

*A further Contribution to the Study of South African  
Scelionidæ (Insecta, Hymenoptera, Proctotrupoidea).*  
By G. E. J. NIXON, B.A.

[Plates X. & XI.]

THE present paper continues the work of the author's last \*, the ultimate aim in view being to monograph the Scelionidæ contained in the valuable collections of Hymenoptera made by Mr. Rowland E. Turner in South Africa, and generously presented by him to the British Museum, which previously possessed no material of this family from South Africa.

However, the publication of this paper is accompanied by not a little reluctance on the part of the author, for, in furthering his purpose, he has found the erection of several new genera and the description of many new species inevitable. It is unfortunate that, thereby, yet another load is added to an already overburdened nomenclature, and especially so, since the author cannot confidently believe in the validity of all of the genera which he is bringing forward as new. The reason for such uncertainty lies in the fact that some of these genera are based largely on characters to which apparently no attention has been paid by earlier writers, but which the present author, from his experience of this group of insects, considers to have been likely features of many of the genera previously described. One such character (*i. e.*, "a specialized mesonotal area," referred to below) is possessed by Ashmead's genus *Lapitha*, although its presence is not noted by him.

The use of these characters has greatly facilitated the classification of the South African material, and, so far, it has been possible to assign a definite value to them, but whether this value would hold good if their use were extended to a revision of the present classification of the Scelionidæ as a whole must remain doubtful, as the author has had personal access to only a small collection of described species.

In consideration of the above remarks then, it will not be surprising that the relationships existing between

\* "On some new South African Proctotrupoidea (Scelionidæ)," *Eos*, vii. pp. 355-382 (1931).

the new genera and species described in the following pages, on the one hand, and those genera and species which are already known, on the other, will have been often inadequately defined.

Generic value has, in the main, not been given to secondary sexual characters. The author is of the opinion that, from the point of view of convenience, such characters are best treated as specific. Among the Scelionidæ, many of the females possess a remarkable prolongation on the first abdominal segment. In form and sculpture this prolongation shows peculiarities which are extremely useful in separating species. Apart from its specific value, its mere existence at all would be a highly convenient factor in the establishment of a generic system, were it not for the fact that, in the males associated with any group of females which have this prolongation, no character is present which is not common also to the males of another group of species, which would fall naturally within the same genus, but the females of which are without this prolongation. The same remarks apply equally well to other secondary sexual characters occurring in both sexes of the Scelionidæ.

It follows that, in accordance with the author's conception of a genus, which, it is freely admitted, is determined as often by requirements of convenience as by a due regard for the natural arrangement of a group of species, the males included in one genus will be separable by characters which are no more than specific, while their females will show differences which would appear to be generic. The writer is fully aware that an attitude towards the limiting of a genus, such as would be inferred from what has just been said, is sometimes open to objection, but he does not think that this is so in the case of the Scelionidæ, a group the present classification of which is in a state of great disorder, chiefly because it draws support from the indiscriminate use of secondary sexual characters as a basis for genera.

In fixing the limits of genera, stress has been laid on : (i.) the distance at which the subcostal nervure is situated from the edge of the wing. Such genera as *Gita* and *Vara* <sup>*Vara*</sup> *Govinda* offer an example of either extreme type. (ii.) The presence or absence of a small plate which is situated against the anterior margin of the mesonotum, lying

within the angle or curve formed by the posterior margin of the pronotum. So far as the author is aware, neither of the above characters has been made use of by earlier writers in the diagnosis of genera.

With regard to the terminology employed in the descriptions, some confusion might arise out of the use of the word "striation" and its derivatives. A single stria or striation refers always to a ridge or raised line, and not to the intervals between such ridges or raised lines. The author believes that the connotation which he gives to this group of words is unusual, but he defends his particular usage of it on the grounds of convenience.

In describing sculpture, the term "scaly-reticulate" is frequently employed. This expression refers to a sculpture of delicate, often very faint, scratches, forming a fine close network on a normally smooth surface. Where such a type of sculpture predominates, as in the African species of *Paratrimorus*, the surface usually shows also minute well-separated punctures.

All those genera which were dealt with in the writer's previous paper are included in the key to genera below.

The types of all new species described below remain the property of the British Museum.

In conclusion, the author takes this opportunity to express his indebtedness to Dr. Hugh Scott and to Prof. S. Maulik for many helpful suggestions, and to Mr. Engel Terzi for the excellent drawings of wings. The other figures are from drawings by the author.

#### *Key to the Genera.*

1. Tergite 2 without a trace of a transverse furrow at its base. Thorax truncate in front, the truncate part being occupied by the pronotum alone; the mesonotum extends forwards between the sides of the pronotum, but not downwards towards the neck, and, in consequence, when seen from the side, is only very weakly arched in front .. *Oriscelio* Kieffer.
- Tergite 2 with a transverse furrow or fine groove or at least impression at its base. Thorax not truncate in front, the mesonotum extending downwards towards the neck as well as forwards between the sides of the pronotum and hence, when seen from the side, strongly arched in front ..... 2.

