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# CHAVES PARA OS GENEROS DE MIRIDEOS DO MUNDO (HEMIPTERA) 

Por<br>José C. M. Carvalho<br>Museu Paraense Emilio Goeldi, Belém, Pará.

(Com 263 figuras no texto)
Ao iniciar seus estudos sôbre Mirideos, o autor teve que enfrentar duas grandes dificuldades. A primeira foi a dúvida acèrca da posişão sistemática verdadeira de quase 150 gèneros, a maioria dos quais não podiam ser colocados em tribos ou subfamílias devido às descrições pouco acuradas então existentes.

No catálogo genérico de Reuter (Acta Soc. Sci. Fenn. 37 (3) 1910), cêrca de 100 géneros foram considerados como de posição incerta e vários outros foram dispostos sistemàticamente baseando-se apenas em suas descrições originais. Infelizmente, êsse mestre da taxinomia não teve a oportunidade de examinar os tipos dësses gêneros, uma vez que se achavam espalhados pelos vários Museus da Europa e das Américas. Tal dificudade, porém, foi removida, mais tarde, com a publicação, pelo autor do presente, do trabalho intitulado "On the Major Classification of the Miridae etc." (Ann. Acad. Brasil. Cid. 24(1):31-110, 1952) que, baseado no estudo de tipos em vários museus da Europa e América, menciona todos os gêneros grupados nas tribos e subfamílias, permitindo assim, aos entomólogos, trabalharem com exito nesses dois primeiros degraus da sistemática, abaixo do nivel de familia.

A segunda dificuldade de monta era a falta de chaves apropriadas, com ilustração de caracteres críticos, para os gêneros ou mesmo grupos de gèneros, que compreendem a fauna mundial. A identificação de um determinado gênero era, geralmente, consideràvelmente retardada por exigir a consulta de um grande número de trabalhos $e$ manuseio exaustivo da literatura. Por outro lado, o estudo baseado apenas em chaves regionais não é satisfatório desde que, em muitos casos, se torna duvidoso devido à recente introdução de espécies na. região.

Este trabalho é destinado a eliminar esta segunda dificuldade. O autor está ciente das dificuldades que seus colegas poderão en-
contrar no uso destas chaves e, por isso, deseja chamar a atensão para os seguintes pontos:

Tornase absolutamente impossivel estabelecer chaves que possam ser usadas satisfatòriamente para tôdas as espécies de todos os gèneros conhecidos até o presente, na fauna mundial. Sabemos também que a evolusão pode estar agindo ativamente em muitas espécies ou gêneros, de tal forma que os extremos se completam. Chaves extremamente complexas apareceriam, se tal trabalho fösse tentado, requerendo o estudo de todos os tipos conhecidos para milhares de espécies existentes nos museus de vários paises, tornando-se, assim, o trabalho muito oneroso e exigindo tempo considerável.

As chaves aqui apresentadas são baseadas, principalmente, no estudo das espécies típicas de cada gènero e, sempre que possivel, no estudo das demais espécies que compõem ésses gèneros. O dimorfismo sexual contribui também para tornar as chaves mais dificeis, sobretudo nos casos em que sòmente o macho ou a fèmea são conhecidos, e são numerosas as espécies desta categoria. As chaves foram feitas, sempre que possivel, para abranger os dois sexos.

Quando surgirem dúvidas sôbre se se deve seguir êste ou aquêle ramo da chave, torna-se aconselhável, após atingir o fim do ramo em questão, rever a descrição original do gênero para uma confirmação mais satisfatória, nos casos duvidosos. Parece ao autor ser éste o meio mais eficiente e certo de verificar a exatidão do trabalho. As numerosas ilustrasões incluidas no texto servirão para tornar o trabalho mais fácil e em muitos casos, elas sòzinhas indicarão a posişão correta de um gènero entre outros afins.

As chaves foram elaboradas com o auxilio de um microscópio binocular, usando um aumento bastante elevado (cèrca de 70x). É muito importante o conhecimento dêste fato, uma vez que certos caracteres mencionados como forte, fundo, grosseiro etc. podem ser interpretados de outra maneira com o uso de pequeno aumento. A mesma considerasão deverá ser dada à iluminação, que deverá ser forte e incidente sôbre o campo estudado. Quando estão sendo estudadas estruturas delicadas como arólios, pseudarólios, cerdas etc. devemos experimentar fundos diferentes por baixo do inseto e deve ser tentado qualquer meio ou mesmo instrumento que permita livre movimentasão.

O uso de medidas é absolutamente essencial ao emprégo das chaves. A visão apenas é muitas vêzes enganadora, sendo necessário o uso de um micrômetro ocular. As medidas são obtidas com mais èxito, quando o inseto está sôbre fundo branco. A luz é assim refletida, permitindo uma definisão mais clara de margem, extremidade etc. Quando determinada parte do inseto é mencionada como mais comprida ou mais curta que outra (v.g. segundo segmento
da antena, mais comprido que a largura da cabeça), significa que uma variação até 50 micra não deve ser tomada como conclusiva. Nestas chaves, tôdas as medidas com diferença acima de 50 micra foram consideradas conclusivas. Assim, se o segundo segmento da antena é mais de 50 micra mais longo que a largura da cabeça, êle é considerado mais longo que a largura desta última (no binocular usado, cada divisão da ocular micrométrica media 15.5 micra).

O autor procurou usar o mais possivel caracteres que são mais comumente preservados em exemplares de museu e que possam ser vistos externamente, sobretudo os encontrados na cabeça de pronoto. Em muitos casos, todavia, isso não foi possivel e caracteres como rostro, segmentos da antena, pubescéncia etc. tiveram que ser considerados.

Detalhes estruturais superficiais, como pontuação, rugosidade e pubescència foram considerados com o inseto sob luz incidente. É de lamentar que em certos grupos, v.g. Phylini, a pilosidade tenha que vir a ser forçosamente considerada. São comuns os exemplares onde ela foi totalmente perdida e transtornada. Nesses casos, sòmente um especialista ou entomólogo bem treinado será capaz de colocar o gênero corretamente. Pessoas com pouca experiência devem consultar o especialista, em vez de se arriscarem a um mero palpite.

Quando se menciona pilosidade ou pêlos comuns, significa que são êles os comumente encontrados, sejam eretos ou recumbentes (deitados) porém sempre cilindricos, direitos e afilados para a extremidade apical. Pêlos sedosos ou lanosos são os geralmente enrolados ou ondulados, deitados e brilhantes sob luz incidente. Pêlos escamiformes ou achatados são os arredondados ou em forma de escama de peixe, comumente um pouco alongados ou deprimidos, possuindo côr prateada sob luz incidente. Pêlos rijos e geralmente fortes, alongados, recebem o nome de cerdas ou pêlos setiformes.

Nestas chaves estão incluidos todos os gèneros conhecidos desde 1758 até 1954. Foram também adicionados os géneros descritos em 1955, seja por comunicação dos autores ou por consulta de trabalhos que puderam chegar às mãos do autor.

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# KEYS TO THE GENERA OF MIRIDAE OF THE WORLD (HEMIPTERA) 

By<br>José C. M. Carvalho<br>Museu Paraense Emilio Goeldi, Belém, Pará, Brasil<br>(With 263 figures in the text)

When the author began his studies on the Miridae he was faced with two major difficulties. The first was the doubt concerning the correct sytematic positions of nearly 150 genera, most of which could not be placed in their proper tribes of even subfamilies because of the inaccurate descriptions then available. In Reuter's generic catalogue (Acta Soc. Sci. Fenn. 37 (3), 1910) nearly 100 genera were regarded as of uncertain position, and several others allotted positions on the basis of their descriptions only.

Unfortunately this master taxonomist was not able to examine the types of these genera, scattered as they were among the museums of Europe and America.

This major difficulty seems to be removed now with the publication by the author of the paper entitled: "On the Major Classification of the Miridae etc." (An. Acad. Brasil. Ci. 24 (1): $31-110,1952$ ) which based on the study of types in several museums of Europe and America, lists all genera under their correct subfamilies and tribes, thus allowing entomologists to work up satisfactorily these two first steps in the taxonomy below the family level.

The second major difficulty was the lack of appropriate keys, with illustration of critical characters, to the genera or even groups of genera which would embrace the world fauna. The identification of a certain genus was usually delayed considerably by having to consult a great number of papers, and check the literature exhaustively. On the other hand the study of regional keys only was not satisfactory since in many cases it was doubtful whether a genus had been introduced recently or not into the region.

The present paper has been written in order to remove this second difficulty. The author is aware of the difficulties which his colleagues may encounter in using the accompanying keys, and attention is called to the following points.

It seems almost impossible to establish keys to work satisfactorily for all species of all genera known at the present time throughout the world. We know that there are much gradation in nature, and that evolution may be on the march in certain species or genera so that they may merge into one another so that the extremes come in contact. A very complex key would result if such a work were attempted, and the time required to study all the types concerned in museums in many countries would be almost prohibitive.

The present keys were based mainly on the types species of the genera and, as much as possible on the study of other species included in the genera. Sexual dimorphism tends also to render the keys more difficult, especially as only the female or male sex is known for a great number of species. The keys were made whenever possible to include both sexes. When a doubt arises whether to follow this or that branch of the key, it is advised that after reaching the end of the branch concerned a check should be made with the original description of the genus in order to ascertain if one is right or not. This seems to be the safest way to do such work. The numerous illustrations annexed to the text will render the work much easier and in many cases they alone will point out a certain genus among their relatives.

The keys were constructed with the help of a binocular microscope, using a fairly high magnification (about 70 x ). This is very important since certain characters mentioned as strong, deep, coarse etc., may be interpreted otherwise if low magnification is used. The same consideration applies to the illumination, which must be strong and incident over the insect. When delicate structures are to be seen, such as the arolia, pseudarolia, setae etc., different backgrounds should be tried under the insect, and any system permitting the latter to be turned around or up and down is encouraged.

Measurements are absolutely essential to deal with the keys. The eye alone is sometimes misleading and a micrometric eyepiece must be used. Measurements are better taken with a white background reflecting the light which will permit a better definition of margin or extremities. When a certain part of the insect is said to be longer or shorter than another, such as the second antennal segment longer or shorter than the head it means that a variation up to 50 microns must not be regarded as conclusive. In the present keys all measurements above 50 microns were considered as conclusive, thus if the second antennal segment is more than 50 microns as long as the width of head, it is considered longer than the head (in the binocular microscope used the micrometric eyepiece measured 15.5 microns for each division).

The author has tried as far as possible to use characters which are to be found in museum specimens and are visible externally such as those of the head pronotum. In many cases however this was not possible and characters such as rostrum, antennal segments, pubescence etc., had to be considered.

Structural details of the upper surface, such as puncturation, rugosities and the pubescence were defined with the insect under incident light. It is unfortunate that in certain groups, such as the Phylini, the pubescence must be considered, since in many cases these hairs are easily dislodged and lost. In such cases only the specialist or a well trained entomologist will be able to place the genus correctly. The inexperienced person should consult a specialist rather than risk a mere guess.

When common pubescence or hairs are mentioned it means that they are the usual ones found, either erect or recumbent (adpressed), but always cylindrical, straight, and tapering towards the apical extremity. Silky or woolly hairs are somewhat curled, usually recumbent and brilliant with incident light. Scale like or flattened hairs are flattened or rounded with typical silvery colour under incident light. Stiff and usually strong, long hairs are called bristles or setiform hairs.

So far as the author is aware these keys include all genera described until the end of 1954 and also a few described in 1955.

## KEY TO THE SUBFAMILIES OF MIRIDAE HAHN, 1831

1. Arolia present, large and free, arising between the claws (figs. 19, 20)

2

- Arolia absent, substituted by a pair of straight hairs (figs. 2, 7, 16)

2. Arolia distinctly divergent toward their apices (fig. 20) usually dilated; pronotal collar always present and well separated from pronotum by a furrow (figs. 31, 38)

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\text { MIRINAE Hahn, } 1831 \text { pg. } 14
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- Arolia parallel or convergent toward their apices (fig. 19), usually slender; pronotal collar if present, of the depressed type (figs. 32, 34, 36), not separated from pronotum by a furrow ...... ORTHOTYLINAE Van Duzee, 1916 pg. 15

3. Pseudarolia present, free or connected with the claw, sometimes minute and difficult to see (figs. 5-16) in this case the pronotal collar absent (fig. 33)4

- Pseudasolia absent (figs. 1, 2, 3, 4): psonotal collar present or in case not, the claws very long, smooth and slender (figs. 1, 2)

4. Pseudarolia arising from the base or inner margin of claw (figs. 5-16); membrane with two cells (fig. 22); tarsi linear (fig. 29) ........ . PHYLINAE Douglas \& Scott, 1865 pg. 16

- Pseudarolia arising from the ventral suurface of claw (figs. 17, 18); membrane with one cell (fig. 21); tarsi tnickened toward apices (fig. 28) BRYCORINAE Baerensprung, 1860, pg. 15

5. Claws toothed or tickened at base (figs. 3, 4) DERAEOCORINAE Douglas \& Scott, 186 pg. 16

- Claws smooth at base, long and slender (figs. 1, 2) ........... CYLAPINAE Kirkaldy, 1903 pg. 17


## KEY TO THE TRIBES OF MIRINAE

1. First segment of hind tarsi as long as or longer than second and third together (fig. 23) or when this is not the case, pronotal collar incomplete or pronotum with a lateral ridge at least anteriorly

- First segment of nind tarsi not as long as second and third together of if so, pronotum without a lateral ridge and pronotal collar distinct, separated from disc by a furrow (fig. 35) ... 4

2. First segment of antennae as long as head and pronotum together (fig. 44); pronotal collar distinct and complete; legs and antennae very long MECISTOSCELINI Reuter, 1910 pg. 102

- First segment of antennae shorter than head and pronotum together; pronotal collar if present usually incomplete; legs and antennae not noticeably long

3. Myrmecomophic species, usually with elytra not divided, the cuneus and membrane vestigial ar absent

PITHANINI Douglas \& Scott, 1865 pg. 102

- Species not myrmecomorphic, the hemielytra divided into corium, clavus and embolium, the cuneus and membrane present

8 TENODEMINI China, 1934 pg. 103
4. Myrmecomorphic species with the abdomen constricted at base (fig. 39); collar usually represented by a depressed line

HERDONIINI Distant, 1904 pg. 109

- Species not myrmecomorphic, the abdomen not constricted at base; collar distinct, separated from pronotum by a furrow 5

5. Ostiolar peritreme small (fig. 25), its dorsal margin scarcely extending dorsal as far as ventral margin of mesepimeron; pronotal collar very wide, with mesal lenght usually as great as width of calli (fig. 47); dull black species with reddish, luteous or yellow marks ..... RESTHENINI Reuter, 1905 pg. 107

- Ostiolar peritremep rominent (fig. 24), its dorsal margin extending well above ventral margin of mesepimeron; pronotal collar (fig. 45) not as broad as width of calli; species if dark, usually shining

6. Hemielytra glassy and transparent allowing the abdomen and membranous wings to be seen from above

HYALOPEPLINI Carvalho, 1952 pg. 106

- Hemielytra not glassy and transparent, the abdomen an membranous wings not seen from above MIRINI Hahn, 1831 pg. 82


## KEY TO THE TRIBES OF ORTHOTYLINAE

1. Small, usually dark compact species with saltatorial femora, the genae very high (fig. 43), equal to or more than height of one eye; vertex very wide, eyes prominent; third antennal segment usually much more slender than second; body frequently with scale like pubescence; brachypterous forms very common .... HALTICINI Kirkaldy, 1902 pg. 65

- Species of medium size, usually greenish of light coloured, without saltatorial femora; the genae low (fig. 40) equal to or less than the height of one eye; vertex if wide then eyes not prominent; third antennal segment frequently equal to thickness of second; if body with scale like pubescence then both sexes macropterous2

2. Myrmecomorphic species with abdomen constricted at base ... PILOPHORINI Reuter, 1883 pg. 79

- Species not myrmecomrphic, the abdomen not constricted at base ........... ORTHOTYLINI Van Duzee, 1916 pg. 68


## KEY TO THE TRIBES OF BRYOCORINAE

1. First antennal segment incrassate, equal in lenght to half the width of vertex (fig. 27) about as long as wide; species usually of large size, with coarsely, punctate pronotum and strongly inflated scutellum, if first antennae longer than half the width

- of vertex and scutellum no cystiform then the membrane with auxiliary veins or head with three pointed tubercles anteriorly ODONIELLINI Reuter, 1910 pg. 40 Firts antennal segment if not longer than half the width of vertex, then distinctly narrower than long, the pronotum smooth and shining; scutellum never inflated or cystiform2

2. Large, long and slender species with smooth and shining body; pronotum strongly constricted anteriorly, the head with a dis-
tinct neck (fig. 30); rostrum reaching apex of anterior coxac or so; second antennal segment about three times or more as long as firts . ........ MONALONIINI Reuter, 1892 pg. 38

- Medium size to small species; pronotum usually punctured or if smooth, not constricted anteriorly or the rostrum longer, reaching beyond the apex of anterior coxae; head without a distinct neck of if present, the second antennal segment less than three times as long as first

BRYOCORINI Baerensprung, 1860 pg. 29

## KEY OF THE TRIBES OF PHYLINAE

1. Pronotum without an apical collar (figs. 33-37) ........... PHYLINI Douglas \& Scott, 1865 pg. 43

- Pronotum with a well marked apical collar or when this is not the case, species with ant-like appearance ................. 2

2. Myrmecomorphic species, with abdomen constricted at base; pronotum nearly triangular or elongate, with a more or less flattened apical collar separated from disc by a slight furrow; claws usually long and slender, not bent at base; hemielytra in most cases with a white or yellow cross band or with pale areas HALLODAPINI Van Duzee, 1916 pg. 60

- Species without myrmecomorphic appearance or if so, then abdomen not constricted at base, pronotum with a well marked collar (fig. 42); claws if long and slender noticeably bent at base; hemielytra without a wnitisn or yellow cross band or pale areas

DICYPHINI Reuter, 1883 pg. 58

## Key TO THE TRIBES OF DERAEOCORINAE

1. Head elongate, pointed, slightly shorter than pronotum, frons horizontal or nearly so; eyes usually large; antennae very short (fig. 46); species of small size

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\text { TERMATOPHYLINI Reuter, } 1884 \text { pg. } 22
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- Head vertical or strongly declivous, much shorter than pronotum; antennae not noticeably short; species of medium or large size

2. Pronotum with an impressed line running from antero lateral corner to posterior margin of calli (fig. 26)

CLIVINEMINI Reuter, 1875 pg. 23

- Pronotum without the line mentioned above ................ 3

3. Hemielytra hyaline, transparent and glassy, emboliar margin of corium greatly enlarged

HYALIODINI Carvalho \& Drake, 1943 pg. 24

- Hemielytra not hyaline, glassy or transparent ............. 4

4. Pronotum constricted anteriorly, the calli large and fused; eyes semi-stylate; membrane with one cell

SATURNIOMIRINI Carvalho, 1952 pg. 29

- Pronotum not constricted anteriorly; calli not prominente and fused, neither are the eyes semi-stylate; membrane usually with two cells .. DERAEOCORINI Douglas \& Scott, 1865 pg. 26


## KEY TO THE TRIBES OF CYLAPINAE

1. Head long and pointed, gula long, frons horizontal or nearly so, clipeus distinctly, curved, its apex usually ventral of its base; calli very large, confluent, occupying the anterior two thirds of pronotum (figs. 41, 51, 53) FULVIINI Uhler, 1886 pg. 18

- Head short and rounded, gula short, froms vertical or strongly declivous (fig. 48), clypeus in the same plane as frons; calli if large not occupying the two anterior thirds of pronotum (fig. 48)

2. Body strongly shining and coarsely punctate, the size of the puncture about equal thickness of first antennal segment at base; ostiolar peritreme with an ocelloid shining tubercle; membrane distinctly pilose

BOTHRIOMIRINI Kinkaldy, 1906 pg. 17

- Body more finely punctate; ostiolar peritreme without an ocelloid shining tubercle; membrane glabrous or if pilose, very minutely so

CYLAPINI Kirkaldy, 1903 pg. 20

## KEY TO THE GENERA OF BOTHRIOMIRINI

1. Pronotum with tubercular shining swellings; scutellum with two lateral high lobes separated by a deep sulcus (Sumatra) . . LEPROCAPSUS Poppius, 1914

- Pronotum without tubercular swellings; scutellum not as above .............................................................. 2

2. Second antennal segment four times an long as the first, strongly thickened, with short hairs and two long, erect bristles; rostrum reaching the middle coxae (India)

DASHYMENIA Poppius, 1910

- Second antennal segment about twice as long as the first, not noticeably thickened; rostrum reaching the anterior coxae or slightly beyond it3

3. Scutellum with a median, apical and smooth lobe (Java) DASHYMENIELLA Poppius, 1914

- Ssutellum without a median apical lobe ..... 4

4. First antennal segment as long as or longer than width of vertex; second segment twice as long as the first (India, Malay, Borneo, Formosa) BOTHRIOMIRIS Kirkaldy, 1902

- First antennal segment shorter than width of vertex; secondsegment $2-1 / 3$ as long as the first (Prilippines)
BAKERIOLA Bergroth, 1920


## KEY TO THE GENERA OF FULVIINI

1. Pronotal collar absent or obscured by the calli ..... 2

- Pronotal collar present ..... 3

2. Tarsi two segmented; body shagreened, oval or rounded in outline (fig. 232) (Africa, Australia, India, Americas) PERITROPIS Uhler, 1891

- Tarsi three segmented; body not shagreened, elongate in out-line (Philippines) .............. FULVIDIUS Poppius, 1909

3. Pubescence on eyes longer than diameter of ommadium; cuneus very narrow, not as broad as the embolium or absent ..... 4

- Pubescence on eyes absent or if present not longer than dia-meter of ommatidium; cuneus if present, wider than embo-lium5

4. Lateral margins of pronotum strongly carinate; cuneus absent (Australia) . . . . . . . . . . . . . . . LYGAEOSCYTUS Reuter, 1893

- Lateral margins of pronotum not carinate; cuneus present, very narrow (Africa)
HEMIOPHTHALMOCORIS Poppius, 1912

5. Eyes reaching the gula below in lateral view (fig. 53) ..... 6

- Eyes not reaching the gula below in lateral view (fig. 51) ..... 13

6. Body oval; posterior angles of pronotum not produced and thelateral margins straight or convex; head and pronotum greenishmetallic, punctured (New Guinea)BIRONIELLA Poppius, 1909

- Body elongate, sometimes slightly widened laterally; posteriorangles of pronotum produced, the lateral margins slightlyemarginate7

7. Hemielytra without distinct cuneus and embolium, the corium divided into ecto, meso and endocorium (fig. 75) (Central \& South America) .......... XENOCYLAPUS Bergroth, 1922

- Hemielytra with a distinct cuneus and embolium 8

8. Embolium strongly widened after basal third; antennae inserted far from the anterior margin of the eyes 9

- Embolium of about the same width throughout, not noticeably widened after the basal third; antennae inserted contiguous


9. Rostrum reaching the middle coxae; embolium narrowed at the apex (Ceylon) ....... LEPIDOFULVIUS Poppius, 1913

- Rostrum reaching the base of abdomen; embolium not narrowed at the apex (Mentawei I.)

EUCHILOFULVIUS Poppius, 1909
10. Rostrum reaching the middle coxae (Mexico) ..............
$\ldots . . . . . . . . . . . . . . . . . . . . . . . . .$. . ORASUS Distant, 1883

- Rostrum reaching beyond the posterior coxae

11. First antennal segment reaching beyond apex of head (Cosmo-
politan) $\ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$..........................

- First antennal segment not reaching beyond apex of head 12

12. Rostrum very long, reaching apex of abdomen (Africa) .... MICROFULVIUS Poppius, 1912

- Rostrum reaching only the middle of abdomen (Colombia, Panama) .............. PERITROPOIDES Carvalho, 1955

13. Body smooth or shagreened, not punctured .............. 14

- Body above distinctly punctured

19
14. First segment of rostrum reaching the first coxae; antennae very long; cuneus indistinct

- First segment of rostrum not reaching beyond the base of head; the antennae not very long; cuneus usually distinct (at least on machopterous forms)17

15. Antenna very long; cuneus indistinct; species of large size 16

- Antenna not very long; cuneus distinct; species of small size (BRAZIL)

PARAFULVIUS Carvalho, 1954
16. Hemielytra with sparse, tubercular swellings; rostrum reaching the apex of abdomen (Malay, Philippines)

RHINOMIRIS Kirkaldy, 1902

- Hemielytra without tubercular swellings; rostrum not reaching beyond middle of abdomen (Africa)

RHINOMIRIDIUS Poppius, 1909
17. First antennal segment linear; first rostral segment reachingonly the middle of the eyes towards the apex (Africa) ......RHINOFULVIUS Reuter, 1902

- First antennal segment incrassate; first rostral segment as long as the head ..... 18

18. Species with aspect of beetle; brachypterous; calli and scutellum strongly raised (Jamaica)
BRACHYFULVIUS Carvalho, 1955

- Species without aspect of beetle; macropterous; calli and scutel-lum not strongly raised (Australia)
CERATOFULVIUS Reuter, 1902

19. Frons depressed, striolated and punctate; the body strongly punctate, cuneus absent (Java, Sumatra)
TERATOFULVIUS Poppius, 1914

- Frons smooth or sulcate, without punctures ..... 20

20. Hemielytra with tubercular swellings, vertex protruding up- wards with two convex tubercles (Philippines)................................ LUNDBLADIOLLA n.gen.
type: Psicolrranphus albomaculatus Stäl.

