



UNION OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE

ENTOMOLOGY MEMOIRS
. . MEMOIR No. 4 . .

CONTENTS :

Cicadellidæ of South Africa

A TAXONOMIC AND FAUNISTIC STUDY

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Issued by the Division of Entomology, Pretoria, 1926

PRICE 2s. 6d.

CAPE TOWN
CAPE TIMES LIMITED, GOVERNMENT PRINTERS
1926

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Cicadellidæ of South Africa.

INTRODUCTION.

HISTORICAL REVIEW.

Like many of the other insect families the Cicadellidæ, with reference to their occurrence in the South African Sub-Region, have received very little attention from entomological workers. Their small size and predominantly inconspicuous colouration probably account for their escape from the attention of collectors and naturalists at large, while the slow development of the country has precluded the possibility of economic importance equalling that of members of this family occurring in parts of the world, where agriculture has reached a more intensive stage of development. The work done on the South African forms so far comprises mainly the publications of Stal, Walker, Distant and Cogan. Of the two former, Stal's work is the most extensive. His "Hemiptera Africana," which was written as early as 1855 and is, even in our day, the foundation of, and the most important reference on, South African Hemiptera, constitutes only a small part of his work on the Hemiptera, and especially the Homoptera, of the world. The survival of many of his generic and specific descriptions after nearly three-quarters of a century testifies sufficiently for the quality of his work. Walker, a contemporary of Stal and, like the latter, a prominent worker on Homoptera, described many homopterous forms from South Africa, few of which, however, were Cicadellidæ. His list of Homoptera of the British Museum (1851) and the Supplement to this (1858), both antedate Stal's *Hemiptera Africana*. References to Cicadellidæ are mostly in the supplement and consist mainly of a list of forms described by Stal in various periodicals at an earlier date. Distant, writing between 1900 and 1912, had an advantage over his predecessors in being able to collect in South Africa personally on some extensive trips. Although a general collector on these occasions, he seems to have given careful attention to the Homoptera, especially as to their distribution. The portion of his work referring to the Cicadellidæ is characterized in particular by the abundance of new genera and a correspondingly small number of species to each genus. Lastly, Cogan in 1916 in his *Homopterous Studies* included descriptions of a considerable number of species under a comparatively small number of genera. Apparently this is the only case in which special attention has been paid to this family in collecting; hence Cogan's work seems to indicate the presence of a Fauna of considerable richness in species.

It appears thus that the references on this subject are of a scattered and irregular nature. For that reason the object of this work has been to assemble from the various sources, and to combine in compact form, all information, that has thus far been published on the group for the region in question, with such further data as could be gained from the study of the collection on hand. As far as is known to the writer, no work of this nature has been published up to the present, and in consideration of the difficulty of gaining access to the literature concerned, such a publication would seem desirable.

SCOPE OF WORK.

On account of the paucity of data on the ecologic and economic lines the study has been mainly of a taxonomic, faunistic and distributional nature. Since several of the main publications date far back it has seemed desirable to re-arrange the descriptions in more modern order; for this purpose Van Duzee's arrangement has been taken as a guide. To obtain as much uniformity as possible, translations have been made from the original descriptions of Stal and others. On account of the differences in the style of the various authors, original descriptions—some in translation—are given in full; otherwise, where material has been available, re-descriptions are offered for forms of less recent date.

METHOD.

Stal and Walker's identifications are mostly based on general structural characters and colour markings, likewise those of Distant, which are, however, more detailed. The more recent workers, on the other hand, lay particular stress on the genitalia, which are very constant, and have, in conjunction with venation and the general form of the body, proved to be a reliable basis of distinction. The latter system has been followed here. Examinations have been made with the aid of a Spencer Binocular Microscope, the medium objective with a 6 x. eye-piece proving, in general, the most satisfactory. A squared ocular of 0.5 mm. mesh has proved very useful in determining the proportions given in the descriptions. Wherever possible the latter are supplemented with drawings made either by aid of the squared ocular and squared paper, or, of a camera lucida. In exceptional cases systematists have resorted to the dissection of internal genitalia in the male as a means of specific distinction; a case of this kind in this work is that of *Eugnathodus auranticulus*, n.sp., in which the external structures are minute and tend to bend into varying shapes. Division of this family into its higher groups is based mainly on the position of ocelli, which are two in number and are seldom absent; the general shape of the body; the shape of the hind tibiae and the modifications of venation, especially of the elytra. Individual importance of these characters varies with the various apparent lines of specialization met with in the family.

DISCUSSION OF THE GROUP.

The Cicadellidae belong to the suborder Homoptera. They have as their nearest relatives the Fulgoridae, Membracidae, Cercopidae and Cicadidae, and apparently have somewhat more distant connections with the Psyllidae, Aphidae, Aleyrodidae and Coccidae. These families are generally divided into two groups: the Auchenorrhynchi, which have the rostrum free from the sternum and include the Cicadellidae with the other families mentioned above and, the Sternorrhynchi, which have the rostrum fused to the sternum; these include the family Psyllidae and the other three families mentioned with it. Opinions as to the relative position of the families within these groups differ rather widely. Among those who have expressed their views are Prof. Herbert Osborn, F. Muir, Anton Handlirsch and G. W. Kirkaldy. There seems to be general agreement on the primary division into Auchenor- and Sternorhynchi and on the unlikelihood of a linear phylogeny for all the existing subdivisions. Agreement likewise exists on the Cicadoidea being apparently the most primitive of the Homoptera. With regard to relative position of the subgroups or families the Sternorrhynchi are now most generally placed in the order, Psyllidae, Aphidae, Aleyrodidae and Coccidae, beginning with the most primitive,

and regarding the Coccidae as specialized by reduction ; against this view are those who regard this simplicity as primitive. The Auchenorrhynchi, in increasing order of specialization, are placed by Osborn (Proc. Ent. Soc. Wash. Vol. III, No. 3, 1895) as follows : Cicadidae, Membracidae, Fulgoridae, Cercopidae, Jassoidea, the latter including the Tettigoninae and Jassinae on the one hand and the Bythoscopinae on the other. This arrangement is strongly criticised by G. W. Kirkaldy (Haw. Sug. Pl. Asso. Bul. No. 1, Pt. 9, 1906), who considers the Fulgoridae by far the highest of the Auchenorrhynchi. His arguments are based on specialization of head (keels), the presence of numerous sensory structures all over the body in many of the Fulgorids, and the specialization of genitalia. Osborn's views, on the other hand, are based on the relative development of pronotum, reduction of ocelli and the shifting of their position due to declivity of the face (*e.g.*, Bythoscopinae) and specialization of flight organs, including reduction of venation. A third and entirely different arrangement is suggested by Anton Handlirsch ("Die Fossilen Insekten," Textband II, Abschnitt IV, Tertiäre Insekten, pp. 1246-9). His views on the phylogeny of the Homoptera are based on the relative development of an intestinal loop, supplemented by suppositions of specialization or atavism in various lines, *e.g.*, antennae, wings, metamorphosis. He regards the "Auchenorrhyncha" as a monophyletic group with the Fulgoridae retaining the most primitive characters, and having the earliest geologic record. From the Protohomoptera preceding these he derives the Procercopidae, and from these, at various levels, the Jassidae, Cercopidae and Cicadidae. For the subdivisions of the Sternorrhynchi suborder rank is proposed on a level with Auchenorrhynchi ; the Psylloidea and "Aleurodoidea" are derived from the Procercopid stem, starting from a common stem in the Lias and splitting into two in the Cretaceous ; the Aphidoidea and Aleurodoidea on the other hand are derived at Dogger and Cretaceous levels respectively, from the Fulgorid stem.

While the individual merits of the different views cannot be disregarded, it is apparent that their comparative value cannot be clearly estimated as long as there is a difference of opinion as to the relative importance of the characters used in the derivation of phylogeny in this group.

AREA INCLUDED.

This work has been made to include, for the sake of convenience as well as on account of the representations in material accessible, the South African Sub-region (Wallace), which comprises the Union of South Africa (with the South-Western Protectorate) and Portuguese East Africa. By far the largest number of species of Cicadellidae so far described are from the Union proper, as are also the collections available for study. Stal's species are almost entirely from the two Southern Provinces, though there are indications that his "Caffraria" signified territory exceeding the political area designated by that name. Distant's collection was more extensive, and his trips seem to have covered, in a cursory way, the greater part of the Union. Cogan's species, like Stal's, are entirely from the two Southern Provinces (C.P. and E.P.). The collection on hand includes specimens from the Orange Free State, Natal and Cape Province. This would indicate that the Sub-region is fairly well represented—though to a very limited extent—since there is at least some representation of all the main Botanical Regions of South Africa with the exception of the Kalahari (a consignment from this area has unfortunately gone astray). This is of a limited ecologic significance since the Botanical Regions correspond to rather outstanding climatic contrasts which would undoubtedly manifest some influence on

the Insect Fauna. The small extent of the collection, however, and the small number of localities concerned preclude the possibility of comparisons of any significance, except in a distributional way. In this connection it might be stated that a few of the species have a wide distribution, *e.g.*, *Euscelis capicola* has been taken around Cape Town, at Bloemfontein, and at Cedara, Natal, places widely separated, distinctly different in climate and ranging from sea level to an altitude of over 4,000 feet.

FAUNISTIC RELATIONSHIPS.

In consideration of the nature and extent of the collections made so far, it seems evident that the total of the forms here listed should be taken as an indication of what might be found, rather than as a representative collection. For this reason a comparison on equal basis with Geographical Regions that have been explored extensively along zoological lines, is hardly justifiable. Yet a comparison in distribution between the higher groups represented in South Africa is of some interest.

The *Ulopinae* have one South African genus, which is also found in the Palaearctic and Nearctic Regions. Of the four South African Genera in the *Ledrinae* only two are found elsewhere, *viz.*, in the Oriental. This seems to be strictly an Old World Family with its strongest development in the Ethiopian Region, where eight genera have been recorded as compared with five in the Oriental Region. The *Bythoscopinae* seem to have a fairly equal cosmopolitan distribution; of the five Genera represented in South Africa one is peculiar to the Sub-region, four are found in the Palaearctic, four in the Nearctic and three in the Neotropical and Oriental Regions respectively. The *Cicadellinae* undoubtedly have attained their greatest development in the Neotropical Region, where thirty-one genera (including numerous species) are recorded, as against four in South Africa. Of the four represented in South Africa, two are peculiar to this Sub-region. One of the other two occurs in the Palaearctic, while both are found in the Nearctic, in the Neotropical and in the Oriental Region. The *Gyponinae* do not show wide generic differentiation in any region, although the Neotropical shows a particular richness of species in certain genera, *e.g.*, *Gypona*; the Oriental seems, superficially, to have the largest number of genera. Of the two genera recorded from South Africa one is peculiar and the other one common to all the other regions. The *Jassinae* are well represented in all the Geographic Regions and seem to have reached the widest differentiation of all the Cicadellid subfamilies, both in respect to the number of genera and that of species. Thirty genera of this subfamily have so far been recorded from South Africa; thirteen are peculiar, twelve are found in the Palaearctic, thirteen in the Nearctic, ten in the Neotropical and nine in the Oriental Region.

Owing to the lack of exhaustive collection on this family in the Ethiopian and Neotropical regions a comparison of the representation over the world, in species, cannot be made at this time. The relative generic representation of the family in the various Geographic Regions, likewise, is not as illustrative of comparative regional development of Cicadellidae as it would have been, had there been less difference in the attitude of the systematists, who have done the bulk of the work in the respective regions, towards the grouping of forms. Yet the data compiled show sufficiently that the South African fauna has quite a wide representation in this family. Nearly half of the genera recorded are peculiar to the Sub-Region, and, while on the average, the species known are few in comparison with the number of genera, the more recent collections, made with particular attention to this

group, brought to light a considerable number of species from a small number of localities. This would tend to indicate that the fauna is fairly rich in species.

Only four of the one hundred and forty species now known have been recorded from other Geographic Regions. These are *Cicadella cosmopolita*, *Cicadella spectra*, *Euscelis exitiosa* and *Cicadula 6-notata*, all of which have a more or less cosmopolitan distribution. The latter two are well known forage and grain pests and this may account for their wide distribution. *E. exitiosa*, until recently recognized by Prof. Osborn, was known from South America under the name of *Jassus (Thamnotettix) obscurinervis* Stal. This species is closely related to *E. capicola*, peculiar to South Africa, and the latter again has close relatives in four species described by Distant from India. There is thus a possibility that in addition to introduction by man or other agencies similar types have evolved separately in the Oriental and South African Regions.

NATURAL ENEMIES.

The leafhoppers have a considerable number of natural enemies which probably play some part in keeping their numbers fairly constant from year to year. Among their insect enemies the largest number has apparently been recorded by the Hawaiian Entomologist and C. L. Perkins of that country, in extensive work done in attempt to introduce natural enemies that would tend to check, in particular, the damage caused by the Sugar Cane Leafhopper, *Perkinsiella saccharicida*, a Fulgorid. Many parasites were introduced from the United States and Australia. Among these were representatives of the Families Dryinidae (Hymenoptera), Mymaridae, (Egg parasites of the Order Hymenoptera, Stylopidae (Strepsiptera), Pipunculidae (Diptera). Among the predaceous enemies spiders seem to be the most important. Members of the Reduviidae and Lygaeidae (Heteroptera) likewise have been noticed to feed on these insects. While we would expect birds to play an important part in the natural control of leafhoppers, it is of interest to note that an extensive analysis of bird stomach records by Prof. Herbert Osborn (U.S.D.A. Bul. 108, 1912), have proved them to be quite a negligible factor in the United States.

While no records on this subject seem to exist for South Africa it is probable that the records quoted above may be safely applied for this country in a general way.

In the collection on hand the writer has noticed parasitic cocoons (apparently Hymenoptera) attached to members of the genera *Dorydium*, *Deltocephalus*, *Euscelis* and *Eugnathodus*. In case of the latter genus, *E. auranticulus* showed evidence of the presence of parasites in considerable abundance.

ECONOMIC CONSIDERATIONS.

The Cicadellidae belong to the group of insects in which the mouth-parts are of a sucking type. Hence they obtain their food by sucking the juices of the plants on which they occur. The latter vary widely in type, and range from delicate herbs to large trees, but belong predominantly to the grassy type. Feeding is accomplished by inserting the beak into the succulent parts of the plant, usually along the major veins. The insects are so small, many being only 2 to 5 mm. in length, that the punctures thus effected are quite inconspicuous, except when present in very large numbers. Hence, although to the casual observer no immediate effect is apparent, the host plant may be subjected to a continual drain on its nutriment, depending on the numbers of the insects, which, in the nymphal stages,

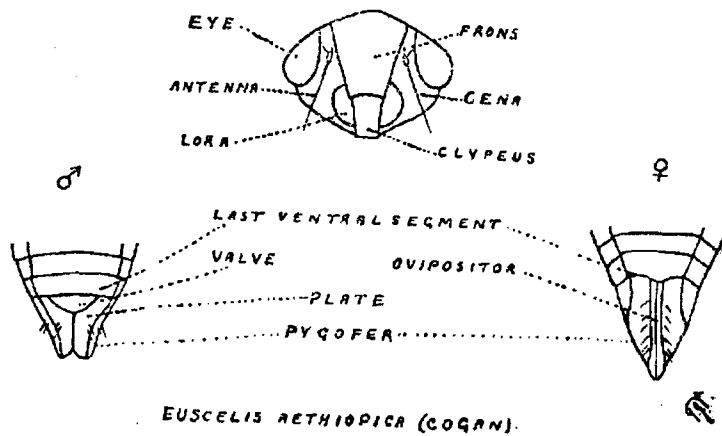
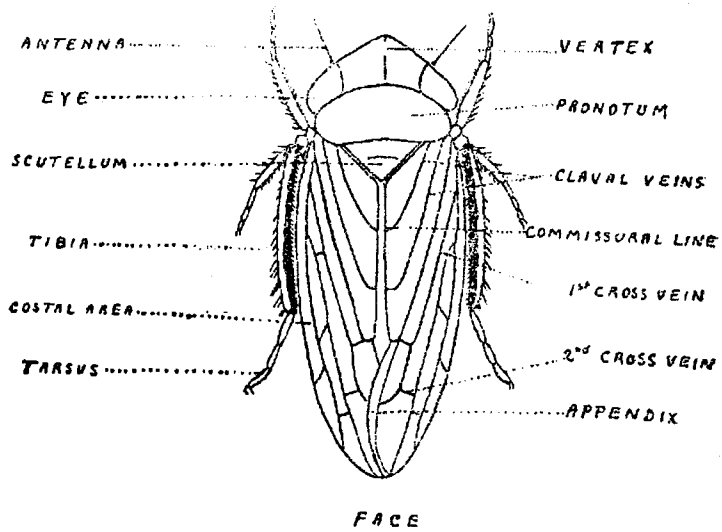
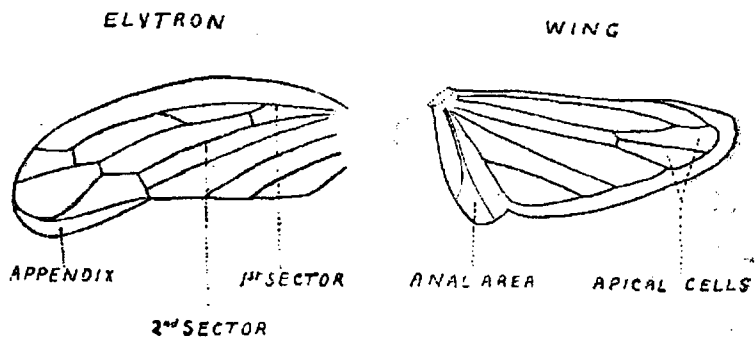
often seem to be restricted to the same plant, and, as adults, fly only for short distances. The importance of this family as leaf-feeding insects has already been pointed out by Prof. Herbert Osborn and other workers; the vastness of the numbers in which they occur on pastures, forage, cereals and other cultivated crops, is enough to indicate the amount of the injury they are liable to cause. Prof. Osborn has further shown (Maine Agr. Exp. Sta. Rep. 1916) that their attacks not only decrease the forage yields, but seriously lessen the food value of what remains. Among the fruit pests of this family are the Grape Leafhopper *Erythroneura tricincta* (for which a number of species are now recognised) which is one of the outstanding grape pests in the Lake Erie fruit district in the United States; the Apple Leafhopper comprising the species *Empoasca mali*, *E. unicolor* and *E. flavescens*, which cause a drain on the vitality of apple trees. In North, Central and South Africa, a Cicadellid, *Empoasca fascialis* causes damage to the cotton crop and in the latter country it has come to be quite a serious proposition in certain seasons.

Besides causing direct injury to plants, some forms have been definitely identified with the transmission of serious crop diseases, such as Tipburn of Potatoes and Leafcurl in Sugar Beets.

South Africa then, being primarily an agricultural country with an abundance of favourable habitats for these insects, is almost bound to be subject to the same economic losses from these insects as other countries, especially where cultivated crops are superseding the natural vegetation on a large scale, although up to the present few such records have appeared in literature. Of the forms known to be of special economic importance elsewhere, *Cicadula 6-notata* and *Euscelis exilis* occur in South Africa.

ACKNOWLEDGMENTS.

The writer wishes to acknowledge his sincere indebtedness to Prof. Herbert Osborn under whose direction this work has been done and who has been equally liberal with advice and the free use of his private library; to Prof. D. M. DeLong for advice and facilities placed at the writer's disposal; to Dr. F. W. Pettey, of Elsenburg, C.P., South Africa, through whose kindness and effort the original material and several subsequent consignments were obtained.



Family **CICADELLIDAE.****KEY TO SUBFAMILIES.**

- A. Veins at base of tegmina distinctly visible, more or less branched on the corium and connected by transverse veins; ocelli rarely absent.
- B. Posterior tibiae four cornered, usually armed with numerous spines.
- C. Eyes globular, standing out from outline of head; pronotum rounded or straight laterally. *Ulopinae.*
- C'. Eyes elliptical, more or less in line with margin of vertex; pronotum usually angularly extended laterally. *Ledrinae.*
- BB. Posterior tibiae more or less cylindrical and slender, usually densely spinulose.
- CC. Ocelli on the face, below the anterior margin of the head. *Bythoscopinae.*
- CC'. Ocelli placed on disk of vertex.
- DD'. Face large, prominent, strongly convex, cheeks long and narrow, anterior edge of head obtuse and rounded. *Cicadellinae.*
- DD". Face flat or slightly convex, more or less impressed across the base beneath the prominent and acute or rounded and overhanging anterior edge of the head; cheeks at least moderately expanded. *Gyponinae.*
- CC". Ocelli placed on anterior edge of head or close to it superiorly, or, ocelli absent. (see AA). *Jassinae.*
- AA. Veins at base of tegmina indistinct, no forking on the corium; all transverse veins near the tip where they give rise to terminal veins; ocelli rarely distinct. *Tribe Typhlocybini (Jassinae).*

Subfamily **Ulopinae.**

"Face arched, flattened against the edge of the vertex; the latter sharp and somewhat deflexed; rounded in front and slightly arched. Ocelli distinct, situated on the vertex on both sides of the protuberance ("Schwiele"); clypeus short, three cornered, arched; antennal cavities deep, sharply edged dorsally, open ventrally, the first two antennal segments thickened cylindrically, the second shorter than the first. Pronotum broad, rectangular, anterior edge rounded, posterior edge straight, lateral edges directed obliquely forward. Wings leathery, elytra horny. Hind tibiae four cornered, their dorsal sides provided with several bristles. Basal segment of hind tarsi shorter than the last (clawed segment)."

(Translated from Melichar, Cicad. Von. Mitt. Europa, p. 127, Ulopidae.)

Genus **Ulopa** Fall.

Body oblong; head produced in front of the eyes; vertex almost level, horizontal or slightly declining; margins of the face slightly expanded; frons slightly convex. Eyes protruding beyond the sides of the head and thorax. Ocelli absent. Thorax transverse, parallelogramic. Scutellum rather small, triangular, lightly transverse. Elytra coriaceous, punctate, convex, with the clavus and corium fused; sutures of clavus obsolete. Legs (pedes) short, rather robust; hind tibiae unarmed.

(Translated from Stal.)

U. sordida Stal.

Ulopa sordida, Stal, Hem. Afr. IV, p. 102 (1864); Stal, Ofv. Vet. Ak. Forh. p. 254 (1854).

Strongly oblong, testaceous grey, densely punctate; head longer than thorax, half semicircularly rounded between the eyes, vertex gently sloping with two oblong impressions on the disc; frons and clypeus slightly convex; legs and abdomen fuscous, knees and tarsi pale.

(Translated from Stal.)

Long. 5, lat. 1.5 mm.

Hab.—Cape (Terra capensis).

Subfamily **Ledrinae** Dist.

Scaridae Fieb. Melichar. Cicad. von Mitt. Eur. p. 126 (1895).

Ledrina, Stal, Ofv. Vet. Ak. Forh. p. 731 (1870).

"Vertex foliaceous, forming an obtuse angle in front of the eyes. Ocelli near posterior margin of vertex, twice as far from the eyes as from each other. Pronotum six-angular with two earshaped extensions. Elytra leathery, with projecting veins which form a close network of irregular cells. The dorsal outward edge of the hind tibiae foliaceously broadened and provided on the lower half with a few tooth-like spines. The middle tibiae somewhat widened at the base and gradually thickened towards the apex."

Melichar.

Genus **Tituria** Stal.

Body large, oblong; head foliaceous, clypeus present, triangular, rounded at apex, produced anteriorly and a little downwardly, vertex flat. Frons narrow, flat; face abruptly and strongly narrowed beneath the eyes, and gradually narrowed lower down; margins slightly broadened. Eyes small. Ocelli situated behind middle of vertex between the eyes, further from the eyes than from each other. Thorax and vertex lying in the same plane, thorax sixangular, angularly broadened, the lateral margins sharp, the anterior margin straight, posterior margin lightly sinuate. Scutellum triangular. Elytra coriaceous, thickly punctured, shield-shaped, reaching end of abdomen; clavus widest in middle; corium triangular; obliquely or roundly truncate behind the clavus; veins branching irregularly against the apex, slightly raised.

Feet rather short; anterior coxae free; posterior tibiae sparsely dentate above.

Allied to *Petaloccephala*.

(Translated from Stal.)

T. antica Dist.

Tituria antica Dist. Ins. Transv., p. 230 (1910).

Epiclinae antica Walker, List. Hom. Suppl., p. 251 (1858).

"Testaceous, minutely punctured. Head produced and conical in front. Prothorax dilated and forming a right angle on each side; a broad green band on the hind border. Fore wings green, luteous at the base and along part of the costa. Hind wings vitreous. Length of body 6 lines, of wings 10 lines.

Hab.—Port Natal (Gueinzuis). (Walker.)

Var. ? Testaceous, paler beneath, minutely punctured. Head and thorax edged with black. Fore part of the head with a green border, which is much excavated in front and less so on each side. Thorax with a broad green band on the hind border; sides dilated and rectangular. Fore wings semi-hyaline, except along the costa. Hind wings grayish vitreous. Length of body 4 lines, of the wings 9 lines."

Hab.—Port Natal (Gueinzus).

Genus *Petalcephala* Stal.

Body strongly oblong or slightly elongate, depressed. Head with a clypeus; foliaceous produced anteriorly; vertex rather flat; face narrowed very suddenly just beneath the eyes, and narrowing gradually lower down, margins very lightly expanded; frons small, narrow, rather flat (*planuscula*). Eyes small. Ocelli situated against the foot of the vertex nearer to each other than to the eyes. Thorax transverse, six-angular very slightly or not at all narrowed anteriorly, lateral margins sharp; lateral anterior longer than lateral posterior margins, anterior margin gently rounded. Scutellum triangular, almost equilateral. Elytra subcoriaceous, transparent, densely punctate, shield-shaped, conjointly convex toward the anterior, clavus broadest in front of the middle, corium obliquely rounded at the apex, veins branching irregularly against the apex, not quite distinct. Feet (*pedes*) rather short; anterior coxae free; posterior tibiae sparsely dentate above.

(Translated from Stal.)

P. wahlbergi Stal.

Petalcephala wahlbergi, Stal. Hem. Afr. IV., p. 104 (1855).

Stal. Ofv. Vet. Ak., Forh., p. 251-2 (1854).

Very pale, olivaceous-yellow or greenish, densely and distinctly punctate above; head somewhat longer than thorax, semi-oval, semi-circularly rounded in front of the eyes; Ocelli brownish, nearly twice as far from the eyes as from each other; thorax slightly narrowed anteriorly with the disc sunken lengthwise and in front of the middle; elytra very pale, transparent, somewhat longer than the apex of the abdomen.

(Translated from Stal.)

Long. 11.5; br., 3.5 mm.

Hab.—Caffraria.

P. gibber n. sp.

Pale green unicolorous. Breadth 2 mm., length 7 mm.

Vertex half as long as width across the eyes, anterior margin parabolic in outline, subangulately rounded, with eyes red in color and slightly protruding; the portion along the median line raised slightly above the rest; ocelli much nearer to median line than to the eyes, two-fifths the total length of the vertex from the posterior margin. Pronotum as wide as width across the eyes, slightly longer than vertex, tuberculate and pitted, anterior margin very broadly rounded, posterior margin concave, humeral margins straight. Scutellum as long as vertex, slightly broader than long, pointed at apex. Elytra densely pitted, with a wide sulcus along the corio-claval suture, venation obscure, 4 apical cells present. Face flat, concave above the eyes, slightly shorter than broad, deeply angulately narrowed below the eyes, gradually narrowing to a pointed clypeus below; frontal sutures deeply impressed, approaching each other above the antennae.

Genitalia.—Female: last ventral segment slightly shorter than the preceding, semicircularly notched in the centre of the posterior margin, slightly sloping backward to posterior corners which are acutely rounded; pygofer broad, nearly four times as long as penultimate segment, its inner margins meeting ventrally for three-quarters of their length, covering the ovipositor.

Described from 1 female from Elsenburg, C.P. (Coll. F. W. Pettey). Also found at Cape Town.

P. humerosa n.sp.

Green, with indefinite longitudinal paler streaks along elytra and a whitish spot in each basal angle of scutellum. Length 6 mm., breadth 2 mm.

Vertex pitted and faintly longitudinally striate along median line, parabolic in anterior outline, twice as broad as long, broadly, roundly raised along median line, eyes in line with anterior margin, anterolateral margins recurved. Ocelli situated twice as far from the eyes as from the median line and two-fifths the length of the vertex from the posterior margin. Pronotum as long as vertex, twice as broad as long, abruptly humped at about one-third its length from the anterior margin, pitted all over; anterior margin very broadly rounded, posterior slightly concave, humeral margins straight. Scutellum slightly shorter than pronotum, a little broader than long, acutely narrowed at the apex, sides broadly concave; depressed in the centre, faintly pitted, transverse impression lacking. Elytra subcoriaceous, densely pitted, slightly shorter than abdomen, distinctly widely furrowed along corioclaval suture; venation obscure. Face as broad as long, distinctly tumid, antennal fossae sunken, margin abruptly, deeply subangulately narrowed immediately below the eyes, narrowing to a pointed clypeus; frons three times as long as clypeus; clypeus slightly widened at the middle, margins converging to a narrowly truncate apex; facial sutures terminating below the line of the antennae. Hind tibiae with a few short feeble spines on the upper margin.

Color.—Shiny yellowish green with an obsolete yellowish longitudinal band traversing vertex and pronotum on either side and terminating in basal angles of scutellum; a yellowish coloration along claval vein and two inner veins of corium and a short dark brown dash on inner branch of first sector just behind middle of clavus; ventrally uniform pale green.

Genitalia.—Female: last ventral segment centrally half as long as the penultimate; posterior margin deeply concave, posterior corners narrowly pointed; pygofer broad, exceeding ovipositor and completely enclosing the latter for one-third its length from the tip.

Described from 1 female collected by F. W. Pettey at Elsenburg, C.P., 16.12.22.

P. mitellata n.sp.

Color.—Pale yellowish green. Length 4.5 mm., breadth 1.5 mm.

Vertex slightly longer than half the distance across the eyes, parabolic in anterior outline, faintly longitudinally rugulose with a fine central-longitudinal carinate line; rounded above, the rounding continuous with that of pronotum; eyes in line with anterior margin; ocelli situated nearer to median line than to eyes and one-third the length of the vertex from its posterior margin. Pronotum faintly transversely striate on posterior two-thirds, as long as vertex, slightly more than twice as broad as long, humeral margins straight, posterior margin concave. Scutellum slightly longer than pronotum, somewhat broader than long, with a transverse impression behind

the middle, apex sharply pointed. Elytra exceeding abdomen, with a broad furrow along the corioclaval suture, one basal, two discal, two ante-apical, three apical, and two subapical areoles, venation fairly distinct. Face flat, faintly tumid on frons and clypeus, sunken about the antennal fossae; one-sixth broader than long, abruptly, angulately narrowed below the eyes, genal margins straight to the rounded apex of clypeus; clypeus about one-third as long as frons; frontal sutures terminating at base of antennae. Hind tibiae with a row of short spines along outer, and finer spines along inner margin.

Color.—Uniform yellowish green, elytra brown at the apex in male.

Genitalia.—Female: last ventral segment twice as long as the penultimate, rounded behind and delicately notched at the centre; pygofer three times as long as last ventral segment, slightly exceeded by ovipositor. Male: valve as long as last ventral segment, truncate behind, plates pointed, narrow, two and a half times as long as valve.

Described from two females and one male.

Locality.—Elsenburg, C.P.

Coll.—F. W. Petzey. 17.12.22.

Genus *Gubela* Dist.

“Vertex transverse, strongly declivous, narrow, three times broader than long, the lateral margins in front of eyes oblique; ocelli near basal margin, farther removed from each other than from the eyes which are long and broad, and extend over the anterior angles of the pronotum; face small, roundly angulate at right angles to the vertex, the cheeks broad, ridged between eyes; pronotum scarcely more than half as long as broad, strongly declivous anteriorly, centrally, longitudinally ridged, distinctly, somewhat roundly foveate before the eyes; anterior margin subtruncate, the basal margin sinuate before the scutellum, the lateral margins before the eyes almost straight, thence oblique to anterior angles; scutellum small, a little broader than long, the lateral margins obliquely straight, transversely impressed near the middle, from which posteriorly to the apex it is longitudinally ridged; tegmina more than three times longer than broad, transversely depressed on each side, strongly reticulately veined; legs moderately short and stout, tibiae slightly compressed, posterior tibiae laterally, obscurely, finely, shortly spinulose.” Distant.

G. bellicosa.

Gubela bellicosa Dist. Ins. Transvaaliensia, p. 232 (1910).

“Vertex granulose, grayish ochraceous, irregularly speckled with black, the foveations piceous, two central longitudinal lines and the base dark castaneous brown; scutellum black, four small linear spots on the basal area and a central line on the apical area pale ochraceous; body beneath and legs pale ochraceous; anterior femora (broadly), intermediate and posterior femora (narrowly and apically), apices of anterior and intermediate tibiae, black; tegmina obscurely subhyaline, the veins fuscous brown, an irregular transverse piceous fascia near middle; claval apex piceous; pronotum finely granulose; eyes piceous-brown; rostrum reaching the intermediate coxae.” Distant.

Genitalia.—Female: last ventral segment medially slightly shorter than the penultimate, posterior corners angulate, posterior margin truncate with a small semi-lunar concavity at the centre whence a faint black line extends forward; ovipositor strong, rounded, four times as long as ultimate segment; pygofers broad, strong, markedly flattened on the ventral surface, somewhat shorter than the ovipositor.

Long. male and female 5.5 mm.

Hab.—Transvaal, Pretoria (Distant); Natal, Durban (Bell-Marley); Cedara College (Coll. Cogan).

In some specimens the dark transverse fascia to the tegmina is obsolete.

Genus *Mapochia* Dist.

"Vertex flat, spatulate, a little foveately depressed before the apex which is slightly recurved, more than twice as long as the pronotum; eyes small, situated at base; ocelli near eyes; face flattened, slightly concave, lateral margins straight but roundly angulate near the base; pronotum a little broader than long, lateral margins nearly straight, anterior margin slightly convex, posterior margin moderately concave; scutellum small subtriangular; tegmina only just reaching abdominal apex, the veins longitudinal, two elongate cells on apical half and three small apical cells; legs short, posterior tibiae outwardly serrate, not foliaceously dilated."

Distant.

Note.—Schumacher (Wien. Ent. Zeit. 31, p. 245-9, 1912) places this genus under the Acocephalini on account of the position of the ocelli and the nature of the hind tibiae. Like Distant, however, he was dealing with a single (new) species. Hence the controversy might well stand over for further comparison.

M. collaris Dist.

Mapochia collaris, Dist. Ins. Transv., p. 233 (1910).

"Head, pronotum and scutellum brownish-ochraceous; vertex with a central pale longitudinal line, two very small black spots at the apex, the surface obscurely granulose, its anterior margin tomentosely white; tegmina stramineous, the veins pale ochraceous, the clavus finely granulose, body beneath and legs ochraceous; other structural characters as in generic diagnosis. Long 7½ mm."

Distant.

Hab.—"Caffraria" (Mansell-Weale; Oxford Mus.).

The following additional genera have been described from Central and Northern Africa and may be encountered in Southern parts as well:—

Ledropsis, White, Dist. Faun. B.1 Rhynch. IV., p. 180, 1907.

Confucius, Distant, Dist. Faun. B.1 Rhynch. IV., p. 178, 1907.

Turitia, Schumacher, Schum. Wien. Ent. Zeit. 31, p. 245-9, 1912.

"Vertex flattened, the lateral margins form a more or less blunt angle in front of the eyes, whence they proceed virtually straightly to the apex where they converge in an obtuse angle. The prolongation of the lateral margins backwards does not exceed ('trifft mehr'), the eyes. Vertex as broad as pronotum, twice as broad as long behind. Eyes large, as long as lateral margin of pronotum. Pronotum six-angular in outline, anterior margin gradually, weakly, convexly arched. Lateral margins straight, somewhat forwardly convergent. Posterior margin weakly convex centrally. Pronotum two and a half times as broad behind as long in the middle. Elytra with a distinct claval suture, with net-shaped veins at the end and a distinct bristle shortly behind the middle. Clavus furnished with more and smaller bristles."

(Schumacher.)

Pachyledra, Schumacher, Schum. Wien Ent. Zeit. 31, p. 245-9, 1912.

"Vertex short, between the eyes half as broad as long, flat, sides curved in front of the eyes, then continuing straight forward to unite in a very obtuse angle. The ocelli are farther removed from the eyes than from each other. Eyes very large, strongly overlapping, and abutting posteriorly on the pronotum. Pronotum twice as broad as long in the middle. Anterior margin weakly, convexly bent. Lateral margins straight and parallel. Posterior margin deeply concave in the middle. Pronotum regularly arched crosswise without elevations or depressions. Scutellum equilaterally triangular. Corium with slightly protruding veins which are united reticulately at the end. Claval suture distinct, dorsal surface densely, regularly, punctately stabbed (eingestochen punktiert)."

(Schumacher.)

Subfamily Bythoscopinae Dorhn.

This subfamily is characterised by the position of the ocelli which are located on the front, below the margin of the vertex. The vertex is transverse and distinctly shortened, sometimes narrowed to a mere margin of the anterior end of the pronotum, which is very often transversely or obliquely striate. The front is usually markedly tumid and the venation may be obscure.

Bythoscopinae Dorhn.

KEY TO GENERA.

- A. Anterior margin of pronotum not produced beyond anterior margin of eyes; vertex rounded anteriorly.
 - B. Head as wide as or wider than pronotum.
 - C. Elytra without a distinct appendix.
 - D. Posterior margin of vertex narrowly recurved. *Pachynus.*
 - DD. Posterior margin of vertex slightly elevated above pronotum, forming an irregular curve. *Agallia.*
 - CC. Elytra with a distinct appendix. *Idiocerus.*
 - BB. Head narrower than pronotum, vertex rounded, pronotum transversely striate. *Bythoscopus.*
- AA. Anterior margin of pronotum strongly produced beyond anterior margin of eyes. Vertex obtusely angulate.
 - B. Striations of pronotum oblique, running from anterior to posterior angles. *Macropsis.*

Genus *Pachynus* Stal.

Head very obtuse, broad, broader than the thorax; as seen from above, broad, arcuate; vertex sloping towards the broader part, recurved narrowly at the base; face triangular, visibly narrowed against the apex; supra-antennal fold strongly oblique, not reaching the eyes. Ocelli situated between the eyes in the part of the vertex bordering on the anterior, somewhat nearer to each other than to the eyes. Thorax transverse, rounded anteriorly. Scutellum a little broader than long. Elytra with a very narrow appendix, scarcely or not at all overlapping. Posterior tibiae spiny.

