

J. Krombein

# A generic key to Perilampinae (Hymenoptera, Chalcidoidea), with a revision of *Krombeinius* n.gen. and *Euperilampus* Walker

ZDENEK BOUČEK

✓ 1316

Bouček, Z.: A generic key to Perilampinae (Hymenoptera, Chalcidoidea), with a revision of *Krombeinius* n.gen. and *Euperilampus* Walker.

Ent. scand. 9:299-307. Lund, Sweden 15 December 1978. ISSN 0013-8711.

Perilampinae are newly delimited and their world genera keyed. Two of the six genera are monotypic: *Burksilampus* n.gen., proposed for the American *Chrysolampus anobii* Burks, and *Steffanolampus* Peck. Two other genera are revised: *Krombeinius* n.gen. with two Oriental species (including *eumenidarum* n.sp.) and *Euperilampus* Walker with three American and seven Old World species of which two are described: *sinensis* n.sp. (from China) and *spina* n.sp. (from N. Borneo). Three names are synonymized under *E. scutellatus* (Girault). With 13 figures.

Z. Bouček, Commonwealth Inst. of Entomol., c/o Brit. Mus. (Nat. Hist.), Cromwell Road, London SW7 5BD, Britain.

Perilampinae are a relatively well known group of Chalcidoidea, mainly due to the widely represented genus *Perilampus* Latreille. Their placement in the system, however, still causes difficulty. It is premature to discuss their rank here, but be noted that some authors regard them as a family; whilst others as a subfamily. Riek (1966) considered them as a subfamily of Pteromalidae, although a few puzzling questions remain unanswered.

Until recently, at least in Europe, the present Perilampinae were grouped together with Philomidini and Chrysolampini. Philomidae seem to be placed best as a subfamily of Eucharitidae, whilst Chrysolampinae, although probably close to Perilampinae, are now mostly accepted as belonging to Pteromalidae. Chrysolampinae differ from Perilampinae mainly in having the prepectus fused to mesothorax, distinctly separated from the pronotum, and both mandibles 2-toothed. Philomidae are distinguished by the greatly enlarged and strongly bulging prepectus, whilst the pronotum is much reduced.

As now restricted (*Echthrodape* Burks is also excluded), Perilampinae may be recognized mainly on the following characters.

Triangular prepectus firmly fused with pronotum (fig. 13) and pronotum itself with distinct dorsal part (collar) separated by edge from steep (vertical or even excavated) collum. Thoracic dorsum with coarse piliferous punctation or punctate reticulation (if interstices

between puncta strongly reduced); rarely puncta confluent into grooves separated by rugae. Wings extensively pubescent, including basal part, not exhibiting reduction and differentiation of hairs. Mandibles very strong, left with 2, right with 3 large teeth. Clypeus large and dorsally well delimited; also supraclypeal area distinct. Antennal toruli close to each other; antennae 13-segmented, formula 1.1173; scapus distinct, flagellum relatively short, with only one segment reduced to anellus. Legs normal, tarsi 5-segmented. Gaster convex, tergites I and II dorsally more or less fused (suture sometimes completely obliterated), causing high triquetre form of its body.

Apart from Perilampinae the prepectus is fused with the pronotum only in Eucharitinae (of family Eucharitidae) in which, however, the pronotum is strongly reduced and virtually invisible dorsally (without removing the head). The coarse piliferous punctation and the non-differentiated wing pubescence are apparently symplesiomorphic characters of several primitive chalcidoid groups, such as Leucospidae, most Chalcididae, many Eurytomidae, some Pteromalidae and some Torymidae.

The only recent key to Perilampinae (in Riek 1966) recognizes three genera. With the two genera proposed here as new the group contains now six genera of which the two largest ones, *Perilampus* Latreille (many species in all regions) and *Monacon* Waterston (Old World tropics) are not treated here in detail.

Key to the world genera of *Perilampinae*

1. A strong median horn present on face just below antennae; antennae folding up into deep scrobes with massive and at least dorsally carinate margins; first and second tergites dorsally separated by distinctly curved (emarginate) line; postmarginal vein shorter than the marginal; prepectus large; palaeotropical ..... *Monacon* Waterston
- Face without horn; other characters partly different ..... 2
2. Prepectus (in front of tegula) at least as broad as pronotum (fig. 13); pronotal collar dorsally narrow, in middle at most with 3 rows of punctures; head only rarely with raised striae but scrobes sometimes carinate dorsally; scutellum usually not much produced but if jutting out over propodeum then apically with simple marginal carina and underside of produced part with submarginal row of coarse alveolae or a broad crenulate groove; marginal vein always longer than postmarginal vein ..... 3
- Prepectus reduced to narrow triangle (figs 1, 7), its broadest part less than half as broad as adjacent pronotal panel; collar strongly developed, in middle at least one-third as long as mesoscutum and here with at least 5 cross-rows of punctures or rugae; scrobes always bordered by massive carina; some parts of head bearing raised striae; scutellum always strongly produced over propodeum, underside of produced part without row of coarse punctures; marginal vein often short ..... 5
3. Gaster attached by a narrow petiole (fig. 12) which is about twice as long as broad; North American ..... *Burksilampus* n.gen.
- Gaster sessile or subsessile, in latter case petiole transverse, not conspicuous ..... 4
4. Pronotal collar at middle with 2 high transverse elevations; in ♀ ovipositor sheaths distinctly exerted and upturned; North American ..... *Steffanolampus* Peck
- Collar without such elevations; ovipositor not upturned, usually hidden under overlapping apical tergites; cosmopolitan ..... *Perilampus* Latreille
5. Scutellum: free margin of protruding part simple, piliferous reticulation of dorsal part extending to very edge (figs 1, 2); marginal vein distinctly longer than the postmarginal and more than 3 times as long as stigmal vein; second tergite fully as long as the first; Oriental ..... *Krombeinius* n.gen.
- Free margin of scutellum with crenulate bare rim separated by distinct carina (figs 3-5, 7-11) from reticulate or grooved pubescent dorsal part; marginal vein much shorter than the postmarginal and only up to twice as long as stigmal vein; second tergite usually much shorter than the first; circumtropical ..... *Euperilampus* Walker

Genus *Burksilampus* n.gen.

