THE HOLONYCHINAE (FAMILY CHRYSIDIDAE) OF SOUTH AFRICA

PART I: THE TRIBES PSEUDOCHRYSIDINI BISCHOFF; PARNOPINI AARON; ALLOCOELIINI MOCSARY

By E. B. EDNEY, Ph.D.

Introduction

The first part of a projected monograph of the Chrysididae of South Africa was published in 1940[1] and dealt only with the subfamily Heteronychinae of Buysson. It has now become possible to undertake work on the other subfamily, that is, the Holonychinae of Bischoff, and it is proposed to publish this in several parts.

The subfamily Holonychinae contains the great majority of species of the Chrysididae and is divided into four tribes, three of which are dealt with in the present part; the fourth, the Euchrysidini of Buysson, is by far the largest, containing many more species than the whole of the rest of the family.

In the writer's opinion the accepted classification of the Chrysididae bears little relation to the phylogeny of the group, and the question has had to be carefully considered whether a monograph such as this, which uses the generally accepted gross classification, can fulfil a useful purpose at this stage, or whether it should be undertaken only after further work on the anatomy and biology of the group has thrown at least some light on the true phylogenetic relationships of its members. Ideally, there is no doubt, the taxonomy of a group of organisms should reflect as far as possible the phylogeny of the group, but in practice this ideal is usually unattainable: first, because we have very little real evidence on which to base phylogenetic systems, secondly, because the application of a phylogenetic system would often be extremely cumbersome, depending as it frequently does on internal characters not easily seen, and even on physiological characters, and thirdly, because the only way of representing the true phylogeny of a group is in terms of a branching network of forms linking present with past, whereas the exigencies of arrangement of museum collections and of monographs encourage a linear or scalariform expression of relationships rather than a reticulate one.

The taxonomist then, unless he is dealing intensively with a small group which has already received a good deal of attention, and unless he is a physiologist, ecologist and geneticist with a flair for statistics, or has the active co-operation of such specialists, must be guided largely by the first purpose of taxonomy, that is the labelling and arrangement of organisms in as *convenient* and *useful* a manner as possible.

[1] Edney, E. B. 'The Heteronychinae (Family Chrysididae) of South Africa'. *Occ. Pap. Rhod. Mus.* no. 9, pp. 29–126.

It will be possible to deal intensively and very much more accurately and realistically with groups once they have been labelled and docketed. But there appears to be very little chance of an economically unimportant group such as the Chrysididae receiving any attention at all, unless a beginning is made by tidying up the synonymy and by providing consistent descriptions for the old as well as for the very many new species which have been accumulating in museum collections for many years.

No attempt will therefore be made in the present work to improve upon the accepted subdivisions of the family—arbitrary though they are. At the other end of the scale, no attempt will be made to differentiate between the various kinds of subspecific groupings, since our knowledge of the biology, ecology and the rest, of most Chrysids is quite inadequate to allow the use of anything more than the indefinite term 'subspecies'.

A general introduction to, and description of, the family Chrysididae was included in the paper on the Heteronychinae, so that it is not considered necessary to describe here in detail the subfamily Holonychinae, and only the main points of difference and a few further remarks which have resulted from further study will be set down. On the other hand, it has been thought desirable to include a revised key to the whole of the subfamily, though it must be emphasized that this and all other keys are quite artificial and have no phylogenetic implications.

Literature

Since the publication of Mocsary's *Monographia Chrysididarum Orbis Terrarum Universi* in 1889, little has been written on the African Chrysididae and nothing in monographic form. About sixty new species have been described by a few authors and these descriptions are published in various journals to which reference will be made. In 1913 Bischoff published a monograph of the genera of the family in *Genera Insectorum*, CLI.

Acknowledgements

I am indebted to the following gentlemen for assistance in various ways: Dr G. Arnold, Director of the National Museum of Southern Rhodesia, not only for the loan of material and literature but also for encouragement and advice; Mr R. B. Benson of the British Museum (Natural History) Department of Entomology, for allowing me to use the large collection of African Chrysids in that museum; Capt. R. H. R. Stevenson of Bulawayo, for the loan of his valuable collection; Mr G. van Son of the Transvaal Museum, Pretoria, Dr A. J. Hesse of the South African Museum, Cape Town, and Dr J. Hewitt, Director of the Albany Museum, Grahamstown, for the loan of collections in their museums.

My thanks are also due to my wife for all the drawings of the male genitalia.

Subfamily HOLONYCHINAE Bischoff

Colour. The coloration is usually metallic green or blue, though in this subfamily reds, yellows and purples are not infrequent. The genus *Allocoelia* Mocs. consists of species which are for the most part non-

metallic brown and black. It must be emphasized that colour itself is a very unreliable character for the determination of species, because the intra-specific colour variation is often very great; but at the same time, the colour *pattern* is often of value, as it remains fairly constant within a species. Perhaps the most striking example is that of *Parnopes fischeri* Spin., which varies in colour from coppery red, through greens, to purple. In this species the colour range can be compared with the spectrum, and certain areas of the insect, such as the posterior region of the pronotum, the scutellum and the anterior and posterior margins of each tergite, are always nearer to the violet end than the rest; so that a red insect has the above-mentioned areas orange or yellow, while a green insect has them bluish purple.

STRUCTURE. The general structure of the Holonychinae is not markedly different from that of the Heteronychinae; the chief points of difference are: a longer and slimmer shape, better development of the veins of the wings, and the fact that the tarsal claws are unarmed (though the genus *Allocoelia* Mocs. forms an exception to this). The head is usually strongly transverse when seen from above, the face is more or less strongly depressed, forming the facial cavity, and the latter is frequently bounded above by a transverse carina, the facial carina. The clypeus and cheeks are variable in length, as are the first three joints of the flagellum. The mouth parts are usually short, but may be considerably elongated, as in the tribe Pseudochrysidini of Bischoff. The labial palps are three-jointed and the maxillary palps five-jointed except in the genus *Parnopes* Latreille, where they are absent or reduced to three and two joints respectively. The antennae are thirteen-jointed in both sexes and set close together near the bottom of the face.

The structure of the thorax is considerably complicated, and the terminology used in the present paper will be made clear by reference to Fig. 1.

The wing venation is better developed in the Holonychinae than in the Heteronychinae, and has been used considerably as a character for distinguishing genera, though in the writer's experience it is an unreliable one. The structure of a typical Holonychine wing is shown in Fig. 2.

The number of visible abdominal segments is usually three in both sexes, though this is reduced to two in the tribe Allocoeliini and increased to four in the ♂♂ of the tribe Parnopini. The shape of the last tergite and the shape and texture of its apical and lateral margins are of very great taxonomic value.

METHODS OF DESCRIPTION. Species already described of which it has been possible to see the types or reliably named specimens have been redescribed. In the few cases where no such specimen has been available, the original description has been translated into English, and this procedure is made clear in the description.

The most important taxonomic characters, besides those mentioned already in connexion with the third tergite, are the sculpture, the shape of the epinotal teeth, the proportions of the face and pronotum, and the

relative lengths of the proximal joints of the flagellum. In describing sculpture, the term '*reticulate-punctate*' will refer to the closest type of puncturation where the '*interspaces*' are less than one-fourth as wide as

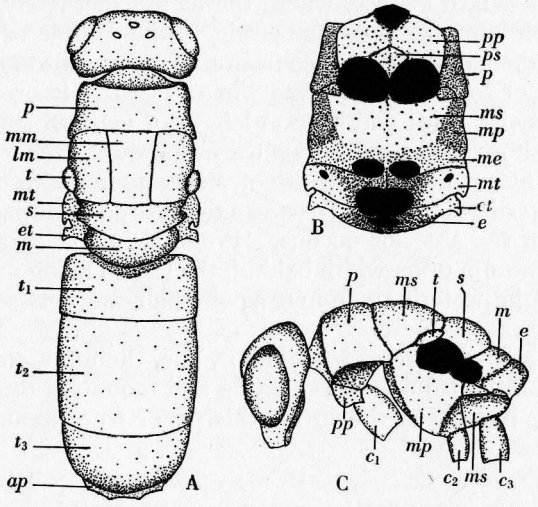

Fig. 1. A typical Holonychine Chrysid. A, dorsal view; B, ventral view of thorax; C, lateral view of thorax. *ap*, apical platform; c_1, c_2 and c_3, first, second and third coxae; *e*, epinotum; *et*, epinotal tooth; *lm*, lateral area of mesonotum; *m*, metanotum; *me*, mesepisternum; *mm*, median area of mesonotum; *mp*, mesopleuron; *ms*, mesosternum; *mt*, metapleural teeth; *p*, pronotum; *pp*, propleuron; *ps*, prosternum; *s*, scutellum; *t*, tegula; t_1, t_2 and t_3, first, second and third tergites.

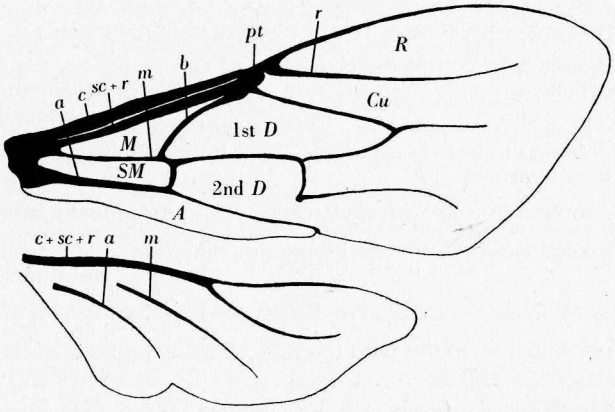

Fig. 2. Wings of *Stilbum cyanurum* Forst. *A*, anal cell; *Cu*, cubital cell; first and second *D*, discoidal cells; *M*, median cell; *R*, radial cell; *SM*, submedian cell; *a*, anal vein; *b*, basal vein; *c*, costal vein; *m*, median vein; *pt*, pterostigma; *r*, radial vein; *sc*, subcostal vein.

the punctures, and rounded. '*Subreticulate-punctate*' refers to the condition where the interspaces are a little wider, about one-half as wide as the punctures, and flat. The size of the punctures will be indicated by comparison with the anterior ocellus in each species.

When describing the proportions of the face, vertex and pronotum, an attempt has been made to avoid tedious repetition by making use of a number of indices. 'Clypeo-facial index' means the ratio: length of clypeus upon length of face, where the length of the clypeus is taken from the middle of the anterior margin to the middle of the antennal sockets, and the length of the face from the latter point to the top of the facial cavity, or to the facial carina when the latter is present. 'Facial index' means the ratio: width upon length of face, where the width is taken as the shortest distance across the face between the eyes. 'Vertico-facial index' means the ratio: width of vertex upon width of face, where the width of vertex is measured between the eyes on a line passing through the middle of the anterior ocellus. 'Pronotal index' means the ratio: length of pronotum upon width behind, the length being measured from the middle of the posterior margin to a point half-way between the anterior shoulders.

The male genitalia are of taxonomic value, though their examination necessitates a little trouble in extracting and mounting them. Wherever possible they have been drawn for this paper from mounts in canada balsam.

KEY TO THE SOUTH AFRICAN TRIBES AND GENERA OF THE SUBFAMILY HOLONYCHINAE BISCHOFF

(2) 1. Abdomen in the ♂ consisting of four visible segments, in the ♀ of three. The apical margin of the last tergite with many small irregular teeth. Tribe **Parnopini** Aaron
Parnopes Latreille

(1) 2. Abdomen consisting of two or of three visible segments in both sexes.

(4) 3. Abdomen in both sexes consisting of two segments, the tarsal claws toothed. Tribe **Allocoeliini** Mocsary
Allocoelia Mocsary

(3) 4. Abdomen in both sexes composed of three visible segments, the tarsal claws unarmed.

(18) 5. Mouthparts more or less elongate. Tribe **Pseudochrysidini** Bischoff

(7) 6. Apical margin of the third tergite membranous and translucent.
Spintharis Dahlbom

(6) 7. Apical margin composed of the same material as the rest of the tergite.

(9) 8. Apical margin of the third tergite with many (more than six) somewhat irregular teeth. **Euchreous** Latreille

(8) 9. Apical margin entire, sinuate, or with a few (not more than six) distinct regular teeth.

(11) 10. Metanotum with a single, well-developed projection.
Stilbum Bischoff

(10) 11. Metanotum without a projection, or with two.

(15) 12. Apical margin of the third tergite without strong, angular teeth.

(14) 13. Apical margin entire. **Pseudochrysis** A. Semenow

(13) 14. Apical margin sinuate or angulate. **Pseudogonochrysis** Bischoff

(12) 15. Apical margin of the third tergite with strong, angular teeth.

(17) 16. Apical margin with four distinct teeth, the external pair removed from the lateral margin of the tergite. **Pseudotetrachrysis** Bischoff

(16) 17. Four teeth on the apical margin of the third tergite and one on each lateral margin. **Pseudohexachrysis** Bischoff

(5) 18. Mouthparts normal. Tribe **Euchrysidini** Buysson

(20) 19. Discoidal cell of the fore-wing open; or at least the veins poorly developed. **Chrysidea** Bischoff

(19) 20. Discoidal cell of the fore-wing closed, the veins well developed. **Chrysis** Linnaeus

Tribe PSEUDOCHRYSIDINI Bischoff

Pseudochrysidini. 1910, Bischoff, *Mitt. zool. Mus. Berl.* 433.

Abdomen consisting of three visible segments in both sexes, mouthparts more or less elongate.

Genus **Spintharis** Dahlbom

Spintharis. 1854, Dahlbom, *Hym. Europ.* II, 350, gen. 8.
Spintharina. 1892, A. Semenow, *Rev. Russe Ent.* XXVI, 485.

CHARACTERS. Fairly small, slim insects, the head well developed. Mandibles acute at the apex, angulate on the inner side near the tip. Maxillae elongate. Facial cavity shallow. Pronotum strongly transverse. Mesopleura usually with a lower area coarsely sculptured, sometimes armed with teeth. Metapleural and epinotal teeth strong. The third tergite usually with a well-developed translucent apical border, the latter feebly or strongly emarginate. In the fore-wings, the radial and cubital cells are open, the discoidal cell closed, except in *destituta* Dahl. where the veins are less well developed.