Related to *Macropsis* from which it differs in an anteriorly rounded head and in the position of the ocelli.

(Translated from Stal.)

P. bimaculicollis Stal.

Pachynus bimaculicollis, Stal. Hem. Afr. IV., p. 127. (1864.)

Pale testaceous straw-colored; the two rounded separated sub-basal spots of the vertex and of the thorax, the spots of the genae below the antennae, the lateral spots of the thorax and the disc of the abdomen ("ventris"), all black; the veins of the elytra lightly fuscous.

Long 5 mm.; br. 1.75 mm.

Hab.—Caffraria.

(Translated from Stal.)

Genus Agallia Curtis.

Body robust. Head with eyes wider than the elytra at their base. Vertex rounded in front; clypeus distinctly exceeding tips of genae, rectangular, separated from the frons by a suture, lora not covered. Ocelli high up on the frons between the eyes; anterior margin of vertex bluntly angled to semi-circular, posterior margin straight, lateral margins short, rounded. Elytra fully developed and membranous, or shortened and leathery; corium without appendix. Veins usually distinct, the two branches of the first longitudinal vein connected by a cross-vein, the inner branch to the second longitudinal vein by two cross-veins; supernumerary cross-veins, excepting those at the bases of the marginal cells, frequently absent. Supernumerary cell of wing present; the second sector forked, the outer branch connected to the first sector (with which it is sometimes fused), the inner branch to the third single sector, by a cross-vein; radial vein unbranched, the sutural vein forked and a linear rib near the end. Hind tibiae as in *Idiocerus*. Valve present in male.

(Translated from "Melichar," *Cicadinen von Mittel-Europa*, p. 169.)

Agallia cuneata Cogan.

Agallia cuneata, Cogan, Homop. Studies, p. 181 (1916).

Form slender, wedge-shaped, narrowing to a point behind. General color pinkish brown varied with dull white.

Vertex short, rounded, pinkish brown with a circular black spot surrounded by a yellowish halo, midway between the centre and the eye on each side; one-fourth as long as pronotum. Eyes grayish. Face very long, pinkish brown with yellowish halos of vertex extending down beyond and enclosing ocelli, then enclosed themselves by bands more intensely brown than rest of face, extending from antennae and confluent in middle of frons; ocelli dilute brown; lower part of frons with an irregular deep brown line parallel to either side margin; sutures distinct, dark brown. Clypeus almost twice as long as broad, side margins slightly rounded, tapering to a point below the lorae; lorae long, dirty white, narrower than clypeus, reaching a little beyond the half of the latter; genae rather small, narrow, pointed, not reaching ends of lorae, dirty white, and marked with fuscous brown. Pronotum transverse elliptical, side margins very short, posterior margin broadly, anterior irregularly rounded, the vertex projecting slightly over it. Color: Pinkish brown with two circular black spots near posterior margin. Scutellum dirty white, triangular with a transverse impression in the middle. Elytra smoky hyaline with brown veins on corium, dull brown with white veins on clavus; tip of abdomen in male reaching only two-thirds along claval suture. Thorax below black. Legs dirty white to yellowish, tinged with brown in places.

Genitalia.—Female: last ventral segment slightly longer than the preceding; pygofers strong, nearly three times as long as broad, three times as long as last ventral segment; ovipositor slightly longer than pygofers. Male: last ventral segment slightly shorter than the penultimate; valve strong, triangular, rounded at apex; pygofers short and broad; plates pointed apically, lateral margins incurved near base; valve, plates and pygofers brownish yellow, together five times as long as the last ventral segment.

Length 4 mm.; br. almost 1 mm.

Hab.—Cape Town (Mally); Petrusburg, O.F.S. 22.4.18 (Coll. Faure); Jonker's Hoek, C.P. 17.12.22 (Coll. F. W. Pettey).

This species is separated from *A. nigrasterna* by its more slender form, its lighter general color, narrower veins and the presence of only two instead of three cross-veins between the first and second sector.

A. nigrasterna Cogan.

Agallia nigrasterna, Cogan, Homop. Studies, p. 180 (1916).

Form robust anteriorly, wedge-shaped behind; general color light yellowish brown, variegated with white and dark brown.

Very similar to the foregoing species *A. cuneata*, the color pattern being almost identical, but the ground color being a little darker. It differs further in the form being shorter and more robust and larger black spots on the pronotum with dark areas in front of them, the latter sometimes merging into black spots which almost touch those near the posterior margin; pronotum with a more or less definite longitudinal black band. Scutellum orange towards the base, with a black spot at or near each basal angle. Elytra: clavus brownish with white veins, corium white with brown veins, the veins thicker than in *A. cuneata* and there is an additional cross-vein between the first and second sector of the corium. Eyes dark green as in *A. cuneata*, a more or less prominent black spot beneath each antenna, and a triangular dark area on the apex of each gena. Thorax black beneath, abdomen yellowish with the margins of the pleura blackish.

Genitalia.—Female: last ventral segment truncate behind, slightly longer than the penultimate; pygofers strong, three times as long as their width at the base, yellowish; ovipositor slightly stronger than pygofers, yellowish brown, darker at the tip. Male: last ventral segment a little longer than the previous ones; valve strong, three times as long as last ventral segment, triangular, rounded at apex, yellowish to black in color. Pygofers strong, slightly longer than valve; plates as long as valve, pointed towards apex, lateral margins incurved near base.

The last ventral segment of the female may show up as long as the last three ventral pleura together, according to the position of the abdomen.

Legs, dirty yellowish, sometimes longitudinally marked with brown.

The specimens here described seem to be considerably darker on the whole and somewhat smaller than those described by Cogan. He, however, had only two male specimens. It may, on the other hand, not be unreasonable to ascribe the difference as due, possibly to a difference in environment, climate and altitude, Cogan's having been taken at sea-level where it is usually moist, and the newer ones on the semi-arid inland plateau at an altitude of over 4,000 feet.

Length 3.25 mm.; br. 1 mm.

Hab.—Cape Town (Mally); Petrusburg, O.F.S. (Coll. Faure).

Genus *Idiocerus* Lew.

Body elongate; greatest breadth across the eyes. Male antennae sometimes ovals widened toward the apex. Clypeus widened at the apex, which is rounded. Pronotum more than twice as broad as long, hind margin straight, posterior corners rounded, anterior margin broadly rounded. Elytra with a broad appendix, overlapping at the apex. Wing with the supernumerary cell; first sector connected to second by a cross-vein before the apex, second to third by a corner vein, which is connected with the marginal vein. Hind tibiae four-cornered. Valve absent in male.

(Adapted from Melichar.)

I. hewitti Cogan.

Idiocerus hewitti, Cogan, Homop. Studies, p. 180 (1916).

"Yellowish green with two black spots on the anterior margin of the vertex and two spots, also black, on the base of the scutellum. Length 5.5 mm.; width across eyes, 2.25 mm.

Vertex broad and stout with the eyes prominent. Greenish in color; yellow halos around the black spots which are situated nearer the eyes than the median line. Eyes very large, brownish black; ocelli colorless, located nearer the eyes than the middle. Face broad, a little broader than its length; frons large, convex, yellow with lighter transverse bands on the middle; clypeus a little larger than its breadth; lorae prominent, cheeks somewhat lighter than the rest of the face. Pronotum long, with distinct transverse striations. Scutellum yellow, a little longer than the pronotum, with two round black spots on the base. Elytra faint yellow with the venation rather indistinct; apical cells prominent, the sectors set with minute tubercles. Abdomen above black, beneath greenish yellow; lateral margins green. Legs light yellow to whitish. Female genitalia: dull green in color, the last ventral segment more than twice as long as the penultimate, slightly concave on its posterior lateral margins; pygofer large, stout, shorter than ovipositor, which is broader at the tip than at the base." Cogan.

Described from 2 females.

Hab.—Grahamstown, C.P. (Hewitt).

I. cuneiformis n. sp.

General color bluish gray, head dull-white to sulphur-yellow; two round black spots on anterior aspect of head and two black spots at base of scutellum. Length 4-4.5 mm.; width across eyes about 1.5 mm.

Vertex very short, broadly rounded in front, parallel-margined, five times as broad as long, finely transversely striate. Pronotum three times as broad as long, finely granulate, about three times as long as vertex, posterior margin slightly subangulately concave, humeral margins rounded to corner of eye. Scutellum large, straight sided, finely granulate, one-fifth longer than pronotum, three-fifths as long as broad; two oblique transverse curved lines on middle almost meeting anteriorly. Elytra markedly exceeding abdomen, strongly overlapping, together wedge-shaped behind, venation indistinct. Face three-fourths as long as broad, genal margins straight, in line with eyes, narrowly exceeding lorae; frontal sutures straight, reaching to antennal bases; clypeus not quite half as long as frons, broadened toward apex, which is truncate.

Color.—Ventral side, face, head and sides of pronotum dirty white to sulphur yellow; two round black spots on front of head and two sub-

triangular black spots at base of scutellum near angles, each surrounded by a whitish halo, antennal fossa usually with a black spot. Elytra, centre of pronotum and the scutellum dark grey.

Genitalia.—Female: last ventral segment twice as long as preceding, faintly longitudinally striate, roundly truncate posteriorly, posterior corners rounded; ovipositor about six times as long as ultimate segment, exceeding pygofers by about one-fifth its length; pygofers broad, widest at middle, width across them equalling two-thirds the length of ovipositor, their inner margins more approximated towards apex than at base. Male: valve about as long as ultimate ventral segment, broad at base, truncately rounded posteriorly; plates fingerlike, long, very narrow, contiguous, gradually narrowing to a fine point, outer margins and tips conspicuously lined with long white hairs, length of plate about four times its breadth at the base.

Described from two female specimens collected by F. W. Petty at Ceres, C.P. Two males, one from Elsenburg and one from Jonkershoek, C.P., are tentatively included in this description, but since they have not been collected from the same locality as the females, the description, for the present, holds for the latter only.

Genus *Macropsis* Lew.

Pediopsis, Burmeister, Gen. Ina., pl. 10 (1838).

Head broad; as seen from above very short and obtusely angular; vertex sloping towards the large (posterior) end, the base slightly and very narrowly recurved; face triangular, noticeably narrowed; supra-antennal fold very oblique and reaching the eyes. Ocelli situated in the part of the vertex bordering anteriorly, well separated; thorax obtusely angled anteriorly; scutellum slightly broader than long. Elytra not quite or very slightly overlapping behind the clavus, hind tibiae very spiny.

(Translated from Stal.)

M. nigrosignatus Stal.

Pediopsis nigrosignatus, Stal. Hem. Afr. IV., p. 128 (1864).

Bythoscopus nigrosignatus, [Stal. Ofv. Vet. Ak. Forh., p. 320, 28 (1858).

Pale greenish; three small black spots, one in the middle near the base and one on each side of the vertex, the latter situated above the ocelli; one very small spot on the apex of the pronotum (? thoracis) and one lateral near the base of the anterior coxae.

Long 4.25 mm., br. 1.3 mm.

Hab.—Swakop River Region.

(Translated from Stal.)

M. capensis Cogan.

Pediopsis capensis, Cogan, Homop. Studies, p. 179 (1916).

“Form broad and stout, general color greenish yellow, covered with a fine brown spotting. Propleura with a black spot. Length 4.5 mm.; width at pronotum 2 mm.

Vertex very short viewed from above, narrowed at middle, but becoming slightly wide toward the eyes; greenish in color with the brown spots rather obscure. Eyes steel gray, a little wider than the pronotum, having a flattened oval appearance. Face yellowish green, broad and of moderate length, with coarse though shallow rugulae and punctulations; frontal

suture prominent; frons strong, wide between the eyes; tapering gradually towards the clypeus; the latter short, broad and prominent, wider next the frons than at apex; lorae long and narrow; cheeks of moderate width, slightly depressed beneath eyes; ocelli colorless. Pronotum olivaceous, with brown spots, prominent; rugae conspicuous, decidedly oblique, anterior margin broadly triangular, lateral of moderate length, posterior slightly concave, length about two-fifths of the breadth; disc convex on posterior half. Scutellum large, of a yellow color, with two large, round brown spots located at the basal angles, about equal to the pronotum in length; a short transverse line on the posterior half. Venter of prothorax yellow, black spots on the pro- and metapleura. Elytra yellowish, with numerous brown spots; at apex of clavus are two markings, which when the wings are at rest, give a distinct spot, different from the general marking. Venation distinct, six closed cells on the corium, one basal, two discal, three anteapical; membrane composed of fine apical cells. Wing, very delicate, membranous, the supernumerary cell absent. Abdomen above greenish, short, compressed, beneath yellowish. Legs brownish, tarsi three-jointed, the basal joint almost as long as the second and third combined. Male genitalia: last ventral segment twice as long as the penultimate; plates as long as the ultimate ventral segment." Cogan.

Described from two males.

Hab.—Cape Flats, C.P. (Mally).

Genus *Bythoscopus* Germ.

Oncopsis, Burm. Gen. Ins. (1846).

Stragania, Stal. Rio Jan. Hem. II., p. 49 (1861).

Macropsis, Lew., Stal. Hem. Afr. IV., p. 127 (1855); Mel. Beit. Zur. Kennt. Homop. D.O., Afrika, p. 297 (1905); Cogan, Homop. Studies, p. 178 (1916).

Body somewhat depressed. Head very wide, slightly narrower than the thorax, very obtuse, lightly rounded anteriorly, very short as seen from above, arcuate, anterior and posterior margins parallel; Vertex sloping mostly towards its largest part (i.e., wider end); face broadened, transverse, obtusely rounded at the apex; ocelli situated on the part of the vertex bordering on the anterior, remote from the eyes, yet nearer to the eyes than to each other. Thorax transverse. Elytra overlapping behind the clavus. Posterior tibiae very spiny.

(Translated from Stal.)

KEY TO SPECIES.

- A. Vertex with two small circular dark brown spots near the middle just above the base.
- B. Color light; dirty yellowish with dark green markings on anterior one-third of the pronotum in regular pattern form. *cedaranus* n. sp.
- B¹. Color dark; brownish green; markings on anterior one-third of pronotum, (when present), not in regular pattern form. *drakensteini* n. sp.
- AA. Semicircular spots above base of vertex, lacking.
- BB. Dark olive green, paler along corioclaval suture; pronotum three times as long as vertex medially. *subolivaceous*.
- BB.¹ Light green to brownish; pronotum five times as long as vertex medially. *segregatus* n. sp.

B. subolivaceus Stal.

Bythoscopus olivascens, Stal. Afr. Vet. Ak. Forh. I., 99 (1855).

Macropsis subolivaceus, Stal. Hem. Afr. IV., p. 127 (1866); Mel. Beit. Zur. Kennt. Hom. Deutsch. Oost Afrika, 297 (1905); Cogan, Homop. Studies, p. 178 (1916).

General color olivaceous. Vertex yellow, very short, well rounded anteriorly and distinctly striated. Eyes steel gray, small, width between the eyes four times as long as the vertex. Face short, two-thirds as long as its width across the eyes; frons yellowish. Clypeus greenish, one and a half times as long as its breadth; lorae prominent, not as wide as the clypeus. Ocelli colorless or sanguineous. Pronotum yellowish green with strong transverse striations on the posterior half, and smaller striations on the middle of the anterior half, but not reaching the margin; about three times as long as the vertex and about half as long as the width of the pronotum; anterior margin well rounded, the lateral margins of moderate length; posterior half broader than the anterior, being the widest part of the body; convex anteriorly and laterally. Scutellum a little longer than broad, tapering to a point; about as long as pronotum; olivaceous in color but with two large brown spots at the basal angles, and a curved depressed line on the middle, behind which are pronounced transverse striations. Elytra yellowish green with a fine punctation, transparent; venation indistinct, some of the veins being indicated by minute papillae; appendix well developed. Abdomen above yellowish, beneath greenish. Legs greenish, posterior tibiae very strong. Genitalia—female; last ventral segment more than twice as long as the preceding, convex, with the posterior margin very slightly concave; pygofers strong, about three times as long as the last ventral segment, convex laterally, widely separated on the middle and narrowing at the tip. Ovipositor equalling the pygofers in length. Male: last ventral segment about three times as long as the penultimate, strongly produced to a rounded point; pygofers rounded, not as long as the ultimate ventral segment." Cogan.

Length, 5 mm.; breadth, 2 mm.

Hab.—Cape Town (Mally) 17.4.22, Rondebosch (Stal), Sierra Leone (Stal), Tanga—German East Africa (Melichar). Elsenburg and Jonkershoek, C.P. 17.12.22 (F. W. Petzey).

B. drakensteini n. sp.

General color, pale green to pale brown. Length, 5 mm.; breadth, 2 mm.

Vertex very short, margins subparallel, slightly longer in centre than next to the eye. Pronotum slightly more than twice as broad as long, not striated on anterior one fourth; humeral margins straight, posterior margin faintly concave. Scutellum as long as pronotum, one and a half times as broad as long, with an arcuate transverse impression on the middle. Face one and a half times as broad as long, gradually narrowed below the eyes, semi-circular in outline below; clypeus almost half as long as frons, its apex in line with genal margins. Elytra subcoriaceous, obscurely, coarsely punctate, venation obscure, three apical areoles. Hind tibiae strongly spinose, spines short and stout.

Color.—Uniform pale green with a small black spot on vertex near its posterior margin midway between the centre and either eye; elytra with a faint brown tinge varying to a uniform pale brown color. Eyes gray to brick red.

Genitalia.—Female: last ventral segment not quite twice as long as the penultimate, emarginate on either side of the middle posteriorly, posterior corners roundly angulate; pygofer equalling ovipositor in length, sparsely delicately spinose near the apex. Male: a single plate present instead of the usual valve and pair of plates; shape triangular, slightly broader than long, roundly truncate behind, one and a half times as long as penultimate segment, pygofer spinose apically exceeding the plate by one third of the latter's length.

Described from six females and one male collected by F. W. Pettey at Jonker's Hoek, Drakenstein Valley, C.P., 17.12.22.

B. segregatus n. sp.

General color greenish brown. Length, 5 mm.; width, 2 mm.

Vertex very short, margin subparallel, anterior margin faintly emarginate between apex and eye. Pronotum twice as broad as long, humeral margin straight, posterior margin delicately emarginate, anterior quarter not transversely striated. Scutellum large, as long as pronotum, with an arcuate transverse indentation. Face almost twice as broad as long, transversely elliptical; frons twice as long as clypeus; clypeus parallel margined, slightly longer than broad, slightly but distinctly exceeded by genae; genal margins slightly bulging about the middle. Elytra subcoriaceous, faintly coarsely punctate, venation obscure, three apical areoles, elytra exceeding extremity of abdomen. Legs strongly spinose, spines short and stout.

Color.—More or less uniformly greenish brown, but may be less intense on head, pronotum and scutellum; ventral color pale brown to yellowish green; eyes greenish gray to very dark brown.

Genitalia.—Female: last ventral segment broadly subangulately notched posteriorly, length at centre not quite twice that of the penultimate segment, posterior corners acutely angular; pygofer as long as ovipositor, sparsely beset with short spines, inner margins abruptly approximated about one-third the distance from the posterior extremity.

Described from 2 females collected by F. W. Pettey at Jonkershoek, C.P., 17 Dec., 1922. Also from Elsenburg, C.P. (Pettey).

B. cedaranus n. sp.

General color dark green. Females 6 mm., long, 2 mm., wide; males 5 mm. long, 1.75 mm. wide.

Color uniform dark green, except: the vertex, which is whitish posteriorly and has two small black spots near the posterior margin; the anterior half of the pronotum which is whitish and is regularly marked with dark green spots; the scutellum which is whitish with a large brownish green spot at each basal angle, and two smaller ones close together just in front of the middle, and has a black depressed crescentic line on the middle; the face which is white with many short yellow transverse arcs, the genae being pale green; the eyes are red, the ocelli greenish.

Vertex one-fifth as long as its breadth between the eyes. Pronotum two and a quarter times as wide as long, subangularly incurved behind. Scutellum about one and one-half times as wide as long. Elytra punctate and smooth, subhyaline towards the apex; venation indistinct. Face broad, one and a half times as broad as long, rounded at the base; clypeus one and a half times as long as wide.

Genitalia.—Female: last ventral segment twice as long as the penultimate, sinuately truncate behind. Pygofers strong, two and a half times

as long as the last ventral segment, spinose, equalling the ovipositor in length. Male: last ventral segment one and a half times as long as the penultimate. Valve strong, pointed, convex, twice as long as the penultimate segment; plates absent; pygofers exceeding the valve and strongly overlapping.

Described from five females and two males.

Locality.—Cedara and Hilton Road, Natal, on Wattle. (Coll., E. S. Cogan, 2.3.17.) Also from New Hanover, Natal, on Wattle, 19.10.13. Coll., C. B. Hardenberg.

Subfamily Cicadellinae Van D.

Tettigoniidae, Spinola, Tavola Sinot., pp. 56 (1860).

Tettigoniellinae, Melichar, Wien. Ent. Zeit. XXIV., p. 298 (1905).

Tettigoniinae, Kirkaldy, Haw. S.P.A. Exp. Sta., Bul. 1, p. 398 (1906).

Characterized by Lawson as follows:—

“This subfamily and the Gyponinae are distinguished from all other members of the Cicadellidae by having the ocelli situated above the margin on the disc of the vertex. The members of the Cicadellinae however are cylindrical and elongate in form as distinguished from the robust and flattened Gyponinae.”

Genus *Cicadella* Latr.

Tettigonia-Geoffr. Hist. Abreg. des Ins. 1, p. 429 (1798-99).

Tettigonia-Sign. Ann. Soc. Ent. France, p. 323 (1853); Stal, Hem. Fab. ii., p. 61 (1869); Van Duzee, Trans. Amer. Ent. Soc. XXI., p. 271 (1894).

Tettigoniella—Jacobi, Zool. Jahrb. Syst. XIX., p. 778 (1904) n. nom. Dist. Faun. B. I. Rhynch. IV., p. 201 (1907).

The following is a description of *Tettigonia* Geoffr. after Stal:—

“Body elongate. Head usually tumid, obtuse, rarely triangularly produced, anterior margin, obtuse or nearly so; vertex horizontal or gently sloping; frons very large, convex or tumid. Ocelli situated on or behind the middle of the vertex. Thorax transverse. Scutellum triangular. Elytra overlapping behind the clavus, altogether covering the sides of the abdomen. Legs (pedes) graceful, anterior tibiae simple, polished or half-polished, posterior very spiny or very setose.”

A genus of almost universal distribution.

C. schonlandi Dist.

Tettigoniella schonlandi, Dist. Ins. Transv., p. 233, (1910.)

“Vertex and pronotum pale grayish-ochraceous; vertex with a central fascia broadened posteriorly, and angulated anteriorly, a looped line on each side of the apical area, and a small spot at the apex, black; pronotum with lateral margins black and with three central longitudinal fasciae united anteriorly, the central one black, the others castaneous; scutellum stramineous, with a large black spot at each basal angle; tegmina pale violaceous, the costal margin narrowly ochraceous, black at the base; clavus, two discal longitudinal fasciae, apical margin, and inner margin beyond clavus pale castaneous; wings piceous; abdomen beneath sanguineous with small ochraceous spots, sternum and legs pale ochraceous; face with the basal margin, a central sub-basal spot, a sublateral maculate fascia on each side and the basal lateral margins black; anterior tarsi brownish. Long 10 mm.”

Distant.

Hab.—Natal (Mrs. Blakeway; Coll. Dist.).

C. spectra Dist.

Tettigonia albida.—Stal, Hem. Afr. IV., p. 117, (1866); Sign. (Neo Walk.) Am. Soc. Ent. Fr. 3, I., p. 663; Kirk. Entomologist XXIII. (1900); Melichar, "Hom. Faun. Ceylon, p. 157 (1903); Kirk. Rep. Exp. Sta. Haw. Plant. Assoc. pt. IX., p. 319 (1906).

Tettigoniella spectra.—Dist. Fauna B. I. Rhynchota IV., p. 211, 137 (1907) n. nom.

Yellowish-white; frons with transverse dilute fuscous lines; three small spots on the anterior margin of the head and the median spot of the vertex, black, the narrow margin of the ocelli alternated with black; veins of elytra dilute sub-fuscous; wings dirty white; abdomen fuscous above; head rounded.

Male, female: Long. 8.11; lat. 1.75—2 mm.

Female: last ventral segment rounded at the apex.

Hab.—Caffraria and West Africa (Stal); Delagoa Bay (Monteiro.); British India (Distant); Manila and Mexico (Signoret); Phillipines (Stal); Madagascar (Kirkaldy); Queensland, Australia—on sugar cane and various grasses—(Cairns, Nelson and Bundanberg).
(Translated from Stal).

C. cosmopolita Sign.

Tettigonia cosmopolita, Signoret, Ann. Soc. Ent. Fr. 3, I., p. 364 (1853).
Stal. Hem. Afr. IV., p. 115 (1866).

Yellowish white; thorax and wings, sometimes even the apex, bluish or bluish white; two shortened well-separated bands, a spot near the base and a stronger band at the base of the frons, this band four-branched anteriorly; shortened bands and a basal longitudinal line in the middle of the vertex; the lateral margins and the three medium bands of the thorax, the middle one running through, the laterals joining it near the apex, black; scutellum black with exception of three spots, two in front of and one behind the middle; costal and commissural margins and the two bands of the elytra, black; wings fuscous; abdomen dilute red dorsally; head tumid and rounded at the apex. (Translated from Stal.)

Male, female: Long. 10; lat. 2.3 mm.

Male: Anal valves acuminate, medium.

Female: Last ventral segment produced to a narrowed angle at the apex.

Hab.—Caffraria (Stal; Castelnau); Durban, Natal (Distant).

C. typhlocyboides Sign.

Tettigonia typhlocyboides, Sign. Ann. Ent. Ser. 3, II., p. 725 (1854).
Stal, Hem. Afr. IV., p. 118 (1864).

Fuscous black; with legs strawcolored below; a fine longitudinal line; fine apical lines; a very narrow band on the anterior part of the head, situated in front of the eyes on both sides; lateral margins and sometimes a band near the apex of the scutellum, almost the whole apical margin, some very small posterior spots, and a triangular spot behind the middle of the costal margin of the elytra, dirty white; elytra usually (very often) yellowish towards the base and finely spotted with pale markings.

Female: Length 5-6 mm.; br. 1.3 mm.

Female: Last ventral segment produced to an obtuse angle at the apex.

Var. a Corium marked with hyaline white spot behind the middle, towards apex of clavus.

C. signoreti (Stal), Stal, Ofv. Vet. Ak. Forh., p. 97, 1 (1855).

Var. *b* Corium with central spot near apex of clavus lacking.

Var. *c* Immature, very pale, fuscous white; elytra marked with a broad decolored area behind the middle.

(Translated from Stal).

Hab.—Caffraria (Stal).

Genus *Titia* Stal.

Titia, Stal, Hem. Afr. IV., p. 105 (1864).

Body oblong slightly depressed. Head produced anteriorly, not at all foliaceous, triangular; vertex elevated lengthwise along the middle; face lightly convex, narrowed suddenly beneath the eyes and gradually further down towards the apex; frons narrow, occupying one-third of the width of the face. Eyes small. Ocelli on disc of the vertex, situated slightly in front of the eyes, slightly further away from the eyes than from each other. Thorax transverse, anterior lateral margins subparallel, the anterior margin lightly rounded. Scutellum triangular, almost equilateral. Elytra subcoriaceous, punctate, clavus widest in front of the middle, corium rounded at the apex, with numerous areoles toward the apical margin. Feet (pedes) rather short; anterior coxae free; posterior tibiae setose and sparsely dentate above. Allied to *Petaloccephala*.

(Translated from Stal.)

T. punctigera Stal.

Titia punctigera, Stal, Hem. Afr. IV., p. 105 (1864).

Acocephalus punctiger, Stal, Ofv. Vet. Ak. Forh., p. 98, 3 (1855).

Dilute olivaceous-green or yellow, densely and distinctly punctate above (cum prostethio?), very small black spots situated behind the middle of the disc of the corium. Abdomen yellowish. (Translated from Stal.)

Long 6.6 mm.; br. 2 mm.

Hab.—Near Rondebosch, Cape Town (Mus. Holm.)—Stal.

Genus *Baramapulana* Dist.

Baramapulana, Distant, Ins. Transv. Vol. I., p. 235 (1910).

“Vertex considerably broader than long, moderately convex, subtriangularly produced in front; ocelli placed near anterior margins of eyes, which are obliquely backwardly produced; face . . . somewhat flattened; pronotum broader than long, the lateral margins obliquely narrowing at inner margins of the eyes, the anterior margin truncate, posterior margin concavely sinuate, posterior angles slightly rounded; scutellum as long as pronotum with a transverse impression a little behind the middle, the lateral margins oblique and the apex lineately truncate; abdomen about as long as head, pronotum and scutellum together; posterior tibiae outwardly furnished with about nine strong spinules; posterior tarsi long, first joint longest, second shortest; tegmina rather short and broad, about two and one-half times as long as broad and about as long as abdomen and scutellum together, on apical area transversely veined; wings a little broader but much shorter than tegmina, with two transverse veins on apical area.” Distant.

B. princeps Dist.

“Female: Head and pronotum black, a basal, central longitudinal spot to vertex and the ocelli, castaneous, a somewhat pale spot at inner margin of each eye; pronotum with a central castaneous anterior spot and the

lateral and posterior margins very narrowly also castaneous; scutellum dull reddish with a large angulate black spot near each basal angle; abdomen above dull reddish; face black, speckled with ochraceous; legs reddish ochraceous; tegmina reddish ochraceous becoming hyaline towards apical area, a central longitudinal piceous fascia (broadest at base) not reaching apex; wings very pale fuliginous, the upper veins piceous; vertex obscurely and pronotum distinctly, finely granulose." Distant.

Long—excl. tegm. Female 8 mm. Exp. tegm. 11 mm.
Hab.—Johannesburg, 6,000 ft. (Dist.).

Genus *Kolla* Distant.

"Allied to *Cicadella* (*Tettigoniella*) but differing by the structure of the vertex of the head, which is subconically narrowed anteriorly, with the lateral margins in line with the outer margins of the eye; near the inner margin of the eyes the vertex is also more or less foveate; face with lateral areas somewhat strongly, transversely striate, and centrally longitudinally smooth and flattened." Distant.

K. albida Walk.

Kolla albida, Dist. Ins. Transv. p. 234 (1910).

Tettigonia albida, Walker, List Hom. III, p. 767 (1851).

"Yellowish white; wings white.

Very pale yellow; head short, conical, flat above, almost straight along the hind border; face flat on the disc, with indistinct oblique ridges on each side; dorsal abdominal segments with a puncture on each side; legs yellowish white; wings white; length of the body 3.5 lines; of the wings 7 lines." Walker.

Hab.—Port Natal (Gueinzus).

Genus *Bolinilla* Dist.

Distant described this genus from a single Rhodesian species and characterized it as follows:—

"Allied to *Kolla* in having the lateral margins of the vertex in a line with the outer margins of the eyes, but the vertex as long as breadth between eyes, not only a little more than half that length as in *Kolla*; clavus longer and apically acute, the outer margin straight, not more or less inwardly recurved at apex; apical margin of tegmina not rounded but concavely subacute; scutellum longer, nearly as long as broad."

The continuity of natural conditions between the northern parts of the Union and Southern Rhodesia makes the occurrence of this genus in the Union highly probable.

Subfamily Gyponinae.

Scarides, Amy. & Serv. Hemip. pp. lxiv, 576 (1843).

Scaridae, Dohrn. Cat. Hem. p. 92 (1859).

Penthimiinae, Kirkaldy, Haw. S.P.A. Ex. Sta. Bul. 1, p. 307 (1906).

This subfamily agrees with the subfamily Cicadellinae in having the ocelli on the disc of the vertex, but differs from it in having a flattened form with the anterior margin of the head usually sharp. Among the forms so far described from South Africa two genera are placed in this subfamily,

viz., *Penthimia* and *Rubria*, two species of the first and the one of the latter appearing in Stal's works and two additional species of *Penthimia* having been described by Distant.

Genus *Penthimia* Germ.

Penthimia, Germ. Mag. Der Ent. IV., p. 46 (1821).

Body oval or ovate, somewhat depressed. Head obtuse, rounded anteriorly; vertex somewhat sloping, lightly convex in front of the middle. Lateral margins of the face somewhat widened. Frons slightly convex; clypeus flat or slightly convex. Eyes medium. Ocelli on disc of vertex, further apart than their distance from the eyes. Thorax transverse, a little narrowed in front; anterior margin rounded. Scutellum triangular, slightly broader than long. Elytra with an appendix, overlapping behind the clavus, provided with four or five apical areoles.

Feet medium; femurs compressed, posterior tibiae very spinose.
(Translated from Stal.)

P. bella Stal.

Penthimia bella, Stal, Hem. Afr. IV., p. 108 (1864); Stal, Ofv. Vet. Ak. Forh., p. 98, 2 (1855).

Above yellowish white, shiny, ventral side and feet black; head and thorax lighter, basal angles and the medium spot of the scutellum black. Elytra yellowish white and interspersed with fuscous markings and some white spots; the apex of the clavus with two slightly larger spots, half decolored and hyaline white at the costal margin of the corium. Anterior tibiae and tarsi and base of posterior tarsi dilute yellow—testaceous.

(Translated from Stal.)

Female: length 4.5 mm.; br., 1.6 mm.

Hab.—Near Rondebosch, Cape (Mus. Holm)—Stal.

Genitalia.—Female: last ventral segment about three times as long as the penultimate, broadly concave behind, margin with a slight convexity at the centre and a similar one on either side of it; posterior corners produced and angulately rounded; ovipositor three times as long as last ventral segment medially, slightly exceeding pygofer which are short, broad and finely sparsely spinose behind the middle. Male: last ventral segment slightly concave behind; no valve visible; plates triangular, twice as long as ultimate segment, narrowed to a pointed apex, medially contiguous, lateral margins slightly convex; pygofer and plates with a bunch of elongate setae behind the middle.

Male from Cape Town. Female from Hilton Road, Natal (Cogan).

P. vinula Stal.

Penthimia vinula, Stal, Hem. Afr. IV., p. 108 (1864), Stal, Ofv. Vet. Ak. Forh., p. 98, 1 (1855).

Black, glistening; head and thorax transversely striated. Elytra spotted with white, opaque, apices decolored and pellucid; a band behind the middle and a spot at the commissural margin of the clavus; a transverse spot or median band bordering on the costal margin and three small white spots near the apex of the corium. Anterior tarsi testaceous yellow.

(Translated from Stal.)

Length, 4-4.5 mm.; breadth, 1.6 mm.

Hab.—Caffraria (Mus. Holm). Stal.

P. zampa Dist.

Penthimia zampa, Distant, Ins. Transv., p. 236 (1910).

"Head, pronotum and scutellum dull black; tegmina castaneous-brown, speckled with black on the subapical area, the apical area subhyaline with the upper apical margin and a cluster of small speckles black; face, sternum, and femora black, abdomen beneath pale castaneous with some of the segmental margins pale ochraceous; apices of the femora, and the tibiae and tarsi stramineous, posterior tibiae strongly spotted with black, and posterior tarsi more or less so; vertex finely granulose with a transverse impression before apex, the ocelli prominent; pronotum and scutellum finely, transversely striate; tegmina finely, palely pilose; tibiae spinulose, the posterior tibiae more strongly so." Distant.

Long. 6 mm.

Hab.—Durban (Bell Marley).

P. tenebrosa Dist.

Penthimia tenebrosa, Distant, Ins. Transv. p. 236 (1910).

"Castaneous brown; eyes black, vertex with a black transverse impression before apex; tegmina obscurely spotted with ochraceous, the apical area more palely spotted; face pale castaneous, the sub-basal and lateral margins and a central longitudinal fascia, black; clypeus pale castaneous, centrally and marginally black, clavus with two black spots at apex; body beneath and legs brownish ochraceous; coxae, apices of femora, posterior tibiae beneath, a large posterior spot on each side of metasternum, bases and an upper line to intermediate tibiae, central spots to abdomen, and lateral margins of abdominal appendage, black; vertex half as long as breadth between eyes, and with a central longitudinal impression; pronotum distinctly transversely striate, a little centrally transversely depressed before anterior margin; scutellum centrally transversely impressed.

"Var. a. The transverse impression near apex of vertex concolorous, not black; eyes ochraceous, more or less suffused with black.

"Var. b. Resembling var. a, but with eyes wholly ochraceous, and a large central black spot to scutellum." Distant.

Long. 8 to 9 mm.

Hab.—Durban (Coll. Dist.), Umbilo (Leigh.)—Natal Calabar (Coll. Dist.)

P. ochraea n. sp.

Color, glistening uniform ochre to blackish, the darker specimens with fine lighter specklings on the vertex and a semitransparent transverse area just before apex of elytron; spines on hind legs yellowish white.

Length not quite 4 mm.; width across pronotum 1.5 mm.

Vertex produced, roundly angular in front, turned up at apex, three-eighths as long as wide in front of eyes, head across eyes narrower than pronotum. Pronotum transversely rugulose, twice as long as vertex, two and one-third times as broad as long, anterior margin broadly rounded, humeral margin straight making its outer and inner corners angular, posterior margin shallowly sub-angulately concave. Scutellum large, straight-sided, five-sixths as long as pronotum, transversely rugulose at sides and apex, transverse impression backwardly concave. Elytra sub-coriaceous, exceeding abdomen, numerous obscure short transverse impressions marking the corium. Face three-fourths as long as broad,

roundly angulate above, upper part finely transversely striate; antenna beneath a distinct ledge which marks upper limit of frontal suture; clypeus rectangular, longer than broad, half as long as frons; lorae ovate; genal margins very slightly rounded, hardly visible below lorae. Hind tibiae strongly densely spinose, a cluster of four spines at the apex of the femur.

Genitalia.—Female: last ventral segment nearly three times as long as the penultimate, strongly bisinuate behind, leaving a narrow roundly angulate central tooth which is slightly exceeded by the rounded posterior angles. Ovipositor three times as long as last ventral segment medially, equalling pygofer which are broad, stout, sparsely setose behind the middle and slightly more approximated at the middle than in front and behind.

Described from one female specimen collected by C. B. Hardenberg at New Hanover, Natal, on Wattle; also collected by E. S. Cogan on Grass at Cedara, Natal, 20.3.17, and by C. B. Hardenberg on Wattle at Schroeder's, Natal, 11.9.13.

Genus *Rubria* Stal.