*Type-species: Chrysolampus anobii* Burks

*Diagnosis:* The genus is sufficiently characterized in the key above. It is proposed for a species which deviates from all other *Perilampus* in the earlier, broad sense (couplets 3-4 above) by the unusually petiolate gaster (fig. 12): the tergal part of petiole is slender and almost twice as long as broad, whilst the sternal part is shifted caudad, hidden normally under the gastral body. Head as in those *Perilampus* which lack frontal swelling (and carinae). The petiolate gaster led Burks to place his species in *Chrysolampus* Spinola. In *anobii*, however, the prepectus is fused with the pronotal panel in the same way as in *Perilampus* (fig. 13), whereas in *Chrysolampus* the prepectus is a firma part of the mesothorax with which the pronotum is only loosely connected. Also the mandibles are 2:3, i.e. of the *perilampine* type.

*Etymology:* Named in honour of the well-known hymenopterist B. D. Burks.

*Burksilampus anobii* (Burks) n.comb.  
(Figs 12-13)

*Chrysolampus anobii* Burks, 1969:80

*Type locality:* USA, Virginia, Williamsburg. Known

only from the type material of which I have examined the holotype (USNM) and three paratypes (BMNH). Parasite of anobiid beetles in dead wood.

Genus *Steffanolampus* Peck

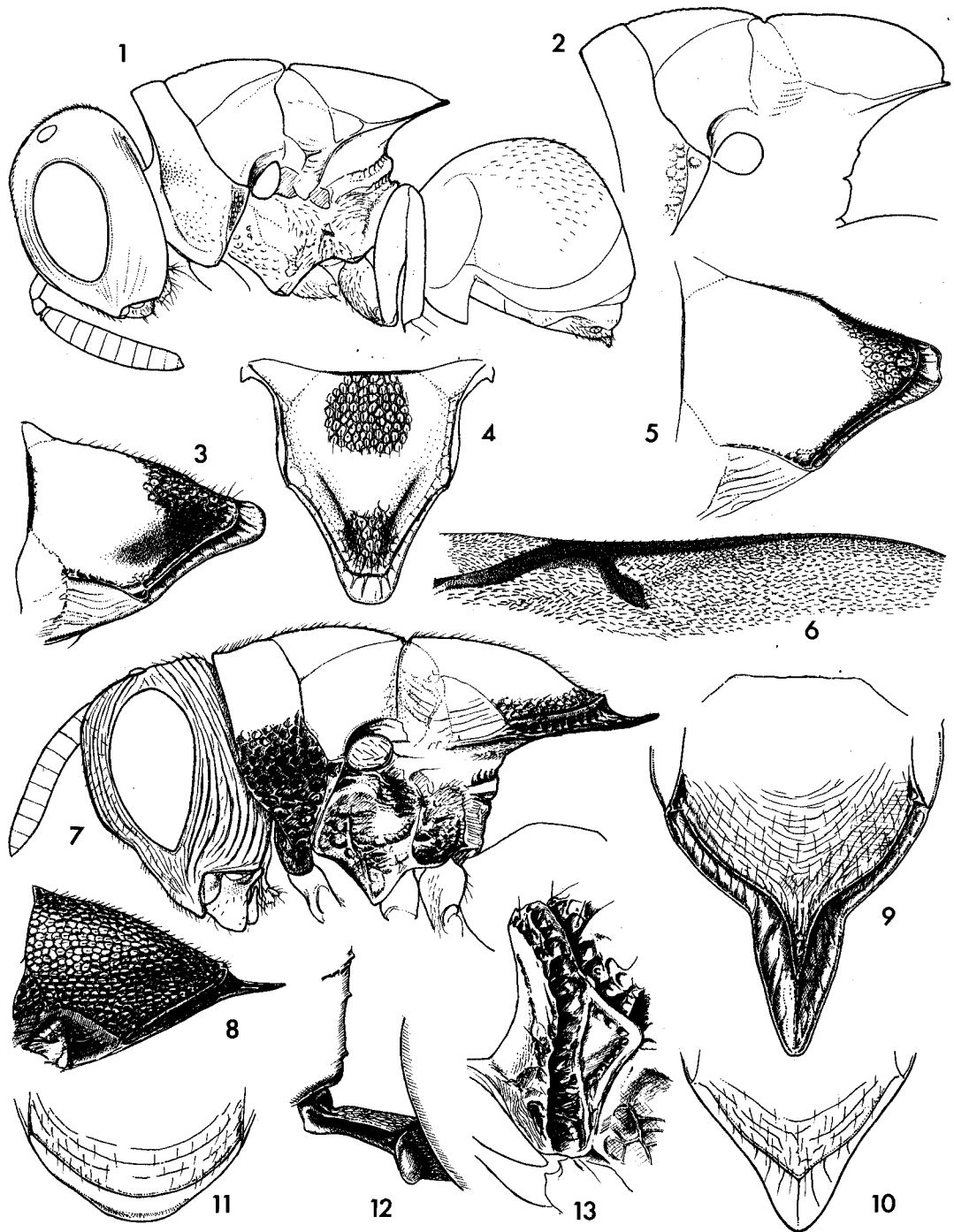
*Steffanolampus* Peck, 1974:555. *Type-species: Perilampus salicetum* Steffan, by original designation.

