

ACADEMY OF SCIENCES OF THE U.S.S.R.

TJ 61-31220

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THE CHALCID FAUNA  
OF THE U.S.S.R.

*Chalcidoidea*



TRANSLATED FROM RUSSIAN

Published for the National Science Foundation, Washington D. C. and the  
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1. Genus **BLASTOPHAGA** Grav.

Head horizontal, frons deeply, broadly depressed. Legs short, stout; fore- and hind tibiae not more than half length of femurs. Mandibles or palps of females with serrate appendages. Body usually brown or black.

All species are "caprificators". They develop in the receptacles of *Ficus* species, incidentally causing their pollination. An archaic dietary specialization is reflected in the morphology of the members of this family, which on the whole is tropical.

The family contains 20 genera with more than 100 species. A single genus is subtropical, occurring in the U. S. S. R.

Gravenhorst, 1826, Ueb. Arb. Sches. Ges. 1:23. -Grandi, 1920, Boll. Lab. Zool. Portici, 14:63. -Grandi, 1929, Boll. Lab. Ent. Bologna, 2:1 (morphology and biology).

**FEMALE:** Head not longer than wide. Antennas 11-segmented; first funicular segment with process. Forewings colorless, venation prominent.  
**MALE:** Antennas 3-segmented. Head wider than long. Wings completely undeveloped.

**TYPE SPECIES:** *Cynips psenes* Linné.

**GEOGRAPHICAL DISTRIBUTION:** Southwestern Europe, India, Java, Africa, South America.

**BIOLOGY:** Develops in *Ficus* receptacles.

The genus contains about 30 species; there is 1 Palearctic species in the U. S. S. R.

- 1 (1). Radial vein of forewing length of postmarginal. Ovipositor slightly longer than hind tibiae. Body black, shiny. Fore-tibiae, tarsi, ochre-yellow. In male - fore-tarsi 2-segmented. Body brownish-rusty, antennae and abdomen lighter. Length of female 1.8-1.9, of male 1.5 mm (Figures 146, 147). -Crimea, Caucasus, Central Asia; southwestern Europe, North Africa, North America. Develops in fig receptacles, used as caprificator . . . . . 1. *B. psenes* L.

Linné, 1758, Syst. Nat. (ed. X):554 (*Cynips*).

VII. FAMILY **PERILAMPIDAE**

Thomson, 1875, Hym. Scand. 4:11. -Crawford, 1914, Proc. Ent. Soc. Wash. 16 (2):69. -Ruschka, 1924, Deutsch. Ent. Zeit. (1):90.

The family Perilampidae contains species of moderate size, usually 2.5 mm long. Head often wider than long anteriorly, frons deeply depressed and clypeus large. Eyes large, oval. Mandibles with 2-3 apical denticles. Antennae 13-segmented, filiform, stout, with one annulus, 3-segmented club. Thorax almost always bulging, large; pronotum usually prominent above, rather long; mesonotum with complete, fairly deep parapsidal

furrows; scutellum convex, often projects posteriorly, apically incised, or with 2 small denticles or toothlets. Abdomen with indistinct, often short petiole, first 2 tergites usually long, concealing others. Ovipositor unprotrusive. Forewings have short, well-developed radial and postmarginal veins. Body usually with metallic coloration, occasionally yellow.

The biology is poorly known. Some species are secondarily parasitic on the primary hymenopteran and fly parasites in lepidopteran cocoons. Members of six genera living in the tropics develop on plants.

The family contains about 30 genera with more than 100 species, chiefly tropical in distribution. Many genera and species have been described for Australia. One new genus has been described among the 6 genera known for the Palearctic. The genus *Perilampus* contains the largest number of species.

#### Key to Genera of Family Perilampidae

- 1 (2). Pronotum invisible above, mesonotum with parallel parapsidal furrows, scutellum long, projects posteriorly. Abdomen with short petiole, tergites of approximately same length. Head narrower than thorax, frons with deep depression, containing extremely short, 13-segmented antennae. Radial and postmarginal veins short; marginal twice length of radial. Body yellow with dark spots (Figure 272). . . . . 1. *Philomides* Hal.
- 2 (1). Pronotum distinctly visible above, mesonotum with convergent parapsidal furrows. First 2 abdominal tergites almost conceal others. Head not narrower than thorax, frons with shallower depression. Antennae longer. Body with metallic coloration.
- 3 (6). Abdomen with short petiole. Pronotum short.
- 4 (5). Thorax strongly convex, with coarse punctate reticulation. Antennae inserted at middle of frons. Postmarginal vein longer than short radial vein. Terminal abdominal segments - from third - telescopically recessed, invisible (Figure 273). . . . . 2. *Perilampus* Latr.
- 5 (4). Thorax slightly convex, transversely striated, with more minute, sparse punctation anteriorly. Antennae inserted below middle of frons. Postmarginal vein shorter than radial. Terminal abdominal segments project slightly . . . . . 3. *Chrysomalla* Foerst.
- 6 (3). Abdomen with distinct petiole. Pronotum relatively long.
- 7 (8). Thorax extremely convex, with coarse punctation. Scutellum divided by transverse ridge apically. Postmarginal vein of forewing slightly longer than radial (Figure 274). . . . . 4. *Chrysolampus* Spin.
- 8 (7). Thorax slightly convex, finely sculpt. Scutellum not divided by transverse ridge, complete.
- 9 (10). Top of frons markedly depressed medially. Antennae inserted above lower margin of eyes. Head and thorax with rugose punctation. Median segment finely sculpt, with longitudinal ridge. Postmarginal vein of forewing short, almost length of radial. . . . . 5. *Elatius* Wik,
- 10 (9). Top of frons almost undepressed medially. Antennae inserted at level of lower margin of eyes. Head and thorax with reticulate punctation; median segment coarsely reticulate medially. Postmarginal vein of forewing long, slightly shorter than marginal vein (Figure 275). . . . . 6. *Elatoides* gen. nov.

## 1. Genus *PHILOMIDES* Hal.

*Haliday, 1862, Ann. Soc. Ent. France, 2:115.* -Ruschka, 1924, *Deutsch. Ent. Zeit.* (1):91.

**FEMALE:** Head wider than long anteriorly. Eyes narrow, long. Genae short, frons with deep depression containing short, stout, 13-segmented antennae, inserted above lower margin of eye; all 7 funicular segments wider than long, annulus distinct. Thorax extremely wide and convex, distinctly wider than head; pronotum invisible above, mesonotum with parallel parapsidal furrows, scutellum convex, projecting greatly posteriorly, with 190 bluntly truncated apical process. Abdomen with short petiole, all tergites of same length. Legs not long, hind femurs slightly inflated. Radial vein of forewing approximately half length of marginal; postmarginal slightly longer than radial. Body yellow, with dark spots.

**TYPE SPECIES:** *Philomides paphius* Haliday.

**GEOGRAPHICAL DISTRIBUTION:** Caucasus, Central Asia; southwestern Europe, Africa, Northern China, Taiwan.

**BIOLOGY:** Unknown.

The genus contains 3 species, 1 is widely distributed in the southern Palearctic.