Body oblong or elongate, head produced, slightly broader than thorax, anteriorly foliaceously expanded, anterior margin sharp. Vertex horizontal; face slightly broadened, flat or slightly convex, sinuate beneath the eyes and gradually narrowed from there downwards; frons narrow, flat. Eyes small. Ocelli situated behind the middle of the disc of the vertex, distance between them equal to or less than their distance from the eyes. Thorax transverse. Apex gently rounded, lateral margins parallel. Scutellum triangular, a little broader than long. Elytra shield-shaped, no appendix, do no overlap, five apical areoles.

Feet medium, posterior tibiae moderately or sparsely dentate or spiny above.

Distinguished from *Petalcephala* by the position of ocelli and structure of elytra, and from *Xerophloea* by the flat frons.

(Translated from Stal.)

R. vitticollis Stal.

Rubria vitticollis, Stal. Ofv. Vet. Ak. Forh, 98, 2 (1855); Hem. Afr. IV., p. 105 (1864).

Somewhat depressed, oblong, dirty-yellowish white, vertex and thorax verging into palest green, or olivaceous, bearing six yellow spots (luteus). Elytra dirty-yellow testaceous, slightly fuscous at the apex, marked with small fuscous spots behind the apex, veins faintly and feebly marked with yellow (pallidoguttulatus); abdomen dorsally dilute yellow.

(Translated from Stal.)

Male: Long. 5 mm.; Lat. 2 mm.

Hab.—Caffraria (Stal); Natal (Walker).

Subfamily *Jassinae* Amyot & Serville.

This subfamily includes a great variety of forms and is rather difficult to define, for, as Lowson remarks, it contains "a very heterogeneous mass of species." In one of the tribes the ocelli are often absent, and this is never the case in the other subfamilies. In other tribes where ocelli are present they are always situated on, or near the margin of the vertex, as opposed to their situation in the other subfamilies, on the disc or on the front below the margin of the vertex.

KEY TO TRIBES. (After Lawson.)

- A. Ocelli either just above the margin of the vertex or distant from the eyes. *Acucephalini.*
 AA. Ocelli, if present, on the margin of the vertex and not distant from the eyes.
 B. Nervures of elytra branching on the disc. *Jassini.*
 BB. Nervures of elytra not branching on the disc. *Typhlocybini.*

TRIBE ACUCEPHALINI.

Genus *Sichea* Stal.

Body small, somewhat depressed. Head large, produced, clypeus present, not foliaceous, slightly wider than thorax, anterior margin sharp; vertex horizontal and three times as wide as the eyes.

Face somewhat convex, slightly broadened, curved below the eyes, and gradually narrowed lower down; frons occupying one half or one third of the intraocular width of the face. Ocelli absent. Thorax transverse, short; scutellum triangular, slightly broader than long. Elytra coriaceous, without an appendix and not overlapping. Veins faint or invisible. No wings. Feet (pedes) medium; posterior tibiae sparsely and biserially spinose. Allied to *Rubria*.
 (Translated from Stal.)

S. misella Stal.

Sichea misella, Stal, Hem. Afr. IV., p. 106 (1864).

Acocephalus misellus, Stal, Ofv. Vet. Ak. Forh. p. 98, 3 (1855).

Black, head and scutellum yellowish; clypeus notched in the middle of the basal margin, face narrow, lateral edge of thorax and apex of scutellum black.

Head more than half as long as the thorax, sub-triangular, lateral margins somewhat rounded; vertex flat, finely wrinkled and punctured. Thorax finely wrinkled and punctured. Elytra rather convex, apex rounded, distinctly punctate, veins faint, slightly raised.

(Translated from Stal.)

(Long 3 mm.; br. 1.6 mm.)

Hab.—Caffraria (Mus. Holm) Stal.

S. coriaria Stal.

Sichea coriaria, Stal, Hem. Afr. IV., p. 108 (1864).

More convex than *S. misella*. Head triangular, lateral margins lightly rounded; vertex somewhat convex transversely, finely (and accurately) punctate and wrinkled. Thorax and scutellum finely punctate and wrinkled. Elytra almost half as long again as broad, apices obtusely rounded, distinctly punctulate, veins elevated (abdomen of described specimen mutilated).

Color.—Pale, subolivaceous yellowish. (Translated from Stal.)

Long 4 mm.; br. 1.6 mm.

Hab.—Cape (Signoret).

Tribe JASSINI.

KEY TO GENERA OF THE JASSINI.

- A. Head more or less flattened, strongly produced; edge acute to foliaceous (except in *Cephalelus*).
 B. Head narrow, pointed, tapering, more than four times as long as broad.

- C. Carina along mid-dorsal line of vertex, margin acute, ocelli in margin close to eyes. *Dorydium.*
- CC. No carina along mid-dorsal line, margin and dorsal surface rounded; ocelli absent. *Cephalelus.*
- BB. Head broad, sometimes narrowed but not tapering, less than four times as long as broad.
- C¹. Elytra not corneous, face moderately convex transversely.
- D. Head distinctly produced, more or less broad and parabolic or narrowly pointedly triangular in anterior outline.
- E. Head produced, little, if any longer than wide, parabolic or narrowly triangular anteriorly.
- F. Head parabolic in outline in front of eyes.
- G. Third sector united to bifurcations of second by a transverse nervure. Anterior margin delicately recurved. *Parabolocratus.*
- GG. No cross vein between second and third sector. Head broadly foliaceous; anterior margin sharp. *Hecalus.*
- FF. Vertex acutely narrowed anteriorly. Both dorsal surface and face lightly convex: venation obsolete. *Paraballitus New Gen.*
- EE. Head produced, distinctly shorter than wide, broadly triangular anteriorly. *Stymphalus.*
- CC¹. Elytra corneous, face very flat. Veins somewhat prominent, face broad below eyes and broadly, almost truncately rounded below. *Ocaleka New Gen.*
- AA. Head distinctly flattened or slightly convex above, moderately or not at all produced, edge rounded, seldom acute (if so, the vertex is quite short), never foliaceous.
- B. Vertex flat, short, rounded or obtusely angulate in anterior outline; face flattened; edge acute.
- C. Head narrower than thorax. *Krisna.*
- CC. Head as wide as thorax.
- D. Furrow along edge of vertex, containing the ocelli. *Selenocephalus.*
- DD. No furrow along edge of vertex, ocelli not evident (fide Stal), veins of elytra obsolete and anastomosing at apex. *Citorus.*
- BB. Vertex flat and moderately angulately produced, or, lightly convex and more or less rounded in anterior outline, edge bluntly rounded.
- C¹. Vertex flat and (usually acutely) angulately produced.
- D. Two crossveins between third and second sectors. *Dellocephalus.*
- DD. One crossvein between third and second sectors.
- E. Costal areole of elytra long, without crossveins and followed by a gradually widening cell, beyond which are four apical areoles. *Scaphoides.*
- EE. No widening cell abutting on the marginal; forms often micropterous. Ovipositor acutely produced, strongly exceeding pygofers. *Aconura.*
- CC¹. Vertex moderately convex above, rounded or roundly angulate in anterior outline, seldom angular.
- D. Head with eyes narrower than thorax, rounded in front. Body short stout, cylindrical.
- E. Scutellum moderately large. *Korana.*
- EE. Scutellum very small.
- F. Clypeus concave at apex; elytra with four apical cells. *Equesla.*
- FF. Clypeus not concave at apex.* Elytra with five apical cells. *Palicus.*

* Not positively mentioned in Stal's description.

DD. Head, with eyes, distinctly wider than thorax, subangulately round. Only two anteapical cells in elytra.

Drabescus.

DDD. Head with eyes as wide as thorax.
e. Inner sector of elytra twice forked, three anteapical cells.

f. Elytra lanceolate, narrow at apex. *Dagama*.

ff. Elytra of more or less uniform width, broadly rounded at apex.

g. Elytra not exceeding abdomen; one or more crossveins between outer and secondary inner branch of first sector.

Euscelis.

gg. Elytra exceeding abdomen; outer branch of first sector usually fused with secondary inner branch for a short distance at least.

h. Veins distinct; vertex longer in middle than next to eye.

Thamnotettix.

hh. Veins indistinct; vertex as long medially as next to eye.

Chlorotettix.

ee. Inner sector of elytra not forked, two anteapical cells.

f. Head slightly roundly or angulately produced; wing with three apical cells.

Cicadula.

ff. Head not produced; anterior and posterior margins parallel; wing with two apical cells.

g. Head wider than pronotum. *Eugnathodus*.

gg. Head narrower than pronotum. *Balclutha*.

Div. DORYDIARIA.

Genus *Dorydium* Burm.

Dorydium Burm. Genera, Quaedam Insectorum, 5 (1838).

Head horizontal, lanceolate, flattened, lateral margins acutely prominent especially at the apex where they form a semi-hollowed spoon; punctate above. Vertex elongate trigonal, parted along the whole length of its middle by an elevated carina. Frons flat, merging gradually into the process of the head where it forms a carina which extends on the ventral side of the head to the very apex and is strongly outstanding. Clypeus parallelogrammatic, twice as long as broad. Lorae narrow with the outer margins rounded and extending right to the mouth. Genae very large truncate at the base beneath the mouth, external margin incised, extending above the eyes and thence enclosing the antennae in their pits. Eyes lateral, oval above, obtusely trigonate below. Ocelli very small, situated in the margin of the vertex in front of the eyes. Antennae small but strong, segments distinct, each slightly tapering from base to apex, the third one longest of all, subcylindrical. Sheath of rostrum very small, with three segments, 2 and 3 being prominent and equal. Pronotum sub-five-angular, punctate, extending above the vertex to the eyes; with a longitudinal carina, side margins sinuate. Scutellum triangular, lightly punctate with a strong impressed arc near the apex. Elytra linear, lanceolate, membranous but stronger towards the clavus. Legs graceful, anterior two pairs small, posterior elongate, adapted for jumping, tibiae quadrangular. (Adapted from Burmeister.)

KEY TO SPECIES.

- A. Length over 7 mm. Side of face flat between median line of frons and margin of vertex (except at apex). *elongatum* n. sp.
- AA. Length less 7 mm. Side of face longitudinally depressed between median line of frons and margin of vertex.
- B. Margin of vertex thin; delicately expanded and recurving; edges of carinae very thin; genal margin sharply notched below eye.
- C. Vertex two and a half (male) to four (female) times as long as pronotum medially. *quadrigonum* n. sp.
- CC. Vertex four (male) to five and a half (female) times as long as pronotum medially. *spatulatum* n. sp.
- BB. Margin of vertex acute but not thin; carinae acute but not thin; genal margin with a rounded emargination below eye. Color orange-yellow. *aurantium* n. sp.

D. *elongatum* n. sp.

Form very narrow, long, sharply tapering at both ends; general color pale yellowish green. Vertex yellowish green, extremely produced, lanceolate, more than three times as long as broad, coarsely punctate, margin sharp, with a strong, elevated whitish carina along the whole length of the mid-dorsal line. Eyes dark green. Ocelli small, dilute green, in edge of vertex close to eyes. Face green, anterior two-thirds provided with a strong elevated carina which broadens out gradually to a narrow transversely rounded frons; coarsely punctate; dark green in depressions between side margins and carina; sutures of face dark green, lateral sutures of clypeus indistinct; clypeus narrow, twice as long as broad; lorae slightly narrower than clypeus, not reaching its apex; genae broad, green, punctate, rounded. Antennae minute, situated in fuscous recesses close to anterior margins of eyes. Pronotum yellowish-green, punctate, slightly broader than long; sub-reniform, side margins rounded, with a delicate whitish carina along the middle; broadly rounded anteriorly, angularly notched posteriorly. Scutellum triangular, a little broader than long, yellowish, with a semicircular dark green spot at the base divided by a fine white line which is terminated by a short subsescentic brown line near the middle. Thorax and abdomen greenish-yellow above, green below. Elytra green with raised pale green nervures which are tinged with brown in a few spots, elongate, narrow, shorter than abdomen, roundly pointed and divergent at apex; appendix absent.

Female genitalia: Last ventral segment shorter than the penultimate, with central one-third triangularly cut out, anterior margin wavy, elevated. Ovipositor strong, brown, a little longer than the pygofers, which are narrow, pointed and more than four times as long as broad. Legs green, short; spines on hind tibiae small and few.

Described from one female.

Long: 8 mm.; br. 1 mm.

Hab. Locality.—Petrusburg, O.F.S. (Coll. Faure), from grass sweepings.

The genus *Dorydium* is very similar to *Cephalelus*, as proved by the fact that *Dorydium paradoxum* and *Cephalelus infumatus* were at one time considered synonymous. When, however, Burmeister noticed that ocelli were not really present in *C. infumatus* as first believed and stated by Percheron, and were on the other hand present in other specimens first described by him under the same name, he established the genus *Dorydium*, which furthermore differs from *Cephalelus* in the prominent carina of the vertex. This genus seems to be a rare one, comprising comparatively few species, several having been described from the Mediterranean region, and one from Australia. In form the above species is very similar to *C.*

infumatus, though considerably smaller and more lightly colored. Its narrow form and uniform green color undoubtedly serve to make the insect very inconspicuous on grass blades.

D. aurantium n. sp.

An orange-green, linear, subcylindrical species, with the vertex just over three times as long as the pronotum. Head and pronotum strongly densely punctate; head robust. Length 5.5 mm.

Vertex almost twice as long as width across the eyes, just over three times as long as pronotum, gradually tapering, turned up slightly at the apex, edge rounded near the base, sharp towards apex, carina prominent, sides sharply sloping. Face moderately rounded in surface below, narrowing to a sharp carina apically; genal margin more or less roundly notched beneath the eye, and extending thence with a gradual curve to the clypeus; frons about five times as long as clypeus which is rectangular, rounded above, truncate apically, twice as long as broad, and exceeds genae by one-sixth of its own length; frontal suture disappearing at antennal fossa. Pronotum twice as broad as long, broadly rounded in front, lateral margins straight, long; humeral margins rounded; posterior margin roundly notched; centre with a faint carina. Scutellum triangular, as long as broad. Elytra long, narrow, ligulate, roundly pointed apically, more or less equalling ovipositor; veins prominent. Abdomen cylindrical, margins sharp and high. Legs short in comparison to body, hind tibiae with very few short delicate spines.

Color.—Vertex and pronotum orange green; scutellum yellowish green; face light orange, brown along the slope between frontal carina and lateral margin. Elytra hyaline; veins prominent, yellowish green; abdomen very pale yellowish green. Ovipositor tinged with red.

Genitalia.—Female: Last ventral segment slightly shorter than the preceding, deeply cut out behind so that only two marginal lobes are left; lobes roundly pointed, sloping towards the base where a short crosspiece sometimes shows below the lobes; ovipositor strong, exceeding pygofers, twice as long as penultimate segment.

Described from nine female specimens collected by grass sweepings at Bloemfontein and Petrusburg by J. C. Faure, March 1918.

D. quadrigonum n. sp.

Form elongate; vertex (male) two and a half to (female) four times as long as pronotum, pointed, color yellowish green to fuscous. Length: male 4.25, female 5.25 mm.

Vertex pointed two and a half to four times as long as pronotum, moderately curved at tip, carina strong, edges sharp, a distinctly hollowed area between carina and edge. Face broadly rounded, semi-flattened below, narrowing to a sharp carina on frons; frons three to four times as long as clypeus which is narrow, twice as long as broad, truncate apically, slightly exceeding genae. Genal margin indented below inner margin of eye, outer lobe broadly rounded, margin gently curved between indentation and clypeus; whole head punctate, especially frons and vertex. Pronotum punctate with a faint longitudinal carina; not quite twice as broad as long, anterior margin broadly rounded; lateral margin straight; humeral margin rounded; posterior margin broadly subangularly or roundly indented, punctation coarser and more evident on posterior half. Scutellum somewhat shorter than pronotum, half as broad as pronotum. Elytra long, narrow, ligulate, roundly pointed apically,

reaching extremity of abdomen in female, exceeding it in male; veins prominent, areoles finely punctate. Hind tibiae slender with a few short delicate spines. Abdomen cylindrical, margins high and sharp.

Color.—Brownish yellow to fuscous with a fine white carinal line traversing scutellum, pronotum and hind portion of vertex medially.

Genitalia.—Female: last ventral segment shorter than the penultimate, with its central portion completely excised leaving a subtriangular lobe about as broad as long on either side; ovipositor long, sharp, exceeding pygofer by about one-third of its own length. Male: valve broad, pointed, triangular, slightly longer than last ventral segment; plates twice as long as valve, long narrow, pointed, contiguous and with a slight outward curve at the apex.

Described from ten males and ten females collected from grass sweepings at Petrusburg, 22-25.4.18, and Bloemfontein, 14.4.18, by J. C. Faure. Also taken at Ceres, C.P., April, 1923, by F. W. Pettey.

D. spatulatum n. sp.

Pale yellowish green often tinged brownish, form linear, slender. (*Head four to five times as long as pronotum.*) Length: female 6.4 mm.; male, 5 mm.

Vertex much produced, four to five times as long as pronotum, strongly tapering, coarsely punctate and coarsely longitudinally striate posteriorly, tip upturned, slightly widened and labellate, carina prominent, very sharp, lateral margins very sharp and thin from immediately in front of the ocelli. Face broadly rounded in surface, semi-flattened, narrowing into a very sharp carina along the upper three quarters of the frons, punctate all over, most coarsely on the frons; genal margins sharply notched below the eye (leaving an angular lobe), thence gently rounded meeting the clypeus below the lora; clypeus twice as long as broad, rounded at base and apex, one-eighth as long as frons (in female). Pronotum almost twice as broad as its length in the centre; anterior margin very broadly rounded; lateral and humeral margins straight, posterior margin broadly angularly notched, anterior half longitudinally striate, posterior half punctate. Scutellum slightly broader than long, sparsely punctate. Elytra hyaline, finely punctate, very long, narrow, sharply pointed apically; veins prominent. Abdomen cylindrical, margins high and sharp. Legs short compared with body, hind tibiae delicate with a few short marginal spines.

Color.—Vertex and pronotum pale yellowish green, eyes reddish. Elytra hyaline, showing yellowish green abdomen and brownish thorax. Ventral color yellowish green, brown between carina and margin of frons; ovipositor reddish brown towards the tip.

Genitalia.—Female: last ventral segment slightly shorter than the preceding, the central one-third completely excised so that only two narrow lobes, roundly pointed and inwardly rounded, remain protruding from beneath the penultimate segment; ovipositor beyond lobes of last ventral segment two and one-half times as long as penultimate segment, somewhat exceeding pygofer; Male: valve semicircular half as long as penultimate segment; rounded at sides, posterior half produced on each side to a fine outwardly pointed hook, apices of the plates divergent.

Described from seven females and three males from Bloemfontein, O.F.S., and two males from Petrusburg, O.F.S., collected by J. C. Faure, March, 1918

Genus *Cephalelus* Perch.

- Cephalelus*, Percheron in Guer. Mag. Zool. II., Classe IX (1832).
Dorydium, Burm. Handb. Ent. II., 1, 106 (1839). Burm. Gen. Quaedam
 Insect, 1 (1856).
Cephalelus, Signoret, Ent. Soc. Fr. 504, 259 (1879), Kirby, Trans. Ent. Soc.
 Lond. 412 (1894). Cogan, Hom. Studies, p. 184 (1916).

"Head long, narrow, very strongly produced; vertex long, pointed, the sides rounded, more than three times as long as the width, face large, merging into the vertex; clypeus heart-shaped. Eyes lateral elliptical. No ocelli. Antennae short, the basal joint large and cylindrical, the second long, the third subcylindric. Pronotum transverse; the lateral margins of moderate length. Elytra corneous, punctulate, the apices rounded. Tibiae without spines. Abdomen elongate, the males much shorter than the females." Cogan.

C. infumatus Perch.

- Cephalelus infumatus*, Perch. In Guer. Zool. II., Classe IX., pl. 48 (1832).
Dorydium paradoxum, Burm. Handb. Ent. II., 106 (1839)
Cephalelus infumatus, Walk. Cat. Hom. Brit. Mus. 637 (1851); Amy. &
 Serv. Essai sur les Jassides, 258 (1878); Dist. Ins. Transv. X.,
 241 (1910); Cogan, Hom. Studies, p. 184 (1916).

"General color dark red to brown or yellowish brown in dried specimens. Length of females 11.75 to 12.75 mm. Average length of 12 females, 11.95 mm. Length of males 9.25 to 10.25 mm. Average length of 13 males 9.35 mm. Breadth 1.5 mm.

Female: head dull red to brown above with an indistinct line along the middle of the vertex extending from the anterior margin, to a little before the eyes; beneath dark red with a broad yellowish band running along the middle, rather narrow at the anterior, but widening towards the posterior margin. Vertex about four times as long as its breadth; with two dull red spots a little in advance of the eyes; finely punctate, and about five times the length of the pronotum. Eyes dark green to black, rather large. Ocelli absent, but two small depressions are indicated, where one would expect ocelli Antennae short, sharp at distal end, inserted in deep pits. Facial sutures distinct; genae yellowish, rounded; clypeus large, a little longer than broad, tapering gradually to the rostrum. Pronotum red, darker at sides, a longitudinal line along the middle. Scutellum shorter than the pronotum. Elytra dark red, broadly oval in shape, densely punctulate, the punctation arranged in definite series; shorter than the abdomen. Abdomen above red, beneath light brown to yellowish. Genitalia: Last ventral segment small and distinctly notched and grooved on the middle, not as long as the penultimate; pygofers long and narrow, widely separated at base, becoming closer on the middle and separating again at the tip. Ovipositor long, thin, much longer than pygofers, length about 3.5 mm. Legs light brown, the femurs stout.

Male: face with a distinct yellow band along the middle; elytra much longer than the abdomen, light brown along the margin of the corium. Genitalia, last ventral segment not quite as long as the penultimate, valve about as long as the last ventral segment, triangular in shape; plates long, rounded at tips, about twice as long as the valve; pygofers a little shorter than the plates." Cogan.

Hab.—South Africa, on *Dovea tectorum* Masters (Fide Mally).

Genus *Hecalus* Stal.

Glossocratus, Fieber, Verh. Z.-b. Geo. Wien. XVI., t. VII., f. 12 (1866).

Hecalus, Stal. Hem. Afr. IV., p. 113 (1866); Sign. Ann. Soc. Ent. Fr. 179, p. 266.

"Body oblong or elongate; depressed. Head (rather) large, produced, apical margin sharp, more or less broadly foliaceous; face broadened, pronouncedly curved beneath the eyes; frons slightly convex. Eyes medium or large. Ocelli situated in the apical margin of the head, next or close to the eyes. Thorax transverse, apex very obtusely rounded. Scutellum triangular, alighty broader than long. Elytra almost as long as the abdomen, appendix present, overlapping behind the clavus, with five apical areoles. Legs (pedes) medium; posterior tibiae very spiny.

This genus differs from the nearly related genus *Siva* in the head being larger and more produced and having a foliaceous margin. (Translated from Stal.)

H. alzelii.

Petalocephala afzelii.—Stal, Ofv. Vet. Ak. Forh. p. 251 (1854).

Accephalus foliaticeps.—Stal, loc. cit., p. 453 (1858).

Hecalus afzelii.—Stal, Hem. Afr. IV., p. 114 (1866). Sign. Ann. Soc. Ent. Fr. (1879), p. 273. Melichar, Wien. Ent. Zeit. XXIV., p. 300 (1905). Distant, Ins. Transv. p. 239 (1910).

Pale grayish flavescens; vertex with three small spots at base and two on apical margin, black; pronotum with four small discal black spots arranged in pairs; scutellum with a short black central marginal inconspicuous line on each side; tegmina with a small black spot at the apex of the clavus, and three or four very small and inconspicuous dark spots on the apical area of the costal margin; a broad black submarginal fascia to meso- and metasterna; femora with an apical or subapical black annulations; vertex and pronotum sparsely and obscurely, finely, pale fuscously punctate. (Translated from Stal.)

Long 10.11 mm.

Hab.—Natal. (Bell Marley.); Tanga, German East Africa (fide Melichar); Sierra Leons and Calabar (fide Stal).

H. grandis Dist.

Hecalus grandis, Dist. Ins. Transv. p. 239 (1910).

"Pale ochraceous; vertex with three very small spots and two at the apical margin, black; pronotum with two small discal black spots; tegmina with a broad longitudinal subcostal black fascia; a submarginal black fascia to the meso- and metasterna, and the apices of the abdominal segmental margins, black; apices of the femora more or less spotted with black; vertex as long as pronotum with two obscure central longitudinal dark lines; pronotum transversely striate; scutellum with a short dark line at the centre of the lateral margins and with a transverse impression before the apex; tegmina with the claval veins slightly inwardly curved at their apices, and the claval apex with a small black spot; posterior tibiae longitudinally streaked with fuscous and with the spinules blackish."

Distant.

Long 12 mm.

Hab.—Johannesburg (Coll. Distant).

H. durbanensis Dist.

Hecalus durbanensis, Dist. Ins. Transv. p. 238 (1910).

"Brownish-ochraceous, vertex with two piceous central longitudinal fasciae, the lateral area speckled with piceous, three small black spots at base; eyes grayish white; pronotum with four small black spots as in *H. scutellatus*, two central longitudinal piceous fasciae at the basal margin with transverse linear piceous spots; scutellum with a large black spot near each basal angle, the apical area a little paler with a central piceous line; tegmina with veins prominent and darkly punctate on each side; face with disc pale ochraceous, darkly striate, the lateral areas suffused with piceous brown; prosternum brownish-ochraceous with a lateral black fascia on each side; abdomen beneath black, with a central longitudinal pale ochraceous fascia; legs brownish-ochraceous; vertex finely granulose, pronotum more or less transversely striate." Distant.

Long 10½ mm.

Hab.—Durban (Bell-Marley; Brit. Mus).

H. scutellatus.

This species is very similar to *H. afzelii*, differing from it mainly in the distinct scutellum which has three large black spots, one at each angle. Long, female 12 mm. It is reported by Distant from Delagoa Bay and is therefore very likely to be found in the Union as well.

Genus Parabolocratus Fieb.

"The generic characters according to Signoret are very close to those of *Hecalus*. Head more or less prolonged before the eyes, margin sharp-edged, not furrowed, ocelli close to eyes. Face broad, cheeks well rounded at the apex with three or four discal cells. The third sector united with the bifurcations of the second sector by a small transverse nervure." De Long.

Parabolocratus virescens Distant.

Parabolocratus virescens, Dist. Ins. Transv. p. 239 (1910).

Pale yellowish green, unicolorous, oblong, flattened, widest in the middle.

Vertex flat, anterior margin sharp, delicately recurved especially in female, spatulately rounded, posterior margin very broadly rounded, with a median longitudinal line running from its centre to the middle of the disc. Pronotum transverse, twice as long as broad, posterior margin slightly curved inwards, almost parallel with anterior; side margins long, slightly recurved, posterior lateral margins rounded; transversely striate on posterior half, striated area bounded anteriorly by an irregularly arched demarcation.

Eyes large, dark grayish red; ocelli large pale green, close to eyes in margin of vertex.

Face almost as broad as long, frons and clypeus transversely rounded, constricted at their union which is indistinct, side margins of frons gently rounded; clypeus one and a half times as long as broad, slightly rounded at basal margin, side margins almost straight; lorae narrower than clypeus, more than twice as long as broad; genae sharply narrowed beneath eyes, narrowing to the tip of the clypeus. Antennae small, uniformly cylindrical at base.

Scutellum large, triangular, nearly $1\frac{1}{2}$ times as broad as long, with a posteriorly arching transverse line near the apex. Elytra elongate, subcoriaceous, overlapping at the apex, without appendix, veins unicolorous with elytra, but bordered with dark green; numerous cells along the costal margin.

Genitalia.—Female: Last ventral segment nearly twice as long as the penultimate, roundly truncate behind with the middle slightly roundly produced; pygofers strong, broad, slightly longer than the ovipositor; ovipositor reddish at the tip, bearing a few spines. Male: last ventral segment slightly longer than the penultimate, truncate; valve small, semicircular; plates narrow, each three times as long as its breadth at the base, and produced to a long fine point; pygofers strong, exceeding the plates, strongly spinose.

Hind tibiae very spiny; with a crown of spines around the distal joint, a few small along the inner side and one larger spine on the inside of the distal joint of the first tarsal segment.

Female, Long 8 mm., Br. 2.5 mm.; Male, Long 6 mm., Br. 2 mm.

Locality.—Klerksdorp, Tvl. (Distant); Bloemfontein, O.F.S. (Coll. Faure).

The female of this species was shortly described by Distant. The male and female specimens from which the above description is made, were collected at light in Bloemfontein.

Genus *Parabolitus* nov.

This genus comes close to *Parabolceratus* but differs from it in not having a sharp edge to the vertex, no ridge to lateral margin of pronotum and no appendix to elytra.

Head acutely angulately produced, slightly rounded above. Pronotum transversely striate, its sides fairly long. Elytra obscurely punctate on clavus, long, narrowly rounded; venation obscure. Face swollen, its line of union with the vertex rounded, cheeks elongate, gradually narrowing to clypeus. Hind tibiae thin, triangular, spinose.

The type for this genus is *P. anceps* n. sp.

P. anceps n. sp. (Genotype.)

A pale green species, unicolorous except for a round brown spot at the apex of each elytron. Length 4 mm., width across eyes about 1 mm.

Vertex acutely angulately produced, slightly rounded above, obscurely pitted, three-fourths as long as width across eyes, twice as long in front of eyes as behind that line; eyes elongate, falling in line with edge of vertex. Pronotum a little over half as long as vertex, twice as broad as long, broadly convex anteriorly, faintly concave behind, humeral margins slightly rounded, lateral margins straight, moderately long. Scutellum half as long as pronotum, twice as broad as long, sides faintly concave. Elytra well rounded laterally. Face almost one and a half times as long as broad, acutely angulate, narrowing to a truncate apex below; frons swollen, antennae situated in deep longitudinal fossae, sides of frons forming a distinct ledge; clypeus one-third as long as frons, sides straight, slightly narrowing towards apex, base and apex truncate; genal margins sloping, more or less straight, extending with a broad margin below lorae to tip of clypeus. Hind tibiae with strong spines along the two outer margins.

Genitalia.—Male: last ventral segment somewhat shorter than the preceding, concave behind; valve as broad as ultimate segment, angulately

concave in posterior outline; plates very long, narrow, contiguous, sharply pointed, about 6 times as long as ultimate ventral segment, exceeding pygofers which are rounded along apical margin where a row of setae occurs. Oedagus large, cylindrical.

Described from 2 males.

Locality.—Jonker's Hoek, Drakenstein Valley, C.P. Coll. F. W. Pettey, 17.12.22.

Genus *Kosasia* Dist.

"Vertex longer than pronotum and scutellum together, the lateral margins nearly straight, the apex slightly attenuate and with a fine central longitudinal carinate line, which is continued on the pronotum and scutellum; face much longer than broad with a faint central longitudinal carinate line; pronotum arched, transverse, the anterior margin moderately rounded, posterior margin concave, lateral margins almost straight, very slightly rounded, transversely foveately depressed before the anterior margin; scutellum about as long as the pronotum, transversely impressed before the apex; tegmina three times as long as broad, widened posteriorly, apices rounded, three oblique transverse veins on costal area before the apex, thus enclosing two oblique cells, and a somewhat oblong cell on each side of suture, a little before apex; legs slender; posterior tibiae finely spinulose." Distant.

Allied to Oriental Genus *Nirvana*, Kirk.

K. typica Dist.

Kosasia typica, Dist. Ins. Transv. p. 240 (1910).

"Head, pronotum and scutellum pale yellow, with a broad central longitudinal sanguineous fascia; eyes piceous; tegmina pale yellow, finely darkly punctate, the costal and apical areas distinctly paler, the suture margined on each side with dull sanguineous, the subapical oblique transverse veins and a minute spot near apex, fuscous; body beneath and legs, pale yellow; tegmina excluding apical area, thickly, finely punctate; other structural characters as in generic diagnosis." Distant.

Long. 8 mm.

Hab.—Durban (Distant).

Genus *Stymphalus* Stal.

Stymphalus, Stal. Hem. Afr. IV., p. 121, (1864).

Body elongate, slightly depressed; head triangular slightly produced, margin sub-acute, semi-flattened; vertex horizontal, narrower than the eyes; face widened, rotundly narrowed below the eyes, slightly convex transversely, elevated lengthwise above the middle; clypeus slightly, if at all, produced. Ocelli situated in the anterior margin of the head close to the eyes. Pronotum transverse, as long as the scutellum, slightly wider than the head. Scutellum triangular, somewhat wider than long. Elytra elongate, four apical areoles. Legs (pedes) medium; posterior tibiae very setose, very spiny above.

(Translated from Stal.)

S. rubrolineatus Stal.

Stymphalus rubrolineatus, Stal. Hem. Afr. IV., p. 121 (1864).

Platymetopius rubrolineatus, Stal. Ofv. Vet. Ak. Forh. p. 99, 1 (1855).

Dirty yellowish-white, merging into pale green dorsally; face with a continuous band and two very oblique lateral bands, the bands of the

lateral margins of the vertex interrupted in the middle; four bands on the thorax, two on the scutellum, one on the clavus, and three cinnabar bands on the corium; corium bands slightly shortened, the middle one shortest and situated behind the middle of the corium. Vertex with two very small black spots at the apex. Female: Long. $7\frac{1}{2}$ mm.; br. $1\frac{1}{2}$ mm.

Hab.—Caffraria (Mus. Holm), Stal.

Head acutely triangular; thorax and scutellum almost equal in length; vertex with a fine longitudinal line. Elytra truncate at apex, somewhat exceeding tip of abdomen. (Translated from Stal.)

Genus *Gcaleka* nov.

Form flattened, with a somewhat hunchbacked appearance. Vertex very flat, roundly to acutely produced, production sometimes very striking; margin very thin and sharp. Ocelli on the margin, behind its middle but well removed from eyes. Face very flat, antennal fossae sunken, sides angulately constricted below eyes. Genae short, broad, corners angulately rounded, sides about parallel. Clypeus long, narrow, slightly constricted near its base. Hind tibiae bent outwardly, with some of the spines along the outer margin very coarse. Pronotum strongly transverse, anterior margin very broadly rounded, posterior margin slightly concave; posterior half rugose. Elytra corneous, without appendix, veins raised, tending to form numerous crossveins on clavus.

Closely allied to *Hecalus* and *Parabolocrotus*.

Type for this genus: *G. laticephala* n. sp.

G. laticephala n. sp.

(Genotype.)

General color dark chocolate brown. Form flattened, somewhat hunchbacked. Length 5 mm., width across eyes almost 2 mm.

Vertex flat, slightly sunken along median line, one-fifth wider between eyes (minimum width) than long, with a flat, elongate, oval, granular protuberance between eye and median line just above the base on either side; a fine, backwardly convex, transverse, medially interrupted carina just behind ocelli which are situated about one-third the distance forward from eye to apex; anterior margin very sharp, obtusely roundly angulate. Pronotum three times as broad as long, anterior margin broadly, shallowly rounded, lateral and humeral margins straight, posterior faintly concave centrally; anterior half granulose, posterior rugose, centre smooth and slightly concave. Face slightly broader than long, granulose, flat, level, antennal fossae sunken; frons just over twice as long as clypeus; lorae large, one and a half times as wide as clypeus; clypeus narrow, parallel-sided slightly widened at base, base and apex truncate, ending level with genae; sides of genae straight, parallel, corners rounded, lower margins straight, reaching to clypeus. Scutellum as long as pronotum, its sides faintly concave towards apex, not quite twice as wide as long, the transversely impressed line running almost to lateral margins. Elytra exceeding abdomen, rounded at apex, claval venation strongly reticulate. Spines along lower outer edge of hind tibiae very coarse, those on other edges moderate.

Color.—Uniform dark chocolate brown, except scutellum and vertex, which are ochraceous, and frons which has some white transverse arcs, medially interrupted.

Genitalia.—Male: last ventral segment straight behind, twice as long as valve; valve triangular, three times as broad as long, sides faintly rounded; plates three and a half times as long as valve, medially contiguous, rounded laterally above the base, thence straight to the roundly pointed apex, with a few short spines near their tips.

Described from two males.

Locality, near Ceres, C.P.

Coll. F. W. Pettey, April, 1923.

G. acuta n. sp.

General color, unicolorous ochraceous brown. Form flattened, gradually humped from pronotum backwards, flattened and acutely angulate anteriorly. Length: Female 5.75 mm. width across pronotum 1.5 mm. Male somewhat smaller.

Vertex very flat, acutely angulately produced, one-fourth longer than minimum width between the eyes, one and a half times as long in front of the eyes as behind that line, length equalling five-eighths of the width across the eyes. Pronotum three-fifths as long as vertex, two and one-third times as wide as long, broadly arcuate, centrally slightly concave behind, humeral margins straight, lateral margins slightly rounded. Scutellum as long as pronotum, not quite twice as broad as long. Elytra corneous, exceeding abdomen in male and exceeded by it in female; venation somewhat obsolete. Face just slightly longer than broad, acutely angulate above, truncately rounded at centre of base, finely granulose, very flat, antennal fossae sunken, sides of genae subparallel, their corners rounded, their lower margins reaching beyond lorae to tip of clypeus. Hind tibiae with very coarse spines along lower outer edge and lesser ones along the other two edges.

Genitalia.—Female: last ventral segment medially one and a half times as long as the preceding, centrally, shallowly, subangulately concave behind, posterior corners angular; ovipositor about six times as long as last ventral segment in the middle, tapering, exceeding pygofer by one-fifth of its length; width across widest part of pygofer equalling one-third the length of ovipositor, their tips bearing a few short spines, their individual width uniformly tapering. Male: last ventral segment slightly arcuate behind; valve very short, broadly roundly triangular behind; plates one and a quarter times as long as last ventral segment, medially contiguous, lateral margins parallel for a short distance at base, thence straight to the sharply pointed apex and provided with short delicate spines along the outer margin.

Described from four males and four females.

Locality.—Ceres, C.P. (Also from Jonker's Hoek, C.P.)

Coll. F. W. Pettey, April, 1923.

Div. SELENOCEPHALARIA.

Genus *Selenocephalus* Germ.

Body oblong, head short broadly rounded at the apex, with a furrow along the apical margin, vertex flat, horizontal; face broadened, sunken at the base, lateral boundaries slightly bulging below the eyes. Ocelli situated in a furrow on the apical margin next to or near the eyes. Thorax transverse, rounded anteriorly. Scutellum slightly broader than long, triangular. Elytra extending beyond apex of abdomen, membranous, appendix present, overlapping behind the clavus, four or five apical areoles. Feet (pedes) medium, posterior tibiae slightly flattened, very spiny.

