

Mediterranean Perilampinae: *Euperilampus* and genera allied to *Chrysomalla*

(Hym., Chalcidoidea)

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(With 12 Text-figures)

The species treated in this paper belong to two tribes: *Euperilampus* Walker to *Perilampini* (along with *Perilampus* Latreille), the other genera (together with *Chrysolampus* Spinola) to *Chrysolampini*. In *Euperilampus*, a genus not hitherto known from the Mediterranean subregion, a new European species is described. In *Chrysomalla* Förster, with one species known, three new species are described from the eastern Mediterranean and North Africa. The species and genera are keyed out. All the treated species seem to be confined to warm arid regions but so far, except in one species, their hosts are not known.

Tribus *Perilampini* **EUPERILAMPUS** Walker

Euperilampus Walker, 1871, Notes on Chalcidiae (pt. 4): 67. Type-species: *Perilampus gloriosus* Walker (original designation).

Euperilampoides Girault, 1915, Mem. Queensl. Mus., 3: 308. Type-species: *Euperilampoides scutellatus* Girault (original designation).

Nesoperilampus Rohwer, 1923, Philipp. J. Sci., 22: 349. Type-species: *Nesoperilampus typicus* Rohwer (original designation).

All the above names have been put in synonymy recently by Riek (1966: 1227). The material at my disposal suggests, however, that two of them may be maintained as subgenera:

Subgenus *Euperilampus* Walk. s. str. is confined to the New World. Mid lobe of mesoscutum and scutellum bear very coarse transverse rugae.

Subgenus *Euperilampoides* Grt. (= *Nesoperilampus* Rohwer) is widespread in the Old World. The thoracic dorsum is coarsely but rather regularly punctate (as in Fig. 1).

Of *Euperilampoides* I have seen species from southeastern Asia and Australia. Probably there are also some African species but the matter needs more study. In 1952 Risbec (pp. 417-425) described *Euperilampoides beharae*, *E. hymenopterae*, *E. ivondroi* and *E. cremastusae* from Madagascar which he later (1956: 188) transferred to his newly erected genus *Afroperilampus*. Although, in general, his descriptions do not contain much reliable information, some characters indicate that at least the type-species *Afroperilampus meloui* Risbec, 1956 (from the Ivory Coast) and *E. cremastusae* Risbec, 1952 and *E. ivondroi* Risbec, 1952 (the latter two from Madagascar) belong to a species-group within the genus *Perilampus* Latreille. Specimens seen by me in the meantime in the Paris Museum confirm this opinion. Therefore I regard *Afroperilampus* Risbec, 1956 as a synonym of *Perilampus* Latreille, 1809 (**new synonymy**), with the following **new combinations**: *Perilampus cremastusae* (Risbec) (one syntype examined in Paris in 1965), *Perilampus ivondroi* (Risbec) and *Perilampus meloui* (Risbec). The other two species may also belong here but I cannot be sure without seeing the types.

A Mediterranean species, apparently undescribed, has been submitted to me recently.

***Euperilampus mediterraneus* s. p. n.**

Female. Black, sometimes with very faint metallic tints which are mainly bluish on face and sides of thorax, greenish on mandibles, on femora and gaster and weakly dark greenish, if any, on thoracic dorsum. Antennae and legs blackish, tarsi dark reddish brown, also mandibles in middle sometimes slightly reddish. Wings brown fumose, apically less strongly so.

Length of body 3.9-4.7 mm.

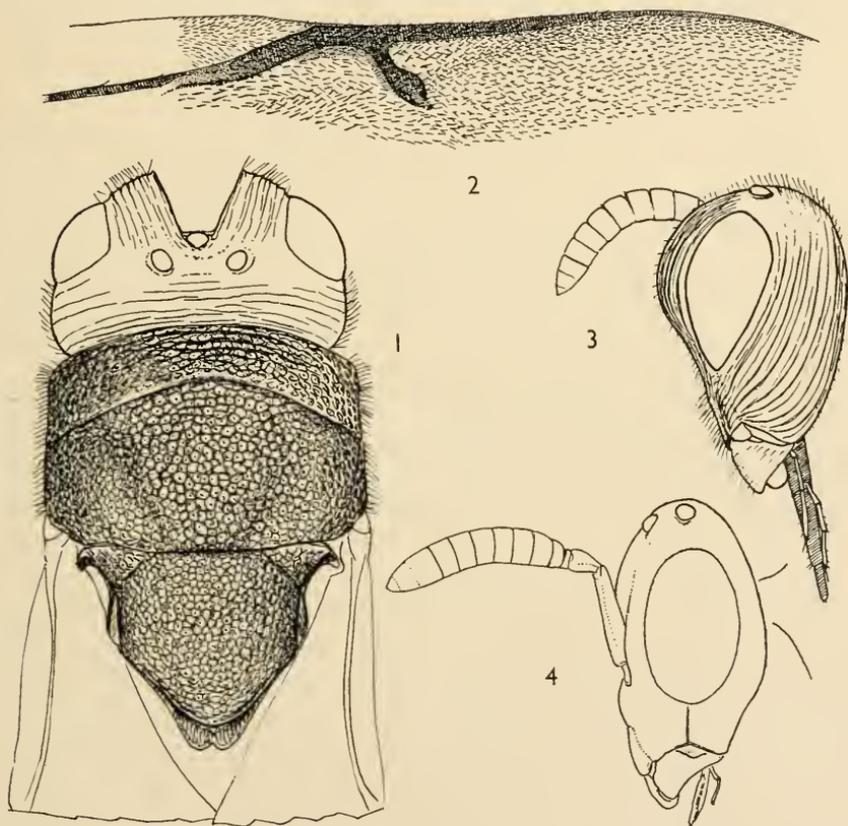
Head in dorsal view about 1.85 times as broad as long, relative length 29, width of frontovertex 31, POL : OOL as 10:8. Temples swollen (Fig. 1), not receding. Vertex posteriorly with transverse sparse and low carinulae, the piliferous punctures between the rugae, as well as on face, minute and almost indistinct; hairs very thin, short, blackish. Vertical carinae on sides of frons and on lower temples and genae stronger than those on vertex, on lower face accompanied by additional carinulae. In side view (Fig. 3) the carinate margin of scrobes almost smoothly curved,