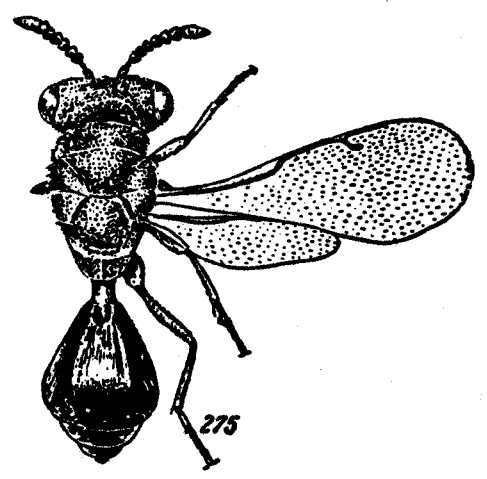
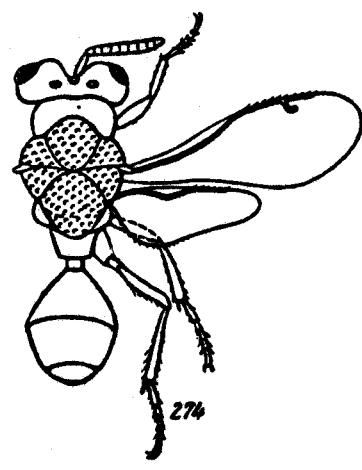
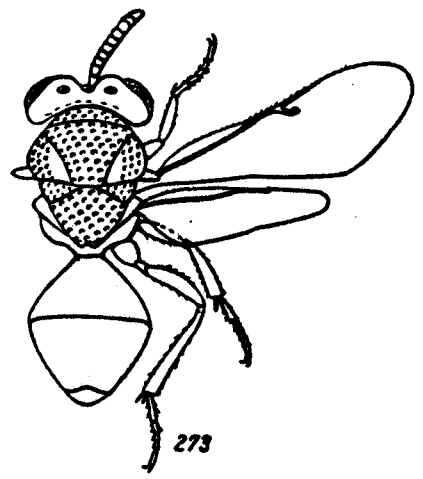
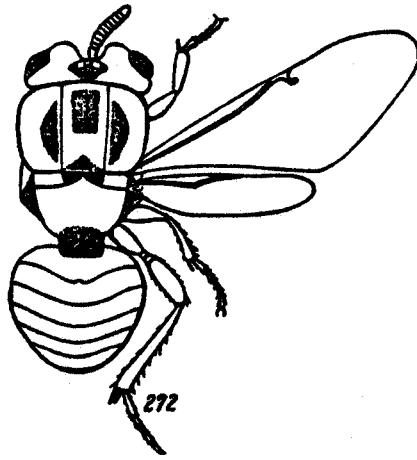
- 191 1 (1). Body ocher-yellow, irregular black spots around ocelli, occipital aperture, on middle and sides of mesonotum, and apex and base of scutellum. Thorax below, median segment, and base of coxae black, abdomen below more or less heavily darkened, antennae rusty to brown. Forewings darkened at tip. Head and thorax densely, minutely punctate. First 4 abdominal tergites smooth, others densely punctate. Length 4.5-8.0 mm (Figure 272). -Caucasus, Central Asia; southwestern Europe, Northern China . . . 1. *Ph. paphius* Hal.

*Haliday, 1862, Ann. Soc. Ent. France, 2:115.* -De Stefani, 1891, *Natur. Sicil.* 10:118 (*Sternodes pusateri*). -Ruschka, 1924:92.

## 2. Genus *PERILAMPUS* Latr.

*Latreille, 1809, Gen. Crust. Ins.* 4:30. -Lamarck, 1817, *Hist. Anim. & Vert.* 4:156 (*Cynipillum*). -Mayr, 1905, *Verh. Zool.-Bot. Ges. Wien*, 55:529. -Smith, 1912, *U.S. Dep. Agr. Bur. Ent.*, *Tech. ser.* 19:133 (biology). -Rohwer, 1923, *Philipp. J. Sci.* 22:350 (Key to Eastern Species). -Smulyan, 1936, *Proc. U.S. Nat. Mus.* 83, No. 2990:369 (Key to North American Species).

**FEMALE:** Head almost as wide as, or slightly wider than thorax, almost as wide as, or slightly wider than long anteriorly, frons with wide, deep depression. Genae shorter than longitudinal axis of eye. Eyes oval, fairly large. Clypeus well defined, mandibles large - right 3-dentate, left 2-dentate. Antennae stout, not long, inserted at middle of frons above lower margin of eyes, 13-segmented, with one annulus. Thorax wide, bulging; with large, usually deep punctation; pronotum short, distinct above; mesonotum with complete, posteriorly convergent parapsidal furrows; scutellum convex, projecting posteriorly, often with shallow incision or 2 apical denticles; median segment



FIGURES 272-275. Family Perilampidae

272-*Philomides paphius* Hal.; 273-*Perilampus* sp.; 274-*Chrysolampus* sp.; 275-*Elatoides niger* Nik. gen. et sp. n.

rather deeply sculpt, with 2, distinct, smooth fields. Postmarginal vein of forewing longer than radial, but shorter than marginal. Abdomen short, somewhat triangular, smooth; petiole indistinct, usually not longer than wide. Body with metallic coloration (Figure 273).

TYPE SPECIES: *Diplolepis violacea* Fabricius.

GEOGRAPHICAL DISTRIBUTION: Europe, Asia, Ceylon, Africa, North and South America, Australia.

BIOLOGY: Parasites, usually secondary, in cocoons of Lepidoptera, sawflies and their parasites (flies and ichneumons), and cocoons of lacewings.

The genus contains more than 40 species.

- 1 (2). Frons fairly coarsely, obliquely rugose. Body slender. Mesonotum and scutellum with very coarse, superficial, reticulate punctation. Whole median segment coarsely, reticulately rugose, without smooth fields. Radial vein with short terminal process. Head green, thorax dark green with coppery luster, abdomen black, apex of tibiae, tarsi, femurs, rusty; funicular segments brown. Length 2-3 mm. - Transcaucasus; western Europe. Parasitic on beetles *Lyctus linearis* Goetz. and *Hister picipes* F. . . . . 1. *P. micans* Dalm.

Dalman, 1822, Svensk. Vet.-Akad. Handl. :402. - Walker, 1833, Ent. Mag. 1:142 (*femoralis*). - Mayr, 1905:566.

- 192 2 (1). Frons not coarsely rugose, smooth or delicately sculpt. Body wider, compact; median segment with 2 distinctly outlined fields.
- 3 (4). Body, legs, black. Apex of tibiae, tarsi, light. In female - antennae often reddish-yellow, in male - brown. Frons smooth, glossy; clypeus convex at lower margin, vertex distinctly ridged between ocelli. Funicular segments wider than long. Mesonotal and scutellar punctation fairly coarse, interspaces shiny; median segment fields delicately rugose. Forewings colorless. Length 2.0-3.4 mm. - Southern part of European part of the U. S. S. R., Crimea, Caucasus, Kazakhstan, Maritime Territory; western Europe. Secondary parasites on lepidopteran caterpillars *Evetria buoliana* Schiff. and *Olethreutes gentiana* Hb. . . . . 2. *P. tristis* Mayr

Mayr, 1905:566. - Bergold u. Ripper, 1937, Zeitschr. Parasitenk. :394 (biology).

- 4 (3). Thorax always with metallic luster, not black.
- 5 (18). Thoracic punctation deep; interspaces smooth, glossy.
- 6 (9). Mesonotal and scutellar punctation sparse.
- 7 (8). Head appears transverse; clypeus rectangular, wider than long, with slightly concave anterior margin; genal furrows short. Scutellum slightly convex, almost quadrate, with 2 inconspicuous apical denticles. Body dark green. Vertex, thorax, legs, with copper-red luster. Knees, apex of tibiae, tarsi, rusty. Antennae brownish. In male - antennae stouter, covered with longer hair; funicular segments almost quadrate. In female - slightly longer than wide. Length 2.5-3.0 mm. - Turkmenia, South Kazakhstan. . . . . 3. *P. umbo* sp. nov.

- 8 (7). Head slightly elongated; clypeus rounded, with convex anterior margin; genal furrows long. Scutellum slightly longer than wide, with very indistinct apical incision. Body green-bronze. Frons and abdomen black above. Apex of femurs, tibiae (except dark medial patch), tarsi, antennae, yellowish-rusty. In female - antennal segments almost quadrate. Length of female 3.5 mm.-Northern shore of the Caspian Sea . . . . . 4. *P. vexator* sp. nov.
- 9 (6). Mesonotal and scutellar punctation denser, confluent.
- 10 (15). Radial vein extended in form of terminal beak.
- 11 (14). Frons smooth, punctation sparse.
- 12 (13). Head transversely oval, clypeus with slightly concave anterior margin. Scutellum extremely convex, with blunt apical process; deeply, coarsely punctate. Thorax copper-red or greenish-bronze. Head, legs, median segment, abdomen, dark blue-green. Tarsi rusty, antennae black. Antennal segments appear transverse. Length 3.1-5.0 mm.-European part of the U.S.S.R., Crimea, Caucasus, Central Asia; western Europe, Asia Minor. Parasitic, possibly secondarily, in cocoons of rape sawfly *Athalia colibri* Christ. and of beetle *Lixus junci* Boh. . . . . 5. *P. italicus* F.