- a. Vertex twice as wide as the eyes, equally long in middle and next the eye; posterior and anterior margins parallel, arcuate; face narrowly depressed at the base; thorax more than twice as long as vertex.

(Translated from Stal.)

S. planescens n. sp.

Dull yellowish green with two small brown spots near anterior margin of vertex. Long 7.5 mm., broad 2.25 mm.

Color.—Yellowish green; two small brown spots on vertex; eyes black; elytra bluish green hyaline; wings with strong brown veins; face light-brownish, finely punctate.

Vertex broadly rounded, very slightly produced, anterior and posterior margins almost parallel, three times as broad as long on the middle. Pronotum reniform, two and a half times as broad as long, hardly longer than the scutellum. Veins of elytra green, not very distinct. Face almost one-third broader than long; frons flat, sloping, strongly narrowed at the clypeus; clypeus twice as long as broad, rounded at the base, suture indistinct, broadly rounded at the apex. Lorae strong, slightly wider than clypeus.

Genitalia.—Female: last ventral segment truncate behind, about one-third as long as the preceding. The underlying membrane trilobately produced, the central lobe strong, triangular, pointed and brown, the lateral lobes shorter and almost rectangularly rounded.

Agrees closely in character with *S. varius*, Stal.

Described from one female specimen.

Locality.—Petrusburg, O.F.S. (Coll. Faure).

Genus *Citorus* Stal.

Body oval; head transverse, as wide as thorax, rounded anteriorly and widened at the apex; vertex almost twice as broad as the eyes, flat horizontal; face widened, frons and clypeus flat. No ocelli evident. Thorax and scutellum short and of equal length. *Wings shortened, somewhat shorter than the abdomen, subcoriaceous, appendix absent, not overlapping, clavus fused to corium, veins obsolete, anastomosing at apex. Wings absent. Feet (pedes) rather long, the posterior ones flattened; posterior tibiae very spiny.

Related to *Selenocephalus*. (Translated from Stal.)

*Elytra.

C. decurtatus Stal.

Citorus decurtatus, Stal. Hem. Afr. IV., p. 110 (1864).

Faintly rust colored, sub-shiny; four small spots close to the apical margin and two or three behind the middle of the vertex; basal spots of scutellum, the frons from the base to beyond the middle, the thorax, anterior coxae and the spots of the posterior femora, black; vertex one and a half times as long in the middle as next the eye, almost shorter than the thorax; thorax faintly striate transversely, almost three and a half times as broad as long; elytra wrinkled, with apex roundly truncate. (Translated from Stal.)

Female: long 5 mm.; lat. 2.3 mm.

Hab.—Cafraria (Stal).

Genus *Krisna* Kirk.

Krisna, Kirk, "Entomologist," XXXIII, p. 243 (1900).

Eogypona, Kirk, loc. cit. p. 24 (1901).

Siva, Spinola, Mem. di. Matem. e. di. Fis. Soc. Ital. Modena, p. 167 (1852);
Stal, Hem. Afr. IV., p. 112 (1866); Signoret, Ann. Ent. Fr. p.
197 (1880); Melichar, Hom. Faun. Ceylon, p. 167 (1903).

Body strongly oblong, somewhat depressed, lightly convex above. Head narrower than thorax, short, anteriorly rounded or obtusely, roundedly subangulate, anterior margin somewhat acute, not foliaceous; vertex horizontal, level, about twice as wide as the eyes; face broadened; frons and clypeus rather flat. Ocelli situated in the anterior margin close to the eyes. Thorax transverse; narrowed anteriorly, apex lightly rounded, lateral margins acute. Scutellum triangular, slightly broader than long. Elytra almost exceeding apex of abdomen, provided with an appendix and overlapping behind the clavus, apex with irregular transverse veins; veins delicate.

Allied to *Selenocephalus*. (Translated from Stal.)

K. *uniformis* Dist.

Krisna uniformis, Dist., Ins. Transv. p. 241 (1910).

"Pale greenish; eyes testaceous; tegmina with a small linear piceous spot at apex of clavus and usually the posterior apical margin of tegmen narrowly pale piceous; vertex about half as long as breadth between eyes, centrally transversely impressed between eyes; face broadly transversely striate on each lateral area; pronotum faintly finely transversely wrinkled; scutellum with a transverse impression before apex; tegmina with the longitudinal veins a little prominent, the reticulate veins on apical area very distinct; wings hyaline, the veins slightly greenish." Distant.

Long. excl-tegm., 7-8 mm. Exp-tegm., 18-19 mm.

Hab.—Durban (Bell-Marley); Congella (Leigh) Natal.

Div. DELTOCEPHALARIA.

Genus *Scaphoideus* Uhler.

Scaphoideus, Uhler, Trans. Maryl. Ac. Sci. p. 33 (1888); Van Duzee, Tr.
Am. Ent. Soc. XIX., p. 299 (1892); Osborn, J. Cinc. Soc. Nat.
Hist. XIX., p. 187 (1900); Matsumura, Termesz. Füzetek, XXV.,
p. 383 (1902); Melichar, Hom. Faun. Ceylon, p. 194 (1903).

Distribution: Nearctic, Palaearctic, Ethiopian, Oriental, Malayan and Australasian Regions.

"Head triangular, flat above, vertex almost as long as the width between the eyes, subacuminate at tip, the base deeply sinuated; front longer than wide, deltoid, with the sides near the tip, moderately curved, tylus liguliform; cheeks broad, curved, expanded to beyond the middle of the eye, acutely tapering at tip and hardly enclosing the entire lora, the lora diagonal, acute at each end; antennae long and slender, pronotum sublanate, more curved anteriorly than sinuated posteriorly; wing covers moderately narrow, longer than the abdomen, curved, valvate, the costal areole long, narrow, destitute of cross-veins, followed by a gradually widening cell, beyond this are four apical cells of large size and mostly broad triangular figure; wings with the two apical middle areoles long and narrow, narrowing at base towards the crossvein; abdomen moderately long and narrow." (Uhler).

S. cuprescens n. sp.

General color smoky brownish, costal margins white, head, pronotum and scutellum dirty white with two longitudinal rows of dark brown spots. Form elongate, widest in middle tapering towards both ends. Length 5.5 mm., width across pronotum 1.3 mm.

Vertex flat, slightly depressed near the base, acutely angulate, widest at anterior apex of eyes and faintly constricted at that point, width between eyes half the distance across them, eyes slightly overlapping pronotum. Pronotum as long as vertex, as broad as width across the eyes, anterior margin deeply broadly rounded, truncate in the centre, posterior margin faintly concave, humeral margins flatly rounded. Scutellum broad, slightly longer than pronotum. Elytra markedly exceeding abdomen. Face as long as broad, narrowed immediately below the eyes, genal margins moderately rounded, frontal margins straight, terminating at base of antennae, strongly convergent towards clypeus, frontoclypeal suture obscure; clypeus half as long as frons, broadened toward apex which is truncate. Hind tibiae flattened, inner margin spinulose, outer margin strongly spinose.

Color.—Elytra subhyaline, smoky brown, veins dark brown, costal border white; rest of dorsal surface dirty white, with two round spots near base of vertex, two spots, one next to the eye and one subapical, two spots on anterior margin of pronotum, lateral margins of pronotum all dark brown; an oblique band starting at the middle of the pronotum and running across basal angles of scutellum, light brown; eyes reddish brown, ocelli dilute brownish; ventral color dull white with a brown tinge.

Genitalia.—Female: last ventral segment one and a half times as long at the centre as the penultimate, centre produced, concavely truncate, notched on either side of the production; ovipositor strong, brown, slightly exceeding pygofer, four times as long as last ventral segment; pygofer widest at the middle, with long setae toward the apex, brown in color, inner margins whitish. Male: last ventral segment slightly longer than the penultimate, truncate; valve moderately narrow, subtriangular, shortly acutely produced at apex; plates as long as ultimate segment, approximated, together truncately rounded behind, margins and apices strongly spinose, exceeding valve by one-third their length.

Described from five males and one female collected by F. W. Petzey at Jonker's Hoek, Drakenstein Valley, C.P., 17.12.22.

Genus *Deltoccephalus* Burm.

"Body oblong or oval, elongate; head with eyes as wide as the pronotum, pointed in front; ocelli on the margin between the vertex and the front. Vertex flat or slightly convex at the lateral margins, more or less angularly produced in front. Inner sector of elytra forked twice, three anteapical cells present. In the brachypterous forms there is a decided reduction in the number of veins." Cogan.

KEY TO SPECIES.

- A. Vertex lightly convex above.
 B. Vertex angulate. Vertex half as long as width across eyes, with paired brown spots at apex, between ocelli and at basal angles. *africanus & eductus* n. sp.
 BB. Vertex roundly angulate.
 C. Outer and inner anteapical cells narrowing to a point against apex of middle anteapical cell, giving reflex venation appearance. Dorsal color white with two deep orange longitudinal fasciae from scutellum to tip of vertex. *bivittatus* n. sp.

- CC. Antepical cells of regular shape. Elytra darkbrown along clavus; vertex and pronotum white with delicate darkbrown pattern. *granarius* n. sp.
- AA. Vertex flat or depressed above, angulate.
- B. Vertex with a longitudinal white fascia (species pale stamineous).
- C. Length over 3 mm.
- D. Longitudinal fascia of vertex strongly narrowed toward apex. Elytra exceeding abdomen. *cogani* n. sp.
- DD. Longitudinal fascia of vertex uniform in width. Elytra equalling abdomen.
- E. Five pale white longitudinal fascia on pronotum. *campanus* n. sp.
- EE. Pronotum unmarked, minutely transversely striate. *atrodentatus* n. sp.
- CC. Length 2 mm., or less. Vertex pointed, elytra roundly narrowed apically. *pumilioans* n. sp.
- BB. Vertex without a longitudinal fascia.
- O. Species unicolorous dorsally (brown, stramineous or green).
- D. Uniform brownish stramineous. Vertex roundly rectangular in front, as long as width between eyes. *attenuatus* n. sp.
- DD. Uniform brownish black. Yellow arcs on face: a single large discal cell between sectors 2 and 3. *aristida*.
- DDD. Uniform green above. Face with strong brown transverse arcs.
- F. Elytra much shorter than abdomen, delicate, broadly rounded at apex. *breviatus*.
- FF. Elytra slightly shorter than abdomen, heavy, angulately pointed behind. *chorellus* n. sp.
- CC. Species variegated dorsally.
- D. Form narrow, slender, elytra slightly exceeding abdomen. Vertex dull white with two apical brown spots and diffused brown about ocelli. *saltus* n. sp.
- DD. Form broad, robust, elytra equalling abdomen. Head very large, vertex white; eyes and elytra deep brown, the latter delicate. *cephaleus* n. sp.

D. *bivittatus* n. sp.

General color, anteriorly white with longitudinal orange bands, elytra slightly fuscous. Form cylindrical, narrowly rounded in front, blunt behind. Length, 3 mm., width across eyes .75 mm.

Vertex faintly rounded above, as long as breadth in front of eyes, somewhat shorter in front of eyes than behind that line; anterior margin roundly angulate, width across eyes not quite twice the length of vertex. Pronotum as long as vertex, three-fifths as long as broad, slightly narrower than head, anterior margin truncately rounded, posterior slightly concave, humeral margins uniformly rounded to corners of eyes. Scutellum straight-sided, twice as broad as long, width equalling length of pronotum. Elytra slightly exceeding abdomen, outer and inner antepical cell narrowing to a point against apex of the central antepical; marginal subapical cell forming a triangle by aid of a reflex vein reaching costal margin. Face as long as broad, lateral margin notched below eyes, genal margins rounded exceeding lorae to clypeus; frons two and a half times as long as clypeus, frontal sutures straight; clypeus as long as broad, square. Hind tibiae thin, cylindrical, delicately spinose.

Color.—Vertex, pronotum and scutellum white with two longitudinal deep orange bands traversing their whole length and two shorter orange

bands outside each of these along the pronotum. Elytra subhyaline, slightly fuscous brown along claval and apical margins. Ventral color white, apical spines of pygofer brown.

Genitalia.—Female: last ventral segment centrally as long as the penultimate, posterior margin arcuate, slightly indented centrally; ovipositor three and a half times as long as last ventral segment; pygofer slightly bulging at the middle, as long as ovipositor, with a group of central and a group of terminal prominent setae.

Described from one female specimen.

Locality, Cedara, Natal.

Coll. E. S. Cogan, 22.2.17 (on grass).

D. granarius n. sp.

General color brownish gray with brown spots on vertex and pronotum and ramose brown markings on elytra. Length 3.6 mm., width across eyes or elytra 1.3 mm.

Vertex rounded above, subconically produced, one-third wider in front of eyes than long. Pronotum somewhat shorter than vertex, subtruncately rounded in front, lateral margins very short; humeral margins broadly rounded; posterior margin faintly concave. Scutellum triangular, twice as broad as long, somewhat shorter than pronotum, with a transverse linear impression across the middle. Elytra strongly curved along costal margin, apices divergent, obliquely rounded, exceeding abdomen. Face three-fourths as long as broad; frons very nearly twice as long as clypeus; lorae large, rounded, narrowly exceeded by genae; side of face abruptly narrowed below eyes, thence angulately rounded, with genal margin straight to apex of clypeus, which is truncate. Hind tibiae strongly and densely spinose.

Color.—Dorsally, brownish white to gray; vertex with a brown subsemicircular mark entad to either eye, open outwardly, a transverse brown band in front of eyes, broadening around ocelli, a brown line along anterior edge from ocellus to ocellus, and two subapical brown spots. Pronotum with a transverse broken brown pattern across the middle and a comma-shaped brown mark on either side of median line near anterior margin. Elytra with veins and ramose lines, and apex except outer apical cell, brown. Ventrally, dull white; a black punctation on outer margin of lora about the middle; parts of abdominal segments and of genitalia with brown infuscation.

Genitalia.—Female: last ventral segment three times as long as the preceding, its posterior margin bisinuate leaving a rounded tooth at the centre, posterior corners roundly angulate; ovipositor a little more than three times as long as last ventral segment, exceeding pygofer, which are narrowed toward base and strongly and densely spinose beyond the middle. Male: valve as broad as last ventral segment and twice as long, triangular; plates not quite three times as long as valve, broad, moderately rounded laterally, approximated medially, apices narrowly rounded, each with two subapical spines.

Described from one female and four male specimens collected by F. W. Petty, at Ceres, C.P., April, 1923.

D. eductus n. sp.

General color brown very regularly variegated with lighter brown and dirty white. Length, macropterous form 3 mm., micropterous slightly shorter; breadth almost 1 mm.

Vertex produced, distinctly pointed, gently rounded above, as long as its breadth in front of eyes, anterior edges well rounded. Pronotum three times as broad as long, anterior margin broadly convex, posterior margin straight, lateral margins backwardly divergent, width at posterior corners equalling distance across eyes. Frons twice as long as clypeus, lateral margins slightly bulging at upper corners of lorae; apex of clypeus flush with ends of genae. Scutellum twice as broad as long. Elytra exceeding abdomen, overlapping behind clavus, appendix narrow, two crossveins between first and second sectors.

Color.—Vertex dull white with eight dark brown spots; two linear and apical; two oblong and transverse between ocelli; two short, linear, longitudinal at each basal angle. Pronotum pale brown with five longitudinal white bands, and two dark brown dots behind middle of anterior margin. Scutellum dark brown with a rectangular white area between base and transverse line. Elytra (macropterous form) light brown, veins whitish, areoles lined with dark brown, fuscous apically. (Elytra predominantly pale whitish in the brachypterous forms). Ventral color fuscous; frons dark brown with short silvery arcs and a round white apical spot, rest of face yellowish brown; ovipositor black, reddish brown along median line. Hind legs brown along inner margin, bases of the larger spines black.

Genitalia.—Female: last ventral segment three times as long as the preceding, gradually produced to a narrow lobe delicately incised at the tip; pygofer equalling ovipositor, strong, with a bunch of strong brown sub-apical setae and a few scattered ones toward the middle. Male (brachypterous): last ventral segment twice as long, medially as the penultimate, sinuate behind, centrally produced to a broad semicircular projection; plates strong, three times as long as last ventral segment, side margins bulged and setose behind the middle, tips dark, divergent (upwardly curved), narrowly truncate; pygofer very strong, pointed, setose, the tips of inner margins meeting well behind plates and oedagus.

Described from many brachypterous males and females and four macropterous females.

Locality, Petrusburg, O.F.S.; also Bloemfontein, O.F.S.
Coll. J. C. Faure, April, 1918.

D. africanus n. sp.

General color brown, regularly variegated with yellowish white. Length 3 mm.; breadth 1 mm. Very similar to the preceding species.

Vertex less than half as long as width across eyes, flat, angulate, rounded with eyes. Pronotum as long as vertex, broadly subtruncately rounded in front, straight behind, humeral margins faintly rounded, lateral margins very short. Elytra exceeding abdomen, overlapping apically, costal margins well rounded. Face as broad as long; genal margins angulately rounded, extending conspicuously below lorae to tip of clypeus. Clypeus half as long as frons, base truncate, margins straight, approaching each other apically, apex rounded; frontal sutures straight.

Color.—Vertex orange brown with a black median line nearly reaching apex, a white mediolongitudinal band crossed by a transverse white band in front of ocelli, a white margin and an incomplete transverse central band on either side; two short dark brown longitudinal apical bands. Pronotum orange-brown, with indistinct pale longitudinal bands. Scutellum brownish white, a dark brown spot in each basal angle, two centro-basal brown dots and diffuse brown toward apex. Elytra gray to brown, veins pale, areoles lined with brown. Face dark brown with shortened white arcs; lower part

orange-brown with dark brown along middle of frons and margins of lorae. Ventral color dark brown, edges of abdomen and pygofer yellow. Abdomen dorsally black.

Genitalia.—Female: last ventral segment three times as long as penultimate, centre broadly rectangularly produced, apex truncate, with its centre squarely cut out; ovipositor strong, rounded in surface, twice as long as ultimate segment, equalling pygofers which are broad and gradually rounded to apex and bear a few small scattered spines.

Described from three females.

Locality, Petrusburg, O.F.S.; also Bloemfontein, O.F.S.

Coll. J. C. Faure.

D. cogani n. sp.

Var. *incisus* n. var.

Form elongate, slightly widened at the middle, head pointed. Color: yellowish white, elytra lighter, each with three fuscous spots, head and thorax with fuscous markings.

Vertex pointed, flat, slightly depressed in middle, with a median longitudinal line; a large white spot bordering on the inner margin of each eye; rest of vertex fuscous; anterior margin yellowish. Ocelli colorless; eyes grayish to carmine. Pronotum dirty white with a brown arc in front of the middle; finely transversely striate; breadth more than twice the length; anterior margin broadly rounded, lateral margins very short, posterior slightly concave. Scutellum yellowish white with two narrow longitudinal brown bands terminating in the middle of the lateral margins, which are straight; breadth nearly twice the length; a transverse arching depression in the middle. Face as broad as long; frons brown with eight pairs of white transverse arcs. Clypeus yellowish white, convex, slightly longer than broad at base, narrowing toward apex; lorae same color as clypeus, of the same length and half as wide, rounded outwardly. Genae brownish, reaching to apex of clypeus. Ventral color white, edges of abdomen yellow. Legs white in females, brownish in males, hind tibiae strongly spinose, middle ones with a row of small, anterior with a row of stronger spines on the inner margin. Elytra whitish subhyaline, with a brown spot anteriorly on the clavus next to its outer edge, one behind the first and one behind the second cross-vein connecting sectors 1 and 2 of the corium; veins pale towards clavus, yellow towards the costal margins; narrow appendix present.

Genitalia.—Female: last ventral segment as long as the penultimate one in the middle, posterior corners rounded; broadly rounded, almost truncate, behind, middle brown and divided along its whole length. Pygofers strong, white, spinose toward apex, as long as and unicolorous with ovipositor, each five times as long as its width at the base.

Male: last ventral segment slightly shorter than the penultimate; valve as broad as and slightly longer than last ventral segment, triangular, angulately rounded at apex; plates twice as long as valve, strong, pointed, the tips dark brown and angulately divergent; inner plates white, meeting behind the outer plates, strongly spinose on outer edge, tips rounded.

In the male the ventral color is slightly darker than in the female and the brown spots on the elytra may be lacking.

Female: Long 4.5-5 mm.; Br. 1.25 in middle.

Male: Long 4.5 mm.; Br. 1 mm. in middle.

Described from two males and two females.

Hab.—Cedara (Natal), on grass. (Coll. Cogan.)

The above description holds for the female form.

D. cogani var. *integer*.

n. var.

General appearance very similar to that of the form described above, the specimen being however somewhat damaged especially as to exact color. The last ventral segment is slightly longer, at the centre, than the preceding, with posterior margin and corners rounded, but not split along the central longitudinal line as the form described above. The pygofers are strongly spinose at the apex.

Described from one female specimen collected by F.W. Pettey at Jonker's Hoek, C.P., 17 Dec., 1922.

D. campanus n. sp.

General color stramineous, exposed dorsal part of abdomen tinged with orange. Veins pale. Length 2.75 mm.; breadth across eyes 1 mm.

Vertex produced and pointed, three fifths as long as width across eyes, and as long as wide at anterior apex of eyes, slightly convex in centre. Pronotum five-eighths as long as vertex, about $2\frac{1}{2}$ times as wide as long, broadly convex anteriorly almost straight posteriorly; lateral margins short, humeral margin slightly curved. Elytra distinctly shorter than abdomen, strongly divergent behind, straw-colored; with veins pale.

Color.—Vertex stramineous with a narrow median longitudinal white band and median impressed black line running two thirds the length of vertex, a white arcuate area between ocellus and tip marked with two fine brown lines parallel to side of vertex. Ocelli black. Pronotum stramineous with five parallel longitudinal white lines and a transverse fuscous spot on either side of median line. Scutellum stramineous with a faint brown mark on each side of middle, finely granulose, with a brown transverse line. Abdomen with a V-shaped brown marking on each segment. Face brown with seven pairs of fine white arcs, clypeus and lorae somewhat lighter. Ventral color dark brown, edges of segments and parts of pygofers and last ventral segment yellowish.

Genitalia.—Female: last ventral segment one and a half times as long as the preceding posterior corners, broadly rounded, the central one third with a shallow emargination which is bordered with black; pygofers three and a half times as long as last ventral segment, as long as ovipositor.

Described from one female specimen.

Locality.—Bloemfontein, O.F.S.

Coll. J. C. Faure, 14.14.18.

D. atrodentatus n. sp.

General color yellowish brown. Form elongate, acute anteriorly. Length 3.25 mm., breadth 1 mm. across eyes.

Vertex produced, flat above, as long as its breadth in front of the eyes, roundly pointed. Pronotum transverse, twice as broad as long; anterior margin broadly curved, flattened at centre; side margins very short, hind margin lightly concave; eyes large. Elytra rounded, without appendix, not reaching end of abdomen; venation strong. Face broadly convex, apex pointed; one and a half times as long as broad, one and a half times as long as clypeus; ends of lorae very slightly exceeding clypeus.

Color.—Eyes reddish. Vertex brown with a prominent longitudinal white band along its whole length and a whitish area along the inner margin of each eye; an arcuate white area along each lateral margin with several fine brown longitudinal lines; ocelli yellowish; inconspicuous. Pronotum

and scutellum yellowish brown with a brown band traversing them longitudinally on each side of the median line. Elytra dull yellowish brown: veins whitish, brown spots about the cross veins. Ventral color yellow, face yellowish brown with faint brown marks on upper part of frons. Two pointed projections from last ventral segment, black.

Genitalia.—Female: last ventral segment twice as long as the penultimate, broadly, shallowly, concave behind, longest at the centre which is slightly incised. Two sharp tooth-like projections from beneath last ventral segment (black). An oblique underlying part showing at each posterior corner. Ovipositor and pygofers strong, equal in length, four times as long as last ventral segment.

Described from two females.

Locality.—Petrusburg, O.F.S. 22-25 : 4 : 18.

Coll. J. C. Faure.

D. pumilicans n. sp.

*General color orange brown, elytra lighter, brown on apical cells. Vertex acute. Size very small, length 2 mm., breadth across eyes .75 mm.

Vertex half as long as width across eyes, as long in front of eyes as behind that line, apex acute, sides of head (with eyes) slightly convex, central longitudinal line extending three-fourths the length of vertex and ending between ocelli. Pronotum slightly shorter than vertex, twice as broad as long, broadly rounded anteriorly; humeral and posterior margins straight; lateral margin extremely short, anterolateral portions of pronotum overlapped by eyes. Scutellum small straight-sided, triangular, one-third as long as pronotum. Elytra reaching tip of abdomen, twice as long as broad, pointedly, sub-angulately rounded at apex. Face as broad as long, acutely angulate above, roundly angulate below, constricted below eyes, lateral margins short, latero-basal margins of genae straight; clypeus half as long as frons, apex truncate, narrower than base; frontal sutures straight. Hind tibiae strongly spinose.

Color.—Vertex and pronotum orange brown, vertex with a white central longitudinal fascia and white along anterior margin, pronotum with fine longitudinal gray fasciae. Face brown with light colored transverse bands medially interrupted. Elytra gray with fuscous markings on apical cells. Thorax and abdomen beneath black; above black with last five segments broadly white medially.

Genitalia.—Male: last ventral segment straight behind. Valve triangularly rounded, large, twice as long as ultimate segment, one and a half times as broad as long. Plates half as long again as valve, contiguous medially, narrowing to apices which are truncate, lateral margin with two white spines near apex. Pygofer densely, strongly spinose, exceeding plates by the latter's own length.

Described from five males.

Locality.—Viljoen's Pass, C.P.

Coll. F. W. Pettey. 12 Jan., 1923.

D. attenuatus n. sp.

General color greenish brown (specimen from alcohol, probably yellowish green in natural state). Form elongate, obtuse in front, of more or less uniform width. Length just over 3.5 mm.; width across eyes just over 1 mm.

*The natural color may be a little different from the above since the description is made from specimens preserved in alcohol.

Vertex flat, faintly indented centrally, as long as minimum width between eyes, two-fifths as long as width across eyes, shorter in front of eyes than behind that line, forming a rounded right angle anteriorly; sides of head with eyes rounded. Pronotum as long as vertex, two and a half times as broad as long, anterior margin broadly rounded, laterally overlapped by eyes; lateral margin short; humeral margin slightly rounded; posterior margin shallowly concave. Scutellum straight-sided, three-fourths as long as pronotum, transverse impression slightly curved. Elytra just over three times as broad as long, reaching tip of abdomen; apices rounded. Hind tibiae moderately spinose. Face finely granulate, about one-fourth wider than long, constricted below eyes; genal margins rounded, extending with a well defined margin beyond lorae to clypeus; frons narrow, tapering to clypeus, sutures very straight and reaching margin of vertex; clypeus of uniform width throughout, rectangular, half as long as frons and almost twice as broad as long.

Color uniform brownish ventrally, ovipositor dark brown.

Genitalia.—Female: last ventral segment not quite as long as the preceding, slightly rounded behind, delicately incised on each side of the centre so as to form a small rounded tooth; ovipositor five times as long as the last ventral segment; pygofers equalling ovipositor, widest in the middle, width across them equalling half the length of ovipositor; bearing a few long, scattered spines just behind the middle.

Described from one female specimen.

Locality.—Viljoen's Pass, C.P.

Coll. F. W. Petthey, 12 Jan., 1923.

D. aristida Cogan.

Dellocephalus aristida, Cogan, Homop. Studies, p. 187 (1916).

General color brownish. Form long and slender. Length of female 4 mm. Breadth scarcely 1 mm.

Head brownish black, prominent, disc of vertex flat, slightly rounded toward the sides, the apex very pointed; a median line extending from the posterior margin to the tip of the vertex; length greater than the width and equal to about one and a half times the width across the eyes. Face strong, longer than its width; frons black with faint yellowish arcs, three times as long as the width next the clypeus, and two and a half times as long as the latter; clypeus black with a faint yellow tinge, one and a half times as long as its width next the frons, sides almost parallel, apex rounded; orae prominent, half as wide as the clypeus; genae well rounded, depressed beneath the eyes, black with a narrow yellow border. Point of insertion of antennae deep. Face, vertex, pro-thorax and scutellum finely punctulate. Pronotum well rounded between the eyes, black with five indistinct yellowish longitudinal lines, one on the middle and two on either side, near the lateral margins; posterior margin slightly concave; lateral margins somewhat convex, short; length of pronotum not quite as long as the vertex; sides and vertex black with a bluish tinge. Scutellum black, about equal to the pronotum in length. Elytra brownish becoming lighter at the apex of the corium; veins showing as lighter lines; appendix strong. Abdomen above blackish brown, black beneath. Legs lighter in colour than the rest of the body.

Genitalia.—Female: ultimate ventral segment about twice as long as the previous, strongly produced on the middle, the posterior margin rounded inwardly, the apex somewhat convex; pygofers strong, widely

separated at the base and closer near the tip, three times as long as the last ventral segment; color brown with a yellowish tinge; ovipositor wide, a little longer than the pygofer. (Cogan.)

Described from one female.

Hab.—Cape Town (Mally).

D. breviatus Cogan.

Deltocephalus breviatus, Cogan, Homop. Studies, p. 186 (1916).

Male: Vertex yellow, with a median line extending from the posterior margin to a little beyond the middle; length a little more than twice the width between the eyes; anterior margin sharply pointed, acutely rounded. Eyes greenish white, large, prominent extending backward beyond anterior edge of pronotum. Ocelli small, colorless, located near the eyes. Face yellow; the frons traversed by six to eight brown arcs; length of entire face about equal to width across the eyes; frons more than twice as long as its width near the clypeus, and more than twice as long as the clypeus, which is one and a half times as long as it is broad and is parallel margined. Lorae prominent, cheeks broad and strong. Pronotum greenish-yellow above, black beneath, broad, not as long as the vertex, the anterior margin rounded between the eyes. Scutellum small, yellowish green, half as long as the pronotum. Elytra yellowish, transparent, short, extending to the penultimate dorsal segment of the abdomen; venation rather indistinct, apices of elytra broadly rounded. Abdomen above yellowish, the first two segments black on their lateral margins; beneath black with yellow borders. Legs light yellowish, the coxae black.

Genitalia.—Last ventral segment very small, less than half as long as the penultimate; rounded broadly on the posterior margin, black on the anterior and light yellow on the posterior; valve black, more than twice as long as the last ventral segment, rounded at its apex; plates long, triangular yellow, with occasional black spots, tips rounded. Pygofer large, longer than the plates, very spiny, the spines forming a crown at the tip; ventral color black at base, yellow at the tip; dorsal yellow, but black at bases of lateral margins, and the tip black.

Female: General color same as the male. Head somewhat sharper and more pointed. Genital apparatus: last ventral segment black, a little larger than the penultimate, sinuate on the middle, the posterior margins curving slightly to the sides; pygofer yellowish, more or less covered with brown and black, widely separated at the base, but converging towards the tip; the amount of brown coloration of the pygofer varies but as a rule is confined to the basal half; ovipositor brown, strong, equalling pygofer in length; ventral tip of pygofer black, the spines strong, forming a crown as in the male. (Cogan.)

Described from three females and seven males.

Hab.—Cape Town (Mally).

D. chlorellus n. sp.

*General color bright yellowish green. Form robust, pointed at both ends, brachypterous. Length almost 3 mm.; width across eyes 1 mm.

Vertex produced, acutely angular, somewhat concave centrally, half as long as width across eyes, as long in front of eyes as behind that line; sides of head, with eyes slightly rounded; eyes large, overlapping pronotum. Pronotum one-third shorter than vertex, anterior margin broadly rounded;

*The specimen was preserved in alcohol, hence its natural color may be somewhat different.

posterior margin straight, humeral margin uniformly, broadly rounded to corner of eye; width slightly exceeded by that of head. Scutellum straight-sided, triangular, little more than half as long as pronotum, transverse line extending almost to lateral margins. Elytra not reaching tip of abdomen, two and one-third times as long as broad, narrowly, obliquely rounded at apex, with reduced venation. Wings reduced to about one-third the length of elytra. Face as broad as long, rhomboid in outline, finely granulate, abruptly narrowed below eyes, side margins short, basolateral margins straight, narrowly exceeding lorae to clypeus; clypeus half as long as frons, of uniform width, rounded at corners and base, truncate at apex; frontal suture with an outward bend below apex of lora. Hind tibiae coarsely spinose; hind femora with a strong apical and two strong subapical spines.

Color.—Above uniform yellowish green, abdomen above brown, posterior parts of segments lighter; face yellowish, frons brown with numerous yellowish transverse arcs medially interrupted; thorax black; abdomen dark brown, its edges yellow.

Genitalia.—Female: last ventral segment centrally almost three times as long as the penultimate, broadly, shallowly concave behind, slightly notched at the centre (posterior margin with a broad brown border); ovipositor four and a half times as long as last ventral segment, moderately curved and slightly exceeding pygofers; pygofers with a few scattered setae beyond middle towards apex.

Described from one female.

Locality.—Viljoen's Pass, C.P. (also from Jonker's Hoek, C.P. 17.12.22).

Coll. F. W. Pettay, 12 Jan., 1923.

D. saltus n. sp.

General color brownish gray with fuscous markings on clavus and brown spots on vertex. Form slender, vertex acute, elytra long. Length 3 mm.

Vertex produced, acutely angular, flat, half as long as width across eyes, slightly shorter than its width just in front of eyes, a central longitudinal line extending three-fourths along its length from base. Pronotum three-fourths as long as vertex, slightly more than twice as broad as long, anterior margin broadly truncately rounded, posterior margin faintly broadly notched in the middle, humeral margin rounded uniformly to corner of either eye; posterior portion with faint transverse rugulae. Scutellum straight-sided, half as long as vertex, twice as broad as long. Elytra exceeding abdomen, narrowed and rounded at apex. Face very slightly broader than long, rhomboid in outline, genal margins faintly rounded, well shown below lorae; clypeus half as long as frons, frontal suture straight.

* *Color*.—Dorsally gray with two elongate apical brown spots extending to apex of central longitudinal line, and a smaller brown spot entad to each ocellus. Elytra with some elongate fuscous markings. Ventral color brown, face with some whitish transverse arcs. Abdomen dorsally black.

Genitalia.—Female: last ventral segment parabolic in outline behind, slightly concavely notched centrally; ovipositor three times as long as last ventral segment; very slightly exceeding pygofers; pygofers strong, strongly setose all over, the setae black at their bases. Male: last ventral segment straight behind; valve broadly triangular, as long as ultimate

*These specimens were preserved in alcohol, hence probably not quite the same as in natural color. This species bears some resemblance to *D. maculiceps* Boh. of Europe.

segment, three times as broad as long; plates large, three times as long as valve, narrowing towards apices which are roundly truncate, and exceeded by pygofer, and having a few weak spines near lateral margins.

Described from two males and one female.

Locality.—Viljoen's Pass, C.P.

Coll. F. W. Pettey, 12 Jan., 1923.

One specimen had a parasite attached to the abdomen.

D. cephalus n. sp.

General color brownish gray. Form robust, head very large and acutely pointed, elytra almost vertical in position posteriorly. Length 4.3 mm., width across eyes 1.5 mm.

Vertex flat, acutely angulate, longer in front of eyes than behind that line, almost as long as width at anterior apex of eyes, twice as long as pronotum; eyes large, prominent. Pronotum three times as broad as long, very broadly rounded in front; humeral angles rounded to corner of eye on either side; posterior margin faintly concave. Scutellum twice as broad as long, somewhat shorter than pronotum. Elytra exceeding abdomen, meeting in roof-shaped form above; anterior anteapical cell wider at apex than at base; apex abliquely roundly truncate. Face granulate, as long as broad, acutely angular above, obtusely angulate below, genal margin abruptly concave just below eye, thence straight to clypeus. Clypeus half as long as frons, rounded at base and apex, sides faintly convex, apex somewhat narrower than base; lora large, rounded; frontal suture outwardly angulate at upper apex or lora. Hind tibiae moderately spinose; hind femur with three prominent spines at its distal extremity.

* *Color*.—Head pronotum and scutellum dull white, pronotum with a small round black spot behind middle of eye and a comma-shaped brown spot entad to this. Elytra grayish subhyaline, veins brown, fuscous along apex and distal part of costal margin. Ventral color dull white, face with medially interrupted transverse brown arcs; abdomen fuscous along median line, black dorsally.

Genitalia.—Male: last ventral segment a little longer than the penultimate. Valve very small, triangular, one-third as long as broad. Plates prominent, as long as ultimate segment, outer margins parallel for a short distance from base, thence convergent to an acute apex; medially convergent, outer margin with a row of strong brown spines, a narrow brown band running parallel to outer margin from base to about middle of each plate.

Described from one male specimen.

Locality. —Viljoen's Pass, C.P.

Coll.—F. W. Pettey, 12 Jan., 1923.

Div. EUSCELIDARIA.

Genus *Aconura* Lethierry.

Ann. d. l. Soc. Ent. d. Belg. p. 85 (1876). Matsumura p. 385. Monographie d. Jassinen Japans; Termesztudajzi Füzetek, XXV (1902). Melichar, Cicad. v. M. Eur. p. 302 (1895).

"Vertex in middle longer than pronotum, acute-angled, seldom produced at an obtuse angle, face longer than broad between the corners of the cheeks. Frons narrow, gradually narrowed towards the clypeus. Clypeus long, exceeding the margin of the genae, rounded at the apex, somewhat narrowed in the middle. Lora small reaching only two-thirds

*Since the specimen described was preserved in alcohol the natural color may be slightly different from that given in the description.

along the clypeus. Cheeks fairly wide, the outer margin more or less distinctly curved beneath the eyes. Ocelli situated on the border between vertex and frons. Pronotum short, more than twice as broad as long, crosswise kidney-shaped (quernierenförmig). Venation of elytra (as in *Gnathodus* and *Cicadula*, except that the outer fork of the first sector is definite and fuses with the lower branch of the inner fork. Venation of wing as in *Gnathodus*.)

In this genus the ovipositor (Scheidenpolster und Legescheide) of female is long lanceolately produced.

(Translated from Matsumura.)

A. ceresensis n. sp.

General color brown; elytra gray, subhyaline towards apex. Length: female 3 mm.; width across eyes almost 1 mm.

Vertex as long as width in front of the eyes, flat, finely granulate, depressed in centre, angularly pointed, subconical in front. Pronotum narrower than head across eyes, half as long as vertex, almost three times as broad as long, anterior margin broadly rounded, posterior faintly concave, humeral and lateral margins rounded. Scutellum shorter than pronotum, triangular, twice as broad as long. Elytra subhyaline, sub-obliquely rounded at apex, markedly exceeded by abdomen. Face convex, finely granulate, slightly broader than long, narrowed below eyes, basolateral margins long and straight, narrowly exceeding lorae and joining the clypeus; clypeus half as long as frons, three-fourths as broad as long, rounded at base and apex, sides slightly bulging; side of frons obtusely subangulate opposite upper corners of lorae. Hind tibiae flattened, moderately spinose, spines on outer edge not very much stronger than those on inner edge.