DISTRIBUTION. Species have been recorded from North America, India and the Mediterranean as well as from Africa. Four species occur in the South African subregion.

Key to the species of Spintharis

(2) 1. Mesopleura armed with two well-developed, ventrally directed teeth. **bispinosa** Mocsary

(1) 2. Mesopleura unarmed.

(4) 3. Face not bounded by a carina above. **destituta** Dahlbom

(3) 4. Face bounded above by a carina.

(6) 5. Apical margin of the third tergite feebly emarginate or entire, thorax predominantly red. **deaurata** Mocsary

(5) 6. Apical margin of the third tergite with a strong U-shaped emargination, the thorax (except the dorsum) and the head green. **chrysonota** Dahlbom

Spintharis bispinosa (Figs. 3 and 26*d*).

Spintharis bispinosa. 1902, Mocsary, *Természetr. Füz.* XXV, 539, no. 9.

♂♂. 7·0 mm. long. Thorax and tergites dark metallic purplish red; the head, particularly the facial cavity, lighter to coppery red; femora

and the greater part of the tibiae dark coppery red, a few small areas metallic green; tarsi ochreous, the apical joints darker. Apical platform of the third tergite testaceous, with a metallic green area in the middle. Sternites black, with metallic green and coppery reflexions. Mandibles dark shining brown, with a lighter area near the tips. Clypeus with a dark anterior border. Antennae very dark brown, except the second and third joints of the flagellum which are very pale ochreous. Tegulae metallic green, wings fusco-hyaline. Pubescence greyish white, fairly short and sparse, somewhat denser on the sides of the face.

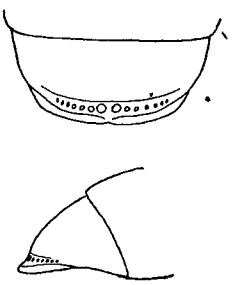

Fig. 3. *Spintharis bispinosa* ♂. Dorsal and lateral views of third tergite, × 13.

Clypeus convex anteriorly and with a feeble median longitudinal elevation, the brown anterior area smooth, the rest irregularly punctate; facial cavity finely and closely reticulate-punctate, the punctures sparser on a narrow median longitudinal area, the latter with a feeble median groove, deepening above into an elongate facial fovea. The face bounded above by a strong transverse though somewhat irregular carina; the vertex with a more or less strong semicircular carina, enclosing the anterior ocellus behind, its extremities meeting the ends of the facial carina in front. The rest of the vertex and occiput reticulate-punctate, the punctures about one-third as wide as the anterior ocellus.

Dorsum of the thorax, the mesopleura and the tergites, all reticulate-punctate, the punctures a little larger than those on the head. Tegulae less closely punctate, the punctures smaller and shallower. Mesopleura with a coarse vertical groove, the ventral area strongly carinate along the anterior and posterior margins, each carina produced below into a strong tooth. Metapleural and epinotal teeth fairly strong, uncinate, the posterior margins strongly emarginate; the epinotal pair truncate apically, the truncate margin shallowly concave, the metapleural pair bluntly pointed; both pairs coarsely reticulate-punctate above, irregularly rugulose below. Ventral thoracic sclerites smooth to finely and irregularly punctate.

Second and third tergites with a distinct median longitudinal carina, the third with a sub-apical row of well-developed but irregularly sized foveae. Apical platform fairly wide, with a feeble, arcuate emargination in the middle, the lateral margins feebly sinuate.

Clypeo-facial index 2/5, facial index 4/5, vertico-facial index 3/2. Cheeks two-thirds as long as the first joint of the flagellum, the lengths of the first three joints of the flagellum in the ratio of 3:4:2, the second joint one and a half times longer than wide. Pronotal index 1/3, the sides sinuate and divergent behind.

LOCALITY. Cape Province, South Africa.

Spintharis destituta (Figs. 4 and 26*c*).

Spintharis bispinosa destituta. 1854, Dahlbom, *Hym. Europ.* II, 351.

♂. 4·5 mm. long. General colour above reddish bronze; the head, the front and sides of the pronotum, the mesopleura, the metanotum and epinotum, and the third tergite anteriorly, becoming metallic green, though still coppery in some lights. Ventral surface of the thorax, femora and the outer surfaces of the tibiae, metallic green. The apical platform of the third tergite translucent ochreous. Tarsi ochreous. Clypeus and facial cavity distinctly darker than the vertex, metallic blue-green, the former with a very narrow anterior border dark shining brown. Sternites black. Antennae dark brown, the scape coppery green. Tegulae metallic green, wings hyaline. Pubescence white, short and sparse, denser on the sides of the face.

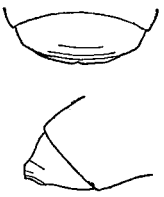

Fig. 4. *Spintharis destituta* ♂. Dorsal and lateral views of third tergite, × 13.

Clypeus feebly convex transversely, sparsely and shallowly punctate, its apical margin feebly convex. Sides of the face finely reticulate-punctate, a narrow median longitudinal area irregularly sculptured. Facial fovea absent, facial cavity very shallow, facial carina absent. The vertex and occiput reticulate-punctate, the punctures punctulate and about two-fifths as wide as the anterior ocellus.

Dorsum of the thorax and the mesopleura reticulate-punctate, the punctures punctulate and about half as wide again as the punctures on the head. Mesopleura simple. Ventral thoracic sclerites smooth to finely and irregularly punctate. Metapleural and epinotal teeth reticulate-punctate above, smooth to irregularly rugulose below. The epinotal pair widely and shallowly emarginate behind, sharply pointed apically. The metapleural pair weak.

Tergites closely and deeply reticulate-punctate, the punctures punctulate and in the main considerably smaller than those on the dorsum of the thorax; smallest on the disk of the first and second, where they are about one-fourth as wide as the anterior ocellus, largest towards the sides of the second. The third tergite without foveae; the apical platform narrow, its apical margin with a somewhat feeble V-shaped emargination in the middle and feebly sinuate laterally.

Clypeo-facial index 1/2, facial index 13/10, vertico-facial index 3/2. Cheeks half as long as the first joint of the flagellum, the lengths of the first three joints of the flagellum in the ratio of 1:1:1. Pronotal index a little more than 1/3, the sides nearly parallel in front, and strongly divergent behind.

LOCALITY. Cape Province, South Africa.

Spintharis deaurata (Figs. 5 and 26*e*).

Spintharis deaurata. 1889, Mocsary, *Monogr. Chrysid.* p. 179, n. 180.

♂♂. 5·5–7·0 mm. long. Metallic coppery red; the head, especially the facial cavity, and the ventral surface of the thorax, with greenish

reflexions; the apical platform of the third tergite metallic to ochreous. Sternites dark, shining brown, with metallic red, copper and green reflexions. Femora dark brown, some areas metallic red or copper, tibiae and tarsi pale ochreous except for areas on the middle of the tibiae which are ferruginous. Clypeus with a dark brown anterior border, mandibles dark brown, the middle third of each lighter. Antennae dark brown, the second joint of the flagellum a little lighter than the rest. Tegulae dark shining brown with a trace of metallic purplish red. Wings hyaline. Pubescence whitish, fairly long and sparse, denser on the sides of the face.

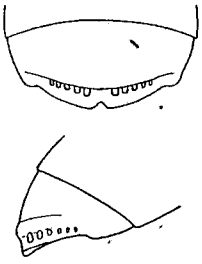

Fig. 5. *Spintharis deaurata* ♂. Dorsal and lateral views of third tergite, × 13.

Clypeus with a wide smooth V-shaped depression in the middle of the anterior margin, its posterior margin feebly carinate. The rest of the clypeus and the sides of the face closely and finely reticulate-punctate. The median longitudinal third of the facial cavity nearly smooth, but with a few feeble transverse striations in the middle. Facial fovea feeble, the facial cavity of medium depth, bounded above by a strong, bi-arcuate carina. The vertex with a distinct smooth depression, shallowly V-shaped, about one-third as wide as the distance between the eyes across the anterior ocellus, and extending from the facial carina in front to the middle of the anterior ocellus. The rest of the vertex and occiput reticulate-punctate, the punctures punctulate, varying somewhat in size, with a mean about one-third as wide as the anterior ocellus.

Dorsum of the thorax and the mesopleura reticulate-punctate, the largest punctures, which are on the scutellum, about half as wide as the anterior ocellus. Mesopleura with a distinct transverse groove about one-third of the distance from the ventral end, the groove not interrupting the puncturation. Metapleural and epinotal teeth fairly strong, uncinate, the posterior margins of the latter strongly emarginate, their apices broadly truncate; rather more finely and sparsely punctate than the rest of the dorsum of the thorax above, nearly smooth below. The ventral thoracic sclerites nearly smooth to finely and irregularly punctate or rugulose.

Tergites reticulate-punctate, the punctures punctulate and the interspaces smooth; the punctures for the most part as large as those on the thorax, but smaller near the lateral and apical margins of each tergite. The third tergite with a row of foveae near the apical margin, stronger in the middle than at the sides. The apical platform nearly smooth, with a very narrow translucent margin, the latter with a wide, shallow, median emargination; the lateral margins with a distinct but very rounded step in the middle.

Clypeo-facial index 1/2, facial index 6/5, vertico-facial index 5/3. Cheeks extremely short. The lengths of the first three joints of the flagellum in the ratio of 7:2:10, the second joint half as long as wide.

Pronotal index a little less than 1/4, the sides feebly sinuate and divergent behind.

♀ similar to the ♂♂ except in the following characters: the smooth median area of the facial cavity is a little wider, and the cavity is not bounded above by a bi-arcuate carina. The smooth depression on the vertex is absent. The median emargination in the apical margin of the third tergite is absent or feeble, as are the steps in the lateral margins. The measurements are similar to those in the ♂♂ except that the clypeus is shorter and the lengths of the first three joints of the flagellum are in the ratio of 3:2:3, the second joint being as long as wide.

LOCALITY. Cape Province, South Africa.

Spintharis chrysonota (Figs. 6 and 26*f*).

Spintharis chrysonota. 1854, Dahlbom, *Hym. Europ.* II, 351.

♂♂. 5·5–7·5 mm. long. Dorsum of the thorax and the tergites metallic coppery red, the vertex of the head copper, the sides and ventral surface of the thorax becoming metallic green or blue-green, to purple in some areas. Face metallic green. Apical platform of the third tergite testaceous. Sternites dark shining brown to black, with metallic reflexions. Femora dark shining brown, their outer surfaces metallic green; tibiae and tarsi pale ochreous, with darker areas and sometimes a touch of metallic green near the middle of the tibiae; the distal tarsal joints also darker. Clypeus with a dark anterior border; mandibles dark brown, their middle thirds paler. Antennae very dark brown, part of the anterior surface of the scape metallic coppery green. Tegulae shining brown, wings hyaline. Pubescence white, fairly short and sparse, denser on the sides of the face and clypeus.

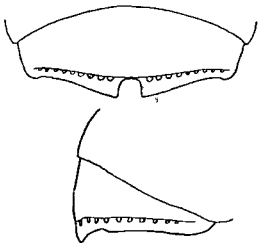

Fig. 6. *Spintharis chrysonota* ♂. Dorsal and lateral views of third tergite, ×13.

Clypeus with a smooth, broadly triangular, shallow, V-shaped depression in front. The rest of the clypeus and the sides of the facial cavity finely reticulate-punctate; the clypeus with a feeble median elevation. A median longitudinal area on the facial cavity, about one-third as wide as the whole, nearly smooth. Facial fovea feeble, facial cavity of medium depth, bounded above by a bi-arcuate carina, the latter not as strong as in *deaurata*. A shallow V-shaped depression on the vertex present, but not so well developed as in *deaurata*, and bearing a few irregularly spaced punctures. The rest of the vertex and occiput reticulate-punctate, the punctures largest between the tops of the eyes, where they are rather more than one-third as wide as the anterior ocellus.

The whole of the dorsum of the thorax, the mesopleura and the tergites, reticulate-punctate, the largest punctures a little wider than the largest on the head, the interspaces a little wider on each side of the disk of the first tergite than elsewhere. The transverse groove on the

mesopleura wider and more strongly developed than in *deaurata*, forming a distinct step. The ventral thoracic sclerites smooth to finely and irregularly punctate. Metapleural and epinotal teeth uncinate, their posterior margins strongly emarginate; the epinotal pair broadly truncate apically; rather more finely and sparsely punctate above than the rest of the dorsum of the thorax, nearly smooth below.

Foveae at the base of the apical platform of the third tergite not as strong as in *deaurata*, the platform itself wider, and with a very strong U-shaped emargination in the middle, the lateral margins of the tergite more or less feebly angulate.

Clypeo-facial index 1/3, facial index 1, vertico-facial index 3/2. Cheeks very short, the lengths of the first three joints of the flagellum in the ratio of 3:1:4, the second joint as wide as long. Pronotal index 1/3, the sides feebly sinuate and divergent behind.

♀♀ similar to the ♂♂ except in the following characters: the depression on the vertex is not so well developed and is reticulate-punctate, the carina bounding the face above is simply arcuate, often straight in the middle. The second joint of the flagellum is not nearly as short as in the ♂♂, the lengths of the first three joints being in the ratio of 4:2:3, the second joint as wide as long. The face is a little wider, and the pronotum is a little wider behind in proportion to its length than in the ♂♂. The emargination in the apical margin of the third tergite is feebler.

LOCALITY. Cape Province, South Africa.

Spintharis arnoldi.

Spintharis arnoldi. 1928, Brauns, *Ent. Mitt.* XVII, 383. (Translated from original description.)

♂. The upper surface of the head, thorax and abdomen are coloured a beautiful green-blue, without the coppery red admixture as in *S. bispinosa* Mocs. The third and fourth antennal joints are yellowish white above. The base of the anterior and middle tibiae to a lesser extent, and of the posterior tibiae to a greater extent, yellowish white. All the tarsi are yellowish white. Length 6·5 mm.