Fabricius, 1804, Syst. Piez.: 149 (Cynips). -Dalman, 1822, Svensk. Vet.-Akad. Handl.: 396 (splendidus). -Mayr, 1905: 568. -Martelli, 1932, Boll. Lab. Zool. Portici, 16: 327 (biology and morphology).

- 193 13 (12). Head elongated, roundedly triangular; clypeus with convex lower margin. Scutellum less convex, with slight apical incision, punctation not especially coarse. Head golden-yellow, thorax greenish-bronze. Legs and tip of abdomen with greenish luster; median segment and abdomen above black. Knees, apex of tibiae, tarsi, light rusty. Antennae black, slender. In female - funicular segments almost quadrate, in male - appear transverse. Length 2.5-4.0 mm.-European part of the U.S.S.R., West Siberia. Parasitic in cocoons of lepidopteran *Semiothisa* sp. . . . . 6. *P. bellus* sp. nov.
- 14 (11). Frons with coarse, sparse punctation. Ridge between ocelli prominent, pectiniform. Thoracic punctation large, dense - as on scutellum. Head green above, frons with dull brown luster. Thorax green, with coppery luster on smooth fields. Median segment, abdomen, coxae, dark green. Femurs, tibiae, blue-violet. Knees, apex of tibiae, tarsi, red-yellow. Length of female 3.0 mm.-Western Europe . . . . . 7. *P. cristatus* Foerst.

Foerster, 1859, Verh. Nat. Ver. Preuss. Rheinl. 16: 118.

- 15 (10). Radial vein rounded terminally.
- 16 (17). Genae short, head slightly elongated; clypeus longer than wide, tapering somewhat upward, lower margin almost smooth. Mesonotal punctation very fine, dense; scutellum wide, rounded, without apical incision. Body blue-green. Knees, part of tibiae, tarsi, yellowish. Antennae brown. Funicular segments quadrate. Length 2.5-4.0 mm.-Northern China . . . . . 8. *P. prasinus* sp. nov.
- 17 (16). Genae long, head roundedly triangular, smooth; clypeus with protruding lower margin. Mesonotal punctation large, very dense, becoming denser on scutellum, latter undefined apically. Head, legs,

greenish-black. Thorax bronze. Median segment, abdomen, black. Knees, apex of tibiae, tarsi, yellow or reddish-yellow. Antennae dark brown, reddish distally. Length 1.5-3.0 mm.—Western Europe  
 ..... 9. *P. chrysonotus* Foerst.

Foerster, 1859, Verh. Nat. Ver. Preuss. Rheinl. 16:120, —Mayr, 1905:566.

- 18 (5). Thoracic punctation more superficial, interspaces often finely sculpt.
- 19 (20). Frons with fine shagreened punctation, only clypeus and area above it smooth. Head elongate; clypeus convex at lower margin. Mesonotal and scutellar punctation not coarse, interspaces finely striated; scutellum slightly convex, wide; rounded with very slight apical incision; median segment fields finely rugose. Body green-bronze, abdomen black with green luster. Knees, apex of tibiae, tarsi rusty. Funicle brown-rusty above. Length 2.5-3.5 mm.—Bashkiria, North Kazakhstan, West Siberia; Mongolia. [Parasitic on] meadow moth cocoons ..... 10. *P. nola* sp. nov.
- 20 (19). Frons smooth, glossy. Occasionally sparsely punctate or rugose in some areas.
- 194 21 (28). Frons and often abdomen black.
- 22 (25). Thorax with sparse punctation; interspaces smooth, glossy Ridges[sic] between ocelli slightly developed.
- 23 (24). Head wider than long; genae short; clypeus with slightly concave lower margin. Scutellum convex, with 2 apical denticles; mesonotal punctation slightly larger. Head above, thorax, legs, greenish-bronze. Tarsi rusty; funicle black-brown. Length 2.0-3.5 mm.—Transcaucasus, Uzbekistan, Tadzhikistan, Karakalpakiya ..... 11. *P. kim* sp. nov.
- 24 (23). Head elongate; genae long, clypeus with straight lower margin. Scutellum slightly convex, without apical incision; mesonotal punctation slightly smaller. Head above, thorax, legs, greenish-brown. Tarsi rusty; funicle dark-brown. Length 2.0-2.5 mm.—European part of the U. S. S. R.; Mongolia .... 12. *P. nigellus* sp. nov.
- 25 (22). Thorax with reticulate punctation, ridge [sic] between ocelli, particularly in male, markedly developed.
- 26 (27). Clypeus smooth, lower margin slightly convex. Scutellum extremely convex, slightly longer than wide, with apical incision. In female—median segment fields smooth, in male—slightly rugose. Head above, thorax, greenish-copper. Scape, median segment, legs, blue. Apex of tibiae, tarsi, yellow. In male—antennae dark brown, in female—light brown. Funicular segments almost quadrate. Length 2.0-3.0 mm.—Central Asia; Mongolia. . . 13. *P. noëmi* sp. nov.
- 27 (26). Clypeus finely punctate, lower margin slightly concave. Scutellum slightly convex, much longer than wide, rounded apically. In male—median segment fields smooth. Thorax with slight bronze luster. Legs, abdomen (to some extent), with bluish luster. Knees, apex of tibiae, tarsi, rusty. Funicle black-brown. Funicular segments appear transverse. Length of female 3.5-4.0 mm.—Northern China ..... 14. *P. scaber* sp. nov.
- 28 (21). Frons always with metallic luster.
- 29 (30). Pronotum, head, often abdomen above, copper-red. Thorax, legs, greenish-blue, occasionally with bronze luster. Tibiae, knees,



tarsi, rusty. Funicle dark orange. Funicular segments appear transverse. Frons smooth. Mesonotum not densely, but rather coarsely punctate; scutellum elongate, slightly flattened, with apical incision, punctation coarser. Length 3-5 mm. -Caucasus; southwestern Europe . . . . . 15. *P. auratus* Panz.

Panzer, 1798, Fauna Insect. German. 5:51 (Cynips). -Dalman, 1822, Svensk. Vet.-Akad. Handl. 43:397. -Mayr, 1905:568.

- 30 (29). Pronotum always same color as mesonotum.  
 31 (34). Abdomen and femurs blue, occasionally with violet luster.  
 32 (33). Head and thorax green-black or blue with bronze cast. Knees, apex of tibiae, tarsi, dark rusty. In female - funicle light rusty, in male - black. Frons smooth, with sparse punctation. Thorax with coarse, reticulate punctation; scutellum slightly convex; wide, with slight apical incision. Length 2.9-5.0 mm. -Southern part of European part of the U.S.S.R., Crimea, Caucasus, Maritime Territory; western Europe, North America. Secondary parasite in pupae of the moth *Evetria buoliana* Schiff. and on parasitic fly puparia . . . . . 16. *P. violaceus* F.

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Fabricius, 1804, Syn. Ptes.:149 (*Diplolepis*). -Dalman, 1822, Svensk. Vet.-Akad. Handl.:398. -Mayr, 1905:568.

- 33 (32). Head and thorax above copper-red. Frons, median segment, thorax ventrally, golden-green. Tibias black, tarsi yellow. In female - funicle reddish-yellow, in male - brown. Frons smooth, with sparse punctation. Mesonotal and scutellar punctation rather large, reticulate; scutellum longer than wide, abruptly truncated apically. Median segment with distinct longitudinal ridge. Funicular segments, from fourth, appear slightly transverse. Length 3.5-3.8 mm. -Central Asia (Tadzhikistan), Italy . . . . . 17. *P. eximius* Masi

Masi, 1932, Boll. Soc. Ent. Ital. 64 (7):131.

- 34 (31). Abdomen not blue.  
 35 (36). Body uniformly green or bluish-green, occasionally thorax and vertex with bronze luster. Knees, apex of tibiae, tarsi, dark rusty. Antennae black. In male - funicle stout, segments approximately twice wider than long, in female - almost quadrate. Frons smooth, vertex and sides of clypeus densely, minutely punctate, finely rugose. Clypeus not wider than long, anterior margin concave. Mesonotal punctation not large, rather dense; interspaces smooth. Scutellum with apical incision, punctation more dense. Forewings yellowish. Length 3-5 mm. -European part of the U.S.S.R., Crimea, Kazakhstan, West Siberia; western Europe, Mongolia. Parasitic on parasitic fly puparia . . . . . 18. *P. nitens* Wlk.