Color.—Vertex, eyes and pronotum brown, shiny. Scutellum grayish-brown. Elytra gray on base and clavus, the rest subhyaline with veins brown, a brown spot across apex and a smaller brown spot at either end of the subapical cell. Wings brown (strap-shaped), rounded at apex and two-thirds as wide as elytra.

Genitalia.—Female: last ventral segment three times as long as the penultimate, posterior margin truncately concave, posterior angles narrowly rounded; ovipositor strong, long tapering, exceeding pygofer by one-third its length; pygofer with a few spines along the inner edges near and on the apex, twice as long as total width across the middle.

Described from one female collected by F. W. Petter, April, 1923.

Locality.—Ceres, C.P.

A. sagittaria n. sp.

General color stramineous. Form flattened, elongateoval, sharply pointed at both ends, nearly one and a half times as wide across the middle as across the eyes. Length: male 3 mm.; female 4.5 to 5 mm.; breadth .75 mm. for both. Both male and female are brachypterous.

Color uniform except for two small oblique brown spots, on the vertex near its posterior margin; a row of eight small brown spots across the pronotum near its anterior margin; brown posterior margins to the visible dorsal segments of the abdomen and a short mid-dorsal line to the anterior part of each. Face brown with six pairs of white transverse arcs; sutures dark brown. Ventral color brown, except for the lateral and posterior margins of the segments and the border of the pygofer, which are yellowish.

Vertex pointed, as long as its width in front of the eyes. Eyes large, slightly overhanging the pronotum. Pronotum transverse, more than two and a half times as wide as long, faintly incurved behind, anterior margin forming a centrally flattened curve. Scutellum as long as pronotum and slightly narrower than long. Elytra exceeded by whole dorsal length of pygofers and ovipositor in female, and by one-third the pygofer in male. Face not quite as broad as long; frons twice as broad, and twice as long at its widest, as the clypeus; clypeus one and two-thirds times as long as broad.

Genitalia.—Female: last ventral segment slightly longer than the preceding, broadly concave behind, posterior corners rounded; pygofers very strong, five times as long as the last ventral segment at its centre; ovipositor very strong, exceeding the pygofers, seven times as long as the last ventral segment at its centre. Male: last ventral segment slightly longer than the preceding; valve triangular (black) one and a half times as wide as long, almost as long as last ventral segment, half as long as the pygofers; plates narrow, sparsely fringed with setae, one and a half times as long as valve, and forming a narrowly rounded point.

Described from one male and two females.

Locality.—Bloemfontein, O.F.S.

Coll.—J. C. Faure.

A. acuminata n. sp.

General color, dull yellow. Form brachypterous, markedly pointed at both ends. Length 3 mm.; maximum width just over 1 mm.

Vertex flat, acutely angulately produced, as long as minimum width between eyes, width at anterior corner of eyes almost one and a half times the length; as long in front of eyes as behind that line, margin acute, width across eyes equalling twice the length of vertex. Pronotum half as long as vertex, three times as broad as long; slightly concave behind; humeral margins slightly rounded, lateral margins diverging slightly backwards; anterior margin broadly rounded, laterally overlapped by eyes. Scutellum half as long as vertex, its sides faintly concave. Elytra short, truncate, closely contiguous, covering less than one-third of body behind pronotum. Face as long as broad acutely angulate below, constricted below eyes, corners of genae rounded, their lower margins straight, narrowly exceeding lorae to tip of clypeus. Frons three times as long as clypeus, its lateral sutures straight and reaching margin of vertex; clypeus one-third longer than broad, its lateral margins parallel, base convex, apex truncate. Hind tibiae straight, delicately spinose.

Color.—Dull yellow, ocelli (small) black, a small black spot at apex of vertex, and a row of small black dots near anterior margin of each dorsal abdominal segment. Frons dark brown, clypeus fuscous centrally; last ventral segment brown at middle of posterior margin.

Genitalia.—Female: last ventral segment twice as long centrally as the preceding segment, posterior margin broadly rounded (squarely indented at the centre). Ovipositor strong, three times as long as ultimate segment, exceeding pygofers by one-third its own length; pygofers narrow, closely applied to ovipositor.

Described from one female specimen.

Locality.—Bloemfontein, O.F.S.

Coll. J. C. Faure, 14.4.18.

A. compta n. sp.

General color black, variegated with yellow; elytra hyaline with strong brown veins. Length 3 mm., br. 75 mm.

Vertex flat, finely granulate, slightly produced, bluntly angulate, broader than long; as long in front of eyes as behind that line. Pronotum one-fifth longer than vertex, twice as broad as long, narrower than width across eyes, slightly concave behind anterior margin, flattened along its central one-third; lateral margins short, humeral margins rounded. Scutellum twice as long as broad, transversely striate on posterior two-thirds. Face finely granulate, slightly broader than long; frons twice as long as clypeus, its lateral margins straight; clypeus rounded distally, slightly exceeding lorae and genae; outer margin of genae almost straight, extending narrowly below the lorae. Fronto-clypeal suture straight. Hind tibiae strongly spinose.

Color.—Vertex black with two circular yellow spots at the middle, a triangular yellow spot in front of these with its apex between them, and a broken arcuate yellow band between either ocellus and apex. (In the lighter colored specimens the vertex appears yellow with only a few black markings indicating the outline of this pattern.) Face black, sometimes with a narrow yellow band along upper margin, median line, sides of clypeus and lora and outer margin of genae: sometimes with numerous yellow arcs on frons and yellow genae. Pronotum with six longitudinal black bands arcuately connected anteriorly and alternating with yellowish gray bands (the black may be almost entirely absent, yellow predominating anteriorly and gray posteriorly). Scutellum orange with triangular black spots in each angle and two small convergent black spots anterior to transverse line. Elytra hyaline, iridescent, with strong brown veins. Ventral color black with abdominal and segmental posterior margins yellow.

Genitalia.—Female: last ventral segment three times as long as the preceding, subhyaline, slightly arcuate posteriorly, centre with a broad toothlike production; ovipositor sharp, narrow, almost three times as long as the ultimate segment, exceeding pygofers by one-third its length; pygofers with a few posterior spines. Male: valve roundly obtusely angulate, somewhat shorter than last ventral segment; plates, narrow, pointed, divergent, twice as long as ultimate segment, slightly shorter than pygofers.

Described from one male and three female specimens.

Coll. J. C. Faure.

Locality.—Petrusburg, O.F.S. 4.4.18.

Genus *Euscelis* Brul.

Euscelis, Brulle, Exped. Sci. Moree, III., p. 109 (?) (1832).

Athyanus, Stal. Ofv. Vet. Ak. IV., 99. 2. (1855); Cogan Homop. Studies, p. 188 (1916).

Body robust, usually rounded at the sides and elytra rather broad behind. Head with eyes slightly wider than thorax. Vertex slightly produced, rounded or obtusely angled in front; ocelli near eyes, on or slightly above margin of vertex; vertex sometimes flat, but usually rounded above; pronotum short transverse, rounded above, sometimes striated. Elytra, usually with ramose pigment lines, three anteapical and sometimes five apical cells.

KEY TO SPECIES.

- A. Elytra just equalling, or shorter than, abdomen. No appendix.
- B. Head flat above.
- C. Form cylindrical somewhat conical in front.
- D. Anterior margin angulately rounded.
- E. Species unicolorous yellowish. Elytra truncate behind.
nemesia.
- EE. Species grayish with two broken transverse bands across elytra; pronotum and vertex with brown spots. Elytra rounded behind.
cyclopia.
- DD. Anterior margin sharply angular.
- E. Edge of vertex very blunt (rounded) giving apex a conical appearance. Outer discal cell fuscous giving off an antepical cell.
conicus n. sp.
- EE. Edge of vertex sub-acute. Outer discal cell black with only an apical cell beyond it.
(brachypterous) *eriocephalus*.
- CC. Form flattened.
- D. Vertex sharply angulately produced, longer in front of eyes than behind that line.
- E. Color strongly variegated. Vertex medially, irregularly brown; claval venation reticulate.
(macropterous) *eriocephalus*.
- EE. Color uniform, or, if varied, diffusely merged.
- F. Grayish white, rosy on pronotum and posterior part of vertex. Central terminal cell of wing longer than those on either side, its base oblique.
rosea n. sp.
- FF. Uniform yellowish green. Central terminal cell of wing shorter than those on either side, its base transverse.
chloridula n. sp.
- DD. Vertex roundly angulate, shorter in front of eyes than behind that line. Form broad: length almost 5 mm.; stramineous, veins and central parts of cells dark brown.
pettysi n. sp.
- BB. Head convex above. Elytra strongly reduced.
- C. Sides strongly rounded, about the middle. Head parabolic in anterior outline.
- D. Edge of vertex blunt (rounded); vertex not striate. Head narrower than pronotum; elytra truncate apically, venation delicate, ochre-colored.
adpersa n. sp.
- EE. Head as wide as pronotum; elytra rounded apically, veins very strong and wide, ochre-colored.
hieroglyphica n. sp.
- DD. Edge of vertex acute; vertex delicately striate parallel to anterior margin. Form tortoise shaped. Ochraceous, pronotum dark brown on posterior half.
cypraea n. sp.
- CC. Sides sub-parallel, head bluntly roundly angulate anteriorly. Yellowish brown, with numerous ramose dark brown lines; elytra broadly rounded apically.
ramosa n. sp.
- AA. Elytra elongate, exceeding abdomen, overlapping, appendix well developed.
- B. Length 5 mm., and over. Color stramineous; veins strong, brown.
- C. Vertex with a strong black or dark brown band centrally from eye to eye.
capicola.
- CC. Vertex with a V-shaped black or dark brown transverse mark entad to either eye.
exitiosa.
- BB. Length under 3 mm. Color green. Vertex with an apical black mark, ventral color black.
aethiopica.

E. nemesia Cogan.*Athysanus nemesia*, Cogan, Homop. Studies, p. 191 (1916).

"Brachypterous form. Color yellowish, faced. Length 3.5 mm. Breadth 1.25 mm.

Vertex light yellow, flat on disc, sloping at sides; width between the eyes a little longer than the length of the vertex; anterior margin angularly rounded; eyes grayish, large, prominent; frons much wider than the clypeus and about two and a half times as long, whitish in color and traversed by numerous yellowish brown arcs; clypeus rather long, twice as long as its breadth, angular at apex; lorae narrower than the clypeus. Point of insertion of the antennae surrounded by a brownish marking. Pronotum more than twice as broad as long and shorter than the vertex, yellowish in color, lighter on the anterior half, the posterior half distinctly transversely striated; anterior margin broadly rounded, the lateral margins short; scutellum equalling the pronotum in length. Sternum yellow, dorsal surface lighter. Elytra with venation distinct, but reduced; much shorter than the abdomen.

Genitalia.—Male: last ventral segment not quite as long as the penultimate; plates roundly triangular, a little more than twice as long as the last ventral segment, and longer than the pygofers. Legs a dirty white."

Cogan.

Described from one male.

Hab.—Cape Town (Mally).

E. cyclopi Cogan.*Athysanus cyclopi*, Cogan, Homop. Studies, p. 191 (1916).

"General color dull brownish, with elytra bluish gray; form short and broad. Length 3 mm.; breadth 1.25 mm.

Vertex brown, flat on disc, the apex pointed and the margins sloping; small brown lines fringing the anterior margin running from the apex to the eyes; these arcs are continued over the face. A small median line running from the middle of the posterior margin to the middle of the disc; length not equal to the width between the eyes, and about one-third of the width across the eyes. Ocelli colorless; eyes brown. Face yellowish brown, with brown arcs on the frons; rostrum dark brown. Frons large, rather swollen near the vertex; clypeus one and a half times as long as its breadth; lorae almost as wide as the clypeus. Pronotum grayish brown with indistinct brown marks behind the eyes, about two-thirds of the length of the vertex; anterior margin broadly rounded; lateral margins very short; scutellum with two faint black marks in the middle about two-thirds of the length of the pronotum; sternum and metapleura whitish yellow; elytra with fuscous marks on the middle of the claval area; small black spot at apex of claval suture; corium with brownish marks on the middle, the antepical cells marked with brown, and the costal margin before the apical cell black; elytra not as long as abdomen; venation reduced. Abdomen above brownish yellow, beneath yellowish with brown for the middle and base. Female Genitalia: last ventral segment one and a half times as long as the penultimate, the posterior margin deeply concave; middle of posterior margin brown; pygofers three times as long as the last ventral segment, widely separated at the middle and converging to

the tip of the ovipositor; not as long as the ovipositor; the latter strong, brown with sides black. Legs dull yellowish with the spines brown."

Cogan.

Described from one female.

Hab.—Cape Town (Mally). Elsenburg, C.P. 16.12.22; Viljoen's Pass, C.P. 12.1.23. (F. W. Pettey.)

E. conicus n. sp.

General color yellowish brown with dark brown markings (sometimes very faint or absent) on vertex, pronotum and elytra. Form semi-brachypterous, cylindrical; length just over 3 mm.; width across pronotum .66 mm.

Vertex flattened above, broadly conical in front of eyes, breadth at anterior apex of eyes almost one and a half times the length; width across eyes slightly more than twice length of vertex. Pronotum somewhat shorter than vertex, almost three times as broad as long, anterior margin broadly rounded, humeral slightly rounded, posterior faintly concave. Scutellum half as long as pronotum, almost three times as broad as long. Elytra falling markedly short of tip of abdomen, their apices obliquely rounded, usually with a small anteapical areole between outer discal and the corresponding apical cell, with many cross veins between outer two claval veins. Face slightly broader than long, angulate above, angulately rounded below, basolateral margins straight, genae extending narrowly beyond lorae to clypeus; clypeus somewhat more than half as long as frons, rounded at base, narrowly rounded at apex, sides slightly bulging. Hind tibiae stout, strongly spinose.

Color.—Vertex yellowish with a brown central longitudinal fascia running from base to middle, a faint curved brown line between its apex and either ocellus, and curved brown lines between apex of vertex and anterior apex of either eye. Pronotum yellowish with an ochraceous pattern across the middle and anterior portion ending in a dark brown spot behind the middle of each eye. Scutellum grayish brown. Elytra gray with a prominent dark brown spot on middle of clavus, the central anteapical and two large discal cells also prominently dark brown. Ventral color yellowish brown, genitalia dark brown, frons dark brown (finely granulate) with numerous whitish transverse arcs, broken along its median line.

Genitalia.—Female: last ventral segment twice as long as preceding, shallowly, angulately concave behind; ovipositor strong, five times as long as ultimate segment, slightly exceeding pygofers. Male: ultimate ventral segment with posterior corners angulate; valve as long, and as broad at base as the ultimate segment, narrowing towards apex which is truncate; plates strong, contiguous, narrowly rounded (together) apically, two and a half times as long as ultimate segment; anal tube large cylindrical, prominently visible from above.

Described from one male and three female specimens.

Locality.—Jonker's Hoek, C.P. 17.12.22.

Coll. F. W. Pettey.

E. eriocephalus Cogan.

General color ochraceous brown, elytra grayish, dark brown markings on head, pronotum and elytra. Form broad robust. Length 3.6 mm., width across pronotum 1.3 mm. Claval venation reticulate.

Vertex flattened, two-thirds as long as width across eyes, roundly angulate in front, margin subacute, some fine striations parallel to anterior margin. Pronotum slightly shorter than vertex, transversely striate on posterior half; posterior margin faintly concave, humeral margins slightly rounded, lateral margins very short. Scutellum slightly shorter than pronotum, finely granulate, sides faintly concave towards apex, transverse linear impression running almost to lateral margins. Elytra slightly exceeded by abdomen, almost narrowly rounded apically, claval venation reticulate; corium with a subapical and a marginal cell. Face slightly broader than long, rounded over the median line, finely granulate, basolateral margins straight, genae not reaching clypeus; clypeus half as long as frons, slightly rounded at the sides, base rounded, apex truncate, faintly exceeding lorae.

Color.—Vertex yellowish-brown with two large triangular brown apical spots and a median brown fascia, angular in front and extending with a narrowing curve to the anterior apex of either eye. Pronotum yellowish brown anteriorly, the rest ochraceous, running anteriorly in two central longitudinal fasciae to anterior margin; outside either of these, an irregular ochraceous to dark brown marking reaching to middle of eye. Elytra brownish gray, veins brown, reticulation of clavus and two longitudinal discal spots of corium, dark brown. Ventrally, light brown with dark transverse fasciae on frons, interrupted medially, and a dark brown median fascia on clypeus.

Genitalia.—Female: last ventral segment laterally three times as long as preceding, acutely angulately concave behind to about two-thirds its depth, posterior corners acutely rounded; ovipositor five times as long as ultimate segment at the centre, slightly exceeding pygofer; width across pygofer and ovipositor across widest part equalling half the length of ovipositor. Male: ultimate segment twice as long as the preceding, its posterior corners rounded; plates large, twice as long as ultimate segment, contiguous, together parabolic in outline with a few lateral setae; valve semicircular, half as long as plates.

Described from two females and one male.

Locality.—Jonker's Hoek, C.P. 17.12.22. (Coll. F. W. Petzey.) Also from Cape Town (Mally).

One male and one female specimen taken at Elsenburg have a blunter vertex and are somewhat smaller, while the last ventral segment of the female is less deeply concave; apparently however they are within range of specific variation.

Brachypterous form.—

Form somewhat smaller than macropterous form; head more conical; elytra of female leaving last two dorsal segments of abdomen (with ovipositor) exposed, obliquely, subtruncate rounded behind; wings reduced, about half as long as elytra; last ventral segment of female shallowly angularly concave behind. Otherwise as macropterous form.

E. rosea n. sp.

General color pale yellowish gray, pronotum and scutellum rosy red. Length 3.5-4 mm.; width across eyes about 1.5 mm.

Vertex flat, rectangularly produced, one and a half times as long in front of the eyes as behind that line; width across eyes just over two and a half times the length of vertex; anterior margin abruptly sloping. Pronotum slightly shorter than vertex, two and two-thirds times as broad as long; anterior margin broadly truncate rounded, posterior faintly concave, humeral margins straight; lateral margins very short with obscure

transverse rugulae on posterior half. Scutellum, slightly shorter than pronotum, two thirds as long as broad, sides concave towards apex. Elytra in female slightly exceeded by ovipositor, claval venation somewhat reticulate, subapical cell twice and middle anteapical cell three times as long as the outer anteapical cell, appendix absent, apex somewhat narrowly rounded. Wing with the central terminal cell a little longer than the cell on either side and the cross vein between first and second sectors strongly oblique. Face about one-sixth broader than long, strongly constricted below eyes, lateral margins subparallel, corners of genae rounded, their lower margins straight extending narrowly beyond lorae to clypeus. Frons slightly longer than its breadth at margin of vertex, twice as long as clypeus, angulately extended just above the base; clypeus twice as broad as long, with sides parallel, base rounded, apex truncately rounded. Hind tibiae finely spinose with stronger spines along the lower outer edge.

Color.—Ventrally, yellowish white to light brown, face sometimes with dark brown transverse arcs; centre of last ventral segment posteriorly, and the ovipositor, black.

Genitalia.—Female: last ventral segment medially as long, laterally twice as long as the preceding, posterior margin deeply, acutely, angulately concave, posterior corners acute, angularly rounded; ovipositor six times as long as ultimate segment at the centre, twice as long as maximum width across pygofer, and slightly exceeding the latter which bears a few scattered spines. Male: last ventral segment slightly longer than the preceding, straight behind, with an angularly curved brown transverse line across the middle; valve broad, short, subtriangular; plates two and a half times as long as last ventral segment, together strikingly narrower at base than last ventral segment, medially contiguous, sides curving near apex, bearing strong marginal, spines, and together parabolic in outline.

Described from four males and three females.

Locality.—Jonker's Hoek, C.P.

Coll. F. W. Petter. 17.12.22.

E. chloridula n. sp.

General color pale yellowish green, head and pronotum dull grayish white, face pale brown with lighter interrupted transverse arcs, abdomen and genitalia fuscous. Form flattened, robust. Length 3.5 mm.; width across pronotum not quite 1.5 mm.

Vertex very flat, rectangularly produced with apex pointed, as long in front of eyes as behind that line; one-sixth shorter than minimum width between eyes, width across eyes equalling two and one-fifth times its length. Pronotum four-fifths as long as vertex, three times as broad as long, broadly truncately rounded in front, slightly concave behind, humeral margins long, very slightly curved, lateral margins short. Scutellum as long as pronotum one and a half times as broad as long, sides distinctly concave, apex acute. Elytra slightly exceeded by abdomen in female, sub-coriaceous, opaque, without appendix; venation obscure, outer anteapical cell one-third as long as the central one. Wings with the middle terminal cell markedly shorter than the outer or the inner one, the latter being the largest of the three. Face about one-fifth broader than long, strongly constricted below eyes, upper genal margins parallel, corners rounded, basolateral margins straight, extending narrowly below lorae to tip of clypeus. Frons one and three fourths as long as clypeus, as wide above as long, lateral margin angularly bulged just above base; clypeus two-thirds as broad as long, sides faintly rounded, base rounded; apex truncate. Hind tibiae profusely spinose on all margins with some prominent spines along the lower outer margin.

Genitalia.—Female: last ventral segment medially twice as long as the preceding, twice as long laterally as medially, the posterior margin being deeply angulately concave, posterior corners sharply rectangular; ovipositor five and a half times as long as ultimate segment medially, equalling one and five-sixths times the maximum width across pygofer, and slightly exceeding the latter; pygofers with a few scattered spines behind the middle. Male: last ventral segment one and a half times as long as the preceding, slightly rounded behind; valve showing only as a narrow margin, rounded behind; plates one and one-third times as long as the ultimate segment, two-thirds as long as their combined breadth at base, sides gradually rounded, finely spinose at base, more strongly so at apex, together roundly angulate behind.

Described from twelve females and two males.

Locality.—Jonker's Hoek, Elsenburg, and Ceres, C.P.

Coll. F. W. Petthey, Dec., 1922—April, 1923.

E. pettheyi n. sp.

*General color ochraceous brown with some spots on head, pronotum and elytra, and the veins, dark brown. Length 4.8 mm., breadth across pronotum 1.7 mm.

Vertex very flat, delicately striate, anteriorly parallel to anterior margin, angulately produced, as long in front of eyes as behind that line, very nearly three times as wide across eyes as long; head, with eyes, wider than pronotum. Pronotum transversely striate posteriorly, just over three times as broad as long, broadly rounded anteriorly, posterior margin slightly concave, humeral margins straight, lateral margin very short, produced downward to lower level of eyes, posterior corners angulately rounded. Scutellum as long as pronotum, twice as broad as long, granulate, with a transverse impression in the middle, sides slightly concave towards apex. Elytra slightly exceeded by abdomen, sides moderately rounded, no appendix, no overlapping. Face slightly shorter than broad, granulate, roundly angulate above, constricted below eyes, sides parallel, genal margins angulately rounded; base truncate; clypeus half as long as frons, rectangular, twice as broad as long, base convex; lorae with an angulate indentation to receive frons near the latter's base.

Color.—Vertex ochraceous with a pair of dark brown spots at the apex, at the centre, and at the basal angles. Pronotum ochraceous with a pair of short central longitudinal fasciae, and in line with anterior ends of these, a pair of brown spots close together behind either eye; scutellum ochraceous with a brown spot at each basal angle. Elytra grayish ochraceous with veins dark brown and very strongly marked, and dark brown areas in some of the larger cells. Ventral color ochraceous to dark brown; face with numerous dark brown transverse arcs medially interrupted, middle of clypeus and border of lorae dark brown.

Genitalia.—Female: last ventral segment slightly longer in centre than the preceding, the whole posterior margin deeply angulately notched, centre acutely so; posterior corners acutely angulate; ovipositor about six times as long as last ventral segment in the centre, exceeding pygofers which have a few short setae toward apex.

Described from two female specimens.

Locality.—Jonker's Hoek, C.P. 17.12.22.

Coll. F. W. Petthey.

*The normal color may be somewhat lighter than that described above as the specimens on hand were apparently affected, somehow during drying.

E. adpersa n. sp.

General color: dense brown irrorations over a dirty yellowish white background. Form short and robust. Length 3.5 mm.; breadth across apices of elytra 1.8 mm., across eyes 1.6 mm. (Brachypterous male.)

Vertex produced, roundly pointed, breadth in front of eyes almost twice the length, edges strongly rounded, ocelli above the margin, prominent, not very close to eyes. Head one and a half times as broad across outer margins of eyes as across their anterior apices; vertex gently rounded above. Pronotum strongly transverse, more than three times as broad as long; side margins long, diverging backwards; hind margin broadly and shallowly emarginate. Face slightly broader than long, strongly transversely tumid, from apex to clypeus, granulose, outer genal margins subparallel, corners of cheeks broadly angulate; frons as long as its breadth at apex of frontal sutures; frontal suture forming an obtuse angle slightly below apex of lora; clypeus strong, base convex, gently widened above the middle, rounded at distal corners, raised along the median line, exceeding lorae and genae; genae extending with a very narrow margin below lorae. Antennae long, bristle-like. Scutellum twice as broad as long, sides broadly concave. Elytra very short, truncate, exposing six abdominal segments. Venation reduced, delicate and somewhat obscured by color of elytra on corium, obsolete on clavus. No evidence of wings. Plates visible from above, exceeding oedagus and pygofer. Abdomen broad, ventral margins of segments broad and flat. Legs: strong front tibiae spinose on the inside; hind tibiae with very strong, both long and short spines along the upper and lateral margins; inner margin with numerous but more delicate spines; hind femora with one strong subapical and four strong curved subapical spines.

Color.—Vertex: basic color yellowish white stippled with dark brown in cellular pattern, the cells being distinct and their borders definite towards the apex; ocelli amber colored, situated in conspicuous, semicircular, whitish halo's; brown stippling less prominent along median line and basal angles. Pronotum gray behind, ochraceous brown, stippled with brown along anterior half and sides. Scutellum grayish, infuscated with brown. Face: general appearance dilute brown with faint transverse lighter arcs bordered with dark brown stippling; sutures brown, clypeus grayish with brown stippling near upper corners. Elytra hyaline gray, veins whitish to ochre-colored, both areoles and veins partly infuscated with brown, abdomen mottled with dull white and ochraceous to stippled brown.

Genitalia.—Male: valve short obtusely angular; plates strong divergent from valve, acutely angular, slightly longer than last ventral segment; pygofer almost meeting between plates and oedagus, with a few strong spines at the lateral extremities.

Described from one male specimen.

Locality.—Bloemfontein, O.F.S. 11.4.18. Also Petrusburg, O.F.S. 22-25.4.18.

Coll. J. C. Faure.

E. hieroglyphica n. sp.

General appearance ochraceous brown, variegated with dull white especially on cells of elytra. Form flattened, broad, robust. Length female 3.3 mm.; breadth at widest part equalling half the length. Vertex just over 1 mm. wide. Male, slightly smaller.

Vertex produced, almost one and a half times as broad as long, roundly pointed, margin strongly rounded, lightly convex above; ocelli above the margin, somewhat removed from eyes. Pronotum strongly transverse, almost three times as broad as long, anterior margin broadly, sinuately rounded, side margins of moderate length, posterior margin with broad shallow emargination at the centre; humeral margins directed slightly forward; posterior half sparsely punctate, faintly striate. Scutellum broader than long, sides slightly concave towards the apex. Elytra broad, rounded posteriorly, short, leaving two posterior dorsal segments exposed. Face about three-fourths as long as broad, finely granulate especially on the frons; side margin forming obtuse angle below apex of lora; frons as long as broad at apices of frontal sutures; eye abruptly emarginate next to antennal base; supra-antennal area broad. Clypeus one and three-fourths times as long as wide, convex at base which is slightly narrower than distal end, distal corners rounded; lorae large, almost as broad as long, rounded; corners of cheeks roundly angulate, genae extending with a narrow margin below lorae, slightly exceeding the clypeus, transversely striated on lower half.

Color.—Vertex yellowish brown, centrally marked with a strong inverted T-shaped pattern extending from base to anterior of ocelli; an indefinite brown area extending between ocelli and tip of vertex; eyes gray superficially, red beneath. Pronotum: yellowish brown, a dark brown pattern, reaching anterior margin at the middle, with a strongly emarginate, but definite, anterior edge, extending sideways through anterior half of pronotum, merging gradually into yellowish brown on the posterior half of the vertex. Scutellum yellowish brown, infuscated with brown over whole surface and more intensely so along median line and at basal angles. Elytra yellowish white, with the veins broad and ochraceous, indefinitely infuscated with brown across anterior two-thirds. Abdomen yellowish, brown along median line, margins and anterior segmental margins. Face: frons brown with numerous white transverse arcs, broken along the middle; lower part yellowish brown. Ventral color brown.

Genitalia.—Female: last ventral segment longer than the preceding, deeply broadly emarginate up to the half its length, central one-fourth almost straight, posterior corners roundly angulate; ovipositor five times, pygofers four and a half times as long as breadth across pygofers in middle. Male: last ventral segment slightly longer than preceding; valve small, semi-circular; plates triangular, pointed, margins very slightly concave and with several setae along middle, diagonally striated, falling short of pygofers by half their own length.

Described from two females and one male.

Locality.—Bloemfontein, O.F.S. March, 1918.

Coll. J. C. Faure.

E. cypraea n. sp.

Brachypterous. General color: densely mottled with ochre and dark brown on a grayish-white background. Form short and broad, broadest toward hind end, somewhat tortoise-shaped. Length 3.5-4 mm., breadth just over 2 mm., at widest part.

Vertex flat, slightly elevated along anterior margin, one-third as long as width across the eyes, half as long as width at anterior apex of eyes, as long as pronotum, transversely striate on anterior third. Pronotum three times as broad as long, broadly concave anteriorly, sinuate posteriorly, lateral margins short, divergent, humeral angles very acute. Scutellum

as long as pronotum; one-third broader than long, slightly concave towards apex. Elytra broad, truncate behind; outer posterior angles broadly rounded; venation reticulate, four apical cells. Face one and a half times as broad as long, subangulately rounded above and below, sharply, angulately narrowed immediately below the eyes, basolateral margins straight and parallel for a short distance, thence straight to clypeus; frons broad, twice as long as clypeus; lorae large; clypeus rectangular, truncately rounded below; genal margins extending narrowly beyond lorae to clypeus.

Color.—Vertex dark brown with a triangular white spot at apex, an irregular white band behind apex of eyes, a rounded white spot entad to each ocellus, an irregular white spot at base of vertex narrowing to either eye, centre of base ochraceous with a short ochraceous band extending from base to central, white band on either side; eyes dark brown. Pronotum posteriorly dark brown, spotted with grey; anteriorly with a large oval ochre-colored spot in a whitish area entad to either eye. Scutellum dark brown, ochraceous, spotted in centre, with a prominent white spot on either margin. Elytra gray with dark brown reticulate venation and ramose markings, a dark brown spot ending each the four veins at apex and a large dark brown spot near apex of costal margin. Dorsal surface of abdomen spotted with white, ochre and dark brown. Ventral color dull brown; frons with dark transverse bands fused in centre.

Genitalia.—Female: last ventral segment at centre twice as long as penultimate, posterior margin concave, much shorter than anterior, posterior corners rounded; ovipositor five times as long as last ventral segment; pygofer stout, slightly shorter than ovipositor, apex abruptly narrowed. Male: last ventral segment slightly shorter than preceding; valve short, broadly subtriangular; plates subtriangular, twice as long as last ventral segment, individually rounded at apex, medially contiguous.

Described from one male and one female.

Locality.—Jonker's Hoek, C.P. 17.12.22. Also from Elsenburg, C.P. 16.12.22.

Coll. F. W. Petzey.

E. ramosa n. sp.

Brachypterous. General color: ochraceous brown, elytra grayish with brown veins and reticulations. Length 4.25 mm., width across pronotum 1.5 mm., across elytra almost 2 mm.

Dorsal surface uniformly rounded. Vertex moderately rounded above, one-third as long as width across eyes, produced, subangulately rounded, anteriorly, margin bluntly rounded. Pronotum as wide as width across eyes, as long at centre as vertex, anterior margin broadly rounded, posterior faintly concave, humeral straight, lateral margins short, their posterior angles rectangular. Scutellum straight-sided, twice as broad as long, slightly shorter than pronotum, apex acute. Elytra, costal margins slightly rounded, almost parallel, apices truncately rounded leaving last two dorsal segments of abdomen exposed. Face about one-sixth broader than long, abruptly narrowed below the eyes, lateral margins subparallel, basolateral margins faintly concave, genae not reaching tip of lorae; lorae large, reaching apex of clypeus; clypeus half as long as frons, base convex, apex truncate, sides slightly rounded.

Color.—Vertex light ochraceous brown with one discontinued transverse brown band across the middle and one just in front of the base, with sinuate brown lines between eyes and apex; eyes dark brown. Pronotum ochraceous anteriorly, posterior portion darkly, centre interruptedly marked

with dark brown. Elytra brownish gray, veins and ramose lines dark brown. Abdomen above, and ventral surface light brown, in parts infuscated with dark brown. Face with numerous dark brown arcs, fased along the centre.

Genitalia.—Female: last ventral segment slightly longer than the preceding, posterior margin concave with a delicate central notch bearing a fine tooth, sides and posterior corners strongly rounded; ovipositor four times as long as ultimate segment; pygofer broadest in the middle with a few short subterminal spines; slightly exceeded by ovipositor.

Described from two female specimens.

Locality.—Jonker's Hoek, C.P. 17.12.22.

Coll. F. W. Petty.

E. capicola Stal.

Thamnotettix capicola, Stal. Hem. Afr. IV., 123 (1866).

Athysanus capicola, Stal. Ofv. Vet. Ak. Forh. 99.2. (1855); Cogan, Homop. Studies, p. 188 (1916).

General color dirty white to yellowish brown, with discal veins dark brown and claval veins bordered with brown. Length of male 5 mm.; female 5.5 mm.; breadth 1.75 mm.

Vertex short, angulately rounded, two and a half times as broad as long; basic color whitish with a dark brown transverse arc across the middle from eye to eye and two indistinct brownish spots behind the band halfway between the centre and each eye. Eyes dull green, large; ocelli prominent, dilute red, well separated from the eyes. Face broad, yellowish or brownish yellow, with numerous transverse dark brown arcs, or irregularly and densely blotched with brown; genae broad, yellowish brown, sometimes with a large dark brown to black spot beneath each antenna; clypeus almost one and a half times as long as broad at the base; yellowish to light brown, often with a dark brown band across the base and a similar band along the median line; lorae a little more than twice as long as broad, yellowish to brown, often with a dark brown margin all around, only two-thirds as wide as the clypeus at its base. Pronotum dirty yellow to orange brown with eight to ten rounded brown spots arranged anteriorly in an arc, with numerous minute brown spots, more than twice as broad as long, and longer than the vertex; broadly rounded anteriorly, very slightly incurved behind, posterior angles rounded. Scutellum whitish to orange, one and a half times as wide as long, with two triangular, dilute to dark brown spots at the basal angles, two small brown spots just before the middle and a usually indistinct brown spot in the centre of the base. Elytra sub-fuscous hyaline with the veins of the corium prominent brown, those of the clavus lighter but bordered with dark brown, a prominent brown spot marking each of the first two cross veins between sectors one and two—the second cross vein and its corresponding spot may be absent; as long as the abdomen, overlapping behind the clavus, appendix strong. Abdomen above, yellow with a lateral brown spot on each segment, varying to altogether brown; below yellow with brown spots on inner margins, varying to dark brown all over. Legs yellow, with a row of brown spots along outer margin of hind tibiae; hind tibiae and tarsi sometimes altogether brown.

Genitalia.—Female: last ventral segment almost twice as long as the penultimate, posterior margin truncate with an angular notch in the middle, the notch and median line usually brown; pygofers two and a half times as long as their width at the base; ovipositor strong, tapering, one-third longer than the pygofers. Male: last ventral segment slightly longer than

the penultimate; valve broad at base; triangular, pointed, as long as last ventral segment; pygofer strong, almost twice as long as the valve, joining valvately behind it, with a fringe of strong setae along the outer margin. This species is extremely common in the Union and in the rest of Southern Africa. It is reported by Cogan as occurring in great numbers on grasses and forage crops in the Cape Province, and on grass and kikuyu grass at Cedara, Natal. In addition it has been reported from Senegal in Northwest Africa, British East Africa and the Island of Mauritius, while the collection on hand shows specimens also from the more inland and central portion of the Union, viz., Bloemfontein. This shows that the insect is distributed over and adapted to a large variety of conditions ranging from tropical through sub-tropical to temperate regions of both low and high altitudes, and of moist and semiarid climate. Its large numbers, occurrence on grasses and forage crops, and its wide adaptation indicate that it may be or may become an insect of great economic importance. It is very closely related to *A. exitiosus* which has an almost cosmopolitan distribution and is regarded as one of the most destructive leafhoppers of the United States. The color pattern is the same, the band across the vertex being most prominent in *A. capicola* while the posterior spots of the vertex are more prominent in *A. exitiosus*, very often forming a transverse V-shaped mark with the anterior band on either side of the middle of the vertex. The venation of the two forms is identical and shows the same variations. With regard to color it is of interest to note that, in the collection available, the specimens from Cedara, Natal, the sub-tropical region of the Union, appear on the whole to be considerably more darkly colored than those from either the Cape or the Orange Free State, the latter being a semiarid region of high altitude (Bloemfontein, 5,000 ft.) the Cape temperate coastal, and Natal subtropical coastal.

Localities.—Cape Town (Mally); Cedara, Natal (Cogan), Bloemfontein and Petrusburg, O.F.S. (Coll. Faure); Mauritius and Senegal (Stal).

E. exitiosa Uhl.

Athysanus exitiosus, Osborn. Leafhoppers affecting cereals, grasses and forage crops. U.S. Dept. Agr. Bul. 108 (1912).

Limnotettix exitiosus, Van Duzee, Trans. Am. Ent. Soc., 21, p. 304 (1894).

Eutettix exitiosus, Gillette & Baker, Hemip. Col., p. 100 (1895).

Cicadula exitiosus, Uhler, Am. Ent., III., p. 72 (1880).

General color yellowish-brown, elytra whitish sub-hyaline with strong brown veins. Length 5 mm.; br. male 1 mm.; female 1.25 mm.