- Hemielytra without tubercular swellings; vertex not asabove ........................................................... 21

21. Cuneus absent; first antennal segment shorter than width ofhead, with two or three long setae; small, compact speciesNEw Guinea) ............. CYLAPOFULVIUS Poppius, 1909

- Cuneus present; first antennal segment as long as or longer than width of head, without setae; median size species ..... 22

22. Body glabrous; cuneus shorter than broad at base; rostrum reaching the middle of abdomen (Borneo)RHINOCYLAPUS Poppius, 1909

- Body with sparse, yellow, adpressed pubescence on hemielytra; cuneus about as long as wide at base; rostrum reaching the apex of the abdomen or nearly so (Formosa)
RHINOCYLAPIDIUS Poppius, 1915
KEY TO THE GENERA OF CYLAPINI

1. Body above smooth, rugose or shagreened ..... 2

- Body above, at least on pronotum, distinctly punctured ..... 12

2. Body with very short, adpressed pubescence ..... 3

- Body with erect or semierect pubescence ..... 7

3. Frons with a pointed process ..... 4

- Frons without a pointed process (If frons is produced then blunt or sulcate)

5
4. Scutellum flat; clypeus compressed; anterior femora incrassate

- Scutellum with a medium tubercle; clypeus not compressed; anterior femora not incrassate (Ceylon)

CINNAMUS Distant, 1909
5. Anterior tibiae strongly compressed, foliaceus (Ceylon) ....
$\ldots . . . . . . . . . . . . . . . . .$. . PHYLLOCYLAPUS Poppius, 1913

- Anterior tibiae not compressed and foliaceus ........... 6

6. First antennal segment very short and thick, about as long as half the width of vertex; head vertical (Philippines, Palau) CYLAPOMORPHA Poppius, 1914

- First antennal segment long slender, about as long as or longer than width of vertex; head inclined (Philippines, Koror) .. MYCETOCYLAPUS Poppius, 1914

7. Frons protuding in front, deeply sulcate (fig. 244) ........ 8

- Frons if protruding as above not sulcate ................. 9

8. First antennal segment as long as the head, the second three times longer than the first (fig. 244) (Madagascar, Americas, New Guinea) ....................... VANNIUS Distant, 1883

- First antennal segment as long as the head and pronotum together, the second segment only $1-1 / 3$ as long as the first (New Hebrides, Dauphin, Esp. Santo)

VANNIOPSIS Poppius, 1909
9. Posterior femora noticeably enlarged towards the base; second antennal segment about 7 times as long as first segment (fig. 245) (Madagascar) ....... PARACYLAPUS Carvalho, 1952

- Posterior femora not noticeably enlarged towards the base; second antennal segment less than 4 times as long as first segment 10

10. Body with semierect short pubescence; females brachypterous (Brazil) ............... CORCOVADOCOLA Carvalho, 1948

- Body with long and erect pubescence; both sexes macropterous .......................................................... 11

11. Frons sulcate, eyes very large and shortly pedunculate; head as wide as pronotum at base; rostrum reaching hind coxae (Brazil) .................... CYLAPOIDES Carvalho, 1952

- Frons smooth, eyes not pedunculate; head narrower than pronotum at base; rostrum longer (Philippines, New Guinea) . . TRICHOFULVIUS Poppius, 1909

12. Anterior femora strongly enlarged; cuneus absent or long as wide as base (India) ........... PROAMBLIA Bergroth, 1910

- Anterior femora not noticeably enlarged 13

13. Eyes rising a considerable distante above dorsum of head which is very deeply sulcate (Americas) ...... CYLAPUS Say, 1832

- Eyes not rising a considerable distance above dorsum of head which is not deeply sulcate ................................ 14

14. Pubescence erect and very fine; rostrum reaching genital segment; embolium wide, laminate, claval, corial and embolial veins with a row of punctures (Amazonia) CYLAPOCORIS Carvalho, 1954

- Pubescence not as above or if so then embolium narrow, corial, claval and embolial veins without a row of punctures (New Caledonia) ...................... FALISCUS Distant, 1904


## KEY TO THE GENERA OF TERMATOPHYLINI

1. First antennal segment reaching apex of head; second segment strongly enlarged, foliaceus (fig. 76) (North America) ...... ............... HESPEROPHYLUM Reuter \& Poppius, 1912

- First antennal segmnet reaching to or beyond apex of head; second segment if incrassate, not foliaceus or flattened (fig. 71) 2

2. Hemielytra transparent; eyes distant from pronotum, with long pubescence (fig. 21) (Central \& South America)

TERMATOPHYLIDEA Reuter \& Poppius, 191』

- Hemielytra not transparent; eyes contiguous with pronotum or nearly so, not or only shortly pubescent ................... 3

3. Head distinctly longer than wide .......................... 4

- Head wider than long or as wide as long ............... 5

4. Body with scale like pubescence in rows; eyes glabrous (Egypt) ............. ARGYROTELAENUS Reuter \& Poppius, 1919

- Body without scale like pubescence; eyes pubescent (North America) ............ CONOCEPHALOCORIS Knight, 1927

5. Head almost twice as wide as long; membrane coriaceus (Central \& South America)

TERMATOPHYLELLA Carvalho, 1955

- Head as long as wide or nearly so; membrane not coriaceus 6

6. Pronotum with a row of punctures on sulcus behind and between calli; pubescence very long and erect; rostrum reaching apex of anterior coxae (Central America)

TERMATOPHYLOIDES Carvalho, 1955

## - Pronotum without the row of punctures as above; pubescence not noticeably long; rostrum reaching the middle coxae or beyond (fig. 46) (Africa, India, Malay, Borneo) <br> TERMATOPHYLUM Reuter \& Poppius, 1912

## KEY TO THE GENERA OF CLIVINEMINI

1. Large species with several short spurious veins arising from large cell (fig. 67) (Central America)

MAGAMIRIS Hsiao, 1947

- Membrane without spurious veins on membrane
- Anterior margin of pronotum if cystfiorm, not hooded or projecting over the head (fig. 62)3
- Anterior margin of pronotum if cystiform, not hooded or projecting over the head (figs. 60, 63)5

3. Body with short, adpressed pubescence; cuneus twice or more as long as wide at base (Central \& South America)

OFELLUS Distant, 1883

- Body with erect or semierect pubescence; cuneus less than twice as long as wide at base

4. Hairs of body strongly curled somewhat flattened at middle, very dense; frons pointed (Central \& North America) ......

- Hairs normal, not curled; frons not produced (Central \& South America)

AMBRACIUS Stäl, 1860
5. Pronotum distinctly carinate between the calli and also in the middle of collar (Central America) ... ZOILUS Distant, 1884

- Pronotum not carinate between the calli and the middle of collar6

6. Lateral margins of pronotum distinctly carinate ..... 7

- Lateral margins of pronotum not carinate ..... 8

7. Second antennal segment stout and clavate (North America) LARGIDEA Van Duzee, 1912

- Second antennal segment linear (Panama) ADMETUS Distant, 1883

8. Body smooth, shining and glabrous (Jamaica) LAMPROSCYTUS Reuter, 1907

- Body pilose, pronotum distinctly punctate ..... 9

9. Membrane distinctly pilose (Europe, Asia \& North America)
BOTHYNOTUS Fieber, 1864

- Membrane glabrous ..... 10

10. Second antennal segment three times longer than first; body punctate only on pronotum, the rest smooth and shining (figs. 60, 63) (Central \& South America)
GUANABAREA Carvalho, 1948

- Second antennal segment approximately five times as long as first; body rugously punctate (West Indies)
HEMICEROCORIS Lethierry, 1881


## KEY OF THE GENERA OF HYALIODINI

1. Scutellum with a median stout, suberect spine-like projection (fig. 25) (South America)

KNIGHTONIA Carvalho \& Drake, 1944

- Scutellum smooth, without a spine-like projection ...... 2

2. First and second antennal segments very wide, laminate or foliaceus (fig. 58) (Central \& South America)

AUCHUS Distant, 1893

- First and second antennal segments cylindrical; if incrassate, never foliaceus

3
3. Pronotum strongly constricted on apical half, (figs. 56, 61) this portion being much narrover and as long as or longer than the head; embolium slightly wider than length of first antennal segment

- Pronotum not as above or of constricted anteriorly then embolium less wide than the length of the first antennal segment 5

4. Rostrum reaching apex of anterior coxae; eyes not contiguous with anterior margin of pronotum (fig. 61) (Central America) TRYGO Distant, 1884

- Rostrum reaching to or beyond middle coxae; eyes contiguous with anterior margin of pronotum (fig. 56) (South America) CARIJOANUS Carvalho, 1955

5. Eyes distinctly separated from pronotal collar this distance being about $1 / 3$ or more length of one eye (figs. $65,68,257$ ) 6

- Eyes contiguous with pronotal collar or nearly so (figs. 57, 59, 74)

6. Eyes large, occupying most of the sides of the head as seen from dorsal aspect (fig. 65), the distance between eye and collar equal to $1 / 3$ or less the length of eye 7

- Eyes not noticeably large,occupying only anterior portion of head (fig. 68), the distance between eye and collar equal about length of eye

7. Second antennal segment incrassate towards the apex; pronotum strongly constricted anteriorly, long and erectly pilose; mesoscutum broadly exposed (Haiti)

FENNAHIELLA Carvalho, 1955

- Second antennal segment not incrassate towards apex or if so then pronotum not strongly constricted anteriorly and body almost glabrous

8
8. Head about 2.5 times wider than long; first antennal segment 1.5 times or more longer than length of head; species usually over 4 mm . long (fig. 65) (South America)

HYALIODOCORIS Knight, 1943

- Head only two times wider than long or less; first antennal segment usually less than 1.5 times longer as head; species usually less than 4 mm . long (West Indies \& C. America) PARACARNUS Distant, 1884

9. Pronotum very coarsely punctate, with tubercular shining swellings; first antennal segment slightly longer than head; rostrum reaching the posterior coxae (Ecuador)

LYDE Distant, 1893

- Pronotum without shining tubercular swellings (excepting carina); first antennal segment usually distinctly longer than head; rostrum reaching the middle coxae (North, Central \& S. America) ...................... HYALIODES Reuter, 1876

10. Head strongly pointed in front (fig. 253); first antennal segment as long as width of one eye seen from above (Central America)

FUSCUS Distant, 1884

- Head rounded in front; first antennal segment longer than width of eye seen from above

11. First antennal segment three times as long as length of head; second antennal segment as long as first; rostrum reaching the posterior coxae (fig. 52) (Central \& South America)

ANNONA Distant, 1884

- First antennal segment less than three times as long as length of head; second antennal segment longer than first segment 12

12. Pronotum strongly convex and declivous towards the head and margins; first antennal segment as long as width of vertex; clavus usually brack with an ocellate white spot (fig. 74) (Central \& South America) ........ FLORUS Distant, 1884

- Pronotum not noticeably convex of if so, then first antennal segment longer than width of vertex and clavus not as above 13

13. First antennal segment incrassate, usually distinctly longer than head; species usually over 4.5 mm . long (figs. 59, 64) (Central \& South America) ........ PSEUDOCARNUS Distant, 1884


#### Abstract

- First antennal segment slender and about as long as head; species usually less than 4.5 mm . long (fig. 57) (Central \& South America)

ANTIAS Distant, 1884


## KEY TO THE GENERA OF DERAEOCORINI

1. Second antennal segment broad and distinctly flattened (fig. 76) ........................................................ . 24

- Second antennal segment linear or clavate (fig. 67) .... 2

2. Calli strongly raised and pointed at antero lateral angle; eyes set at middle of head; embolium very wide (Peru, Trinidad) PERUANOCORIS Carvalho, 1953

- Calli if convex not as above; eyes not set at middle of head but if so then embolium not noticeably wide 3

3. First antennal segment very short and thick, strongly narrowed basally, about as long as width of vertex; first tarsal segmen much thicker than the others with a tuft of hairs inferiorly; antennal peduncle very large (fig. 243) (Madagascar) ............................. PAULIANANA Carvalho, 1952

- First antennal segment not as above; first segment of tarsi if thick, then without the tulf of hairs; antennal peduncle not very large4

4. Frons punctate (Egypt) .... CRANOCAPSUS Wagner, 1954

- Frons smooth .................................................... 5

5. Frons transversely striate, the vertex sulcate (fig. 54) .... 6

- Frons more or less polished, scarcely striate, vertex not sulcate 7

6. Second antennal segment clavate; third and fourth short and thick, fusiform (North \& South America)

DIPLOZONA Van Duzee, 1915

- Antennae linear or nearly equal thickness throughout; second joint scarcely enlarged at apex, third and fourth linear (North \& South America) ............... EUSTICTUS Reuter, 1909

7. Hemielytra smooth, somewhat translucent, cuneus strongly inclined; body usually shining, clavo corial and embolio corial commissure at base with a row of punctures ............ 8

- Hemielytra punctate . .......................................... . . 9

8. Body glabrous, cuneal fracture not noticeably wide and deep; hemielytra translucent (Central America)

CARMELUS Distant, 1884

- Body pubescent, cuneal fracture wide and deep; hemelytra more or less opaque (Brazil) ....LUNDIELA Carvalho, 1951

9. Clypeus projecting beyond apex of first antennae; embolium very wide and thin ,fig. 55) (North \& South America) .... EURYCHILOPTERELLA Reuter, 1909

- Clypeus not projecting beyond apex of first antennal segment; embolium not as above10

10. Rostrum reaching to or slightly beyond anterior coxae; eyes removed from pronotum by a distance equal to at least onehalf of its length; small glabrous species with strongly produced head and pronotum (fig. 66)11

- Rostrum reaching middle or posterior coxae; eyes contiguous to pronotum or so; species if small, with head and pronotum not as above12

11. Body finely punctate; second antennal segment incrassatetowards apex, as thick as the first (Brazil)

ANNIESSA Kirkaldy, 1903

- Body coarsely and deeply punctate; second antennal segment linear, much more slender than first (fig. 66) (Africa, Australia, China, Philippines) ......... FINGULUS Distant, 1904

12. Pronotum carinate on lateral margins ..... 13

- Pronotum not carinate on lateral margins ..... 14

13. Hemielytra setose; eyes thick and erectly pilose (Australia, In-dia)

CIMICAPSUS Poppius, 1915

- Hemielytra not setose; eyes glabrous (New Zealand) ROMNA Kirkaldy, 1906

14. Second antennal segment distinctly clavate apically ..... 15

- Second antennal segment not clavate apically ..... 17

15. Cuneus strongly inclined; basal joint of hind tarsi thickened;membrane uniareolate, claval suture with a row of punctures;small species about 4 mm long (North America)

KLOPICORIS Van Duzee, 1915

- Cuneus not strongly inclined or if so then corial suture without a row of punctures; species over 4 mm long16

16. Deep black, polished species about 8 mm long; general aspect of Deraeocoris or Capsus; claws not distinctly toothed at base (North America)

DERAEOCAPSUS Knight, 1920

- Species not deep black, usually less than 8 mm long; claws distinctly toothed at base (New Guinea)

17. Scutellum hyaline, vitreous; body glabrous; eyes removed from pronotum by an espace equal to about twice the thickness of second antennal segment (fig. 246) (Africa)

- Scutellum not hyaline or vitreous; if so, then eyes touching
pronotum or body pubescent $\ldots .$. ..................... 18 .

18. Collar covered with a whitish dust-like powder; antennae with long setae and short hairs; head almost horizontal and produced between the bases of antennae (Europe, Asia)

ALLOEOTOMUS Fieber, 1885

- Collar without the whitish dust above; antennae with single type of pubescence; head not noticeably horizontal or clearly produced between bases of antennae 19

19. Pronotum very strongly punctate, vertex distinctly carinate ..... 20

- Pronotum if strongly punctate, then vertex not carinate ..... 2120. Body long and erectly pilose; second antennal segment witha few hairs and long erect setae (Tasmania)

PSEUDOCAMPTOBROCHIS Poppius, 1911

- Body glabrous; second antennal segment without long erect setae (Australia) ........... EURYBROCHIS Kirkaldy, 1902

21. Rostrum reaching the apex of mesosternum or middle coxate ........................................................... . 22

- Rostrum reaching the posterior coxae .................. 23

22. Second antennal segment a little incrassate near apex; clavus with a series of punctures following claval commissure (Java) LAMPROCRANUM Reuter, 1891

- Second antennal segment linear; clavus without a series of punctures following claval comissure (India) ...................................... DORTUS Distant, 1910

23. First segment of rostrum reaching for beyond base of head; second segment of hind tarsi slightly longer than first (China) CYPHODEMIDEA Reuter, 1904

- First segment of rostrum reaching base of head; second segment of hind tarsi usually shorter or as long as first (Cosmopolitan) DERAEOCORIS Kirschbaum, 1855

24. First antennal segment very thick, the internal margin slightly rounded, the external sinuate; vertex sulcate longitudinally; second antennal segment longer than head and pronotum together; embolium wide (Brazil)

PIESTOTOMUS Bergroth, 1922

- First antennal segment not noticeably thick, more or less straight; vertex smooth; second antennal segment shorter than head and pronotum together; embolium narrow (Brazil) ... AGASTICTUS Bergroth, 1922
Note: The genus Reuda Buch. White, 1878, (Ent. Mo. Mag. 15: 132) from New Zealand is not included in this Key, due to its incomplete description.


## KEY TO THE GENERA OF SATURNIOMIRINI

1. Calli with a V-shaped depression between them and a very distinct ocelloid stfucture laterally; pronotum punctate (New Guinea) .................. SATURNIOMIRIS Kirkaldy, 1902

- Calli without a depression between them; pronotum smooth 2

2. Calli with three large fossae or depressions behind them; pronotum carinate laterally behind the calli (fig. 70) (Australia)

TRILACCUS Horvath, 1902

- Calli with a continuous sulcus behind; pronotum not carinate laterally; an ocelloid shallow fossa laterally to calli present (New Guinea)

IMOGEN Kirkaldy, 1905

## KEY TO THE GENERA OF BRYOCORINI

1. Hemielytra without membrane on both sexes or the latter only vestigeal; clavus confluent with corium (fig. 137).. 2

- Hemielytra with a distinct membrane at least on male; clavus and corium usually distinct (fig. 131)

2. Rostrum reaching the middle coxae; second antennal segment as thick as first segment; outer margin of corium rounded; aspect of coleoptera (fig. 137) (Brazil)

COLEOPTEROMIRIS Carvalho, 1946

- Rostrum reaching the posterior coxae 3

3. Eyes pedunculate; second antennal segment more slender than first segment; inner margin of corium straight (fig. 231) (Mexico) . . . . . . . . . . . . . . AZTECARIELLA Carvalho, 1951

- Eyes not pedunculate; second antennal segment as thick as first segment; inner margin of corium strongly sinuate till the apical third (Cuba, San Domingos, Brazil)

HEMISPHAERODELLA Reuter, 1908
4. Eyes on a suberect stylus which is at least as long as the width of one eye, the cuneus at most twice as long as wide (fig. 170)

- Eyes sessil or at most but substylate, in this case, cuneus more than twice as long as wide7

5. Rostrum very short, not reaching the apex of anterior coxae; body with short, adpressed pubescence, the hemielytra rugousely punctate (Mentawei) ...... SIPORIA Poppius, 1915

- Rostrum reaching the posterior coxae or beyond it; body without adpressed pubescence; hemielytra punctate or smooth but never rugouse

6
6. Rostrum reaching beyond the posterior coxae; pygophore with a spiniform projection bent down; hemielytra distinctly punctured; first antennal segment about as thick as second (North \& Central America) ...... HESPEROLABOPS Kirkaldy, 1902

- Rostrum reaching the posterior coxae only; pygophore without a spiniform projection bent down; hemielytra smooth or so; first antennal segment twice as thick as second (Central America).................. . NEOLEUCON Distant, 1884

7. Eyes substylate with a short peduncle or if not, then cuneus very long and narrow, about three to four times as long as wide at base, with inner margin bent following the curvature of outer margin of membrane (figs. 127, 141, 149) ...... 8

- Eyes not substylate, cuneus not as long and narrow as above, usually with straight margins17

8. Apex of cuneus reaching the distal or apical margin of membrane (except females of Neoneella in this case, the rostrum reaching the base of abdomen) (figs. 141, 146)

$$
9
$$

- Apex of cuneus not reaching the distal or apical margin of membrane; the rostrum never reaching the base of abdomen (fig. 149) 12

9. Rostrum reaching at most to apex of middle coxae; species never reddish or luteous ................................ 10

- Rostrum eeaching the posterior coxae or beyond it; species with reddish or luteous colour11

10. Rostrum reaching the middle of mesosternum; scutellum smooth; eyes not strongly recurved (Central \& South Americas)

SPARTACUS Distant, 1884

- Rostsum reaching apex of middle coxae; scutellum distinctly punctured; eyes strongly recurved (Java)

$$
\text { ...................... MICROBRYOCORIS Poppius, } 1914
$$

11. Females with cuneus not reaching apex of membrane; cuneus of male very broad (fig. 146) (South America)

NEONEELLA Costa Lima, 1942

- Females with cuneus reaching apex of membrane; cuneus of male very narrow - (India, Malay, Philippines)

THAUMASTOMIRIS Kirkaldy, 1902
12. Second antennal segment longer than first segment; rostrum very short, reaching apex of first coxae; cuneus short (fig. 237) (Africa) .................... KUNUNGUA Carvalho, 1951

- Second antennal segment longer than first segment; rostrum reaching beyond apex of first coxae .................. 13

13. Calli very large with a deep median triangular depression; anterior area of pronotum smooth; eyes turned backwards reaching beyond posterior margin of head by a distance equal to

## about $1 / 3$ of length of eye; sides of hemielytra parallel (fig. 125) (Africa) ......... STENOPTEROCORIS China, 1944

- Calli without a median triangular depression between them; collar punctate; eyes not as above; sides of hemielytra slightly widened at middle 14

14. Eyes sessil; first antennal segment slender only at extreme base; vertex convex

- Eyes strongly prominent, substylated; first antennal segment much slender on basal half or third; vertex concave and slightly sulcate16

15. Collar as wide as the eye; the latter emarginate postero-internally, recurved over the collar (Java)

MYOCAPUS Poppius, 1914
Collar not as wide as the eye; the latter ont recurved backwardly over the collar (Central America)

NEOSILIA Distant, 1884
16. Cuneus very narrow on apical half or throughout, somewhat curved; eye peduncle about as high as width of one eye (fig. 149) (C. \& S. America, India, Malay) .... SINERVUS Stal, 1860

- Cuneus not noticeably narrow, more or less triangular; eye peduncle not as high as width of one eye (Africa, India)

PRODROMUS Distant, 1904
17. Rostrum reaching the posterior coxae or beyond it or when this is not the case, color reddish or luteous and black .... 18

- Rostrum not extending beyond the apex of middle coxae 33

18. Small species, usually with orange or luteous and bluish or black color; males with a characteristic prong on left dorsal side of pygophore

- Species with other color pattern or if so then males without the prong on genital segment

19. Calli srongly convex (fig. 143) (Americas)

- Calli not strongly convex (fig. 126) (North America)

HALTICOTOMA Reuter, 1913
20. Rostrum reaching fourth abdominal segment or beyond it 21

- Rostrum not reaching the fourth abdominal segment .... 22

21. Collar strongly depressed, the apical corners of pronotum tuberculate; second antennal segment incrassate at apex, shorter than third; claval corial and costal veins with punctures and a row of bright hairs; cuneal fracture oblique, the cuneus short, rounded apically, oblique, with same width throughout (Venezuela)

PRISTONEURA Reuter, 1892

## 32 Bol. Mus. Goeldi - Tomo XI (II) - Dezembro 1955

- Collar not strongly depressed and apical corners of pronotum not tuberculate; veins of hemielytra not as above; cuneus slender at apex (Brazil) .... STICTOLOPHUS Bergroth, 1922

22. Pronotum smooth or rugouse 23

- Pronotum distinctly punctate, sometimes very finely so (fig.

23. Rostrum surpassing the apex of posterior coxae; femora incrassate; collar about as long as first antennal segment thick, head triangular (Borneo)

NOTIDIUS Hsiao, 1944

- Rostrum not surpassing apex of posterior coxae; femora not incrassate; collar twice as long as first antennal segment thick; head rounded

24
24. Rostrum not reaching beyond hind coxae (Central America) PACHYPODA Carvalho \& China, 1951

- Rostrum reaching the third abdominal segment (Java) ...... MAUROCORIS Poppius, 1914

25. Pronotum with anterior portion strongly convex and somewhat hooded over the head, distinctly foveolate in the center of constriction; scutellum partially covered by truncate posterior margin of pronotum (Ceylon, Philippines)

ERNESTINUS Distant, 1911

- Pronotum not as above; scutellum exposed ............... 26

26. Eyes slightly stylate or prominent, curved posteriorly, touching apex of pronotum or protruding backward over lateral sides of the latter (fig. 171) . ............................... . . . 27

- Eyes sessil, not prominent or curved posteriorly ......... 30

27. Color orange red and bluish metallic; hemielytra noticeably longer than abdomen, areola triangular its apex reaching much beyond apex of cuneus, veins densely pilose; second antennal segment with long, erect setae (Malay, Java)

MERTILA Distant, 1904

- Color orange red or luteous, if bluish tinge present then hemielytra not noticably longer than abdomen, areola not as above, veins glabrous or nearly so; second antennal segment without long, erect setae 28

28. Large species over 5 mm with a basal excavation on scutellum, posterior margin of pronotum subtruncate (Central \& South America)

NEELLA Reuter, 1909

- Small species not over 4 mm long with convex scutellum, posterior margin of pronotum noticeably emarginate (Philippines) .............................. KNIGHTIOLA Hsiao, 1944

29. Hemielytra parallel; species without traces of luteous or reddish colour (fig. 150)

30

- Hemielytra distinctly or slightly widened at middle; species
luteous, orange or reddish with black or bluish metallic tinge (fig. 131)

31
30. Scutellum vonvex and smooth (Chile)

PACHYNEURRHIMENUS Reuter, 1909

- Scutellum flat triangularly compressed in middle, the impression angulate (New Guinea)

PLATYPELTOCORIS Poppius, 1912
31. First antennal segment about as long as half the width of vertex; pronotal collar somewhat hooded over the head; hemielytra very broad posteriorly (fig. 132) (Central \& South America) ........................... . MECOLAEMUS Hsiao, 1947

- First antennal segment longer than half the width of vertex; pronotal collar not hooded over the head; hemielytra not noticeably broad posteriorly .................................... 32

32. Hemielytra finely punctulate, without bluish metallic colour (India, Malay, Philippines, Australia)

BROMELIAEMIRIS Schumacher, 1919

- Hemielytra smooth, with bluish metallic tinge (Central \& South America) ................ TENTHECORIS Scott, 1886

33. Rostrum short and usually very thick, reaching the anterior coxae ............................................................. 34

- Rostrum usually slender, reaching to middle of mesosternum or to middle coxae, sometimes extending to its apex or so 39

34. First antennal segment shorter than width of vertex; species with black hemielytra and luteous or reddish head and pronotum (fig. 123)

- First antennal segment as longa as or longer than width of vertex; small species without traces of luteous or reddish 36
.35. Shining black species with head strongly produced inferiorly; pronotum noticeably narrowed anteriorly, glabrous, scutellum punctate; females macropterous, cuneus declivous, cuneal fracture deep and wide (Fig. 153) (Central \& South America) BOTHROPHORELLA Reuter, 1907
- Color not as above, head not produced inferiorly; pronotum not noticeably narrowed anteriorly, pilose, scutellum only rugose; females usually brachypterous, cuneus horizontal, cuneal fracture shallow (fig. 142) (Europe, Asia)

BRYOCORIS Fallen, 1829
36. Head not noticeably produced between the antennae below; frons smooth, eyes small, not curved posteriorly; collar wide (fig. 135) (South America)

ASPIDOBOTHRUS Reuter, 1907

- Head strongly produced between the antennae below; frons striate; eyes and vertex somewhat curved posteriorly; collar narrow (figs. 123, 134, 136)

37. Pronotum glabrous, strongly shining; general color bluish metallic (fig. 136) (Central \& South America)

EURYCIPITIA Reuter, 1905

- Pronotum distinctly pilose; general color not bluish metallic38

38. Small species, usually 4.5 mm long or less, with body strongly ovoid (fig. 123) (Central America)

DICRHOOCORIS Reuter, 1909

- Species usually over 4.5 mm long, with body elongate (fig. 134) (Central \& South America) .... SYSINAS Distant, 1883