Walker, 1835, Ent. Mag. 2:163 (*antennatus* ♂). -Foerster, 1859, Verh. Nat. Ver. Preuss. Rheinl. 16:117 (*chlorinus*). -Mayr, 1905:566.

- 36(35). Body not uniform in color. In male - antennas less stout.
- 37(38). In male - frons beneath antennas with 2 deep oval depressions; in female - frons smooth. Clypeus appears transverse, lower margin concave. Antennas not stout, funicular segments quadrate. Mesonotum not coarsely punctate; interspaces smooth; scutellum with apical incision, less densely punctate; median segment fields in male - smooth and convex. Body dark green with bronze luster. Frons and abdomen above blackish. Knees, apex of tibiae, tarsi, funicular segments below, rusty. Length 2-3 mm.-European part of the U. S. S. R., Central Asia, Siberia; Mongolia . . . . . 19. *P. lacunosus* sp. nov.
- 38(37). Frons of male and female without depressions beneath antennas.
- 39(40). Head above, thorax, blue. Frons, legs, slightly greenish. Abdomen black. Knees, apex of tibiae, tarsi, yellowish. Antennas dark brown. In male - funicular segments almost quadrate, in female - longer than wide. Frons smooth, genae short; clypeus appears transverse, lower margin projects. Mesonotal punctation fairly large, not very dense; interspaces smooth, not very glossy; scutellum convex, with 2 apical denticles, more coarsely punctate; fields on median segment almost smooth. Length 2.5-3.0 mm. - Northern part of European part of the U. S. S. R. . . . . 20. *P. aquilus* sp. nov.
- 196 40(39). Head and thorax not blue, often with bronze luster.
- 41(44). In female - funicular segments dark yellow. Head, thorax, legs green-bronze. Median segment, abdomen black, with light bronze luster. Knees, apex of tibiae, tarsi yellowish.
- 42(43). Head of female elongate; genae longer; clypeus appears transverse, lower margin convex. Frons smooth, hardly punctate. Mesonotal and scutellar punctation not coarse, dense; interspaces smooth; median segment fields finely rugose. Funicular segments slightly wider than long. Length 1.5-2.0 mm.-Southern part of European part of the U. S. S. R. . . . . 21. *P. pupulus* sp. nov.
- 43(42). In female - head not elongate; genae shorter, frons smooth, slightly hairy; 2 falcate depressions at sides above clypeus. Mesonotal and scutellar punctation coarser, less dense; median segment fields smooth. Antennas slender, funicular segments longer than wide. Length 3 mm.-Mongolia . . . . . 22. *P. orcula* sp. nov.
- 44(41). In female - funicular segments black-brown, funicle distally slightly rusty below. Head appears transverse, genae short.
- 45(46). Posterior margin of first abdominal tergite straight. Clypeus with short, straight lower margin. Frons very rugosely punctate. Mesonotal and scutellar punctation reticulate; interspaces finely striated; scutellum broadly rounded with apical incision. Median segment fields finely rugose. Body green-black. Vertex and thorax somewhat bronze. Abdomen black. Apex of tibiae, tarsi, yellow. Length 2.8-3.0 mm.-European part of the U. S. S. R., Transcaucasus, Siberia; western Europe, Mongolia. Parasitic on moth cocoons *Laspeyresia pomonella* L., *Evetria buoliana* Schiff., and *Nygmia phaeorrhoea* L. . . . . 23. *P. laevifrons* Dalm.

Dalman, 1822, *Svensk. Vet.-Akad. Handl.*, 400. -Foerster, 1859, *Verh. Nat. Ver. Preuss. Rheinl.*, 119, 122 (*nigriventris*, *inaequalis*). -Principi, 1947, *Boll. Ist. Ent. Bologna*, 16:161 (biology). - Mayr, 1905:569.

- 46(45). Posterior margin of first abdominal tergite broadly concave. Clypeus with longer, slightly concave lower margin. Top of frons finely rugose. Thoracic punctation less dense, uniformly coarse; scutellum with deep apical incision; median segment fields smooth. Body green. Mesothorax with copper-red luster. Length 2.7-3.0 mm (Figure 276). - Western Europe . . . . . 24. *P. cuprinus* Foerst.

Foerster, 1859, Verh. Nat. Ver. Preuss. Rheinl. 16:121. - Mayr, 1905:569.

### 3. Genus *CHRYSOMALLA* Foerst.

Foerster, 1859, Verh. Nat. Ver. Preuss. Rheinl. 16:115. - Ruschka, 1924, Deutsch. Ent. Zeit. (1):93.

**FEMALE:** Head slightly wider than thorax, wider than long anteriorly; genae slightly shorter than longitudinal axis of eye. Eyes oval, small. Antennas short, slender, with almost transverse funicular segments. Thorax not extremely convex; pronotum not long, very distinct above; mesonotum with deep, complete, parapsidal furrows; scutellum not extremely convex, rounded apically. Median segment almost smooth. Marginal vein approximately half length of submarginal; postmarginal slightly shorter than radial. Abdomen short, ovate; tergites 3-5 project slightly beneath tergite 2. Body with metallic coloration, slightly sculpt, lustrous.

**TYPE SPECIES:** *Chrysomalla roseri* Foerster.

**GEOGRAPHICAL DISTRIBUTION:** Europe, Asia.

198 **BIOLOGY:** Parasitic on cocoons of *Tychius* beetles. The genus contains 1 species.

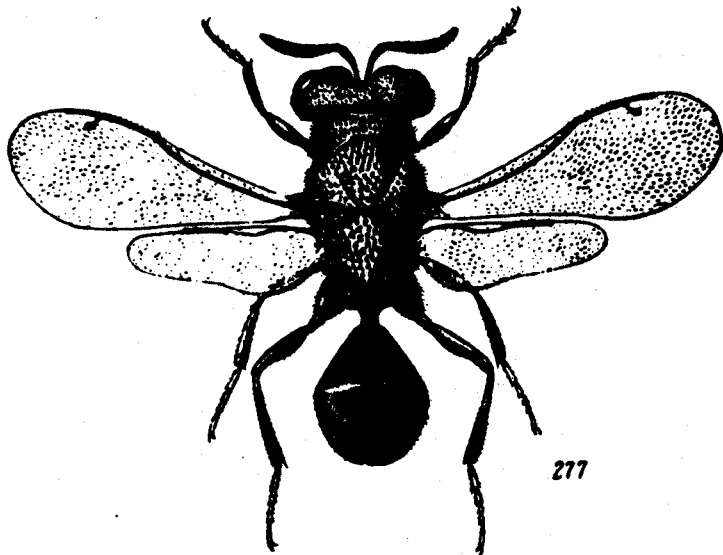
- 1 (1). Body golden-green; apex of femurs, tibiae, tarsi, yellow; antennae dark brown; forewings slightly yellowish. Head finely striated, punctation scattered. Clypeus smooth, with 2 points at anterior margin. Pronotum sparsely, fairly coarsely punctate; mesonotum finely, transversely rugose; scutellum smooth; median segment almost smooth. Length 1.5-2.0 mm. - Southern part of European part of the U. S. S. R., West Kazakhstan. Parasitic in cocoon of beetle *Tychius flavus* Beck . . . . . 1. *Ch. roseri* Foerst.

Foerster, 1859:115.

### 4. Genus *CHRYSOLAMPUS* Spin.

Spinola, 1811, Ann. Mus. Hist. Nat. 17:147. - Foerster, 1846, Hym. Stud. 2:42 (*Lamprostylus*). - Ruschka, 1924, Deutsch. Ent. Zeit. (1):93.

**FEMALE:** Head wider than thorax, slightly wider than long anteriorly; genae shorter than longitudinal axis of eye, clypeus well defined. Eyes large, oval. Antennae fairly stout, long; inserted slightly above lower margin of eyes. Thorax bulging, coarsely punctate; pronotum rather long.



