least in females, with leaf-like dilations on both sides.

Distribution. - From the Seychelles, Mauritius through the Indian Subcontinent, Sri Lanka, Indo-China, to China, the Indo-Malayan Archipelago, the Philippines and New Guinea, the Key Islands, and New Britain.

Represented in New Guinea by:

**P. siccifolium** (Linnaeus), 1758, p. 425 & (*Gryllus* (Mantis) *siccifolius*) [UZIU].

*Phyllium siccifolium* (Linnaeus) Illiger, 1798, p. 499.

*Phasma siccifolia* (Linnaeus) Stoll, 1813, p. 21, pl. 24 & 26.

*Pteropus siccifolius* (Linnaeus) Thunberg, 1815, p. 286.

*Phyllium siccifolium* (Linnaeus) Gray, 1843, p. 118. (description of %).

*Phasma citrifolium* Lichtenstein, 1796, p. 78 [?]. (synonymised by Gray, 1835, p. 30).

*Phyllium brevicorne* Latreille, 1807, p. 89 & new name for *Phyllium siccifolium* Linnaeus from Moluccas [?]. (synonymised by Gray, 1835, p. 30).

*Mantis foliatus* Perry, 1810, pl. 24 & [?]. (synonymised by Redtenbacher, 1906b, p. 176).

*Phasma chlorophylla* Stoll, 1813, p. 69 pl. 23 fig. 89 [?]. (synonymised by Haan, 1842, p. 111).

*Phyllium stollii* Saint Fargeau & Audinet-Serville, 1825 p. 115 [?]. (indirectly synonymised by Gray, 1835, p. 31).

- Phyllium donovani* Gray, 1835, p. 31 (nymph) [?]. (synonymised by Redtenbacher, 1906b, p. 176).
- Phyllium gorgon* Gray, 1835, p. 31 &. (replacement name for *Mantis foliatus*). (synonymised by Redtenbacher, 1906b, p. 176).
- Phyllium woodi* Rehn & Rehn, 1934, p. 423 & pl. 16 fig. 3 & pl. 17 fig. 6 [ANSP]. (synonymy suggested by Klante, 1976, p. 67).
- P. frondosum** Redtenbacher, 1906b, p. 175 &, pl. 6 fig. 13 [ZMUH] New Guinea, Dolak Island and Key Islands.
- Phyllium insulanicum* Werner, 1922, p. 126 [RMNH]. (synonymised by Klante, 1976, p. 61).
- Phyllium indicum* Günther, 1929, p. 614, quoting *Phyllium insulanicum* Werner, 1922 p. 126 in error].
- P. caudatum** Redtenbacher, 1906b, p. 177 & [NHMW] New Guinea, Bismarck Archipelago and Bougainville Island.
- Phyllium siccifolium* (Linnaeus) sensu Redtenbacher, 1906b, p. 176 (specimens from New Britain and Duke of York Island, [ZMUH, ZMHB]. (synonymised by Günther, 1932a, p. 755).
- P. schultzei** (Giglio-Tos), 1912a, p. 56 & (*Phyllium (Pulchriphyllium)*) [?].
- Phyllium geryon* Gray sensu Günther, 1929, p. 630. (synonymised by Klante, 1976, p. 60).
- P. keyicum** Karny, 1914, p. 7, fig. 5 [?] Key Islands.
- P. elegans** Grösser, 1991, p. 279 & figs. 1 & 2 [ZMSC].
- P. brevipennis** Grösser, 1992, p. 164 & fig. 1 [DEIC].
- P. chitoniscoides** Grösser, 1992, p. 165 & fig. 2 [DEIC, Coll. Grösser].
- CHITONISCUS** Stål  
(Figure 18: 5)  
*Chitoniscus* Stål, 1875, p. 62 & 105.  
Type species. - *Chitoniscus lobiventris* (Blanchard) [*Phyllium lobiventre*] 1853, p. 359, by monotypy.  
Main characteristics. - Similar to *Phyllium*, differing by: the smaller size (largest specimen only 65 mm); the presence of tubercles or spines on the prosternum; the mesonotum, which is transverse in the front of the elytral base; and the fore femora which are only weakly dilate at the outside.  
Distribution. - New Guinea, New Britain, the Palau Islands, New Caledonia, the Loyalty Islands and the Fiji Islands.  
Represented in New Guinea by:  
**C. erosus** Redtenbacher, 1906b, p. 179 & [NHMW, MNHN].  
**C. feedjeanus** (Westwood), 1864, p. 17 & (*Phyllium feejeeanum*) [OXUM] Bismarck Archipelago.  
*Chitoniscus feedjeanus* (Westwood) Griffini, 1898, p. 10 fig. 1.  
*Phyllium novaebritanniae* Wood-Mason, 1877, p. 75 [NZSI]. (synonymised by Redtenbacher, 1906b, p. 180).
- NANOPHYLLIUM** Redtenbacher  
(Plate 18: 6)  
*Nanophyllum* Redtenbacher, 1906b, p. 180.  
Type species. - *Nanophyllum pygmaeum* Redtenbacher, by monotypy.  
Main characteristics. - Closely related to *Chitoniscus*, differing from it by: the smaller body size (28 mm in the type species); the unarmed prosternum; and the fore femora which are dorsally and ventrally strongly lobed in the middle.  
Distribution. - New Guinea.  
Represented in New Guinea by:  
**N. pygmaeum** Redtenbacher, 1906b, p. 180 %, pl. 6 fig. 16 [MCSN].