39. Pronotum smooth, usually shining, sometimes rugose, but never


- Pronotum punctate, sometimes finely but distinctly so .. 42

40. Pronotum raised in middle behind calli and produced ever the latter; hind femora curved with a deep excavation on the upper surface (Cuba) .............. NOTOLOBUS Reuter, 1909

- Pronotum not as above; hind femora without an excavation 41

41. Pronotum not strongly narrowed in front; head without a neck; short, ovoid, dark and small species (Madagascar)

MONALOCOROPSIS Poppius, 1914

- Pronotum strongly narrowed in front; head with a distinct neck, distinctly longer than wide; claval veins usually with a row of punctures (fig. 164) (Pacific Is. Madagascar) ...... FELISACUS Distant, 1904

42. Small reddish or black and red species less than 4.5 mm long; second antennal segment about as thick as first, with unusually short pubescence; third and fourth segments very slender (fig. 196) (South America) PACHYMEROCERUS Reuter, 1909

- Species with other color or if so, the second antennal segment not as thick as first or beset with long, erect pubescence and larger than 4.5 mm long43

43. Eyes produced out and backwards, their inner margin level with external margin of collar; the latter distinctly set off from pronotum by a posterior furrow as wide as thickest portion of first antennal segment (about as long as half the lenght of one eye or 0.12 mm ) (India, Ceylon)

DIOCLERUS Distant, 1910

- Eyes and collar not as above or if so, otherwise coloured 44

44. Pronotal collar ditinct not wider than width of second antennal segment, distinctly delimited from disc of pronotum, dark small species usually with light embolium, membrane finely densely pubescent (fig. 172) 45

- Pronotal collar indistinct or if distinct then wider than width of second antennal segment, usually not distinctly delimited from disc of pronotum, seldom small, dark pilose species if so membrane always glabrous (fig. 133) ................. 47

45. First antennal segment longer than width of vertex, distinctly narrower on basal half; elongate, convex species with hemielytra parallel sided (Malay, Burma)

HEKISTA Kirkaldy, 1902

- First antennal segment narrower only on basal third or extreme base; shorter or equal to width of vertex; ovoid species with hemielytra dilated at middle (fig. 172) 46

46. Cuneal fracture deep and very wide; cuneus curved externally; hemielytra flat (Mexico) .... CYCLIDOLON Reuter, 1909

- Cuneal fracture shalow and narrow; cuneus straight externally; hemielytra more or less convex (Cosmopolitan)


## MONALOCORIS Dahlbom, 1851

47. Small species mostly black with head porrect, apically acute, more or less triangular; first antennal segment about as long as or shorter than width of vertex; pronotum strongly piceous, usually inflated and much higher than the hemielytra (figs. 133, 148)

48

- Species without the above combination of characters .... 50

48. Hemielytra covered by silvery silky or woolly pubescence; outer margin of eyes about level with anterior margins of ronotum (fig. 133) (Central \& South America)

CYRTOCAPSUS Reuter, 1875

- Memielytra without silky or woolly pubescence; outer margin of eyes produced beyond anterior margin of pronotum by at least half the width of one eye (fig. 148) ............... 49

49. Embolium narrow and incrassate; hemielytra with rather long, semierect pubescence, without silvery spots or areas; pronotum posteriorly moderately inflated (North, Central \& S. America) SIXEONOTUS Reuter, 1875

- Embolium broadly expanded and flat; hemielytra with very fine, short and erect pubescence and silvery spots or areas; pronotum posteriorly greatly inflated (North, Central \& South america) ............. PYGNODERES Guerin \& Men. 1856

50. Embolium very wide and conspicuous or swollen at middle always with a pit like depression or when this is not the case (female of $H$. dilatatus) body very strongly shining, bluish or
greenish metallic (figs. 156,165 )

- Embolium if modified, never with a pit like depression 52

51. Body with metallic bluish or greenish colour; cuneus with a pit like depression, emboliar pit conspicuous, open towards the outside (fig. 165) (Cuba)
HETEROCORIS Guerin \& Men., 1856

- Body without metallic bluish or greenish colour; cuneus without a pit like depression, emboliar pit deep, round or oval, not open towards the outside (fig. 156) (Central America) ......

METAFURIUS Carvalho \& China, 1951
52. Embolium distinctly laminate about, as wide as or wider than half the width of vertex; species with other colour than black (figs. 158, 168)

- Embolium not laminate, equally wide throughout, usually incrassate, realy narrowing toward apex, never as wide as half the width of vertex or if so, small and black species

53. Embolium strongly dilated on based third so that the basal part of costa forms an obtuse angle with the apical part of costa (fig. 168) (Central \& South America)

- Embolium laminate throughout, not noticeably widened on basal third, narrowing gradually toward apex


54. Embolium strongly arcuate externally; scutellym with a tumid basal lobe projecting backwards and a flat, pointed apical fourth; body very long, fine and erectly pubescent eyes not recurved (New Caledonia) .... GUNHADIA Distant, 1920

- Embolium not strongly arcuate externally; scutellum not as above, convex; body with short, erect pubescence; eyes strongly recurved, collar somewhat hooded over the vertex (fig. 158) (Brazil) ...................... ZIKANIOLA Carvalho, 1946

55. Embolium wide at base, narrowed toward apex, after the middle; costal vein with a row of punctures; body strongly rounded (New Guinea) ... HEMISPHAEROCORIS Poppius, 1912

- Embolium if wider at base, never with a row of punctures over costal vein; body not noticeably rounded56

56. Pronotum very coarsely and deeply punctate, glabrous, the size of the punctures equal to the width of second antennal segment (fig. 173) (Central America)

NOTOTREMATES Carvalho \& China, 1951

- Pronotum not noticeably coarsely punctate, pilose, size of the punctures smaller than width of second antennal segment 57


#### Abstract

57. Head in dorsal view apically pointed; pronotum finely pubescent and punctured; hind tibiae linear (fig. 140) (Central America) ...... KNIGHTOCORIS Carvalho \& China, 1951 - Head in dorsal view apically round; pronotum distinctly pubescent; hind tibiae usually thickened toward apex .... 58


58. Elytra with very long, erect, fine pubescence; male with first antennal segment toothed (fig. 150) (Central America) .... ODONTOCEROCORIS Carvalho \& China, 1951

- Elytra with short adpressed pubescence, if erect or semierect then without a tooth in last antennal segment ........... 59

59. Elytra parallel sided (fig. 150) . . . . . . . . . . . . . . . . . . . . 60

- Elytra wider across middle than at base or apex (fig. 122) 64

60. Head distinctly exserted, with a neck as long as the eyes which are placed about its middle (North America) TYLOCAPSUS Van Duzee, 1923 *

- Head not exserted, if a short neck is present, the eyes less distant from pronotum ............................................... 61

61. Scutellum totally covered by pronotum (Central \& South America) .................. PSEUDOBRYOCORIS Distant, 1884

- Scutellum not covered by pronotum ..................... 62

62. Small, elongate dark species; pronotum with two distinct constrictions, collar and calli together about as long as disc; males with a wide and deep sulcus on frons, the vertex bifoveolate (India, Ceylon, Burma) ...... HARPEDONA Distant, 1904

- Species with a distinct color pattern; anterior portion of pronotum usually shorter than disc; males without the sulcus mentioned above .............................................. 63

63. Pronotum flat, the cuneus very narrow and pointed (Philippines) ............................ EOFURIUS Poppius, 1915

- Pronotum more or less inflated convex; cuncus long and wide at base (Central America) ..... NEOFURIUS Distant, 1884

64. Elytra very oval and flat, with dense, short adpressed pubescence (fig. 122) ............................................... . . 65

- Elytra very slightly widened in middle, with rather sparse erect or semierect pubescence ............................. 66

65. Second antennal segment more than twice as long as the first; division between corium and cuneus not distinct; species usually larger than 6 mm long (Central America)

MALA Distant, 1884

[^0]- Second antennal segment less than twice as long as firts; division between corium and cuneus distinct; species usually less than 5 mm long (Central \& South America)

PARAFURIUS Carvalho \& China, 1951
66. Collar area somewhat projecting over base of head; second segment of antennae shorter than width of head; scutellum punctate (fig. 248) (Mexico)

EURYCHILELLA Reuter, 1909

- Collar area not projecting over base of head; second antennal segment longer than width of head; scutellum not punctate (Central \& South America, New Guinea)

ECCRITOTARSUS Stäl, 1860
Note: The following genera are not included in the key, since the types were not seen and the descriptions are incomplete:

Cobalorhynchus Reuter, 1906 (Ann. Mus. Zool. St. Petersb. 10: 1); China.

Lopidolon Poppius, 1911 (Ofv F. Vet. Soc. Forh. 53A (2): 7); India.

Perissobasis Reuter, 1892 (Ann. Soc Ent. Fr. 61: 397); Venezuela.

## KEY TO THE GENERA OF MONALONIINI

1. Femora with two swellings at apex, the distal one large, balloonlike; scutellum smooth and flat (Java)

ARTHRITICUS Bergroth, 1923

- Femora not swollen at apex as above or if so, scutellum armed with one or more spines or processes2

2. Scutellum flat or convex, sometimes bladder like or cystiform with tubercles, but never true spines or processes5

- Scutellum armed with one or more spines or processes (figs. 120, 121, 159)

3. Scutellum with a single, very long and slender spine ending in a button like knob; antennae very long and linear; apex of corium without a shield shaped elevation (fig. 159) (Africa, India, Australia) ............ HELOPELTIS Signoret, 1858

- Scutellum without a very long spine ending by a botton-like knob; antennae with segments incrassate apically or at middle; apex of corium with a shield shaped elevation

4. Scutellum with a thick, high, mushroon-like process; posterior angles of pronotum not produced into a flat spine; antennae with apices not balloon-like inflated (fig. 121) (Africa) .... PHYSOPHOROPTERA Poppius, 1910

- Scutellum with a medium process branched apically into a pair of short, pointed spurs; posterior angles of pronotum produced into a flat, pointed process; antennae with apices of joints inflated into balloon-like knobs (fig. 120) (Africa)

PHYSOPHOROPTERELLA Poppius, 1914
5. Embolio corial and clavo corial suture without punctures; pronotum and hemielytra glabrous

6

- Embolio corial and clavo corial sutures with a row of close set punctures (high magnification); pronotum or hemielytra pubescent (fig. 139) 7

6. Second antennal segment little longer than first; apical angle of areolae or vein of membrane acute and pointed (Australia, Fiji)

EUCEROCORIS Westwood, 1837

- Second antennal segment about six times as long as first; apical angle of areole or vein of membrane rounded (fig. 138) (Central \& South America)

MONALONION Herrich Schaeffer, 1850
7. Pronotum strongly wrinkled; rostrum reaching the middle of mesosternum (Africa) .... PARARCULANUS Poppius, 1912

- Pronotum smooth and shining; rostrum reaching the apex of anterior coxae 8

8. Frons strongly swollen, as seen from above produced well in front of eyes above base of clypeus; first antennal segment strongly thickened but glabrous; membrane with a spurious vein; calli prominent as two round, erect protuberances (Congo, Madagascar) .............. ARCULANUS Distant, 1904

- Frons not swollen neither produced in front of the eyes above base of clypeus, anterior margin seen from above almost straight between and level with anterior margin of eyes; first antennal segment not inordinate thickened with erect hairs; membrane without spurious vein; calli not as erect protuberance

9. Embolium as wide as thickness of first antennal segment; pronotum covered by long setiform hairs (fig. 30) (Africa) .... POPPIUSIA China, 1944

- Embolium not as wide as thicness of first antennal segment: if so, frons with three tubercles; pronotum smooth or with common hairs only 10

10. Pronotum completely glabrous ..... 12

- Pronotum pubescent ..... 11

11. Frons with three tubercles bearing long hairs; body above and the antennae long and erectly pilose; cuneus short; areola with inner apical angle almost straight (Formosa, Malay)

EUPACHYPELTIS Poppius, 1915

- Frons without tubercles; body above and antennae not noticeably long and erectly pilose; cuneus twice as long as wide; areolae with inner apical angle strongly acute (India, Malay, Pacific Is.) ................ PACHYPELTIS Signoret, 1858

12. Hemielytra with short, adpressed pubescence (erect only on clavus); scutellum covered by pronotum at base (Indochina) MANSONIELLA Poppius, 1915

- Hemyelytra glabrous; scutellum not covered by pronotum at base (Australia) ........ PACHYPELTOPSIS Poppius, 1912


## KEY TO THE GENERA OF ODONIELLINI

1. Membrane of hemielytra with a number of auxiliary veins or vein-like impressions extending from basal cell to apex of membrane, the cubital vein distinct, arising from the basal angle of the cell and extending along anal margin (fig. 124) 2

- Membrane of hemielytra without such auxiliary veins, sometimes with a spurious vein arising from the apical angle of basal cell

2. Frons distinctly swollen and produced anteriorly between bases of first antennal segments, delimited from vertex by a sinuate impression, first antennal segment short and thick, shorter than length of head with neck, twice as long as wide, third segment very strongly thickened in middle, much thicker than first segment (fig. 124) (Africa)

PANTILIOMORPHA Schumacher, 1917

- Frons feebly swollen and not produced anteriorly between bases of antennae, not delimited from vertex by a sinuate impression, first antennal segment less thickened, slightly longer than length of head with neck four times as long as wide, third segment not much thicker in middle than apex of second segment (Africa) .... LYCIDOCORIS Reuter \& Poppius, 1911

3. Frons in front with three strong anteriorly or upwardly directed spines; first antennal segment densely beset with long, erect scale like hairs

4

- Frons without three of such spines; sometimes with two or three tubercular process in which case, the first antennal segment without scale like hairs

4. Last three antennal segments with short hairs; lateral spines of frons distinctly bent outwards (Africa)

CHAMOPSIS Reuter \& Poppius, 1911

- Last three antennal segments with long hairs; lateral spines of frons distinctly bent upwards (fig. 239)

5. Frontal spines very high, as long as the depth of one eye seen from side; pronotum with two lateral discal lobes; scale like hairs of first antennal segment very large (Africa)

PARACHAMUS Schouteden, 1946

- Frontal spines short, seen from side not as long as the depth of one eye; pronotum without lobes; scale like hairs of fisst antennal segment slender (fig. 239) (Africa)

CHAMUS Distant, 1904
6. Frons, above base of clypeus between antennac, with a pair of distinct conical protuberances, these rarely minute or fused into one in which case apex of second and third and fourth antennal segments strongly swollen; sometimes tubercles minute and setigerous and rather indistinct in which case pronotum, posterior laterally, strongly dilated, its margins serrate and pronotal collar armed with four tubercular processes (figs. 128, 129)7

- Frons, above of clypeus between antennae without a pair of conical protuberances or setigerous tubercles, the frons sometimes prominent between antennae in which case apex of second antennal segment not or only slightly thickened .... 14

7. Pronotal collar with four tubercular processes, the inner pair elongate; surface of pronotum with ten erect conical processes in two rows, the two centre ones of posterior row of six, much longer and bigger than others; posterior lateral margins of pronotum dilated and serrate; scutellum split up into six lobes (fig. 169) (Africa) ........ YANGAMBIA Schouteden, 1942

- Pronotal collar without erect tubercular processes; surface of pronotum without erect conical processes, the posterior margin of pronotum not serrate and scutellum not multilobate ... 8

8. Puncturation of pronotum deep and more or less regular, the surface without small, shining, tubercular swellings (fig. 129) 9

- Puncturation of pronotum less deep, rugousely confused, surface with small irregularly placed tubercular, shining swellings (fig. 128)12

9. Scutellum strongly inflated, cystiform (fig. 129) ......... 10

- Scutellum not noticeably inflated or cystifosm (Philippines)

VOLKELIOPSIS Poppius, 1915
10. Connexivum of abdomen largely exposed; scutellum not covering the clavus on sides; frontal tubercles longer than wide at base (fig. 128) (Spanish Guinea, Fernando Pó)

BRYOCOROPSIS Schumacher, 1917

- Connexivum of abdomen covered by the hemielytra or only slightly exposed; scutellum produced over the clavus laterally,
covering it almost entirely; frontal tubercles shorter than wide at base

11. Head seen from above with two distinct tubercles on anterior margins, the clypeus distinctly visible between them; scutellum hemispherical, widest in middle, the basal margin overlying pronotum arcuate (fig. 166) (Thibet)

RHOPALICESCHATUS Reuter, 1893

- Head seen from above with the anterior tubercles fused to form an anteriorly truncate process which hides the clypeus; scutellum shield shaped, widest at base, the basal margin overlying the pronotum, straight not arcuate (fig. 129) (New Britai) PSEUDODONIELLA China \& Carvalho, 1951

12. Scutellum about as high as the pronotum, pointed apically; connexivum of abdomen usually covered by the hemielytra or so; form elongate

- Scutellum round, much higher than pronotum; connexivum of abdomen largely exposed; form ovoid (fig. 128) (New Guinea, New Britain)

PARABRYOCOROPSIS China \& Carvalho, 1951
13. Hind tibiae distinctly nodulousely swollen; eyes small, only one quarter the width of vertex; acetabula of anterior legs large, visible from above on each side of anterior collar (fig. 147) (Africa)

DISTANTIELLA China, 1944

- Hind tibiae simple, not nodulousely swollen; eyes large, about one half the width of vertex seen from above; acetabula of front legs small, not visible from above (fig. 145) (Africa) SAHLBERGELLA Haglund, 1895

14. Rostrum extending to the posterior coxae ............... 15

- Rostrum extending to the anterior or middle coxae .... 16

15. Hemielytra with minute scalelike hairs giving a shagreened appearence; connexivum not exposed; head pointed in front (Africa)

BOXIA China, 1943

- Hemielytra without minute scales; connexivum largely exposed; head rounded in front (Malay)

PLATYNGOMIRIS Kirkaldy, 1902
16. Rostrum reaching to middle coxae; second antennal segment strongly incrassate at apex; clavus punctate (fig. 130) (Africa)

VILLIERSICORIS Delattre, 1950

- Rostrum reaching to anterior coxae or slightl beyond; second antennal segment not incrassate at apex; clavus not punctate

17. Third and fourth antennal segments distinctly clubshaped; scutellum convex, not higher than pronotum when seen from
side; hemielytra and scutellum densely pilose, moderately shining (Australia) ................ VOLKELIUS Distant, 1904

- Third and fourth antennal segments more or less linear; scutellum strongly inflated, a little higher than pronotum when seen from the side; hemielytra and scutellum glabrous or slightly pilose, strongly shining (Africa)

ODONIELLA Haghlund, 1895

## KEY TO THE GENERA OF PHYLINI

1. Black species, brachyperous; elytra without membrane, the corium, clavus and cuneus fused 2

- Species with other color or if black and brachypterous then the hemielytra with membrane or corium, clavus and cuneus not fused 3

2. Small species about 1.6 mm long; second antennal segment very thick, as wide as length of first segment (fig. 73) (Bra-


- Species about 4 mm long; second antennal segment cylindrical, not incrassate (Caucasus)

HOMALANER Kiritshenko, 1951
3. Second antennal segment of ionspicuous shape (fig. 93), strongly bent at middle like a letter U with a shorter arm; legs vesy long (Dutch Guiana)
aNOMALOCORNUS Carv. \& Wygodz. 1945

- Second antennal segment linear or incrassate but never bent or U shaped; legs not noticeably long ................. 4

4. Third antennal segment globose, beset with long, flattened hairs (fig. 00); pubescence of body erect, intermixed with silvery, flat hairs; species of small size and light color (North and Central America) . . HAMBLETONIOLA Carvalho, 1954

- Third antennal segment cylindrical, with common pubescence............................................. ...... 5

5. Pronotum above distinctly punctured (fig. 74) ........ 6

- Pronotum above smooth or very fine and indistinctly punctured

6. Pronotum with lateral margins explanate, straight, broadly and strongly reflexed; disc irregularly rugose; second antennal segment strongly reflexed; disc irregularly rugose; second antennal segment strongly clavate (North America)

PRONOTOCREPIS Knight, 1929

- Pronotum with lateral margins not reflexed or explanate; disc not rugose; second antennae not clavate7

7. Tarsi of posterior tibiae very long, about as long as half the length of the latter; eyes very large (Turkestan)

BOOPIDOCORIS Reuter, 1879

- Tarsi much shorter; eyes not very large

8. Pronotum coarsely punctured; dorsum brilliant metallic; two last antennal joints linear (Africa)

LAMPROSTHENARUS Poppius, 1914

- Pronotum finely punctured; dorsum not metallic; two last joints of antennae fusiform (St. Helena)

AGRAMETRA Buc. White, 1878
9. Eyes substylate, distant from pronotum; hemielytra transparent; first and second antennal segments incrassate (Brazil) (fig. 78)

CRASSICORNUS Carvalho, 1945

- Eyes not substylate, contiguous with pronotum; hemielytra not transparent

10. Body beset with scale-like hairs or flattened silvery hairs intermixed with common pubescence (in the latter case usually tibial spines with black spots at base, eyes noticeably granulose, second antennal segment longer than width of head, rostrum reaching the posterior coxae or little beyond, vertex not carinate

- Body without scale-like or flattened silvery hairs intermixed with common pubescence (if silky or wooly hairs are present amongst other hairs, then without the set of characters pointed above)

11. Fairly large, dark species with head much wider than long, eyes substylate; vertex strongly carinate; body beset with dense, elongate whitish scale-like hairs; pseudoralia appressed to the claw, almost reaching its apex (Africa)

LASIOLABOPS Poppius, 1914

- Usuall small species; if large, then the eyes sessile; pseudarolia not as above

12. Head transverse, frons vertical, not protruding in front of antennal bases as seen from dorsal aspect (fig. 77) .... 13

- Head produced in front of antennal bases, if not distinctly so then the scale-like pubescence black (fig. 82)

13. Espace between buccula and eye not greater than thickness of first antennal segment except in females where distance may exceed width of last antennal segment but does not equal its length (Americas)

RHINACLOA Reuter, 1876

- Espace between buccula and eye greater than thickness of first antennal segment, usually subequal to length of segment

14. Second antennal segment five times length of first; hind tibiaewith light spines without dark spots at base (Transcaspia)STHENAROPSIS Poppius, 1912

- Second antennal segment not over three times length of first;hind tibiae with black spines having dark spots at base (NorthAmerica) .................. LEPIDOPSALLUS Knight, 1923

15. Clypeus sharply produced, apex pointed (fig. 99) ..... 16

- Clypeus not produced, vertical, the apex blunt (fig. 82) ..... 17

16. Both sexes with second antennal segment strongly incrassate, about twice as long as first segment (Europe, North America)EXCENTRICORIS Carvalho, 1955

- Only the male with second antennal segment incrassate ( aboutfour or more times as long as first (Europe, Asia, North Ame-rica) . . . . . . . . . . . . . . . . . . . . . . . . CRIOCORIS Fieber, 1858

17. Second antennal segment strongly thickened, much broaderthan the first (fig. 82) (Cosmopolitan)
ATRACTOTOMUS Fieber, 1858

- Second antennal segment not strongly thickened, usually more slender than the first segment ..... 18

18. Second antennal segment slightly compressed, thickest at mid- dle were it is thicker than first, covered with very dense, fairlylong, semierect black pubescence (Africa)LEPIDOCAPSUS Poppius, 1914

- Second antennal segment linear, not thicker than and notpubescent as above19

19. Length of second antennal segment or equal to width of head across eyes ..... 20

- Length of second antennal segment greater than width ofhead across eyes21

20. Head inclined, produced in front of antennal bases; pubes- cence with erect and silvery deciduous hairs; first antennal as long as lorum (North America)
MEGALOPSALLUS Knight, 1927

- Head rounded in front; pubescence mostly of sericeous deci-duous hairs; first antennae longer than lorum (North Ameri-ca)EUROPIELLA Reuter, 1909

21. Scale-like pubescence black; a pseudo-pronotal collar present (Europe) ....................... EXAERETUS Fieber, 1864

- Scale-like pubescence silvery; a pseudo-pronotal collar
absent ..... 22

22. Hind tibiae with light spines having dark spots at base ..... 23

- Spines of hind tibiae with other colour if light, then without dark spots at base ..... 24

23. Body legs and antennae with minute fuscous or reddish spots; scales on cuneus black (Guatemala) spots; scales on cuneus not black (Ceylon)

DEMOPLESIA Poppius, 1913
24. Hind tibiae with dark spines without dark spots at base 25

- Hind tibiae with dark spines having dark spots at base or with light spines without dark spots at base ........... 27

25. Pseudarolia attached only at base of claw, tip free and extendng to middle of claw (Americas)

REUTEROSCOPUS Kikraldy

- Pseudarolia united with claw

26. Setiform hairs black, strong and erect, especially on vertex and anterior margin of pronotum (Algeria)

CHRYSOCHNODES Reuter, 1901

- Setiform hairs yellow or whitish, long and fine (Europe) ... PHYLIDEA Reuter, 1899

27. Rostrum not reaching the apex of hind coxae or beyond it; head seen from above as long as pronotum (North America) HOPLOMACHIDEA Reuter, 1909

- Rostrum reaching the apex of hind coxae or beyond it; head seen from above shorter than pronotum $\qquad$

28. Clypeus prominent, distinctly visible from the side; antennae long, segment II linear, in male somewhat thicker apically, length equal to or greater than basal width of pronotum (Cosmopolitan) .................... PSALLUS Fieber, 1858

- Clypeus nearly flat, scarcely visible from the side; antennal segment II rather short, length not over one-half or two-thirds the basal width of pronotum

29. Vertex carinate or marginate; third segment of hind tarsus longer than second (Cosmopolitan) SPH.ena.huS. Fzuels

- Vertex smooth, not marginate; third segment of hind tarsus shorter than second (Africa)

STENOCAPSUS Bergroth, 1926
30. Pseudarolia arising from base of claw, free and convergent at apices .......................................................... 31

- Pseudarolia if free and arising from base of claw, never converging at apices

32
31. Head vertical, tibiae with black spots (Africa)

SCHROEDERIELLA Poppius, 1914

- Head not vertical; tibiae without black spots (Africa, Madeira, Madagascar) ......... CEPHALOCAPSUS Poppius, 1914

32. Length of second antennal segment lesse than width of head across eyes; in species in which the two are almost equal, hind femora light with dark spots (fig. 97) ................... 33

- Length of second antennal segment greater than width of head across eyes; in species in which the two are almost equal, hind femora not light with dark spots 51

33. Light coloured species with femora yellow and beset with conspicuous black spots ( (fig. 90) ........................ . . 34

- Dark coloured species or if light, femora black to dark brown or of femora light, then without dark spots (sometimes with light fucous points or cloudings) 39

34. Pubescence distinctly silky or woolly, adpressed; black spots of femora only on the external margins, not very conspicuous (Africa) . .............. BRACHYCRANELLA Reuter, 1905