not forming a tooth. Eye subtriangular-oval, broadest in upper two-thirds, its relative length and width compared with malar space as 27:16:13; scapus 18. Clypeus slightly broader than high (16:12), laterally often with traces of striae continuing from face, otherwise smooth and regularly beset with sparse minute piliferous punctures; its lower margin shallowly emarginate in middle. Mandibles normal, but labio-maxillary complex unusually lengthened, ligula exceeding closed mandibles by about the length equal to the distance between mouth margin and antennal toruli; the very slender maxillary palpus alone as long as length (= height) of eye, its last (fourth) segment fully as long as 0.6 the height of clypeus and the 3-segmented labial palpus nearly 1.5 the clypeus height. Antennal scapus narrowly linear. Pedicellus seen dorsally slightly elongate, its convex sculptured part subglobular; flagellum plus pedicellus combined nearly 0.7 the width of head, fusiform, its maximum width about 1.2-1.3 times the width of ocellus; anellus about 2.5 times as broad as long; basal funicle segments increasingly transverse, the first about 1.2, the fifth fully 1.5 times as broad as long, the following ones very slightly decreasing in width; clava acuminate, without distinct area of micropilosity.

Dorsum of pronotum, mesoscutum and scutellum strongly evenly convex, moderately coarsely reticulate-punctured (Fig. 1), interspaces forming some transverse rugae only anteriorly on pronotum. This in middle about one-third as long as mesoscutum, the latter 1.8 times as broad as long, with notauli very shallow. Scutellum about as long as broad, posteriorly subacuminate at an angle of 70-75°; frenal margin visible from above as a belt of longitudinal rugae; apex of scutellum subtruncate or narrowly excised in the middle, jutting out over base of gaster; sides of scutellum at axillary carinae seen from above slightly arched, diverging forwards. Propodeum with rather shallow but very coarse rugose-alveolate sculpture, this weaker on the raised submedian areae; spiracles very narrow, removed by their width from anterior margin of sclerite; callus with dark short thin hairs, anteriorly delimited by an arched horizontal carina. Anterior half of mesopleura with coarse punctation similar to that on narrow lateral panel of pronotum. Forewing (Fig. 2) with relative length of costal cell 52, marginal vein 9, postmarginal vein gradually narrowing and fading out but at least 4 times as long as the marginal, stigmal vein 8.

Abdominal petiole very small. Gastral terga smooth. Hind margin of first tergum traceable, in middle nearly straight but sublaterally appearing shallowly emarginate. The small hairy area on apex of gaster ventrally about as broad as long, with short stout ovipositor sheaths not exceeding gastral apex.

Male. Very similar to female, except mainly for the antennae. Scapus in distal half slightly but rather abruptly expanded, its ventral flat and smooth part delimited carinately. Pedicellus with its inflated part distinctly transverse; anellus about 4 times as broad as long; flagellum much stouter than in female, fusiform (Fig. 3), fully 1.5 times as broad as median ocellus, regularly clothed with very dense and very short black hairs; first



Figs. 1-3. *Euperilampus mediterraneus* sp. n.: 1, head and thorax in dorsal view with sculpture indicated, ♂; 2, forewing venation; 3, head in ♂ in lateral view. — Fig. 4. *Chrymosalla turcica* sp. n., head of ♀ in lateral view.

funicle segment hardly transverse, the following segments each 1.5-1.6 times as broad as long; clava still more strongly acuminate than in female. Last sternite rather shortly and only moderately densely hairy, the few hairs on two preceding sternites and on the narrowly visible epipygium much longer; the rest of gaster bare, smooth. Length 4.2-4.7 mm.