This species is of medium size and has a parallel (sided) body. It is covered with a short, fine, whitish grey pubescence. The facial cavity is small and not very deep. The sides of the face bear a silky white pubescence. The enclosing transverse carina (facial carina) is strong and sends out a branch on either side to enclose, more or less distinctly, the anterior ocellus. The tongue reaches beyond the closed mandibles and is fairly strong. The mesopleura have, in place of the two strong, tubercle-like teeth of *S. bispinosa*, three distinct, pointed teeth, which are smaller and stand out less than in that species. The cheeks are very small and linear. Pronotum transversely rectangular, the anterior shoulders rounded. The (scutellum and metanotum) are differentiated from the rest of the body by their coarse, rugulose sculpture. The (epinotal) teeth are short and not very large. The second and third tergites are longitudinally carinate in the middle when viewed from the side. The transverse row of

punctures on the third tergite consists of several, about twelve (foveae), which occur almost on the translucent yellowish edge of the segment. The latter is fairly broad. The puncturation of the surface consists of a very fine reticulation of the facial cavity, the upper surface of the head and that of the mesonotum are comparatively finely and closely (reticulate) punctate, the (carinate) area of the head much more finely so. Epinotum coarsely rugulose. The sculpture of the tergites is like that of the mesonotum. The emargination of the third tergite is very feeble; the (apical margin) of this tergite is rather flat. The sternites are concave, smooth and shining, very finely (coriaceous). This species is differentiated from *S. bispinosa* by the colour and the three metapleural tubercles. It is clear, however, that this species represents a distinct geographical race.

Type in Transvaal Museum.

Habitat: Bulawayo, Southern Rhodesia. January.

Leg. Dr Arnold.

Genus **Euchreous** Latreille

Euchreous. 1809, Latreille, *Gen. Crust. et Ins.* IV, 48.
Brugmoia. 1877, Radoszkowsky, in Feldtschenko, Reise in Turkestan, *Hym. Chrys.* p. 25.
Polyodontus. 1877, Radoszkowsky, ibid. p. 25.

CHARACTERS. Fairly large insects, metallic green for the most part, but often with bright red on the face and cheeks. Mouthparts, clypeus and cheeks strongly elongate. Mandibles sharp and strongly angulate on the inner surface near the tip. On the thorax, the propleura each bear a sharp ventrally directed tooth, the mesopleura are intricately sculptured and armed with teeth. The third tergite bears a feeble median longitudinal carina and a strong subapical incrassation; the apical margin itself is drawn out into a number of fairly strong, blunt and irregular teeth. In the fore-wings, the radial and cubital cells are open, the discoidal cell closed.

DISTRIBUTION. Species of this genus occur chiefly in the Palearctic region; three species can now be recognized from South Africa.

Key to the species of Euchreous

(2) 1. Face very narrow, one and two-thirds times longer than wide, colour purple. **artifrons** n.sp.

(1) 2. Face wider, one and one-third times longer than wide, colour green.

(4) 3. With two projections on the metanotum. **binodatus** n.sp.

(3) 4. Metanotum unarmed. **candens** Dahlbom

Euchreous candens (Figs. 7 and 26*b*).

Euchreous candens. 1854, Dahlbom, *Hym. Europ.* II, 371, n. 205, ♀. (Nec *Chrysis candens* Germ.)
Euchreous coerulans. 1854, Dahlbom, *Hym. Europ.* II, 372, n. 206, ♂. (Nec *Chrysis coerulans* Fabr.)
Chrysis torrida. 1889, Mocsary, *Monogr. Chrysid.* p. 600.

♂♂. 9·0–11·0 mm. long. Metallic green, becoming a little darker to bluish green on the mesonotum and the occiput, and distinctly purplish blue on the third tergite; lighter to yellowish green on the ventral thoracic sclerites and reddish bronze on the clypeus and face. Sternites metallic green with black borders. Mandibles metallic green at the base, dark brown apically; scape and first joint of the flagellum metallic green, the rest of the antennal joints dark brown. Femora and tibiae metallic green for the most part, tarsi ochreous with a little metallic green on the outer surface of the proximal joints. Wings fusco-hyaline. Pubescence brownish white, fairly long and sparse, denser on the head, particularly on the face, and on the sides of the thorax and the legs.

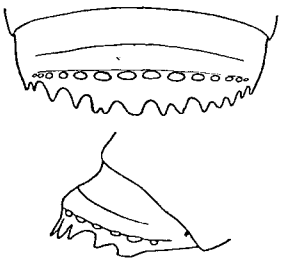

Fig. 7. *Euchreous candens* ♂. Dorsal and lateral views of third tergite, × 13.

Clypeus long, convex transversely and longitudinally, its anterior margin straight to very feebly concave; closely and rather shallowly punctate, the punctures becoming smaller and closer laterally. Facial cavity fairly shallow, finely reticulate-punctate at the sides, the median longitudinal third more coarsely and sparsely punctate and with a well-defined median groove. Facial fovea strong. The face bounded above by a strong, though somewhat irregular carina, the latter usually not extending laterally quite as far as the eyes, or if extending as far then the lateral extremities are bent downwards and feeble. The vertex with a strong carina, making rather more than a hemi-ellipse, enclosing the anterior ocellus behind, the extremities reaching the ends of the facial carina proper in front. The area of the vertex thus enclosed is somewhat irregularly longitudinally rugose. The rest of the vertex and occiput reticulate-punctate, many of the punctures indistinctly punctulate, the largest, which are on the occipital region, about one-third as wide as the anterior ocellus.

Dorsum of the thorax coarsely reticulate-punctate, the punctures not punctulate, the largest, which are on the pro- and metanotum, considerably larger than those on the head, up to two-thirds as wide as the anterior ocellus. The punctures become progressively smaller on the mesonotum from behind forwards, they are very deep on the metanotum and shallow on the pronotum. Propleura each with a strong, sharp, ventrally directed tooth on the lateral margin. Mesopleura for the most part coarsely reticulate-punctate, with a strong oblique groove transversely rugose; the lower area of these sclerites distinctly concave, and drawn out below into two strong teeth. Metapleural and epinotal teeth strong, coarsely reticulate-punctate above, nearly smooth below; the metapleural pair uncinate, the epinotal pair rounded apically, their posterior margins convex. Ventral thoracic sclerites finely and irregularly punctate or rugulose.

Tergites punctate, the punctures on the first about one-third as wide as the anterior ocellus, widely spaced on the disk, becoming closer

laterally, the interspaces nearly smooth. The punctures a little smaller on the second, and rather closer except posteriorly; those on the third much closer anteriorly, about the same size as those on the second. The disk of the third tergite distinctly concave longitudinally, but with a strong incrassation near to, and parallel with, the apical margin. Apical platform fairly narrow, bearing a number of shallow foveae at the base, the apical margin armed with a number (ten to thirteen) of strong, irregularly sized and spaced teeth.

Clypeo-facial index 1/2, facial index 3/4, vertico-facial index 5/3. Cheeks about three-quarters as long as the second joint of the flagellum, the latter nearly twice longer than wide, the lengths of the first three joints of the flagellum in the ratio of 2:4:3. Pronotal index 4/14, the sides strongly sinuate and divergent behind.

♀♀ like the ♂♂ except in the following respects: Clypeus, anterior half of the cheeks, scape and first joint of the flagellum, ventral surface of the thorax and abdomen, legs, and to a lesser extent the face, distinctly metallic red to coppery red. Tegulae reddish purple. The sides of the first tergite are distinctly lighter than the disk, and demarcated therefrom by distinct thin lines of reddish purple. Carinate area of the vertex semicircular and reticulate-punctate.

LOCALITY. Nineteen specimens have been available and they come from widely separated parts of the South African sub-region and from Zanzibar. This species will probably prove to have a wide range, though the numbers are not very large.

Euchreous artifrons n.sp. (Fig. 8).

♀. 8·5 mm. long. Head above, dorsum and sides of thorax and sides of the first tergite dark metallic bluish purple, the rest of the tergites and the tegulae reddish purple. Ventral thoracic sclerites metallic green or yellowish, the metallic areas of the legs predominantly purple on the first pair, green on the others. Clypeus red, face green. The first joint of the flagellum pale greyish brown, the remaining joints very dark brown. First and second sternites predominantly metallic green, the third copper. Pubescence similar to that in *candens* but more dense on the sides of the face.

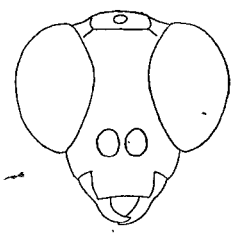

Fig. 8. *Euchreous artifrons* ♀. Front of head, × 13.

Sculpture throughout similar to that in *candens*, but the punctures shallower on the dorsum of the thorax. The face is much narrower than in *candens*. Clypeo-facial index 6/13, facial index 3/5, vertico-facial index 2/1, other measurements similar to those in *candens*.

This species is clearly closely related to *E. candens*, but the distinct colour differences (the colour of *candens* being very constant) together with the much narrower face are sufficient to warrant distinct specific rank.

LOCALITY. Fort Victoria, Southern Rhodesia.

Described from 1 ♀. Type in coll. R. H. R. Stevenson.

Euchreous binodatus n.sp. (Fig. 9).

♀. 9·0 mm. long. Metallic green; the sides of the mesonotum, a small area on the metanotum, two well-defined maculae on the second tergite, and the base of the apical platform of the third tergite, metallic purplish blue. The anterior surface of the incrassation on the third tergite, the tegulae, the scape and first joint of the flagellum and the facial cavity below, copper to greenish copper. Femora and outer surfaces of the tibiae metallic green, tarsi pale ochreous. Mandibles green at the base, shining brown apically. First two sternites metallic green, the second with a distinct macula in each lateral half, third sternite reddish copper. The lateral margins of the third tergite and the tips of the teeth on its apical margin translucent ochreous. Wings fusco-hyaline. Pubescence brownish white, fairly long, sparse; denser on the sides of the face.

Clypeus feebly convex longitudinally, its apical margin straight; rather finely and closely punctate. Cheeks and the sides of the face finely reticulate-punctate, the median longitudinal third of the facial cavity very finely transversely rugulose, with a feeble median longitudinal groove. Facial fovea feeble. The facial cavity bounded above by a strong transverse carina which is feebly convex anteriorly. Another carina

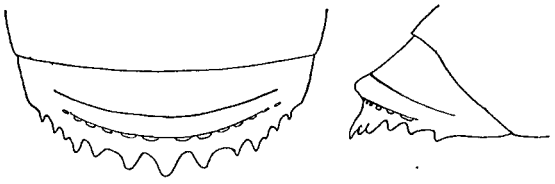

Fig. 9. *Euchreous binodatus* ♀. Dorsal and lateral views of third tergite, × 13.

forms rather more than a hemi-ellipse on the vertex, enclosing the anterior ocellus and joining the facial carina near its extremities. The area thus enclosed is rather finely reticulate-punctate, the punctures for the most part not more than one-third as wide as the anterior ocellus. The rest of the vertex and occiput more coarsely reticulate-punctate, the largest punctures behind the eyes, where they are nearly two-thirds as wide as the anterior ocellus.

Dorsum of the thorax reticulate-punctate, the punctures more or less equal in size to the largest on the head, but larger than this on the posterior region of the metanotum; the latter with two mucronate projections arranged side by side near the middle of the sclerite. Propleura each with a sharp ventrally directed tooth at the side. Mesopleura with a rather indistinct, oblique groove, the latter not interrupting the reticulate puncturation, produced below into two strong, ventrally directed teeth. Metapleural and epinotal teeth strong, reticulate-punctate above, irregularly sculptured below, the posterior margins of the epinotal pair strongly concave, their apices sharply pointed.

First tergite reticulate-punctate on the disk apically, elsewhere the punctures more widely spaced; varying in size, smallest on the disk,

largest at the sides. Second tergite reticulate-punctate on the darker areas in each lateral half, the punctures becoming sparser and larger elsewhere, a very narrow median longitudinal strip very finely and fairly sparsely punctate. The disk of the third tergite feebly concave, closely and rather shallowly punctate, a strong incrassation runs close to and parallel with the apical and lateral margins. The apical platform narrow, with a number of indistinct foveae at its base, its apical margin armed with a number (about thirteen) of irregularly arranged and sized teeth.

Clypeo-facial index 4/7, facial index 9/7, vertico-facial index 3/2. Cheeks as long as the second joint of the flagellum, the latter one and a quarter times longer than wide. The lengths of the first three joints of the flagellum in the ratio of 3:4:4. Pronotal index 1/4, the sides feebly sinuate and strongly divergent behind.

LOCALITY. Resolution, Eastern, Cape Province.

Described from 1 ♀. Type in Transvaal Museum.

Genus **Stilbum** Spinola

Stilbum. 1808, Spinola, *Ins. Ligur.* I, 9 (1806) and II, 3.

CHARACTERS. Medium to very large insects. The head rather small in relation to the thorax. Facial cavity very deep and narrow, the vertex with a characteristic heart-shaped carina. Mouthparts, cheeks and clypeus strongly elongate. The sides of the thorax strongly concave. Mesopleura intricately sculptured, the metanotum with a characteristic strong shovel-shaped projection. Large smooth areas present. The third tergite bears a very strong transverse incrassation, the apical platform is very wide, it is drawn out into four strong sharp teeth apically and bears a row of strong foveae at the base. Wing venation well developed.

DISTRIBUTION. *S. cyanurum* Forst. is recorded in a number of varieties from many regions. The only other described species, *viride* Guerin, has been recorded from Madagascar and South America. The South African subspecies, *amethystinum* Fab. is recorded from all over the subregion.

Stilbum cyanurum subsp. **amethystinum** Fabr. (Figs. 10 and 26*a*).

Chrysis amethystina. 1775, Fabr. *Syst. Ent.* p. 359, n. 12.
Stilbum splendidulum. 1842, Westw. *Donov. Inst. of Ind.* LXXXVIII, fig. 3.
Stilbum splendidum. 1854, Dahlbom, *Hym. Europ.* II, 358, n. 199, var *a.*
Stilbum amethystinum. 1859, Smith. *J. Linn. Soc.* (*Zool.*), III, 177.
Stilbum cyanurum var *amethystinum.* 1889, Mocsary, *Monogr. Chrysid.* p. 192.

♂♂ and ♀♀. 8·5–16·0 mm. long. Metallic green, the third tergite always darker, purple. Sometimes the dorsum of the thorax and the tergites darker to purple. Sternites metallic green, the second with a large black macula in each lateral half, the third usually becoming purple to purplish red apically. Femora, tibiae, and to some extent the tarsal joints above, metallic green. Mandibles green at the base, very dark brown apically.