- Pubescence with setiform or fine hairs, but not silky or woolly or adpressend, if so then black spots of femora large and irregularly placed

35
35. Rostrum reaching slightly beyond anterior coxae; pseudarolia free and paralell (Europe, North Africa)

MOISSONIA Reuter, 1894

- Rostrum reaching the middle coxae or beyond it; pseudarolia connected with claw or not visible 36

36. Pubescence erect, bristle-like; tibiae strongly spinose, length of spines about twice the diameter of tibiae (North America) (fig. 191) .......................... PHYLLOPIDEA Knight

- Pubescence simple, not bristle-like; tibial spines shorter 37

37. Distance from lower apex of eye to buccula, seen from side, equal or less than half the height of eye; arolia visible (Cosmopolitan) .................. CAMPYLOMMA Reuter, 1878

- Distance from apex of eye to buccula equal or about equal the height of one eye; arolia not visible (fig. 180) .... 38

38. Clypeus not extending backwards to a point beneath front margin of eye; as seen from side clypeus and juga narrow (Asia, Europe, North America)

ATOMOSCELIS Reuter, 1878

- Clypeus extending backwards to a point beneath front margin of eye; as seen from side, the clypeus and jugum very broad (Algeria)

APHAENOPHYES Reuter, 1899
39. Male antennae with first and second joint greatly thickened; hemielytra black with a pale mark on clavus; females sometimes brachypterous (fig. 97) (Americas)

SPANOGONICUS Berg, 1883

- Hemielytra without a pale mark on clavus or if so, male antennae slender, scarcely thicker than in female; the latter macropterous40

40. Pubescence setiform, stiff and black ..... 41

- Pubescence very fine, erect or semiadpressed, not setiform ..... 42

41. Pseudarolia almost reaching the apex of claw; first rostralsegment reaching anterior coxae; dorsum and head notstrongly hirsute (Europe) . . . . . LITOXENUS Reuter, 1885

- Pseudarolia reaching at most the middle of claw, first rostral segment scarcely surpassing the base of head; dorsum and head strongly hirsute (North America)

PHYLLOPIDEA Knight, 1919
42. Pubescence very short, almost glabrous species with body more or less dull; tibial spines short and placed beyond the middle of tibiae43

- Body distinctly pubescent, usually shining; tibial spines placed throughout the tibiae, relatively long 44

43. Sides of pronotum emarginate; head bluntly rounded in front; third segment of hind tarsi longer than second (fig. 37) (Europe, Asia, North America) . . CONOSTETHUS Fieber, 1858

- Sides of pronotum straight; head distinctly pointed in front; third segment of hind tarsi as long as second (fig. 100) (Europe) .......................... . STENOPARIA Fieber, 1870

44. Head very wide, the posterior margin semicircular, the eyes
prominent reaching backwards to the middle of pronotum (Egypt) . . ..................EURYCRANELLA Reuter, 1904

- Head if wide, not with a semicircular posterior margin, the eyes never reaching backwards to the middle of pronotum 45

45. Hind femora pale without black or fuscous spots ...... 46

- Hind femora black or fuscous or pale but in the latter case with some black or fuscous spots . ........................ . . 47

46. Tibial spines pale; rostrum reaching apex of mesosternum; second antennal segment slightly incrassate toward the apex (Africa) . ................. LEPTOXANTHUS Reuter, 1905

- Tibial spines black; rostrum reaching apex of middle coxae or beyond; second antennal segment linear (Europe, Asia, Madeira) . ............... MAURODACTYLUS Reuter, 1878

47. Head seen from above strongly produced in front between the antennae (fig. 88)

48

- Head seen from above rounded in front, not or only slightly produced between the antennae .......................... . 49

48. Body with silvery silky pubescence intermixed with fine hairs;tibial spines with dark spots at base (Formosa)
CEPHALOCAPSIDEA Poppius, 1915

- Body with a single type of pubescence; tibial spines withoutdark spots at base (fig. 88, 235) (Central America)RANZOVIUS Distant, 1893

49. Tibial spines yellow; small species with apex of scutellum, a spot on corium and base of cuneus white (Africa)
TORMA China, 1927

- Tibial spines dark, with or without dark spots at base; apex of scutellum and base of cuneus not white ..... 50

50. Clypeus with a distinct suture at base; head narrow; apex of cuneus white (North America)
STROPHOPODA Van Duzee, 1921 *

- Clypeus without a suture at base, confluent with frons; headwide; apex of cuneus concolorous (Cosmopolitan)
CHLAMYDATUS Curtis, 1833

51. Pseudarolia large, reaching to or projecting slightly beyondapices of claws, connected with them or not; disc of proster-nal xyphus depressed and with elevated margins (figs:9,10 )52

- Pseudarolia minute or not visible, never reaching tips ofclaws; disc of prosternal xyphus convex; margins not elevated(figs. 5, 8)57

52. Rostrum reaching the middle coxae ..... 53

- Rostrum reaching the hind coxae or beyond ..... 54

53. Pubescence of body yellowish; hemielytra pale (North Ame- rica) NICHOLIA Knight, 1929- Pubescence of body black; hemielytra with dark points (Tur-kestan) ........................ SCEODAMIA Poppius, 1912
54. Pseudarolia not reaching beyond apices of claws; rostrum surpassing the hind coxae ..... 55
-- Pseudarolia reaching beyond the apices of claws; rostrum notsurpassingt he posterior coxae (figs. 9, 10) ............ 5655. Head not strongly produced anteriorly; anterior margin ofpronotum straight (Russia) ... ETHELASTIA Reuter, 1876
-- Head strongly produced anteriorly; anterior margin of pronotum concave (Europe, N. Africa, N. America)
AMBLYTYLUS Fieber, 1858
[^1]
## 50 Bol. Mus. Goeldi - Tomo XI (II) - Dezembro 1955

56. Claw distinctly toothed at base; pseudarolia free, fused to claw only at base (fig. 10); clypeus strongly protruding (Europe, Asia, North Africa) .......MACROTYLUS Fieber, 1858

- Claw not toothed at base; pseudarolia fused to claw in its greater or whole extension (fig. 9); clypeus not protruding (Europe, Asia, Africa, N. America) .... LOPUS Hahn, 1833

57. Margin of eye well separated from antennal fossa, minimum space between the two usually more than one third as great as diameter of antennal fossa; margin of eye near antennal fossa almost straight (fig. 95) 58

- Margin of eye almost or quite touching antennal fossa, minimum space between the two not more than one eighth as great as diameter of antennal fossa; margin of eye more or less emarginate near antennal fossa (fig. 85)

74
58. Lateral margin of pronotum widely reflected, sinuate before the posterior angles; legs very short; with black pubescence (Turkestan) ........... PLEUROXONOTUS Reuter, 1904

- Lateral margins of pronotum not reflexed; legs not as above ............................................................. . . 59

59. Body with black setiform hairs only (sometimes easily rubbed off) 60

- Body with golden or yellow fine pubescence only or with setiform hairs intermixed with silky hairs ................. 65

60. Rostrum reaching the mesosternum; pubescence very short; frons tumid, striolate (Algeria) .... EUDERON Puton, 1888

- Rostrum reaching the apex of middle coxae or beyond; pubescence not noticeably short; frons not striolate ..... 61

61. Rostrum reaching the apex of middle coxae; xyphus of prosternum impressed at middle, obtusely marginate (Siberia)

IBIARIS Horvat \& Reuter, 1900

- Rostrum reaching the posterior coxae or beyond; xyphus of prosternum not marginate, if so, the rostrum reaching the 5th abdominal segment ..................................... 62

62. Rostrum reaching the posterior coxae; xyphus of prosternum with two parallel impressed lines at apex (Asia Minor) .... UTOPNIA Reuter, 1881

- Rostrum reaching the Vth abdominal segment or beyond; xyphus of prosternum without the two impressed lines mentioned above

63. Rostrum reaching the genital segment; xyphus of prosternum convex, without incrassate margins (Europe, Asia, North Africa) ..................... PACHYXYPHUS Fieber, 1858

- Rostrum reaching at most the Vth abdominal segment; xyphus of prosternum plane with margins incrassate ........... 64

64. Head distinctly transverse, first antennal segment not reaching or extending beyond apex of clypeus, inserted close to apex of eye (Asia Minor)

OPISTHOTAENIA Reuter, 1901

- Head as long as wide; first antennal segment reaching quite beyond apex of clypeus, inserted not close to the apex of the eye (Europe, Asia, North Africa)

THERMOCORIS Puton, 1875
65. Rostrum reaching the apex of anterior coxae or very slightly beyond; second antennal segment shorter than third (fig. 89) ( (Europe, Asia, North Africa)

HARPOCERA Curtis, 1838

- Rostrum reaching beyond the apex of first coxae; second antennal segment longer than third 66

66. Antennae with the second joint incrassate toward the apex; genae without long hairs (Europe)

CREMNORRHINUS Reuter, 1880

- Antennae slender or incrassate, the second joint narrowed toward the apex, linear or so; genae with long hairs or setae 67

67. Body with a single type of pubescence, pallid, yellowish or golden, semiadpressed; first antennal segment dark (Europe)

MONOSYNAMMA Scot, 1864

- Body with silky, bright pubescence intermixed with setiform hairs; first antennal segment light with one or more black setae ............................................................. 68

68. Fairly large black species; rostrum reaching the posterior coxae; tibiae black (Siberia) ...... NYCTIDEA Reuter, 1904

- Species of small or medium size, not black; the tibiae light 69

69. Rostrum reaching distinctly beyond the posterior coxac; head strongly pointed in front . .................................. . . 70

- Rostrum not surpassing the posterior coxae; head not strongly pointed in front ............................................. 71

70. Tibial spines with black spots at base; second segment if hind tarsus shorter than third (Europe)

ALLOEOTARSUS Reuter, 1885

- Tibial spines without black spots at base; second segment of hind tarsus longer than third (Europe, Asia, North Africa)

MEGALOCOLEUS Reuter, 1890
71. Rostrum reaching the posterior coxae; xyphus of prosternum convex, not carinate; hind tibiae with dark spines without dark spots at base

- Rostrum not reaching beyond the middle coxae; sides of xyphus distinctly carinate; hind tibiae with dark spines having dark spots at base

72. Xyphus of prosternum convex and smooth; pubescence not noticeably long and dense (Europe, North Africa)

HADROPHYES Puton, 1874

- Xyphus of prosternum with a median carina; pubescence very long and dense (Algeria) .... DASYCAPSUS Poppius, 1912

73. Small species with long, slender second antennal segment; the silky pubescence long and irregular; hemielytra with a dark spot at apex of corium (Europe, Asia)

CAMPTOTYLUS Fieber, 1860

- Usually large species; second antennal segment usually thick; silvery pubescence scanty and short; hemieltra without a black spot at apex of corium (Europe, Asia, North America) ONCOTYLUS Fieber, 1858

74. Rostrum raching the posterior coxae or beyond it; if shorter,

- Rostrum not or surprassing slightly apex of mesosternum (exceptionally reaching middle coxae)

105
75. Body beset with silky or woolly pubescence or this type plus
setiform hairs or true hairs only ...................... 76

- Body beset with black setiform hairs only, without silky or woolly pubescence 103

76. Vertex distinctly and strongly carinate posteriorly ..... 77

- Vertex not carinate posteriorly or only very finely so ..... 79

77. Posterior femora without rigid erect setae on anterior margin ..... 78

- Posterior femora with several rigid and erect setae on anterior margin (Europe, Asia and N. Africa)

PSALLOPSIS Reuter, 1901
78. Rostrum surpassing slightly the hind coxae; eyes not reaching beyond anterior margins of pronotum; pubescence not noticeably long and stiff (Asia Minor and N. Africa) ........ PARAMIXIA Reuter, 1900

- Rostrum reaching the apical third of abdomen; eyes reaching beyond anterior margins of pronotum; pubescence very long and stiff (Guam Is.) ...... PSALLOPS Usinger, 1946

79. Rostrum very long, extending to the 8 th or 9 th abdominal
segment; calli well developed $\ldots \ldots \ldots \ldots$.................... 80

- Rostrum if surpassing the posterior coxae not reaching the 8th abdominal segment; calli small, indistinct 82

80. First antennal segment as long as width of vertex; rostrum reaching the last abdominal segment (Europe, N. Africa, N. America)

TINICEPHALUS Fieber, 1858

- First antennal segment shorter than width of vertex; rostrum not reaching the last abdominal segment

81. Femora and tibiae with black or coloured spots; auxiliary veins present in membrane (Europe, Asia)

SOLENOXYPHUS Reuter, 1875

- Femora and tibiae unicolour; membrane without auxiliary veins (Asia Minor) ........ VORUCHIELLA Popius, 1912

82. Tibiae without distint spines; very small species, chocolate brown with whitish marks at base of pronotum, hemielytra, apex of scutellum, corium and cuneus (Rodriguez Is.) .... TREVESSA China, 1924

- Tibiae with distinct spines; species usually over 2 mm . long; colour not as above .......................................... . . 83

83. Pubescence very short, sparse and adpressed; pronotum, head and scutellum almost glabrous; hemielytra with a riddish transverse fascia on apex of corium (Europe, N. Africa) ....

MEGALODACTYLUS Fieber, 1858

- Pubescence usually longer and semierect, if short then reddish transverse fascia on apex of corium absent ............. 84

84. Pubescence of hemielytra composed of bright silky or woolly adpressed hairs intermixed with black, setiform ones .... 85

- Pubescence of hemielytra yellowish or dark, but never with two types of hairs ........................................... . 86

85. Legs pale without dark spots or points (Europe, N. America) ASCIODEMA Reuter, 1878

- Legs dark or fuscous, if pale with dark spots or points (North America) ............... MEGALOPSALLUS Knight, 1927

86. Hind tibiae with black spines, these spines without dark spots at base (sometimes only a faint cloud, but not a definite spot) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 98

- Hind tibiae usually with light, yellow or colourless spines, if dark spines, then with distinct black spots at their bases 87

87. Pale greenish species; tibiae with black spines having dark spots at base; females brachypterous, male with second antennal segment incrassate (Europe)

MALACOTES Reuter, 1878

- Species with other colour than pale greenish, but if so, then females macropterous and males with second antennal segment linear and slender88

88. Hind tibiae with dark or black spines, usually with dark spots at base ..... 87

- Hind tibiae with yellow or colourless spines ..... 90

89. Vertex finely carinate; male with a prong on genital segment; calli not distinct (Africa)
PLAGIOGNATHIDEA Poppius, 1914

- Vertex not carinate; males without a prong on genital segment(Cosmopolitan) ........ PLAGIOGNATHUS Fieber, 1858

90. Tibial spines with fuscous spots at base ..... 91

- Tibial spines without dark or fuscous spots at base ..... 92

91. First rostral segment not reaching beyond base of head (Chi- na) LEUCODELLUS Reuter, 1906

- First rostral segment reaching beyond base of head (Algeria)COMPSONANNUS Reuter, 1902

92. Females usually brachypterous; sides of pronotum emarginate at middle, the calli large and tumid (Europe)ORTHONOTUS Stephens, 1829

- Females always macropterous; sides of pronotum not emargi-nate at middle; calli small and flat93

93. Second antennal segment at least in male strongly incrassate; rostrum not reaching beyond posterior coxae (Europe, Asia) BRACHYARTHRUM Fieber, 1858

- Second antennal segment slender in both sexes; rostrum reach-ing slightly beyond the posterior coxae94

94. Third segment of hind tarsus as long as first and second toge- ther (Europe, N. Africa) .... PLESIODEMA Reuter, 1875

- Third segment of hind tarsus shorter than first and secondtogether95

95. First rostral segment not reaching xyphus of prosternum; head fairly oblique (Europe, Asia, N. Africa)
PHYLUS Hahn, 1831

- First rostral segment reaching about the basal third of xyphus of prosternum; head fairly vertical ..... 96

96. Hamus of areola and connecting vein diverging close to the base (Turkestan) VORUCHIA Reuter, 1879

- Hamus of areola and connecting vein not diverging close tothe base ....................................................... . . 97

97. Head vertical; second and third segments of hind tarsus sub-equal in length (china) ... EUCHARICORIS Reuter, 1906

- Head subvertical; third segment of hind tarsus shorter thansecond (Europe) .................. ICODEMA Reuter, 1875

98. General colour greenish-yellow or greenish-white minute fus-cous spots on corium99

- General colour dark red or brown to black; if greenish thenthe corium without fuscous spots; pubescence not stronglysilky and uneven100

99. Pubescence distinctly silky and uneven; rostrum reaching the apex of middle coxae (Indian, Tibet)
TIBETOCORIS Hutchinson, 1934

- Pubescence not distinctly silky or uneven; rostrum reachinga little beyond posterior coxae (Russia, Turkestan)
MALTHACOSOMA Reuter, 1879

100. General colour greenish yellow ..... 101

- General colour dark red, brown or black ..... 102

101. Eyes slightly removed from pronotum; clypeus strongly pro-minent (fig. 182) (Europe, Asia)
PAREDROCORIS Reuter, 1878

- Eyes contiguous with pronotum; clypeus vertical, not notice-ably prominent (fig. 96) (Europe, Asia, N. Africa, N. Ame-rica)TUPONIA Reuter, 1875

102. Second antennal segment slightly swollen at apex, so as tobecome as wide as first segment; general colour dark red(North America) ............ RHINOCAPSUS Uhler, 1890

- Second antennal segment linear, not so wide as first segment; rarely with reddish (North America)MICROPHYLELLUS Reuter, 1909

103. Xyphus of prosternum convex, sides not carinate (Europe,Asia)PLACOCHILUS Fieber, 1858

- Xyphus of prosternum flat, the margins obtusely subincras-sate104

104. Rostrum reaching beyond the hind coxae; first segment reach-ing beyond the middle of xyphus of prosternum; posteriottibiae without dark spots (Caucasus)
DAMIOSCEA Reuter, 1884

- Rostrum reaching the posterior coxae, the first segment notreaching the middle of xyphus of prosternum; posterior tibiaewith dark spots (Europe, Asia, Africa)
HOPLAMACHUS Fieber, 1858

105. Pronotum strongly declivous with two dark spots behin the cali; fairly large species (N. Africa)
ROUDAIREA Puton \& Reuter, 1886

- Pronotum not as above ..... 106

106. Vertex very strongly carinate, the carina arcuate sinuate anteriorly; head transverse and vertical, the antennae very thick (North America) ...... MYOCHROOCORIS Reuter, 1909

- Vertex not carinate as above; antennae slender, or if thick, then pronotum carinate leterally 107

107. First antennal segment very thick; pronotum carinate laterally; rostrum reaching only apex of anterior coxae (fig. 87) (Europe, Asia, N. Africa) ........ NASOCORIS Reuter, 1879

- First antennal segment not noticeably thick: pronotum not carinate laterally; rostrum reaching beyond apex of anterior coxae

108
108. Sides of pronotum distinctly emarginate; eyes slightly removed from anterior margin of pronotum (fig. 98) (Europe, Asia, N. Africa)

EURYCOLPUS Reuter, 1879

- Sides of pronotum straight or sinuate; eyes contiguous with
anterior margin of pronotum ....................... 109

109. Small, strongly shining dark brown species with a whitish area on middle of hemielytra (clavus, corium, sometimes scutellum); pubescence very scanty, subglabrous; coxae and middle of mesosternum whitish (Europe, Asia, N. Africa) .... AUCHENOCREPIS Fieber, 1858

- Species if dark brown, not strongly shining and subglabrous; whitish area of hemielytra absent $\ldots . . . . . . . . . .$. . . 110

110. Pubescence black, setiform, intermixed with fine, whitish hairs (sometimes the setiform hairs are present only on sides of pronotum and apex of corium); hemielytra without minute dark or fuscous spots ................................. 111

- Pubescence fine, whitish, no black setiform hairs present 116

111. Femora with black or fuscous spots ................... 112

- Femora without black or fuscous spots ............... 114

112. Black spots of femora only on inferior margin; second antennal segment much longer than width of head (Mongolia) ........................ AGRAPTOCORIS Reuter, 194

- Black spots of femora on both sides; second antennal segment slightly longer than width of head .................... 113

113. Vertex margined posteriorly, as well as, the sides of pronotum; hemielytra very finely punctured (Asia, India)

PARARAGMUS Poppius, 1911

- Vertex and pronotum not margined; hemielytra with dark and golden hairs (India) ........ RAGMUS Distant, 1910

114. Body with a few setiform hairs; rostrum reaching the apex of middle coxae; first segment of hind tarsus much shorter
than second (Asia, Europe)
LEUCOPTERUM Reuter, 1879

- Body pubescence very dense; body with black hairs (numerous)o rostrum reaching the middle coxae (base); elytra with small dots

115
115. Hemielytra with dark or brown spots; strongly shining; pseudarolia reaching the middle of claw (Africa)

PARASCIODEMA Poppius, 1914

- Hemielytra without dark or brown spots, not strongly shining; pseudarolia minute (Europe, N. Africa)

TRAGISCOCORIS Fieber, 1861
116. First antennal segment very short, as long as the length of clypeus; reddish species with whitish area on middle of clavus and base of cuneus; head black (Turkestan)

EPHIPPIOCORIS Poppius, 1912

- If the first antennal segment very short, colour not reddish as above, head not black 117

117. External incisure of cuneal fracture deep; second antennal segment of male incrassate toward apex (China)

ECTENELLUS Reuter, 1906

- External incisure of cuneal fracture not deep; second antennal segment of male linear118

118. Hemielytra black or brownish black, base of cuneus with two whitish spots; second antennal segment as thick as or thicker than first segment (Ceylon) ...... SEJANUS Distant, 1190

- Hemielytra with several minute or dark or orange spots; second antennal segment more slender than first segment 119

119. First rostral segment reaching only about middle of eye; hemielytra with some medium sized spots (Egypt)

ECTAGELA Schmidt, 1939

- First rostral segment reaching xyphus of prosternum; hemielytra with several minute dark spots

120. Head produced between bases of antennae; eyes not noticeably large; tibiae without fuscous spots at base of spines (Europe, Asia Minor, N. Africa . PASTOCORIS Reuter, 1879

- Head not produced between the bases of antennae; eyes very large; tibiae usually with fuscous spots at the base of spines (Asia Minor, North Africa) . . ATOMOPHORA Reuter, 1879
The following genera are not included in the key:
Decomia Poppius, 1915 (Arch. f. Naturges. 80 A (8): 73); Formosa.

Oligobliella Reuter, 1885 (Ent. Mo. Mag. 21: 201 ; St. Helena. Phoenicocapsus Reuter, 1876 (Pet. Nouv. Ent. II: 54); Europe. Taeniophorus Linnavuori, 1952 (Ann. Ent. Fenn. 18 (1): 36);

Turcmenia (near Icodema Reuter).<br>Psallomimus Wagner, 1951 (Bul. Soc. Fouad I Ent. 35: 149); Egypt.

## KEY TO THE GENERA OF DICYPHINI

1. Body above smooth, rarely very finely or superficially punctate, more or less slender 2

- Body above coarsely and deeply punctate, thick and rounded (fig. 74) 16

2. Small cell of membrane with a distinctly marked black spot (Africa) .............. HAEMATOCAPSUS Poppius, 1914

- Small cell of membrane without a dark spot ............. 3

3. Eyes contiguous with anterior margin of pronotum (fig. 157)

4

- Eyes more or less removed from anterior margin of pronotum (figs. 161, 162) 7

4. Pronotum constricted anteriorly, the anterior lobe produced forward covering the collar; head sulcate on vertex; arolia arising from the claw but converging at apices (fig. 160) (Samoa)

ONCONOTELLUS Knight, 1935

- Pronotum if constricted anteriorly, without a lobe as above; head not sulcate and arolia not converging at apices .... 5

5. Rostrum reaching the apex of posterior coxae or beyond (Africa)

DICYPHOPSIS Poppius, 1914

- Rostrum reaching the apex of middle coxae 6

6. Second antennal segment incrassate toward the apex; large cell of membrane almost rectangular (Europe, Africa)

CAMPYLONEUROPSIS Poppius, 1914

- Second antenna segment linear; large cell of membrane rounded apically (fig. 157) (Africa)

CAMPYLONEURA Fieber, 1860
7. Both sexes brachypterous; body covered with long and sigid setae; pronotum as long as wide; abdomen entirely exposed (Australia) .......... SETOCORIS China \& Carvalho, 1951

- Both sexes macropterous or if one sex brachypterous, then the abdomen partially covered

8
8. Neck strongly constricted towards the pronotum, behind the eyes (Africa) ............ ORTHOTILIDEA Poppius, 1914

- Neck not noticeably constricted behind the eyes ......... 9

9. Eyes situated distinctly in front of the middle of the head; the neck very long (Africa)

MACROLOPHIDEA Poppius, 1914

- Eyes situated behind the middle of the head or occupying a median position10

10. Collar and pronotum very narrow, the sides of pronotum carinate (Africa) .......... HYALOSOMELLA Poppius, 1914

- Collar not very narrow; sides of pronotum not carinate 11

11. Eyes removed from pronotum by a distance about equal to the thickness of second antennal segment (fig. 167) (Cosmopolitan)

CYRTOPELTIS Fieber, 1860

- Eyes removed from pronotum by a distance much greater than the thickness of second antennal segment (fig. 161) .... 12

12. Eyes very small, separated from pronotum by more than length of eye seen from above; head about as long as wide 13

- Eyes relatively large, separated from pronotum by a distance equal to or less than length of eye seen from above; head slightly wider than long

13. Cuneus more than three times as long as wide; frons not produced between the antennae; first antennal segment shorter than width of head (fig. 163) (Central America)

CHIUS Distant, 1884

- Cuneus about twice as long as wide; frons produced between the antennae; first antennal segment as long as width of head (fig. 161) (Europe, Americas, Africa)

MACROLOPHUS Fieber, 1858
14. Cuneus long and narrow, about three times longer than wide at base; pronotum not constricted at middle (India)

ABIBALUS Distant, 1909

- Cuneus slightly longer than wide at base; pronotum constricted at middle

15. Vertex slightly carinate at the sides; posterior angles of pronotum not produced; scutellum without sulcus (fig. 42) .... (Cosmopolitan)

DICYPHUS Fieber, 1858

- Vertex completely smooth; basal margin of pronotum strongly emarginate, the posterior angles produced; scutellum with a longitudinal sulcus at base (Africa)

BUCOBIA Poppius, 1914
16. Neck strongly narrowed behind the eyes; incision of cuneal fracture very deep and wide when the wing is in horizontal position (India)

ANGERIANUS Distant, 1904

- Neck not strongly narowed behind eyes incision of cuneal frature not as above

17
17. Pronotum with shining tubercular swellings; scutellum with a
short tubercular process (Europe, Asia) ............................................ STETHOCONUS Flor, 1861

- Pronotum without shining tubercuar swellings; scutellum without a tubercular process ................................. . 18

18. Eyes distant from anterior margin of pronotum, very small 19

- Eyes contiguous with anterior margin of pronotum ..... 20

19. Hemielytra and scutellum punctate, the latter flat (Madagascar) ................... CYCHROCAPSUS Poppius, 1914

- Hemiclytra and scutellum smooth, the latter strongly convex (fig. 162) (Borneo) . . . . . . . APOLLODOTIDEA Hsiao, 1944

20. Rostrum reaching the apex of posterior coxae; scutellum smooth (Madagascar)

HILDEBRADTIELLA Poppius, 1944

- Rostrum reaching apex of middle coxae; scutellum punctate (New Caledonia) ........ TERATOCAPSUS Poppius, 1911
NOTE: The genus Isoproba Osborn \& Drake, 1915 (Ohio Nat. 15) is not included in this key because it could not be placed from its original description and no specimens were examined. Habrocoris Wagner, 1951 runs in this key with Dicyphus Fieber, and Bucobia Poppius.


