Phylogenetic Systematics of the Family Bethylidae (Insecta: Hymenoptera)  
Part II. Keys to subfamilies, tribes and genera in the world

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Abstract  Keys to the 64 world genera in 6 subfamilies are provided. Genera Homoglenus and Procaryoza are synonymized with genera Epyris and Anisepyris, respectively. Genus Bradepyris in the subfamily Epyrinae is transferred to the subfamily Mesitiinae.

Introduction  
Following the new format of higher classification of the Family Bethylidae as shown in the part I, keys to the subfamilies, tribes, and genera of world Bethylidae are provided. The style of keys follow that of Goulet and Huber (1993). Each set of entries is called a couplet. One to several characters are used separately in each couplet; opposing conditions for each character are given as 1a versus 1aa, b versus bb, and so on.

The zoogeographical distribution for each genus is shown in parentheses. Ambiguous genera are excluded in the keys to avoid the unnecessary confusions. The reasons for exclusion from the keys are, 1) lack of the types or voucher specimens, most of which were presumably lost, 2) insufficient information due to the poor original descriptions. The abbreviations of zoogeographic regions as follows: PAL, Palaearctic Region; ORI, Oriental Region; AUS, Australian Region; ETH, Ethiopian Region; Nea, Neartic; NET, Neotropical Region.

New synonymies and genus transferred  
The generic character of Homoglenus is the presence of nebulosus m-cu vein of forewings (Figs. 7-9) and no other distinct character to separate it from Epyris in known. This condition should not be useful to separate the genera, since the vein is completely absent to weakly recognizable (Fig. 6) in Epyris. The extremely long parameres of male genitalia of Homoglenus (Benoit, 1957) also suggest that this is phylogenetically related to the dodecatomus-group or staphylinoides-group of the genus Epyris. The seven species including a fossil are transferred to genus Epyris: E. bifossatus (Brues) comb. nov., E. indicus (Kieffer) comb. nov., E. montanus Kieffer comb. rev., E. punctatus (Kieffer) comb. nov., E. quadripartitus (Benoit) comb. nov., E. sanctus (Turner) comb. nov., and E. tripartitus (Kieffer) comb. nov.

The genus Procaryoza is distinguished from Anisepyris by the ramose antennae and the glabrous eyes (Figs. 10-12). However, there should not be reliable generic characters to define the genus as Krombein (1992) synonymized Calyoza, Calyozella, and Paracalyoza with Epyris and also Evans suggested (1964). Procaryoza westwoodi is transferred to the genus Anisepyris: A. westwoodi (Cameron) comb. nov.

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Figs. 1-9. Homoglenus spp. (1-5, 7-9) and Epyris sp. from Indonesia (6). 1, 4, 7, H. punctatus Kieffer (drawn from holotype); 2, 5, 8, H. montanus (Kieffer) (drawn from holotype); 3, 9, H. indicus (Kieffer) (drawn from holotype). 1-3, head, full face view; 4, 5, 2nd to 5th segments of antenna; 6-9, forewing, arrows indicate m-cu vein.

3. Genus Bradepyris Kieffer, 1905

This genus consists of 5 species, of which a single species B. inermis Kieffer is examined (Figs. 13-20). The following characters suggest that this species belongs to the subfamily Mesitiinae though this has few punctures on the surfaces of head and mesosoma: 1) posterolateral corner of propodeum with a short, but distinct spine; 2) second gastral tergite large; 3) basal median portion of propodeum with a carina
which extends to the metanotum; 4) eye strongly convex and with erect hairs; 5) notauli large and strongly curved outward.

As I could not examine the type species, *B. apterus* Kieffer, of which the place of type deposition is not known, I provisionally treat this genus as a member of Mesitiinae.

Figs. 10-12. *Procalyoza westwoodi* (Cameron), drawn from holotype. 10, Body, dorsal view; 11, right antenna (apical segment missing); 12, right mandible.
Figs. 13-20. *Bradepyris inermis* Kieffer, drawn from holotype. 13, Body, dorsal view; 14, head, lateral view; 15, clypeus; 16, eye; 17, antenna; 18, gaster, lateral view; 19, propodeal spine (arrow); 20, subgenital plate.
Outline of distribution pattern

Table 1 indicated the number of extant genera arranged by subfamily in six zoogeographical regions. The geographic distribution pattern of the Mesitiinae is unique in Bethylidae: 1) it has not been found in the New World and the Australian Region; 2) the largest generic diversity is seen in the Palaearctic Region. On the other hand, the subfamilies Bethylinae, Epyriniae and Pristocerinae have been recorded from all zoogeographical regions. Morphologically, Mesitiinae is compact and not diverse. These distributional and morphological features suggest that Mesitiinae is recently developed among the bethylid subfamilies. It is interesting that this subfamily has the highest genus number in the Palaearctic Region, while the other subfamilies are prospering in the tropics.