The genus, characterized in the key, is very close to *Perilampus* and includes only the following species.

*Steffanolampus salicetum* (Steffan)

*Perilampus salicetum* Steffan, 1952:70-72.

Originally described from specimens found on a *Salix* trunk in Vienna, Austria. Dr Steffan kindly gave me a paratype from which I recognized the species in 1965 in the fresh material coming from Ithaca, N. York State, sent to me by Dr Bachmaier (Munich). Peck (1974), when erecting *Steffanolampus*, corrected the wrongly assumed origin of the type material, apparently based on specimens introduced with



Figs 1-13. - 1. *Krombeinius eumenidarum* n.gen., n.sp., ♂. - 2. *K. megalaspis* (Cam.), thorax in profile. - 3-4. *Euperilampus sinensis* n.sp., scutellum in oblique lateral and dorsal views. - 5. *E. scutellatus* (Grlt.), dorso-lateral view of scutellum. - 6. *E. mediterraneus* Bčk., forewing venation. - 7-8. *E. spina* n.sp., head and thorax in lateral view and scutellum in dorso-lateral view. - 9. *E. gloriosus* (Walk.), scutellum. - 10. *E. triangularis* (Say), apex of scutellum. - 11. *E. krombeini* Burks, ditto. - 12-13. *Burksilampus* (n.gen.) *anobii* (Burks), gastral petiole and pronotum with prepectus, both in lateral view.

timber. He also summarized, mainly from extensive new material, what is known about the species. *S. salicetum* is distributed from Maryland and Michigan to Quebec and is a parasite of wood-boring beetles, mainly Anobiidae (and of some of their beetle predators).

The name *salicetum* is probably incorrectly construed, as a noun in the nominative (meaning a place dominated by *Salix*) instead of genitive, but nevertheless valid.

### Genus *Krombeinius* n.gen.

*Type-species: Krombeinius eumenidarum* n.sp.

*Diagnosis* (main diagnostic characters given in the generic key). In general the head and thorax are shaped as in *Euperilampus* but the prepectus is slightly larger, up to 0.4 the breadth of adjacent pronotal panel, thus suggesting a transition towards *Perilampus*. The malar sulcus is, as well as in all *Euperilampus*, obliterated by crossing oblique striation, but this feature occurs also in some neotropical species of *Perilampus*. The absence of the marginal rim of the scutellum and the shortened postmarginal vein also point to a closer relation with the latter genus.

*Etymology*: Named in honour of the eminent hymenopterist Karl V. Krombein (Washington), who discovered the biology of the type-species.

### *Description*

Moderately large perilampines of aspect of *Euperilampus*. Head with large and deep scrobes delimited dorsally and on sides by massive carina, outside of carina with vertical striation; malar sulcus obliterated by crossing oblique striation; no horn or tooth below antennae. Pronotal collar with anterior edge subparallel to hind margin, in middle at least one-third as long as mesoscutum and bearing at least five (irregular) cross-rows of rugulose punctures. Scutellum strongly produced over propodeum; its sharp lateral and apical edge between the dorsal reticulate-punctured (and pubescent) part and ventral flat part simple, without forming a separate bare rim; ventral side of produced apex with a shallowly sculptured median triangle, but broadly smooth towards edges. Marginal vein (in forewing) distinctly longer than the postmarginal and at least three times as long as stigmal vein. Second gastral tergite at least as long as the first and, except near hind margin, with thin whitish pubescence.

Both species belonging here are from the Oriental region.

### Key to the species of *Krombeinius*

1. Scutellum strongly convex, its apex high, subvertical (fig. 2); edge of pronotal collar regularly convex, not suggesting bumpy shoulders; prepectus with only one pit, at dorsal margin; propodeum in middle about as long as metanotum; postmarginal vein half as long as the marginal; second (largest) tergite sparsely pubescent ..... *megalaspis* (Cameron)  
Scutellum longer than above, its dorsum gradually flat-conical towards apex (fig. 1); collar on either side at level of prepectus with distinct shoulder bump; prepectus dull, punctate; propodeum medially about twice as long as metanotum; postmarginal vein longer than in *megalaspis*; largest tergite rather densely pubescent except in apical quarter (bare part broader in middle) ..... *eumenidarum* n.sp.

### *Krombeinius eumenidarum* n.sp.

(Fig. 1)

*Type locality*: Sri Lanka, Trincomalee.

*Type material: Holotype*: ♂, Sri Lanka, Trincomalee, China Bay Ridge Bungalow, ex larva of eumenid wasp *Paraleptomenes mephitis* (Cameron), 3.VI.1976 (K. V. Krombein); in coll. USNM. *Paratypes*: same origin as holotype, 1.VI.1976 1 ♂, 27.I.1977 1 ♀ 1 ♂ (in coll. USNM and BMNH). Also 1 ♀ seen from Malabar coast of India.