FIGURES 276, 277. Family Perilampidae

276-*Perilampus cuprinus* Foerst.; 277-*Chrysolampus punctatus* Foerst.

mesonotum with deep, complete parapsidal furrows; scutellum distinctly convex, with apical transverse ridge and without apical incision. Median segment coarsely sculpt, without smooth fields. Abdomen slightly triangular, first 2 tergites almost conceal others. Postmarginal vein of forewing slightly longer than marginal. Abdominal petiole longer than wide. Body with metallic coloration (Figure 274).

TYPE SPECIES: *Diplolepis splendidula* Spinola.

GEOGRAPHICAL DISTRIBUTION: Europe, North Africa, North America.

BIOLOGY: Unknown.

The genus contains 7 species, 2 are European.

- 1 (2). Head green; pronotum copper-red, rest of thorax and abdomen bluish; forewings slightly darkened. Head with rugose punctation, reticulate above, clypeus dull. Antennas stout, last funicular segments twice wider than long. Thorax above with coarse, reticulate punctation. Head and thorax covered with dense, long dark hairlets. Length 3-4 mm. -Southern part of European part of the U.S.S.R., western Europe, North Africa. . . . . 1. *Ch. splendidulus* Spin.

Spinola, 1808, *Ina. Ligur.* 2:223. -Foerster, 1859, *Verh. Nat. Ver. Preuss. Rheinl.* 16:113 (*Lamprostylus auricollis*). -Ruschka, 1924:93.

- 199 2 (1). Body bluish-green, with bronze luster; pronotum and abdomen black; wings almost colorless. Head finely rugose, punctation scattered, clypeus shiny, with rows of points. Antennas finer, funicular segments 1 1/2 times wider than long. Thorax with coarse punctation; interspaces finely striated. Posterior margin of pronotum smooth. Head and thorax covered with shorter, whitish hairlets. Length 3.5-4 mm (Figure 277). -Crimea; southwestern Europe . . . . . 2. *Ch. punctatus* Foerst.

Foerster, 1859, *Verh. Nat. Ver. Preuss. Rheinl.* 16:113 (*Lamprostylus*). -Ruschka, 1924:94.

### 5. Genus *ELATUS* Wlk.

Walker, 1848, *List. Hym. Brit. Mus. Chalcid.* 2:153. -Ruschka, 1924, *Deutsch. Ent. Zeit.* (1):95.

FEMALE: Head slightly wider than thorax, not wider than long anteriorly; genae much shorter than longitudinal axis of eye, clypeus well defined, frons markedly depressed. Eyes large, oval. Antennas not long, stout; inserted slightly above lower margin of eyes; scape not very long, fails to reach anterior ocellus. Thorax not extremely convex, finely sculpt; pronotum half length of mesonotum, mesonotum with deep, complete parapsidal furrows; scutellum not extremely convex, without apical incision. Median segment finely sculpt, with longitudinal ridge. Postmarginal vein of forewing almost not longer than radial; latter rounded terminally. Abdominal petiole longer than wide; abdomen slightly triangular, first 2 tergites conceal others. Body with metallic coloration.

TYPE SPECIES: *Elatatus thenae* Walker.

GEOGRAPHICAL DISTRIBUTION: Europe, North America.

**BIOLOGY:** Unknown.

The genus contains 5 species; 1 is new; 4 species are known for the U. S. S. R.

- 1 (2). Anterior margin of pronotum, parapsides, and base of scutellum coarsely punctate. Head sparsely punctate, finely rugose. Clypeus smooth, with scattered points. Funicular segments appear transverse. Body green-bronze, pronotum blackish posteriorly, with coppery luster. Abdomen black-green. Tibias brown, apex of tibiae, tarsi, rusty. Wings colorless. Length 3 mm. - Western Europe . . . . .  
. . . . . 1. *E. prominens* Rusch.

Ruschka, 1924:96.

- 2 (1). Thorax without coarse punctation.  
3 (6). Thorax finely rugose transversely.  
4 (5). Median segment delicately rugose with fine medial ridge and 2 lateral depressions at base. Frons not densely or finely rugose. Clypeus smooth, with scattered points. Scutellum smooth apically. Hind coxae with thin undulant striation. Petiole shagreened, with longitudinal ridge. Funicular segments almost twice wider than long. Body blue-green, occasionally with violet cast. Abdomen darker, apex of tibiae, tarsi, rusty. Wings colorless. Length 2.0-2.5 mm. - European part of the U. S. S. R.; western Europe. . . . . 2. *E. thenae* Wlk.

Walker, 1848, List Hym. Brit. Mus. Chalcid. 2:156. -Ruschka, 1924:95.

- 200 5 (4). Median segment obliquely plicated lateral to medial ridge, with smooth fields. Forewings slightly darkened. Color and sculpting as in *E. thenae* Wlk. Length 2 mm. - Western Europe . . . . .  
. . . . . 3. *E. rufitarsis* Foerst.

Foerster, 1859, Verh. Nat. Ver. Preuss. Rheinl. 16:111. -Ruschka, 1924:96.

- 6 (3). Thorax shagreened, rugose. Median segment shagreened, medial ridge distinct, with transverse ramification extending from it. Hind coxae and petiole shagreened, with longitudinal ridge. Body dark blue-green with bronze luster. Apex of tibiae, tarsi, brown. Funicle black-brown, densely covered with hairs. Forewing slightly yellowish. Length 2 mm. - European part of the U. S. S. R. . . . .  
. . . . . 4. *E. shurik* sp. nov.

6. Genus **ELATOIDES** g. nov.

**FEMALE:** Head wider than thorax, slightly wider than long anteriorly; genae much shorter than longitudinal axis of eye, clypeus well defined. Eyes large, oval. Right mandible 3-dentate, left 2-dentate. Top of frons very slightly depressed. Antennas not stout; 13-segmented, inserted at level of lower margin of eyes, scape long, slender, almost reaching anterior ocellus, annulus prominent; funicular segments, from 2, slightly wider than long. Thorax not extremely convex, with fine, reticulate punctation;

pronotum approximately half length of mesonotum; mesonotum with shallow, complete parapsidal furrows; scutellum small, slightly convex, with rounded posterior margin; median segment slightly sloping, fairly long, with medial reticulate sculpting. Postmarginal vein of forewing long, slightly shorter than marginal; radial long. Abdominal petiole about 3 times longer than wide, without longitudinal ridge, finely striated longitudinally. Abdomen elongatedly ovate, lustrous. Body black.

TYPE SPECIES: *Elatoides niger* Nikolskaja.

GEOGRAPHICAL DISTRIBUTION: Maritime Territory.

BIOLOGY: Parasitic on coccids.

The genus contains one species.

- 1 (1). Body black. Scape, fore and mid-tibias, tarsi, brownish-yellow. Funicular segments dark brown. Wings colorless. Length 2.3 mm (Figure 275). - Maritime Territory. Parasitic on coccid *Phenacoccus polyphagus* Borchs. . . . . 1. *E. niger* sp. nov.

### VIII. FAMILY EUCHARIDIDAE

Kieffer, 1904, Berlin, Ent. Zeit. 49:240. - Clausen, 1923, Ann. Ent. Soc. Amer. 16(3):195-217 (biology *Schizaspidia*). - Gahan, 1940, Proc. U.S. Nat. Mus. 88, No. 3086:425. - Closen, 1941, Psyche, 48(2):57-69 (biology). - Clausen, 1941, J. Wash. Acad. Sci. 30:504-516 (oviposition).

The family Eucharididae contains forms of moderate length - approximately 5 mm - and of highly individual morphology. Head lentiform. Mandibles falcate, with basal denticle. Antennas 10-14-segmented, with short scape, without annuli. Thorax highly developed, humped; pronotum almost invisible above; scutellum extremely convex, often with denticles and rather long apical processes. Abdominal petiole long. First abdominal tergite long, concealing others. Legs long, slender. Ovipositor unprotrusive. Forewings with extremely short, often indistinct radial vein. Body with metallic coloration; occasionally with some yellow, rarely yellow.

Parasitic on ant larvae and pupae.

The family contains 26 genera with more than 140 species, mostly tropical in distribution. Members of 2 genera only are known for the Palearctic Region.