Vertex short, subangulately rounded in front, more than twice as broad as long, yellowish brown with a short median line and a brown transverse V-shaped mark on either half, the anterior arm of each V longer and almost reaching the middle; eyes brown, ocelli dilute red, visible from above. Face yellowish; frons with many brown transverse arcs, slightly longer than its breadth between the ocelli. Clypeus narrowed toward apex, which is rounded, one-third longer than its breadth at the base; lorae narrower than and as long as clypeus, not reaching its tip; genae yellowish-white with a very narrow border below the lorae. Pronotum light brown with six dark brown dots arranged parallel to anterior margin; posterior lateral margins straight, very slightly concave behind. Scutellum shorter than pronotum, orange colored with two triangular black spots at the base near basal angles. Elytra exceeding abdomen, overlapping, appendix strong, usually with a brown mark on first intersectorial cross vein, the middle or second cross vein absent. Abdomen below whitish.

Genitalia.—Female: last ventral segment twice as long as the penultimate; sinuate, slightly concave behind; pygofer two and a half times as long as broad at the base, with a few setae along the inner margin; ovipositor three times as long as last ventral segment, tapering, very sharp at the tip. Male: last ventral segment as long as the preceding; valve triangular, two thirds as long as the last ventral segment, broad at the base, rounded at the tip; plates tapering, pointed, two and a half times as long as the last ventral segment, separately joined behind the valve, with setae along the outer margins.

Localities.—Béthulie and Bloemfontein, O.F.S., some specimens collected at night (Coll. Faure).

As indicated by its common name in the United States, viz., "the destructive leafhopper," this species is of great economic importance. It is considered to be one of the most important leafhoppers in the United States, where it has a very wide distribution, having probably started in the south, later spreading northward. At present it is found from New York to California and north and south from Florida to Washington and the Dakotas. It is found in large numbers on grass, wheat and oats and rye, sometimes destroying whole fields especially in spring or during mild winters when the insects are active and continue to breed. Outside the United States it has been reported from South America, The Bermudas and the West Indies.

E. aethiopica (Cogan)

Athysanus aethiopica, Cogan, *Homop. Studies*, p. 189 (1916).

General color greenish white with a varying amount of brown or black on the face. Length 3 mm., breadth about 1 mm.

Female: vertex whitish with an irregular black marking at the apex; not quite as long as the width between the eyes. Ocelli colorless; eyes greenish. Face yellow but prominently marked with black; frons yellowish-white except for the strong black axes, about twice its length next the clypeus; lorae yellow and sutures brown to black; cheeks yellowish green; clypeus one and a half times as long as its width next the frons, yellow with brown on the middle; rostrum brownish black. Pronotum greenish, broadly rounded between the eyes, a little shorter than the vertex, faintly transversely striated; scutellum yellowish not quite as long as the pronotum. Sternum black. Elytra a little longer than the abdomen, semitransparent, light greenish white in color. Abdomen above black with the borders yellow, beneath yellow but with black near the base and the middle. *Genitalia*.—the last ventral segment of female whitish, more than twice as long as the penultimate; posterior margin slightly curved inward and produced on the middle; pygofers long and slender; two and one-half times as long as their width at the base; ovipositor brown at the tip, a little longer than the pygofers.

Male: general color same as female; the brown coloration is perhaps more prominent on the males. Black marking on vertex not as evident. Abdomen entirely black on dorsal and ventral surfaces. *Genitalia*.—last ventral segment black on the middle, yellow at the sides, little longer than the penultimate; valve black at base, yellow on border, scarcely visible; plates whitish, long, somewhat rounded at the tips; pygofer a little longer than the plates. Legs yellowish white.

Described from four male and four female specimens.

Habitat.—Cape Town (Mally), Cedara, Natal (Coll. E. S. Cogan), March, 1917.

The species described above is subject to some variation in the distribution of the brown coloration of the face, vertex and abdomen. In some the black markings of the vertex is absent, in others very prominent; in others the black on the face extends all over except for the middle of the frons and cheeks and lorae, while it may be wanting in some other specimens.

Cogan.

Genus *Dagama* Dist.

"Vertex half as long as breadth between the eyes, the anterior margin roundly truncate and in a line with the outer margins of the eyes; face about as long as broad near base, ovately narrowing to clypeus, which is much shorter than face and truncate at apex; pronotum much longer than vertex and a little longer than scutellum, convexly arched, the anterior margin convexly oblique, the posterior margin truncate; legs of moderate length, the anterior tibiae finely, the posterior tibiae strongly spinulose; tegmina three times as long as broad, apically attenuated, with three ante-apical and four apical cells, claval area large, broadly and obtusely angulate near base." (Distant)

D. novata Dist.

Dagama novata, Distant, *Ins. Transv.* p. 243 (1910)

"Vertex pale greenish-ochraceous with testaceous suffusions, two small central spots and a waved line on each side before anterior margin black, behind the central spots a dark longitudinal incised line; pronotum greenish-ochraceous with irregular darker suffusions, and which centrally form two somewhat distinct central longitudinal fasciae; scutellum greenish-ochraceous; abdomen above testaceous, the anal segment dull ochraceous; body beneath and legs pale ochraceous, femora more or less sparsely spotted, the posterior tibiae beneath thickly spotted with fuscous-brown; tegmina dull grayish subhyaline with scattered whitish spots, three spots on apical half of costal membrane, the apical margin and two or three spots on posterior claval margin piceous, the veins ochraceous; wings pale fuliginous, subhyaline, the veins blackish."

Distant.

Var.—Scutellum pale greenish-ochraceous, with a castaneous spot near each basal angle.

Long—excl. tegm. 5½ mm. Exp. tegm. 13 mm.

Hab.—Durban (Bell-Marley Coll. Dist.).

Found on Leguminosae (H.W. Bell-Marley).

Genus *Thamnotettix* Zett. (After Stål.)

Jassus, Burm, *Handb. Ent.* II., 1., p. 110 (1835)

Body oval or strongly oblong. Head varying in breadth and form, anterior margin obtuse or very obtuse; vertex horizontal; face broadened, reclined, lightly convex; frons occupying the greater part of the breadth between the eyes; ocelli situated close to or near the eyes in anterior margin of the head. Thorax transverse. Scutellum medium or small, as long as, or shorter than the thorax (pronotum). Elytra membranous with 4 or 6 apical areoles, usually opening and bordering on the apex. Legs small; hind-tibiae very spiny.

Head curved in dorsal appearance, apex obtusely rounded, hardly or very little longer medially than next the eyes. (Translated from Stal.)

T. patruelis Stal.

Jassus (Athyanus) patruelis, Stal, Freg. Eng. Resa. Hem. p. 295, 238 (1858).

Dirty-white, the two faint well separated obsolete bands of the thorax and the veins of the elytra straw-colored; with a fuscous spot near the apex of the costal margin of the corium.

Male: Long. 4. Lat. 1.6 mill.

Hab.—Cape (Terra Capensis).

Form, almost that of *T. (Athyanus) transversus* Fall.

(Translated from Stal.)

T. sobrinus Stal.

Jassus (Deltocephalus) sobrinus, Stal, Freg. Eng. Resa. Hem. p. 294, 234 (1858).

Pale grayish straw-colored; the two spots or fine obliquely longitudinal lines of the vertex, the short transverse lines of the frons, which are broken in the middle against the base of the frons, and the abdomen, all black; the edge of the abdomen and the anal valves straw-colored.

Male: Long 3 mm., br. almost 1 mm.

Hab.—Cape—“Terra Capensis” (Stal).

Very similar to *T. ocellari*. (Translated from Stal.)

T. flavovirescens Stal.

Deltocephalus flavovirescens, Stal, Ofv. Vet. Ak. Forh. p. 99, 1 (1855).

Dilutely yellowish or yellowish green; elytra half-decolored behind the middle; the oblong spots on the sides of the thorax, the abdomen, excepting the edge, the coxae, all black.

Male: Long 4.3 mm.; lat. 1 mm.

Hab.—Caffraria (Stal).

Resembling *T. assimilis*, Fall. (Translated from Stal.)

T. compater Stal.

Thamnotettix compater, Stal, Hem. Afr. IV., p. 126 (1864).

Dirty white, transverse lines of the frons interrupted in the middle; the two apical and the two median lines of the vertex scarcely separate and situated behind the lines of the frons; the three obsolete spots or bands of the thorax, the veins, and the spot near the costal margin of the elytra fuscous or testaceous.

Female: Long 3.6; lat. 1.5 mm.

Hab.—Cape “Terra Capensis.”

Very similar to *T. patruelis* from which it differs in the head being more prominent, forming a right angle, rounded at the apex.

(Translated from Stal.)

T. rorulentus Stal.

Thamnotettix rorulentus, Stal, Hem. Afr. IV., p. 122 (1864).

Jassus rorulentus, Stal, Ofv. Vet. Ak. Forh. p. 99, 1 (1855).

White or yellowish white, finely and sparsely marked with fuscous; the two extremely small and well separated basal spots of the vertex, the four of the thorax, situated anteriorly in an arching series, the three of the

commisural margin of the clavus, the numerous spots on the costal margin of the corium and some thinly scattered spots of the legs (pedum), all black.

Male: Long 8; lat. 2.6 mm.

Hab.—Caffraria.

Very nearly related to *T. octopunctata*, Burmeister, Gen. Ins. Jassus, Fig. 1.

(Translated from Stal.)

T. glaucovirens Stal.

Thamnotettix glaucovirens, Stal, Hem. Afr. IV., p. 123 (1864).

Bythoscopus glaucovirens, Stal, Ofv. Vet. Ak. Forh., p. 320, 39 (1858).

Pale grayish green; the lateral sub-basal spots of the face near the eyes, the lateral apical spots near the eyes, the short, transverse, broken apical line of the vertex, black; the veins of the elytra and the two spots behind the middle of the costal margin sub-fuscous.

Male: Long 4.3 mm.; br. 1.25 mm.

Hab.—Region of Swakop River, South West Africa, (Stal.)

Head very obtuse slightly wider than thorax, anterior margin obtuse, convex; vertex arcuate, almost twice as wide as the eyes, anterior and posterior margins parallel. Thorax a little longer than the scutellum. Elytra slightly longer than abdomen, appendix present, overlapping at the apex.

a. Head seen from above, triangular or obtusely, roundedly triangular, vertex not quite twice as broad as the eyes.

b. Wings with an appendix, overlapping; body oblong.

(Translated from Stal.)

T. dilectus Stal.

Thamnotettix dilectus, Stal, Hem. Afr. IV., p. 124 (1864).

Jassus dilectus, Stal, Ofv. Vet. Ak. Forh., p. 99, 3 (1855).

Straw colored; two round sub-basal spots widely separate; two transverse spots near the apex, the short apical band and the lateral margins of the vertex, the transverse lines and the median longitudinal line of the frons, the base of the genae, the margin of the lorae, the longitudinal line of the clypeus, the thorax, the sides of the scutellum, the abdomen, the punctations of the posterior tibiae, and the apices of the posterior tarsal joints, all black. Elytra fuscous-hyaline; the three bands of the thorax, the edges of the abdomen, and the anal valves, straw colored.

(Translated from Stal.)

Male: Long 4 mm.; br. 1 mm.

Hab.—Cape (Terra Capensis), near Rondebosch.

T. severus Stal.

Thamnotettix severus, Stal, Hem. Afr. IV., p. 123 (1864).

Athyanus severus, Stal, Ofv. Vet. Ak. Forh., p. 99, 1 (1855).

Blackish, sparsely scattered with pale spots. Sides of the front marked with pale transverse lines.

Male: Long 6 mm.; br. 2 mm.

Hab.—Cape, near Rondebosch (Stal, Mus. Holm.).

Head and thorax nearly equal in breadth, the former very obtuse. Vertex arched and almost two and one-half times as wide as the eyes, anterior margins parallel. Pronotum three times as long as the vertex, with faint transverse striations. Scutellum and thorax almost equal in length. Elytra with an appendix, overlapping, somewhat longer than the abdomen. (Translated from Stal.)

T. pentzla Cogan.

Thamnotettix pentzla, Cogan, Homop. Studies, p. 194 (1916).

"General color brownish, somewhat smoky. Length of female 4.5 mm.; male 4 mm.; breadth 1.35 mm.

Vertex about half the length of the pronotum; disc flat and sloping, width between the eyes greater than the length on the middle, color whitish marked irregularly with fuscous. Eyes large, dull reddish, extending back almost to the middle of the lateral margin of the pronotum; ocelli red, located near the eyes. Color of face a dirty white with indistinct brown arcs on the frons, the lorae brownish next the clypeus; width of frons at the eyes shorter than the length; clypeus a third of the length of the frons, rectangular in shape, its length being twice that of its breadth; lorae as wide as clypeus. Antennae long, inserted deeply, the point of insertion being brownish. Pronotum twice as wide as its length, color bluish white with many transverse markings of a brown color and a distinct pattern; lateral margins yellowish, below black. Scutellum not quite as long as the pronotum, wider than long; with two prominently brown spots alongside the middle, and two yellowish markings at the basal angles. Otherwise dirty white. Elytra white with the brownish pattern, very long, the appendix narrow, the margins transparent and without brownish markings on the corium as far as the apical cells. Abdomen above black, whitish on the lateral margins, and black beneath. Genitalia. Female: last ventral segment almost three times as long as the penultimate and about one and a half times as wide as its length, roundedly produced and notched on the middle; penultimate segment slightly curved inward on the middle of its posterior margin; pygofer two and a half times as long as the last ventral segment and one and two-thirds longer than the width at the base; ovipositor broad, light colored except at the tip, which is black, longer than the pygofer. Male: whitish in color, the last ventral segment a little longer than the penultimate, valve small, about one-third as long as the last ventral segment; plates sharp and long, about two and a half times the length of the last ventral segment.

The males of this species are much lighter in color ventrally than the females." Cogan.

Described from two females and one male.

Hab.—South Africa (Cogan).

T. karrooensis Cogan.

Thamnotettix karrooensis, Cogan, Homop. Studies, p. 192 (1916).

"General color brownish white. Length 3.5 mm., breadth 1.25 mm.

Vertex white with a dilute brown pattern, angularly rounded, the length equalling the width between the eyes, and about one-third of the distance across the eyes. Eyes large, dark brown, ocelli dark brown, surrounded by clear white spaces. Face dull brown, the face two and a half times as long as the clypeus, and twice as long as its width between the antennae; clypeus narrow, its sides almost parallel, twice as long as its width next the frons; lorae about equalling the clypeus in width. Pronotum well rounded on its anterior margin, dirty brown in color with an irregular pattern, one and a third times as long as the vertex; sternum yellow; black spots on pro-, meso- and metapleura. Scutellum almost as long as the pronotum, with brown markings on the middle and at the basal angles. Elytra a dull white, the veins distinctly marked with fuscous, the outer margin of the corium white, except for the minute brown spots. Abdomen dorsally black with yellow margins, ventrally dirty white with black on the base and the middle.

Genitalia.—Female: last ventral segment two and a half times as long as the preceding, the posterior margin inwardly rounded and slightly produced on the middle; pygofer one and a half times as long as its width at the base and three times as long as the last ventral segment; ovipositor a little longer than the pygofers. Male: valve brown with a yellow border, last ventral segment equalling the penultimate in length, but not quite as long as the valve; plates long and narrow." Cogan.

Var. pallidus.

"Form and shape the same as *T. karroensis*. General color light yellowish to whitish, with the brown coloration generally absent. Face light yellow. Ocelli sanguineous. *Genitalia*. Female: last ventral segment almost two and a half times as long as the penultimate, white with brownish markings on the anterior half. Male: the last ventral segment a little longer than the preceding. Males distinctly brown on the middle of the ventral part of the abdomen, the lateral margins yellow.

This variety was described from nine females and three males which were separated from *T. karroensis* on account of the absence of the brown color pattern and the general predominance of yellow." Cogan.

Hab.—Beaufort West, C.P. (Mally).

T. struthiola Cogan.

Thamnotettix struthiola, Cogan, Homop. Studies, p. 194 (1916).

"General color bluish white with a brownish black pattern. Length 3.75 mm.; breadth 1.25 mm.

Vertex white with delicate though distinct black markings; a short median line extending from the posterior margin of the middle; width between the eyes about equal to twice the length of the vertex, which is flat on the disc angularly rounded at the apex, and has its ends sloping; width across the eyes almost three times the length of the vertex. Eyes large, well rounded, dark gray in color; ocelli dilute red, located near the extremities of the frontal sutures. Face white, interspersed with brown or black markings which are somewhat variable in the different individuals; frons with two brown markings near the margin of the vertex and from four to six brownish arcs on the middle, length five times as much as the width near the clypeus and two and a half times as long as the latter which is strong, well rounded at the tip, where it is a little wider than at the base; clypeus about twice as long as its width; lorae not quite as wide as the clypeus; genae white, broad. Brown spots on the face between the frontal sutures and the eyes, just beneath the insertion of the antennae. Pronotum irregularly marked transversely with wavy brown; almost twice as long as the vertex, flat on the middle but slightly convex at the sides; lateral margins short, width of pronotum equal to twice its length; sternum jet black. Scutellum dirty brown with two blackish markings at the basal angles, a rectangular brown marking on the middle and extending to the apex; indistinct brown spots on the middle and anterior half; length about equalling that of the pronotum. Elytra whitish blue, with a distinct brown pattern; claval area rather long leaving a small apical area; outer borders white on with few brown marks. *Genitalia*. Male: last ventral segment brownish, a little longer than the penultimate; valve almost as long as the ultimate segment, plates long, slender and sharp, much longer than the pygofers and about three and a half times as long as the last ventral segment; tips very pointed. Female: last ventral segment whitish, about four times as long as the preceding; posterior margin inwardly and angularly rounded, then produced on the middle, the production being

pronounced; slightly convex on the top; pygofer brownish, strong, almost three times as long as the last ventral segment and more than twice as long as their width at the base; rather widely separated; ovipositor long and broad, longer than the pygofer, sharp at the tip." Cogan.

Described from three females and four males.

Beaufort West, C.P. (Maly).

T. angulata n. sp.

General color dull white, with fuscous markings which are often obscure or in part absent altogether. Form short, robust, long winged. Length 2.3 mm., width across eyes .75 mm.

Vertex angulately produced, slightly rounded above, two-thirds as long as broad, as long in front of the eyes as behind that line, about one-third as long as the width across the eyes. Pronotum about one-fifth longer than vertex, just over twice as broad as long, rounded in front, overlapped anterolaterally by eyes, straight behind; humeral margins straight, lateral margins extremely short. Scutellum small, straight-sided, two-thirds as long as pronotum, one and a half times as broad as long. Elytra exceeding abdomen, strongly curved along costal margin, distinctly narrowed towards apex which is narrowly rounded. Face as broad as long, moderately convex, margins gradually narrowed below eyes; genae broad, lateral margins sub-parallel, corners very broadly rounded, basolateral margins straight, extending beyond lorae to tip of clypeus; frons narrow, straight sided, twice as long as clypeus; clypeus twice as long as broad, sides parallel, base, lower corners and apex truncated. Hind tibiae profusely spinose.

Color.—Vertex white with two inverted brown commas above the base, a transverse brown line in front of each of these; the tip of the vertex brownish. Eyes red. Pronotum fuscous, white along the median line. Elytra dull white with two broad indefinite fuscous transverse bands, one behind the scutellum, the other between the clavus and the tip. Scutellum white, brownish across the middle. Face brownish. Ventral color fuscous.

Genitalia.—Female: last ventral segment three times as long as the preceding, concave on either side of the centre which is broad, rounded and delicately notched at the centre; ovipositor two and a half times as long as the ultimate segment, slightly exceeding pygofer which have a few short spines at the apex. Male: last ventral segment slightly longer than the preceding, straight behind; valve as long, and as broad at base, as last segment, triangular; plates twice as long as valve, medially contiguous, narrowing to an acute apex.

Described from three males and three females.

Locality.—Petrusburg, O.F.S.

Coll. J. C. Faure, April, 1918.

T. cotula Cogan.

Thamnotettix cotula, Cogan, Homop. Studies, p. 193 (1916).

General color yellowish brown. Length 3.5 mm.; breadth 1.25 mm.

Female: head with eyes prominent, vertex almost as long as pronotum; fuscous yellow in color and characteristically marked with ten brown to black spots—two situated on the middle, one on either side of the median line; two somewhat smaller alongside these, but nearer the eyes, two large angular spots near the anterior margin, located close to one another and to the median line; two smaller spots on anterior margin in advance of these; the other two spots are on the anterior half close to the lateral margin. The arrangement of these spots gives the insect a very characteristic

appearance. Vertex acutely angled. Face strong, the frons fuscous, with light arcs; clypeus almost twice as long as its width, less than half as long as the frons. Eyes large, dark steel grey; ocelli colorless, located very close to the eyes. Pronotum fuscous yellow, equalling or a little longer than the vertex. Scutellum shorter than the pronotum, of the same yellow brown color. Elytra yellowish, transparent, the claval area irregularly marked with fuscous; apical cells fuscous at their borders. Abdomen above black, with yellow borders, beneath yellow. Legs light yellowish with alternate bands of fuscous on coxae and femora. Genital apparatus: ultimate ventral segment somewhat narrow, a little longer than the previous one, posterior margin notched at the middle, and rounding slightly to the sides; pygofer dark colored, twice as long as their width at base; spines strong and stout, forming a rough crown at the tip of the ovipositor; the latter is longer than the pygofer, and is black at the sides and tip. Male: general color same as for female; vertex shorter, the fuscous markings on the apical cells absent or not as prominent. Abdomen beneath dark brown. Genitalia: last ventral segment yellow on the middle, black at the sides, equalling the penultimate in length; valve semi-circular, small, not well exposed; plates angular at the tips, one and a half times as long as the last ventral segment; pygofer longer than the plates, rounded laterally; spines large."

Cogan.

Described from one male and one female.

Hab.—Cape Town (Mally); Cedara, Natal, 13/5/18. On Kikuyu Grass (E. S. Cogan).

T. rugulans n. sp.

General color pale, stramineous. Form robust, flattened. Length 3 mm.; breadth across eyes 1 mm.

Vertex roundly angulate, rounded above, one and two-thirds times as wide as long. Pronotum twice as broad as long, very slightly incurved behind. Scutellum one and two-thirds times as broad as long. Frons one and two-thirds times as long as wide; clypeus one and a half times as long as wide. Elytra in female slightly, in male considerably exceeding abdomen, sometimes pigmented alongside the veins. Legs strongly spinose.

Color.—Pale stramineous; vertex with three white spots just behind the apex and a round white spot on the apex; irregular white markings on anterior margin of pronotum; eyes dark grey; ocelli black, prominent; face with six pairs of whitish transverse arcs; scutellum with an orange spot at each basal angle; legs with dark brown spots at bases of spines.

Genitalia.—Female: last ventral segment twice as long as the penultimate, sinuately truncate behind, posterior corners rounded; pygofer setose towards apex, slightly shorter than ovipositor which is just over three times as long as the last ventral segment. Male: last ventral segment as long as the penultimate, truncate behind; valve absent; plates strong, triangular, pointed behind, medially contiguous, slightly longer than the last ventral segment, posterior lateral margins strongly and densely setose.

Described from numerous males and females.

Locality.—Cedara, Natal (on Kikuyu Grass).

Coll. E. S. Cogan, 4/3/17.

T. 10-notata n. sp.

*General color greyish brown with black spots on vertex, pronotum and scutellum. Length almost 4 mm.; width across eyes not quite 1.5 mm.

Vertex sloping forward and sideways, roundly angulate anteriorly, slightly produced, medially twice as long in front of the eyes as behind that line, nearly one-fourth as long as the width across the eyes; sides with eyes well rounded. Pronotum twice as long as vertex, twice as broad as long; anterior margin broadly rounded, posterior slightly concave, lateral and humeral margins rounded. Scutellum somewhat shorter than pronotum, a little broader than long, sides straight, transverse impressed line slightly forwardly convex. Elytra exceeding abdomen, overlapping. Face roundly trapezoidal, one-third broader than long, finely granulose, only slightly concave below eyes, genal margins sloping to clypeus, straight below the rounded corners; frons tumid, not quite three times as long as clypeus, lateral sutures straight, reaching margin of vertex; clypeus twice as long as broad, straight sided, base convex, apex truncate, ending level with genae. Hind tibiae broad, flattened, with short strong spines along the two outer edges.

Color.—Anteriorly light brown; vertex with ten dark brown spots, three small ones in a row above the base between either eye and the median line, two of similar size on the apex, and a large rounded marginal spot just in front of either ocellus. Pronotum with some obscure brown markings along anterior margin. Scutellum with a dark brown spot in each basal angle, and obscurely brown medially. Elytra greyish. Face light reddish brown; ventral color yellowish brown. Eyes dark red.

Genitalia.—Female: last ventral segment twice as long as the preceding, bisinuate on each side of the centre which is rounded; posterior corners rounded. Ovipositor twice as long as last ventral segment slightly exceeding pygofer; pygofer suddenly narrowed, near the apex, width across them at widest part equalling three-fourths of the length of ovipositor, their sides slightly bulging.

Described from one female.

Locality.—Jonker's Hoek, C.P.

Coll. F. W. Pettey, 17/12/22.

Genus *Chlorotettix* Van D

"Head broad, usually well rounded or obtusely angulate; ocelli visible from above; front wide; sides of pronotum moderately long. Elytra long, thin, sub-hyaline, with a distinct appendix, nervures indistinct. Most of the species have a uniform green color." De Long.

C. africanus n. sp.

Pale yellowish-green above, brown below. Length; female 6 mm.; breadth 1.5 mm.

Vertex blunt slightly produced, half as long as broad in front of the eyes. Pronotum semicircular in front, straight behind, side margins very short; posterior lateral margins delicately recurved; marked sparsely with fine brown punctations. Elytra with an oblique transverse vein joining the outer branch of the first sector to the middle of the costal margin. Face about one-sixth broader than long; clypeus truncate, slightly narrowing towards apex and slightly exceeding lorae; genae ending at base of outer margins of lorae.

Color.—Yellowish green above, pronotum often whitish. Veins very pale to yellowish, indistinct, especially near costal margin. Face brown with numerous, faint, light, transverse arcs. Thorax and abdomen pale yellow to brown. Legs brown, tibiae usually darker.

Genitalia.—Female: last ventral segment twice as long in the middle as the preceding segment. Centre produced to a rounded tooth, posterior corners angular. Ovipositor sharp-edged, slightly longer than pygofers. Pygofers spinose.

Described from five females.

Localities.—Cedara and Hilton Road, Natal; on grass. (Coll. Cogan.)

C. parabolatus n. sp.

Pale green with strong yellow veins, very similar to the preceding species, from which it differs in the form of the last ventral segment and in greater prominence of the venation and in a slightly shorter vertex. Length: Female 6 mm.; br. 1.75 mm.; Male: length 5 mm.; br. 1.25 mm.

Vertex very slightly produced, blunt, breadth before the eyes about two and a half times the length in the middle. Genae forming a narrow margin below lorae and reaching apex of clypeus.

Color.—Above pale green with strong yellow veins; the males sometimes lighter with elytra bluish white and the venation less prominent; scutellum yellow at apex with more or less prominent yellow spot at each basal angle. Below: face light brown with a number of light transverse arcs, and a light median line, the frons and clypeus sometimes dark brown in males, with only the median line of frons showing light; thorax and abdomen black beneath with genital plates in male, last ventral segment, edges of abdomen and pygofers in female, yellow.

Genitalia.—Female: last ventral segment strongly produced, three times as long as the penultimate, sub-parabolic in outline, sides gently rounded, slightly wider in the middle than at the base; ovipositor slightly longer than pygofers, more than twice as long as last ventral segment, spinose. Male: last ventral segment as long as penultimate; valve small, semicircular; plates broad, strong, nearly four times as long as last ventral segment, separated by a triangular space at the base, inner margins uniting in a straight line; outer margins spinose, and narrowing to a sharp point at the apex.

(This description holds for the female; some doubt as to the identity of the males might be cleared up by additional material from the same locality.)

Localities.—Petrusburg and Bloemfontein, O.F.S. (1918).

(Coll. Faure.)

C. spadix n. sp.

General color greenish yellow, elytra reddish-brown. Form narrow, elongate sharply tapering posteriorly; length about 4 mm.; maximum width (across eyes) just over 1 mm.

Vertex produced, roundly angulate, as long in front of eyes as behind that line, width across eyes two and a half times its length, eyes slightly projecting over pronotum. Pronotum as long as vertex, slightly more than twice as broad as long, semicircularly rounded in front, slightly concave behind, humeral margins rounded to corner of eye on each side. Scutellum three-fourths as long as pronotum, twice as broad as long, transverse line curving backward at its extremities. Elytra markedly exceeding abdomen, with an appendix, overlapping, together narrowing to a

point behind. Face four-fifths as long as broad, angulate above, more obtusely so below, abruptly narrowed below eyes, sides very short, basolateral margins long and straight, narrowly exceeding genae to clypeus; clypeus three-fifths the length of frons, sides straight, base and apex rounded, frontal suture with an angulate outward bend at upper corner of lora. Hind tibiae, moderately, not very coarsely spinose.

Color.—Greenish yellow above and below, elytra reddish brown, costal margin greenish, male plates with a short longitudinal brown fascia near base, hind tibiae brown along inner margin.

Genitalia.—Male: valve almost as broad at base as ultimate segment and one and a half times as long, roundly triangulate; plates three times as long as valve, contiguous, bulging at base, sides faintly concave, converging, forming a narrowly rounded apex to each plate, sides densely beset with short white spines.

Described from four males.

Locality.—Near Ceres, C.P. April, 1923.

Coll. F. W. Pettey. April, 1923.

Chlorotettix is primarily a North American genus. Of the thirty-one species and one variety that are known, two are from Brazil, one from Mexico, one from Jamaica and four from Guatemala; the rest are North American. The three species treated above as new are the first to be recorded outside the Nearctic and Neotropical regions and are of interest as giving the genus a wider distribution and showing a possible relation of forms between the American and the Ethiopian Region.

Div. TARTESSUSARIA.

Genus *Korana* Dist.

"Vertex narrower than pronotum, about three times broader between eyes than long; ocelli on anterior margin of vertex and near eyes, which are obliquely transverse and in line with the margins of the vertex; head beneath long and broad, face longer than broad, narrowing to clypeus, which is a little widened posteriorly, and truncate at the apex; pronotum about three times as long as vertex, moderately arched, a little depressed anteriorly, much wider at base and narrowing anteriorly, the anterior margin convex, the basal margin concave; scutellum large, much broader at base than long, moderately arched, roundly, transversely impressed before apex; legs of moderate length, the tibiae spinulose; tegmina about three times as long as broad; the claval area broad and posteriorly obtusely angulate near base, veins longitudinal, four somewhat large apical cells; wings considerably broader than tegmina, two transverse veins before apex.

Allied to Oriental genus *Gessius* (Dist.), but differing principally in the structure of the face."

Distant.

K. maculosa Dist.

Korana maculosa, Distant, Ins. Transv. p. 241 (1910).

"Body and legs ochraceous; vertex with two spots at base—nearer eyes than each other—pronotum with two spots near anterior margin, and two larger spots, wider apart, near middle, scutellum with two spots on each lateral margin, the first near middle, the second near apex, and abdomen above with a curved masculine longitudinal fascia on each side, black; legs more or less finely spotted with black; tegmina grayish, tal-

like, thickly speckled with fuscous, with larger black spots situate on costal and apical margins, and three on posterior margin of clavus; wings hyaline, the veins darker; vertex moderately darkly punctate; pronotum finely transversely striate; other characters as in generic diagnosis." Distant.

Long. excl. tegm. 8 mm., Exp. tegm. 20 mm.

Hab.—Zululand (Bell-Marley); Upper Gazaland, Buzi River about 3,500 feet (Marshall)—S.E. Rhodesia.

Genus *Drabescus*.

Drabescus, Sign. Essai sur les Jassides, p. 207 (1878); or Ann. Soc. Ent. Fr. p. 207 (1880); Stal. Ofv. Yetr. Ak. Forh. (1870) p. 738; Distant, Faun. B. J. Rhynch, IV., p. 304 (1908).

Dabrescus, Signoret, Ann. Soc. Ent. Fr. (1880), p. 308; Melichar, Homop. Faun. Ceylon, p. 170 (1903).

Head transverse, obtuse at the anterior edge, scarcely angular. Vertex forming with the face a rounded angle and creased by a furrow; face largely transverse nearly two times wider than long, including the eyes. Ocelli rather distant from the eyes almost at the middle of the spaces between the eyes and the median line. These more or less globular, rounded or elongated into an oval form. Clypeus a little longer than wide, spatuliform. Tibiae with edges very prominent; superior edges of tibiae dilated anteriorly. Elytra more or less rugose except near the apical area where it is hyaline and smooth. Four discoidal cells, two of which are antepical, and four apical cells which are long; a marginal border of the apical region curves and reaches almost to the extremity of the second apical nervure. The nervures generally punctate, except those of the apical cells, and finely pubescent. (Translated from Signoret.)

D. natalensis Dist.

Drabescus natalensis, Distant, Ins. Transv. p. 242, (1910).

"Vertex pronotum and scutellum bright ochraceous, thickly speckled with black, on pronotum these speckles coalesce and form three longitudinal fasciae, sometimes indistinct and almost fused; scutellum with a black spot at each basal angle and a central black line, sometimes completely black; tegmina black or piceous, thickly speckled with ochraceous, a more prominent ochraceous spot on posterior margin of clavus and on costal margin behind middle, sutural margin behind clavus and apical margin more opaque and without the pale speckles; face black, its basal margin ochraceous, the lateral and inner margins of eyes sanguineous, cheeks black, speckled with ochraceous, sometimes wholly black; body beneath and legs black, pro-sternum with a lateral ochraceous spot, sometimes wholly black; vertex obtusely angulate, anterior margin somewhat acutely reflexed; pronotum very finely, transversely striate; scutellum transversely impressed before apical area; posterior tibiae longly spinulose, the anterior tibiae moderately dilated." Distant.

Div. JASSARIA.

Genus *Equeefa* Dist.

Equeefa n., gen. Dist. Ins. Transv. p. 242 (1910).

Vertex a little shorter than the breadth between the eyes, usually subconically rounded and well produced in front of the eyes which are large, oblique and directed backwardly over sides of pronotum, to a level

with its middle; ocelli on vertex near inner margins of eyes, just behind the line of their anterior apices and almost equidistant from the lateral margin and median line of vertex. Face longer than broad, moderately convex, not ridged, frontal margins parallel; genal roundly oblique, narrowing to the apex which is truncate; clypeus longer than broad, lateral margins usually rounded below the middle, apex more or less truncate to subangulately concave. Pronotum longer than vertex, anteriorly produced between the eyes, where it is roundly truncate; lateral margins oblique, posterior margin truncately or subangulately rounded, transversely striated on posterior half. Scutellum minute, subtriangular. Tegmina more than twice as long as broad, coriaceous, apices rounded, veins prominent, three more or less equal anteapical and four apical cells. Legs moderately long and robust, femora slightly but distinctly thickened, tibiae strongly spinose.

Adapted from Distant on study of two additional species.

E. castelnaui Dist.

Equefa castelnaui, Dist. Ins. Transv. p. 242 (1910).

General color ochraceous, with two pairs of black spots on vertex, a whitish longitudinal fascia from tip of vertex to apex of scutellum, with white and brown bands across elytra. Form robust, cylindrical, vertex subconical; length 5.5 mm., br. 2.5 mm.

Vertex subconically rounded, one and two-thirds as broad in front of eyes as long, about one-third as long as width across the eyes; posterior margin truncate, centrally produced as a narrow ridge behind either eye. Face one-third longer than broad, frons almost one and a half times as long as clypeus; clypeus broadest at apex of genae, exceeding the latter by more than one-third its own length (clypeus), apex deeply subtriangulately notched. Pronotum truncately rounded anteriorly, eyes overlapping anterolateral margins, posterior margin broadly rounded, sinuate towards lateral margin, more than twice as broad as long. Elytra coriaceous, broad, "ligulately" rounded at apex.

Color.—Dull white to ochraceous with four dark brown spots, two larger subapical, two smaller rounded, central; eyes deep brown with semi-circular ochraceous bands. Pronotum ochraceous with a central white fascia, more pronounced behind the middle. Scutellum ochraceous white. Elytra ochraceous; clavus white except for a short median brown fascia; corium with a deep brown transverse fascia behind the middle and an interrupted white transverse fascia in front of and behind this. Ventral color deep brown varied with ochraceous, the face especially showing a cellular arrangement of pattern, darkest on upper part of frons.

Genitalia.—Female: last ventral segment more than twice as long as the preceding, posterior margin notched centrally and presenting a bracket-shaped emargination, posterior angles rounded. Pygofers with a few moderately large and numerous small setae; ovipositor exceeding pygofers by about one-fifth of its own length. Male: last ventral segment slightly longer than the penultimate, shallowly concave behind; valve very broad at base but only half as long as last ventral segment medially, very obtusely angular posteriorly; plates four times as long as last ventral segment medially, slightly convex laterally above base, and narrowing to a narrowly rounded apex, surface covered with many whitish spines on posterior half.

Redescribed from male and female specimens collected by F. W. Pettey at Waterfall and Jonker's Hoek, Drakenstein Valley, C.P. (17/12/22) at Elsenburg, C.P. (16/12/22); Viljoens Pass, C.P. (12/1/23), and Ceres, C.P. (April, 1923). Also taken in "British Caffraria" (Castelnau, fide Distant).

E. albicosta n. sp.

General color ochraceous brown with scutellum, a central spot on inner and whole of outer margin of elytra white. Form robust, cylindrical: length 6 mm., br. 2 mm.

Vertex subconically rounded, broader in front of eyes than long; ocelli well above the margin, behind the anterior apex of eyes. Face one-fourth longer than broad, convex; frons almost twice as long as clypeus; clypeus exceeding genae by one-third its length, sides parallel, base convex apex sinuately concave; lorae pointed distally; genae with rounded margins. Pronotum transverse, twice as broad as long, subangulately rounded posteriorly, broadly rounded anteriorly, finely striate on posterior one-third, eyes somewhat overlapping anterolateral margins. Elytra coriaceous, broadly rounded apically, shorter than abdomen, leaving last dorsal segment exposed; veins prominent. Legs robust, strongly spinose on outer and spinulose on inner margin. Ventral margins of abdomen broad, flat, rounded at the sides.