*Diagnosis*. Similar to *K. megalaspis* but different mainly in having a longer scutellum rather explanate posteriorly, a shouldered pronotum, a more sculptured prepectus and a relatively longer postmarginal vein, as stressed in the key.

### *Description*

♂. 3.0–4.0 mm. Black, in places with very faint bluish gloss; narrow tips of tibiae and whole tarsi testaceous. Wings subhyaline.

*Head* in dorsal view about 1.7 (1.67–1.73) times as broad as long, relative length (measurement) 59, width of frontovertex 56, POL:OOL as 16.5:15, eye 53 × 35, malar space 15, maximum width of scrobes (at lower ocular line) 46; flagellum plus pedicellus 68. Vertex and swollen temples almost without sculpture, raised striae distinct on occiput, parascrobal areas (here densest) and on genae. Scrobes deep, dorsally narrow, widening ventrad where expanded to include smooth supraclypeal area and most of clypeus; sharp carinate margin reaching level of lower extremities of eyes; clypeus smooth and bare in upper third, otherwise with short and relatively dense pubescence, as on other parts of head, including lower half of inner scrobal walls.

*Thorax.* Pronotal collar in middle 0.3 as long as mesoscutum. Dorsal (mesal) parts of lateral lobes of mesoscutum shiny, with sculpture obliterated; mid lobe with two slight convexities. Pubescent part of scutellum in middle about 0.8 as broad as long, apex of scutellum narrowly subtruncate to slightly emarginate; axillula smooth but vertical part of axilla striate; underside of scutellar process almost smooth, near middle with two broad and very shallow, converging grooves. Smooth convex dorsellum of metanotum delimited anteriorly and posteriorly by narrow crenulate grooves (posterior groove narrower). Propodeum: deep crenulate groove along anterior margin, surface otherwise slightly convex, with transverse rugulose striation medially merging with irregular areolation; cross-carina near apex distinct only in middle.

♀. 4.2 mm. As in male (including clypeal hairs) but for apex of gaster. Flagellum yellowish brown (?immature; dark brown in the Malabar specimen).

All specimens (killed premature, preserved in alcohol) were liberated from their pupal skins and mounted, with the wings still crumpled, showing the venation only in one male (holotype) which has gastral tergites partly malformed.

***Krombeinius megalaspis* (Cameron) n. comb.**  
(Fig. 2)

*Perilampus megalaspis* Cameron, 1912:63.

*Type locality:* Malaysia, Sarawak (North Borneo): Kuching.

*Lectotype* ♀ (here designated): one of three ♀ syntypes in coll. BMNH, labelled by me, as well as both paralectotypes. *Additional material:* NE Sarawak: Gunong Mulu Nat. Park, Long Pala, X.1977, 1 ♀ (Malaise trap, leg. D. Hollis; in coll. BMNH).

Diagnostic characters in addition to the key: Scrobes much wider than in *eumenidarum*, at lower ocular line (where broadest) nearly as wide as frontovertex; parascrobal areas narrow, in middle scarcely as broad as an ocellus. Dorsal thorax including inner parts of lateral lobes rather regularly punctate-reticulate. Pronotum medially about 0.36 the length of mesoscutum. Scutellum in middle between axillae (pubescent part) 0.83 as broad as long; apex distinctly emarginate; lower (vertical) part of axilla and axillula with coarse horizontal striae; underside of scutellum with deep narrow groove at lateral edge and a pair of converging grooves near median line. Metanotum in middle with raised narrow lunula

(dorsellum) between anterior alveolate groove and narrower posterior one. Propodeum with distinct straight cross-carina near apex, anterior to it a flat median crest with two large alveolae on either side. Marginal vein about 4.5 times as long as the stigmal (this with round knob) and virtually twice as long as postmarginal vein. Sparse hairs on second tergite thin, erect.

**Genus *Euperilampus* Walker**

*Euperilampus* Walker, 1871:67. Type-species: *Perilampus gloriosus* Walker, by original designation.

*Euperilampoides* Girault, 1915:308. Type-species: *Euperilampoides scutellatus* Girault, by original designation.

*Nesoperilampus* Rohwer, 1923:349. Type-species: *Nesoperilampus typicus* Rohwer, by original designation.

Riek (1966:1227) proposed the generic synonymy and Burks (1969:78) further delimited the genus. As suggested by Bouček (1972:90), the neotropical species can be classified as a subgenus of its own (*Euperilampus* s.str.), though close to the group of the palaeotropical species belonging to subgenus *Euperilampoides* Girault. The genus exhibits some unusual characters which seem to be undoubtedly apomorphic (derived), such as the deep large scrobes surrounded by massive carinate walls (to receive the folded-up antennae), the raised striae on other parts of the head, an enlarged pronotum and the large scutellum conspicuously produced over the base of gaster (fig. 7). The underside of the protruding part of scutellum is devoid of grooves or rows of pits which are present in *Perilampus* and, in a reduced form, also in *Krombeinius*. Some other characters, however, suggest a relative primitiveness. These include the small narrow prepectus, the long postmarginal vein and the frenal area on scutellum preserved in form of a marginal rim.

The only biological information available is that the Madagascan *E. hymenopterae* (Risbec) has been reared from an ichneumonid pupa, i.e. as a hyperparasite. Otherwise the specimens are usually encountered on flowers, along with aculeate Hymenoptera (Burks, 1969:80).

Until now no key to species has been published. Three are American, two were described from Madagascar, one from the eastern Mediterranean and the rest are Oriental.