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## GLOSSARY

- Abdominal segments** : segments of the abdomen, numbered 1 to 11 from the front to the back.
- Acuminate** : pointed, often used to describe the shape of an anal segment or operculum with a terminal border which has a sharp tip.
- Ala (alae)**: hindwing.
- Alate** : winged, often used for species that have the ability to fly.
- Anal segment** : tenth abdominal tergum, covering of the anal opening.
- Anterior** : orientation term that refers to the front part of the body.
- Apical** : orientation term that refers to the tip of an extremity.
- Apterous** : wingless.
- Areola** : a well-demarcated triangularly shaped depression on the ventral apex of the four hind tibiae.
- Available name** : a scientific name that is not excluded under Article 1b, and that conforms to the provisions of Articles 10 to 20, of the International Code of Zoological Nomenclature.
- Brachypterous** : with short wings, often used for species that do not have the ability to fly.
- Carina (carinae)** : a chitinous lateral strengthening ridge. The orientation terms, ventro-anterior, dorso-posterior etc., referring to the carinae of the legs are applicable when the legs are positioned in an right angle to the body.
- Cercus (cerci)**: paired appendages attached to the anal segment.
- Compressed** : laterally flattened, often used in relation to the shape of the femora or tibiae.
- Crenulate** : having the edge, slightly scalloped.
- Dentate** : toothed.
- Designation** : The nomenclatural act in fixing, by an express statement, the name-bearing type of a previously or newly established nominal taxon.
- Depressed** : dorsoventrally flattened.
- Distal** : orientation term that refers to the tip of an extremity.
- Dorsal** : orientation term that refers to the upper part of the body.
- Elongate** : extended
- Elytron (elytra)** : fore wing.
- Emarginate** : concave, used to describe an anal segment or operculum with a the terminal border which is curved inwards.
- Excised** : inwardly cut out, used to describe an anal segment or operculum with a forked terminal border.
- Filiform** : thread-like.
- Genus (genera)** : a group of closely related species below the family group and above the subgenus group.
- Granulate** : covered with small granules.
- Incised** : inwardly cut into, used to describe an anal segment or operculum with a median split terminal border.
- Indication** : fixation of the type species of a nominal genus by something that the author said or did when describing a genus.
- Junior synonym** : of two synonyms: the later established.
- Lamellate** : with thin sheet.
- Lanceolate** : lance-shaped.
- Lateral** : referring to the side or directed to the side.
- Medial** : referring to the middle or median plane of the body.
- Median** : referring to the plane that divides a bisymmetrical organism in two parts which are each others mirror image.
- Median segment** : first abdominal segment.
- Meso-** : prefix referring to the middle part of a compound structure such as the thorax or tarsus.
- Meta-** : prefix referring to the hind part of a compound structure such as the thorax or tarsus.
- Micropterous** : with very short wings, usually not more than a small scale.
- Navicular** : shaped like a boat.
- Nomen novum** : a name established expressly to replace an already established name.