Table 1. Number of genera in each subfamily by zoogeographical regions.

Figures in parentheses are endemic genera. In case where no published record is available but the author has reliable information, those are included in this table.

PAL: Palaearctic Region, ORI: Oriental Region, AUS: Australian Region, ETH, Ethiopian Region, NEA: Nearctic Region, NET: Neotropical Region.

<table>
<thead>
<tr>
<th>Subfamilies</th>
<th>PAL</th>
<th>ORI</th>
<th>AUS</th>
<th>ETH</th>
<th>NEA</th>
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<td>17(0)</td>
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<td>43(9)</td>
<td>13(1)</td>
<td>40(13)</td>
<td>25(0)</td>
<td>27(3)</td>
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</table>

Key to subfamilies of Bethylidae

1a. Propodeum with distinct spines at dorsal posterolateral corners; b, second metasomal segment large, accounting for considerably more than half the length of the metasoma in dorsal view…… Mesitiinae

1aa. Propodeum without spine at dorsal posterolateral corners; bb, second metasomal segment much smaller, accounting for much less than half the metasoma in dorsal view ……………………………………… 2

2a. Fifth metasomal sternite with a pair of large cornicles …………… Galodoxinae [It contains a single genus Galodoxa Nagy [ORI; the Philippines] and is known from female only]

2aa. Fifth metasomal sternite simple, without modification ………………………………………………… 3

3a. Propodeum oval in dorsal view, distinctly wider than long; b, mesonotum and mesopleuron fused; c, mesonotum remarkably broaden, larger than pronotum ……… Parapenesiinae [It contains a
single genus *Parapenesia* Kieffer [ETH; South Africa] and is known from female only

3aa, Propodeum more or less rectangular; bb, mesonotum and mesopleuron not fused; cc, mesonotum not modified, smaller than pronotum ................................................................. 4

4a, Metanotum of male developed, scutellum and propodeum not nearly contact medially; b, metanotum with a small fovea at middle; c, females completely apterous; d, eye of females small to absent, eye height at most 0.25 times head width ................................................ Pristocerinae

4aa, Metanotum much reduced in both sexes, the scutellum in contact with the propodeum medially or nearly so; bb, metanotum without fovea medially; cc, females fully winged, brachypterous, or apterous; dd, eye of females large; eye height more than 0.30 times head width ........................................ 5

5a, Basal vein of forewing simple, not giving rise to a vein or stub; b, tarsal claws weakly to moderately curved; c, frons without longitudinal median carina or polished streak extending from clypeus.... Epyrinae

5aa, Basal vein of forewing giving rise to a vein; bb, tarsal claws strongly curved; cc, frons usually with a longitudinal median or polished streak extending for a short distance from clypeus.......... Bethylinae

**Key to genera of subfamily Pristocerinae**

1a, Male; fully winged, tegula present................................................................. 2

1aa, Female; apterous, tegula absent............................................................... 18

(Male)

2a, Subgenital plate deeply divided into two lobes.......................................... 3

2aa, Subgenital plate simple, posterior margin at most weakly concave, and never deeply divided into two lobes................................................................. 7

3a, Head in lateral view with an acute spine at gena ........................................ 4

3aa, Genal area without spine................................................................. 5

4a, Mandible sickle-shaped ................................................................. *Dicrogenium* Stadelmann [ETH]

4aa, Mandible more or less triangular with several teeth on masticately margin; basalmost tooth directed inward ................................................................. *Neodicrogenium* Benoit [ETH]

5a, Mandible sickle-shaped, with 2 apical teeth only................................. *Diepyris* Benoit [ETH]

5aa, Mandible triangular with 3-6 teeth; basalmost tooth directed inward ........................................ 6