*Thorax.* Pronotal collar in middle 0.3 as long as mesoscutum. Dorsal (mesal) parts of lateral lobes of mesoscutum shiny, with sculpture obliterated; mid lobe with two slight convexities. Pubescent part of scutellum in middle about 0.8 as broad as long, apex of scutellum narrowly subtruncate to slightly emarginate; axillula smooth but vertical part of axilla striate; underside of scutellar process almost smooth, near middle with two broad and very shallow, converging grooves. Smooth convex dorsellum of metanotum delimited anteriorly and posteriorly by narrow crenulate grooves (posterior groove narrower). Propodeum: deep crenulate groove along anterior margin, surface otherwise slightly convex, with transverse rugulose striation medially merging with irregular areolation; cross-carina near apex distinct only in middle.

♀. 4.2 mm. As in male (including clypeal hairs) but for apex of gaster. Flagellum yellowish brown (?immature; dark brown in the Malabar specimen).

All specimens (killed premature, preserved in alcohol) were liberated from their pupal skins and mounted, with the wings still crumpled, showing the venation only in one male (holotype) which has gastral tergites partly malformed.

***Krombeinius megalaspis* (Cameron) n.comb.**  
(Fig. 2)

*Perilampus megalaspis* Cameron, 1912:63.

*Type locality:* Malaysia, Sarawak (North Borneo): Kuching.

*Lectotype* ♀ (here designated): one of three ♀ syntypes in coll. BMNH, labelled by me, as well as both paralectotypes. *Additional material:* NE Sarawak: Gunong Mulu Nat. Park, Long Pala, X.1977, 1 ♀ (Malaise trap, leg. D. Hollis; in coll. BMNH).

Diagnostic characters in addition to the key: Scrobes much wider than in *eumenidarum*, at lower ocular line (where broadest) nearly as wide as frontovertex; parascrobal areas narrow, in middle scarcely as broad as an ocellus. Dorsal thorax including inner parts of lateral lobes rather regularly punctate-reticulate. Pronotum medially about 0.36 the length of mesoscutum. Scutellum in middle between axillae (pubescent part) 0.83 as broad as long; apex distinctly emarginate; lower (vertical) part of axilla and axillula with coarse horizontal striae; underside of scutellum with deep narrow groove at lateral edge and a pair of converging grooves near median line. Metanotum in middle with raised narrow lunula

(dorsellum) between anterior alveolate groove and narrower posterior one. Propodeum with distinct straight cross-carina near apex, anterior to it a flat median crest with two large alveolae on either side. Marginal vein about 4.5 times as long as the stigmal (this with round knob) and virtually twice as long as postmarginal vein. Sparse hairs on second tergite thin, erect.

**Genus *Euperilampus* Walker**

*Euperilampus* Walker, 1871:67. Type-species: *Perilampus gloriosus* Walker, by original designation.

*Euperilampoides* Girault, 1915:308. Type-species: *Euperilampoides scutellatus* Girault, by original designation.

*Nesoperilampus* Rohwer, 1923:349. Type-species: *Nesoperilampus typicus* Rohwer, by original designation.

Riek (1966:1227) proposed the generic synonymy and Burks (1969:78) further delimited the genus. As suggested by Bouček (1972:90), the neotropical species can be classified as a subgenus of its own (*Euperilampus* s.str.), though close to the group of the palaeotropical species belonging to subgenus *Euperilampoides* Girault. The genus exhibits some unusual characters which seem to be undoubtedly apomorphic (derived), such as the deep large scrobes surrounded by massive carinate walls (to receive the folded-up antennae), the raised striae on other parts of the head, an enlarged pronotum and the large scutellum conspicuously produced over the base of gaster (fig. 7). The underside of the protruding part of scutellum is devoid of grooves or rows of pits which are present in *Perilampus* and, in a reduced form, also in *Krombeinius*. Some other characters, however, suggest a relative primitiveness. These include the small narrow prepectus, the long postmarginal vein and the frenal area on scutellum preserved in form of a marginal rim.

The only biological information available is that the Madagascan *E. hymenopterae* (Risbec) has been reared from an ichneumonid pupa, i.e. as a hyperparasite. Otherwise the specimens are usually encountered on flowers, along with aculeate Hymenoptera (Burks, 1969:80).

Until now no key to species has been published. Three are American, two were described from Madagascar, one from the eastern Mediterranean and the rest are Oriental.