Scape and the first two joints of the flagellum above metallic green, the rest of the antennae almost black. Wings fuscous. Pubescence pale brown, fairly short and sparse.

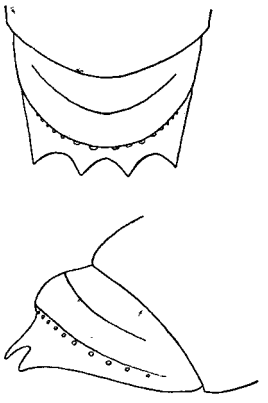

Fig. 10. *Stilbum cyanurum amethystinum* ♂. Dorsal and lateral views of third tergite, × 13.

Clypeus with three longitudinal grooves, one median and one close to each lateral margin, its anterior margin widely V-shaped; sparsely and irregularly punctate. Cheeks finely and more closely punctate. Facial cavity narrow and deep, transversely striate up to the well-developed facial fovea, above this point closely and irregularly punctate. Vertex with a strong carina forming a roughly heart-shaped area, the apex of the heart pointing posteriorly, enclosing the anterior ocellus behind and bounding the top of the facial cavity in front. The area thus enclosed very shallowly reticulate-punctate, the punctures often running together and forming almost smooth areas; the punctures less than one-third as wide as the anterior ocellus. The rest of the vertex and occiput closely to reticulate-punctate, the punctures about one-third as wide as the anterior ocellus.

Pronotum punctate, the punctures about the size of those on the vertex, fairly sparse on the disk, but becoming closer to reticulate-punctate laterally. Pronotum with a distinct, wide though shallow depression in the middle, not reaching the posterior margin; the anterior and posterior margins of the sclerite strongly concave. Mesonotum very shallowly punctate, sometimes almost smooth, except a narrow area next to the lateral margin on each side and a small posterior region on the median area, which are deeply and coarsely reticulate-punctate, the punctures up to two-thirds as wide as the anterior ocellus. Scutellum and metanotum coarsely reticulate-punctate, the largest punctures as wide as the largest on the mesonotum, but becoming considerably smaller laterally. Scutellum with a small area in the middle of the anterior margin apparently reflexed, smooth; the metanotum with a very strong median projection in the shape of a very deep shovel, the concave surface uppermost, smooth above, reticulate-punctate below. The mesopleura are intricately sculptured: a large median vertical area is almost smooth, posteriorly this is separated from another much narrower smooth vertical strip by a strong, transversely rugulose groove; while in front of the smooth median area there are two vertical, transversely rugulose grooves, separated by a very strong carina. The anterior of these two grooves turns posteriorly below and widens to form a coarsely sculptured area below, and set back from, the main smooth area. This platform is bounded by a carina which is drawn out into one or two blunt teeth.

Metapleural and epinotal teeth strong, their margins contiguous, the former finely and closely, the latter more coarsely and sparsely, punctate

above, both nearly smooth below; the posterior margin of the epinotal pair entire and feebly sinuate, the apices sub-rectangular.

Tergites punctate, the largest punctures, which occur on the disk of the first, as wide as those on the thorax, the punctures becoming smaller elsewhere, much smaller laterally and posteriorly on the second and on the whole of the third tergite, the interspaces smooth and shining. The anterior region of the third tergite very strongly concave longitudinally, a very strong incrassation running near to and parallel with the apical and lateral margins of the tergite. The apical platform wide, with eighteen to twenty strong foveae at the base, the largest fovea in the middle, the apical margin armed with four very strong, sharp teeth, the outer margin of each of the lateral teeth continuous in a very shallow, wide, sinuate curve with the lateral margin of the tergite.

Clypeo-facial index 1/2, facial index 3/7, vertico-facial index 5/3. Cheeks very long, as long as the second joint of the flagellum, the latter a little more than twice longer than wide. The lengths of the first three joints of the flagellum in the ratio of 3:5:3. Pronotal index 1/3, the sides sinuate and divergent behind.

LOCALITY. A very common subspecies, widely distributed throughout Africa.

Genus **Pseudochrysis** A. Semenow

Pseudochrysis. 1891, A. Semenow, *Bor. Soc. Ent. Ross.* XXV, 444.

CHARACTERS. Medium-sized to large insects, resembling the subgenus *Holochrysis* Licht., except as regards the mouthparts, which are elongated. The head is wide, often considerably wider than the pronotum; the clypeus and cheeks may be elongated or of normal length. The general form of the thorax and abdomen are Chrysis-like. The metanotum is unarmed. The abdomen in both sexes consists of three visible segments, and the third tergite is much more narrowly rounded behind in the females than in the males. The apical margin of the third tergite is entire. The wing veins are normal and Chrysis-like.

DISTRIBUTION. The species hitherto described are mainly from the Mediterranean region. The only African representative now known is *P. ardens* Mocs., described by that author as *Holochrysis ardens*, and transferred to this genus by me on account of the strongly elongated mouthparts.

Pseudochrysis ardens (Figs. 11 and 27*a*).

Holochrysis ardens. 1902, Mocsary, *Természtr. Füz.* XXV, 543.

♂♂ and ♀♀. 8·0–10·0 mm. long. General colour metallic red or greenish bronze, the dorsum of the thorax usually a little lighter than the rest. The outer surface of the anterior tibiae similar to the upper surface of the insect, the rest of the legs, and the sternites, black, with greenish or purplish reflexions. Tarsi and antennae dark brown, the clypeus with a broad dark brown anterior border. Wings fusco-hyaline. Pubescence whitish, short and sparse, denser on the sides of the face.

Clypeus convex transversely in the middle, the non-metallic apical border bent downwards at an oblique angle to the rest of the clypeus, its apical and lateral margins carinate, the former concave. Clypeus and the sides of the face finely reticulate-punctate, the median third of the face becoming arcuately striate and the top of the face becoming much more coarsely punctate, the punctures about one-third as wide as the anterior ocellus. The face bounded above by a strong transverse carina, the latter bent downwards at the ends to meet the eyes. Another, more or less semicircular, carina on the vertex encloses the anterior ocellus behind, its extremities meeting the facial carina where the latter bends downwards at each side. Vertex and occiput reticulate-punctate, the punctures smallest on the carinate area of the vertex, and becoming considerably larger behind, the largest, on the occiput, up to half as wide as the anterior ocellus.

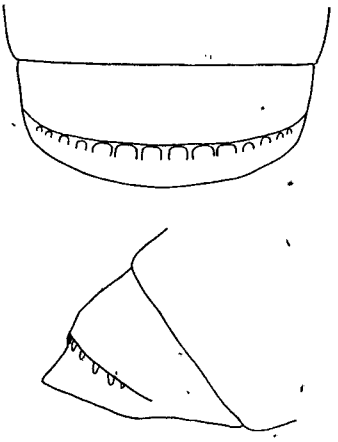

Fig. 11. *Pseudochrysis ardens* ♂. Dorsal and lateral view of third tergite, × 13.

Dorsum of the thorax and the mesopleura reticulate-punctate, the punctures all about the same size, a little larger than the largest on the head; the interspaces closely and strongly punctulate. Mesopleura unarmed below, the lower area rather more coarsely sculptured than the rest, and the margins more or less distinctly carinate. Ventral thoracic sclerites finely and irregularly punctate. Metapleural and epinotal teeth reticulate-punctate above, nearly smooth below; the epinotal pair strong, sub-rectangular apically, their posterior margins concave.

Tergites sub-reticulate-punctate, the punctures largest on the first and second where they are a little smaller than those on the thorax; considerably smaller than this, and closer, to reticulate-punctate, on the third tergite. The interspaces, where wide enough, are fairly closely punctulate. The second tergite with a strong median longitudinal carina on the basal two-thirds more or less. The disk of the third tergite strongly concave longitudinally in ♀♀, feebly convex in ♂♂. The apical platform is wide and nearly smooth, separated from the rest of the tergite by a row of about fourteen strong, deep foveae. The apical and lateral margins are entire, the apical margin in ♀♀ is more narrowly rounded behind than in ♂♂.

Cheeks very short. Clypeo-facial index 5/11, facial index 1, vertico-facial index 3/2. Lengths of the first three joints of the flagellum in the ratio of 4:7:4, the second joint two and a half times longer than wide. Pronotal index 3/10, the sides sinuate and divergent behind.

LOCALITY. Cape Province.

This species, which is very striking on account of its colour and its sculpture, was described by Mocsary as a species of *Holochrysis*. It

cannot, however, be left in that subgenus, as the mouthparts are strongly elongated, and I have therefore transferred it to *Pseudochrysis*.

Genus **Pseudogonochrysis** Bischoff

Pseudogonochrysis. 1910, Bischoff, *Mitt. zool. Mus. Berl.* p. 445.

CHARACTERS. Similar to *Pseudotetrachrysis*, but differing from that genus in the following respects: the clypeus and cheeks are fairly strongly elongate as well as the mouthparts. Mesopleura coarsely sculptured on the lower area. The third tergite without a subapical incrassation, its apical margin with four short, rounded projections.

DISTRIBUTION. Only three species of this genus have been described, one from the Mediterranean, one from East and one from South Africa.

Pseudogonochrysis krebsi (Figs. 12 and 27*b*).

Pseudogonochrysis krebsi. 1910, Bischoff, *Mitt. zool. Mus. Berl.* p. 447.

♂. 9·0 mm. long. General colour metallic green, the following areas darker to purple or blue-black: the ocellar area of the head, the median area of the mesonotum, the anterior margin and the anterior half of the sides of the second tergite and the whole of the third tergite except the middle of the disk towards the apical margin. Sternites metallic green and greenish blue. Mandibles green at the base, dark brown apically, the apical border of the clypeus, shining brown. Scape and the first joint of the flagellum above metallic green, the rest of the antennae dark brown. Tarsi dark brown. Wings fusco-hyaline. Pubescence fairly long and sparse, denser on the sides of the face.

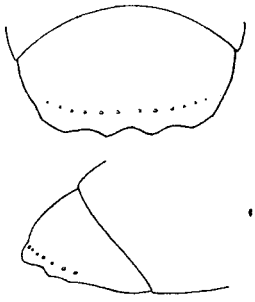

Fig. 12. *Pseudogonochrysis krebsi* ♂. Dorsal and lateral views of third tergite, × 13.

Clypeus convex transversely in the middle, its apical margin straight, fairly coarsely and sparsely punctate. Face finely reticulate-punctate at the sides, a median longitudinal area, about one-third as wide as the face, transversely rugulose up to the elongate facial fovea, but above this point the whole of the face is more coarsely reticulate-punctate. Facial cavity fairly deep, bounded above by an indistinct arcuate carina; the vertex also with an indistinct, semicircular carina enclosing the anterior ocellus behind, its anterior extremities meeting the facial carina and dividing the latter into three roughly equal lengths. Vertex and occiput reticulate-punctate, the punctures punctulate and largest behind the eyes, where they are nearly half as wide as the anterior ocellus; the sculpture on the carinate area tends to become rugulose.

Dorsum of the thorax and the mesopleura reticulate-punctate, the punctures a little larger on the scutellum and the metanotum than elsewhere, up to two-thirds as wide as the anterior ocellus. Mesopleura with a strong transverse groove rather more than half way down, the lower

area coarsely and irregularly sculptured. Ventral thoracic sclerites finely and fairly sparsely punctate. Metapleural and epinotal teeth rather finely reticulate-punctate above, nearly smooth below; the metapleural pair uncinate, the epinotal pair subacute apically, their posterior margins strongly and widely emarginate.

Sternites for the most part sub-reticulate-punctate, the punctures largest on the disk of the first where they are about half as wide as the anterior ocellus, becoming a little smaller and closer elsewhere, to reticulate-punctate on the third. The latter with an ante-apical row of indistinct foveae, the apical margin itself with four short, very broadly rounded, projections, the distance between the middle two less than that between the outer and middle projections: the lateral margins of the tergite very feebly angulate.

Clypeo-facial index 5/11, facial index 6/7, vertico-facial index 13/10. Cheeks as long as the second joint of the flagellum. The lengths of the first three flagellar joints in the ratio of 3:5:3, the second joint twice as long as wide. Pronotal index 3/10, the sides feebly sinuate and divergent behind.

LOCALITY. Cape Province.

Genus **Pseudotetrachrysis** Bischoff

Pseudotetrachrysis. 1910, Bischoff, *Mitt. zool. Mus. Berl.* p. 477.

CHARACTERS. Fairly large insects, the thorax rather flat, with parallel sides. Mouthparts elongate, but the clypeus and cheeks fairly short. Mesopleura simple, the metapleural and epinotal teeth strong. The third abdominal tergite bears a feeble subapical incrassation, and its apical margin is drawn out into four strong, sharp teeth, the lateral pair being removed from the lateral margin of the tergite. In the fore-wings, the radial cell is all but closed.

DISTRIBUTION. This genus is restricted to the Cape Province and South-West Africa; three species only having been described; of which *oxygona* Mocs. and *carinata* Bisch. are closely related.

Key to the species of Pseudotetrachrysis

(2) 1. Abdomen red above, teeth on the apical margin of the third tergite long. **krugeri** n.sp.

(1) 2. Abdomen not red above, teeth short.

(4) 3. Second joint of the flagellum twice as long as the third. **oxygona** Mocsary

(3) 4. Second joint of the flagellum equal to or only slightly longer than the third. **carinata** Bischoff

Pseudotetrachrysis krugeri n.sp. (Figs. 13 and 27*e*).

♂♂. 6·5–9·0 mm. long. The head above, the pronotum and the tergites reddish copper, the second and third tergites becoming metallic red. Head with a darker area between and behind the posterior ocelli. The face, the sides and ventral surface of the thorax, the mesonotum (except

at the sides and on two lateral strips of the median area), the tegulae, the femora and tibiae on the outer surfaces of the latter, the scape and to a lesser extent the first joint of the flagellum, metallic green. The rest of the mesonotum dark metallic bluish purple. Scutellum and metanotum brassy. Sternites metallic green and coppery red, with a large black macula in each lateral half of the second. Tarsi ferruginous. The rest of the flagellar joints dark brown to black. Mandibles dark shining brown with a small metallic green area at the base; clypeus with a dark brown apical border. Wings fusco-hyaline. Pubescence white, short and sparse, denser on the sides of the face.