6a, Cubital and subdiscoidal veins of forewing reaching the wing margin; b, median vein of hindwing weak but distinct and reaching the wing margin........................ *Kathepyris* Keiffer [ETH]

6aa, Cubital and subdiscoidal veins of forewing barely visible, not reaching the wing margin; bb, median vein of hindwing obscure to absent and not reaching the wing margin .......... *Pristocera* Klug [ETH, ORI, PAL]

7a, Head truncated anteriorly; b, pterostigma exceptionally large; c, posterior margin of subgenital plate with a lamellar lobe ................................................... *Prosapenesia* Kieffer [ETH]

7aa, Head not truncated anteriorly; bb, pterostigma moderate in size or absent; cc, posterior margin of subgenital plate simple, without a lamellar lobe ........................................ 8

8a, Pterostigma obscure ................................................................. *Caloapenesia* Terayama [ORI]

8aa, Pterostigma distinct ................................................................. 9

9a, Second gastral tergite with a pair of spots, pits or depressions ............ *Dissomphalus* Ashmead
[PAL, ORI, ETH, NEA, NET]

9aa, Second gastral tergite without modification ................................................................. 10
10a, Posterolateral margin of 2nd gastral tergite strongly concave; b, 3rd gastral tergite with a pair of
spots ........................................................................................................................................ 10aa, Trichiscus Benoit [ETH]
10aa, Posterior margin of 2nd gastral tergite without modification; bb, 3rd gastral tergite simple,
without spots ............................................................................................................................. 11
11a, Propodeum long, more than twice as long as wide; b, scutellar disc elongate, more than twice as
long as wide; c, 1st gastral tergite long, more than 1.5 times as long as wide in dorsal view ........... Afroceras Benoit [ETH]
11aa, Propodeum less than twice as long as wide; bb, scutellar disc shorter, less than twice as long as
wide; cc, 1st gastral tergite less than 1.3 times as long as wide in dorsal view .......................... 12
12a, Anterior margin of clypeus trapezoidal and truncate apically; b, eye densely covered with hairs;
c, genitalia with the parameres deeply divided into two lobes ........................................... Pseudisobrachium Kieffer [PAL, ORI, ETH, NEA, NET]
12aa, Anterior margin of clypeus various, but not trapezoidal; bb, eye glabrous, or only scattered with
short hairs; cc, genitalia with parameres not deeply divided into two lobes .............................. 13
13a, Notalauli absent or nearly so .............................................................................................. 14
13aa, Notalauli complete or nearly so ..................................................................................... 15
14a, Clypeus strongly produced; b, head longer than wide; c, pronotum usual in size ................ Protoisobrachium Benoit [ETH, ORI]
14aa, Anterior margin of clypeus not remakably produced; lb, head wider than long; cc, pronotum
extremely short ..................................................................................................................... 15aa, Neoapenesia Terayama [ORI]
15a, Ocelli forming a flat triangle and situated almost near the occipital margin; b, postmarginal vein
absent ........................................................................................................................................ 16
15aa, Ocelli more or less forming a right triangle, situated far from the occipital margin; bb,
postmarginal vein present ....................................................................................................... 17
16a, Anterior margin of clypeus with a single median projection ................... Parascleroderma Kieffer
[PAL, ORI, ETH, NEA, NET]
16aa, Anterior margin of clypeus with 3 small projections ...................... Afgoiogfa Argaman [ETH]
17a, Median lobe of clypeus depressed near antennal insertion; b, basalmost tooth of mandible
directed inward; c, cuspis simple, not divided nor setose; d, paramere consisting of 3 valves ....... Acropyris Kieffer [PAL, ORI, NEA, NET]
17aa, Median lobe of clypeus not depressed near antennal insertions; lb, basalmost tooth of
mandible triangular, not directed inward, or mandible with an apical tooth only; cc, cuspis divided into
two arms, dorsal arm simple and ventral one setose (except in a few species); dd, paramere simple, not
consisting of 3 valves ........................................... Apenesia Westwood [PAL, ORI, AUS, ETH, NEA, NET]  
(Female; known in 8 genera only)
18a, Body extremely flat dorsoventrally .......................................................... 19
18aa, Body at most only weakly flattened ................................................................. 20
19a, Base of pronotum in contact with base of scutellum in dorsal view ........... Parascleroderma
Kieffer [PAL, ORI, ETH, NEA, NET]
19aa, pronotum not in contact with scutellum in dorsal view ................ Afgoiogfa Argaman [ETH]
20a, Propodeum strongly constricted at its anterior end, where it forms a pair of small processes
which embrace the apex of the elongate mesonotum. .................................................. 21