#### Key to Genera of Family Eucharididae

- 1 (2). Scutellum without apical processes, or with 2 short denticles. Head transverse anteriorly, narrower than thorax. In female - antennae 10-13-segmented, short, often without clearly differentiated club; in male - antennae 11-14-segmented, longer. Sculpting on thorax fine, shallow. Abdomen with slightly convex sides; petiole relatively short (Figure 278). . . . . 1. *Eucharis* Latr.
- 2 (1). Scutellum bifurcated at apex, or with 2 long processes. Head triangular anteriorly, almost not narrower than thorax. Antennae 12-segmented in both sexes, slender, long. Thorax sculpting deep, coarse.

Abdomen compressed laterally, petiole long (Figure 291). . . . .  
..... 2. *Stilbula* Spin.

1. Genus *EUCARIS* Latr.

Latreille, 1802, Hist. Nat. Crust. Ins. 3:210. -Ruschka, 1924, Deutsch. Ent. Zeit. (1):83. -Gussakovskii, 1940, Trudy ZIN AN SSSR\* (Proc. Zool. Inst. of Acad. Sciences of the U. S. S. R.), 6 (1-2):150.

**FEMALE:** Head rectangular anteriorly, much wider than long, narrower than thorax above; genae slightly shorter than longitudinal axis of eye. Eyes small, rounded. In female - antennae 10-13-segmented, in male - 11-14-segmented; scape short, usually not longer than first funicular segment, funicular segments distinctly divided, occasionally with processes - longer (pectinate) in male. Thorax smooth and glossy, occasionally slightly punctate, mesonotum with indistinct parapsidal furrows; scutellum extremely convex, slightly produced apically, occasionally with denticles; axillae narrow, inconspicuous; median segment rather long, strongly sloping. Abdominal petiole not highly attenuated, wide, flattened above, somewhat expanded posteriorly (Figures 278, 279).

**TYPE SPECIES:** *Cynips adscendens* Fabricius.

**GEOGRAPHICAL DISTRIBUTION:** Europe, Asia (including India), Ceylon, Philippines, North America, Australia.

**BIOLOGY:** Parasitic on ants.

The genus contains about 50 species; 8 Palearctic species were previously known; V. V. Gussakovskii added 17 new ones for the U. S. S. R.

- 1 (6). Body pale yellowish. Head and spots on thorax metallic green.  
2 (3). Mesonotum dull, not coarsely, reticulately rugose. In female - funicular segments 1-6 markedly convex above. Frons slightly depressed, with fine longitudinal rugae from inner margin of eyes to depression, occasionally punctate laterally beneath antennae. Length of female 4.5 mm. - Southern Volga area, Tadzhikistan. . . . .  
..... 1. *E. shestakovi* Guss.

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Gussakovskii, 1940:151.

- 3 (2). Mesonotum smoother, shinier, sparsely punctate medially. In female - funicular segments almost cylindrical. Frons smooth, shiny.  
4 (5). Mesonotum transversely rugose anteriorly. Sides of frons beneath antennae not depressed. Scutellum with reticulate sculpting, without distinct medial depression, bidentate apically. Abdominal tergites with narrow brown border. Length of female 4 mm (Figure 280). - Caucasus, Turkmenia. . . . . 2. *E. diaphana* Guss.

Gussakovskii, 1940:151.

- 5 (4). Mesonotum finely, transversely grooved anteriorly. Sides of frons below antennae with elongated depression. Scutellum with indistinct punctation, deep longitudinal medial depression, and blunt unpaired process apically. Abdomen darker than thorax, tergites with broad



brown border. Length of female 4.0-4.5 mm (Figure 290). . . . .  
.....3. *E. hyalina* Guss.

Gussakovskii, 1940:151.

- 6 (1). Body green or blue, occasionally abdomen more rusty.
- 7 (8). Mesonotum very coarsely, deeply punctate and reticulate. Frons marked with radial rugae. In female - antennal funicular segments convex above. Scutellum without longitudinal medial depression, bidentate apically. Head and thorax blue-green with bronze luster. Abdomen rusty, darker above. Length of female 6 mm.-Transcaucasus . . . . . 4. *E. reticulata* Rusch.

Ruschka, 1924:86.

- 8 (7). Mesonotum not reticulately punctate.
- 9 (14). Mesonotum coarsely, compactly punctate.
- 10 (11). Middle funicular segments convex above. Frons with transverse rugae. Scutellum with punctate longitudinal medial groove and blunt, approximated denticles apically; median segment not coarsely reticulate. Body dark blue-green. Posterior margins of abdominal tergites with broad rusty border. Length 6.0-7.5 mm.-Southwestern Europe, North Africa. Parasitic on ant *Messor barbarus* L. . . . . 5. *E. punctata* Foerst.

Foerster, 1859, Verh. Nat. Ver. Preuss. Rheinl. 16:89. -Ruschka, 1924:85. -Fahringer, 1922, Zeitschr. Wism. Insektenbiol. 17(3-4):41 (biology).

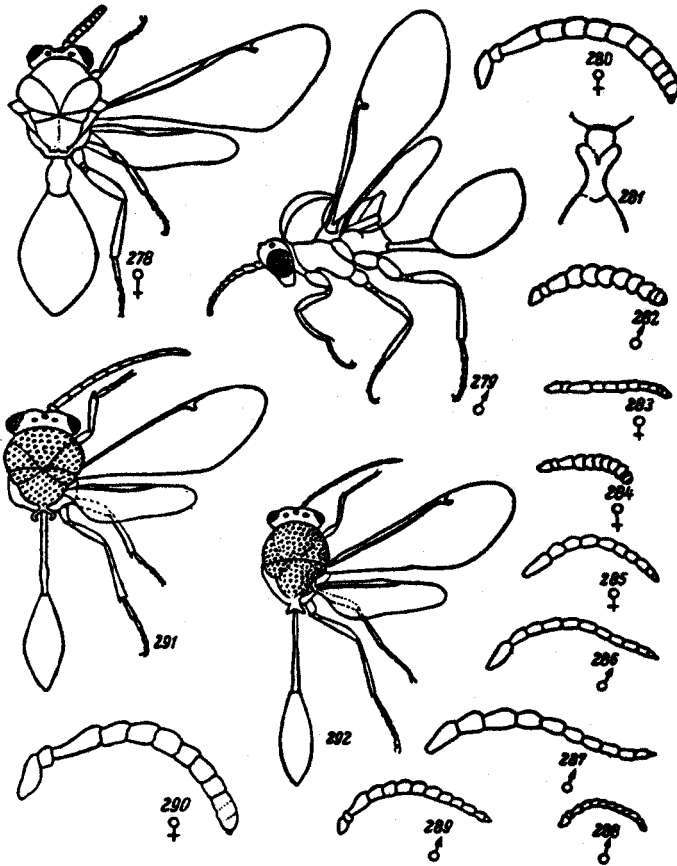
- 11 (10). Funicular segments not convex above.
- 12 (13). Frons beneath antennas, particularly clypeus, with coarse transverse rugae. Scutellum without conspicuous longitudinal groove, bidentate apically. Thorax bronze. Abdomen bluish-green. Wings colorless. In male - antennas long, tapering distally. Length of female 6.0 mm.-Caucasus . . . . . 6. *E. acuminata* Rusch.

Ruschka, 1924:86.

- 204 13 (12). Frons more slender beneath antennas, clypeus only slightly rugose. Scutellum with deep longitudinal depression, bidentate apically. Thorax golden-green, abdomen more rusty. Wings slightly darkened at tip. Length of female 5.5-6.5 mm.-Transcaucasus, Turkmenia. . . . . 7. *E. fulviventris* Guss.