Biology not known.

Holotype ♀, allotype ♂ and paratypes (3♀♀ 4♂♂): BULGARIA, Sandanski, VI.1969 (M. Kocourek). Holotype presented to BMNH [= British Museum (Nat. Hist.)], London; paratypes in Bouček collection and in Zoologische Staatssammlung, München.

From all the other species of the subgenus *Euperilampoides*, *Euperilampus mediterraneus* may be easily separated by the black antennae, form of face and scutellum and by the infumate wings.

Tribus Chrysolampini

The genera *Chrysomalla* Förster, *Brachyelatus* Hoffer & Nowicky and *Elatomorpha* Zerova belong to *Chrysolampini*, a group which in my opinion is closely related to *Perilampini*. *Chrysolampini* are regarded as belonging to *Pteromalidae* by Peck, 1951 (in Muesebeck & al., on the authority of A. B. Gahan), by Riek, 1966 and by Graham, 1969, while *Perilampidae* are taken by most authors (except by Riek, 1966) at the same time as an independent family. Riek classifies *Chrysolampini* as a tribe of the subfamily *Perilampinae* of the family *Pteromalidae*.

The difference in classification does not mean, however, anything else than that most authors, who have studied the matter more closely, agree that these groups are related to each other and the different classifications merely reflect the puzzling problems that have remained unsolved because of insufficient material, poor knowledge and, perhaps mainly, of the difficulties in evaluating some unusual characters. This is also how I see the matter and although I feel not quite happy about merging *Perilampidae* (and *Eucharitidae*) with *Pteromalidae*, I agree with Riek that it is the only logical way at our level of knowledge.

The characters that unite *Chrysolampini* with *Perilampini* are the following:

Occurrence of coarse sculpture on head and thorax; form of mouth (and its organs), clypeus, the usually differentiated supra-clypeal area, more or less developed epistomal area at the mouth corners, sharply 2- or 3-toothed mandibles (teeth formula 2:2 in *Chrysolampini*, see Fig. 8; and 2:3 in *Perilampini*) which are narrow, arched, rather long, but not sickle-shaped as mostly in *Eucharitinae*; antennae 13-segmented, with only one segment reduced to anellus; same type of sexual dimorphism, in particular in the antennae; generally relatively long marginal vein of the forewing (short only in *Euperilampus* Walker and the very aberrant *Echthropade* Burks, 1969); shape of gaster which is commonly rather high anteriorly, at least in females, with first tergum very broad and incised laterally on hind margin, thus allowing the triquetre shape which is more apparent in the *Perilampini*, being stressed by the fusion of middle part of hind margin of the first tergum with the second tergum.

Chrysolampini include at present only *Chrysolampus* Spinola, 1811, *Chrysomalla* Förster, 1859, *Brachyelatus* Hoffer & Nowicky, 1955 and *Elatomorpha* Zerova, 1970. Another genus attributed to this group, *Elatoides* Nikolskaja, 1952 needs further study (and no material is accessible to me at this time). It was assigned tentatively to *Pteromalidae-Miscogasterinae* tribe *Sphegigasterini* by Graham (1969: 149).

Riek (1966) mentions in his key also "*Tauroperilampus*", an invalid generic name, as no species has been included, nor any description published either. The name apparently goes back to Novitzky (= Nowicky), who gave this name to specimens of the present *Brachyelatus viridis* Hoff. & Now. and distributed them to some institutes and individuals. I saw the species under "*Tauroperilampus*" e. g. in the Deutsches Entomologisches Institut (Eberswalde, E. Germany) and know about the matter from Novitzky himself.

A key to the genera of *Chrysolampini* was published by Bouček, 1956 and 1964 and by Graham, 1969. As some of the characters used before proved not to be of generic value a new key is given here, including *Elatomorpha* Zerova described very recently.

Key to genera of *Chrysolampini*

- 1 Abdominal petiole distinctly longer than broad, dorsally sculptured, laterally and basally margined by a carina; forewing in most species even basally with some pilosity; pronotal collar distinctly margined anteriorly **CHRYSOLAMPUS** Spinola
- Petiole short, conical, without distinct sculpture; forewing blade bare in basal third 2
- 2 Pronotal collar anteriorly margined by a distinct carina which only rarely (in small specimens) is obliterated in the middle; behind the carina with some very coarse piliferous punctures and often with coarse rugae getting finer towards hind margin of pronotum; sculpture of mesoscutum consisting mainly of cross-striation; malar space in known species at least $\frac{1}{3}$ the length of eye **CHRYSOMALLA** Förster
- Collar anteriorly rounded, without any trace of a transverse carina, the dorsal part as finely sculptured as the sloping collum; sculpture of posterior half of mesoscutum often engraved-reticulate (rather than striate); malar space about $\frac{1}{3}$ the length of eye or less 3
- 3 Postmarginal vein of forewing about twice as long as the stigmal vein the knob of which is only slightly enlarged; scutellum broadly meeting mesoscutum as axillae are broadly separated; hind basitarsus dorsally about as long as maximum width of hind tibia
- **BRACHYELATUS** Hoffer & Nowicky
- Postmarginal vein at most as long as the stigmal, the stigmal knob more distinctly enlarged; axillae meeting in middle so that scutellum hardly approaches mesoscutum; hind basitarsus dorsally much longer than maximum width of tibia **ELATOMORPHA** Zerova