20aa, Propodeum not constricted at anterior end, broadly in contact with the mesonotum. ........... 22

21a, Tip of median lobe of clypeus truncate and thickened; b, eye absent ........ Prosapenesia Kieffer
[ETH]

21aa, Tip of median lobe of clypeus not thickened; bb, eye present ........ Pseudisobrachium Kieffer
[PAL, ORI, ETH, NEA, NET]

22a, Mesopleura very small in dorsal view; b, propodeum nearly parallel-sided, at most weakly
constricted .......................................................... Dissomphalus Ashmead [PAL, ORI, ETH, NEA, NET]

22aa, Mesopleura developed; bb, propodeum with a distinct constriction at the spiracle ........... 23

23a, Propodeal constriction strong; maximum width of propodeum at least twice at constriction; b,
eye large, consisting of more than 15 facets (with a few exception) ........ Pristocera Klug [PAL, ORI,
ETH]/ Acrepyris Kieffer [PAL, ORI, NEA, NET]

23aa, Propodeal constriction less strong, maximum width of propodeum less than twice that at
constriction; bb, eye small, consisting of less than 15 facets ............................. Apenesia Westwood
[PAL, ORI, AUS, ETH, NEA, NET]

Genera excluded in this key: Anisobracgium Kieffer, Apristocera Kieffer, Usakosia Kieffer.

Key to tribes and genera of Subfamily Epyrinae

1a, Antenna with 13 segments (2nd or 3rd segment very small but visible in some species); b,
clypeus with a projecting median lobe; c, eye situated laterally on head; d, PF = 6-5, 3-2 .. 2 (Tribe Epyrini)

1aa, Antenna with 13 segments; bb, clypeus short, truncate apically; cc, eye situated forward on head;
dd, PF = 6-5, 3-2 .......................................................... 13 (Tribe Sclerodermini)

1aaa, Antenna with 12 segments or less; bbb, clypeus short, truncate apically; ccc, eye situated
laterally on head (with a few exception in apterous females) ......................... 20 (Tribe Cephalonomiini)

(Tribe Epyrini)

2a, Scutellum with a pair of basal pits, either completely separate or connected by a very thin and
shallow line .......................................................... 3

2aa, Scutellum basally with a transverse, undivided groove, that is straight or deflected backward at
each end, sometimes broadened at each end, but in this case the termini still connected by a deep groove...8

3a, Antennal scape with strong setae; b, mandible long, forming a straight shaft with apical blunt
tooth .......................................................... Tracheypyris Kieffer [ETH, ORI]

3aa, Antennal scape without distinct large seta; bb, mandible shorter, more or less triangular ....... 4

4a, Pronotal disc transversely carinate in front; b, scutellar pit large ........ Bakeriella Kieffer
[NEA, NET]

4aa, Pronotal disc simple without a transverse carina anteriorly; bb, scutellar pit various .......... 5

5a, Pronotum with strong anterior and lateral emarginations; b anterolateral corner of pronotum
strongly angulate in dorsal view .................................................. Calyozina Enderlein [ORI]

5aa, Pronotum not distinctly emarginate anteriorly and laterally; bb, anterolateral corner of pronotum
rounded, not forming an angle in dorsal view .................................................. 6

6a, Pronotum with its posterior margin simple, not prolonged backward so as to overlie the base of
the mesoscutum ........................................................................... 7

6aa, Pronotum with its posterior part elevated and pronged arcuately backward so as to overlie the
base of the nesocutum .............................................................. Aspidepyris Evans [NET]

7a, Notauli absent ............................................................... Isochrochium Förster [PAL, ORI, ETH]

7aa, Notauli present ......................................................... Epyris Westwood [PAL, ORI, AUS, ETH, NEA, NET]

8a, Clypeus with 3 prominent lobes; b, basal vein reaching subcosta based of pterostigma by approximately the length of pterostigma .............. Holepyris Kieffer [PAL, ORI, AUS, ETH, NEA, NET]

8aa, Clypeus with only a median lobe developed; bb, basal vein reaching subcosta close to base of pterostigma ................................................................. 9

9a, Radial vein very short, at most slightly longer than basal vein .................................................. 10