Color.—Vertex and pronotum ochraceous brown with a broad yellowish median band traversing both; dark brown ramose lines on both, more distinct on vertex and exhibiting more or less cellular arrangement toward the apex; a dark brown spot at apex of pronotum and each lateral corner of pronotum. Face ochraceous brown, finely granulate, frons with a double row of transverse arcs alternating with ramose brown lines which assume a more or less cellular arrangement on lower part of frons and the rest of the face. Scutellum and adjacent margins of elytra dirty white. Elytra ochraceous brown with a white spot on centre of claval margin, a few subhyaline spots near apex, veins light, partly infuscated with dark brown, outer margin with a broad white border, with irregular intense brown infuscation along base and outer branch of first sector. Abdomen ochraceous brown, infuscated with dark brown ramose lines in more or less cellular pattern.

Genitalia.—Female: last ventral segment more than twice as long as the preceding, the whole posterior margin very deeply triangularly notched, posterior corners roundly, acutely angulate; pygofer tapering, with a few weak scattered setae; ovipositor slightly exceeding pygofer.

Described from one female specimen.

Locality.—Bloemfontein, O.F.S.

Coll.—J. C. Faure, 14/4/18.

Genus *Palicus* Stal.

Body narrowly oval, subcylindrical. Head slightly narrower than thorax, lightly rounded in front of the eyes or roundly, angularly prominent, anterior margin very obtuse; vertex horizontal, slightly narrower than eyes, not visibly widened in front; face broadened, transversely rather convex; frons occupying the greater part of the breadth between the eyes; clypeus produced. Ocelli placed close to eyes, near anterior margin of the head. Pronotum transverse rounded anteriorly, lightly curved behind both eyes; scutellum small much shorter than the thorax. Elytra without an appendix, nor overlapping, five apical areoles. Legs fairly long; hind tibiae very spiny. (Translated from Stal.)

P. conspersifrons Stal.

**Palicus conspersifrons*, Stal, Hem. Afr. IV., p. 120 (1864).

Dilute testaceous white; frons with two small vertical spots; elytra and dorsal side of the abdomen fuscous; frons finely interspersed with testaceous white (markings); elytra a dirty cloudy yellow; posterior coxae black. (Translated from Stal.)

Female: Long 5 mm.; br. 2 mm.

Hab.—Cape (Terra Capensis)—Signoret.

P. lineoliger Stal.

Palicus lineoliger, Stal, Hem. Afr. IV., p. 120 (1864).

Coelidia lineoligera, Stal, Ofv. Vet. Ak. Forh. p. 98, 1 (1855).

Testaceous white, variegated and scattered with fuscous markings; elytra slightly fuscous with a spot in front of the middle, a band behind the middle and the apical margin, dirty hyaline white; veins faintly stabbed (guttulatis) with pale (yellow or olive green), with the veins white where they transverse the above mentioned spot and band. Frons with obsolete fuscous transverse lines near the lateral margin; the posterior coxae, the posterior tibiae and femore beneath, black. (Translated from Stal.)

Male: Long 6 mm.; lat. 2.3 mm.

Hab.—Caffraria, (Mus. Holm.), Stal.

P. fuscovarius Stal.

Coelidia fuscovaria, Stal, Ofv. Vet. Ak. Forh. p. 99, 2 (1855).

Jassus setifer, Walk. List Hom. Suppl. p. 271 (1858).

Palicus fuscovarius, Stal, Hem. Afr. IV., p. 121 (1864).

Testaceous-white; frons finely and sparsely scattered with fuscous (markings); two vertical spots and numerous irregular subtestaceous markings on the thorax; elytra variegated with dark; thorax and abdomen black below; hind wings marked with dark, more intense at the apex:

Male: Long 5 mm.; br. 1.6 mm.

Hab.—Caffraria (Mis. Holm.) Stal.

Var. v. Very pale, immature, hardly any likeness (pictura). (Translated from Stal.)

The following is a detailed description of a specimen I compared and found identical with the type of *Jassus setifer* at the British Museum. Since Stal synonymised this type specimen with *P. fuscovarius*, this description should fit the latter.

General color.—Yellowish-brown anteriorly, pronotum and scutellum darker brown, elytra subhyaline with an anterior and a posterior indefinite, broad, infuscated transverse brown band. Form robust: length 5.5 mm.; breadth 2 mm.

Vertex slightly produced, obtusely subangulately rounded; almost twice as broad as long, posterior margin truncate centrally and continued as a narrow ridge along inner margin of eye, eyes extending considerably over anterolateral margins of pronotum. Pronotum more than twice as broad as long, anterior margin truncate, posterior truncate, humeral long and straight, lateral margins short, outwardly oblique, extending beyond width of eyes. Face slightly longer than broad, finely granulate; frons

* From literature and determined material this species appears to be synonymous with *Equeefa castelnaui* Dist. As a transfer would, however, involve the study of actual types and a revision of both genera *Palicus* and *Equeefa*, it cannot be made on this occasion.

twice as long as clypeus ; clypeus rounded at side, broadest two-thirds down its length, truncate, exceeding genae by one third its own length. Elytra subhyaline, rounded apically, veins strong, prominent. Ventral edges of abdomen broad, flat, angular at sides.

Color.—Vertex yellow, infuscated with dilute brown between ocelli and posterior margin ; eyes greyish brown. Face yellow with a double row of faint dark brown transverse arcs. Pronotum ochraceous on anterior half, mottled with dull white and dark brown on posterior half. Scutellum mottled with dark brown. Elytra subhyaline, yellowish brown anteriorly, veins whitish, an imperfect, broad, dark brown band running across at the middle and at either apex of the clavus, a round hyaline white spot showing across the clavus behind the central brown band. Abdomen ochraceous above, brown below.

Genitalia.—Female : last ventral segment twice as long as the preceding, posterior margin broadly triangularly notched to about one-third the depth (length) of the segment, posterior corners rounded ; pygofers slightly shorter than ovipositor, densely beset with short stout spines about the apex.

Described from one female specimen.

Locality.—Hilton Road, Natal. (On grass.)

Coll.—E. S. Cogan, 14/3/17.

Div. CICADULARIA.

Genus *Cicadula* Zett.

Body elongate or oblong usually much narrower behind. Head obtuse in front ; frons almost straight sided. Pronotum usually longer than vertex. Elytra longer than abdomen, overlapping at apex ; appendix present ; inner sector not forked. Hind wing with three apical cells.

KEY TO SPECIES.

- A. Vertex produced ; form, slightly widened in the middle or uniformly narrowed from head backwards.
 - B. Vertex flat, angulate or bluntly rounded anteriorly.
 - C. Vertex bluntly rounded anteriorly.
 - D. Color yellowish white, a prominent black spot abutting on inner margin of ocellus. *flavoalbida* n.sp.
 - DD. Color yellow, elytra hyaline, a large rounded black spot on middle of vertex. *unimaculata* n.sp.
 - CC. Vertex angulate anteriorly. Color yellowish green, four black spots near anterior margin of vertex. *divisifrons* n.sp.
 - BB. Vertex slightly convex above, sloping forwards, roundly angulate anteriorly.
 - C. Color green ; apical margin of vertex, and upper part of frons black. *nigrifrons* n.sp.
 - CC. Color light yellowish green ; vertex with six black spots arranged in pairs longitudinally. *6-notata*.
- AA. Head very short, parallel margined. Sides sub-parallel ; form elongate, very narrow ; color light yellow. *longiforma*.

C. *flavoalbida* n. sp.

Color.—Head and thorax dirty yellowish to bright yellow with two large black spots near anterior margin close to the eyes ; elytra hyaline with strong yellow nervures. Abdomen above black, edges yellow, below yellow except at base, along median line, a median band of last ventral

segment, and the ovipositor of the female, the valve of the male, all of which are black. Thorax black with a yellow centre and a broad yellow rim; legs yellow with brown markings, bases of spines on hind tibiae, and the tarsi, brown. Frons brown with seven pairs of yellow transverse arcs, and a dark brown apical spot on the border where it joins the vertex; genae greenish; clypeus and lorae yellowish; sutures of frons, lorae and clypeus black, a black spot beneath each antenna and a broad median brown band on lower half of clypeus, the latter marking sometimes absent. Eyes carmine. Ocelli in anterior margin of each black spot on top of vertex, colorless, inconspicuous.

Vertex blunt, one and a half times as broad as long with a median line from base to tip. Pronotum broadly rounded in front, straight behind, posterior angles rounded, side margins very short, twice as broad as long; scutellum triangular, twice as broad as long, with a transverse depression. Face slightly broader than long; frons tumid, as long as broad at the widest part; clypeus slightly longer than broad narrowing toward apex, lightly rounded above and below; lorae as long as and one-third as wide as clypeus. Anterior tibiae with a row of strong spines on inner edge and several small ones on the outer edge.

Genitalia.—Female: last ventral segment nearly twice as long as the penultimate, posterior angles rounded, slightly incurved and delicately incised behind. Pygofer strong; five times as long as the last ventral segment, slightly exceeding tip of ovipositor, provided with white setae which are stronger and denser toward the tip. Male: last ventral segment slightly shorter than the preceding; valve subtriangular, truncate behind, half as long as the plates; plates triangular, rounded at tips, nearly twice as long as ultimate ventral segment; outer margins of plates fringed with white setae and tip of abdomen with a brush of long white setae.

Female: Long. 5 mm.; br. 1 mm.

Male: Long. 4.25 mm.; br. 1 mm.

Localities.—Petrusburg and Bloemfontein, O.F.S. (Coll. Faure).

C. unimaculata n. sp.

General color bright yellow with a large black spot on centre of vertex; elytra hyaline, appearing blue against body. Form cylindrical. Length 4 mm.; width across eyes 1 mm.

Vertex obtusely rounded in front, rounded above, as long as minimum width between eyes, as long in front of eyes as behind that line; eyes slightly prominent laterally, somewhat raised above, width across them equalling length of vertex and pronotum together. Pronotum as long as vertex, just over twice as wide as long, anterior margin deeply rounded laterally, overlapped by eyes, posterior margin straight, humeral margins rounded, lateral margins very short, rounded. Scutellum straightsided, twice as broad as long, three-fourths as long as pronotum, indented along transverse line, which is straight. Elytra hyaline, exceeding abdomen, venation very weak. Face as long as broad, constricted just below eyes, genal margins rounded to clypeus, narrowly exceeding lorae; lorae elongate, one-third as wide as base of clypeus; frons strongly tumid, sutures slightly rounded, reaching margin of vertex; clypeus half as long as frons, strongly narrowing to apex which is roundly truncate, and slightly exceeds genae. Hind tibiae moderately spinose.

Color.—Above and below bright yellow, with a large roundly triangular black spot on centre of vertex, a brown line extending on either side of it across ocelli; black along centre of sternum, of posterior half of last ventral segment, and whole of ovipositor; abdomen dorsally black.

Genitalia.—Female: last ventral segment as long as the preceding, behind faintly emarginate on each side of the centre which is straight; posterior corners rounded. Ovipositor three times as long as last ventral segment. Pygofers equalling ovipositor in length, strongly spinose from middle backwards, the width across their middle equalling half their length.

Described from one female specimen from Cedara, Natal (on grass).
Coll.—E. S. Cogan, 2/3/17.

C. divisifrons n. sp.

General color bright green, four black spots along anterior margin of vertex. Length, just over 3 mm., width across eyes 1 mm.

Vertex obtusely angulate in front, slightly rounded above, sloping from base towards apex, one-third as long as width across eyes, as long in front of eyes as behind that line, three-fourths as long as minimum width between eyes. Pronotum one-third longer than vertex, twice as broad as long, anterior margin broadly rounded, posterior straight, humeral and lateral margins straight, the latter short. Scutellum straitsided, twice as broad as long, half as long as pronotum. Elytra exceeding abdomen. Face slightly broader than long, sides abruptly constricted below eyes, genal margins rounded, extending with a narrow margin past lorae to clypeus; frons twice as long as clypeus; faintly rounded below antennae; clypeus one-third longer than broad at base, distinctly narrowing towards apex which is roundly truncate. Hind tibiae moderately spinose.

Color.—Vertex yellowish green with two oblique forwardly convergent black apical spots and a smaller black spot just entad to either ocellus; transverse line of scutellum brown; rest of dorsal surface bright green; ventral color black, edges of abdomen yellow. Frons black with yellow transverse arcs, a transverse basal and a central longitudinal yellow band; clypeus black, along base and centre otherwise yellow; lorae yellow with a black border; genae yellow with a black circle beneath eye. Legs dark brown beneath.

Genitalia.—Male: last ventral segment medially half as long as the preceding, concave behind; valve broad, triangular, as long as penultimate segment; plates, three times as long as valve, medially contiguous, individually rounded at apex, delicately setose along outer margin.

Described from one male specimen.

Locality.—Cedara, Natal.

Coll.—E. S. Cogan. 13/5/18. (On Kikuyu Grass.)

C. 6-notata (Fall).

Cicadula 6-notata, Fallen, Acta. Holm. XXII, 34 (1806). Edwards, Hom. Homop. Brit. Is. 187 (1896). Melichar Cicad. V. Mittel-Europa, 309 (1896). Osborn, Bull. U.S. Dept. Agr. No. 108, 97 (1912). Cogan, Homop. Studies, p. 195 (1916).

“General color light yellowish green. Length 3.5 to 4 mm.

Cicada sexnotata, Fallen, Acta Holm. XXVII., p. 34 (1806), Fallen, Hemip. Suec., Cicad., p. 47 (1806).

Jassus sexnotata, Burmeister, Gen. Ins., p. 14 (1838).

Cicadula sexnotata, Zett. Ins. Lapp Column 296 (1840).

Thamnotettix sexnotata, Stal, Stet. Ent. Zeit., XIX., p. 194 (1858).

Macrorosteles sexnotata, Fieber, Verh. Bot. Zool. Ges. Wien. XVI., p. 504 (1866).

Thamnotettix sexnotata, Kirschbaum, Cicad. V. Wiesb. p. 95 (1868).

Limotettix sexnotata, Sahlberg, Cicad. p. 247 (1871), Edwards, Trans. Ene. Soc. Lond. (for 1888), p. 76.

Cicadula sexnotata, Woodworth, Psyche, V., p. 75 (1888).

Cicadula 4-lineata, Forbes, Rept. III. St. Ent., XIV., p. 86 (1884), Van Duzee, Can. Ent. XXI., p. 9 (1889). Osborn, Proc. Ia. Acad. Sci. I., pt. 2, p. 126 (1892). Davis, Mich. Agr. Exp. Sta. Bul. 192, p. 8 (1893).

"Vertex marked characteristically with six black spots arranged in pairs, two on the anterior margin near the middle, two larger posterior to these, and two smaller spots on the hind part of the vertex. Frons prominently marked with black lines. Body, black above, yellow below; abdomen black with the lateral ventral borders yellow.

Genitalia.—Last ventral segment of female yellow, a little longer than the penultimate; pygofers yellow, ovipositor black, equalling the pygofers in length. Male: color whitish, valve short, somewhat angular; pygofers longer than the plates, which are triangular.

This is one of the most important insects affecting cereal crops and this fact taken with its occurrence in many parts of the world, viz., Europe, North America, South Africa, and its wide distribution in these countries, makes it an insect of considerable economic importance. Nothing seems, as yet, to have been published with relation to its food plants in South Africa; but on account of its wide range of food plants in the United States with especial partiality to oats and meadow grasses in some regions, as stated by Osborn, it is probable that this insect will be found to cause serious damage wherever it occurs on grasses and cereal crops in sufficient numbers."

Cogan.

Hab.—Cape Town (Mally).

C. nigrifrons n. sp.

General color uniform green, black along apical margin of vertex. Length almost 3 mm.; breadth not quite 1 mm.

Vertex rounded above, parabolic in anterior outline, one-third as long as width across eyes, as long in front of eyes as behind that line. Pronotum as long as vertex, not quite three times as wide as long, broadly rounded anteriorly, slightly concave behind humeral margin, rounded uniformly to corner of eye. Scutellum straight-sided, one-third as long as pronotum, twice as broad as long, transverse line arcuate. Elytra markedly exceeding abdomen, having a narrow appendix, venation delicate. Face slightly shorter than broad, well rounded above, roundly angulate below, constricted below eyes, basolateral margins straight; lorae long, exceeding genae to tip of clypeus; frons not quite twice as long as clypeus, margins slightly arcuate above lorae; sides of clypeus parallel, base and apex, rounded, its length twice its breadth. Hind tibiae strongly spinose.

Color.—Uniform green; frons with a centrolongitudinal brown marking, broadening to margin of vertex where it occupies whole width of frons, its anterior margin bisinuate, and dark; abdomen below fuscous.

Genitalia.—Male: last ventral segment slightly shorter than the preceding, straight behind; valve triangular, straight-sided, as broad as long, slightly longer than ultimate ventral segment; plates twice as long as valve, medially contiguous, forming an acute apex together, individually sharply pointed, setose towards apex; sides straight, very delicately setose.

Described from one male specimen.

Locality.—Jonker's Hoek, C.P.

Coll.—F. W. Pettey, 17/12/22.

C. longiforma Cogan.

Cicadula longiforma, Cogan, Homop. Studies, p. 196 (1916).

"Form long and slender, resembling a *Gnathodus* to some extent. General color light yellow. Length of female 4.25 to 4.5 mm.; male 4 mm.; breadth 1 mm.

Vertex yellow, narrow, rounded anteriorly; two light brownish arcs on anterior margin, a small longitudinal line on the middle, extending from the posterior margin; length about one-third of the width between the eyes. Face generally yellowish brown with the cheeks lighter in color; frons twice as long as its width and three times as long as the clypeus, with six arcs traversing its surface; cheeks rather broad equalling the frons in width; clypeus about one and a half times as long as its width and about as wide as the lora. Eyes large and prominent, black below and grayish above; ocelli dilute brown, located close to the eyes. Thorax well developed, the pronotum three times as long as the vertex; slightly convex on the middle; color light yellow with many irregular and indistinct brown markings on the anterior half; anterior margin well rounded between the eyes, the posterior straight. Scutellum yellowish with a few irregular faint brown spots, basal angles of a deeper hue than the apex, more than half as long as the pronotum, with a distinct transverse line on the middle. Elytra long, much longer than the abdomen, faint yellow, transparent; length exceeding the abdomen by the distance from the apex of the claval suture to the apex of the membrane. Abdomen above brownish, yellow at the lateral margins; beneath yellow, interspersed with black. Legs light yellow; with the tarsi brown. *Genitalia*.—Female; last ventral segment longer than the penultimate, emarginate, convex; pygofers long and narrow, widely separated at the base, about twice as long as the last ventral segment and about one and a half times as long as the width at the base; ovipositor equalling the pygofers in length, rounded at the tip. Male: last ventral segment large, longer than the preceding; valve thick, shorter than the last ventral segment; plates long and narrow at the tip; pygofers longer than the plates." Cogan.

Described from two males and two females.

Hab.—Cape Town (Mally).

Genus Eugnathodus Baker.

Body narrow, elongate, sides subparallel. Vertex very short, rounded, edge blunt, anterior and posterior margins parallel. Head with eyes wider than pronotum. Pronotum medially about four times as long as vertex. Elytra strongly exceeding abdomen; length behind clavus almost equalling that of clavus; appendix distinct; outer branch of first sector indistinct; only two anteapical cells. Wings with only two apical cells.

E. auranticulus n. sp.

Form narrow elongate, general color smoky, varying to hyaline bluish white. Length 3.5 mm. (with purplish green iridescence).

Vertex very short, transverse, broadly rounded in front, anterior and posterior margins parallel. Pronotum broadly rounded in front, lateral margins subparallel, humeral margins truncately rounded, posterior margin straight. Scutellum very straitsided with a central transverse impression. Elytra long, narrow, exceeding abdomen by two-fifths to one half of their length. Hind tibiae coarsely spinose.

Color.—Vertex whitish, often tinged yellow to red, with a small circular dot between the centre and either eye, near posterior margin. Face dull white with short ruddy brown arcs, part of the face often with an irregular but clearly demarcated fleck ranging from lavender to brick red. Pronotum with a semicircular arc near anterior margin, ended on either side by a dot; dirty white in front of arc, with an orange crescent between either end of the arc and the eye; behind the arc, hyaline bluish to dirty green with a faint central longitudinal darker fascia. Scutellum orange (varying in some specimens to dull white, or with orange in the angles only). Thorax black; abdomen, above black, below yellow, sometimes black along anterior margins of segments, edges yellow.

Genitalia.—Female: last ventral segment as long as the preceding with an arcuately bisinuate, brown-margined indentation from which a thin membrane extends to the truncate posterior end. Ovipositor four times as long as last ventral segment, exceeding pygofer which are sparsely setose between the middle and the apex. Male: last ventral segment as long as the plates without the fingers; valve large, triangular, half as long as plates; plates roundly divergent at apex, with outer margin straight, bearing a few setae and in line with the narrow* finger-like process, which is about one-fourth as long as rest of plate and meets the one on the opposite side apically. Pygofer setose apically.

Described from numerous specimens.

Locality.—Bloemfontein and Petrusburg, O.F.S.

Coll.—J. C. Faure, March, 1918.

E. flavidus n. sp.

A yellowish green species, slightly wider in the middle than across the pronotum, elongate in form, length 3.5 mm.; width not quite 1 mm.

Head subsemicircularly rounded in front; vertex short, with anterior and posterior margins subparallel, four times as broad as long. Pronotum, subangularly rounded anteriorly, slightly concave posteriorly; humeral and lateral margins straight, of equal length, forming a rounded angle; lateral margins slightly divergent.

Color.—Body light yellowish green. Elytra hyaline, smoky, greenish on clavus, corium less smoky toward apex, iridescent.

Genitalia.—Female: last ventral segment truncate posteriorly, posterior half membranous and tinged with brown, solid half with a bisinuate emargination, the centre being shortly, sharply pointed; edge of ovipositor sharp, pygofer setose toward apex. Male: last ventral segment a little shorter than the plates; valve strong, rounded on surface, subconically rounded behind, half as long as plates; plates slightly divergent at tips which are truncately pointed, laterally faintly concave.

Described from seven males and one female collected by Faure.

Locality.—Bloemfontein, O.F.S.

Coll.—J. C. Faure. 14th March, 1918.

E. fumigatus n. sp.

Form narrow, elongate. General color dark smoky green, faintly iridescent. Length 2.75 mm.; breadth .75 mm.

*NOTE.—Occasionally these finger-like processes are not visible, being hidden by the pygofer. This species is closely related *E. abdominalis* of North America from which it is separated here on evidence of the structure of internal male genitalia. This species also bears a close similarity to *Gnathodus poseus* Scott (Palearctic) and to *Gnathodus angustus* Then (Europe).

Vertex narrow, broadly rounded in front, anterior and posterior margins subparallel. Pronotum three times as long as vertex, anterior margin angularly rounded, lateral margin straight divergent, humeral margin roundly truncate, posterior with a slight central notch. Hind tibiae spinose.

Color.—Vertex whitish with a small circular brown dot between the centre and either eye, near posterior margin, and with brown infuscation in front of this. Face dull white with brown along either side of frons, sometimes flecked in part with irregular but definite brownish infuscation. Pronotum, dull smoky green with a white oval spot, near inner margin of either eye; between these spots an arc often shows, dividing pronotum into lighter anterior and darker posterior parts. Elytra, dark smoky green, clavus darkest, corium and edge somewhat lighter. Scutellum dull white with brown infuscation at centre and angles of base, and behind the transverse line. Thorax black. Abdomen above black; below yellowish white, ventral segments wholly or partly infuscated with black.

Genitalia.—Female: last ventral segment slightly emarginate posteriorly, posterior edge membranous; pygofer narrow, setose at apex; ovipositor strong, its edge rounded on ventral aspect, slightly exceeding pygofer. Male: last ventral segment as long as plates; valve short, semi-circular; either plate with a long finger-like process extending in line with its outer margin, slightly divergent medially, tips contiguous, the fingers as long as the plates themselves, plates finely setose along outer margin: pygofer exceeding plates, with long setae along its posterior margin.

Described from eleven males and five females.

Locality.—Petrasburg, O.F.S.

Coll.—J. C. Faure, 22-25/4/18.

***E. nigromaculatus* n. sp.**

General color dull green, anteriorly yellow with two round black spots on anterior margin of vertex. Form slender. Length not quite 3 mm.; width across eyes .75 mm.

Vertex sloping forwards and laterally from base; slightly produced; roundly obtusely angulate anteriorly; half as long as width at anterior apex of eyes, as long in front of eyes as behind that line. Pronotum as wide as head, one and a half times as long as vertex, twice as broad as long, rounded anteriorly; posterior, humeral and lateral margins straight, the latter slightly backwardly divergent. Scutellum straightsided, as broad as length of pronotum, two-thirds as long as broad. Elytra subhyaline, overlapping, markedly exceeding abdomen, appendix large. Face one-fourth broader than long, strongly narrower below eyes, corners of genae rounded, basolateral margins straight, narrowly exceeding lorae to clypeus; frons tumid, twice as long as clypeus, sides slightly bulging just above the base; clypeus twice as long as broad, truncate at base, truncately rounded at apex, sides faintly concave. Hind tibiae straight, strongly spinose.

Color.—Vertex yellow with two round black spots on margin. Pronotum fuscous green, yellow along anterior margin. Scutellum yellow. Elytra subhyaline, smoky greenish. Face brown, genae yellowish. Thorax and abdomen ventrally, fuscous.

Genitalia.—Female: last ventral segment shallowly concave at the centre; ovipositor strong, dark brown, one-third as long as the whole body

(excluding wings); pygofers strong, equalling ovipositor, with a few sub-terminal lateral white setae and a shallow concavity on either inner edge just before the apex.

Described from two specimens.

Locality.—Petrusburg and Bloemfontein, O.F.S.

Coll.—J. C. Faure. 22-25/4/18.

Genus *Balclutha* (Fieb.).

“Body elongate rather slender, obtuse in front, narrowed posteriorly. Vertex short, almost parallel margined, about one-third the length of the pronotum, ocelli distant from the eyes. Elytra exceeding abdomen in length, with a distinct appendix, overlapped at apex. Wings with two apical cells. The species of this genus (which occur in North America) are usually white, yellow and green in color and with few exceptions are unmarked. They are very close to *Cicadula* but very slender and slightly smaller.”—De Long.

B. mbila n. sp.

Length 3.5 mm.; width 0.8 mm.

A greenish yellow species with two round black spots on edge of vertex, and a broad black or fuscous band extending from either eye along median portion of corresponding elytron to the apex of latter; clavus bluish-grey to white; costal margin of elytron hyaline to gray.

Vertex with eyes, parabolic in outline, edge obtusely rounded, twice as broad as long. Pronotum one and three-fourths as broad as long, rounded anteriorly, faintly concave behind, lateral margins parallel, posterior-lateral corners truncately rounded. Scutellum straight-sided, three-fourths as long as pronotum with a faint transverse impression in the middle. Elytra exceeding abdomen by one-fourth their length, appendix well developed, veins brown. Face very slightly broader than long; frons strongly convex, twice as long as clypeus; clypeus twice as long as broad, slightly exceeding genae, apex truncate, base convex, sides slightly concave near base; genae rounded below, extending by a narrow margin beyond lorae to clypeus.

Genitalia.—Female: last ventral segment as long as the penultimate, concave behind with a small central tooth; centre of posterior margin lined with reddish-brown; posterior angles narrow and pointed; ovipositor robust, rounded, almost three times as long as the combined median length of the last two segments. Pygofers strong, equalling ovipositor, with many strong, white setae towards apices, which are narrow and pointed. Male: last ventral segment slightly angulately concave behind, equalling the valve in length. Valve angulately rounded behind; plates one and a half times as long as valve, subtriangular, contiguous, together parabolic in posterior outline, lateral margins with short white setae.

Described from many males and females collected by H. H. Storey at Durban and vicinity, Natal, June, 1924.

NOTE.—This species is of particular interest as having been proved by Mr. H. H. Storey, Government Mycologist, Durban, to transmit Streak Disease of Maize.

Tribe TYPHLOCYBINI.

KEY TO MAIN GENERA. (After DeLong.)

- | | |
|--|-----------------|
| 1. Posterior wings with sectors ending in a marginal vein | 2 |
| Posterior wings without marginal vein, sectors extending to wing margin .. . | 4 |
| 2. Elytra with a well defined appendix | <i>Alebra</i> . |
| Elytra without appendix | 3 |

3. Posterior wing with two apical cells *Dikraneura*.
 Posterior wing with one apical cell *Empoasca*.
 4. First two sectors of posterior wing uniting so that only three veins extend to
 wing margin 5
 Posterior wings with all four sectors ending in wing margin *Typhlocyba*.
 5. Elytra with outer sector not uniting in any part with middle sector; a common
 cross vein between them forming base of oblong apical cell *Erythroneura*.
 Elytra with outer and middle sectors uniting for a short distance posterior to
 cross veins, thus forming a triangular apical cell [*Empoa*]

Div. EMPOASCOARIA.

Genus *Empoasca* Walsh.

Species usually small, greenish, either short or elongate. Elytron without an appendix. Wing with a marginal vein which is reached by only two longitudinal veins, the first and second uniting before the apex and a cross vein between the second and third forming a single apical cell. Genital valve absent in the male.

KEY TO SPECIES.

- A. Face roundly trapezoidal or slightly oblong, not more than one-sixth longer than broad.
 B. Ocelli absent. Color greenish yellow, faint median white line on vertex. Length 2 mm. *protea*.
 BB. Ocelli present.
 C. Length 3 mm. and over.
 D. Color or bright pale green with scutellum whitish medially.
 E. Color pale green; head bluntly angular in anterior outline; eyes unicolorous with head. *chloroneura* n. sp.
 EE. Color bright green; head rounded in anterior outline; eyes black. *fascialis*.
 DD. Color yellowish green with scutellum light brown to yellow. *heliophila*.
 CC. Length 2.5 mm. and under.
 D. Vertex produced.
 E. Vertex angulate.
 F. Form robust, cylindrical, head distinctly wider than pronotum. Color green, with faint white spots on head and pronotum. *cylindrica* n. sp.
 FF. Form delicate, cylindrical; head as wide as pronotum. Color green with faint white spots on head and pronotum. *exilis* n. sp.
 EE. Vertex roundly angulate.
 F. Color blue, variegated with green; elytra with numerous reddish-brown dots. *faurea* n. sp.
 FF. Color pale green with grayish-white spots on head and pronotum; elytra unicolorous. *minima* n. sp.
 DD. Vertex not produced. Anterior margin rounded, subparallel to posterior margin; color pale green with white spots on head pronotum and scutellum. *campestris* n. sp.
 AA. Face elongate, pointed above and below, more than two-thirds longer than broad. Color yellowish-white with chocolate brown marking on vertex and face. *lineatifrons* n. sp.

E. protea Cogan.

Empoasca protea, Cogan, Homop. Studies, p. 197 (1916).

"Color greenish yellow with green predominating. Length 2 mm.; breadth .5 mm.

Face light yellow, fainter next the clypeus; genae, lorae and clypeus light green. Entire length of face exceeding the breadth by about one-half of the former.

Head somewhat large, slightly wider than the pronotum; vertex greenish, with irregular dark markings, and a faint white line extending the middle from the posterior to the anterior margin; slightly elevated, giving a convex appearance. Anterior of head angularly rounded, the angle less than a right angle. Eyes dark green to black, large; width between the eyes a little more than the length of the vertex. Pronotum brownish green with a faint white line on the middle, running longitudinally from the posterior margin almost to the anterior edge; two rather indistinct spots on either side of this line, located on the anterior half; length of pronotum a little greater than the vertex; anterior margin almost straight between the eyes, lateral margins rounded, slightly convex above; twice as wide as its length. Scutellum greenish brown about equalling the pronotum in length; a small transverse furrow near the apex. Elytra light green, translucent; venation distinct. Hind wings with the marginal vein somewhat produced. Abdomen yellowish, below greenish. Legs green, yellow at coxae. Female genitalia: distinct green; last ventral segment twice as long as the penultimate, sinuate and roundedly produced on the middle; pygofer strong, twice as long as the width at base, ovipositor a little longer." Cogan.

Described from three females.

Hab.—Table Mountain, Cape Town (Mally).

E. chloroneura n. sp.

Color pale green, iridescent. Form elongate, obtusely rounded anteriorly. Length about 4 mm., breadth not quite 1 mm.

Vertex obtusely rounded, slightly longer in front of eyes than behind that line, slightly wider than thorax. Ocelli present, pale green. Pronotum twice as long as vertex, anterior margin broadly rounded, lateral margins have the length of pronotum; humeral margin rounded, posterior margin flatly concave. Scutellum as long as pronotum, somewhat wider than long. Elytra elongate, narrow, rounded at apex, exceeding abdomen by one-third that length; veins green, evident only on posterior fourth of elytra. Face only slightly longer than broad; frons twice as long as clypeus; clypeus truncate at base, narrowly rounded at apex; genal margin faintly rounded in the middle, ending about the middle of clypeal margin; lorae not demarcated, but a faint furrow extends from the lower part of the genal margin to the inner angle of the eye. Hind tibiae strongly spinose.

Color.—Above: pale green, centre of scutellum, hyaline, elytra shiny, hyaline toward apex; below: face green, thorax, abdomen and legs greenish blue.

Genitalia.—Female: last ventral segment prominent, faintly emarginate or truncate behind, half as long as the part of the ovipositor extending beyond it, posterior angles rounded. Ovipositor slightly exceeding pygofer; pygofer spinose along inner edges for the greater part of its length.

Described from four female specimens,

Locality.—Hilton Road, Natal. On grass.

Coll.—E. S. Cogan. 18/3/17.

NOTE.—This species bears some resemblance to *Empoasca flavescens* in general form and in the shape of the genitalia, but is considerably larger and brighter in color.

E. fascialis (Jacobi).

Length 3mm. ; width 1 mm.

General color bright green, the median one-third of scutellum, its posterior edges, and anterior edge of pronotum of a dull enamelled yellowish white colour. Eyes, in fresh specimens, black.

Vertex obtusely rounded anteriorly, slightly longer in centre than next to eyes ; breadth at anterior apex of eye equalling twice the length. Pronotum medially one and a half times as long as vertex, twice as broad as long, lateral margins slightly divergent, humeral margins narrowly rounded, posterior margin shallowly concave. Scutellum large, straight-sided, one and a half times as long as pronotum, with a brown transverse impression just behind the middle. Elytra hyaline, tinged with green in proximal half, extending well beyond abdomen : veins greenish. Face as broad as long ; frons narrow, twice as long as clypeus, its lateral sutures approximating above and terminating just below the respective ocelli ; clypeus twice as long as its breadth at the middle, slightly constricted just below the base, which is truncate, sides rounded and narrowing gradually to a rounded apex, which exceeds loræ by about one-quarter of the total length of clypeus ; face constricted immediately below eyes, genal margins faintly convex and extending below loræ to clypeus by a very narrow margin.

Genitalia.—Female : last ventral segment twice as long as the penultimate ; posterior margin slightly concave, with the centre roundly produced ; posterior angles narrowly rounded ; ovipositor beyond last ventral segment three times as long as the latter, slightly exceeding pygofer, the inner margins of which are strongly setose between the middle and the apex. Male : last ventral segment at its longest about one-fourth longer than the penultimate, broadly rounded between the angularly notched centre and the rounded posterior angles ; plates three times as long as maximum length of last ventral segment, very narrow, tapering to slender points, the outer margins with groups of long slender setæ, the distal one-third of each plate expanded vertically on the dorsal side into a lobe which tapers gradually to a rounded apex ; inner edges of pygofer visible between bases of plates ; valve absent.

Described from numerous males and females from Barberton, Transvaal, compared with specimens identified at the Imperial Bureau of Entomology, London (as *Chlorita fascialis*).

This species is a pest of cotton in India, Northern, Central and Southern Africa. In the Union it is becoming increasingly destructive and causes some damage especially in humid seasons and in the more humid areas like Barberton, the Transvaal low veld and the Zululand cotton area.

E. heliophila Cogan.

Empoasca heliophila, Cogan, Homop. Studies, p. 197 (1916).

“Color yellowish, more or less tinged with green. Form long and slender. Length 3 mm. ; breadth scarcely 1 mm.

Face distinctly yellow, shading into greenish below, long and slender, with the clypeus about one-third of the length of the frons. Cheeks and loræ greenish yellow ; eyes pale green. Ocelli present, located on the

anterior margin of the head, brown in color. Vertex yellow, slightly produced in front, its length less than the breadth between the eyes and equal to about half the length of the pronotum, and about one-third of the total width of the head across the eyes. Pronotum yellow, lighter than the head on its posterior half, not quite as long as the width between the eyes. Scutellum light brown to yellow, not quite as long as the pronotum. Elytra pale greenish yellow. Abdomen dorsally yellowish green, venter greenish. Legs light yellowish green. Female genitalia: last ventral segment more than twice as long as the penultimate, produced on the middle, rounding to the sides; pygofers twice as long as their width at base. Ovipositor longer than the pygofers." Cogan.

Described from three females.

Hab.—Cape Town (Mally).

E. cylindrica n. sp.

Color bright shiny green. Form short, robust. Length 2.5 mm.; breadth .75 mm.

Vertex angular anteriorly, about twice as long in front of eyes as behind that line; width across eyes almost three and one-half times the length of the vertex. Ocelli minute, brown. Face as long as broad; frons tumid, two and a half times as long as clypeus; lorae distinct, narrow, genal margin straight, commencing about the middle of the eye, and extending narrowly beyond lorae, meeting clypeus near its base; clypeus parallel sided, base truncate, apex rounded. Pronotum transverse, about one and three-fourths times as broad as long, anterior margin rounded, posterior margin faintly concave, lateral margins parallel, humeral angles rounded. Scutellum almost twice as broad as long, sides slightly bulging. Elytra moderately long, exceeding abdomen, subhyaline.

Color.—Bright shiny green, more or less whitish on anterior third of pronotum, sometimes extending with an indistinct white line medially to the apex of the scutellum; ventral color green, face brownish green from frons upwards, with faint transverse arcs; tibiae bluish green.

Genitalia.—Last ventral segment large, truncate and deeply narrowly incised behind, half as long as ovipositor beyond it; pygofers broad, finely setose along inner margin, extending close to tip of ovipositor. Male: last ventral segment large, more than twice as long as the preceding, slightly concave behind; no valve visible; plates long, narrow, contiguous, about three times as long as last ventral segment, apices pointed.

Described from numerous males and females.

Locality.—Petrusburg, O.F.S.

Coll.—J. C. Faure. 22-25/4/18.

E. exilis n. sp.

Color dark green, shiny. Form slender elongate angulate in front. Length 2.3 mm.; breadth .6 mm.