CHRYSOMALLA Förster

Chrysomalla Förster, 1859, Verh. naturh. Ver. preuss. Rheinl., 16: 115. Type-species: *Chrysomalla roseri* Förster (by monotypy).

Only one species has been known so far, the European *C. roseri*.

Key to species

- 1 Tibiae mainly metallic, only knees and apices narrowly yellow; forewing whitish with venation mainly testaceous but stigma enlarged and together with the thickened base of postmarginal vein fuscous (Fig. 6), often surrounded by a cloud; scutellum on disc as coarsely sculptured as mesoscutum; in ♀ ovipositor sheaths very short, not visible from above **C. stigmatica** sp. n.
- Tibiae all yellow; forewing stigma and base of postmarginal vein not unusually enlarged, though sometimes slightly darker than the rest of venation; ovipositor sheaths slightly but perceptibly protruding beyond apex of gaster 2

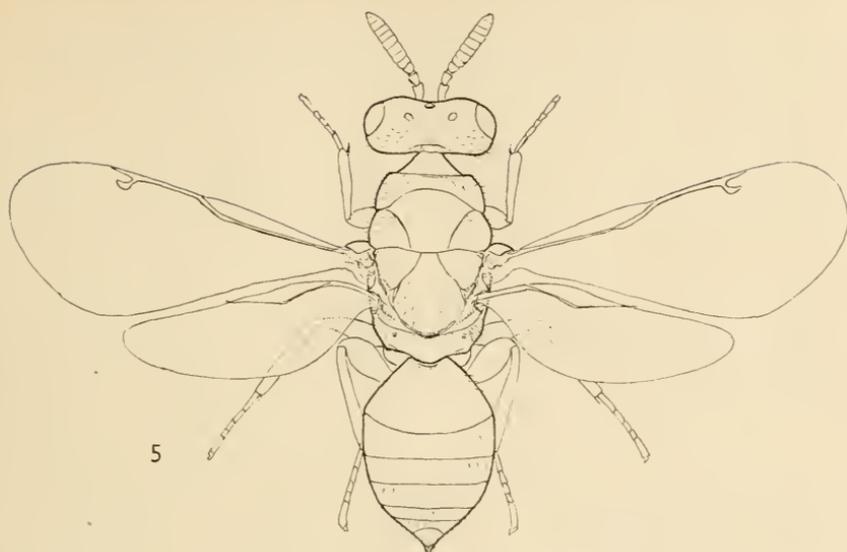


Fig. 5. *Chrysomalla turcica* sp. n., ♀.

- 2 Disc of scutellum very shiny, completely smooth or with only shallow traces of engraved striae; eye about 2.3-2.7 times as long as malar space (rarely more); clypeus smooth, shiny, except for isolated piliferous punctures; furrows of thoracic dorsum deep, parts between them fairly convex **C. roseri** Förster
- Scutellum anterior to frenal line deeply transversely engraved-rugulose, about as coarsely sculptured as mesoscutum; clypeus always with traces of some striae, less shiny; thoracic furrows shallow, parts between them feebly convex 3
- 3 Eyes large, fully 1.5 times as long as antennal scapus and about 3.4-3.5 times as long as malar space (measured along malar sulcus to the carinately set-off epistomal area); lower face between clypeus and eye very finely shallowly engraved-reticulate, sculpture here much finer and shallower than above at sides of frons between median ocellus and upper half of eye; funicle segments generally at least twice as broad as long; body 2.3-3.2 mm. **C. turcica** sp. n.
- Eyes smaller, only about 1.2 times as long as the scapus, about 2.4 times as long as malar space; face between clypeus and eye as coarsely rugulose-striate as above on sides of frons; basal and middle funicle segments not quite twice as broad as long; body 2 mm. **C. parva** sp. n.

***Chrysomalla stigmatica* sp. n.**

F e m a l e . Body bright green to brassy, gaster more greenish. Mandibles yellow with fuscous teeth; knees, tips of tibiae and tarsi pale testaceous. Wings subhyaline, venation mainly

yellow but stigma and postmarginal vein fuscous; slight cloud around stigma usually perceptible, sometimes very distinct (more commonly so in smaller specimens).

Length 1.7-3.1 mm. (holotype 3.1).