9aa, Radial vein long, distinctly longer than basal vein ................................................................. 11

10a, Large pterostigma present; b, prostigma present; c, fore tarsus with a lake ............ Disepyris Kieffer [PAL, ORI, ETH]

10aa, Pterostigma usual in size to small; bb, prostigmina absent; cc, fore tarsus without lake .................................................. 12

11a, Pronotal disc without transverse carina in front, its sides not sharp or carinate ......... 12

11aa, Pronotal disc with a transverse carina in front, its sides sharply set off and also carinate ................................................................. 13

12a, Transverse foveae present on posterior portion of pronotum; bb, mesonotum with a transverse foveae at midlength; c, transverse groove of scutellum broad. Undescribed genus [ORI; Terayama, in prep.]

12aa, Transverse foveae absent on posterior portion of pronotum; bb, mesonotum without transverse foveae; cc, transverse groove of scutellum thin, but forming a deep groove .......... Rhabdepyris Kieffer [PAL, ORI, AUS, ETH, NEA, NET]

(Tribe Sclerodermini)

13a, Mandible thin and elongate, terminating in 2-3 teeth; b, head rectangular, with parallel sides in full face view ................................................................. 14

13aa, Mandible thick and broad; bb, head with more or less convex sides in full face view ...... 15

14a, Wings fully developed; b, notauli distinct .... Allobethylus Kieffer [PAL, ORI, AUS, NEA, NET]

14aa, Wings reduced, not reaching the posterior margin of propodeum; bb, notauli obscure .......... Bethylopsis Fouts [Marquesas Isls.; known from a female only]

14a, Gastral sternites 4-6 deeply bimarginate, with broad median apical plates and narrower lateral plates ................................................................. Lepidosternopsis Ogoblin [NET, AUS]

14aa, Gastral sternites 4-6 simple or their margins shallowly sinuate ........................................ 15

15a, Body extremely depressed dorsoventrally ................................................................. 16

15aa, Body at most weakly depressed dorsoventrally ............................................................. 17

16a, Costal vein and costal cell present; b, median vein dividing median and submedian cells; c, radial vein long ................................................................. Alongatepyris Azevedo [NET]

16aa, Costal vein and costal cell obscure; bb, median vein short, median and submedian cells not completely separated by a median vein; cc, radial vein short ............... Thlastepyris Evans [NET]

17a, Mandible with 7 small teeth, upper margin denticulate in female; b, mandible with 5 teeth in male ................................................................. Glenosema Kieffer [PAL, ORI, AUA, ETH, NEA]

17aa, Mandible with 2-3 teeth, upper margin without denticule in female; bb, mandible with 2-3 teeth in male ................................................................. 18

18a, Pterostigma large and circular; b, head very large, wider than long, much wider than maximum width of mesosoma in dorsal view; c, fully winged in both sexes ............ Chilepyris Evans [NET, AUS]
18aa, Pterostigma smaller and longer than wide; bb, head slightly wider than long, almost as long as wide or only slightly wider than maximum width of thorax; cc, winged and apterous forms present in both sexes but female usually apterous .............................................................. 19
19a, 4th and 5th gastral terga each with a pair of blunt teeth; b, parapsidal furrows well developed ....
**Discleroderma** Kieffer [ORI]
19aa, Gasteral terga simple, without tooth; bb, parapsidal furrows absent or only weakly indicated .................................... **Sclerodermus** Latreille [PAL, ORI, AUS, ETH, NEA, NET]

(Tribe Cephalonomiini)

20a, Antenna with 10 segments; b, winged and brachypterous forms present in both sexes ..............
**Acephalonomia** Strejcek [PAL]
20aa, Antenna with 12 segments; bb, wings various ................................................................. 21
21a, Notauli present; b, anal vein present ................ Undescribed genus [PAL; Terayama, in prep.]
21aa, Notauli absent; bb, anal vein various, absent to distinct ...................................................... 22
22a, Median vein broadest at the midlength; b, anal vein present ........ **Israelius** Richards [PAL, ORI]
22aa, Median vein almost with the same width from anterior to posterior end, not broaden at the midlength, or median vein obscure; bb, anal vein obscure to absent ................................................................. 23
23a, Radial vein absent; b, wings frequently absent or much reduced .... **Cephalonomia** Westwood [PAL, ORI, NEA, NET]
23aa, Radial vein present at least in part; bb, wings always fully developed ......................... 24
24a, Frons produced below a nasus which overlises the antennal insertions and clypeus ...... **Prorops** Waterston [PAL, ORI, NEA, NET]
24aa, Frons simple, not produced below ................................... **Plastanoxus** Kieffer [PAL, ORI, NEA]