- Nomen nudum** : a name that, if published before 1931, fails to conform to Article 12; or, if published after 1930 fails to conform to Article 13 of the International Code of Zoological Nomenclature.
- Notum** : tergum of a thoracic segment; usually used in combination with a prefix (pro, meso, meta).
- Operculum** : eighth abdominal sternum in females, forming the covering of the genital opening.
- Original designation** : designation of the name-bearing type of a nominal taxon when it is established.
- Ovipositor** : device to deposit eggs.
- Oviscapt** : ovipositor formed by an elongated supra-anal plate and operculum, often used to deposit eggs into substrates or cavities.
- Pectinate** : comb-like.
- Pleuron (pleurae)**: a lateral part of a segment, in the context of the thoracic segments used in combination with a prefix (pro, meso, meta).
- Posterior** : orientation term that refers to the hind part of the body.
- Pro-** : prefix referring to the front part of a compound structure such as the thorax.
- Replacement name** : Any available name used to replace an older available name.
- Rounded** : convex, often used to describe an anal segment, operculum or cerci with a circular terminal border.
- Rudiment** : incomplete non-functional developed structure, often used in reference to the elytra and wings.
- Serrate** : referring to series of tooth, arranged like the tooth on the edge of a saw.
- Spatulate** : flattened, used to describe wing shape.
- Species** : the rank next below the genus group; the basic rank of zoological classification consisting of a population of individuals which freely interbreed with one another.
- Specimen** : an individual or group of individuals.
- Spine** : an unsegmented chitinous process consisting of an single element with a sharp pointed tip.
- Sternum (strena)** : the ventral part of a segment, in the context of the thoracic segments used in combination with a prefix (pro, meso, meta).
- Supra-anal plate** : eleventh abdominal tergum, often hidden under anal segment, also referred after as lamina supra analis.
- Synonym** : each of two or more scientific names of the same rank denoting the same taxon.
- Taxon (taxa)** : any taxonomic unit, whether named or not.
- Tectiform** : shaped like the roof of a house.
- Tergum (terga)** : the dorsal part of a segment.
- Thorax** : the body segments that carry the legs, the elytra and wings, usually used in combination with a prefix (pro, meso, meta).
- Tooth** : an unsegmented chitinous process consisting of an single element, either circular or flattened in cross-section, with a bluntly pointed tip
- Toothed** : with more than one tooth.
- Truncate** : square-ended, used to describe an anal segment with a straight terminal border and angular or slightly rounded corners.
- Tubercle** : small blunt wart-like bump.
- Tuberculate** : covered with tubercles.
- Type species**: the nominal species that that is the name-bearing type of a nominal genus or subspecies.
- Umbonate** : shaped like a shield.
- Ventral** : orientation term that refers to the lower part of the body.

**GAZETTEER***(Locations are presented in the fashion as they appear in the literature.**Where applicable the current name has been added within brackets)*