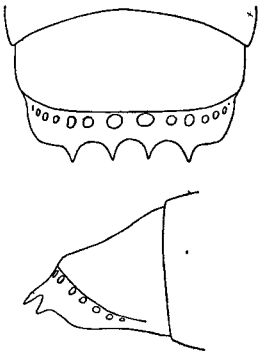

Fig. 13. *Pseudotertachrysis krugeri* ♂. Dorsal and lateral views of third tergite, × 13.

Clypeus convex transversely in the middle, its apical margin feebly concave; the brown apical border smooth, the rest rather finely, shallowly and irregularly punctate. Cheeks and the sides of the face finely reticulate-punctate, a median longitudinal area, nearly half as wide as the shortest distance across the face, transversely striate, the striae becoming oblique above. Facial fovea feeble, above this point the face is shallowly and irregularly reticulate-punctate. The face bounded above by a more or less strong transverse carina, the shape varying from distinctly bi-arcuate to straight with a small median projection behind, the extremities bent downwards towards the eyes. The vertex with a more or less strong, semicircular carina, enclosing the anterior ocellus behind, its lateral extremities meeting the facial carina at the points where the latter is bent forwards. The area enclosed is reticulate-punctate, becoming longitudinally rugulose immediately in front of the anterior ocellus, the punctures punctulate and about one-third as wide as the anterior ocellus. The rest of the vertex and occiput reticulate-punctate, the punctures punctulate and deep, the largest about two-thirds as wide as the anterior ocellus.

Dorsum of the thorax reticulate-punctate, the punctures largest on the metanotum where they are nearly as wide as the anterior ocellus, becoming slightly smaller anteriorly to the pronotum. The scutellum with a small median anterior area, roughly triangular in shape with the apex posteriorly, smooth or very finely and sparsely punctate. Mesopleura reticulate-punctate, with a distinct, slightly oblique, transversely rugose groove. Ventral thoracic sclerites finely and shallowly punctate. Metapleural and epinotal teeth strong, the former finely reticulate-punctate above, the latter more coarsely so, especially apically, both pairs nearly smooth below; the metapleural pair uncinate, the epinotal pair with their posterior margins strongly concave and angulate near the base.

Tergites sub-reticulate-punctate, the punctures about half as wide as the anterior ocellus, but a little larger than this on the anterior half of the

disk of the first. The third feebly concave longitudinally, and with a rather feeble subapical incrassation. A row of about nine strong foveae along the posterior side of the incrassation; the apical margin of the tergite with four strong, sharply-pointed teeth, the lateral pair of teeth removed from the lateral margin of the tergite, which is nearly straight.

Clypeo-facial index 3/8, facial index 10/11, vertico-facial index 3/2. Cheeks about half as long as the second joint of the flagellum, the latter twice as long as wide. Pronotal index 3/8, the sides sinuate and feebly divergent behind.

♀♀ like the ♂♂ except that the third tergite is somewhat narrower behind.

LOCALITY. Cape Province and South-West Africa.

Described from 28 ♂♂ and ♀♀. Types in British Museum.

Pseudotetrachrysis oxygona (Figs. 14 and 27*d*).

Pseudotetrachrysis oxygona. 1890, Mocsary, *Természetr. Füz.* XIII, 60, n. 26.

♂♂ and ♀♀. 9·0–11·0 mm. long. Dark metallic green; a large macula on the vertex, a small median area on the pronotum, the median area of the mesonotum, a small median area on the scutellum, the tegulae, the anterior declivity of the first tergite, the base and more or less of the median area on the disk of the second tergite, and the base of the third tergite, black, but each of these areas dark metallic blue near its borders. Sternites metallic green, the second with a large black area on the basal half, becoming dark blue and black near the lateral and apical margins. Mandibles metallic green at the base, dark shining brown apically; clypeus with a narrow anterior border dark shining brown. Femora and tibiae metallic green, tarsi ferruginous. Wings fusco-hyaline. Pubescence white, fairly long and sparse, denser on the sides of the face.

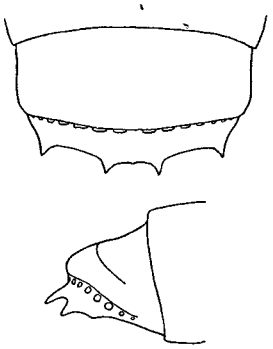

Fig. 14. *Pseudotetrachrysis oxygona* ♂. Dorsal and lateral views of third tergite, × 13.

Clypeus strongly convex transversely in the middle, its apical margin nearly straight; the apical border smooth, the rest irregularly sculptured in the middle, becoming finely reticulate-punctate laterally. Cheeks and face finely reticulate-punctate except for a narrow median longitudinal area on the latter which is feebly and irregularly striate to very shallowly and sparsely punctate. Facial fovea feeble, the area above it shallowly and irregularly punctate. Facial cavity bounded above by a strong carina which is divided into four approximately equal parts, each central part is more or less strongly convex anteriorly, each lateral part is nearly straight and is inclined at a slight angle downwards towards the eyes. The vertex with a more or less strong semicircular carina, enclosing the anterior ocellus behind, its extremities meeting the facial carina at the

junctions of the lateral and median sections. The carinate area reticulate-punctate, the punctures about one-fourth as wide as the anterior ocellus, becoming a little wider posteriorly. The rest of the vertex and occiput reticulate-punctate, the punctures largest behind the posterior ocelli, where they are rather more than half as wide as the anterior ocellus, a little smaller than this elsewhere.

Dorsum of the thorax reticulate-punctate, the punctures largest on the scutellum where they are nearly as wide as the anterior ocellus, a little smaller than this elsewhere. Mesopleura reticulate-punctate with a distinct somewhat oblique groove, the latter transversely rugulose, the margins of the lower area strongly carinate. Ventral thoracic sclerites finely punctate or striate. Metapleural and epinotal teeth reticulate-punctate above, the former more finely than the latter; irregularly sculptured below. Posterior margins of the epinotal pair strongly concave and acute at the apex.

Tergites sub-reticulate-punctate, the punctures largest on the disk of the first, where they are nearly as large as the largest on the thorax, somewhat smaller than this elsewhere, considerably smaller and shallower on the third tergite. The basal declivity of the first with a distinct though wide and shallow, median groove, the second and third with a feeble median longitudinal carina. The third very feebly concave longitudinally and with a strong sub-apical incrassation. The apical platform fairly wide and nearly smooth, with a row of deep foveae at the base, its apical margin produced into four sharply pointed but short teeth, the lateral pair removed from the lateral margin of the tergite, which is nearly straight.

Clypeo-facial index 3/7, facial index 12/11, vertico-facial index 4/3. Cheeks of medium length, about one-third as long as the second joint of the flagellum which is two and a half times wider than long. Lengths of the first three joints of the flagellum in the ratio of 1:2:1. Pronotal index 3/11, the sides feebly sinuate and divergent behind.

LOCALITY. Transvaal, Natal and Cape Province.

Pseudotetrachrysis carinata (Figs. 15 and 27*c*).

Pseudotetrachrysis carinata. 1901, Bischoff, *Mitt. zool. Mus. Berl.*, p. 448.

♂♂ and ♀♀. 9·0–11·0 mm. long. Metallic green to dark metallic blue; in lighter coloured specimens the median area of the mesonotum, the tegulae, a narrow anterior border and more or less of the sides of the second tergite, and the third tergite at the base, dark bluish purple; in darker specimens the corresponding areas are almost black. Face and the head in front of the anterior ocellus always lighter than the rest, brassy green in light specimens to bluish green in darker ones. Sternites metallic green or dark blue, the anterior half, more or less, of the second, black. Femora and tibiae metallic green to dark purplish, tarsi lighter or darker brown. Scape and upper surface of the first joint of the flagellum metallic green or greenish blue, the rest of the antennae dark brown. Mandibles metallic at the base, shining brown apically. Wings fusco-hyaline.

Structure and sculpture similar to that in *oxygona* except in the following respects: Clypeus not quite so strongly convex transversely, the fairly broad anterior margin feebly concave. The facial carina is nearly straight, or at least the whole is very shallowly arcuate and concave in front. The ocellar carina is weak or absent. The punctures on the third tergite are stronger, and the median longitudinal carina on the second and third tergites is stronger. Clypeo-facial index 1/2; facial index 5/4, vertico-facial index 7/5. Cheeks about as long as the first joint of the flagellum, the second joint much shorter than in *oxygona*, about one-half longer than wide. The lengths of the first three joints of the flagellum in the ratio of 2:3:3. Pronotal index 1/3, the sides feebly sinuate and divergent behind.

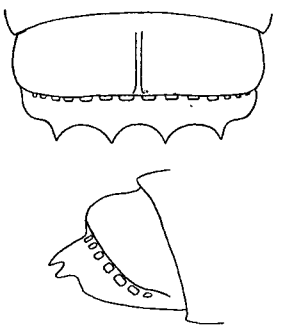

Fig. 15. *Pseudotetrachrysis carinata* ♂. Dorsal and lateral views of third tergite, × 13.

LOCALITY. Cape Province.

Genus **Pseudohexachrysis** Bischoff

Pseudohexachrysis. 1910, Bischoff, *Mitt. zool. Mus. Berl.* p. 448.

CHARACTERS. Medium-sized insects, the thorax fairly flat and with parallel sides. The mouthparts somewhat elongate though not so strongly as in *Euchreous*. The dorsum of the thorax and the mesopleura are unarmed. The second abdominal tergite bears a strong median longitudinal carina, and the third bears a strong sub-apical transverse incrassation. The apical margin of the third tergite is armed with four short but sharp teeth, and each lateral margin bears a strong, recurved tooth, near the base of the tergite.

DISTRIBUTION. Only one species has been recorded and that occurs in the Cape Province and the Orange Free State.

Pseudohexachrysis splendens (Figs. 16 and 27*f*).

Pseudohexachrysis splendens. 1854, Dahlbom, *Hym. Europ.* II, 312, n. 177.

♂♂. 6·0–7·0 mm. long. Metallic green or bluish green, the sides of the vertex, a large area on each lateral half of the pronotum, the lateral areas of the mesonotum, and to some extent the clypeus, red to coppery red; the following areas darker to deep purplish blue: the anterior and posterior margins of the median area of the mesonotum, the tegulae, the floor of the punctures on the disk of the first tergite, the sides of the third tergite, and to some extent the foveae and apical platform of that tergite. Sternites metallic bluish green to blue, with some areas non-metallic, black. Clypeus with a narrow apical border dark shining brown; mandibles metallic coppery green at the base, shining brown apically. Scape and the upper surface of the first, and to a lesser extent the second joint of the flagellum dull metallic green. Wings hyaline.

Pubescence white, short and sparse, absent on the dorsum of the thorax and abdomen, but much denser on the sides of the face. Some specimens are darker throughout than the above description, then the greens become blues, and the blues purple, but the pattern remains constant.

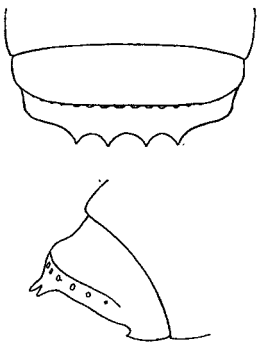

Fig. 16. *Pseudohexachrysis splendens* ♂. Dorsal and lateral views of third tergite, × 13.

Clypeus very feebly convex transversely, its apical margin concave; very sparsely punctate. Cheeks and the sides of the face very finely reticulate-punctate, a small median area on the face shallowly striate transversely. The face bounded above by a strong carina, the latter feebly bi-arcuate in the middle, its lateral extremities running obliquely downwards to the eyes. The vertex with a more or less feeble semi-circular carina, enclosing the anterior ocellus behind and meeting the facial carina where the extremities bend downwards. The carinate area rather coarsely and irregularly longitudinally rugulose. The rest of the vertex and occiput reticulate-punctate, the punctures largest between the posterior ocelli and the tops of the eyes, where they are up to two-thirds as wide as the anterior ocellus. Dorsum of the thorax and the mesopleura reticulate-punctate, the punctures all about the same size, as large as the largest on the head. Metanotum strongly gibbous, sometimes with a distinct though short and blunt, projection. Mesopleura with a transversely rugose, wide, oblique groove; the lower area coarsely sculptured. The ventral thoracic sclerites finely and sparsely punctate. Metapleural and epinotal teeth reticulate-punctate above, rather more finely so than the rest of the dorsum of the thorax, nearly smooth below. The metapleural pair uncinate, the posterior margins of the epinotal pair feebly concave to nearly straight, except near the apex where the margin bends sharply backwards to form a sharp point. Anterior femora somewhat expanded, their posterior surfaces coarsely reticulate-punctate.

Tergites coarsely reticulate-punctate, the punctures largest on the first, where they are as wide as the largest on the dorsum of the thorax and the interspaces are a little wider than elsewhere. The interspaces on the first tergite very finely punctate. The second tergite with a strong median longitudinal carina, the third with a strong sub-apical incrassation, the latter broken in the middle by a shallow depression. The apical platform fairly narrow, with a row of about eighteen strong, deep foveae at the base, the apical margin drawn out into four fairly short but sharply-pointed teeth, the lateral teeth removed from the lateral margins of the tergite; the latter each with a strong, sharp tooth near the base.

Clypeo-facial index 1/4, facial index 1/1, vertico-facial index 5/3. Cheeks fairly long, as long as the first joint of the flagellum. Lengths of the first three joints of the flagellum in the ratio of 5:8:5, the second

joint nearly twice as long as wide. Pronotal index 3/10, the sides strongly sinuate and feebly divergent behind.

♀♀ like the ♂♂, except that the red areas are always a deeper red, the purplish blue areas are darker to a very rich purple, and the second tergite has a transverse bar of purple in the middle. The face had a much wider median area transversely striate, and the facial carina is feebler and more irregular. The third tergite is a little narrower apically, and the teeth on the lateral margins are stronger.

LOCALITY. Cape Province and Orange Free State.

Tribe PARNOPINI Aaron

Parnopini. 1885, Aaron, *Trans. Amer. Ent. Soc.* XII.

Mouthparts elongate, ♂♂ with four visible abdominal segments, ♀♀ with three.

Genus **Parnopes** Latreille

Parnopes. 1796, Latreille, *Précis Caract. gener. Insectes*, p. 127.