Genera excluded in this key:

Tribe Epyrini; **Leptepyris** Kieffer, **Neodisepyris** Kurian (Provisional; possible junior synonym of **Holepyris** Kieffer), **Planepyris** Kieffer, **Neurepyris** Kieffer, **Melanepyris** Kieffer (Provisional; possible junior synonym of **Epyris** Westwood), **Pristepyris** Kieffer, **Triglenus** Marshall, **Trissepyris** Kieffer, **Xenepyris** Kieffer.

Tribe Sclerodermini; **Ateleopterus** Fouts, **Pararhabdepyris** Gorbatovsky.

**Key to genera of subfamily Mesitiinae**

1a, Pronotum with a distinct longitudinal furrow which is at least partly developed ............... 2
1aa, Pronotum without longitudinal furrow ............................................................................. 9
2a, Propodeum without sublateral carinae in both sexes and discal carinae in the female ........

**Clytrovorus** Nagy [PAL]
2aa, Propodeum with sublateral and discal carinae ................................................................. 3
3a, Median carina of clypeus dilated and spoon-like anteriorly ....................... **Mesitius** Spinola [PAL]
3aa, Median carina of clypeus simple, not dilated anteriorly .............................................. 4
4a, First and 2nd gastral terga covered with pale yallowish gold and black hairs abundantly ....

**Pilomesitius** Móczár [ETH]
4aa, Gastral terga with hairs sparsely to moderately .......................................................... 5
5a, Head much longer than wide; b, lateral margin of pronotum strongly concave in dorsal view; c, eye relatively small ...................................................... **Parvoculus** Móczár [ETH]
5aa, Head slightly longer than wide; bb, lateral margin of pronotum straight or at most weakly concave in dorsal view; cc, eye larger ................................................................. 6
6a, Median furrow of mesonotum indistinct or absent ....... Heterocoelia Dahlbom [PAL, ETH, ORI]
6aa, Median furrow of mesonotum distinct, at least on the posterior portion ................................. 7
7a, Head and pronotum only superficially punctate, usually alitaceous-microreticulate ... Metronotus
Móczár [AL, ETH, PAL]

7aa, Head and pronotum deeply, densely or coarsely rugose, and extremely densely punctate ....... 8
8a, Second gastral tergite deeply and densely punctate; interspaces narrower than punctures at the densest part ................................................................. Pycnomesitius Móczár [ETH, ORI]
8aa, Punctures on the 2nd gastral tergite much shallower; interspaces everywhere larger than punctures ................................................................. Sulcomesitius Móczár [PAL, ETH, ORI]
9a, Median carina and inner lateral carinae of propodeum parallel; b, outer lateral carina present only basally on propodeal disc ......................................................... Pseudomesitius Duchaussay [PAL]
9aa, Median carina and inner lateral carinae of propodeum not parallel; bb, outer lateral carina of propodeal disc complete, reaching transverse carina ................................................................. 10
10a, Pronotum with punctures; b, mesonotum with a short longitudinal furrow .................. Incertosulcus
Móczár [PAL, ORI]
10aa, Pronotum smooth, without distinct punctures; bb, mesonotum without longitudinal furrow ...
11
11a, Propodeal disc without lateral carinae ......................................................... Bradepyris Kieffer [PAL]
11aa, Propodeal disc with distinct lateral carinae ......................................................... Anaylax Móczár [PAL]