Head hardly broader than mesoscutum (67.5:65), dorsally fully 2.3 times as broad as long, with temples more than one-third the eye length (measured in dorsal view); in facial view about

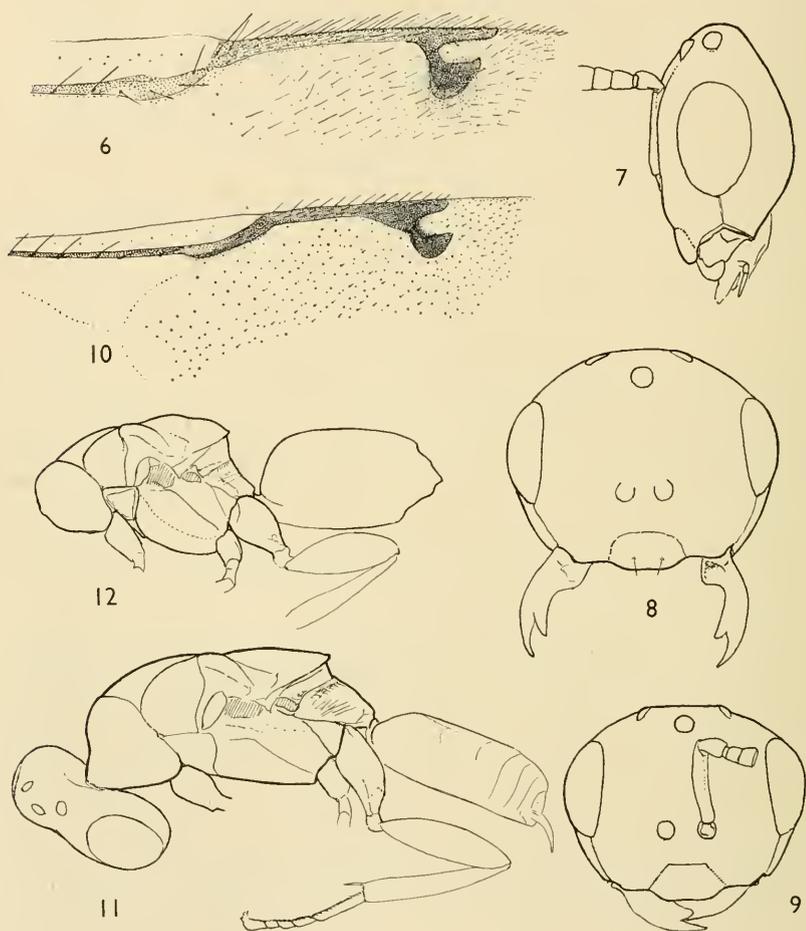


Fig. 6. *Chrysmalla stigmatica* sp. n., forewing venation in ♀. — Figs. 7-8. *Chrysmalla roseri* Förster, head of ♀ in lateral and facial view. — Fig. 9. *Chrysmalla parva* sp. n., head of ♀ in facial view. — Figs. 10-11. *Elatomorpha obscura* sp. n., ♂: 10, forewing venation; 11, body in lateral view, showing in particular the thorax. — Fig. 12. *Elatomorpha deserticola* Zerova, thorax and abdomen of ♀ paratype.

1.24 times as broad as high. Face rather deeply engraved-rugulose, rugulae of changing directions, only just above mouth and on vertex mainly transversely, with interspersed piliferous punctures. Lower edge of antennal toruli on lower ocular line. Genae in facial view straightly converging. Relative measurements: width of head 67.5, height 54.5, width of frons 45, POL 17, OOL 11.5, eye 28:19, malar space (down to carinaceous epistomal margin) 12, mouth width 40.5, clypeus height 9, scapus length 21, flagellum plus pedicellus 44. Antennae: pedicellus dorsally about 1.5 times as long as broad; anellus about 2.5 : 1; flagellum subclavate, clothed with subdecumbent short hairs, first funicle segment subquadrate, the following ones gradually more transverse, the seventh almost twice as broad as long.

Thorax distinctly rugulose-striate, mainly transversely so on mesoscutum and anterior two-thirds of scutellum. Pronotal collar behind the distinctly carinaceous margin coarsely rugose with some very coarse piliferous punctures. Mesoscutum about twice as broad as long. Scutellum with frenum longitudinally rugulose, sculpture submedially obliterated, shiny; apex narrowly rounded in middle, slightly raised and hardly jutting above metanotum; marginal groove interrupted in the middle. Propodeum: median carina present, some additional longitudinal carinae at anterior margin; surface otherwise shallowly reticulate to rugulose; spiracle oval, small, its anterior margin raised (orifice turned backward), about 1.5 its diameter from metanotal margin; nucha reduced to raised margin at foramen; callus strongly convex, moderately hairy. Pleurae dull, reticulate-rugulose, but prepectus smooth, concave, triangular, higher than long, not as high as lower mesepimeron; area of upper mesepimeron with weak sculpture but not quite smooth. Forewing with distinct and dense but short pilosity (except basally), shortly ciliated on outer margin. Relative measurements: costal cell length 58, marginal vein 32, postmarginal 7.5, stigmal vein 7; inner edge of stigmal vein almost perpendicular to the marginal; stigma enlarged (Fig. 6).