CHARACTERS. Medium-sized to large insects, somewhat flat in shape, with parallel sides. The mouthparts are enormously elongated though the clypeus and cheeks are not very long. Mandibles long and sharp, not toothed. The maxillary and labial palps are absent in the only African species, though they may be present with a reduced number of joints in other species of the genus.

The pronotum is strongly transverse, the parapsidal sutures on the mesonotum are distinct. The metanotum bears a strong, flat, horizontal expansion, and the mesopleura are very large and simple. Tegulae also very large. The abdomen consists in the ♂♂ of four, and in the ♀♀ of three, dorsally visible segments; the disk of the last segment being strongly concave longitudinally. The apical platform is wide, and its margin is armed with a large number of small, irregular teeth. In the fore-wings the radial cell is wide open and incomplete, the discoidal cell is closed.

DISTRIBUTION. Species have been recorded from all regions except Australia. One species only occurs in South Africa.

Parnopes fischeri (Figs. 17 and 28*a*).

Parnopes fischeri. 1838, Spinola, *Ann. Soc. Ent. Fr.* XII, 455.

♂♂. 10·0–11·0 mm. long. Very variable in colour, from metallic coppery red, through brassy green to greenish purple. Considering the range of colours to be as follows: red, orange, brassy yellow, green-blue, purple, then the following areas are always nearer to the purple end of the range than the rest: the posterior region of the pronotum, the sides of the mesonotum and the tegulae, the scutellum, the projection on the metanotum and the anterior and posterior borders of each tergite. Thus, if the general colour is red, the areas mentioned above will be orange to brassy yellow, if the general colour is green, the areas mentioned will be

blue to bluish purple. The sternites are pale or dark brown, non-metallic. Femora and the outer surfaces of the tibiae the same colour as the thorax, the remainder of the tibiae and the tarsi ochreous. Scape metallic, the rest of the antennae darker or lighter ochreous. Mandibles metallic at the base, the rest dark shining brown with a large paler brown middle region. Wings fusco-hyaline. Pubescence white, short and sparse, but much more dense on the face.

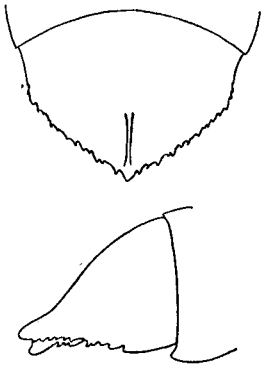

Fig. 17. *Parnopes fischeri* ♂. Dorsal and lateral view of fourth tergite, × 13.

Clypeus strongly convex transversely, with a wide anterior border bent downwards nearly at right angles to the rest of the sclerite, dark shining brown and smooth. The rest of the clypeus together with the face finely reticulate-punctate, except for a very narrow median area on the face, becoming a little wider above, which is nearly smooth. Facial cavity very shallow, the facial carina absent, but a small incrassation is present in the middle of the upper margin of the face. Vertex with a feeble, indistinct, V-shaped carina immediately behind the anterior ocellus. The vertex and occiput coarsely reticulate-punctate, the punctures largest between the posterior ocelli and the eyes where they are half as wide as the anterior ocellus, smaller than this on the ocellar area itself.

Dorsum of the thorax and the mesopleura reticulate-punctate, the punctures largest on the scutellum where they are nearly as wide as the anterior ocellus; smallest, and the interspaces larger than elsewhere, on the mesonotum. The anterior margin of the pronotum with a strong, short carina on either side of a median depression. Tegulae very large, almost as long as the mesonotum. The metanotum with a large, flat-topped projection, its dorsal surface coarsely sculptured and in the same plane as the scutellum, the shape of the dorsal surface roughly tri-lobate, the under surface of the projection nearly smooth; the sides of the metanotum from which it is developed, like the sides of the scutellum, very finely reticulate-punctate. Mesopleura large, feebly convex, the margins, except the dorsal margin, carinate. Metapleural and epinotal teeth irregularly sculptured above, nearly smooth below, the posterior margin of the epinotal pair strongly concave, their apices long and very sharply pointed. The anterior femora rather widely expanded and carinate below.

Tergites rather sparsely punctate, the punctures one-third to one-quarter as wide as the anterior ocellus, the interspaces shallowly and finely punctate. Fairly wide transverse areas near the posterior margins of the first, second and third, and near the anterior margins of the second and third, much more closely and finely to reticulate-punctate. The disk of the apical tergite strongly convex longitudinally, the apical platform wide, rather coarsely punctate, especially apically, and with a strong

median longitudinal carina, the punctures becoming stronger and coarser apically until at the apical margin they form a large number of small, irregularly sized and spaced teeth. The median carina terminates in one somewhat larger median tooth, and another equal-sized tooth is situated immediately below this. The lateral extremities of the posterior margins of the first three tergites are produced backwards to form short, rounded teeth, largest on the third tergite.

Maxillae enormously elongate. Clypeo-facial index 5/9, facial index 11/8, vertico-facial index 16/11. Cheeks very short, not more than half as long as the first joint of the flagellum. The scape much wider apically than at the base. Lengths of the first three flagellar joints in the ratio of 1:2:1, the second joint two and a half times longer than wide. Pronotal index 2/7, the sides nearly parallel in front but divergent behind.

♀♀ differ from the ♂♂ in the following characters: the abdomen consists of three tergites only, the apical platform of the third is often ochreous or only feebly metallic, the first three flagellar joints are in the ratio of 1:3:1, and the postero-lateral projections on the tergites are absent.

LOCALITY. Cape Province. One specimen from Pretoria, Transvaal.

Tribe ALLOCOELIINI Mocsary

Allocoeliini. 1902, Mocsary, *Természetr. Füz.* XXV, 571.

Brown and black insects without metallic iridescence. Mouthparts elongate in the ♂, normal in the ♀. The abdomen in both sexes consisting of two dorsally visible segments.

Genus **Allocoelia** Mocsary

Anthracias. 1839, Klug. *Verh. Akad. Wiss. Berl.* p. 2.
Allocoelia. 1889, Mocsary, *Monogr. Chrysid.* p. 62.
Parnopidea. 1903, Brauns, *Ann. Mus. Nat. Hung.* 1, 460 (*ex parte*).

CHARACTERS. Very small to medium-sized insects, brown and black in colour, without metallic iridescence. Head rounded, the pronotum varying in shape, usually somewhat narrower than in most Chrysids. Mandibles toothed near the tip. The rest of the mouthparts elongate in the ♂♂, but normal in the ♀♀. Clypeus usually excised in front, the facial cavity shallow. Mesopleura simple. Metapleural teeth absent, epinotal teeth very well developed. Propleura often armed with a strong, ventrally directed tooth. Tarsal claws with a small tooth near the middle. The abdomen in both sexes consists of only two dorsally visible segments. The second tergite long, its apical margin frequently reflexed beneath the tergite, either entire, feebly serrated, or with a few small teeth; the lateral margins entire, angulate or toothed. In the fore-wings, the radial cell is more or less open, the discoidal cell closed, though the median vein is sometimes feeble. In the hind-wings there is hardly a trace of venation.

The genus *Parnopidea* Brauns, erected to receive the species *P. mocsaryi* is differentiated from *Allocoelia* by Brauns on the grounds that the

mouthparts in *Parnopidea* are normal. Material now available for study includes a ♂, whose mouthparts are in fact elongated, and it is therefore proposed to sink the genus and include *mocsaryi* in *Allocoelia*.

Key to the species of Allocoelia

(2) 1. Very small insects, less than 3·5 mm. long. **mocsaryi** Brauns
(1) 2. Larger insects, at least 5·0 mm. long.
(6) 3. Lateral or apical margins of the second tergite armed with sharp teeth.
(5) 4. One tooth on each lateral margin, the apical margin entire. **bidens** n.sp.
(4) 5. The apical margin with three teeth, each lateral margin with one. **quinquedens** n.sp.
(3) 6. The lateral and apical margins of the second tergite without sharp teeth.
(14) 7. At least the sides of the face with dense pubescence, obscuring the puncturation.
(9) 8. The apical margin of the second tergite strongly emarginate in the middle. **emarginata** n.sp.
(8) 9. The apical margin of the second tergite entire in the middle.
(13) 10. Pronotum black.
(12) 11. Size larger, at least 7·5 mm. long. **capensis** subsp. **capensis** Smith
(11) 12. Size smaller, not more than 6·0 mm. long. **capensis** subsp. **minor** Mocsary
(10) 13. Greater part of the pronotum ferruginous. **latinota** n.sp.
(7) 14. The face without pubescence, the greater part quite smooth.
(16) 15. The face very narrow above, the shortest distance across the face only two-thirds of the length of the face. Tergites largely ferruginous. **glabra** n.sp.
(15) 16. The shortest distance across the face a little more than its length. Entirely black insects. **nigra** n.sp.

Allocoelia bidens n.sp. (Figs. 18 and 28*e*).

♂♂ and ♀♀. 6·0–7·5 mm. long. Head and thorax, except the areas detailed below, black. The tergites (with the exception of the apical margin of the second which is black), the sternites, the tarsi and the labrum, ferruginous; the posterior margin of the pronotum, small areas on the sides of the scutellum, the lateral margins of the epinotal teeth, and the posterior margin of the third tergite, yellowish testaceous. Tegulae shining ferruginous. Wings fusco-hyaline. Pubescence brownish white, short and sparse, denser on the face.

Clypeus with a median incrassation widening below to form a transverse incrassation; the apical margin nearly straight with a very wide, shallow, V-shaped emargination in the middle; nearly smooth. Facial cavity smooth below, becoming very finely reticulate-punctate on the pubescent area, and fairly coarsely reticulate-punctate above. The top of the face with a distinct median longitudinal carina, itself with a shallow median groove. No demarcation between the face and the vertex; the latter and the occiput coarsely reticulate-punctate, the punctures deep and about one-third as wide as the anterior ocellus.

Dorsum of the thorax and the mesopleura coarsely reticulate-punctate, the punctures deep and as large as the largest on the head. Metapleural teeth absent, epinotal teeth fairly strong, their lateral margins feebly emarginate near the apex, their posterior margins with a strong tooth near the middle.

Tergites reticulate-punctate, the punctures very deep and the interspaces very narrow, giving a 'cellular' appearance; the punctures about the same size as those on the thorax. The second tergite strongly convex in the median line, the apical platform fairly narrow, with a large number of minute emarginations; each lateral margin with a strong, sharp, recurved tooth a little less than half way from the base of the tergite.

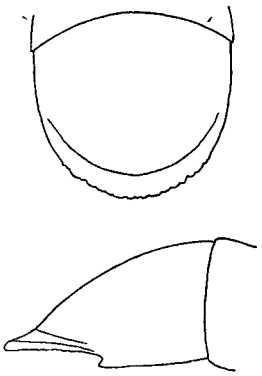

Fig. 18. *Allocoelia bidens* ♂. Dorsal and lateral views of second tergite, × 13.

Clypeo-facial index 1/3 (taking the length of the face up to the top of the median carina), facial index 3/4, vertico-facial index 5/3. Cheeks short, about two-thirds as long as the first joint of the flagellum. The first three flagellar joints equal in length, the second joint about one and a third times longer than wide. Pronotal index 7/16, the sides straight and divergent behind, the posterior margin convex.

LOCALITY. Worcester and Matjesfontein, Cape Province.

Described from 47 ♂♂ and ♀♀. Types in the British Museum.

Allocoelia quinquedens n.sp. (Figs. 19 and 28*f*).

♂♂. 5·5–6·5 mm. long. Head, thorax and more or less of the posterior half of the second tergite, black; except a small crescent-shaped area in the middle of the posterior margin of the pronotum which, together with the rest of the tergites, is ferruginous. Sternites black, lighter at the sides. Legs black, the tarsi sometimes a little lighter to dark brown. Wings fusco-hyaline. Pubescence white, short and very sparse on the abdomen, a little longer and denser on the thorax, much denser on the sides of the face.

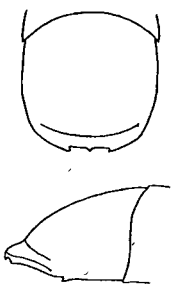

Fig. 19. *Allocoelia quinquedens* ♂. Dorsal and lateral views of second tergite, × 13.

Clypeus feebly convex transversely and longitudinally, its anterior margin with a wide, shallow, V-shaped excision; very finely and closely punctate. The sides of the face finely reticulate-punctate, becoming transversely striate towards the middle; the lower half, more or less, of the median area nearly smooth. Facial fovea absent, the facial cavity shallow. The puncturation of the face merges into that of the vertex above, the latter becoming more coarsely reticulate-punctate, the punctures more

or less homogeneous in size and about one-fourth as wide as the anterior ocellus.

Dorsum of the thorax and the mesopleura coarsely reticulate-punctate, the punctures about the size of the largest on the head or a little larger. Mesopleura unarmed. Epinotal teeth well developed, flat and wing-like, irregularly sculptured above and below, the upper surface concave, the lateral margin bi-lobate, the posterior margin strongly convex and angulate near the base. Ventral thoracic sclerites very finely and fairly sparsely punctate.

Tergites reticulate-punctate, the punctures about the size of those on the thorax, but very deep, and the interspaces very narrow, giving a 'cellular' appearance; a narrow region near the apical margin of the second feebly and shallowly punctate. The apical margin of the second, which is reflexed beneath the tergite thus forming a subapical incrassation, is armed with three sharp though short teeth near the middle, and each lateral margin of the tergite bears a strong sharply pointed, recurved tooth, about half way from the base; immediately behind this tooth each lateral margin bears a short rounded protuberance, the latter sometimes sharper and more tooth-like.

Clypeo-facial index 1/3, facial index 14/15, vertico-facial index 3/2. Cheeks fairly short, about two-thirds as long as the first joint of the flagellum. Lengths of the first three flagellar joints in the ratio of 4:5:3, the second joint as long as wide. Pronotal index 1/3, the sides nearly straight, strongly divergent behind.

♀♀ like the ♂♂ except that the second tergite is a little narrower apically.

LOCALITY. Worcester, Cape Province; Bowesdorp, Namaqualand.

Described from 2 ♂♂ and 4 ♀♀. Types in the British Museum.

Allocoelia latinota n.sp. (Figs. 20 and 28*d*).