Key to the species of *Euperilampus*

1. Bright metallic; mid lobe of mesoscutum and whole scutellum with coarse cross-arcuate rugae; American (subg. *Euperilampus* s.str.) ..... 2
- Dark metallic to black; thoracic dorsum generally punctate-reticulate, only anteriorly on mesoscutum sometimes forming weak low cross-striae; Old World (subg. *Euperilampoides* Grt.) ..... 4
2. Apex of scutellum broadly rounded (fig. 11), its marginal rim formed by deepest (and bare) groove otherwise similar to other parallel grooves in front of it; scrobal edges below merging smoothly with face (in lateral view); SW. USA ..... *krombeini* Burks
- Apex of scutellum distinctly acuminate and with broad marginal rim which is very different from sculpture in front of it; scrobal edges in lateral view mostly jutting out as subangulate teeth at level of antennal insertion ..... 3
3. Apex of scutellum with sides almost gradually converging at about 60° (fig. 10); breadth of scutellum less axillulae only slightly less than total length; mainly violet-bluish or partly greenish or black; from Ontario to S. Brazil ..... *triangularis* (Say)
- Scutellum rather abruptly produced into a lanceolate spine (fig. 9), much longer than wide; gaster and apex of scutellum bright coppery to fiery golden; Mexico ..... *gloriosus* (Walker)
4. Femora at least in apical halves, and whole tibiae, yellow; Madagascan ..... 5
- Femora always dark, also tibiae at least partly infumate ..... 6
5. Legs except coxae yellowish testaceous; antennae black, flagellum pale beneath; face beyond scrobes with conspicuous white pubescence, also tibiae externally with thick and long white hairs; scutellum medially at least 1.3 times as long as breadth of its reticulate part in middle; ♂ ..... *hymenopterae* (Risbec)
- Legs beyond coxae and antennal flagellum lemon yellow but hind femur infuscate in basal third; pubescence on face including clypeus, and on tibiae, short and thin, rather inconspicuous; scutellum medially about as long as breadth of its reticulate part in middle; ♀ ..... *beharae* (Risbec)
6. Scutellum at apex produced into a slender spine (figs 7, 8); upper third of clypeus bare and smooth; Borneo ..... *spina* sp.n.
- Scutellum at apex rounded, truncate or even narrowly emarginate; clypeus often more extensively punctured ..... 7
7. Forewing distinctly infumate, especially in ♂; marginal vein only about as long as the stigmal (fig. 6); antennae in both sexes black; labio-maxillary complex very slender and protruding far beyond closed mandibles; Mediterranean ..... *mediterraneus* Bouček
- Forewing virtually hyaline or slightly yellowish, marginal vein at least 1.5 times as long as the stigmal; flagellum often mainly yellow; labio-maxillary complex short and not unusually slender ..... 8
8. Lower margins of scutellar axillulae in dorsal view almost parallel (fig. 4) and scutellar sides posteriorly very steep; in ♂ (♀ unknown) tentorial pits deep, conspicuous, edges of antennal scapus rounded and tibiae dark; China ..... *sinensis* sp.n.
- Lower margins of axillulae in dorsal view conspicuously diverging forwards; scutellum postero-laterally almost regularly sloping; in ♂ tentorial pits indistinct, meso-ventral edge of scapus broadly laminate and distal halves of tibiae mostly yellow; India to Taiwan and Queensland ..... *scutellatus* (Girault)

***Euperilampus krombeini* Burks**  
(Fig. 11)

*Euperilampus krombeini* Burks, 1969:79.

Described from two localities in Arizona, USA. Biology unknown. Holotype and several paratypes examined, no further material seen.

***Euperilampus triangularis* (Say)**  
(Fig. 10)

*Perilampus triangularis* Say, 1828:78.

Described from Indiana (type lost), now known widely distributed from Quebec and Ontario to Florida, Kansas and Colorado and I have examined several ♀♀ from State Santa Catarina in

Brazil (Nova Teutonia, IV.-XI.1935, 1953, 1954, 1969; Plaumann). The host still unknown.

***Euperilampus gloriosus* (Walker)**  
(Fig. 9)

*Perilampus gloriosus* Walker, 1862:375.

*Lectotype* ♂ (here designated), the single extant type specimen in coll. BMNH. Described from Mexico, no additional record known. Walker himself made later (1871:67) *gloriosus* type-species of *Euperilampus*.

***Euperilampus hymenopterae* (Risbec) n.comb.**

*Euperilampoides hymenopterae* Risbec, 1952:420-421.

*Lectotype* ♂ (here designated, in kind cooperation with Dr J.-R. Steffan, MNHN, Paris) labelled 'Behara, XI.1938', Malgassy Republic (Madagascar). Several years ago I examined all syntypes two of which, from Bekily, were reared from an ichneumonid pupa.

This species is known only in the male sex, whilst *E. beharae* only in females. The difference in the intensity of pubescence and in colour of the legs and antennae may be due to sexual dimorphism, but the much shorter scutellum of *beharae* seems to exclude the possibility that the two may be different sexes of the same species.

***Euperilampus beharae* (Risbec) n.comb.**

*Euperilampoides beharae* Risbec, 1952:417-420.

*Lectotype* ♀ (here designated, in kind cooperation with Dr. Steffan, MNHN) labelled 'Behara, XI.1938', Malgassy Republic (Madagascar). I examined all syntypes in MNHN, which are females, not males as put by mistake in the original description.

***Euperilampus mediterraneus* Bouček**  
(Fig. 6)

*Euperilampus mediterraneus* Bouček, 1972:91-94.

Described from specimens collected in southern Bulgaria and, according to an unpublished note (and not seen by me) a specimen was also found in Israel. Although different in many characters, *E. mediterraneus* seems to be close to the Oriental *E. sinensis*. Both have in the male distinct tentorial pits on upper clypeal margin (shallower in *mediterraneus*). The unusually long labio-maxillary complex of *mediterraneus* suggests a probable specific association with certain flowers.

***Euperilampus sinensis* n.sp.**  
(Fig. 4)

*Type locality*: China, Kiangsi Prov.

*Type material*: *Holotype* ♂, China, Kiangsi Prov., Fuchow, 1935-6 (M. S. Yang; deposited in BMNH).

*Diagnosis*: As can be seen from the key above, *E. sinensis* belongs to the subgenus *Euperilampoides*, i.e. to a group with the punctate reticulation on the thoracic dorsum not confluent into high rugae. It is similar to the widespread Indo-Australian *E. scutellatus*, but differs from it mainly in the non-foliaceous scapes in male, in having conspicuous tentorial pits and a narrower scutellum with subparallel axillulae (fig. 4).