Abdominal petiole almost hidden. Gaster slightly longer than broad; first tergum with hind margin broadly rounded, entire, surface smooth; terga 2 and 3 subequal in width and medially in length, smooth posteriorly, transversely irregularly engraved-striate basally; terga 5 and 6 strongly reducing in width; epipygium subvertical, with cerci placed on ventral aspect and para-

tergites (parts of epipygium running ventrally forward along ovipositor) densely punctured. Ovipositor sheaths not reaching apex, visible only from below.

Male. Similar to female, but stigma usually still more enlarged and almost always surrounded by infuscation (hence the specific name). Scapus not enlarged; flagellum except anellus stouter than pedicellus, hardly narrower basally, clothed with very dense short semidistant hairs; each segment about 1.5-1.7 times as broad as long. Gaster narrower and usually much shorter than thorax. Length of body 1.8-3 mm.

Biology not known.

Holotype ♀ (and 2♂♂, allotype and paratype): TURKEY, Ankara, Polatli, 800 m., 2.V.1962 (Guichard & Harvey); deposited in BMNH, London.

Further paratypes: BULGARIA, Sunny Coast near Nessebar, 1♂, 6.VI.1964 (J. Strejček); JORDAN, Wadi Sir near Amman, 600 m., 20.IV., 1.VI. and 8.VI.1956 (J. Klapperich); 74 ♀♂, mostly in the Natur. History Museum, Budapest. Some paratypes also in Zool. Staatssammlung, München.

Chrysomalla roseri Förster

Chrysomalla roseri Förster, 1859, Verh. naturh. Ver. preuss. Rheinl., 16: 115.

The key to the species above should be sufficient to recognize the species *roseri* correctly. All the species of the genus are fairly close to each other and except for what is stressed in the key most characters mentioned in descriptions of three other species apply also to *roseri*. For the shape of head and mandibles see Figs. 7 and 8.

Although even this species remained unknown for a long time after description, it has been mentioned several times in the recent literature (secondary information not quoted): Nikolskaja, 1952, Erdős, 1955, Hoffer & Nowicky, 1955, Bouček, 1956.

Biology: Reared in the Ukraine from *Tychius flavus* Beck. (Col., Curculionidae) as published first by Nikolskaja (1952: 198) and repeated by some subsequent authors.

Distribution: W. Germany, Czechoslovakia, Austria, Hungary, Yugoslavia, Moldavian and Ukrainian S.R.R., Azerbaidzhan S.S.R., Kazakhstan S.S.R.

***Chrysomalla turcica* s p. n.**

F e m a l e (Fig. 5). Bright bluish green, gaster more greenish; knees, tibiae and tarsi (except dark claw segment) pale yellow, also mandibles in middle. Wings whitish, venation pale yellow.

Length of body 3.2 mm.

Head 1.1 times as broad as mesoscutum, dorsally 2.2 times as broad as long, in facial view 1.2 times as broad as high. Lower edge of antennal toruli slightly above lower ocular line. Sculpture of frons finely rugulose-striate, concentrically arranged around scrobes, conspicuously finer and shallower on lower face. Relative measurements: width of head 62, height 52, width of frons 42, POL 16.5, OOL 10, eye 30:19, malar space 9, width of mouth 41, scapus 19 (not quite reaching upper ocular line), flagellum plus pedicellus 42. Pedicellus dorsally 1.5 times as long as broad; anellus very thin; first funicle segment narrower than the following ones, these almost of equal width (Fig. 4), 1.8-2 times as broad as long, very shortly densely hairy.

Pronotum margined anteriorly and more coarsely sculptured than the finely transversely striate mesoscutum; scutellum with same rugulose striation except for frenum which is longitudinally striate like axillae. Scutellum (as in all known *Chrysomalla*) bordering mesoscutum for a distance slightly less than half the width of mid lobe of mesoscutum posteriorly; axillar furrows anteriorly relatively shallow; groove at apical margin of scutellum very narrow, interrupted in the middle. Propodeum almost smooth, median carina not distinct; oval spiracles only moderately raised and about their long diameter from margin; callus slightly convex, moderately hairy. Posterior half of mesopleura (mesepimeron) almost smooth, except for curved furrow delimiting lower mesepimeron. Prepectus with separated triangle smooth on bottom, slightly higher than long, rather small. Forewing pilosity and short marginal ciliation whitish; veins not thickened, relative length of costal cell 61, marginal vein 35, postmarginal 9, stigmal 7.5; knob weak.

Abdominal petiole in normal position hardly visible. First gastral tergum smooth, its hind margin broadly rounded but with indication of an emargination in middle. Following terga with alutaceous (engraved) reticulation the meshes of which are mainly transversely lengthened. Ovipositor sheaths slightly

protruding, cerci placed slightly ventro-laterally; paratergites shiny, sparsely beset with fine piliferous punctures.