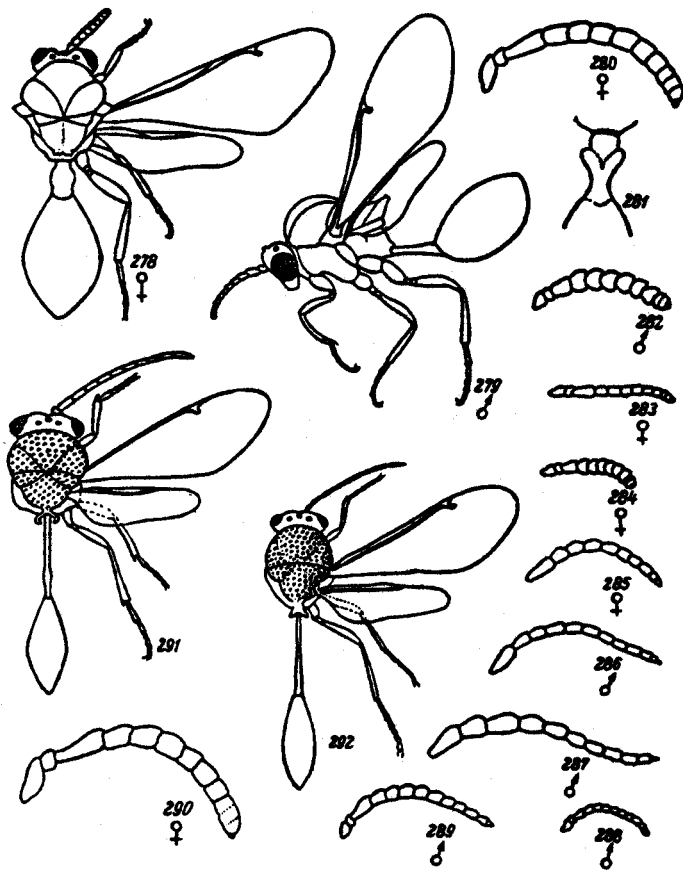
Gussakovskii, 1940:152.

- 14 (9). Mesonotum sculpt differently.
- 15 (18). Mesonotum finely, reticulately rugose, occasionally with sparser punctation.
- 16 (17). Frons beneath antennas and clypeus with fine transverse rugae. Scutellum with longitudinal groove deepening posteriorly, and 2 distinct denticles apically; median segment coarsely reticulate. In female-petiole rugosely reticulate. Antennal segments slightly cylindrical.



FIGURES 278-292. Family Eucharididae

278, 279—*Eucharis adscendens* F., female and male laterally; 280—*E. diaphana* Guss., antenna of female; 281, 282, 284—*E. przhewalskii* Guss., abdominal petiole of female, antennae of male and female; antennae of *Eucharis*: 283—*E. ruficornis* Guss., female; 285, 287—*E. carinifera* Guss., female and male; 286—*E. atrocyanea* Guss., male; 288—*E. nana* Guss., of male; 289—*E. rugolosa* Guss., of male; 290—*E. hyalina* Guss., of female; 291—*Stilbula tadzhika* Nik. sp. n.; 292—*S. cynipiformis* Rossi



FIGURES 278-292. Family Eucharididae

278, 279—*Eucharis ascendens* F., female and male laterally; 280—*E. diaphana* Guss., antenna of female; 281, 282, 284—*E. przhivalskii* Guss., abdominal petiole of female, antennae of male and female; antennae of *Eucharis*: 283—*E. ruficornis* Guss., female; 285, 287—*E. carinifera* Guss., female and male; 286—*E. atrocyanea* Guss., male; 288—*E. nana* Guss., of male; 289—*E. rugolosa* Guss., of male; 290—*E. hyalina* Guss., of female; 291—*Stilbula tadhika* Nik. sp. n.; 292—*S. cynipiformis* Rossi

Head and thorax blue. Abdomen blackish. Length of female 4.0-5.5 mm.-Turkmenia . . . . . 8. *E. cyanella* Guss.

Gusakovskii, 1940:152.

- 17(16). Frons finely reticulate. Clypeus smooth, glossy. Scutellum without longitudinal groove, abruptly truncated apically; median segment very finely, sparsely reticulate. In male - petiole with longitudinal rugae. Antennas not abruptly truncated distally, funicular segments very convex above. Head and thorax blue with golden-green cast, 2 longitudinal bronze bands on mesonotum. Abdomen greenish-bronze. Length of male 5.5 mm.-Asia Minor . . . . . 9. *E. turca* sp. nov.
- 18(15). Mesonotum smooth, glossy, at least medially; with sparse punctation.
- 19(22). Antennas stout, distinctly moniliform. Body bluish-green, with bronze luster. Forewings slightly darkened.
- 20(21). Frons reticulately rugose. Antennas slightly thinner, longer. Funicular segments from 3 on, not wider than long. Mesonotum finely rugose anteriorly, sparsely punctate laterally. In male - scutellum abruptly truncated apically; in female - with 2 distinct denticles; median segment coarsely reticulate. Petiole flat above, reticulately rugose, dilating markedly posteriorly, with broad longitudinal groove. Length 4.0-6.5 mm (Figures 278-279). -Southern part of European part of the U.S.S.R., Crimea, Caucasus, West Siberia, Central Asia; southwestern Europe, Iran. Parasitic on ants *Formica rufa* L. and *Messor barbarus* L.. 10. *E. adscendens* F.

Fabricius, 1787, Mant. Ins. 1:21 (Cynips). -Foerster, 1859, Verh. Nat. Ver. Preuss. Rheinl. 16:91 (kollari). -Ruschka, 24:84.

- 21(20). Frons finely punctate. Antennas stouter, shorter, Funicular segments from 3 on, wider than long. Mesonotum very slightly punctate laterally; scutellum with indistinct incision apically; Median segment more finely punctate. In female - anterior half of petiole reticulate above, posterior half smooth, with medial auricular dilation. In male - petiole less dilated. Length 4.5-6.5 mm (Figures 281, 282, 284). -Transbaikal; Mongolia. . . . . 11. *E. przhivalskii* Guss.

Gusakovskii, 1940:153.

- 205 22(19). Antennas not moniliform.
- 23(26). In female - abdomen rusty.
- 24(25). Frons with oblique rugae from base of antennas to lower margin of eyes. Antennas not more than 1 1/2 times longer than frons. Median segment finely reticulate. In female - petiole wide, not more than 1 1/2 times longer than wide. Head and thorax bronze-green. Length of female 5.5-6.0 mm.-South Kazakhstan, Tadzhikistan. . . . . 12. *E. dimidiata* Guss.

Gusakovskii, 1940:153.

- 25 (24). Frons with almost transverse rugae. Antennas approximately twice longer than frons. Median segment reticulately rugose. In female - petiole less wide, twice longer than wide. Head and thorax greenish-blue. In male - abdomen blue; in female - with bluish luster. Length 5.0-5.5 mm.-Tadzhikistan . . . . . 13. *E. scylla* sp. nov.
- 26 (23). In female - abdomen with metallic luster; tergite margins occasionally rusty.
- 27 (28). Genae finely, distinctly rugose. Sides of mesothorax below with longitudinal rugae; mesonotum mostly finely, rugosely punctate; scutellum densely punctate, with longitudinal groove, with large cells apically, and 2 occasionally serrated denticles. In females - median segment finely rugose, in male - coarsely, reticulately rugose. Body dark blue-green, with bronze luster. Abdomen blackish. Length 4.5-5.8 mm.-Pamir, Fergana and Gissar mountains. . . . . 14. *E. alticola* Guss.

Gussakovskii, 1940:153.

- 28 (27). Genae less distinctly rugose. Sides of mesothorax smooth or finely reticulate.
- 29 (30). Antennas brown. Frons beneath antennae sparsely punctate, glossy. Mesonotum smooth, sparsely punctate; scutellum with deep, longitudinal, more densely punctate groove and inconspicuous denticles. Median segment reticulately rugose, with conspicuous longitudinal medial groove. In female - petiole slightly expanded medially, abdominal tergites with broad yellowish border on posterior margin. Head and thorax bronze-green. Length of female 5.5 mm (Figure 283).-Pamir . . . . . 15. *E. ruficornis* Guss.

Gussakovskii, 1940:153.

- 30 (29). Antennae black. Median segment without groove. Abdominal tergites often without border.
- 31 (32). Forewings very darkened. Frons above striatedly punctate, almost smooth below. Mesonotum smooth and glossy above; scutellum densely punctate, slightly notched apically; median segment coarsely, reticulately rugose. In male - petiole deeply rugose, with wide longitudinal groove. Head reddish-bronze. Thorax and abdomen dark-green, with bronze luster. Length of male 5.0 mm.-Gissar Mountains . . . . . 16. *E. hissariensis* Guss.

Gussakovskii, 1940:154.