♂. 9·0 mm. long. Head and thorax except the pronotum, more or less of the femora, sometimes a small area near the apical margin of the second tergite (infrequently the whole of the apical half) black. Pronotum, tergites and sternites, and the rest of the legs, pale ferruginous. Mandibles shining black, with a small area in the middle ferruginous. Tegulae dark ferruginous to black. Wings fuscous. Pubescence white, fairly short and fairly dense on some regions, particularly the sides of the face.

Clypeus convex transversely and longitudinally, its apical margin excised in a wide, shallow V; very finely, shallowly and fairly closely punctate. The sides of the face very finely reticulate-punctate, a median longitudinal area about one-third as wide as the shortest interocular distance, but narrower than this above, smooth. The top of the face with a low, rounded longitudinally elongate tubercle in the middle. Facial cavity shallow, facial fovea absent. The rest of the vertex and occiput fairly coarsely reticulate-punctate, the punctures becoming a little larger and coarser on the ocellar area, where they are nearly half as wide as the anterior ocellus.

Dorsum of the thorax coarsely reticulate-punctate, the punctures all more or less equal in size, a little larger than the largest on the head. Mesopleura unarmed, rather shallowly reticulate-punctate above, much more finely and irregularly reticulate-punctate below; the margins feebly carinate. Epinotal teeth strong, irregularly sculptured above and below, the posterior margins concave, the apex of each tooth, as seen from below, broadly truncate, the truncate margin strongly emarginate.

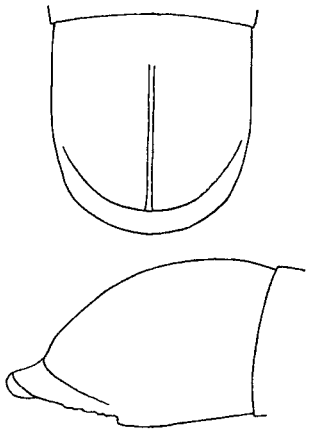

Fig. 20. *Allocoelia latinota* ♂. Dorsal and lateral views of second tergite, × 13.

Tergites coarsely reticulate-punctate, the punctures about the same size as those on the dorsum of the thorax, deep, the interspaces very narrow, giving a 'cellular' appearance. The anterior declivity of the first tergite with a wide, shallow U-shaped depression, the second tergite with a strong median longitudinal carina and with a distinct apical platform, the apical margin of the latter strongly reflexed below the tergite and sinuate. Each lateral margin of the tergite with a distinct rounded step about half way from the base, and with two or three, often indistinct, teeth immediately in front of the step.

Clypeo-facial index 3/10, facial index 1, vertico-facial index 4/3. Cheeks short, about one-half as long as the first joint of the flagellum. Lengths of the first three flagellar joints in the ratio of 3:4:3, the second joint one and a half times longer than wide. Pronotal index 2/5, the sides nearly straight, strongly divergent behind.

♀♀. 7·5–10·0 mm. long. Like the ♂♂, except that the lateral margins of the second tergite are nearly straight and entire.

Locality. Western Cape Province.

Described from 1 ♂ and 6 ♀♀. Types in Transvaal Museum.

Allocoelia capensis subsp. **capensis** Smith (Figs. 21 and 28*b*).

Allocoelia capensis. 1874, Smith, *Trans. Ent. Soc. Lond.* p. 455, n. 1.

♂♂. 7·5–8·5 mm. long. The head and thorax, more or less of the posterior half of the second tergite, and the femora, black; the rest of the tergites, the sternites, the tibiae and tarsi, pale ferruginous. Scape and the first joint of the flagellum shining black, the rest of the antennae dull black. Mandibles black with a middle region ferruginous. Tegulae very dark ferruginous. Wings fuscous. Pubescence white, fairly short and sparse, denser on the face and the mesopleura.

Clypeus feebly convex transversely in the middle and strongly so longitudinally, its apical margin concave; finely and closely punctate. Sides of the face closely and very finely punctate, the puncturation

becoming finer to nearly smooth towards the middle. Facial fovea absent, the facial cavity of medium depth, distinctly arcuate above. The rest of the head reticulate-punctate, the punctures distinctly punctulate, largest between the posterior ocelli and the eyes, where they are one-third as wide as the anterior ocellus.

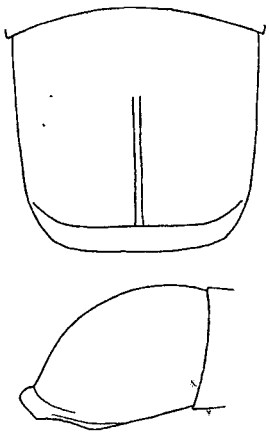

Fig. 21. *Allocoelia capensis capensis* ♂. Dorsal and lateral views of second tergite, × 13.

Dorsum of the thorax coarsely reticulate-punctate, the punctures punctulate and a little larger than those on the head. The anterior margin of each propleuron drawn out into a strong, ventrally directed projection, rounded apically; the disk of the pronotum nearly flat, not convex transversely. Mesopleura coarsely reticulate-punctate above, becoming coarsely and irregularly punctate below, the details obscured by pubescence. The epinotum with a nearly smooth vertical posterior surface, the latter with one vertical and two oblique carinae; the sclerite with a very strong transverse carina above, its margin serrated and with a V-shaped incision in the middle, its posterior surface foveolate. Epinotal teeth distinctly concave above, the lateral and posterior margins strongly carinate, the posterior margins concave, the apices rounded.

Tergites reticulate-punctate, though the interspaces are often a little wider on the disk of the first than elsewhere; the punctures about the same size as those on the dorsum of the thorax. The posterior half, more or less, of the second tergite with a very strong median longitudinal carina. There is a subapical depression before the apical platform, and it is interrupted in the middle by the continuation of the median carina. The apical margin strongly reflexed below the tergite, entire, but forming a very obtuse angle where it meets the lateral margins of the tergite.

Clypeo-facial index 1/4, facial index 1/1, vertico-facial index 3/2. Cheeks very short, only one-third as long as the first joint of the flagellum. Lengths of the first three joints of the flagellum in the ratio of 3:4:3, the second joint twice as long as wide. Pronotal index 2/5, the sides nearly parallel in front, strongly divergent behind for the posterior two-thirds of their length.

♀♀ similar to the ♂♂ but the abdomen a little less broadly rounded apically and the lateral areas of the mesonotum very strongly depressed anteriorly.

Locality. Cape Province.

This species is recorded as parasitizing *Ceramius lichtensteini* Klug.

Allocoelia capensis subsp. **minor**

Allocoelia capensis var. *minor*. 1908, Mocsary, *Ann. Mus. Nat. Hung.* VI, 526, n. 31.

♂♂ and ♀♀. 5·0–6·0 mm. long. Similar in all respects to *A. capensis capensis* except that the size is smaller. The range of variation in this

respect is discontinuous between the two subspecies. Further material may show the variation to be continuous, but until that is demonstrated the two ranges of size must be considered as distinct subspecies.

Allocoelia emarginata n.sp. (Figs. 22 and 28*c*).

♂. 7·5 mm. long. Head and thorax, the posterior half of the second tergite except on the margins, and the femora, black; the rest of the tergites, the sternites, the tibiae and tarsi, and a small area in the middle of the posterior margin of the pronotum, ferruginous. Antennae dark blackish brown, tegulae very dark ferruginous. Wings fusco-hyaline. Pubescence white, fairly short and sparse, denser on the sides of the face.

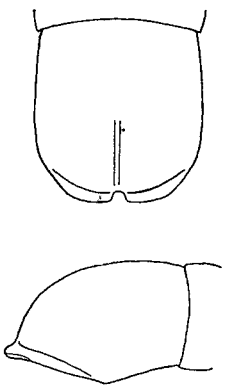

Fig. 22. *Allocoelia emarginata* ♂. Dorsal and lateral views of second tergite, × 13.

Clypeus in the middle convex transversely and longitudinally, its apical margin concave, finely and closely punctate. The face very finely and closely punctate, except at the sides above where the punctures become much larger. Facial cavity shallow, with a very narrow longitudinal area in the middle above feebly carinate and smooth, leading at the top of the face to a small low tubercle. Facial carina absent. The vertex and occiput reticulate-punctate, the punctures clearly punctulate and rather less than one-third as wide as the anterior ocellus.

Dorsum of the thorax, except the epinotum, reticulate-punctate, the punctures about the size of the largest on the head to a little larger. Epinotum nearly smooth, except for its anterior margin which is reticulate-punctate, and separated from the rest of the tergite by a shallow transverse depression. Anterior shoulders of the pronotum each drawn out into a strong tooth, the margins below carinate. Mesopleura reticulate-punctate above, their lower areas irregularly sculptured, the details obscured by pubescence. Epinotal teeth strong, the lateral margins carinate and feebly sinuate, broadly truncate apically, the truncate margins with a strong, rather wide V-shaped emargination.

Tergites very coarsely reticulate-punctate, the punctures about the size of those on the thorax, very deep and the interspaces very narrow, giving a 'cellular' appearance. The posterior half, more or less, of the second tergite, with a fairly distinct median longitudinal carina, the latter smooth. The apical platform narrow, the apical margin reflexed beneath the tergite; both the apical platform and its reflexed margin interrupted in the middle by a very strong, widely U-shaped emargination. Apart from this emargination the apical and lateral margins of the tergites are entire, forming an obtuse angle where they meet at the sides.

Clypeo-facial index 3/8, facial index 1, vertico-facial index 5/3. Cheeks very short, not more than half as long as the first joint of the flagellum. Lengths of the first three flagellar joints in the ratio of 1:1:1, the second

joint one and a half times longer than wide. Pronotal index 4/9, the sides nearly straight and strongly divergent behind.

LOCALITY. Calvinia, Cape Province.

Described from 1 ♂. Type in the British Museum.

Allocoelia glabra n.sp. (Fig. 23).

♀♀. 6·0–7·5 mm. long. Head and thorax, the posterior third more or less of the first tergite, and a small apical or subapical area on the second tergite, black, the rest of the tergites ferruginous, sternites darker ferruginous. Femora and tibiae black, tarsi very dark brown. Wings fusco-hyaline. Pubescence brownish white, fairly long and sparse, not denser on the sides of the face.

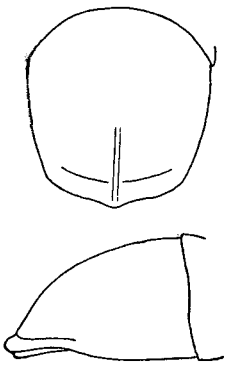

Fig. 23. *Allocoelia glabra* ♀. Dorsal and lateral views of second tergite, × 13.

Clypeus convex longitudinally, its apical margin with a wide, shallow, V-shaped emargination in the middle; closely and finely punctate. Face smooth, except for a narrow area along each side which is very finely subreticulate-punctate. Facial cavity fairly deep and short, very narrow above. The vertex and occiput reticulate-punctate, the punctures about one-fourth as wide as the anterior ocellus.

Dorsum of the thorax reticulate-punctate, the punctures very slightly bigger than those on the head, up to about one-third as wide as the anterior ocellus; the epinotum rather less coarsely and closely punctate than the rest, with a strong, transverse impression near the apical margin. Mesopleura finely and on the whole rather sparsely punctate, their margins feebly carinate. Ventral thoracic sclerites finely and sparsely punctate. Epinotal teeth strong, irregularly sculptured above, rugulose below, the lateral margins feebly convex, the posterior margins with a very strong, deep emargination near the base, the outer portion convex.

Tergites rather more coarsely reticulate-punctate than the dorsum of the thorax, the punctures a little larger and deeper; the second with a feeble median longitudinal carina, the latter becoming stronger apically. A distinct apical platform present, the apical and lateral margins of the tergite strongly reflexed below, entire. The apical margin strongly convex.

Clypeo-facial index 1/5, facial index 2/3, vertico-facial index 9/5. Cheeks very short. Lengths of the first three joints of the flagellum in the ratio of 4:5:4, the second joint nearly twice as long as wide. Pronotal index 1/3, the sides nearly straight and divergent behind, the anterior shoulders sharply pointed when seen from above.

LOCALITY. Cape Province.

Described from 4 ♀♀. Type in the British Museum.

Allocoelia nigra n.sp. (Fig. 24).

♂. 6·5 mm. long. Entirely black; pubescence brown, long and fairly dense, absent on the face.

Clypeus strongly convex in the middle, its apical margin with a wide, V-shaped emargination, nearly smooth at the sides, the middle convex area finely sub-reticulate-punctate. Facial cavity smooth except for a narrow area at each side which is finely sub-reticulate-punctate; fairly deep, rounded above. Vertex and occiput reticulate-punctate, the punctures about one-fourth as wide as the anterior ocellus.

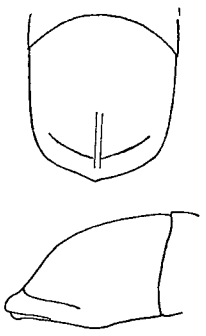

Fig. 24. *Allocoelia nigra* ♂. Dorsal and lateral views of second tergite, × 13.

Dorsum of the thorax reticulate-punctate, the punctures the same size as those on the vertex or slightly larger. Mesopleura more finely sub-reticulate-punctate, their margins feebly carinate. Epinotum with a transverse depression near its anterior margin. Epinotal teeth reticulate-punctate above, their lateral margins carinate, coarsely sculptured below; the posterior margins very strongly emarginate near the base, lobate further towards the apex.

Tergites coarsely reticulate-punctate, the punctures a little larger and deeper than those on the dorsum of the thorax. The second with a feeble median carina, the latter becoming somewhat stronger posteriorly. A distinct apical platform present, the apical margin strongly reflexed below the tergite, entire.

Clypeo-facial index 1/3, facial index 7/6, vertico-facial index 11/7. Cheeks very short; lengths of the first three flagellar joints in the ratio of 2:3:2, the second joint one and a half times longer than wide. Pronotal index 3/7, the sides nearly straight, divergent behind, the anterior shoulders sharply pointed when seen from above, the margins below carinate.

LOCALITY. Vanrhynsdorp, Cape.

Described from 1 ♂. Type in Transvaal Museum.

Allocoelia mocsaryi. (Fig. 25).

Parnopidea mocsaryi. 1903, Brauns, *Ann. Mus. Nat. Hung.* 1, 460.