*Description*

♂ 4.3 mm. Black, with faint bluish or greenish gloss on face, vertex, sides of thorax and on gaster; flagellum (this paler apically), knees, fore tibiae on inner side, other tibiae apically (more or less), and all tarsi, reddish brown. Wings slightly yellowish brown.

*Head*. Striae behind ocelli, on parascrobal areas, temples and on genae strong and dense. Scrobes becoming very shallow just below antennal toruli, their carinate margins gradually raising and from level of toruli slightly converging upwards (sinuate in *scutellatus*). Supraclypeal area subquadrate, almost bare, convex in middle. Clypeus nearly flat, with conspicuous tentorial pits in middle of diverging upper sides; its short upper margin hardly emarginate; hairs hardly longer than distance between the regularly scattered piliferous punctures. Piliferous punctures on basal halves of mandibles fairly coarse. Labio-maxillary complex protruding to about 1.5 times breadth of left mandible beyond clypeal margin. Scapus curved, in apical two-thirds slightly thickened but without laminate expansion, its maximum breadth fully 0.6 maximum breadth of flagellum; latter subfusiform, broadest at second funicular segment, first funicular segment fully as long as broad.

*Thorax*. Pronotal collar in middle 0.35 as long as mesoscutum; latter regularly punctate-reticulate, without smooth areas. Scutellum about 1.35 times as long as broad in middle (between axillulae; fig. 4), its punctate postero-lateral slopes steep, distinctly concave. Propodeum with three deep longitudinal depressions, one inside of each spiracle and a broadly triangular median one, latter on bottom with a slightly indicated median carina; across the surface irregular sparse cross-striae. Veins of forewing slender, their relative lengths: marginal 25, postmarginal at least 60 (apex vague) and stigmal 13.

*Gaster* very short; dorsal margin of first tergite very slightly concave; second tergite dorsally about 3 times as broad as long, at anterior corners with several umbilicate piliferous punctures; similar punctures on anterior one-third of third tergite.

♀ unknown.

***Euperilampus scutellatus* (Girault)**  
(Fig. 5)

*Euperilampoides scutellatus* Girault, 1915:308-309.

*Nesoperilampus typicus* Rohwer, 1923:349-350. N.syn.



*Euperilampoides concinnus* Masi, 1926:378-381. N.syn.  
*Euperilampoides nepalensis* Mani & Kaul, 1973:38-39.  
N.syn.

I examined the holotype of *scutellatus* (in the Queensland Museum, Brisbane) and the holotype of *typicus* (in coll. USNM), compared the first with several specimens from Queensland and the latter with an almost identical male from the Negros Island in the Philippines, and found them conspecific. Many years ago I examined also the holotype of *concinnus* in the former DEI (now in Eberswalde, G.D.R.) and my notes agree (as well as the description) with a recently found specimen bearing same data as the holotype (!; apparently at least two specimens were collected, but Masi saw only one). However, contrary to Masi's statement, it is a female. Masi apparently mistook the holotype for the male and that explains also the assumed difference from *typicus* and *scutellatus* he mentions. I could not see the holotype of *nepalensis* but have no doubt from the drawings that it is this widespread species (later confirmed from type).

The holotype of *scutellatus* comes from Brisbane, Queensland, that of *typicus* from Kolambuga, Mindanao, Philippines, holotype of *concinnus* from Taihorinsho, Taiwan, and that of *nepalensis* from Nepal.

*Material examined:* India: Kerala, Nilghiri Hills, 950 m, VI.1954, 1 ♀ (leg. P. S. Nathan; in coll. BMNH); Tamil Nadu, North Salem, Ayur, XII.1930, 2 ♂ (Sandal Ins. Surv., F.R.I.; BMNH). - Sri Lanka: Kandy, 600 m, Peak View Motel, I.1970, 1 ♀ (Davis & Rowe; USNM). - Taiwan: Taihorinsho, XI.1909, 1 ♀ (Sauter; BMNH). - Philippines: Negros Is., Cuernos Mts., 1 ♀ 1 ♂ and Mindanao, Kolambugan, 1 ♂ (Baker; BMNH). - Papua New Guinea: Morobe Distr., Wau, XII.1972, 1 ♀ (O. W. Richards; BMNH). - Queensland: Redlynch, VIII.1938, 1 ♂ (R. G. Wind; BMNH); Gordonvale, VI.1920, 1 ♂ (Girault; BMNH); Mackay district, III-V. 1900, 20 ♀ 6 ♂ (R. E. Turner; BMNH).

As in other species the males can be recognized by the subtrinagular last sternite (often difficult to see), but in *scutellatus* they possess also very dense white hair on the lower part of clypeus and a lamellate expansion of the antennal scapus. This expansion seems to vary slightly, being broadest in the Australian specimens and slightly narrower in the more northerly ones. The flagellum usually is lemon yellow, often with infuscate clava, more rarely infuscate also proximally. Also the apical halves of tibiae are usually lemon yellow. A male from Mindanao is

aberrant in having the flagellum dark testaceous and the tibiae almost completely dark.

***Euperilampus spina* n.sp.**  
(Figs 7, 8)

*Type locality:* N. Borneo, Sabah.

*Type material:* Holotype ♂, E. Malaysia (N. Borneo): Sabah, Kudat, 17.IX.1927 (C.B.K. & H.M.P.; BMNH).