Genus excluded in this key: Codorcas Nagy

Key to genera of subfamily Bethylinae

1a, Forewing with 6 closed cells; marginal and submarginal cells closed; b, notauli present .......... 2
1aa, Forewing with at most 5 closed cells; closed marginal and submarginal cells absent; bb, notauli absent ................................................................. 3
2a, Propodeum with a median longitudinal carina; b, pterostigma broad; c, marginal cell shorter ................................................................. Eupsenella Westwood [AUS]
2aa, Propodeum without median longitudinal carina; bb, pterostigma thin; cc, marginal cell longer, the length more than 1.5 times its width ......................................................... Lytopsenella Kieffer [NET]
3a, Marginal cell closed ...... Sierola Cameron [PAL, ORI, AUS, NEA; abundant on the Hawaiian Islands]
3bb, Marginal cell open apically ................................................................. 4
4a, Antenna with 12 segments; b, basal vein forming almost a right angle, its portion appearing as a continuation of the median vein; c, transverse median vein far based of the apparent basal vein; d, fully winged, but brachypterous or micropterous in a few species ............ Bethylus Latreille [PAL, ORI, NEA]
4aa, Antenna with 13 segments; bb, basal vein oblique, only slightly angled, leaving median vein at about the same point as the transverse median vein; cc, transverse median vein near based of the apparent basal vein; dd, always fully winged ................................................................. 5
5a, Prostigma large, forming a subtriangle; b, median carina of clypeus short, extending up to the frons at most for short distance; c, Rs + m vein shorter than rs vein ................. Goniozus Förster
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[ PAL, ORI, AUS, ETH, NEA, NET ]

5aa, Prostigma small, not forming a triangle; bb, median carina of clypeus long, continuing on well up to the frons; cc, Rs + m vein shorter than rs ................................................................. 6

6a, Complete median carina of propodeum present; b, base of propodeal disc with a pair of small pits at the outer portion ................................................................. Odontepyris Kieffer [ PAL, ETH, ORI, AUS]

6aa, Median carina of propodeum absent; bb, base of propodeal disc with a pair of pits at the extreme base medially ................................................................. Prosierola Kieffer [ NEA, NET ]

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References


Appendix. List of genera on the subfamily Bethylidae.

#: genera lack of the types or voucher specimens, most of which were presumably lost.

Family Bethylidae

Subfamily Pristocerinae = Subfamily Afgoiogfinae


Subfamily Parapenesiinae
Parapenesia Kieffer 1910

Subfamily Epyrinae

Tribe Epyrini

Tribe Sclerodermini

Tribe Cephalonomiini
Acephalonomia Strejcek 1990; Cephalonomia Westwood 1833 = Holopedina Förster 1850 = Cephaloderma Hoffer 1936 = Cephalonia Kirchner 1867 (Unjustified emendation); Isaelius Richards 1952; Plastanoxus Kieffer 1905 = Snappania Hedqvist 1975; Prorops Waterston 1923

Subfamily Mesitiinae = Subfamily Mesitinae (Unjustified emendation)


Subfamily Galodoxinae
Galodoxa Nagy 1974

Subfamily Bethylinae
Bethylus Latreille 1820 = Perisemus Förster 1856 = Episemus Thomson 1862 = Anoxus Thomson 1862 = Anoxys Dalla Torre 1898 (Unjustified emendation) = Digoniozus Kieffer 1905; Eupsenella Westwood 1874; Goniozus Förster 1856 = Parasierola Cameron
Subfamily incertae sedis

Foenobethylus Kieffer 1913#

Genera transferred to the Tiphiidae

Bruesiella Mann 1914 [Evans 1964]; Dryinopsis Brues 1910 [Reid 1941, Evans 1964]

Genera transferred to the Rhopalosomatidae

Saphobethylus Kieffer 1911 [Turner & Waterston 1917]; Algoella Kieffer 1914 [= Algoa Brues 1910, nec Castelnau 1961; Brues 1922]; Harpagocrypyus Perkins 1908 [Brues 1922, Reid 1941]

Genera transferred to the Chrysididae

Godfrinia Kieffer 1911 [Reid 1941]; Promesitius Kieffer 1905 [Reid 1941]; Lustrina Kurian 1955 [Kimsey & Bohart 1990]; Laccomerista Cameron 1910 [Evans 1910, Kimsey & Bohart 1990]

Genus transferred to the Scolebytidae

Clystopsenella Kieffer 1911 [Evans 1963]

Genus transferred to the Scelionidae

Mantibaria Kirby 1900 [Masner 1976]

Genus transferred to the Sierolomorphidae

Proscleroderma Kieffer 1905 [Nagy 1990]

Genus transferred to the Formicidae

Neoclystopsenella Kurian 1955 [Brown 1987]

Genera which cannot be recognized

Omaloderus Walker 1843 = Homaloderus (Laspus) Dalla Torre 1898 [Evans 1964; not a bethylid wasp.]