Male. Very similar to female as the sexual dimorphism in this genus seems to affect mostly only gaster and antennae. Antennal scapus slightly enlarged in the middle of interno-ventral edge, thus only 2.9 times as long as broad in lateral view; pedicellus only slightly longer than broad; funicle relatively broader than in female, basal segments fully twice as broad as long. Gaster narrower and much shorter than thorax. Hind margin of first tergum evenly curved in the middle. Length of body 2.3 mm.

Biology not known.

Holotype ♀: TURKEY, Konia, 1899 (Korb); placed in BMNH, London.

Allotype ♂: TURKEY, Ankara, Polatly, 800 m., 2.V.1962 (Guichard & Harvey); BMNH, London.

Chrysomalla parva sp. n.

Male. Body vividly green to brassy, on face and body ventrally more greenish; antennal flagellum blackish, hardly metallic; eyes dark red; mandibles fulvous, infusate at teeth; femora concolorous with thorax but knees and tibiae with tarsi (except darker claw segment) yellow; also venation yellow, wings hyaline.

Length of body 1.8-2 mm.

Head in dorsal view about 2.1 times as broad as long, in facial view (Fig. 9) almost 1.3 times as broad as high, deeply rugulose-striate, the striae arranged in general concentrically around the scrobes; supraclypeal boss smooth. Relative measurements: head width 46.5, height 37.5, width of frons 31, malar space 7.7, clypeus height 7, its width 14, mouth width 31, eye 18:13.5, POL 13, OOL 8.5, scapus 16, flagellum plus pedicellus combined 34. Centres of antennal toruli on lower ocular line. Scapus reaching slightly below median ocellus; pedicellus dorsally 1.8 times as long as broad; flagellum subclavate, first two segments (anellus plus first funicle) together as long as the second broad, this narrower than the third.

Pronotum margined anteriorly, collar posteriorly deeply transversely rugulose, anteriorly rugae irregular owing to intersper-

sed coarse piliferous punctures. Mesonotum also rather regularly transversely rugulose, only scutellar frenum and axillae with longitudinal striae, these on frenum in middle obliterated. Scutellum with margin posteriorly subangulate, in middle marginal groove interrupted. Propodeum dull, rugulose-reticulate, with irregular median carina which hardly reaches the short nucha. Wing venation and pubescence about as in *C. roseri*, i. e. with basal part of forewing bare, veins not thickened and (in the holotype at least) uniformly yellow. Legs rather slender, in particular tarsi; hind tarsus 0.82 the length of hind tibia, basitarsus dorsally about as long as segments 3 plus 4 combined.

Abdominal petiole shorter than in *C. roseri*. Gaster about as long as broad. Hind margin of first gastral tergum broadly archedly produced.

Female and biology not known.

Holotype ♂: MOROCCO, Middle Atlas, 5500 ft. = 1800 m., Station Biologique Ifrane, 15.V.1961; deposited in BMNH, London.

Paratype ♂: TUNISIA, Ain Draham, 16.-18.IV.1927 (J. Mařan); the specimen belongs to the National Museum in Praha.

BRACHYELATUS Hoffer & Nowicky

Brachyelatus Hoffer & Nowicky, 1955, Acta ent. Mus. natn. Pragae, 29: 110.

Type-species: *Brachyelatus viridis* Hoffer & Nowicky (original designation.)

Only the type-species known as belonging to this genus. For some commentary see also Z e r o v a , 1970.

Brachyelatus viridis Hoffer & Nowicky

Brachyelatus viridis Hoffer & Nowicky, 1955, Acta ent. Mus. natn. Pragae, 29: 110-111. Holotype ♀, CZECHOSLOVAKIA: Čejč (Coll. A. Hoffer, Prague) [examined].

Chrysomalla viridis (Hfr. & Now.); Erdős, 1955, Fauna hung., XII (Hym. II), 2, Chalcidoidea 1: 39.

In addition to the original description and the key above the following characters may be mentioned.

Head in dorsal view about 2.2 times as broad as long (not 3 times as in original description). Genae strongly converging towards mouth. Malar space $\frac{1}{4}$ the eye length. Body rather

robust. Thorax dorsally fairly convex, about 1.5 times as long as high (lateral view). Scutellum posteriorly hardly protruding over metanotum, more broadly rounded apically than e. g. in the *Elatomorpha* species, sculpture on frenum arranged more longitudinally than on the disc. Anterior margin of propodeum bordered by a crenulate furrow, surface behind the furrow almost smooth; spiracles oval, removed from metanotal margin by their longest diameter. Mesopleura with curved femoral line, behind this line (epimeron) smooth; lower mesepimeron marked off antero-dorsally by a strong curved furrow which starts at the femoral groove near to mid coxa. External surface of prepectus delimited by high transverse carina, the separated part strongly concave and smooth, small, only about half as high as the lower mesepimeron. First gastral tergum in ♀ usually with distinct, slightly radiately-arranged engraved reticulation; hind margin emarginate in the middle.