## KEY TO THE GENERA OF HALLODAPINI

1. Pseudarolia large reaching or not quite reaching apex of claw; species of large size, elongate (fig. 11)2 Pseudarolia minute, not as above (figs. 14, 15, 16) ....... 4
2. Second antennal segment strongly clavate apically, its thickness at apex more than twice that of base; rostrum reaching almost to hind coxae; hemielytra fully developed in both sexes (North America)

TELEOPHINUS Uhler, 1890

- Second antennal segment linear or slightly incrassate at apex; rostrum reaching middle coxae; females brachypterous or wingless ............................................................ 3

3. Second antennal segment linear; pseudarqolia attached at base of claw, free apically; females wingless (North America) . ...

- Second antennal segment slightly incrassate at apex; pseudaro-
lia completely jointed to claw; females brachypterous (North
America) ................. ORECTODERUS Uhler, 1876

4. Hemielytra with sharply delimited whitish or yellowish white transverse fasciae or spots or elongate markings; seldom uniformily pale but then long and erectly pilose 9

- Hemielytra without sharply delimited whitish or yellowish white transverse fasciae or spots or elongate markings; on the clavus and on the corium there is seldom a very small yellow transverse spot, this same spot however on the clavus lies far in front of that on the corium and is posteriorly bordered by a deep velvety black elongate spot ............................. 5

5. Body above with long, erect and black bristles; ground colour dirty greysh yellow (Africa) ....................... TRICHOPHORELLA Reuter, 1905

- Body above usually with short, erect hairs or if these are dark then the dorsum black ......................................... 6

6. Dorsum with short, erect dark bristles (Africa) BIBUNDIELLA Poppius, 1914

- Dorsum without short, erect dark bristles .............. 7

7. Dorsum totally black, clavus and corium with a small yellow transverse spot (Africa) ......... SYNGONUS Bergroth, 1926

- Dorsum not totally black 8

8. Dorsum with short, adpressed, yellowish pubescence; pronotum
not longitudinally sulcate at middle of base (India) not longitudinally sulcate at middle of base (India)

AZIZUS Distant, 1910

- Dorsum with short, erect, whitish bristles; pronotum with a longitudinal sulcus at middle of base (North Africa) ..... AEOLOCORIS Reuter, 1904

9. Pronotum distinctly punctate (fig. 74) .................. 10

- Pronotum smooth or very finely rugouse ................ 13

10. Underside long and erectly pilose; tibiae with long bristles 11

- Underside not long and arecty pilose; tibiae without bristles . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 12

11. Body above long and erectly pilose (Brazil)

AMAZONOCORIS Carvalho, 1952

- Body above with short and adpressed pubescence (Bolivia) EUCERELLA Poppius, 1921

12. Two last antennal segments thinner than second; pronotum wider than long, the lateral margins straight; scutellum without a basal lobe (Africa) ...... TYLOPELTIS Reuter, 1904

- Two last antennal segments about as thinck as second; pronotum about as long as wide; the lateral margins rounded;


## scutellum with a basal blunt lobe almost as high as pronotum (Somaliland, Togo) ......... GLOSSOPELTIS Reuter, 1904

13. Scutellum of male with a high, erect spine like projection, as high as or higher than pronotum (fig. 213) ............. 14

- Scutellum of male unarmed, sometimes strongly convex or tumid, if so, never as high as disc of pronotum .......... 17

14. Anterior portion of pronotum with two erect spinelike processes (fig. 84) (India, Malay, Borneo)

NICOSTRATUS Distant, 1904
$\begin{aligned} & \text { - Anterior portion of pronotum without the above mentioned } \\ & \text { processes } . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ . ~ . ~ . ~ . ~ . ~\end{aligned} 5$
15. Scutellar spine directed forwards; rostrum reaching apex of middle coxae; antennae inserted near the eye (North America) HEIDEMANNIELLA Poppius, 1914

- Scutellar spine directed backwards; antennae inserted far from the eye (fig. 229) .............................................. . . 16

16. Rostrum reaching apex of anterior coxae; second antennal segment not strongly incrassate; scutellar spine short (Turkestan, Africa) ............... ASPIDACANTHUS Reuter, 1901

- Rostrum reaching posterior coxae; second antennal segment strongly incrassate towards apex; scutellar spine long (fig. 229) (Africa)

MYOMBEA China \& Carvalho, 1951
17. Eyes distant from the pronotum by a space about equal the width of vertex (fig. 81) ...................................... 18

- Eyes contiguous with the pronotum or removed from it by a distance about equal to half the width of vertex (brachypterous females) or much less (males) (fig. 86) ............. 19

18. Eyes pilose; disc of pronotum strongly convex posteriorly; hemielytra long, reaching distinctly beyond apex of abdomen (fig. 81) (India) . ................. SOHENUS Distant, 1910

- Eyes glabrous; disc of pronotum not noticeably convex posteriorly; hemieytra only covering apex of abdomen (Europe, Asia, Africa) ............... ALLOEOMIMUS Reuter, 1910

19. Antennae very dense, short and adpressed pubescent with a few intermixed bristles; second segment incrassate towards the apex were it is thicker than first; body with short, stout, erect, black bristles (Togo)

CHAETOCAPSUS Poppius, 1914

- Antennae with a single type of pubescence; body without short, stout, erect black bristles


20. Pronotum strongly constricted and narrowed on anterior half; posterior femora incrassate apically, posterior tibiae curved in-
ternally (fig. 241) (Madagascar)
MALGACHEOCORIS Carvalho, 1952

- Pronotum not as above, femora not noticeably incrassate at
apex ..... 21

21. Frons projecting in front into a tubercular conical process co- vering part of the laminate (strongly compressed) clypeus; length of projection about equal to thickness of first antennal segment (fig. 236) (Africa)
ACRORRHINIUM Noualhier, 1895

- Frons rounded, flat or convex, without a tubercular conicalprojection22

22. Antennae inserted about the middle of eyes (Africa)PANGANIA Poppius, 1914

- Antennae inserted bellow or about the inferior third or levelwith apex of eye23

23. Scutellum short and narrow, with a pit shapped depression at base, behind the impression somewhat swollen; females bra- chypterous with elytra sharp and transversely flattened at base; head as wide as base of pronotum, both dull, the hemielytra strongly shining (Madagascar)
MYRMICOPSELLA Poppius, 1914

- Scutellum without a pit like depression at base ..... 24

24. Genae higher than width of one eye; head distinctly ant like, with a raised carina in front of apex of eye (Europe) MIRMICOMIMUS Reuter, 1881

- Genae much ess high than width of one eye; apex of the latternot continued by a carina, head not noticeably modified 25

25. Hemielytra with longitudinal oblique white lines or fascia; large species about 5 mm long or more ..... 26

- Hemielytra without longitudinal oblique whitish lines ofascia; species much smaller in size ........................ 2726. Second antennal segment linear; pronotum strongly narrowedin front (North America)CLOSTEROCORIS Uhler, 1890
- Second antennal segment incrassate towards the apex; prono-tum not noticeably narrowed in front (Europe)CREMNOCEPHALUS Fieber, 1861

27. Vertex marginate or carinate, sometimes angulate posteriorly, pronotum strongly convex on disc and declivous ..... 28

- Vertex not marginate or carinate; pronotum not noticeably de- clivous ..... 28

28. Head very large, as wide as with of pronotum at base; eyes Occupying the whole sides of head, reaching the gula below (Pemba Is.) .................. BOOPIDELLA Reuter, 1907

- Head not very large, narrower than width of pronotum at base; eyes not reaching the gula below29

29. Collar very wide, equally leveled and arched with pronotum, very slightly depressed, separate from disc by a faint line; pronotum long, narrow, the sides strongly rounded (Africa) ....

DIOCORIS Kirkaldy, 1902

- Collar distinctly set off and depressed, sides of pronotum not noticeably rounded 30

30. Body with very long erect pubescence intermixed with short, adpressed silvery wooly hairs; hind tibiae fairly thick, with very long and slender spines (Africa)

TRICHOPHTHALMOCAPSUS Poppius, 1914

- Body with a single type of pubescence; hind tibiae if thick then the spines not very long and slender


31. Head seen from front distinctly longer than wide, gula long, horizontal upper lip large, cell of membrane with right or straight apical angle (Africa)

SYSTELLONOTIDEA Popius, 1914

- Head seen from front not or slightly longer, usually shorter than wide; gula short, if long not horizontal, upper lip small, apical angle of membrane rounded

32. Tibiae with spines at least apically ......................... 33

- Tibiae without spines (North Africa)
 .......................... GLAPHYROCORIS Reuter, 1903

33. Eyes large, elongate, distinctly produced beyond sides of collar; head strongly inclined, flat anteriorly (Europe, North Africa) MIMOCORIS Scott, 1872

- Eyes small, rounded, not noticeably produced outwards; head not strongly inclined, frons rounded


24. Scutellum strongly tumid (male) or with a spine like process (female); pronotum very strongly declivous35

- Scutellum flat or convex on both sexes; pronotum not strongly declivous (Europe, Africa, India)

HALLODAPUS Fieber, 1860
35. Third and fourth antennal segment thicker than second; scutellum with a spiniform protuberance (Africa)

HYPOMIMUS Lindberg, 1940

- Third and fourth antennal segments more slender than second; scutellar protuberance blunt (Europe, Asia, Africa, Java)

LAEMOCORIS Reuter, 1879
36. Dorsum pubescent ..... 37

- Dorsum glabrous or only very scanty pubescent ..... 39

37. Pubescence very short, dense and adpressed (North Africa) ...FORMICOPSELLA Poppius, 1914

- Pubescence erect, semierect, not noticeably short ..... 38

38. Eyes contiguous with pronotum (Africa)SYSTELLONOTOPSIS Poppius, 1914- Eyes removed from pronotum (Europe, Asia, Africa)SYSTELLONOTUS Fieber, 1858
39. Clypeus prominent, visible from above; head as wide as widthof base of pronotum (Europe, Asia, Africa)OMPHALONOTUS Reuter, 1876

- Clypeus not noticeably prominent and visible from above; headnot as wide as base of pronotum (Madagascar)
LISSOCAPSUS Bergroth, 1903
NOTE: The genus Trachelonotus Reuter, 1904 (Ann. Mus.Zool. St. Petersb. 9:8) from Persia is not included in the key. Mimo-capsus Wagner (Egypt) runs in this key with Glaphyrocoris Reuterand Mimocoris Scott.


## KEY TO THE GENERA OF HALTICINI

1. Frons very prominent, rounded and convex; posterior femur very thick, its largest diameter about equal to width of one elytra; both sexes brachypterous; small species with reddish marks (Hawaii) ...... NESIDIORCHESTES Kirkaldy, 1902

- Frons not noticeably prominent; femora not as thick as width of elytra; if both sexes brachypterous, reddish marks absent fig. 240)2

2. Antennae very long and slender, second segment four or more times as long as first segment; brachypterous forms common, with oval body, strongly convex (fig. 240) ................ 3

- Antennae shorter, second segment little more than three times
as long as first segment or much shorter ................ . . . 4

3. Eyes removed from anterior margin of pronotum; vertex straight posteriorly, head seen from front pentagonal (China) ECTOMETOPTERUS Reuter, 1906

- Eyes contiguous with pronotum; vertex somewhat arcuate posteriorly; head seen from front not pentagonal (fig. 240) (Cosmopolitan) ....................... HALTICUS Hahn, 1832

4. Eyes distinctly pedunculate, the vertex very wide (fig. 170) 5

- Eyes not peclunculate, sometimes substylate ............. 6

5. Pronotum rugulose punctate, vertex carinate, the carina ar-
cuate; rostrum reaching base of middle coxae (North America)
.......................... LABOPELLA Knight, 1929

- Pronotum not punctate; vertex without an arcuate carina; rostrum reaching apex of middle coxae or beyond (fig. 170) (Europe, Asia, North America) ...... LABOPS Burmeister, 1835

6. Body glabrous, distinctly punctured; both sexes brachypterous, first antennal segment with stout black bristles and short pubescence (Europe, Asia) .... EURYOPICORIS Reuter, 1875

- Body not glabrous and punctate, if so, then one sex macropterous and first antennal segment with a single type of pubescence 7

7. Body, especially head and pronotum, with long stiff black bristles; length of hairs of third antennal segment usually more than twice as great as thickness of segment $\ldots \ldots \ldots \ldots \ldots$........ 8

- Body without long stiff black bristles; antennae with much shorter pubescence ..................................... 17

8. Both sexes brachypterous; elytra with whitish flattened or scalelike pubescence amongst the bristles ...................... 9

- Males macropterous, females brachypterous; hemielytra without flattened or scale-like whitish pubescence or if so, no bristles present but only adpressed pubescence ............ 12

9. First antennal segment with very short bristles and scale-like pubescence; femora with many thick and stout bristles (Europe, Asia)

ANAPUS Stal, 1858

- First antennal segment with bristles and common pubescence; femora with only a few or without stout and thick bristles 10

10. Hemielytra not reaching beyond the second abdominal seg-

- Hemielytra reaching beyond second abdominal segment; hind femora with a single seta (Asia) PLATYPORUS Reuter, 1900

11. Hind femora with only one type of long and fine bristles; body with dense whitish flattened pubescence and bristles (Turkestan) .................. SCIRTETELLUS Reuter, 1891

- Hind femora with a few long bristles mixed with very short ones; body with very scanty silky pubescence and common bristles (Spain) ............... HOMOEOCORIS Fuente, 1918

12. Pubescence of body composed of flat whitish scale-like hairs mixed with hairs or bristles; second antennal segment about


- Pubescence of body composed of one type only, or silky or woolly mixed with common hairs; second antennal segment slender than first

14
13. Antennae with very short pubescence; vertex somewhat curved posteriorly; rostrum reaching middle of abdomen (North Africa)

ORANIELLA Reuter, 1894

- Antennae with bristles and hairs; vertex straight posteriorly; rostrum shorter (Europe, Asia, N. Africa, U.S.A.)

ORTHOCEPHALUS Fieber, 1858
14. Hemielytra with single type of semi-adpressed hairy pubescence; head as wide as base of pronotum (Europe, Asia, N. Africa) PACHYTOMELLA Reuter, 1890

- Hemielytra with silky hairs mixed with common ones; head narrower than base of pronotum 15

15. Males with cuneus more than three times as long as wide; membrane and areolae elongate; eyes substylate (Europe, Asia, Africa)

DIMORPHOCORIS Reuter, 1891

- Males with cuneus about twice as long as wide; eyes not substylate 16

16. Small black species; rostrum reaching apex of posterior coxae (males) (Europe) .......... SCHOENOCORIS Reuter, 1891

- Medium size greenish species; rostrum not reaching beyond apex of middle coxae (males) (Europe, Asia, N. Africa) .... .............................. PLAGIOTYLUS Scott, 1874

17. Male with vertex strongly carinate and depressed, frons separate from clypeus by a semicircular ridge; rostrum not reaching middle of mesosternum; females brachypterous, piceous bluish, punctate (fig. 83) )Europa, Asia)

PIEZOCRANUM Horvath, 1877

- Male with vertex and frons not as above; rostrum longer, reaching middle coxae or beyond; females macropterous ...... 18

18. Body distinctly punctate; head not produced in middle of antennal bases; cuneal fracture not deep and wide ...... 19

- Body smooth; head produced in middle of antennal bases; small species with deciduous pubescence; cuneal fracture wide and deep (India) ............ STHENARIDEA Reuter, 1884

19. Embolium widened toward the apex; body with erect pubescence; second antennal segment about twice as long as head; females with hemielytra enlarged apically (India)

ACRATHEUS Distant, 1910

- Embolium narrowed toward the apex; body glabrous or with semi-adpressed pubescence; second antennal segment shorter or slightly longer than head; females with hemielytra not enlarged
apically (Europe, Asia, N. Africa, and N. America) .........
NOTE: The genus DASYSCYTUS Fieber, 1864 (Wien. Ent. Monat. 8:84) from Spain, is not included in Key, as well as HALTICIDEA Reuter, 1901 (Ofv. F. Vet. Soc. Förh. 43:172), Russia; and SARONA Kirkaldy, 1902 (Fauna Haw. 3 (2):142), Hawaii.


## key to the genera of orthotylini

1. Second, third and fourth segments of antennae incrassate, about equal in thickness (fig. 102)

- Second segment of antennae thicker than third or fourth (fig. 103)

2. Pronotum anterior to middle nearly cylindrical, rather abruptly flaring behind middle, basal half of disc strongly convex; emboliar margins sulcate on basal half (North America)

PAMILIA Uhler, 1887

- Pronotum regularly narrowed anteriorly, its sides not constricted at middle; emboliar margins not sulcate (North and South America) ........... GERATOCAPSUS Reuter, 1875

3. Scutellum elevated and swollen, curving cystiformly forward over the disc of pronotum, biconstricted, with a small erect dorsal spine in front of the anterior constriction (fig. 257) (Australia) .............. CYSTEORRACHA Kirkaldy, 1907

- Scutellum not as above

4. Pronotum distinctly punctate, if punctures are obscured by rugosities then hemielytra punctate (fig. 74) 5

- Pronotum smooth or rugose ............................... 14

5. Hemielytra without an apparent cuneus; small cell of membrane faintly delineate or not visible (Hawaii)

SULAMITA Kirkaldy, 1902

- Hemielytra with a distinct cuneus and small cell of membrane6

6. Small species with head as wide as pronotum at base; frons striolate finely punctured; antennae very short; margins of pronotum carinate, a pseudocollar present (Australia) CORIDROMIUS Signoret, 1862

- Frons not punctate or striolate; pronotum not carinate laterally7

7. Clypeus strongly prominent; eyes seen from front flattened and somewhat pedunculate; scutellum strongly prominent, raised at middle; body with short and dense adpressed pubescence (Hawaii)

KALANIA Kirkaldy, 1904

- Clypeus not noticeably prominent; eyes seen from front not pedunculate; scutellum flat or convex, not raised at middle; body pubescence not noticeably short, dense and adpressed 8

8. Dorsum thickly clothed with semidecumbent pubescence; vertex strongly declivous anteriorly, carinate; colour back (North America)

LOPIDELLA Knight, 1925

- Dorsum with erect pubescence or almost glabrous; vertex not as above

9. Hemielytra smooth, transparent; calli with two deep fossae behind them; body with fine, long and erect pubescence (Brazil) . . . . . . . . . . . . . . . . SOLANOCORIS Carvalho, 1945

- Hemielytra punctate; calli without two fossae behind them; body without long, fine and erect pubescence10

10. First and second antennal segments very thick, the second segment flattened, third and fourth segments very short and slender (Africa) ............... . MILLERIMIRIS Carvalho, 1951

- First and second antennal segments linear and not noticeably thick11

11. Dorsal surface evenly punctured, a pubescent hair arising from each puncture . ...................................... 12

- Dorsal surface punctured but without a pubescent hair arising from each puncture

12. Cuneus very small, wider at base than long; second antennal segment incrassate towards the apex; rostrum reaching the posterior coxae (Samoa)

PSEUDONEOBORUS Knight, 1935

- Cuneus about twice as long as wide at base; second antennal segment linear; rostrum reaching the middle coxae (Africa) BUNSUA Carvalho, 1951

13. Hemielytra distinctly rounded laterally; eyes rounded, somewhat removed from pronotum (Venezuela)

FALCONIODES Reuter, 1905

- Hemielytra more or less straight laterally; eyes straight posteriorly, contiguous with pronotum (fig. 108) (Central \& South America) .................... FALCONIA Distant, 1884

14. First and second antennal segments conspicuous, the second strongly enlarged, compressed or foliaceus; third and fourth very short and slender; black species (figs. 111, 230) .... 15

- First and second antennal segments not noticeably modified, or if so, then second not foliaceus

15. First and second antennal segments with flattened hairs; frons produced between antennae (Europe)

HETEROTOMA Lepeletier \& Serville, 1825

- First and second antennal segments without flattened hairs; frons not produced (fig. 230)16

16. Membrane apically acutely pointed (Tunisia)
ACRODERRHIS Bergroth, 1914

- Membrane not acutely pointed at apex ..... 17

17. Vertex carinate; rostrum reaching base of middle coxae (Afri- ca, Ceylon) DRUTHMARUS Distant, 1909

- Vertex not carinate; rostrum reaching base of abdomen (fig.111) (Europe, Asia, South America)EXCENTRICUS Reuter, 1878

18. Pronotum with pleural area separated from dorsal part by a distinct suture, pronotal disc raised posteriorly and projecting above scutellum, clothed with dense, bristly pubescence (fig. 106) (North America) ............... SEMIUM Reuter, 1875- Pronotum without a distinct lateral suture and not projectingposteriorly over scutellum19
19. Body with distinct scale-like or flattened pubescence intermixed with hairs or bristles or densely covered with whitish flattened somewhat scale-like hairs specially on underside ..... 20

- Body clothed with a single type of pubescence or sometimesintermixed with silky hairs32

20. Head without a well defined posterior margin ..... 21

- Head with a well defined posterior margin ..... 23

21. Head rounded in front, second antennal segment incrassatetowards the apex; pronotum constricted anteriorly with raisedcalli; dark species with pale areas; antmimic (Europe, Asia,North America) .. GLOBICEPS Le Pelletier \& Serville, 1825

- Head not rounded in front, second antennal segment cylin-drical; pronotum if constricted anteriorly then calli not raised;species usually with greenish color or if dark then notantmimic ................................................. 22

22. Head noticeably produced in front; clypeus very large andprominent; species usually over 4 mm . long with normal fe-mora (North America) .. ARGYROCORIS Van Duzee, 1912

- Head not noticeably produced in front; clypeus not as above;species usually less than 4 mm . long, with enlarged posteriorfemora (North America) .... PARTHENICUS Reuter, $1870^{\circ}$

23. Tibiae with black spots at base of spines; body covered by very dense whitish flattened hairs on the underside ..... 24

- Tibiae without black spots at base of spines; underside of body with common pubescence ..... 25

24. Femora with black spots or if not then color greenish; eyes rounded (North America)

PSEUDOPSALLUS Van Duzee, 1916

- Femora without spots; general color black; eyes strongly compressed (Europe) ............ HYPSELOECUS Reuter, 1891

25. Second antennal segment thickened at apex or if not, then very black species (fig. 104) (Europe, Asia, North America) HETEROCORDYLUS Fieber, 1858

- Second antennal segment linear or so; never very black


26. Cuneus rounded externally, cuneal incisure deep; pronotum carinate laterally; reddish species (Seychelles Is.)

MARALAUDA Distant, 1913

- Cuneus not as above (except brachypterous forms); pronotum not carinate.................................... . 27

27. Claws deeply cleft with inner half wider; head inclined and distinctly produced before bases of antennae (North America) BIFIDUNGULUS Knight, 1930

- Claws not divided, head not noticeably produced in front 28

28. Vertex very wide; first antennal segment about equal to half width of vertex; bristle like pubescence very fine and erect; females brachypterous or almost so (North America)

LABOPIDEA Uhler, 1877

- Vertex not noticeably wide; first antennal segment distinctly longer than half the width of vertex; bristle like pubescence short; females macropterous

29. Rostrum short, scarcely attaining hind margin of mesosternum; large, elongate fuscous species 5 to 6 mm . long (North America)

NOCTUOCORIS Knight, 1923

- Rostrum reaching the middle coxae or beyond; species usually greenish in color

30. First antennal segment shorter than width of vertex; scale-like pubescence usually silvery (Europe, North America)

MELANOTRICHUS Reuter, 1875

- First antennal segment as long as or longer than witdth of vertex; scale-like pubescence mostly but not necessarily black

31. Rostrum reaching far beyond apices of hind coxae; clypeus very large, usually, wider than thickness of first antennal segment (North America) .... MACROTYLOIDES Van Duzee, 1916

- Rostrum not reaching beyond hind coxae; clypeus not large, usually as wide as or narrower than first antennal segment 32

32. Bristles black with or silvery scales between; pronotum without blac scale-like spots; first antennal segment much longer than width of vertex (North America)

ILNACORELLA Knight, 1925

- Bristles light with black scales between; pronotum with black scale-like spots; first antennal segment about as long as width of vertex (North \& Central America)

ILNACORA Reuter, 1876
33. First antennal segment very thick, about as long as head and pronotum together; cuncus about four times as long as wide at base, somewhat curved outwards externally (fig. 228) (Africa)

UELEANA Carvalho, 1951

- First antennal segment if long, not noticeably thick; cuneus not as above 34

34. Eyes rounded behind and set in front, at or near middle of head, usually well removed from anterior margin of pronotum by a space equal at least to thickness of first antennal segment, long cuneus (figs. 114, 155) ................................ 35

- Eyes relatively straight behind, contiguous or set very close to anterior margin of pronotum (figs. 117, 118) ........... 54

35. Vertex depressed at middle; areolae of membrane sclerotized as cuneus, apparently with a simple cell; male with a conspicuous antenna (first and second segments with two long spines, the second also with a medium fossa surrounded by small dark spines) as in fig. 00 (North, Central \& South America) ..... ............................ HYALOCHLORIA Reuter, 1907

- Vertex convex; areolae not chitinized or if so with two distinct cells; male antennae not as above ........................ 36

36. First antennal segment shorter or about as long as width of vertex; if not, then cuneus 2 times or more as long as wide at base ............................................................. . 37

- First antennal segment distinctly longer than width of vertex, usually as long as or longer than width of head with eyes 46

37. Calli with two deep furrows behind them containing punctures; head with a short neck; eyes removed from pronotum by a distance equal to more than half the legth of one eye (Jamaica) .......................... MESOTROPIS Reuter, 1907

- Calli without two deep furrows with punctures behind them; head withouth a short neck ................................. 38

38. Head very flat, wider or about as wide as pronotum at base, clothed with silky silvery pubescence; pronotum rectangular (fig. 107)39

- Head not very flat, if wider than pronotum at base, then without silky pubescence40

39. Internal margin of eye straight; rostrum reaching apex of middle coxae (Australia) ...... COMPSOSCYTUS Reuter, 1909

- Internal margin of eye strongly divergent; rostrum reaching slightly beyond anterior coxae (fig. 107) (Europe, North Africa) .................... PLATYCRANUS Fieber, 1870

40. Head with a short neck; eyes situated more towards anterior end of head; body fairly long and erectly pilose (fig. 155) 41

- Head without a short neck; eyes situated more towards base of head; body not long and erectly pilose (fig. 110) ...... 42

41. Clypeus seen from above; eyes very small, head elongate; first antennal segment with a black fascia inferiorly (Europe, North Africa, North America) ...... MALACOCORIS Fieber, 1858

- Clypeus not seen from above; eyes not very small, head rounedd (fig. 155) (India, Formosa, Ceylon)

ZANCHIUS Ditsant, 1904
42. First segment of antennae with a longitudinal black line on either side, these lines connected on ventral side near apex (Europe, North America) ........ REUTERIA Puton, 1875

- First segment of antennae not marked with longitudinal black lines as above 43

43. Elongate slender species; cuneus twice or more as long as wide at base 44

- Species if elongate, cuneus shorter

44. Eyes small, placed at middle of head, usually distant from pronotum by more than diameter of first antenna; if this distance equals diameter of segment (male) then hemielytra reaching far beyond tip of abdomen (Americas) PARAPROBA Distant, 1883

- Eyes large, placed on posterior portion of head, usually not more removed from pronotum then thickness of forst antenna; if this distance equals diameter of segment (male) then hemelytra not as above (fig. 203) (North America)

DIAPHNIDIA Uhler, 1895
45. Second antennal segment about as thicks as the first; membrane cells membranous (Central \& South America, Jamaica) ..