*Diagnosis:* At first glance distinct from all other species by its slender spine on the scutellum.

*Description*

♂. 3.7 mm. Black, sides of head suggesting greenish gloss, sides of thorax and propodeum with very faint bluish gloss; tibiae brownish, flagellum, fore tibia inside and all tarsi dark testaceous. Wings subhyaline.

Apart from slender scutellar spine (figs 7, 8) similar to *scutellatus* but head and thorax slightly shinier, on thorax due to slightly larger meshes of reticulation. Lowermost part of scrobes at sides with some striae and some hairs here (inside of scrobes), but almost whole upper half of clypeus depressed and its upper third smooth and bare; brownish hairs on lower two-thirds rather rough, adpressed, not very dense. Scapus not lamellate, not expanded; flagellum fairly slender, funicular segment 1 subquadrate, segments 2 to 6 becoming slightly more transverse, segment 3 broader than base of clava as 8.5:7.

*Thorax.* Collar medially 0.41 length of meso-scutum; latter regularly reticulate. Scutellum in dorsal view with side outline along outer margin of axillulae smoothly and gently sinuate, anteriorly diverging; apices of axillulae before level of centre of reticulate dorsum; this slightly convex even on steepest posterior flanks. Propodeum similar to that in *scutellatus* but cross-striae coarser. Forewing veins (compared with *mediterraneus*, fig. 6) slender, stigmal vein almost perpendicular, but curved apically; relative lengths: marginal about 19, postmarginal 35, stigmal 12.

*Gaster* transverse; dorsal margin of first tergite almost straight across median third but shallowly emarginate sublaterally; second tergite fully 3 times as broad as long, smooth; third tergite on anterior half with sparse and almost inconspicuous punctures, bearing very thin short hairs.

♀ unknown.

### Excluded species

A few other species were originally or temporarily placed in *Euperilampus*: *E. opacus* Ashmead, 1894 was transferred to *Heimbra* Cameron, Eurytomidae, by Burks (1958:72); *P. lepreos* Walker, 1846, classified in *Euperilampus* by Peck (1951:516), was rightly relegated to *Perilampus* by Burks (1975:150); *Euperilampoides ivondroi* Risbec, 1952 and *E. cremastusae* Risbec, 1952 were transferred to *Perilampus* by Bouček (1972:91).

### References

- BOUČEK, Z., 1972. Mediterranean Perilampinae: *Euperilampus* and genera allied to *Chrysomalla* (Ham., Chalcidoidea). – Mitt. münchn. ent. Ges. 61:90–107.
- BURKS, B. D., 1958. Superfamily Chalcidoidea. In: Krombein, K. V. (Ed.), Hymenoptera of America north of Mexico. Synoptic Catalog. – Agriculture Monogr. 2, Suppl. 1:62–84.
- 1969. New Perilampidae (Hymenoptera: Chalcidoidea). – Proc. ent. Soc. Wash. 71:73–81.
- 1975. The species of Chalcidoidea described from North America north of Mexico by Francis Walker (Hymenoptera). – Bull. Br. Mus. nat. Hist. Ent. 32(4):137–170.
- CAMERON, P., 1912. Descriptions of new genera and species of parasitic Hymenoptera taken at Kuching, Sarawak, Borneo by Mr John Hewitt B. A. – Societas ent. 27(14):63–64.
- GIRAULT, A. A., 1915. Australian Hymenoptera Chalcidoidea – V. Supplement. – Mem. Qd Mus. 3: 300–312.
- MANI, M. S. & KAUL, B. K., 1973. Part II. (In: Mani, M. S., Dubey, O. P., Kaul, B. K. & Saraswat, G. G., On some Chalcidoidea from India.) – Mem. School Ent. Agra 2:38–77.
- MASI, L., 1926. H. Sauter's Formosa Ausbeute. Chalcididae (Hym.). – Konowia 5(4):325–381.
- PECK, O., 1951. Superfamily Chalcioidea. In: Muesebeck, C. F. W., Krombein, K. V. & Townes, H. K., Hymenoptera of America north of Mexico. Synoptic Catalog. – Agriculture Monogr. 2:410–594.
- 1974. *Steffanolampus*, a new genus for *Perilampus salicetum* (Chalcidoidea) and its Nearctic distribution. – Can. Ent. 106:555–558.
- RIEK, E. F., 1966. Australian Hymenoptera Chalcidoidea, family Pteromalidae, subfamily Perilampinae. – Austral. J. Zool. 14:1207–1236.
- RISBEC, J., 1952. Contribution à l'étude des Chalcidoidea de Madagascar. – Mem. Inst. scient. Madagascar (E)2:1–449.
- ROHWER, S. A., 1923. New Hymenoptera from the Malayan region. – Philipp. J. Sci. 22(4):345–351.
- SAY, T., 1828. Descriptions of new species of Hymenoptera of the United States. – Contrib. Maclur. Lyc. Philad. 1:67–83.
- STEFFAN, J. R., 1952. Les espèces françaises du genre *Perilampus* Latr. (Hym. Perilampidae). – Bull. Soc. ent. Fr. 35:68–74.
- WALKER, F., 1862. Notes on Chalcidites, and characters of undescribed species. – Trans. ent. Soc. Lond. (3)1:345–397.
- 1871. Notes on Chalcididae. Part IV. Chalcididae, Leucospidae, Eucharidae, Perilampidae, Ormyridae, Eurytomidae. – London; pp. 55–70.