- Hoofdbivak 04E 04'S 141E 07'E
- Agroeni Island 02E 39'S 132E 33'E  
Alovon 04E 20'S 152E 15'E  
Amberbaki 00E 33'S 133E 08'E  
Andai 00E 54'S 133E 58'E  
Ansus 01E 44'S 135E 49'E  
April River 04E 29'S 142E 29'E  
Arfak Mts. 01E 34'S 133E 52'E  
Aroa River 09E 02'S 146E 47'E  
Aru Islands 06E 03'S 134E 31'E  
Aseki 07E 15'S 146E 09'E  
Astrolabe Bay 05E 22'S 145E 52'E  
Berlinhafen 03E 08'S 142E 15'E  
Berou Peninsula (= Onin Pen.) 02E 50'S 132E 20'E  
Bongu 05E 25'S 145E 51'E  
Bougainville Island 06E 09'S 155E 14'E  
Bourgainville Mt. 02E 39'S 141E 02'E  
Budemu 05E 55'S 146E 05'E  
Buijang 02E 05'S 147E 00'E  
Bulolo 07E 15'S 146E 41'E  
Buna 08E 39'S 148E 26'E  
Cretin Island 06E 46'S 147E 56'E  
Cyclope Mts. 02E 30'S 140E 37'E  
Damanti 05E 55'S 145E 58'E  
Doorman Mt. 03E 28'S 138E 28'E  
Dorey 00E 54'S 134E 03'E  
Drana 02E 04'S 147E 17'E  
Duke of York Island 04E 10'S 152E 28'E  
Erima II 05E 25'S 145E 41'E  
Erima 05E 19'S 145E 42'E  
Etappen Mt. 04E 37'S 142E 07'E  
Expl. Bivak 04E 20'S 138E 05'E  
Fakfak 02E 56'S 132E 20'E  
Finnschhafen 06E 31'S 147E 49'E  
Flusslager 18 04E 36'S 142E 32'E  
Frederik Hendrik Isl. (= P. Dolak) 07E 57'S 138E 26'E  
French Islands (= Witu Islands) 04E 54'S 149E 09'E  
Frieda River 04E 29'S 142E 01'E  
Friedrich Wilhelmshafen (=Madang) 05E 05'S 145E 47'E  
Geelvink Bay (= Cenderawasih Bay) 02E 30'S 135E 30'E  
Gentani 02E 37'S 140E 35'E  
Goodenough Island 09E 22'S 150E 16'E  
Gradlager 04E 23'S 142E 58'E  
Hattam 01E 07'S 133E 43'E  
Hauptbivak 04E 14'S 142E 51'E  
Hermit Islands 01E 34'S 145E 01'E  
Hollandia (= Jayapura) 02E 29'S 140E 41'E  
Humboldt Bay (= T. Yos Sudarso) 02E 35'S 140E 50'E  
Hunstein Range 04E 24'S 142E 52'E  
Huon Golf 06E 50'S 147E 09'E  
Iunzaing 06E 10'S 146E 56'E  
Jacquinot Bay 05E 38'S 151E 33'E  
Jasa River 02E 44'S 140E 59'E  
Kaiserin Augustafluss (= Sepik) 04E 11'S 143E 31'E  
Kamelsrucken 04E 30'S 142E 36'E  
Kariei 05E 13'S 152E 04'E  
Karimui 06E 50'S 144E 29'E  
Katau 09E 01'S 143E 06'E  
Key Islands 05E 44'S 132E 45'E  
Konstantinshafen (= Enke Port) 05E 30'S 145E 56'E  
Korido 00E 47'S 135E 32'E  
Lake Kamakahwalla (= D. Kamakawiar) 03E 45'S 134E 13'E  
Lake Jamoer (= Danau Jamur) 03E 27'S 135E 00'E  
Lamassa 04E 42'S 152E 48'E  
Lehmfluss (Clay River) 04E 43'S 144E 08'E  
Liebliche Islands (Arawe Islands) 06E 08'S 149E 01'E  
Lord Mt. 04E 38'S 142E 37'E  
Lorima (= Lorimé) 03E 50'S 134E 11'E  
Lou 02E 22'S 147E 21'E  
Maander Mt. 04E 05'S 141E 39'E  
Maclay-Coast 05E 44'S 146E 39'E  
Mafor (= P. Numfor) 01E 00'S 134E 52'E  
Majom (= Malom) 03E 11'S 151E 53'E  
Malu 04E 14'S 142E 51'E  
Mamberamo 02E 17'S 138E 01'E  
Manikion 01E 17'S 134E 03'E  
Manoembai 06E 02'S 134E 18'E  
Manokwari 00E 52'S 134E 05'E  
Mansinam 00E 55'S 134E 06'E  
Matupi Island 04E 15'S 152E 12'E  
McCluer Golf (= T. Berau) 02E 30'S 132E 30'E  
Medina 02E 54'S 151E 24'E  
Mende 05E 58'S 145E 00'E  
Milne Bay 10E 24'S 150E 32'E  
Mioko Island 04E 14'S 152E 28'E  
Misoro (= P. Supiori) 00E 55'S 135E 55'E  
Missol (= Misool) 01E 55'S 130E 07'E  
Moaiif 02E 22'S 140E 02'E  
Momi 01E 36'S 134E 09'E  
Mt. Hansemann 04E 10'S 145E 44'E