SAILERIA Hsiao, 1945

- Second antennal segment distinctly more slender than the first; membrane cells coriaceus (Central \& North America) PLATYSCYTUS Reuter, 1907

46. Rostrum reaching the middle of the abdomen or beyond ..... 47

- Rostrum not reaching beyond the posterior coxae ..... 50

47. Pronotum strongly constricted anteriorly; clavus with a row of punctures; cuneus almost four times as long as wide at base (Madagascar) ...... MADAGASCARIELLA Carvalho, 1953

- Pronotum not strongly constricted anteriorly; clavus without a row of punctures; cuncus shorter

48. Vertex with a straight carina posteariorly, the eyes blutnly margined behind; body with esparse, long, erect and fine pubescence (fig. 115) (Central \& South America)

JOBERTUS Distant, 1884

- Vertex without a straight carina behind or if so, eyes not margined posteriorly; body not noticeably long pilose (fig. 110)

49. Pronotum bisinuate posteriorly; eyes distant from pronotum by an espace equal to thickness of first antennal segment (fig. 110) (Brazil) ............. BRASILIOMIRIS Carvalho, 1946

- Pronotum straigth posteriorly; eyes situated in front of the middle of head (fig. 114) (Brazil)

ITACORIS Carvalho, 1947
50. Pronotum strongly constricted at middle; claval vein with a row of punctures; species noticeably elongate and slender with transparent hemielytra (Africa)

FELISACODES Bergroth, 1926

- Pronotum not strongly constricted; claval vein without punctures 51

51. Upper lip very thick, inflated, dense and shortly pubescent; first antennal segment about twice as long as the head (Canary Is.) . .............. AETORRHINELLA Noualhier, 1893

- Upper lip not inflatted or pubescent; first antennal equal or slightly longer than the head . . . . . . . . . . . . . . . . . . . . . . . . . 52

52. First segment of antennae longer than head seen from above; rostrum reaching slightly beyond posterior coxae; eyes small (Central America)

PARACHIUS Distant, 1884

- First antennal segmen t as long as head seen from above; rostrum reaching the posterior coxae; eyes large ........... 53

53. Head strongly narrowed behind the eyes; pronotum with two sublateral furrows reaching posterior margin of calli (Formosa)

ZONODOROPSIS Poppius, 1915

- Head not strongly narrowed behind the eyes; pronotum withoutr the two furrows above (Jamaica)

MELANOSTICTUS Reuter, 1907
54. A well defined oblique suture on gena extending from antennal fossa to beneath eye, this suture (fig. 234) frequently outlined
by a dark stripe; red orange and black species (Nort and Central America) . . . . . . . . . . . . . . . . . . . . . LOPIDEA Uhler, 1872

- Genal suture absent or extending directly from antennal fossae to eyes or present, but vague and not outlined by a dark stripe 55

55. Pronotum strongly declivous, clypeus oblique, situated beneath head; eyes very large; body with silky pubescence; rostrum reaching slightly beyond anterior coxae (fig. 212) (Argentina) HYPORRHINOCORIS Reuter, 1909

- Pronotum not strongly declivous, clypeus vertical, situated in front of head; eyes not very large, body with other type of pubescence or if silky, then rostrum longer 56

56. Species mormorate (as in Phytocoris); rostrum reaching middle of abdomen; posterior femora flattened (also as in Phytocoris); abdomen long and erectly pilose (Hawaii)

KAMEHAMEHA Kirkaldy, 1902

- Species not marmorate or if so, rostrum shorter and posterior femora not flattened; abdomen not noticeably long pilose 57

57. Head strongly produced in front of eyes, this space being about twice as long as length of eyes; antennae inserted for from the eye, the space between them equal to or slightly over the thickness of first segment; head somewhat horizontal, body glabrous (Hawaii) ..... PSEUDOCLERADA Kirkaldy, 1902

- Head not as above, antennae inserted much closer to the eye; head vertical or strongly inclined

58. Small pale species with both sexes usually brachypterous; membrane and cuneus absent; pronotum trapeziform (Europe)

FIEBEROCAPSUS Carvalho \& Southwood, 1955

- Species macropterous or if one sex brachypterous, then cuneus or membrane present; pronotum not as above

59. Vertex with a distinct raised carina at posterior margin (fig. 112)

- Vertex without a distinct raised carina at posterior margin fig. 36 )77

60. Carina extending from eye to eye and bearing erect bristles (fig. 259)

- Carina if extending from eye to eye without stout black bristles or erect setae (bristles may be present on vertex)

61. First antennae about as long as width of haed including eyes; greenish cr loured species (Europe, Asia, North Africa) ...... BLEPHARIDOPTERUS Kolenati, 1945

- First antennae shorter than or as long as width of vertex 62

62. Pronotum distinctly narrowed and constricted in front, calli prominent; species with antmimic colouration (Europe) .... DRYOPHILOCORIS Reuter, 1875

- Pronotum not noticeably constricted in front; species without antmimic colouration63

63. Reddish or yellow but reddish marked species; body noticeably long ant erectly pilose; hemielytra dull, not transparent

$$
64
$$

- Otherwise colored, sometimes with traces of brick reddish, if long, fine and erectly pilose, then the hemielytra transparent

$$
65
$$

64. Frons somewhat protruding between bases of antennae, which has bristles and some erect setae (Europe, Asia, India)

PSEUDOLOXOPS Kirkaldy, 1905

- Frons not protruting between bases of antennae which has bristles only (Ceylon) ............ THERMUS Distant, 1909

65. Hemielytra glassy, transparent, long, esparse and erectly setose; pronotum strongly curved posteriorly ,fig. 109) (South America)

PLINIELLA Bergroth, 1922

- Hemielytra not glassy or transparent; pronotum not strongly curved posteriorly

66. Green to yellowish species; pronotum not carinate laterally (North America)

LABOPIDEA Uhler, 1877

- Dark species, sometimes with traces of reddish; pronotum carinate laterally

67. Pronotum flattened laterally with the sides strongly carinate; bristly pubescence very long (Mexico)

HADRONEMIDEA Reuter, 1909

- Pronotum not flattened laterally only slightly carinate; bristly pubescence fairly short (fig. 112) (North America)

HADRONEMA Uhler, 1871
68. Vertex with a shallow longitudinal sulcus; head horizontal; an S-shaped smooth ridge bent forward arising from the peritreme present (Formosa) . ZONODORELLUS Poppius, 1915

- Vertex not longitudinally sulcate; an Sshaped ridge arising from peritreme absent69

69. Rostrum reaching the apex of anterior coxae; cuneus aboutas long as wide at base70

- Rostrum reaching the middle of mesosternum or beyond;cuneus usually longer than wide71

70. Hemielytra glabious, shining; pronotum smooth (Central \& South America)

JORNANDES Distant, 1884

- Hemielytra pubescent; pronotum somewhat rugose (Hawaii) KOANOA Kirkaldy, 1902

71. Frons and vertex strongly declivous, the latter somewhat depressed, carina high with sharp edge; body shagrine, almost glabrous; membrane noticeably long (Mexico)

FICINUS Distant, 1893

- Frons and vertex not as above or if so, the carina low and blunt; body not shagrine and membrane not noticeably long .............................................................. . . 72

72. Vertex with a black fossa each side next to the eye; with striated black marks on frons (Europe, North Africa)

HYOIDEA Reuter, 1876

- Vertex and frons without the above marks 73

73. Head strongly declivous, pointed below; eyes contiguous with pronotal angles; first antennal segment about as long as half the width of vertex74

- Head not strongly declivous; eyes slightly removed from pronotal angles; first antennal segment about as long as vertex 75

74. Arolia large, broadned toward the apex which is truncate (fig. 69 ); species olivaceous in color (Malay)

PARASTHENARIDEA Miller, 1937

- Arolia small, tapering toward the apex which is pointed; species usually black to rufescent (Micronesia, Philippines, S. America, Puerto Rico) ....... ORTHOTYLELLUS Knight, 1935

75. Carina of vertex arcuate posteriorly; species over 7 mm . long, with resemblance to Cyllecoris and Globiceps (Korea)

CAMPYLOTROPIS Reuter, 1904

- Carina of vertex not arcuate posteriorly; species less than 7 mm . long, without resemblance to the genera above mentioned

76
76. Second antennal segment about three times as long as third; genital segment of males with a median projection directed backwardly (Canary Is.) . . CANARIOCORIS Lindberg, 1951

- Second antennal segment about twice or less as long as third; genital segment of males without a ventral projection directed backwards (Europe, North America, Africa)

ORTHOTYLUS Fieber, 1858
77. Rostrum reaching apex of anterior coxae or slightly beyond 78

- Rostrum reaching beyond middle of mesosternum

78. Pronotum not noticeably narrowed anteriorly; second segment of antenna linear; slender, elongate greenish species (Europe) BRACHYNOTOCORIS Reuter, 1890

- Pronotum narrowed anteriorly; second antennal segment slightly incrassate; species black and rufescent (Central America)............... . RHINOCAPSIDEA Reuter, 1908

79. Clypeus strongly compressed and prominent, roundish in front, seen from above distinctly produced between antennae; body with long erect and esparse bristles (fig. 154) (South America) .................. CYRTOTYLUS Gergroth, 1922

- Clypeus not as above or if so, the body without long erect and esparse bristles80

80. Body with silvery silky pubescence intermixed with fine erect hairs; tibiae with long spines having dark spots at base (Africa, Central \& South America) .......... ELLENIA Reuter, 1910

- Body with a single type of pubescence .................... 81

81. First antennal segment shorter than width of vertex; eyes contiguous with anterior margin of pronotum ............ 82

- First antennal segment longer than width of vertex or if not then eyes somewhat removed from anterior margin of pronotum ..................................................... . 83

82. Head pointed in front; body fairly pilose; vertex smooth; second antennal segment less than 5 times longer than first segment (Greece) ...................... AMIXIA Reuter, 1883

- Head not jointed in front; body covered with short hairs; vertex longitudinally sulcate; second antennal segment 5 times longer than first segment (India) . . ASERYMUS Distant, 1904

83. Pronotum noticeably narrowed in front, constricted, calli prominent; species with antmimic colouration; female antennal segment clavate (Europe, Asia)

CYLLECORIS Hahn, 1834

- Pronotum not noticeably constricted and narrowed in front; calli not prominent; species without antmimic colouration 84

84. Eyes contiguous with anterior margin of pronotum; rostrum reaching apex of mesosternum (Europe)

PACHYLOPS Fieber, 1858

- Eyes slightly removed from pronotum; rostrum reaching middle of posterior coxae

85. Rostrum reaching the middle coxae; pronotum with a slender anterior collar (Europe, Asia, North Africa, North America) MECOMMA Fieber, 1858

- Rostrum reaching the posterior coxae; pronotum without an anterior collar (Cosmopolitan)

CYRTORHINUS Fieber, 1858

## KEY TO THE GENERA OF PILOPHORINI

1. Frons with a spiniform projetion bent downwards over base of clypeus which is compressed; first rostral segment not reaching base of head; pronotum and abdomen very strongly constricted; species extremely myrmicomorphic (Ceylon)

LUTHERIELLA Poppius, 1913

- Frons without a spiniform projection ..................... 2

2. Scutellum with an erect spiniform process (fig. 213) .... 3

- Scutellum flat or convex, without a spiniform process .... 5

3. Pronotum dense and finely punctured (Africa)

OPYSTOCYCLUS Poppius, 1914

- Pronotum not punctured4

4. Second antennal segment abouth as the thick as third (North America) .............. CYRTOPELTOCORIS Reuter, 1875

- Second antennal segment distinctly thicker than third (Argentine) . ................. MYRMECOZELOTES Berg, 1884

5. Head much higher than long or wide; eyes substylate rising distinctly above level of vertex; antennae inserted far from eye, this distance being about equal the eight of eye; both sexes brachypterous (Europe, Asia)

MYRMECOPHYES Fieber, 1870

- Head not as above; eyes not substylate; antennae inserted nearer to the eyes

6. Anterior coxae with a strong tubercle at base; pronotum strongly constricted and narrowed on anterior third, the sides carinate anteriorly (Madagascar)

EUCOMPSELLA Poppius, 1914

- Anterior coxae without a strong tubercle at base; pronotum if constricted not carinate anteriorly7

7. Gula strongly carinate; upper lip as long and wide as first rostral segment; head (vertex and frons) very depressed, sunk bellow eye level (fig. 80) (Chile)

DOLICHOSTENIA Poppius, 1921

- Gula not strongly carinate; upper lip smaller, not as wide as first rostral segment; head convex or flat, not noticeably depressed on vertex

8. Pronotum strong and transversely rugose; rostrum reaching apex of middle coxae (Australia)

KIRKALDIELLA Poppius, 1921

- Pronotum not rugose or only slightly so

9. Second antennal segment as thick as third, or fourth; females usually brachypterous or with modified hemielytra (short membrane) (fig. 102)

- Second antennal segment thicker than third and fourth; females usually macropterous (fig. 103) ........................ 19

10. Vertex strongly carinate, the carina as high as thiclkness of second antennal segment at base; scutellum strongly tumid; frons striolate; hemielytra with somewhat rugose surface (Africa)

NICHOMACHUS Distant, 1904

- Vertex carinate not as above; scutellum not noticeably tumid; frons not striolate 11

11. Hemielytra with scale like hairs or transversal silvery scale like pubescent bands ..... 12

- Hemielytra without scale like hairs or silvery bands ..... 14

12. Hemielytra with long erect bristles and scale like hairs; pro- notum not strongly narrowed in front ..... 13

- Hemielytra with semiadpressed pubescence plus scale like hairs;pronotum strongly narrowed in front (Bolivia)LEPIDOTAENIA Poppius, 1921

13. Pronotum covering mesoscutum and part of scutellum (Cen- tral \& North America) RENODAEUS Distant, 1893

- Pronotum not covering mesoscutum (North America) PILOPHOROPSIS Poppius, 1914

14. Pronotum noticeably constricted at middle; tibiae usually some- what curved; only females known ..... 15

- Pronotum not noticeably constricted at middle; tibiae straight; males known ..... 26

15. Anterior portion of pronotum with two or three tubercles, erect and pointed (Venezuela)
ZANCHISME Kirkaldy, 1904

- Anterior portion of pronotum without tubercles ..... 16

16. Pronotum not deeply constricted at middle, finely punctate, shining; hemielytra covering the abdomen (India)ZARATUS Distant, 1909

- Pronotum deeply constricted at middle, smooth or if punctate, the hemielytra not reaching apex of abdomen ..... 17

17. Hemielytra distinctly punctate at base, reaching beyond the posterior coxae (Africa) ...... LASIOMIMUS Poppius, 1914coxae18
18. Posterior lobe of pronotum conically produced upwards; eyes elongate and oblique on head (North Africa) FORMICOCORIS Lindberg, 1940

- Posterior lobe of pronotum not conically produced upwards; eyes rounded (Australia) . . MYRMECORIDEA Poppius, 1921

19. Vertex not compressed posteriorly, neither overlapping anterior edge of pronotum

- Vertex noticeably compressed and carinate posteriorly, usually overlapping slightly anterior edge of pronotum (fig. 261) 22

20. Length of first antennal segment shorter than width of head; pronotum not constricted anteriorly (Australia)

LEUCOPHOROPTERA Poppius, 1921

- Length of first antennal segment about equal the width of head; pronotum distinctly constricted anteriorly ......... 21

21. Scutellum strongly tumid, elevated; eyes distant from pronotum by an espace greater than the thickness of first antennal segment (North America) . . CYPHOPELTA Van Duzee, 1910

- Scutellum convex not noticeably prominent; eyes contiguous with anterior margin of pronotum or so (fig. 262) (North America) . ............... PSEUDOXENETUS Reuter, 1909

22. Hemielytra constricted and recurved ventrad, bearing white or silvery pubescent hands 23

- Hemielytra without white or silvery pubescent bands .... 24
:23. Vertex and frons very flat, faintly sulcate longitudinally; vertex straight posteriorly; membrane long; species noticeably elongate (Chile \& Argentina) .... TUXENELLA Carvalho, 1952
- Vertex and frons not sulcate longitudinally, rounded or not noticeably depressed; vertex curved posteriorly towards the pronotum; membrane short; species not noticeably elongate (Europe, Asia, Africa, N. America)

PILOPHORUS Westwood, 1876
24. Body almost glabrous; females noticeably dimorphic with head strongly rounded in front and pronotum constricted anteriorly; small species 3 mm long or less (Paraguay)

HALLODAPOIDES Carvalho, 1951

- Body distinctly pubescent; females not strongly dimorphic; species usually over 3 mm long

25. Second antennal segment scarcelly thickened towards the apex; width of head equal or larger than base of pronotum (North America)

ALEPIDIA Reuter, 1909

- Second antennal segment incrassate towards the apex; width of head less than width of posterior margin of pronotum (North America) ..................... ALEPIDIELLA Poppius, 1914

26. Pronotum and scutellum finely punctate (Argentina) LAEMOCORIDEA Poppius, 1921

- Pronotum and scutellum not punctate (Americas)

SERICOPHANES Reuter, 1876
NOTE: The following genera were not included in the key: Anthropophagiotes Kirkaldy, 1908 (roc. Linn. Soc. N. S. Wales 33:378) from Fiji.

## KEY TO THE GENERA OF MIRINI

1. Upper wing without cuneus and membrane, the divisions into corium, clavus and embolium not distinct; second antennal segment long and clavate at apex; brachypterous (Europe, Asia) ...................... APHANOSOMA Costa, 1841

- Upper wing with cuncus and membrane, the divisions into corium, clavus and embolium distinct 2

2. First antennal segment very thick, its diameter being about equal to that of one eye, constricted at middle; second segment strongly incrassate on apical half; third and fourth very short, together subequal to second; clypeus strongly prominent, hemelytra with patches of silvery pubescence (Central America) (fig. 202) ....................... EUROTAS Distant, 1884

- Antennae not as above 3

3. Anterior tibiae strongly enlarged and flattened, foliaceus or so; cuneus about as long as wide at base (Central \& South America)

HENICOGNEMIS Stal, 1860

- Anterior tibiae cylindrical, not as above; if enlarged apically then cuneus longer than wide

4. Body above smooth, shagrine or rugose, rarely faintly punctulate, is this case, the first segment of hind tarsi very long, about as long as the two last ones together or the lorae strongly carinate (fig. 199)

- Body above distinctly punctate (pronotum), the punctures rarely faint, in this case, the surface deeply rugose or with esparse scale-like hairs or silky and silvery pubescence, the head pointed and longly produced ...................... 77

5. Lorae very strongly developed and carinate ............. 6

- Lorae if developed, never carinate ....................... 7

6. Body long, large and elongate; cuneal incisure small, shallow (Africa) ................ LINOCEROCORIS Karsch, 1892

- Body fairly small, rounded; cuneal incisure deep (Africa, Fernando Po) ........ LAMPROCAPSIDEA Poppius, 1912

7. Posterior femora very long, extending much beyond tip of abdomen and flattened, broadest before middle and then tapering gradually to apex or if not flattened, then curved on upper surface8

- Posterior femora shorter, not or scarcely extending beyond tip of abdomen, not noticeably broad at base11

8. Pronotum submarginate laterally at apex; head more or less horizontal and pointed; claval vein distinctly raised (Europe, Asia, North Africa)

MIRIDIUS Fieber, 1858

- Pronotum not marginate; head vertical not pointed; claval vein not raised9

9. Hind femora curved on upper surface, with a few spines on posterior side; pronotum strongly declivous (Java)

EUPHYTOCORIS Poppius, 1914

- Hind femora not curved on upper margin, without spines; pronotum not strongly declivous

10. Femora not noticeably narrowed towards apex; calli reaching sides of pronotum; female brachypterous (Asia)

PHYTOCORIDEA Reuter, 1905

- Femora flattened and noticeably narrowed towards the apex; calli not reaching sides of pronotum; females macropterous (Cosmopolitan)

PHYTOCORIS Fallen, 1814
11. First antennal segment thickened, cloted with numerous flattened hairs (fig. 238) (North \& Central America)

NEUROCOLPUS Reuter, 1875

- First antennal segment devoid of flattened hairs12

12. Pronoutm with two subexcavated, dull black spots situated behind the callosities (fig. 207) ........................ 13

- Pronotum without the spots above or with only superficial ones above the disc

13. First antennal segment large, strongly compressed laterally (foliaceus) (fig. 24) (Americas)

LAMPETHUSA Distant, 1884

- First antennal segment cylindrical, not noticeably anlerged

14. First antennal segment clothed with long black hairs; vertex convex, frons smooth; rostrum reaching the last coxae (Americas)

TAEDIA Distant, 1883

- First antennal segment clothed with short hairs and two or three setae; vertex depressed, frons striolate; rostrum reaching the 8 th abdominal segment (Africa)

OXACICORIS Reuter, 1905
15. Body shagrine and marbled; hemielytra with somewhat scalelike hairs; anterior tibia with an apical tuft of hairs internally (fig. 199) (South America) . . GUIANELLA Carvalho, 1946

- Body not shagrine and marbled; if scale-like hairs present then anterior tibia without an apical tuft of hairs ...... 16

16. Second antennal segment at least on males noticeably incrassate towards the apex, somewhat spindle shaped (fig. 197) 17

- Second antennal segment linear or only very slightly incrassate at or towards the apex (fig. 219)

17. Head horizontal, clypeus almost reaching apex of first antennal segment; jugum distinctly set off from lorum, frons pointed; first rostral segment reaching only level of middle of eye, which is removed from anterior margin of pronotum; first tibiae enlarged and flattened, body with patches of silvery silky hairs (Africa) .... TRACHELUCHUS Bergroth, 1926

- Head not as above or if so, then first tibiae not enlarged and body without patches of silvery silky hairs ............. 18

18. Body with adpressed silvery pubescence; first segment of hind tarsi much longer than second (Australia)

PSEUDEURYSTYLUS Poppius, 1915

- Body without adpressed silvery pubescence or if so, then a second type of hair or bristle present; first segment of hind tarsi not longer than second 19

19. Clavus with two rows of punctures; eyes set at middlle of head; antennae and legs very long (Madagascar)

ANOSIBEA Carvalho, 1953

- Clavus without two rows of punctures; eyes closer to collar

20. Pronotum with black setiform bristles intermixed with golden or silvery pubescence; second antennal segment gradually incrassate towards apex ......................................... 21

- Pronotum with a single type of pubescence or if not, the second antennal segment very slender at base and incrassate only apical half or so . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 23

21. First antennal segment large, compressed, with two types of pubescence (Asia, Africa, East Indies, Pacific Is.)

EURYSTYLUS Stäl, 1870

- First antennal segment cylindrical, with one type of pubescense ............................................................ . 22

22. Scutellum strongly raised distally; cuneus about as long as wide at base; first antennal segment about as thick as apex of second segment (North America)

PYCNOCORIS Van Duzee, 1914

- Scutellum moderately convex; cuneus longer than wide at base; first antennal segment not as trick as apex of second segment (Americas) ...... NOTHOLOPUS Bergroth, 1922

23. Body strongly shining; pronotum erectly and hemelytra adpressed pilose; rostrum reaching middle of mesosternum (Madagascar)

SCHOUTEDENIELLA Poppius, 1912

- Body not noticeably shining; pronotum and hemelytra with same type of pubescence

24. Pronotum finely rugouse, almost glabrous, body totally black above (North America) .... ECTOPIOCERUS Uhler, 1890

- Pronotum not rugouse, pubescent, body not totall black above25

25. Vertex sulcate in middle; rostrum reaching the middle coxae; second antennal segment thickest at apex ................ 26

- Vertex smooth; second antennal segment thickest on apical third; rostrum reaching the posterior coxae (fig. 179) (Americas) .............................. GARGANUS Stal, 1858

26. Pronotum constricted anteriorly; the anterior portion much lower than posterior; jugum very large and prominent (Tauria) . . . . . . . . . . . . . . . . . . . . . . EPIMECELLUS Reuter, 1894

- Pronotum not constricted anteriorly; jugum not noticeably large and prominent (Tasmania)

PSEUDOPANTILIUS Reuter, 1905
27. First segment of hind tarsi distinctly longer than third (fig. 23)

- First segment of hind tarsi not longer than third (fig. 29) 31

28. Large species with cuneus long and pointed, about three times as long as wide; head and pronotum covered by black setiform hairs, the latter faintly rugose; lorum very small gena produced apically somewhat tubercular, touching apex of jugae (Burma)

CHEILOCAPSUS Kirkaldy, 1902

- Small or medium size species with shorter cuneus; body without setiform hairs or if so, then gena not as above .... 29

29. Head much longer than wide, distinctly pointed in front, somewhat horizontal (India) .. ZALMUNNA Distant, 1909

- Head about as long as wide, not pointed in front, vertical 30

30. Eyes slightly removed from pronotum; second antennal segment thinner than first (Europe, Asia, Africa, India, North America) STENOTUS Jakovlev, 1877

- Eyes contiguous with pronotum; second antennal segment as thick as first (Africa)

LYGOPSIS Poppius, 1912
31. Dorsal surface distinctly pubescent, dull ..... 32

- Dorsal surface glabrous, highly polished, sometimes rugose orrough with esparse, few and short hairs71

32. Hemelytra covered by dark recumbent hairs plus scale-like hairs; cuneus about as wide as long, membrane very short, hemelytra rounded externally (New Zealand)
CHINAMIRIS Woodward, 1951

- Hemelytra with a single type of hairs or if scale-like hairspresent then cuneus longer than wide, membrane long andhemelytra not rounded externally33

33. First antennal segment as long as or longer than head andpronotum together; frons horizontal slightly protruding overbase of clypeus; rostrum reaching the fourth visible abdominalsegment (North America) . . PALLACOCORIS Reuter, 1876