Biology: the species seems to be associated with some (? coleopterous) host of the steppe habitats, but nothing more definite is known.

Distribution: S. Czechoslovakia, Austria, Hungary, Moldavian S.S.R., Ukrainian S.S.R. (including the Crimea), Azerbaijan S.S.R.

ELATOMORPHA Zerova

Elatomorpha Zerova, 1970, Zool. Zh. (Kiev), 49: 937. Type-species: *Elatomorpha deserticola* Zerova (original designation).

This recently described genus is very near to *Brachyelatus* Hffr. & Now. The type-species was described from Central Asia, another species is described here from Morocco.

Key to species

- 1 Forewing venation dark brown; thorax slightly flattened, nearly 2.2 times as long as high (in lateral view; see Fig. 11), propodeum sloping slightly, at angle of about 30°, medially fully 3 times as long as metanotum, all dull, densely raised-reticulate, anteriorly with distinct median carinae and some shorter carinae at base sublaterally; scutellum and posterior part of mesoscutum finely engraved-reticulate; in ♂ first funicle segment more than twice as broad as long; North Africa ***E. obscura* n. sp.**
- Venation whitish; thorax fairly convex, about 1.7 times as long as high (Fig. 10), propodeum sloping nearly at 60°, medially about 2.5 times as

long as metanotum, shiny, almost smooth, without any longitudinal carinae; scutellum and mesoscutum arcuately, not very finely, cross-rugulose; in ♂ first funicle segment about 1.5 times as broad as long, flagellum less stout than in the alternate; Central Asia
 **E. deserticola** Zerova

Elatomorpha deserticola Zerova

Elatomorpha deserticola Zerova, 1970, Zool. Zh. (Kiev), 49: 937-939. Holotype ♀, TURKMENIAN S.S.R.: Repetek (Zool. Inst. Acad. Sci., Leningrad).

Thanks to the kindness of Dr. V. A. Trjapitzin (of Leningrad) I was enabled to examine a paratype ♀ of this species.

Elatomorpha obscura s p. n.

Male. Dark green, including antennae and legs, on thoracic dorsum colour usually brighter, still more so on the gaster. Tarsi fuscous, middle segments usually paler. Wings subhyaline, venation dark brown.

Length of body 2-2.1 mm.

Head 1.15 times as broad as mesoscutum, in dorsal view about 2.5 times as broad as long. Relative measurements: head width 46, length 19, height 38, eye 23:15, malar space 6.6, width of frons 29, OOL 6.6, POL 12, scapus 15, flagellum plus pedicellus combined length 33, width 6.5. Genae in facial view moderately converging, straight. Mouth almost as wide as distance between eyes above. Face finely striate concentrically around the scrobes. Lower edge of antennal toruli only slightly above lower ocular line, scapes not reaching upper ocular line. Scapus not enlarged distally. Pedicellus dorsally hardly longer than broad; anellus very short, thin; first funicle segment fully twice, the following segments about 3 times as broad as long each, very densely shortly hairy; clava about 1.5 times as long as broad.

Thorax slightly depressed dorsally, more than twice as long as high (in lateral view; Fig. 11), with mesoscutum weakly convex, scutellum almost flat along median line, its apex distinctly protruding above the short and subvertical metanotum. Scutellum anteriorly narrowed to a point, not quite reaching mesoscutum; apically narrowly rounded; frenum indicated only by less dense engraved reticulation. Internal corners of axillae also reticulate. Propodeum dull, finely reticulate-punctured,

with some longitudinal carinulae at base, one or two of which in the middle may extend towards apex (in place of median carina); sclerite fairly convex transversely; spiracles round, small and removed from metanotum by about two diameters; callus moderately hairy. Pleurae reticulate, upper margin of lower mesepimeron perpendicular to the straight femoral groove (which delimits the mesepimeron), the latter groove broken just before reaching the pit in front of base of hindwing and continuing as a straight line towards prepectus; prepectus large, triangular, with distinctly raised margins, reticulate all over, about as high as lower mesepimeron. For forewing venation see Fig. 10; relative lengths: costal cell 47, marginal vein 22, postmarginal vein 5, stigmal vein 6. Pilosity dense (except for bare basal one-third of wing) but extremely short; also marginal ciliation reduced, perceptible only posteriorly and even there very short. Mid basitarsus dorsally as long as two following segments combined.

Gaster rather shiny, the transverse alutaceous sculpture slightly indicated. Hind margin of first tergum slightly emarginate in the middle, the tergum nearly as long as broad.

Female and biology unknown.

Holotype ♂ (and a ♂ paratype): MOROCCO, Rabat, 9.-13.III.1932; deposited in BMNH, London.

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