Vertex produced, roundly angulate anteriorly, rounded above, as long in front of eyes as behind that line. Ocelli minute, pale green. Pronotum twice as broad as long, slightly longer than vertex, lateral margins parallel, humeral margins rounded, posterior margin concave. Scutellum straight sided, as long as pronotum, somewhat broader than long. Elytra narrow, exceeding abdomen by one-third their length. Face as broad as long, frons tumid, twice as long as clypeus; clypeus abruptly broadened against base of frons, rounded at apex, extending beyond genae by one-fourth of its length; genal margin straight, extending very narrowly below lora to clypeus; lorae distinct.

Color.—Dark green, elytra sub-hyaline at the apex; face brownish green; clypeus and tibiae bluish green.

Genitalia.—Female: last ventral segment prominent, rounded posteriorly, three times as long as ovipositor beyond it; pygofer with fine setae irregularly scattered along the inner edges: slightly exceeded by ovipositor.

Described from two female specimens.

Locality.—Elsenburg Agricultural College, C.P.

Coll.—F. W. Pettey. 16/12/22.

E. faurea n. sp.

Color greenish blue, green and white predominating on pronotum, the elytra speckled with brown. Form short, fairly robust. Length 2 mm., width .66 mm.

Vertex subangulately produced, twice as long in front of eyes as behind that line, head across eyes wider than pronotum. Ocelli minute, black. Pronotum almost twice as long as vertex, twice as broad as long, anterior margin broadly rounded, posterior shallowly concave, humeral margin rounded. Scutellum straight sided, broader than long. Face as long as broad, frons tumid, twice as long as clypeus; clypeus truncate at base, rounded at apex, exceeding genae by one-third of its length; lora small and very narrow; genal margin straight, extending very narrowly below the lora to the clypeus. Hind tibiae strongly spinose. Elytra broadly rounded at apex, exceeding abdomen by one-third their length.

Color.—Vertex pale green with speckles of darker green. Pronotum with a pale greenish-white anterolateral border, central and posterior portion subhyaline, with a pale white central longitudinal band and two faint brown dots near centre of anterior margin. Scutellum pale green, whitish centrally. Elytra greenish-blue, speckled with small brown dots particularly on either side of the veins. Ventral color brownish green, face with small obsolete arcs, tibiae and genitalia greenish-blue.

Genitalia.—Female: last ventral segment half as long as ovipositor beyond it, posterior margin truncate, with a narrow central incision extending one-third the depth of the segment; posterior angles obtusely angulate, ovipositor slightly exceeding pygofer; pygofer finely setose toward apex. Male: last ventral segment twice as long as the penultimate, roundly truncate behind, with a semicircular (valve-shaped) demarcation at the centre of its anterior margin; valve absent; plates triangular, narrow, slightly divergent, tapering to a sharp point; twice as long as the ultimate ventral segment; setose on the surface.

Described from four males and thirteen females.

Locality.—Petrusburg, O.F.S. On grass.

Coll.—J. C. Faure. April, 1918.

NOTE.—This species is somewhat similar to *E. tessellata* of North America but is smaller and has the speckling much more pronounced.

E. minima n. sp.

General color very pale green, fading on parts of head and pronotum. Form cylindrical. Length not quite 2 mm.; breadth .75 mm.

Vertex bluntly, subconically produced, as long in front of eyes as behind that line, two-fifths as long as width across eyes. Ocelli minute, black. Pronotum one-fourth longer than vertex, twice as broad as long; anterior margin broadly rounded, posterior shallowly, flatly concave; lateral margins short, divergent, humeral margins rounded. Scutellum

as long as vertex, sides faintly emarginate near apex. Elytra slightly exceeding abdomen. Face one and a half times as long as broad, angulate above, tapering below; frons twice as long as clypeus, narrow, sides slightly rounded; genal margin faintly emarginate below eye extending narrowly below lorae to clypeus; lorae elongate, truncate above, pointed below; gena with a furrow from inner angle of eye to middle of outer margin of lora; clypeus with a slightly expanded base uniformly narrowed to a roundly pointed apex; exceeding lorae by one-third its length. Ocelli minute, black.

Color.—Dorsally, pale green, fading into grayish white especially on posterior third of pronotum; eyes with a brick red tinge. Ventral color as above except clypeus, legs and genitalia, which are bluish green.

Genitalia.—Female: last ventral segment conspicuous, two-fifths as long as ovipositor beyond it, truncate behind, posterior corners rounded ovipositor acutely edged, distinctly exceeding pygofer, which are slightly rounded laterally.

Described from two female specimens.

Locality.—Elsenburg, C.P.

Coll.—F. W. Pettey, 16/12/22.

E. campestris n. sp.

Color pale green with faint white markings. Form short, robust. Length 2.3 mm., breadth .75 mm.

Vertex produced, angularly rounded in front, twice as long in front of eyes as behind that line; twice as broad as long. Ocelli black. Pronotum twice as broad as long, broadly rounded anteriorly, shallowly concave posteriorly, humeral angles rounded. Scutellum slightly longer than vertex, almost twice as broad as long. Elytra rounded at the costal margin, exceeding abdomen by about one-fourth their length. Face as broad as long; frons tumid, twice as long as clypeus, both minutely granulate; clypeus with base abruptly widened, sides parallel, apex rounded, exceeding genae; genal margin faintly rounded, extending narrowly beyond lora to clypeus.

Color.—Pale green; pronotum with a faint white longitudinal band broadened against the vertex, and an indistinct white spot behind each eye; elytra becoming hyaline beyond the clavus; frons brownish green, with faint transverse arcs; tibiae bluish-green.

Genitalia.—Female: last ventral segment faintly wavy behind, very slightly produced at the centre, posterior corners angularly rounded; about one-third the length of the genitalia beyond it.

Described from two female specimens.

Locality.—Petrusburg, O.F.S. On grass.

Coll.—J. C. Faure, April, 1918.

E. lineatifrons n. sp.

General color pale white with yellow banding on hyaline elytra, scutellum and pronotum, and brown longitudinal bands on head. Form slender, elongate, with pointed head. Length 3 mm., breadth .66 mm.

Vertex produced, roundly pointed, slightly broader than long, eyes markedly overlapping anterior edge of pronotum. Pronotum as long as vertex, anterior margin deeply concave, lateral margins divergent, humeral margins narrowly rounded, posterior margin faintly concave. Scutellum straight sided, slightly shorter than pronotum. Elytra long, narrow, exceeding abdomen by about one-third of their length. Face

very narrow and elongate, almost twice as long as broad, frons almost twice as long as clypeus, frontal sutures ending almost on the apex of vertex; clypeus truncate at base, slightly constricted near the base, roundly pointed at apex, exceeding genae; lorae long and narrow; genae faintly concave below the eyes, extending with a very narrow linear margin beyond lorae to clypeus.

Color.—Vertex chocolate brown with a broad white medial longitudinal band much narrowed towards the apex, an oval white spot in line with anterior apices of eyes and a small round white spot at each basal angle; eyes greenish. Pronotum subhyaline with a central longitudinal white band broadened to an arc against the anterior margin, the arc tinged with orange yellow along its margins. Scutellum golden yellow with a broad white band extending from the base to the middle, where it terminates in a transverse white band. Elytra hyaline tinged on the disc with obliquely transverse golden banding. Face white, with brown along the sutures—a prominent longitudinal brown band down each side of the frons, and a median longitudinal brown band on the clypeus; ventral color yellowish.

Genitalia.—Female: last ventral segment prominent, truncate behind; ovipositor about four times as long as last ventral segment, slightly exceeding pygofer which has a row of delicate setae along each inner margin.

Described from one female specimen.

Locality.—Hilton Road, Natal. On Blackberry.

Coll.—E. S. Cogan. 20/3/17.

NOTE.—This species is strikingly different in shape from typical *Empoasca*, but on account of the characteristic venation of the (lower) wing must for the present be referred to this genus. In head and especially facial characteristics it approaches Distant's Oriental Genus, *Heliona*, very closely.

Div. TYPHOCYBARIA.

Genus *Erythroneura* Fitch.

Zygina, Fieber, Verh. Zool-Bot. Ges. Wien. XVI., p. 509 (1866).

Idia, Fieber, Verh. Zool-Bot. Ges. Wien. XVI., p. 509 (1866).

Erythroneura, Oshanin, Kat. Palae. Hemip. p. 114 (1912).

"Vertex produced distinctly but rather bluntly angled, with apex usually slightly rounded. Elytra with apical cell between outer and middle sectors quadrate, elongate, the sectors joined by a cross nervure; Usually brightly colored." De Long. First two sectors of posterior wing uniting so that only three veins extend to the wing margin; posterior wing without a marginal vein.

KEY TO SPECIES.

- A. Ocelli absent.
- B. Head produced.
 - C. Vertex sharply angulate in front.
 - D. Color yellowish green. Dark green dorsomedially. *fulvidorsum* n. sp.
 - DD. Color pale white; pronotum and scutellum partly of enamelled appearance; elytra hyaline. *claripennis* n. sp.
 - CC. Vertex parabolically rounded or broadly angulate in front.
 - D. Anterior outline parabolic. Color greenish yellow; two black spots on costal margin. *maculicosta*, n. sp.

- DD. Anterior outline broadly angulate.
 E. Color light yellow, brown markings on vertex and pronotum.
elegia.
- EE. Color dark brown dorsally, tinged with purple.
purpureatincta.
- BB. Head not produced.
 C. Greenish; two black spots on vertex and two on scutellum.
 D. Color bright green. Face white to yellow, clypeus black.
4-maculata n. sp.
- DD. Color pale bluish-green. Face brown; clypeus and spots at bases of antennae black.
cicadulosa n. sp.
- CC. Fuscous-green or yellow: black spots lacking.
 D. Fuscous green; two fine transverse impressions across edge of vertex enclosed in yellowish halos.
flavoscuta n. sp.
- DD. Yellow; vertex reddish-brown. Frons strongly tumid; pronotum concave behind.
dactyla n. sp.
- AA. Ocelli present.
 B. Species yellowish green. Cuprous to black dorsomedially with a blue to black oval spot on costal margin of elytron.
pulchra n. sp.
- BB. Yellowish brown. Vertex considerably rounded anteriorly, slightly elevated at the middle.
mallyi.

E. fulvidorsum n. sp.

Greenish-brown, median portion dark, borders lighter. Form slender, pointed at both ends. Length 2.5 mm.; width about .66 mm.

Vertex conically produced, one and a half times as broad as long, width across eyes distinctly less than that of pronotum. Face as long as broad, genal margins straight, extending to tip of clypeus; frons twice as long as clypeus; clypeus rounded at apex; lorae distinct. Pronotum parabolic in anterior outline, side margins long, humeral margin straight, posterior margin slightly concave. Scutellum almost twice as broad as long, sides faintly concave. Elytra long, extending well beyond abdomen. Hind tibiae densely delicately spinose.

Color.—Vertex and pronotum greenish-brown with a yellowish white lateral border between the eye and tip of vertex, in front, and the humeral angle of the pronotum, behind. Scutellum yellowish green. Elytra apple-green an clavus, yellowish toward apex. Face: frons light brown, clypeus darker, genae green. Thorax and abdomen black: genitalia pale yellowish. Legs pale.

Genitalia.—Female: last ventral segment sinuate behind, the median portion broadly roundly produced. Pygofers strong, slightly shorter than ovipositor which is faintly curved.

Described from one female specimen.

Locality.—Petrusburg, O.F.S.

Coll.—J. C. Faure. March, 1918.

E. claripennis n. sp.

Color pale yellowish white, elytra hyaline, veins yellowish. Form slender elongate. Length 3 mm., breadth .66 mm.

Vertex subangulately produced, twice as broad as long, two-thirds as long as pronotum. Face long, narrow almost one and a half times as long as wide, tapering to a pointed clypeus; genal margins slightly broadly concave below the eyes, reaching clypeus below the lorae, which are small

and narrow; frons two and a half times as long as clypeus; clypeus truncate at base, roundly pointed at apex. Pronotum distinctly wider than the head, anterior margin broadly rounded, lateral margins long, divergent; humeral angles narrowly rounded; posterior margin broadly concave. Scutellum triangular, somewhat broader than long, as long as pronotum. Elytra elongate, twice as long as body between hinder margin of pronotum and tip of abdomen; with three more or less straight discal veins, the outer two partly obsolete.

Color.—Vertex, anterior one-third of pronotum and central longitudinal area of scutellum of yellowish-white enamelled appearance, posterior portion of pronotum and basal angles of scutellum hyaline. Rest of body white, elytra hyaline.

Genitalia.—Female: last ventral segment with posterior margin sinuate, its centre broadly rounded, the posterior angles angulately rounded. Pygofers with a row of spines close to the interior margin, slightly exceeded by ovipositor.

Described from one female collected by E. S. Cogan.

Locality.—Hilton Road, Natal. On Blackberry.

Coll.—E. S. Cogan. 20/3/17.

E. maculicosta n. sp.

General color sulphur-yellow, with two black spots along costal margin of elytron and two at base of scutellum; elytra subhyaline. Length 3 mm; width across pronotum not quite 1 mm.; form slender, head conical.

Vertex produced, roundly conical, twice as long in front of eyes as behind that line, one-third as long as width across eyes.—Pronotum wider than head, almost twice as long as vertex, lateral margins very long, divergent, posterior margins slightly concave, humeral margins short, truncate, anterior margin rounded. Scutellum straitsided, as long as vertex, twice as broad as long, with a transverse, impressed line on the middle. Elytra long, narrow, markedly exceeding abdomen, not quite four times as long as broad. Face about one-third longer than broad, trapeziform, genal margins very faintly bulging, lorae clearly marked off; frons narrow, two and a half times as long as clypeus; clypeus about twice as long as broad, base straight, sides rounded, narrowing to a roundly pointed apex.

Color.—Sulphur-yellow; elytra greenish, hyaline beyond middle, the oval black spots, one near base and one just beyond middle, both near to costal margin, obliquely placed; those at base of scutellum triangular, continuing beneath pronotum; clypeus dark brown, frons dark brown along base and sutures.

Genitalia.—Female: last ventral segment large, conspicuous, about three times as long as the preceding segment, abruptly narrowing to a roundly pointed apex behind, medially about as long as ovipositor beyond it; ovipositor delicate, its tip black, slightly exceeding pygofers, which are green and have some prominent white setae along inner edge at apex.

Described from two female specimens.

Locality.—Near Ceres, C.P.

Coll.—F. W. Pettey. April, 1923.

E. elegia Cogan.

Typhlocyba elegia, Cogan, Homop. Studies, p. 199 (1916).

Form long, sharp, color light yellow, the vertex and pronotum marked with brown. Length 4 mm.; breadth 1.5 mm.

Face pale yellow, greatly elongated, almost twice as long as its breadth; frons narrow, the sutures almost parallel about four times as long as the clypeus, which is short and a little longer than wide. Cheeks and lorae white, the latter long and narrow; clypeus black. Eyes black with a whitish band on the middle. Vertex yellow, somewhat produced, the anterior end rounded, not as long as pronotum, and shorter than the width between the eyes; a large brown irregular spot on the middle of the disc. Pronotum pale yellow with a large brown marking on the middle, extending from anterior to posterior margin and widening considerably in the middle; indistinct brown marks on the lateral margins. Scutellum yellow with two black spots at the basal angles and a large black spot at the apex; brownish markings on the middle, not as long as the pronotum. Elytra yellow, transparent, with brown markings on the claval area, also on the corium, parallel to the claval suture; much longer than abdomen; middle apical cell narrow, the sides subparallel. Abdomen above brown, white on the borders and bright yellow beneath. Legs light yellow.

Genitalia.—Female: last ventral segment twice as long as the penultimate, strongly produced, the production being V-shaped; pygofers strongly rounded to the sides; ovipositor strong, a little longer than the pygofers, black at the tips." Cogan.

Described from three females.

Hab.—Cape Town (Mally).

E. *purpureatincta* Cogan.

Typhlocyba purpureatincta, Cogan, Homop. Studies, p. 198 (1916).

"Color dark brown above, tinged with purple, beneath yellowish. Length almost 3.25 mm. Breadth 1 mm.

Face brownish yellow, the clypeus darker, almost black; with the cheeks and lorae light yellow, two irregular dark spots near the middle, moderately produced, the apex considerably rounded; anterior margin angularly rounded, the angle less than a right angle; length of vertex about equal to half the width between the eyes. Pronotum brown above, yellow beneath, anterior margin well rounded between the eyes, posterior half wider than the head; almost twice as broad as its length and about twice as long as the vertex; posterior margin slightly concave; two furrows running from the middle behind the eyes to a little beyond the posterior half. Scutellum brownish at angles next to pronotum, with a rectangular purplish marking on the middle; indistinctly striate; a little longer than the pronotum. Elytra light brown with a distinct purple tinge, translucent, the veins showing as darker brown lines; a pronounced longitudinal purple marking on the outer margin of the middle of the corium; entire margin of elytron of a darker hue than the remainder; two apical cells present in posterior wing. Abdomen yellowish-brown dorsally, dirty yellow ventrally. Legs a dirty yellow, hind tibiae tinged with purple.

Genitalia.—Female: dark purple, the last ventral segment brownish, a little longer than the penultimate; ovipositor narrow, a little longer than the pygofers." Cogan.

Described from two females.

Hab.—Cape Town (Mally).

E. *4-maculata* n. sp.

Yellowish green with two large semicircular black spots on the vertex and two larger black spots at the basal angles of the scutellum; form elongate slender, length 4 mm., breadth 1 mm.

Vertex slightly produced, bluntly angulate, two and a half times as wide as long, sloping towards the eyes and prominently raised above the

anterior edge of the pronotum. Pronotum large, almost as long as wide, side margins very long, humeral angles rounded, posterior margin slightly concave; finely transversely striate on the middle. Scutellum slightly broader than long, side slightly concave. Frons long and narrower, lateral boundaries converging to a point at the tip of the vertex; clypeus roundly pointed exceeding the genae and lorae; outer boundaries of lorae indistinct. Antennae with basal segment twice as broad as the second, narrowing to a fine, pointed bristle. Ocelli absent. Elytra much longer than the abdomen.

Color.—Yellowish green; two large circular black spots against anterior margin of vertex surrounded by whitish halos; two prominent black spots at basal angles of scutellum which is brownish at the tip. Central part of pronotum, and the clavus appearing fuscous. Elytra smoky from the end of the clavus to the tip. Clypeus black, lorae whitish, thorax beneath black, base and tips of male genital plates purple; ovipositor of female purple, pygofers purple at the sides.

Genitalia.—Female: last ventral segment strongly triangularly produced twice as long as preceding, deeply notched at the apex. Pygofers strong, slightly exceeding ovipositor, with a few spines along inner margin. Ovipositor curved upward. Male: abdomen sharply narrowed, plates strong, elongate curving upward at tips, spines on middle of outer margin, strongly divergent, three times as long as the last ventral segment.

Locality.—Cedara, Natal, on *Salix babylonica*.

E. cicadulosa n. sp.

General color pale, bluish-green. Two black spots on vertex and two at basal angles of scutellum. Length 3 mm.; width .75 mm.

Vertex rounded above and anteriorly, only slightly longer medially than next to eye; one-fifth as long as width across eyes. Pronotum wider than head, two and two-thirds times as long as vertex, rounded above, broadly rounded anteriorly; posterior margin straight, humeral angles roundly angulate, lateral margins backwardly divergent. Scutellum straight-sided, half as long as pronotum. Elytra slightly rounding along costal margin, exceeding abdomen. Hind tibiae densely spinose. Face one and a half times as long as wide, broadly angulate above, narrowly angulate below; frons two and a half times as long as clypeus, parallel sided between eyes, narrowing above; basolateral margins very faintly concave, genae extending broadly below lorae to clypeus; lora small, sutures obsolete.

Color.—Pale bluish green: two circular black spots in whitish halos above anterior margin of vertex; transverse impression and spots in basal angles of scutellum, black (the latter are continuations of a large black area underneath the pronotal tergite). Abdomen dorsally black. Face brown; black on clypeus, frontal sutures and at bases of antennae. Ventral color black, genitalia (female) yellow; legs whitish.

Genitalia.—Female: last ventral segment twice as long as the preceding, triangularly produced, apex truncate or faintly notched; ovipositor a little longer than last ventral segment, equalling pygofers which are rounded and delicately sparsely setose apically, their sides straight and approximating backward.

Described from two female specimens.

Locality.—Ceres, C.P.

Coll.—F. W. Pettey, April, 1923.

NOTE.—This species bears a close resemblance to *E. A. maculata*, described above.

E. flavoscuta n. sp.

Dark greenish-brown with a yellow scutellum. Length not quite 3 mm., breadth .75 mm.

Vertex, subconically produced, roundly angular, twice as broad as long; head with eyes wider than pronotum. Face slightly longer than broad, genal margins straight and in line with lower portion of clypeal margin; clypeus about half as long as frons, roundly pointed distally, exceeding genae and lorae. Pronotum twice as long as vertex, anterior margin roundly angulate, posterior margin broadly concave, humeral angle angulately rounded. Scutellum triangular, somewhat broader than long. Elytra exceeding abdomen.

Color.—Vertex brown, greenish at basal angles, with a fine semi-circular line surrounded by a yellow crescent crossing the edge vertically, midway between the apex and either eye. Face brown, genae and median portion of frons light greenish yellow. Pronotum brown posteriorly, greenish brown anteriorly. Scutellum light greenish yellow. Elytra dark smoky to brown, with a large lighter, sometimes bluish, oval spot along the middle of costal margin. Abdomen black above and below, edges and pygofer yellow, ovipositor and male genitalia dark brown. Legs brown.

Genitalia.—Female: last ventral segment a little more than twice as long as the preceding, triangular, narrowing to a pointed apex. Pygofer slightly bulging beyond the middle (distally), with a few white setae along inner margins; ovipositor exceeding pygofer. Male: valve broad, transverse, almost as long as last ventral segment; posterior margin faintly concave, centre with a broad, very shallow notch which is bordered with yellow; plates elongate, four times as long as valve, basal third laterally rounded, tapering to the tip which is narrow, rounded and upwardly curved, outer margin setose near the base.

Described from numerous males and females.

Coll.—J. C. Faure. 22-25/4/18.

Locality.—Petrusburg, O.F.S.

E. dactyla n. sp.

General color greenish-yellow, head tinged with brown. Form long, slender, blunt anteriorly. Length 3 mm.; breadth across pronotum not quite 1 mm.

Vertex very slightly produced, rounded in front, margins almost parallel, one-fourth as long as width across eyes, a faint longitudinal line extending from base to apex. Pronotum in centre almost twice as long as vertex with very faint transverse rugulae, broader than head; anterior margin rounded, overlapped by head; lateral margins long, divergent, humeral margins short, rounded, posterior margin concave. Scutellum as long as pronotum, one and a half times as wide as long, sides faintly concave near apex. Elytra long, narrow, curved, about four times as long as wide, of uniform width and exceeding abdomen by nearly half their length. Face tumid, as broad as long, rounded above, roundly triangular below, lateral margins faintly concave, lorae small, outer suture faint but entire; clypeus about one-fourth as long as frons, as long as broad, subcircular, only base being truncate.

Genitalia.—Female: last ventral segment produced abruptly from its short base into a narrow finger-like projection, roundly pointed apically and of equal width throughout, about five times as long as broad and about half as long as the whole of the genitalia; beneath this are two broad lobes almost as long as the projection, broadly rounded behind and con-

tiguous from about their middle cephalad; pygofers broad at base, abruptly narrowing towards apex, with two or three white setae on inner margin near apex, nearly meeting over ovipositor, the tip of which is exposed and brown.

Described from one female.

Locality.—Ceres District, C.P.

Coll.—F. W. Pettey. April, 1923.

E. pulchra n. sp.

Cuprous green infuscated with dark brown along the central longitudinal line, ventrally black. Form *Eugnathodus*-like; length not quite 3 mm.; breadth .86 mm.

Vertex broadly rounded, transverse, about four times as broad as long, anterior and posterior margins subparallel: head across eyes slightly wider than thorax. Pronotum twice as broad as long, sides of moderate length, anterior margin broadly rounded, posterior concave, subparallel to anterior; humeral margins narrowly rounded. Face as broad as long, tumid; genal margin faintly concave in the middle, meeting clypeus two-thirds down its length; lorae indistinct, frons twice as long as clypeus, the latter rounded at the apex and with its sides parallel; lorae normal in outline (i.e. closed above), but demarcation faint. Scutellum not quite twice as broad as long, surface distinctly rounded in front of the middle, finely granulate. Elytra exceeding abdomen by about one-third of their total length.

Color.—Vertex cupreous brown; face brown except lorae and genae, which are greenish; ventral color dark brown with a bluish tinge on sides of thorax; femora pale yellow, tibiae and tarsi purplish. Pronotum dark-brown, with anterolateral portions greenish yellow. Scutellum dark brown. Elytra cupreous green with clavus dark brown or fuscous, and a large oval dark brown spot, which is tinged with blue, along the claval margin.

Genitalia.—Female: last ventral segment almost half the total length of the genitalia, triangular, somewhat longer than broad, posteriorly produced to a narrow pointed tooth; pygofers slightly exceeded by ovipositor with a row of light colored setae along the inner margin, which is yellowish.

Described from two female specimens collected by F. W. Pettey at Elsenburg Agricultural College, C.P. 17/12/22. Also taken at Viljoen's Pass, C.P. 12/1/23 (Pettey).

NOTE.—A specimen taken by Pettey at Jonker's Hoek and Waterfall, Drakenstein Valley, C.P., agrees with the above in all essential details, but is about one-third longer (and broader in proportion), has more yellow on the vertex and has the concavity of hind margin of pronotum in angular form. The secluded location may account for such a variation.

E. mallyi Cogan.

Typhlocyba mallyi, Cogan, Homop. Studies, p. 198 (1916).

"General color yellowish brown with elytra dull greenish. Form short and stout. Length not quite 3 mm.; breadth a little more than 1 mm.

Vertex yellowish brown, unicolorous with face, not produced at all; considerably rounded anteriorly, and slightly elevated at the middle; about half as long as the pronotum; a small black line extending from the

posterior margin to about the middle; width between the eyes about three times the length of the vertex. Face yellowish brown with the frontal sutures almost black; frons narrow, three times as long as its width; clypeus dark brown about one-fourth of the length of the frons; large small, light yellow; cheeks somewhat fainter in color. Ocelli present, colorless, located at the extremities of the frontal sutures. Pronotum yellow on anterior half, brown on posterior; more than twice as broad as long, the length being less than the width between the eyes; side margins rounded, posterior margin slightly concave on the middle; somewhat rugose and concave on top. Scutellum yellow with two brown spots at the base and an indistinct spot near the apex; slightly longer than the pronotum. Elytra greenish brown with traces of yellow on the claval area; transparent; margin of the clavus light brown, the corium greenish, with a longitudinal brown marking on the middle, extending from the margin to the second sector. Abdomen above black, brownish at the tip and yellowish brown beneath.

Genitalia.—Female: last ventral segment strongly produced to a blunt point, brown on middle with yellow borders, twice as long as the penultimate segment; pygofer stout, a little longer than their width at the base; ovipositor a little longer than the pygofer. Legs light yellow, becoming brown at the tarsi.

Described from one female. Cogan.

Hab.—Cape Town (Mally)

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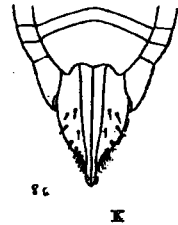
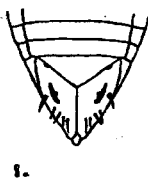
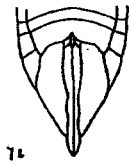
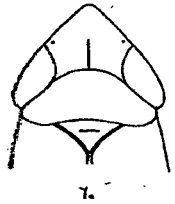
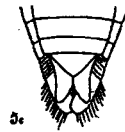
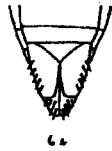
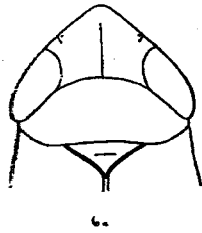
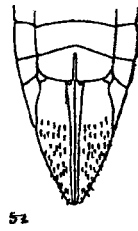
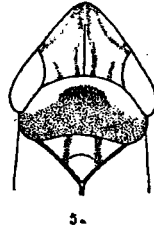
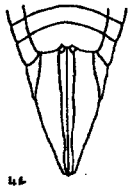
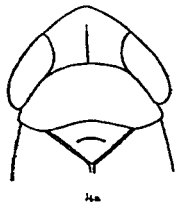
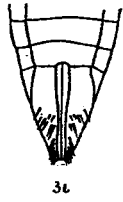
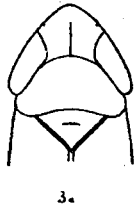
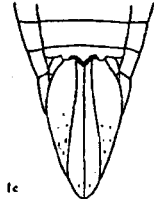
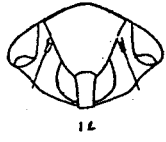
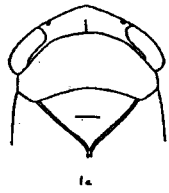
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PLATES

PLATE III.

- Fig. 1. *Selenocephalus planescens* n. sp. a. Head and thorax. b. Face. c. Female genitalia.
- Fig. 2. *Scaphoideus cuprescens* n. sp. a. Head and thorax. b. Female genitalia. c. Male genitalia.
- Fig. 3. *Deltocephalus bivittatus* n. sp. a. Head and thorax. b. Female genitalia.
- Fig. 4. *Deltocephalus attenuatus* n. sp. a. Head and thorax. b. Female genitalia.
- Fig. 5. *Deltocephalus cogani* n. sp. a. Head and thorax. b. Female genitalia. c. Male genitalia.
- Fig. 6. *Deltocephalus saltus* n. sp. a. Head and thorax. b. Male genitalia. c. Female genitalia.
- Fig. 7. *Deltocephalus chlorellus* n. sp. a. Head and thorax. b. Female genitalia.
- Fig. 8. *Deltocephalus granarius* n. sp. a. Female genitalia. b. Male genitalia.



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PLATE IV.

- Fig. 1. *Deltocephalus atrodentatus* n. sp. a. Head and Thorax. b. Face. c. Female genitalia.
- Fig. 2. *Deltocephalus eductus* n. sp. a. Dorsal view. b. Female genitalia. c. Male genitalia. d. Elytron. e. Face.
- Fig. 3. *Deltocephalus africanus* n. sp. a. Head and thorax. b. Female genitalia.
- Fig. 4. *Deltocephalus campanus* n. sp. a. Head and thorax. b. Face. c. Female genitalia.
- Fig. 5. *Deltocephalus cephalus* n. sp. a. Head and thorax. b. Male genitalia.

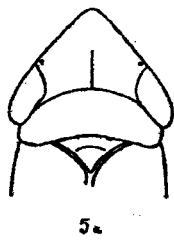
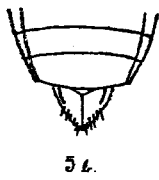
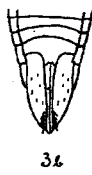
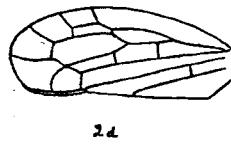
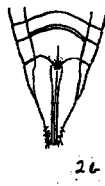
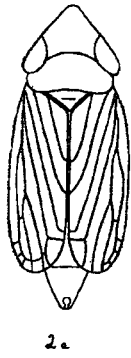
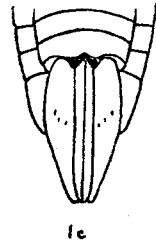
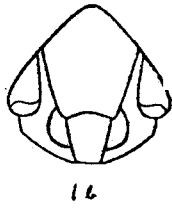
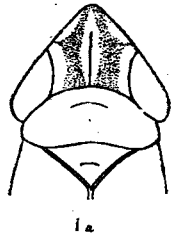


PLATE V.

- Fig. 1. *Aconura sagittaria* n. sp. a. Head and thorax. b. Face. c. Female genitalia.
- Fig. 2. *Aconura acuminata* n. sp. a. Head and thorax. b. Female genitalia.
- Fig. 3. *Aconura compta* n. sp. a. Head and thorax. b. Male genitalia. c. Female genitalia.
- Fig. 4. *Aconura ceresensis* n. sp. a. Head and thorax. b. Female genitalia.
- Fig. 5. *Deltocephalus pumilicans* n. sp. a. Head and thorax. b. Male genitalia.
- Fig. 6. *Euscelis chloridula* n. sp. a. Head and thorax. b. Male genitalia. c. Female genitalia.
- Fig. 7. *Euscelis obscurinervis*. Female genitalia.
- Fig. 8. *Euscelis conicus* n. sp. a. Head and thorax. b. Male genitalia. c. Female genitalia.
- Fig. 9. *Euscelis cycloptia* (Cogan). Male genitalia.

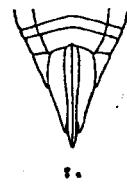
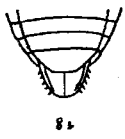
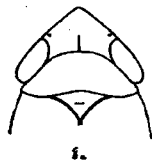
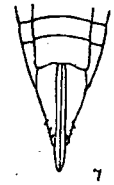
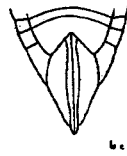
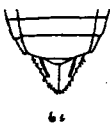
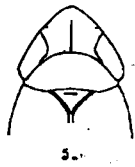
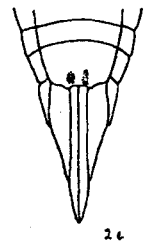
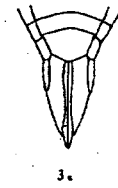
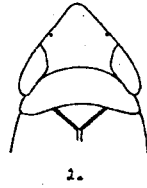
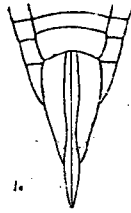
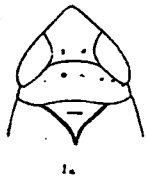


PLATE VI.

- Fig. 1. *Euscelis ramosa* n. sp. *a.* Head and thorax. *b.* Male genitalia. *c.* Female genitalia.
- Fig. 2. *Euscelis adspersa* n. sp. *a.* Dorsal view. *b.* Face. *c.* Elytron. *d.* Male genitalia.
- Fig. 3. *Euscelis rosea* n. sp. *a.* Head and thorax. *b.* Male genitalia.
- Fig. 4. *Euscelis pettelyi* n. sp. *a.* Head and thorax. *b.* Female genitalia. *c.* Male genitalia.
- Fig. 5. *Euscelis hieroglyphica* n. sp. *a.* Dorsal view. *b.* Female genitalia. *c.* Male genitalia. *d.* Face. *e.* Elytron.
- Fig. 6. *Euscelis cypraea* n. sp. *a.* Head and thorax. *b.* Female genitalia.

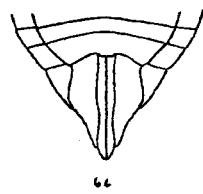
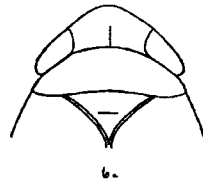
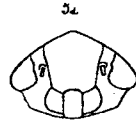
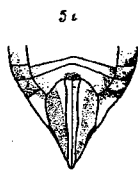
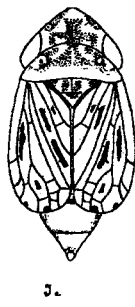
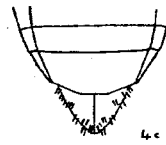
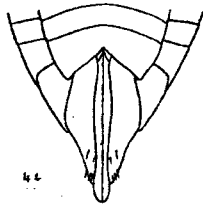
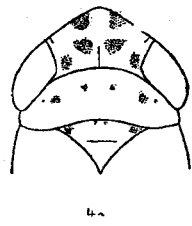
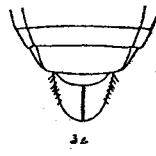
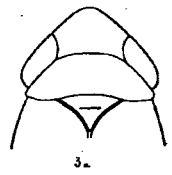
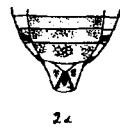
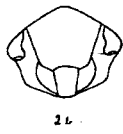
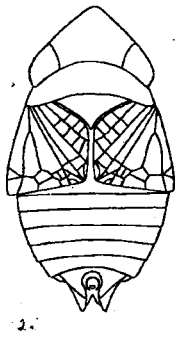
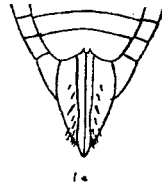
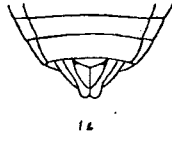
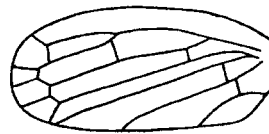
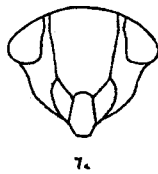
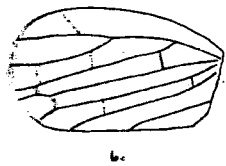
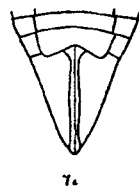
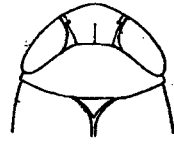
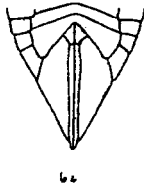
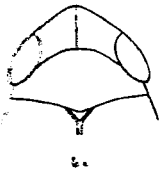
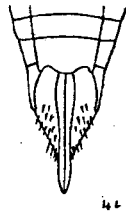
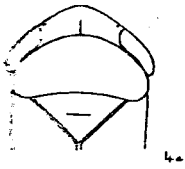
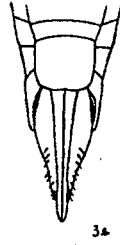
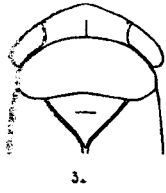
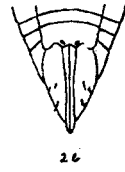
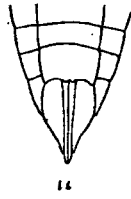
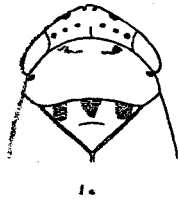


PLATE VII.

- Fig. 1. *Thamnotettix 10 nictata* n. sp. a. Head and thorax. b. Female genitalia.
Fig. 2. *Thamnotettix angulata* n. sp. a. Head and thorax. b. Female genitalia.
c. Male genitalia.
Fig. 3. *Chlorotettix parabolatus* n. sp. a. Head and thorax. b. Female genitalia.
c. Male genitalia.
Fig. 4. *Chlorotettix africanus* n. sp. a. Head and thorax. b. Female genitalia.
Fig. 5. *Chlorotettix spadix* n. sp. a. Head and thorax. b. Male genitalia.
Fig. 6. *Equeefa albicosta* n. sp. a. Head and thorax. b. Female genitalia.
c. Elytron.
Fig. 7. *Palicus fuscovarius* Stal. a. Head and thorax. b. Female genitalia.
c. Elytron. d. Face.



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