- First antennal segment not as long as head and pronotumtogether or if so then rastrum shorter and frons not asabove .............................................................. . . 34

34. Collar very wide, about, 1-1/2 times as trick as first antennalsegment; eyes removed from pronotum, prominent; dark spe-cies with luteous markings, the embolium usually flavous oryellowish (Europe, Asia, N. Africa)
CAPSODES Dahlbom, 1851

- Collar not noticeably wide; if the eyes removed from pronotum then the head with a short neck .................. . 35

35. Body covered with stiff black setiform bristles; head with a short neck; eyes slightly removed from anterior margin of pronotum; legs and antennae with many bristles; rostrum reaching the middle coxae (aspect of Dicyphus) (fig. 188) ................................. . . PAMERIDEA Reuter, 1906

- Body with other type of pubescence or if setiform hairs present, the eyes contiguous to pronotum and head without a short neck ........................................................ . . . 36

36. Pronotum carinate at sides; vertex sulcate (fig. 192) ..... 37

- Pronotum not carinate laterally ..... 38

37. Body covered by short setiform black bristles; rostrum reach-ing beyond middle coxae; vertex shallowly sulcate (Asia,North America) .... ALLORHINOCORIS Reuter, 1876 *

- Body covered by short setiform black and adpressed bristles plus woolly silvery hairs; rostrum not reaching the middle coxae; vertex deeply sulcate (fig. 192) (Europe, Asia) .... PANTILIUS Curtiss, 1833

[^2]38. Hemelytra with black setiform hairs and silvery silky pubes-
cense (the bristles sometimes seen only on exocorium)

- Hemelytra with a single type of pubescence ............. 43

39. Rostrum not reaching beyond the apex of hind coxae .. 40

- Rostrum reaching beyond the apex of hind coxae ...... 42

40. Vertex sulcate longitudinally; rostrum reaching the apex of hind coxae (Asia) ........ PARAPANTILIUS Reuter, 1904

- Vertex smooth; rostrum reaching the apex of middle coxae

41. First and second antennal segments linear or so; tibiae compressed and carinate on upper margin with strong black spines, the posterior tibiae distinctly curved (Iindia) ...... LUCIT ANUS Distant, 1904

- First and second antennal segments fairly thick; tibiae not as above (Africa) ................. VOLUMNUS Stäl, 1865

42. Rostrum reaching the 8th abominal segment; first antennal segment without long, dense and rigid setae; tibiae without long spines (North America) .... ECERTOBIA Uhler, 1909

- Rostrum not reaching the 8th abdominal segment; first antennal segment with long, dense and rigid setae; tibiae with long spines (Africa) ........ TRICHOBASIS Reuter, 1904

43. First antennal segment longer than width of head (fig. 198)

- First antennal segment shorter or equal to width of head 48

44. Vertex sulcate longitudinally; frons striolate; third antennal segment equal in length to first; second slightly longer than third; long parallel sided species (fig. 198) (Cosmopolitan) CREONTIADES Distant, 1883

- Vertex not sulcate, frons not striolate

45. Eyes removed from anterior margin of pronotum by an espace about equal to length of one eye; claval vein distinctly raised; pubescence black and setiform (Europe, Asia)

ODONTOPLATYS Fieber, 1858

- Eyes contiguous with anterior margin of pronotum or so; claval vein not raised

46. Posterior femora compressed, fairly narrowed towards the apex; membrane marmorate (as in Phytocoris) (North Afri-


- Posterior femora not compressed and noticeably narrowed towards apex; membrane not marmorate

47. Eyes somewhat removed from anterior margin of pronotum (New Guinea) AUSTROPEPLUS Poppius, 1915

- Eyes contiguous with anterior margin of pronotum; species of large size; body not densely pubescent; cuneus longer than wide (Asia, India) . TRICHOPHORONCUS Reuter, 1896

48. Elongate species with brachypterous females; males with cuneus two and half times as long as wide at base; tibiae with long spines; pronotum situate laterally, strongly narrowed towards apex; females without distinct cuneus and membrane49

- If brachypterism occurs in females, then cuneus less than two and half times as long as wide at base; tibiae without noticeable long spines; pronotum not strongly narrowed in front; females with cuncus and membrane


## 49. Pronotum sinuate laterally; clypeus flattened, scarcely convex;

 eyes inclined forward; cuneus absent on females (Asia, Europe) ....................... ALLOEONOTUS Fieber, 1858- Pronotum not sinuate laterally; clypeus arcuate-convex; eyes vertical in position; cuneus distinct on females (North America) ........................ STTITOCAPSUS Knight, 1942

50. Rostrum reaching slightly beyond apex of anterior coxae; body long and erectly pilose (Asia, Europe, North Africa) BRACHYCOLEUS Fieber, 1858

- Rostrum reaching the middle coxae or beyond ......... 51

51. Black species with jugum separated from lorum by a deep suture; first rostral segment much thicker than others; body above rugose, often with punctate aspect (North America)

IRBISIA Reuter, 1879

- Species if black, without the combination of characters above

52. Scutellum strongly tumid and steep posteriorly, feebly declivous towards apex; body covered by adpressed, silvery pubescence (New Guinea) .... PELTIDOPEPLUS Poppius, 1912
-- Scutellum not strongly tumid or if so, the body without silvery adpressed pubescence . . . . . . . . . . . . . . . . . . . . . . . . . . . . 53
53. Eyes removed from pronotum by a distance about equal to or more than thickness of second antennal segment; collar wide, calli large and confluent, reaching the lateral margins of pronotum, the latter somewhat depressed behind calli (figs. 186, 187) 54

- Eyes contiguous with pronotum or if not then calli not large, not confluent or reaching lateral margins of pronotum (fig. 203)

54. Collar very wide with mesal length about equal to half the width of one eye; pubescence long, fine and erect (Europe) DIONCONOTUS Reuter, 1894

- Collar about as thick as first antennal segment; pubescence short and adpressed, easily rubbed off ................... 55

55. Calli vermiculate sculpturated; posterior lobe of pronotum carinate at middle (Corsica)

RHABDOSCYTUS Horvath, 1924

- Calli not as above; pronotum without a carina on posterior lobe

56. Frons strongly swollen in front (fig. 187); pronotum distinctly narrowed and somewhat constricted in front (Europe, Asia) ............... GRYPOCORIS Douglas \& Scott, 1868

- Frons not noticeably swollen in front; pronotum not constricted in front (fig. 186) (Europe)

HADRODEMUS Fieber, 1858
57. First antennal segment almost as thick as diameter of eye (fig. 203), slender at base, the others very slender; posterior femora very thick, tibiae with long spines; pronotum and cuneus strongly declivous; hemelytra adpressed pilose, pronotum with setiform and silky pubescence (South America) ....

POEAS Distant, 1893

- First antennal segment not as above; posterior femora not noticeably thick; pubescence not as above

58. Body above covered with short black setiform bristles, especially visible on sides of pronotum and exocorium

- Body above covered with hairy pubescence only, without setiform bristles

59. Corium with very prominent veins, the cubital branched at apex; first segment of hind tarsi thicker than second, deeply excised at apex, longer than second; pronotum with lateral margins acute anteriorly; females identical to males, cuneus more than twice as long as wide

- Corium without prominent veins; pronotum with rounded lateral margins; females with very short membrane, the cuneus as long as wide at base (Europe)

HORVATHIA Reuter, 1881
60. Body oval; head seen from above as long as wide, eyes contiguous with pronotum; rostrum reaching slightly beyond middle coxae; first rostral segment reaching middle of xyphus (Europe) .................ACTINONOTUS Reuter, 1896

- Body subelongate; head seen from above much longer than wide; eyes somewhat removed from pronotum; rostrum reach-
ing the base of head (Europe, North America)
MIRIS Fabricius, 179461. Vertex longitudinally sulcate; body escarcely pubescent, al-most glabrous or with very long, erect and esparse pubes-cence62
- Vertex not sulcate longitudinally; body distinctly pubes-cent64

62. Body with short golden and black pubescence (North Africa)REUTERISTA Kirkaldy, 1904

- Body almost glabrous or with long, erect pubescence ..... 63

63. Body almost glabrous; eyes not very large; antennae not notice-ably long; hemelytra not shagrine (Europe, Asia, Africa, Aus-tralia)MEGACOELUM Fieber, 1858

- Body than long, erect pubescence; eyes very large; antennaelonger than the body; hemelytra finely shagrine (Ceylon)
PHARYLLUS Distant, 1904

64. Rostrum reaching beyond apex of posterior coxae; head broad eyes proctically in contact with pronotal angles, hind margin of eyes somewhat flattened and forming an arcuate line with base of vertex ..... 65

- Rostrum not reaching beyond apex of posterior coxae; headnot unusually broad, eyes convex behind and well removedfrom pronotau angles66

65. Vertex distinctly carinate; head very short, vertical, eyes com-pressed; pubescence not silky (India)SAPINNIUS Distant, 1909

- Vertex not carinate; head not noticeably short and vertical;eyes not strongly compressed; pubescence not noticeably silky(Europe, North America) . . DICHROOSCYTUS Fieber, 1858

66. Second antennal segment about as thick as or thicker thanfirst; cyes large, margined posteriorly (fig. 201); clavus withdull tomentose dust (Africa, Pacific Is.)SIDNIA Reuter, 1905

- Second antennal segment slender than first; eyes not marginedposteriorly; clavus without tomentose dust67

67. Head strongly pointed in front; vertex carinate; upper surfaceof body rugose; pronotum with a slight median impression(Africa) ..................... CIXACORIS Poppius, 1912

- Head not strongly pointed; body smooth; pronotum convex or flat, not impressed ..... 68

68. Thickness of fourth antennal segment almost equal to thatof base of second segment; mesal length of collar subequal to
thickness of fourth antennal segment (fig. 219) (Cosmopolitan)
ADELPHOCORIS Reuter, 1896

- Fourth antennal segment distinctly thinner than base of second segment; mesal length of collar distinctly greater than thickness of fourth segment 69

69. Pronotum glabrous, shining; pubescence of hemelytra very short (North America) .... GANOCAPSUS Van Duzee, 1912

- Pronotum pubescent; pubescence of hemelytra not noticeably short

70
70. Vertex finely carinate; collar very slender (Java) ...........
................... . CALOCOROPSIS Popius, 1914

- Vertex not carinate; collar not noticeably slender (fig. 38) (Cosmopolitan) ............... CALOCORIS Fieber, 1858

71. Rostrum short, escarcely surpassing anterior coxae or reaching middle of mesosternum, in a few species reaching anterior margin of middle coxae (India)

LIOGAPSUS Poppius, 1915

- Rostrum longer, reaching at least posterior margin of middle coxae

72. Vertex distinctly sulcate (Central America) JACCHINUS Distant, 1873

- Vertex not distinctly sulcate or only very finely so ...... 73

73. Eyes very large, compressed, smooth behind, touching the anterior angles of pronotum and gula below, strongly reniform in front; vertex thickly margined; first antennal segment shorter or equal to with of vertex (Africa)

LYGIDOLON Reuter, 1907

- Eyes not compressed or touching anterior angles of pronotum and gula below; vertex not marginate; first antennal segment longer than width of vertex

74. Large species over 10 mm long; scutellum rugose, impressed longitudinally; clypeus strongly prominent (New Guinea)... MACROPEPLUS Poppius, 1912

- Smaller species with smooth scutellum, not impressed longitudinally; clypeus not noticeably prominent

75. Eyes compressed and large; body opaque; pronotum strongly declivous (Madagascar)

ADELPHOCORIDEA Poppius, 1912

- Eyes not compressed; body shining; pronotum not strongly declivous

76
76. Posterior tibiae with spines throughout; lorum prominent, somewhat carinate (Americas) .... HORCIAS Distant, 1884

- Posterior tibiae with only a few apical spines; lorum not noticeably prominent (Java) ... GIANELLA Poppius, 1914

77. Head horizontal, vertex longitudinally sulcate and striolate; jugum very prominent, set off as two pointed tubercles at the sides of clypeus; third and fourth joints of antennae minute; rostrum reaching the posterior coxae (Central America)

MINYTUS Distant, 1883

- Jugum and vertex not as above; if third and fourth joints of antennae minute, the rostrum reaching the middle coxae 78

78. Body covered by very long, fine and erect pubescence, especially on exocorium and scutellum; hemelytra with silvery areas or adpressed silky or wooly pubescence amongst the erect hairs 79

- Body shortly pilose or if long pilose, the hemelytra without silvery spots or silky or woolly pubescence intermixed with long hairs

83
79. Pubescence of hemielytra with silky silvery adpressed hairs amongst the erect pubescence; or silvery tomentose areas present (Ceylon) ............. DIOGNETUS Distant, 1904

- Pubescence of hemelytra with silvery tomentose spots on hemielytra, simetimes also a few short silvery hairs ...... 80

80. Pronotum strongly convex at middle of disc, with a tubercular elevation (an erect lobe) (fig. 210) (Formosa)

TINGINOTOPSIS Poppius, 1915

- Pronotum not as above ....................................... 81

81. Embolium without transverse dark and hyaline fasciae; pubescence of body not noticeably long (Ceylon)

ARGENIS Distant, 1904

- Embolium with transverse dark and hyaline fasciae; body pubescence very long

82
82. Rostrum reaching apex of mesosternum; embolio-corial commissure at base with punctures; head somewhat produced between antennae (Fiji, Samoa)

NESODAPHNE Kirkaldy, 1908

- Rostrum reaching the posterior coxae or beyond; emboliocorial commissure without punctures; head not produced anteriorly (India, Africa, Java, Philippines, etc.)

TINGINOTUM Kirkaldy, 1902
83. First antennal segment noticeably enlarged, compressed or foliaceous or with two first segment noticeably thick (fig. 200)

84
Firts antennal segment if enlarged, cylindrical, or first two
segments not noticeably thick (fig. 201) .............. 8.5
84. Head more or less horizontal, acutely pointed in front; pronotum strongly narrowed and declivous; first antennal segment without bristles and scale-like hairs (fig. 200) (Ceylon)
CLAPMARIUS Distant, 1904

- Head not horizontal; pronotum not strongly narrowed in front; first antennal segment with bristles and scale-like or woolly hairs (Formosa) EURYSTYLOMORPHA Poppius, 1915

85. Second antennal segment distinctly clavate ..... 86

- Second antennal segment linear or so ..... 91

86. Upper surface with golden yellowish scale-like pubescence; hemelytra rugose, vertex carinate (Peru)
ACANTHOPEPLUS Poppius, 1912

- Upper surface without scale-like pubescence ..... 87

87. Body (except hemelytra) very long and erectly pilose (Africa)TRICHOCAPSUS Poppius, 1912

- Body without noticeably long pubescence ..... 8888. Pronotum erectly and hemelytra shortly adpressed pilose;first antennal segment ver short and thick (North Africa)HISTRIOCORIDEA Poppius, 1912
- Body pubescence not as above; first antennal segment notnoticeably thick89

89. Hemelytra covered by silky adpressed pubescence; scutellum transversally rugose; rostrum surpassing slightly the apex of anterior coxae (Tonkin) ......... THANIA Poppius, 1915

- Hemelytra without silky adpressed pubescence; scutellum not transversally rugose; rostrum longer90

90. Vertex very wide and with a median shallow depression; jugum strongly tumid; frons smooth, pronotum punctate (fig. 197) (Europe, Asia, North America)

CAPSUS Fabricius, 1803

- Vertex not noticeably wide, without median depression; jugum not strongly tumid; frons striolate; pronotum rugose (Africa) .......... PSEUDORTHOTYLUS Poppius, 1914

91. Pronotum strongly declivous; scutellum strongly prominent; hemelytra shagrine covered by small scale-like dehiscent hairs; cuneus strongly inclined (fig. 185) (Central \& South America)

DEROPHTHALMA Berg, 1883

- Pronotum if strongly declivous, the scutellum not as above or if so, then the hemelytra without adpressed scale-like hairs giving shagreened appearance

92. Head short, vertical, wide, frons striolate and sulcate; eyes large, compressed, occupying the sides of the head; pronotum
strongly punctate, hemelytra beset with golden adpressed pu-bescence or this type plus common hairs (fig. 193)93other type of pubescence or pronotum not strongly pun-ctate95
93. Antennae with short hairs and long, erect fine setae; hemely-tra with erect hairs intermixed with adpressed ones (fig. 193)(Central \& South America) .. CALOCORISCA Distant, 1884

- Antennae with a single of pubescence; hemelytra with a singletype of pubescence94

94. Body with dense golden adpressed pubescence; membrane very short and densely pubescent (Central \& South America)EUCHILOCORIS Reuter, 1907

- Body not noticeably densely pilose; pronotum and scutellumstrongly punctate; membrane glabrous (Venezuela)
CHRYSODASIA Reuter, 1892

95. Hemelytra clothed with distinct silvery or woolly or silkypubescence, single or mixed with fine, erect hairs, sometimeseasily rubbed off96

- Hemelytra glabrous or clothed with only a single type ofpubescence, sometimes semiadpressed but never truly silky
or woolly ..... 106

96. First antennal segment very thick, as wide as width of oneeye; pronotum with three colloused lines anteriorly on thesides (Australia) ............ DIRHOPALIA Reuter, 1905

- First antennal segment not as thick as width of eye; pronotumwithout the lines above97

97. Pronotum with a median subexcavated dull spot behind calli; scutellum strongly tumid; pubescence of black stiff bristlesand silvery hairs (India)
EURYSTYLOPSIS Poppius, 1911

- Pronotum without the spot above; scutellum not noticeablytumid or if so, then body pubescence not as above98

98. Pronotum with two dull depressed black spots (as in Taedia), covered by black bristles only (Africa)
PLESIOCAPSUS Bergroth, 1926

- Pronotum without two dull black spots as above or if so,then pronotum with woolly pubescence .............. 99

99. Body covered by silky pubescence intermixed with erect andfine hairs; pronotum coarsely and deeply punctate; scutellumflat (Java) $\ldots \ldots \ldots \ldots \ldots \ldots$..................
[^3]- Body covered by adpressed pubescence only; pronotum finely
punctate or if coarsely punctate then scutellum tumid 100

100. Head strongly pointed in front; claws toothed at base; ostiolar peritreme very large (Africa, India, Madagascar, Java, etc.)

PROBOSCIDOCORIS Reuter, 1894

- Head not strongly pointed in front or if so, then claws not toothed at base or ostiolar peritreme not very large .... 101

101. Scutellum strongly tumid ............................. 102

- Scutellum not strongly tumid .......................... 103

102. Pronotum coarsely punctate, glabrous (India)

PELTIDOLYGUS Poppius, 1915

- Pronotum finely rugouse punctate, dorsum clothed with silvery woolly adpressed pubescence (North America)

$$
\text { CALYPTODERA Van Duzee, } 1923
$$

103. Pronotum somewhat rugose punctate; rostrum reaching the VI to VII abdominal segment; elongate species with the aspect of Lygus but with silvery hairs amongst the pubescence of hemelytra (India, Ceylon) ...... ELTHEMUS Distant, 1909

- Pronotum not rugose; rostrum shorter, pubescence distinctly silky: usually roundish dark species

$$
104
$$

104. Pronotum esparsely punctate, strongly shining, scantily pubescent; hemielytra somewhat rugose punctate (Asia, India) ...

LIOCORIDEA Reuter, 1903

- Pronotum distinctly pubescent; hemelytra not rugosely punctate105

105. First and second segments of hind tarsi equal in length; collar with mesal length larger than thickness of first antennal segment (Europe, Asia, Africa)

CHARAGOCHILUS Fieber, 1858

- First segment of hind tarsi distinctly shorter than second; collar with mesal length equal to thickness of first antennal segment (Cosmopolitan) .... POLYMERUS Westwood, 1839

106. Pronotum strongly convex above and rounded laterally, brilliant, calli not visible, collar very fine and depressed covered by the vertex which is sharply carinate and continuous with posterior margin of eyes; scutellum strongly tumid raising much above the surface hemielytra, claval comissure shorter than scutellum (Ceylon, Java) ..... BERTSA Kirkaldy, 1904

- Pronotum and collar not as above, if so then scutellum not noticeably tumid or eyes different

107. Head longer than wide, together with collar about as long as pronotum, shallowly sulcate at middle, somewhat horizontal, clypeus very large; eyes distant from pronotum by an
espace equal to diameter of first antennal segment; pronotumstrongly narrowed in front; first antennal segment almost aslong as head and pronotum together (fig. 221) (Africa) ...
KIAMBURA China, 1936

- Head and first antennal segment not as above ..... 108

108. Pronotum distinctly punctate between calli and posterior to collar (fig. 190) ..... 109

- Pronotum impunctate or rugose between calli and posterior to collar ..... 117

109. Small highly polished deeply and coarsely punctate almost hairless species; vertex thickly margined; pronotum strongly declivous; corium punctate only near claval commissure and on embolio-corial commissure (fig. 204) (Samoa) PLESIOLYGUS Knight, 1935

- Body surface not as above or if so, then vertex smooth, prono- tum not strongly declivous, corium otherwise puctate . . 110

110. Lateral margins of pronotum not carinate; form more elong- ate and subparallel ..... 111

- Lateral margins of pronotum carinate or at least with a cal-loused line; form ovoid or body very strongly punctate, pro-notum with the espace between punctures forming here andthere tubercular swellings .................................. 116
111: Rostrum reaching the 5th abdominal segment ..... 112
- Rostrum not reaching the 5th abdominal segment ..... 113

112. Antennae inserted distinctly below apex of eye; ostiolar peri- treme indistinct; hemelytra rugosely punctate (Suecia) ZYGIMUS Fieber, 1870

- Antennae inserted above apex of eye; ostiolar peritreme dis- tinct; hemelytra punctate only (Europe, Asia) CAMPTOZYGUM Reuter, 1896

113. Membrane finely and densely pilose; head smooth, rostrum reaching the middle coxae (Africa)
YNGVEELIA Poppius, 1912

- Membrane smooth, head punctate or striolate ..... 114

114. First antennal segment as long as width of head; species of large size, frons striolate (fig. 195) (Central \& South America) PIASUS Distant, 1883

- First antennal segment shorter than width of vertex; species of medium size ..... 115

115. Frons striolate; second antennal segment five times as long as first segment (North America)

- Frons striolate; second antennal segment only three or two
times as long as first (North America) ......................................... XENOBORUS Reuter, 1908

116. Pronotum with tubercular swellings amongst punctures; hemielytra almost glabrous (fig. 205) (Central \& South America)

MONALOCORISCA Distant, 1884

- Pronotum without tubercular swellings amongst punctures; hemielytra pubescent (Americas)

TROPIDOSTEPTES Uhler, 1878

117. Body glabrous, shining, if a few and very short hairs present,
then scutellum smooth

118

- Body distinctly pubescent, if a few hairs present, then scutel-
lum rugouse or punctate $\ldots \ldots \ldots \ldots \ldots \ldots \ldots . . .125$

118. Rostrum not reaching the middle coxae; body almost glabrous,
shining (Americas) ....... POECILOCAPSUS Reuter, 1876

- Rostrum reaching the middle coxae or beyond ......... 119

119. Hemelytra translucent; vertex striolate; species of large size
(North America) ....... PLATYLYGUS Van Duzee, 1915

- Hemelytra not translucent or if so, then vertex not striolate; species of medium and small size ..................... 120

120. Head very wide and short, eyes straight and smooth posteriorly internal margin of orbita level with outer margin of collar; head bisinuate in front, vertex carinate (Samoa) ....

PAUROLYGUS Knight, 1935

- Head not as above ...................................... 121

121. Rostrum reaching the middle coxae ................. 122

- Rostrum reaching the posterior coxae or beyond .... 124

122. Pronotum and scutellum transversally rugouse; hemielytra rugouse and punctate; tibiae with spines and long setae (Africa)

ALLOEOCHRUS Reuter, 1905

- Pronotum and scutellum not rugouse; tibiae without setae

123. Vertex carinate; membrane very short; cuneus as long as wide (Central \& South America) ......... RHASIS Distant, 1893

- Vertex smooth; membrane not noticeably short; cuneus longer than wide (Asia) .......... LIISTONOTUS Reuter, 1906

124. Hemielytra with a few bristles on exocorium; rostrum reaching the posterior coxae; vertex striolate; punctures on pronotum shallow and large (Astralia)

RHODOLYGUS Poppius, 1915

- Hemielytra without a few bristles on exocorium; ristrum reaching apex of pesterior coxae; vertex smooth; punctures of pronotum small (Americas) ............ PROBA Distant, 1883

125. Vertex with median longitudinal sulcus; lorum prominentand carinate; membrane short and densely pilose; pronotumstrongly shining (fig. 183) (Central \& South America) ....CALONDAS Distant, 1883

- Vertex not sulcate or if so, lorum not prominent or carinate; membrane glabrous ..... 126

126. First and second antennal segments thickly clothed with heavy black pubescence; large red species (North America). COCCOBAPHES Uhler, 1878

- First Antennal segment more esparsely clothed with pale pu- bescence or if black, colour not red ..... 127

127. Pronotum with lateral margins sharply angulate, carinate near posterior angle; body red or brick red and black; clavus with- out punctures (Americas) ...... NEOCAPSUS Distant, 1884

- Pronotum with lateral margins rounded or angulate, not ca- rinate, but if so, then clavus with two rows of punctures 128

128. Pronotum slightly carinate on lateral anterior margin; clavus beset with one row of punctures on each side of claval vein; large species with pronotum strongly punctate, almost gla- brous, frons striolate (Sumatra)
TOLONGIA Poppius, 1915

- Pronotum not carinate; clavus without punctures ..... 129

129. Pronotum distinctly and coarsely rugose transversally, with punctures mostly obscured by rugosities ..... 130

- Pronotum punctate but not rugose, sometimes only very fin- ely so ..... 135

130. Pubescence very short and esparse; rostrum reaching apex of middle coxae ..... 131

- Pubescence not as above; rostrum reaching the hind coxae or beyond ..... 132

131. Calli large, confluent, reaching sides of pronotum; width ofvertex greater than width of an eye (Europe, North Africa,Asia)PLESIOCORIS Fieber, 1861

- Calli small, not confluent our reaching sides of pronotum;width of vertex less than width of an eye (North America)NEOBOROPS Uhler, 1895

132. Antennae very long, first segment as long as head and collartogether, the second segment equal in length to third; pro-notum distinctly narrowed anteriorly (Africa)
Buttneriella Poppius, 1912

- Antennae shorter, not as above, pronotum not noticeably nar-rowed anteriorly133

133. Head very wide, vertex twice the dorsal width of an eye, cari-nate; eyes extending beyond anterior angles of pronotum;small species not over 5.5 mm long (North America)
BOLTERIA Uhler, 1877

- Head and vertex not as above ..... 134

134. Body almost glabrous, the hemielytra smooth; rostrum reach- ing the 6 th abdominal segment (New Guinea)
ARISTOPEPLUS Poppius, 1912

- Body long, fine and erectly pilose; hemielytra rugosely punct-ate; rostrum not reaching the 6 th abdominal segment (Afri-ca) ....................... HORVATHIELLA Poppius, 1912

135. Pronotum pisceous, strongly shinnig; hemielytra black, opaque; area between calli distinctly rugose (Europe)
SAUNDERSIELLA Reuter, 1890

- Pronotum not as above; area betwenn calli smooth ..... 136

136. Second antennal segment shorter or about as long as width of head across eyes (Europe, North America)AGNOCORIS Reuter, 1875

- Second antennal segment distinctly longer than width of head acros eyes ..... 137

137. Frons tumid, somewhat sulcate, distinctly striolate; elongate species with pronotum strongly declivous ..... 138

- Frons if tumid not striolate or sulcate ..... 139

138. Rostrum reaching the 4 th or 5 th abdominal segment; prono- tum pubescent (Africa)
MACEDANUS Bergroth, 1920

- Rostrum reaching the hind coxae or nearly so; pronotumalmost glabrous (India, China)PHILOSTEPHANUS Distant,, 1909

139. Large elongate species parallel sided (males), oval or as wideat base, with approximate same width throughout; body al-most glabrous (North Africa, Asia Minor)ISCHNOSCELICORIS Reuter, 1886

- Species if large or elongate then cuneus much shorter, bodypubescence distinct140

140. Head pointed between antennae, somewhat horizontal; se-cond antennal segment about as thick as first; third and fourthvery short; rostrum reaching the 7 th abdominal segment;body pubescence very short and scanty (Central America)PAPPUS Distant, 1883

- Head not noticeably pointed between antennae, vertical; se-cond antennal segment as well as third and fourth not asabove or if so then rostrum shorter141

141. Scutellum strongly tumid, much higher than pronotum; rostrum not reaching middle coxae; body with long, erect hairs (fig. 189) (Chile) .................. CHILEAIA Carvalho,

- Scutellum if tumid not higher than pronotum ........ 142 142. Pronotum distinctly and densely punctate, hairs usually ad-
pressed or subadpressed ........................... 143
- Pronotum shallowly and esparsely puctate, hairs usually erect, fine and long . ........................................ . . . 148

143. Hind tibiae black or with a black spot or ring ........ 144

- Hind tibiae unicolorous, pale ......................... 145

144. Rostrum reaching the middle coxae; hemielytra not rugose
punctate; second antenna short and incrassate (Africa) ....
HISTRIOCORIS Reuter, 1905

- Rostrum reaching the hind coxae; hemielytra rugose punctate; second antenna long and incrassate only at apex (holartic) EXOLYGUS Wagner

145. Third segment of hind tarsus longer than second; hind femora
much stouter than others (Europe, North Africa) ..........