- 206 32 (31). Forewings colorless.
- 33 (36). In male - median segment with thin, longitudinal, coarsely rugose, medial ridge.
- 34 (35). Frons finely, reticulately rugose. Antennae long, funicular segments longer than wide. Mesonotum finely, reticulately punctate; scutellum coarsely, reticulately rugose, with inconspicuous apical incision. In female - sculpting smoother. Body bluish-green with bronze luster. Length 4.5-6.0 mm (Figures 285, 287).-Transcaucasus,

West Kazakhstan, Central Asia; northern Iran. . . . .  
. . . . . 17. *E. carinifera* Guss.

Gusakovskii, 1940:154.

35 (34). Frons smooth beneath antennas. In male - antennas short, funicular segments almost not longer than wide. Mesonotum sparsely punctate, slightly rugose in some places; scutellum with thin longitudinal groove, abruptly truncated apically. Body black-blue. Length of male 3.25 mm (Figure 288). - Southern part of European part of the U. S. S. R., Transcaucasus . . . . . 18. *E. nana* Guss.

Gusakovskii, 1940:154.

36 (33). Median segment without distinct, longitudinal, medial ridge.  
37 (38). Scutellum without longitudinal groove; in male - lightly incised apically; in female rounded apically. Frons finely, reticulately punctate. Antennas with slightly convex funicular segments. Mesonotum rugosely punctate in some places; scutellum densely punctate; median segment minutely, irregularly reticulate. In female - sculpting smooth. Body green-bronze. Length 4-5 mm. - West Kazakhstan. . . . . 19. *E. parvula* Guss.

Gusakovskii, 1940:154.

38 (37). Scutellum with distinct longitudinal groove, at least in female.  
39 (40). Mesonotum very coarsely, sparsely punctate laterally. Frons below, and genae finely striated. Antennas almost filiform, in male - tapering distally. Scutellum sparsely punctate, with apical incision; median segment not coarsely, reticulately rugose. Body dark blue, occasionally with violet luster. Length 4.5-5.5 mm (Figure 286). - Central Asia . . . . . 20. *E. atrocyanea* Guss.

Gusakovskii, 1940:154.

40 (39). Mesonotum with finer sculpting, or almost smooth laterally.  
41 (42). Median segment finely, densely, reticulately rugose. In female - abdominal tergites with rusty border. Frons sparsely punctate. In male - funicular segments convex above. Mesonotum laterally and scutellum not uniformly punctate, latter with inconspicuous apical denticles. Body greenish-blue. Length 4.5-5.0 mm (Figure 289). - Crimea, Lower Volga area . . . . . 21. *E. rugulosa* Guss.

Gusakovskii, 1940:155.

42 (41). Median segment more coarsely or reticulately rugose. In female - abdomen uniform in color, tergites without border.  
207 43 (44). Mesonotum finely rugose, punctate anteriorly and laterally. Frons delicately, reticulately rugose and punctate. In male - antennas taper distally. Scutellum not densely punctate, with distinct longitudinal groove, in male - with 2 denticles apically; median segment coarsely reticulate. In male - petiole long, almost length of hind

- femur, coarsely reticulate above. Body dark greenish-blue. Length 3.5-4.5 mm. - Tadzhikistan, . . . . . 22. *E. pusilla* sp. nov.
- 44 (43). Mesonotum sparsely punctate, shining. Frons almost smooth, genae finely striated.
- 45 (46). Frons convex laterally to antennas, smooth or finely punctate. Antennas brown, almost filiform, taper distally. Scutellar sides converge posteriorly, transverse medial groove inconspicuous, apical denticle blunt; median segment almost smooth or with fine longitudinal rugae. Length 3-4 mm. - Central Asia  
 . . . . . 23. *E. turanica* Guss.

Gusakovskii, 1940:155.

- 46 (45). Frons slightly depressed laterally to antennas, sparsely punctate. Antennas black, slightly moniliform, almost untapered distally. Scutellar sides rounded posteriorly, medial longitudinal groove conspicuous, and apical denticle blunt, serrated; median segment delicately, reticulately rugose. Length of female 5 mm. - Southern part of European part of the U.S.S.R., West Kazakhstan. . . . .  
 . . . . . 24. *E. gussakovskii* sp. nov.

## 2. Genus *STILBULA* Spin.

Spinola, 1811, Ann. Mus. Hist. Nat. 17:150. - Ruschka, 1924, Deutsch. Ent. Zeit. (1):89. - Gusakovskii, 1940, Tr. ZIN AN SSSR\* (Proc. Zool. Inst. of Acad. of Sciences of the U.S.S.R.), 6(1-2):168

**FEMALE:** Head triangular anteriorly, much wider than long, above almost width of thorax; genae not longer than longitudinal axis of eye. Eyes small, round. Antennas 12-segmented in both sexes, slender, long; scape very short, funicular segments often longer than wide. Thorax usually densely punctate, dull, parapsidal furrows conspicuous; scutellum very convex, bifurcated, or with 2 long processes apically; axillae wide, very conspicuous; median segment extremely long, almost vertical. Abdominal petiole rather long, slender, not flat above.

**TYPE SPECIES:** *Ichneumon cynipiformis* Rossi.

**GEOGRAPHICAL DISTRIBUTION:** Southern part of European part of the U.S.S.R., Crimea, Caucasus, Central Asia, West Kazakhstan; southwestern Europe, eastern Asia, South and North America, Australia.

**BIOLOGY:** Parasitic on ants.

The genus contains 9 species. Only one widely distributed European species was formerly known; 4 new species from the U.S.S.R. have been added.

- 1 (4). Processes at apex of scutellum approximated at base and divergent posteriorly.
- 2 (3). Longitudinal scutellar groove inconspicuous. Frons beneath antennas smooth. In male - funicular segments almost undilated distally, first slightly arcuate; in female - not more than 1 1/2 times longer than wide. Length 4-6 mm (Figure 292). - Southern part of European part

of the U. S. S. R., Crimea, Caucasus; southwestern Europe. Parasitic on cocoons of ant *Camponotus maculatus* F. . . . .  
 . . . . . 1. *S. cynipiformis* Rossi

Rossi, 1792, Mant. Ins.:125 (Ichneumon). -Ruschka, 1924:89.

- 3 (2). Longitudinal scutellar groove conspicuous. Frons beneath antennas with transverse rugae. In male - flagellar segments 1-5 considerably dilated distally, first straight; in female - almost twice longer than wide. Length 5-6 mm.-Maritime Territory; northern China. . . . .  
 . . . . . 2. *S. ussuriensis* Guss.

Gussakovskii, 1940:169.

- 4 (1). Processes at apex of scutellum almost parallel, widely separated at base.  
 5 (6). Scutellar processes straight, slightly divergent; longitudinal groove deep. Frons beneath antennas with thin oblique rugae. Funicular segments relatively long; in male and in female first segment more than twice longer than wide. Length 4-6 mm.-Uzbekistan, South Kazakhstan. . . . . 3. *S. oxiana* Guss.

Gussakovskii, 1940:169.

- 6 (5). Scutellar processes slightly recurved internally; longitudinal groove less deep. Frons beneath antennas without lateral rugae. Funicular segments shorter; in male - first segment almost 2 1/2 times longer than wide.  
 7 (8). Body bronze. Forewings slightly darkened below marginal vein. Frons beneath antennas highly convex at sides, glossy. Mesonotum punctate on parapsides; scutellar processes slightly longer than wide. Length 4.0-4.5 mm (Figure 291). -Tadzhikistan. 4. *S. tadzhika* sp. nov.  
 8 (7). Body bluish-green. Forewings colorless. Frons beneath antennas slightly concave at sides. Mesonotum with smooth patch on parapsides. Scutellar processes almost as long as wide. Length of male 4 mm. -Pamir[s] . . . . . 5. *S. montana* sp. nov.

## IX. FAMILY CLEONYMIDAE

Walker, 1837, Ent. Mag. 4:349. -Foerster, 1856, Hym. Stud. 2:19, 24, 46. -Ashmead, 1897, Proc. Ent. Soc. Wash. 4:200.

The family Cleonymidae contains forms rarely less than 3 mm long. Head usually wider than long anteriorly. Antennas 11-13-segmented. Thorax convex above; pronotum more or less long and conical, or shorter, sloping anteriorly and slightly narrowed, parapsidal furrows distinct and complete, occasionally distinct only anteriorly. Legs long, fore femurs often, and hind femurs occasionally, thickened. Abdomen often long, tapering towards tip. Ovipositor occasionally long. Body with metallic coloration.