♀♀. Very small insects, 3·2 mm. long. Head and thorax except the pronotum black, the latter and the tergites brown to dark brown, the posterior margin of the pronotum, of the first tergite and sometimes of the mesonotum, much lighter, testaceous to light brown; the posterior and lateral margins of the second tergite yellowish. Sternites brown. Femora dark, blackish brown, tibiae lighter brown, the proximal joints of the tarsi lighter still, pale ochreous. Mandibles and tegulae dark iridescent brown, a middle area lighter. Antennae very dark brown. Wings fusco-hyaline. Pubescence light, short and sparse.

Clypeus convex longitudinally and transversely in the middle, very finely and fairly sparsely punctate. Facial cavity wide and shallow, finely reticulate-punctate at the sides, nearly smooth in the middle. Vertex and occiput reticulate-punctate, the punctures punctulate and about one-third as wide as the anterior ocellus.

Dorsum of the thorax similarly punctate, the mesopleura more finely so. Epinotal teeth strong, their posterior margins strongly and widely emarginate, fairly broadly rounded to truncate apically. Ventral thoracic sclerites very finely and sparsely punctate.

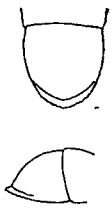

Fig. 25. *Allocoelia mocsaryi* ♂. Dorsal and lateral views of second tergite, × 13.

Tergites reticulate-punctate, the punctures a little larger than those on the dorsum of the thorax; the second tergite without a median carina, but with a distinct, though narrow, apical platform, the apical margin very feebly serrated.

Clypeo-facial index 2/3, facial index 2/1, vertico-facial index 9/11. Cheeks very short. Lengths of the first three flagellar joints in the ratio of 4:3:3, the second joint a little longer than wide. Pronotal index 1/3, the sides feebly sinuate and feebly divergent behind.

♂ similar to the ♀♀ except that the mouthparts are strongly elongated.

LOCALITY. Cape Province and Southern Rhodesia.

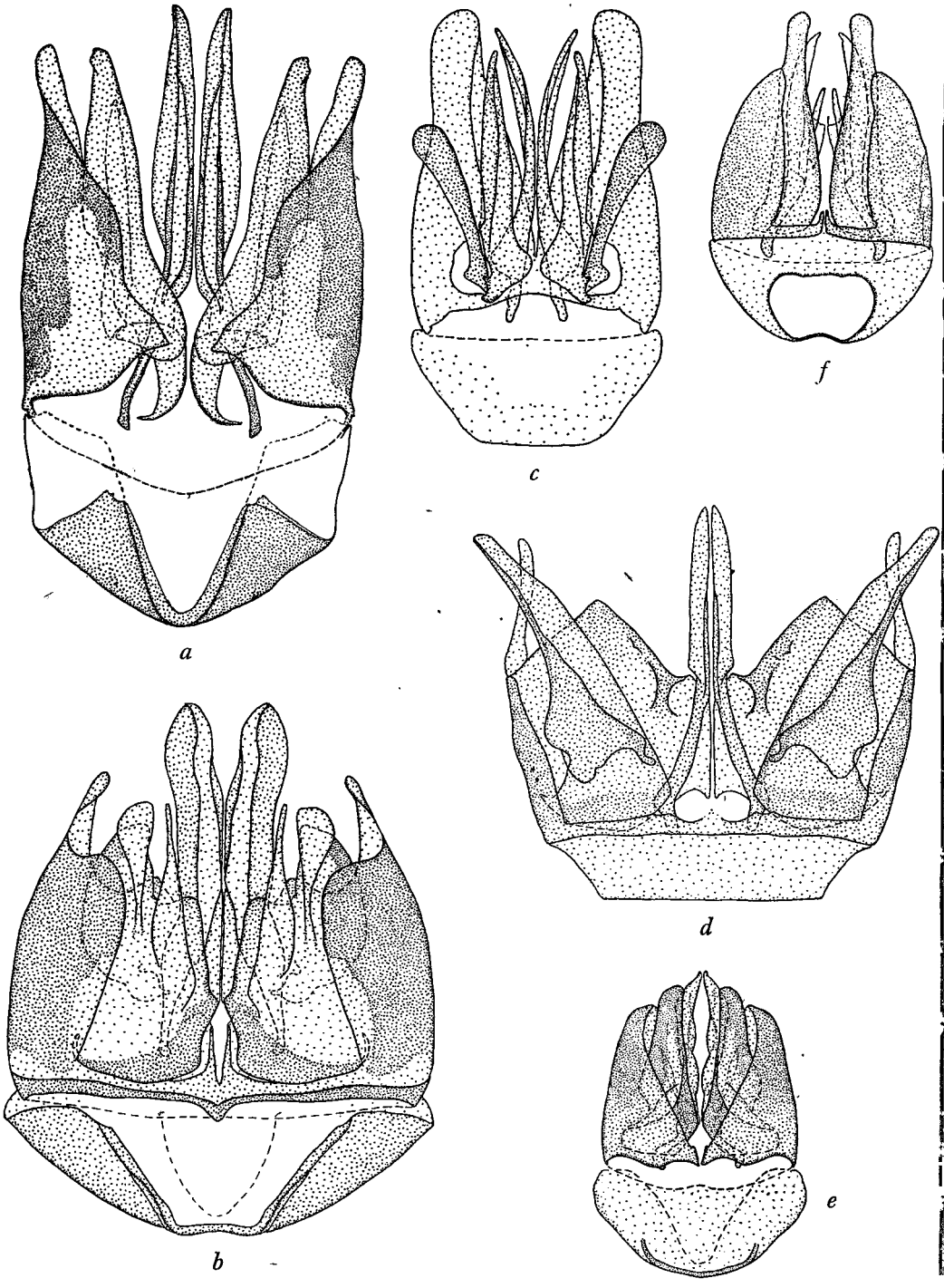

Fig. 26. ♂ genitalia of *a*, *Stilbum cyanurum amethystinum* Fabr.; *b*, *Euchreous candens* Dahl.; *c*, *Spintharis destituta* Dahl.; *d*, *Spintharis bispinosa* Mocs.; *e*, *Spintharis deaurata* Mocs.; *f*, *Spintharis chrysonota* Dahl. All × 50.

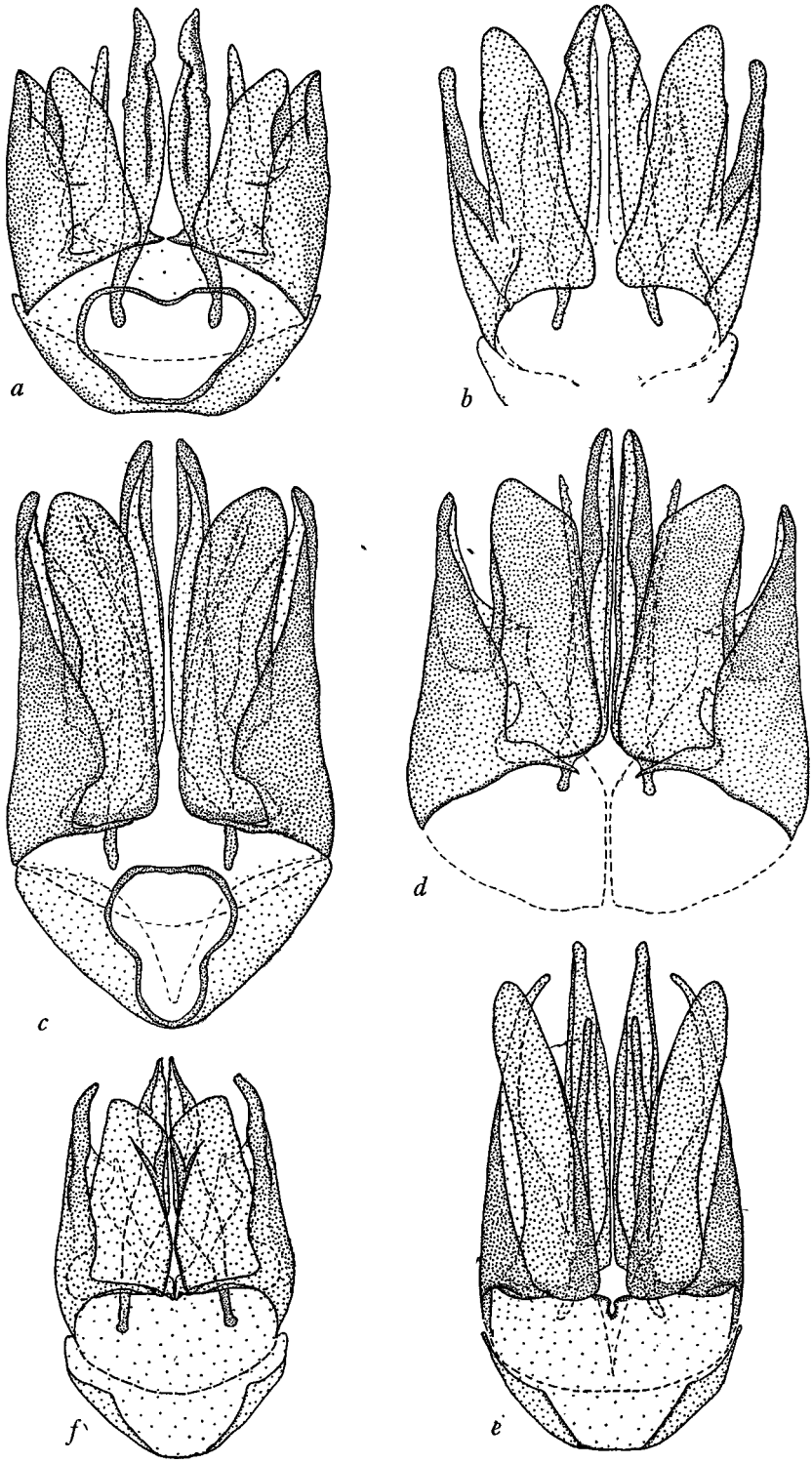

Fig. 27. ♂ genitalia of *a*, *Pseudochrysis ardens* Mocs.; *b*, *Pseudogonochrysis krebsi* Bisch.; *c*, *Pseudotetrachrysis carinata* Bisch.; *d*, *Pseudotetrachrysis oxygona* Mocs.; *e*, *Pseudotetrachrysis krugeri* n.sp.; *f*, *Pseudohexachrysis splendens* Dahl. All × 50.

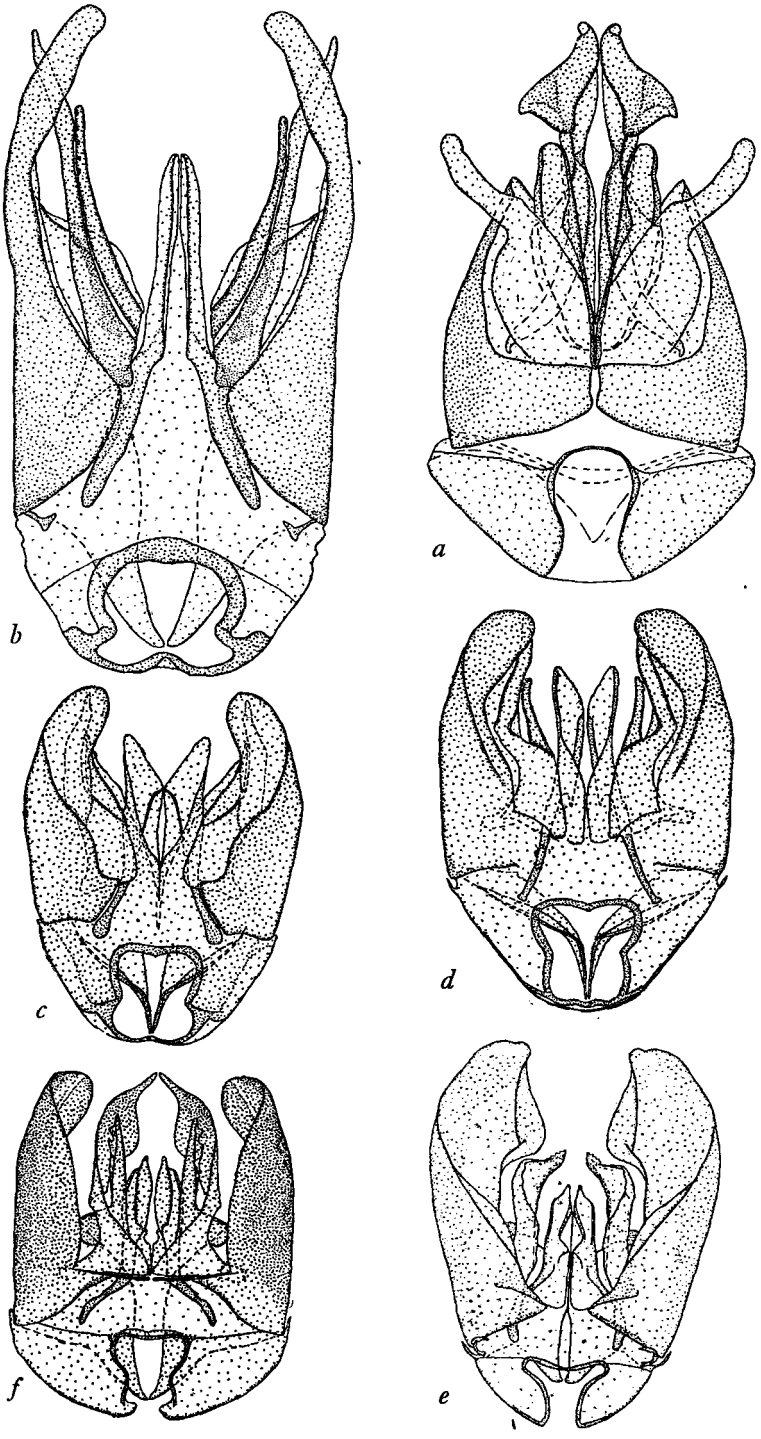

Fig. 28. ♂ genitalia of *a*, *Parnopes fischeri* Spin.; *b*, *Allocoelia capensis capensis* Smith; *c*, *Allocoelia emarginata* n.sp.; *d*, *Allocoelia latinota* n.sp.; *e*, *Allocoelia bidens* n.sp.; *f*, *Allocoelia quinquedens* n.sp.