- Third segment of hind tarsus as long as or shorter thán second; hind femora not much stouter than others ...... 146

146. Pronotum rugose punctate; species oveï 5.5 mm long (Asia,
North America) ................. LYGIDEA Reuter. 1875

- Pronotum punctate but not rugose; species less than 5.5 mm


147. First and second antennal segments incrassate, diameter of second segment equal to diameter of fore tibia (Formosa) .. EOLYGUS Poppius, 1915

- First and second antennal segment not incrassate or very slightly so, greatest diameter of second antennal segment not equal to diameter of fore tibiae (Europe, North Africa, Asia, North America) .................. ORTHOPS Fieber, 1858

148. Frons with four to five punctures above antennal fossa; (species of small size (India) . . . . . . . SABACTUS Distant, 1910

- Frons without the puncturs mentioned above ........ 149

149. Length of first antennal segment shorter than eye height, if this ratio equal then vertex noticeably sinuate at posterior margin .......................................................... . . . 150

- Length of first antennal segment longer than eye height, if this ratio equal then vertex straight at posterior margin 153

150. Second antennal segment short, incrassate, densely pilose; body fairly long, erectly pilose (fig. 194) (Central and South America) .......................... EUBATAS Distant, 1884

- Second antennal segment if short or incrassate not densely pilose

151. Vertex straight posteriorly; second antennal segment four times longer than first segment; rostrum reaching the middle of abdomen (Asia, North America)

PINALITUS Kelton, 1955

- Vertex sinuate a posterior margin; second antennal segment usually less than 4 times longer than first segment; rostrum usually reaching the hind coxae (may reach beyond) . . 152

152. To this couplet come the genera Dagbertus Distant, 1904 and Taylorilygus Leston, 1952. Since their separation based on external characters is difficult and the latter may prove to be a synonym of Gutrida Kirkaldy, 1902, further studies should be undertaken on the subject.
153. Rostrum reaching the middle or hind coxae; first antennal segment shorter than width of head (Europe, Asia, North America) .................................... . LYGUS Hahn, 1833

- Rostrum reaching the middle of abdomen; first antennal segment longer than width o fhead ........................ 154

154. Haed seen from above more than twice as wide as long, facial angle acute (Venezuela) ... NEOSTENOTUS Reuter, 1905

- Head seen from above twice as wide as long, seen from side as long as high, facial angle straight (Brazil)

ALDA Reuter, 1909

## KEY TO SUBGENERA OF LYGUS HAHN

1. Transverse carina of vertex present but incomplete at middle, evident only near eyes ............. LYGUS (LYGUS) Hahn

- Transverse carina of head complete ........................ 2

2. Tibial spines black ............ LYGUS (APOLYGUS) China

- Tibial spines pale or brown ... LYGUS (NEOLYGUS) Knight

The following genera of Mirini are not included in the keys
Acanthocranella Poppius, 1914 (Acta Soc. Sci. Fenn. 44 (3): 114), near Tropidophorella Reuter, Zanzibar.
Amphicapsus China, 1931 (Ann. Zool. Jap. 13: 265), Japan.
Austrocapsus Kirkaldy, 1901 (Entom. 34: 116), allied to Hyalopeplus, Australia. Diplotrichiella Poppius, 1915 (Ann. Mus. Hung. 13: 65), India.
Eblis Kirkaldy, 1902 (Trans. Ent. Soc. London, 256), allied to Capsus, India. Gutrida Kirkaldy, 1902 (Entom. 35: 384), Gaboon.

Kangra Kirkaldy, 1902 (Trans. Ent. Soc. London, 257), allied to Hyalopeplus, India.
Liocapsidea Poppius, 1915 (Ann. Mus. Hung. 13: 16), near Liocapsus, India. Macgregorius Kirkaldy, 1903 (Wien. Ent. Zeit. 22: 14), Queensland.
Mermitolecerus Reuter, 1907 (Ann. Mus. Zool. St. Peterb. 489), Asia.
Nesosylphas Kirkaldy, 1908 (Proc. Linn. Soc. N.S. Wales, 33: 379), Fiji.
Niastama Reuter, 1904 (Ofv. F. Vet. Soc. Forh. 47 (5): 11), Tasmania.
Octerocapsus Poppius, 1915 (Ann. Mus. Hung. 13:47), Australia.
Olympiocapsus Kirkaldy, 1902 (Trans. Ent. Soc. London, 255), China,
Pachypterna Fieber, 1858 (Wien. Ent. Monat. II: 304), Europe.
Poecilonotus Reuter, 1897 (Ofv. F. Vet. Soc. Forh. 38: 167), Asia Minor.
Ruspoliella Poppius, 1921 (Ent. Mitt. 10 (3): 82), near Lamprocapsidea, Africa.
Tropidophorella Reuter, 1907 (Ofv. F. Vet. Forh. 49 (7). 15). Africa.
Megacoelopsis Poppius, 1912 (Acta Soc. Sci. Fenn. 41 (3): 40), Africa.
Ommatodema Poppius, 1911 (Ofv. F. Vet. Soc. Forh. 53 A (3): 4), Tasmania.

## key to the genera of mecistocelini

1. Rostrum reaching beyond the posterior coxae; cuneus a little longer than broad; hemielytra glassy transparent (fig. 44) (India) .................................... MYSTILUS Distant, 1904

- Rostrum reaching the middle coxae; cuneus much longer than broad; hemielytra opaque (India, Java)

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\text { . . . . . . . . . . . . . . . . . . . . . . . . . . . MECISTOCELIS Reuter, } 1891
$$

## KEY TO THE GENERA OF PITHANINI

1. Species noticeably myrmecomorphic with abdomen strongly constricted at base and not covered by the very short hemielytra (fig. 254) (Europe, Asia) . . . MYRMECORIS Gorski, 185?

- Species with a certain ant-like appearence but not noticeably myrmecomorphic, the abdomen covered at least pratically by the hemielytra

2. Length of first antennal segment less than width of vertex; pronotum not extending back to basal angles of hemielytra (Europe, Asia, N. Africa, N. America)

PITHANUS Fieber, 1858

- Length of first antennal segment greater than width of vertex; pronotum extending back to basal angles of hemielytra (North America) . . . . . . . . . . . . . . . . . . . . . . . MIMOCEPS Uhler, 1890


## key to the genera of stenodemini

1. Head strongly exserted with eyes placed near middle, thus far removed from anterior margin of pronotum, the distance between collar and eye equal to the width of one eye seen from above (fig. 174) 2

- Head not or only slightly exserted, the eyes in contact with pronotum or nearly so, the distance between collar and eye less than the width of one eye seen from above (figs. 175, 178) 5

2. First antennal segment about as long as head and pronotum together; frons strong and conically produced (Asia)

CHOROSOMELLA Horvath, 1906

- First antennal segment shorter than head pronotum together; frons not strong and conically produced

3. Clypeus horizontal; pronotum carinate laterally (Africa) .... NABIDOMIRIS Poppius, 1914

- Clypeus vertical; pronotum not carinate laterally 4

4. Eyes somewhat pedunculate; body glabrous; pronotum smooth (Australia)

EURYMIRIS Kirkaldy, 1902

- Eyes sessile; body pubescent; pronotum punctate (fig. 174) (Americas) ................. COLLARIA Provancher, 1872

5. Hemielytra smooth or rugose, sometime very finely but never distinctly punctured6

- Hemielytra distinctly and deeply punctured (fig. 176) 24

6. Pronotum coarsely and deeply punctate (fig. 176) (Cosmopolitan) ........................ STENODEMA Laporte, 1832

- Pronotum impunctate or only very finely or obscurely so 7

7. First antennal segment covered by long, erect pubescence, the hairs at least as long as half the width of the segment (fig. 175)

- First antennal segment covered by very short pubescence, the hairs shorter than half the width of the segment (fig. 178) 17

8. Frons rounded anteriorly, declivous, at most swollen or with a faint ridge; vertex with a median shallow depression (no true sulcus present); eyes slightly removed from pronotum (fig. 175) 9

- Frons with a prominent tubercle or anteriorly; vertex with a distinct longitudinal sulcus; eyes bordering pronotum or very near so (fig. 178)

9. Hemielytra completely glabrous and soft ..... 10

- Hemielytra pubescent, hard and well chitinized ..... 12

10. Second antennal segment distinctly incrassate toward the apex (Finland) ................... ACTITOCORIS Reuter, 1880

- Second antennal segment linear 11

11. Pronotum constricted on anterior third, the anterior lobe rounded laterally (Australia)

AUSTROMIRIS Kirkaldy, 1902

- Pronotum not constricted on anterior third, the lateral margins straight (India) .................... EBUTIUS Distant, 1909

12. Body covered by long, erect pubescence; pronotum without a median constriction dividing it into an anterior lower and narrower portion and a posterior convex disk; lateral margin of pronotum distinctly carinate; no vestige of pronotal collar (fig. 175) (Europe, Asia, N. America)

LEPTOPTERNA Fieber, 1858

- Body covered with semi-erect, stiff hairs; pronotum with an anterior constriction dividing it into an anterior lower and narrower portion and a convex posterior disk; lateral margins of pronotum rounded; a narrow pronotal collar present (Hawaii) . ......................... . NESIOMIRIS Kirkaldy, 1902

13. Frons protruding anteriorly, covering the base of or the whole clypeus when seen from above

14

- Frons not protruding anteriorly so as to cover the base or the whole clypeus when seen from above (fig. 178) .......... . 16

14. First segment of the hind tarsi distinctly shorter than the second and third together (Australia) .. DASYMIRIS Poppius, 1911

- First segment of the hind tarsi as long as or about as long as the second and third together 15

15. Body with fine, long and erect pubescence; first antennal segment about half as long as the head and pronotum together (India) ......................... . LASIOMIRIS Reuter,, 1891

- Body almost glabrous; first antennal segment about as long as the head and pronotum together (Europe, Asia, Africa, Australia) . ............................. . NOTOSTIRA Fieber, 1858

16. Eyes small, rounded, slightly removed from pronotum; hemielytra rugose; rostrum reaching beyond apex of hind coxae (Java)

NOTOSTIROPS Poppius, 1914

- Eyes of medium size, elongate, bordering pronotum; hemielytra smooth; rostrum not reaching base of posterior coxae (Europe, America, Africa, Asia)

DOLICHOMIRIS Reuter, 1882
17. Head short and flattened, frons scarcely protruding beyond bases of antennae; the first antennal segment slender and curv-

ed, thickest near base then tapering to apex where on it enlarges
again (fig. 184) (Europe, Asia, N. America)

TERATOCORIS Fieber, 1858

- Head long or short but pointed, frons projecting sharply beyond bases of first antennal segment, which is not as above............................................. ....... 18

18. Pronotum with one central and two lateral strongly developed carinae; head with a median depression, no longitudinal sulcus (Europe, Asia, North America, Africa)

ACETROPIS Fieber, 1858

- Pronotum without a developed central carina; head with a distinct longitudinal sulcus19

19. First segment of hind tarsi shorter or equal to third; body
ZANESSA Kirkaldy, 1902 with reddish areas (India)

ZANESSA Kirkaldy, 1902

- First segment of hind tarsi longer than third; body without reddish areas ........................................... 20

20. Rostrum extending to base of abdomen; first antennal segment as long as head and pronotum together ..... 21

- Rostrum not reaching beyond middle coxae; first antennal segment as long as head

21. First antennal segment as long as head and pronotum together; frons produced at base of clypeus (Cosmopolitan)

MEGALOCERAEA Fieber, 1858

- First antennal segment shorter than head, frons not produced at base of clypeus (Africa) ..... NYMANNUS Distant, 1904

22. Pronotum distinctly carinate laterally ..... 23

- Pronotum not carinate laterally; frons produced into a pointed tubercle (Tasmania) ........ PROTOMIRIS Poppius, 1911

23. Hind tibiae with long erect pubescence; frons smooth, flat;
first antennal segment almost glabrous (fig. 233) (Africa) ... SCHOUTEDENOMIRIS Carvalho, 1951

- Hind tibiae with short pubescence; frons with a point or prominence; first antennal segment distinctly pubescent (figs. 105, 178) (Cosmopolitan) ....... TRIGONOTYLUS Fieber, 1858

24. Posterior tibia very long and strongly pilose; brachypterous,
the hemelytra without divisions (Juan Fernandez) .......... the hemelytra without divisions (Juan Fernandez) ...........
...................... KUSCHELIANA Carvalho, 1952

- Posterior tibiae not as above; macropterous ............. 25

25. Rostrum reaching to or beyond the posterior coxae (Americas)

OPHTHALMOMIRIS Berg, 1883

- Rostrum not quite reaching middle coxae (Americas) ......

PORPOMIRIS Berg, 1884

## 106 Bol. Mus. Goeldi - Tomo XI (II) - Dezembro 1955

## KEY TO THE GENERA OF HYALOPEPLINI

## 1. Pronotum distinctly and coarsely punctate (fig. 218) <br> 2

- Pronotum impunctate, sometimes rugose or only finely punctu-late (fig. 225)5

2. Collar punctate with mesal length equal to half the width of one eye (fig. 218) ..... 3

- Collar not punctate and not as wide as above ..... 4

3. Scutellum smooth above and strongly elevated (fig. 218) (Bor-neo) ....................... MACROLONIDEA Hsiao, 1944

- Scutellum punctate (Malay) .... MACROLONIUS Stäl, 1870

4. Head strongly vertical; rostrum reaching the 7th or 8th obdominal segment; eyes very large, occupying the whole sides of head; lorae strongly prominent (Malasia)

KOSMIOMIRIS Kirkaldy, 1902

- Head not strongly vertical; rostrum not extending beyond apex of hind coxae; eyes not occupying the whole sides of head and lorae not noticeable prominent (Malay)

CHRYSORRHANIS Kirkaldy, 1902
5. Pronotum coarsely rugose transversally (fig. 225) ...... 12

- Pronotum smooth or very finely puctulate .............. 6

6. Pronotum beset with numerous short bristles; first antennal segment incrassated towards base and apex ............. 7

- Pronotum without short bristles; first antennal segment linear8

7. A small tubercular flat process between inferior margin of antennal socket and eye; genae not carinate; antennae incrassated towards apex; large, elongate species (British Guiana) .......................... IRIDOPEPLUS Bergroth, 1910

- With the small tubercular process above; genae carinate on upper margin; antennae incrassated towards the base; medium sized species (Mauritius)

CORIZIDOLON Reuter, 1905
8. Body polished glabrous; pronotum more or less carinated laterally (Africa) ..... PLEUROCHILOPHORUS Reuter, 1905 Body pubescent; pronotum not carinated laterally 9
9. First antennal segment much shorter than width of head, the latter strongly vertical and transverse; the eyes very large, occupying the whole sides of head, contiguous with pronotum (New Guinea) ..................... MOROCA Poppius, 1912

- First antennal segment longer than width of head; eyes not occupying the whole sides of head, removed from pronotum ........................................................... . 10

10. Pronotum very finely punctulate; first antennal segment almost twice as long as width of head (Philippines, Sumatra)
RAMBEA Poppius, 1912

- Pronotum smooth; first antennal segment slightly longer than width of head ..... 11

11. Pronotum strongly constricted anteriorly; body glabrous (Burma) ......................... ONOMAUS Distant, 1904

- Pronotum not constricted anteriorly; body pubescent (India, Philippines) GUIANERIUS Distant, 1903

12. Corium without veins ..... 13- Corium with veins (India, Malasia)ISABEL Kirkaldy, 1902
13. Embolium and cuneus distinctly pilose (New Guinea, Philip- pines) HYALOPEPLOIDES Poppius, 1912

- Embolium and cuneus glabrous ..... 1414. Clavus distinctly pubescent; first antennal segment longer thanwidth of head (India, Samoa)
GUISARDUS Distant, 1904
- Clavus glabrous; first antennal segment shorter or about aslong as width of head15

15. First antennal segment thicker at base; head vertical (fig. 225)(Mallaca) ................ EUHYALOPEPLUS Hsiao, 1944

- First antennal segment incrassated towards the apex; head notnoticeably vertical (Africa, India, Malay, Pacific Is.)
HYALOPEPLUS Stäl, 1870


## KEY TO THE GENERA OF RESTHENINI

1. Scutellum strongly convex, with a longitudinal basal sulcus or impression; tibiae as thick as the femora, compressed, sulcate on both sides or inferiorly (fig. 260) (South America)

RESTHENIA Spinola, 1837

- Scutellum not strongly convex, neither sulcate no impressed
at base; tibiae cylindrical, not sulcate ................... 2

2. Pronotal collar not reaching the sides of pronotum. The pronotum strongly carinate and produced anteriorly beyond sides of collar so as to enclose the latter (fig. 251) (Central \& South America)

MIMONCOPELTUS Kirkaldy, 1906

- Pronotal collar reaching the sides of pronotum, the latter not or much less strongly carinate as above (fig. 226) ........ 3

3. Body oval, very wide; hemielytra widened laterally, distinctly wider than pronotum at base (fig. 216) ................ 4

- Body elongate or oblong, parallel-sided; hemielytra rarely widened at middle, usually parallel or nearqly so, not or only slightly wider than pronotum at base $\ldots \ldots \ldots \ldots \ldots \ldots$........... 5

4. Second antennal segment thicker than first; tibiae without spines (South America) .. EURYSCYTOPHORA Reuter, 1909

- Second antennal segment more slender than first; tibiae very short (Chile) .............. EURYLOMATA Reuter, 1909

5. Pronotum emarginate laterally and posteriorly ........... ${ }^{6}$

- Pronotum laterally nearly straight or slightly rounded, some. times faintly sinuate behind collar but never at middle .. 7

6. Pubescence very short and scanty; anterior coxal cleft seen from above; slightly antmimic (Brazil)

KAMAIURANA Carvalho, 1952

- Pubescence distinct and abundant; anterior coxal cleft seen from above; not antmimic (Argentina)

HETEROSCYTUS Reuter, 1909
7. Head including eyes equal or only scarcely wider than collar; pronotum distinctly carinate laterally; second antennal segment equal in thickness to the first segment, linear (fig. 226) (South America) ................ CHILOXIONOTUS Reuter, 1909

- Head including the eyes distinctly wider than collar; pronotum if carinate laterally, only at anterior portion and in this case with second antennal segment more slender than first segment or incrassate towards the apex (figs. 217, 227) 8

8. Body with brilliant metallic spots or areas; tibiae strongly incrassate towards the apices with densely subadpressed pubescent (South America) ...... LAMPSOPHORUS Reuter, 1909

- Body without brilliant metallic spots or areas; tibiae not strongly incrassate towards their apices, the pubescence more or less erect 9

9. Pronotum distinctly setose (true setae) (fig. 249) ....... 10

- Pronotum glabrous, finely pubescent or shortly pilose, but never setose (figs. 217, 227) ............................. 11

10. Antennae and legs with uniform short pubescence, large species over 12 mm . long (fig. 249) (South America)

CALLICHILELLA Carvalho, 1955

- Antennae and legs with numerous long setae in addition to the short pubescence; smaller species, less than 10 mm . long fig. 209) (Brazil) ................. MABELIA Kirkaldy, 1903

11. Pronotum punctate or coarsely rugose; body narrow, subglabrous; tibiae with spines; cuneus of macropterous forms more than twice as long as wide at base (Chile)

STENOPAREDRA Reuter, 1909

- Pronotum smooth, body usually not narrow, if so then the tibiae pilose; cuneus never more than twice as long as wide at base......................................... . 12

12. First antennal segment shorter than width of vertex; second segment more than three times as long as first (fig. 214) (North \& Central America) ...... ONCEROMETOPUS Reuter, 1875

- First antennal segment longer than width of vertex; second segment about twice as long as first ..................... 13

13. Pronotum distinctly carinate laterally behind the collar, on outer side of calli; the second antennal segment usually incrassate, as thick or thicker than first segment; species of large size, usually over 10 mm . long (fig. 227) (Central \& South America) .................... PLATYTYLUS Fieber, 1858

- Pronotum not distinctly carinate laterally, as above; second antennal segment more slender than the first, if incrassate, then the base thinner than first segment; species of medium or small size, usually less than 10 mm . long (fig. 217) (Americas) ...

PREPOPS Reuter, 1905

## KEY TO THE GENERA OF HERDONIINI

1. Scutellum with an erect spine-like projection (fig. 213) .. 2

- Scutellum smooth, flat or convex, without a spine-like projection

2. Pronotum strongly constricted at middle, the anterior portion flat and horizontal (figs. 25F,252) (Central America) ......

ZACYNTHUS Distant, 1884

- Pronotum not strongly constricted at middle ............ 3

3. Head with a short neck, narrowed basally; eyes separated from pronotum by a distance about equal to the length of one eye (fig. 213)

- Head without a short neck, not narrowed basally; eyes bordering anterior margin of pronotum (fig. 222)5

4. Cuneus imperceptibly merged with membrane; rostrum reaching middle coxae (fig. 213) (South America)

HERDONIUS Stäl, 1860
Cuneus absent; rostrum reaching anterior coxae (fig. 39) (South America) ...... GUARANIA Carvalho \& China, 1951
5. Pronotal collar distinct (fig. 222) ........................ 6

- Pronotal collar absent or indistinct ..................... 7

6. Legs with long, erect, white bristles; the hind tibiae straight (South America)

HAARUPIOLA Poppius, 1921

## - Legs without long, erect white bristles; hind tibiae fairly curved (South America) ............... HAARUPIA Poppius, 1921

7. Vertex sulcate longitudinally; calli not distinct; hind tibiae fairly curved (fig. 177) (South America)

FIEBRIGIELLA Poppius, 1921

- Vertex not sulcate longitudinally; calli distinct posteriorly; hind tibiae not curved (Americas)

BARBERIELLA Poppius, 1914
8. Both sexes brachypterous; eyes distant from pronotum by a space equal or more than length of eye (fig. 255) (Europe \& Asia) .................... CAMPONOTIDEA Reuter, 1879

- At least one macropterous; eyes much closer to pronotum or

9. Hemielytra glabrous or with short, adpressed pubescence only, never with long erect bristles

10

- | Hemielytra with long, erect bristles, sometimes intermixed |
| :---: |
| with semi-erect pubescence............................$~$ |

10. Pronotum raised posteriorly into a spine-like, erect projection (North America) .............. DACERLA Cignoret, 1887

- Pronotum not as above .................................. 11

11. Posterior femora with long, erect bristles; posterior tibiae with
long spines and small, dark tubercles (fig. 220) (Americas) . long spines and small, dark tubercles (fig. 220) (Americas)

PARAXENETUS Reuter, 1907

- Posterior femora without long, erect bristles; posterior tibiae with only a short pubescence or spines ................... 12

12. Body glabrous; head with a short neck (Bolivia)

ACEGIMA Poppius, 1921

- Body pubescent; head without a short neck ............. 13

13. Eyes removed from anterior margin of pronotum; the latter
strongly constricted in middle (Africa) ...........................

SPHINCTOTHORAX Stäl, 1853

- Eyes contiguous with pronotum, the latter not strongly constricted in middle ......................................... 14

14. First antennal segment scarcely reaching the apex of head
(North Africa) ................ LAURINIA Reuter, 1884

- First antennal segment reaching distinctly beyond the apex of head (Africa) ........ XENETOMORPHA Poppius, 1912

15. Scutellum strongly convex, with a prominent blunt median elevation and long, erect setae ......................... 16

- Scutellum, if convex, without a median blunt elevation 17

16. Rostrum scarcely surpassing middle of mesosternum (South
America) .................. ALLOMMATUS Reuter, 1907

- Rostrum reaching the base of posterior coxae (Central America) $\ldots . . \ldots . . . . . . . . . . . . . . . .$. . ZOSIPPUS Distant, 1883

17. Pronotal collar not visible, indistinct (Americas)

XENETUS Distant, 1883

- Pronotal collar distinct (South America)

LEPIDOXENETUS Poppius, 1921

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EXPLANATION OF FIGURES

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Plate I


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# INSTITUTO NACIONAL DE PESQUISAS DA AMAZÔNIA 

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[^0]:    * This genus was studied recently by the author and found to be a Synonym of Macrolophus Fieber (Dicyphini).

[^1]:    * This genus was recently found to be a synonym of Chlamydatus Curtis (author).

[^2]:    * The genus Apantilius Kiritchenko, 1951 runs to this couplet of the key.

[^3]:    * The genus Salignus Kelton, 1955 (North America) reaches also this couplet of the Key.