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Mt. Obtree 09E 28'S 148E 04'E  
Muliama 03E 49'S 152E 41'E  
Nauti 07E 16'S 146E 34'E

Neu Lauenburg (see Duke of York Islands)  
Neu Mecklenburg (= New Ireland) 04E 07'S  
152E 49'E  
Neupoas (= Puas) 02E 25'S 150E 10'E  
New Hannover 02E 29'S 150E 13'E  
Nuru River 05E 22'S 145E 35'E  
Oertzen Mts. 05E 28'S 145E 34'E  
Ogerammang 06E 28'S 147E 24'E  
Oranje Mts. (= P. Djajawidjaja) 04E 30'S 139E  
30'E  
Pak Island 02E 05'S 147E 40'E  
Pangia 06E 23'S 144E 06'E  
Paup 03E 15'S 142E 32'E  
Pionierlager 02E 17'S 138E 01'E  
Pionierlager 04E 19'S 141E 55'E  
Portus Huon (= Lae) 06E 39'S 147E 02'E  
Prauwebivak 03E 15'S 138E 35'E  
Quellenlager 04E 23'S 142E 47'E  
Ralum 04E 21'S 152E 17'E  
Ramu river 04E 02'S 144E 41'E  
Ramu Zwischenstation 04E 38'S 144E 42'E  
Regenberg (= Mt. Regen) 05E 01'S 144E 05'E  
Roon Island (= P. Rooin) 02E 21'S 134E 32'E  
Rosensee (= Lake Chambri) 04E 18'S 143E  
07'E  
Rossel Island 11E 22'S 154E 08'E  
Rouffaer River (= Tariku) 03E 00'S 138E 00'E  
Salwatty Island (= P. Salawati) 01E 08'S 130E  
53'E  
Sandwich Island (= Djaul Island) 03E 56'S  
150E 54'E  
Sattelberg (= Sattelburg) 06E 28'S 147E 44'E  
Schraderberg (= Schrader Range) 04E 53'S  
144E 13'E  
Seka 03E 45'S 135E 06'E  
Sekanto 02E 50'S 140E 44'E

Sekroe 02E 55'S 132E 14'E  
Sentani Lake 02E 37'S 140E 35'E  
Sepik 04E 11'S 143E 31'E  
Sermowai River 02E 36'S 140E 07'E  
Simbang 06E 35'S 147E 50'E  
Simpson Harbour 04E 12'S 152E 11'E  
Sinus Maris Huon (=Lae) 06E 39'S 147E 02'E  
Siwi 01E 29'S 134E 03'E  
Skt. Matthias 01E 23'S 149E 37'E  
Sorong 00E 50'S 131E 12'E  
Squally Island 01E 38'S 150E 42'E  
Ssiganu Janu 05E 31'S 145E 23'E  
Stephansort 05E 23'S 145E 43'E  
Strandlager am April fluss 04E 25'S 142E 29'E  
Sudest Island (= Tagula island) 11E 30'S 153E  
30'E  
Suo Maua (Suor Mana ?) 05E 31'S 145E 23'E  
Tamara 03E 08'S 142E 25'E  
Tami Nugudu 06E 46'S 147E 56'E  
Tami River 03E 00'S 140E 46'E  
Tari 05E 52'S 142E 56'E  
Tawarin River 02E 38'S 139E 34'E  
Tjahe River 02E 42'S 141E 02'E  
Toeal 05E 38'S 132E 45'E  
Topferfluss (= Keram River) 04E 27'S 144E  
13'E  
Torricelli Mts. 03E 30'S 142E 00'E  
Van Gelder River 02E 23'S 137E 53'E  
Wakobi 02E 59'S 134E 44'E  
Wamena 04E 05'S 138E 58'E  
Wantoat 06E 05'S 146E 28'E  
Watut 06E 39'S 146E 32'E  
Watut Mt. 06E 48'S 146E 28'E  
Wau 07E 20'S 146E 45'E  
Wendesesi (= Windehsi) 02E 18'S 134E 16'E  
Woodlark Island 09E 02'S 152E 53'E

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