2. Frons deeply hollowed out, the resulting cavity reaching to nearly the anterior ocellus and its limits above and at the sides clearly defined by a sharp ridge... *Hoploteleia* Ashm.  
 Frons not deeply hollowed out, or if at all excavated, then the resulting cavity is not clearly defined by a ridge ..... 3
2. Scutellum posteriorly produced on each side into two subtriangular tooth-like lamelliform processes, and appearing in consequence emarginate posteriorly. (These processes are often very much reduced.) ..... *Shreemana*, gen. nov.  
 Scutellum posteriorly without lamelliform processes on each side and of normal form ..... 4.
4. Mesonotum, right in front, with a more or less distinct, transverse, straight or sinuate ridge, which separates off a small, subtriangular area which lies within the curve or angle formed by the posterior margin of the pronotum (this area might well be taken for a part of the pronotum itself; it is usually smooth and shining) ..... 5.  
 Mesonotum without such an area in front ..... 8.
5. Subcostalis not distinctly separated from the edge of the wing, so that the wing-membrane is hardly distinct above it. .... *Dula*, gen. nov.  
 Subcostalis well separated from the edge of the wing, so that the wing-membrane is very distinct above it ..... 6.
6. Postscutellum medially with a projecting process. Eyes bare. .... 7.  
 Postscutellum medially without a projecting process. Eyes hairy ..... *Gita*, gen. nov.
7. Process of the postscutellum pointed at its apex, triangular or tooth-like. Tergite 3 much longer than 2. Postmarginalis virtually wanting ..... *Paratrimorus* Kieffer.  
 Process of the postscutellum not pointed at its apex, where it is bidentate or has its apical margin straight or slightly emarginate. Tergite 3 hardly longer than 2. Postmarginalis very distinct.. *Vardhana*, gen. nov.
8. Parapsidal furrows entirely or virtually wanting ..... 9.  
 Parapsidal furrows more or less evident. .... 12.
9. Eyes bare. Middle tergites transversely impressed at their base, so that the abdomen, in lateral aspect, has the appearance of being distinctly notched along its dorsal surface. Marginalis longer than the stigmalis ..... *Thelepte* Nixon.  
 Eyes hairy (the hairs often very short), or if bare, then the middle tergites are

- not as above. Marginalis shorter than the stigmalis . . . . . 10.
10. Tergite 1 distinctly transverse; tergite 2 by no means twice as wide apically as basally. Postscutellum medially with a horizontal, triangular or semicircular, lamelliform process . . . . . *Govinda*, gen. nov.
- Tergite 1 not distinctly transverse; tergite 2 twice or nearly twice as wide apically as basally. If the postscutellum has any process, it is not horizontal . . . . . 11.
11. Apex of the propodeum with a short tooth-like process on each side. Postscutellum medially without any process. . . . . *Procacus* Kieff.
- Apex of the propodeum without tooth-like processes. Postscutellum medially with a short, transverse, angular lamelliform process . . . . . *Lapithoides*, gen. nov.
12. Eyes conspicuously hairy. . . . . *Paranteris* Kieffer.
- Eyes bare, or at the most with minute, scattered, quite inconspicuous hairs. . . . . 13.
13. Marginalis short, considerably shorter than the stigmalis . . . . . *Ceratoteleia* Kieffer.
- Marginalis long, at least as long as the stigmalis . . . . . *Macroteleia* Kieffer.

#### ORISCELIO Kieffer.

*Oriscelio* Kieffer, Bull. Soc. Ent. France, p. 293 (1912).

According to Kieffer, *Oriscelio* is a genus differing from *Scelio* only in that the scutellum is bilamellate posteriorly. A careful study of the type and one other species reveals that *Oriscelio* is a genus quite distinct from *Scelio*, and one not possessing very obvious affinities with it. It does, however, show a clear relationship with *Sceliomorpha*, or, rather, with certain of the species now placed in this genus, for, in the author's opinion, *Sceliomorpha*, though better defined than most of the other Scelionid genera, contains a number of species whose interrelationships are imperfectly understood.

The following diagnosis of the genus is suggested:—

*Head* transverse, not strongly produced backwards at the temples and hence not conspicuously emarginate behind. Frons with a large shallow impression, which is bordered above, but not at the sides, by a ridge; the upper margin of this impression is far distant from the anterior ocellus, and when the head is seen from the side the frons appears to project slightly at the point where the ridge defines the upper limits of the frontal impression.

**Antennæ** 12-segmented in both sexes; club of female funicle distinctly separated from the rest of the funicle, that is, segment 4 is by no means intermediate in size between 3 and 5; first segment of the club about twice as long as the second; funicle of the male very short. **Eyes** bare. **Posterior ocelli** almost touching the eye-margin. **Mandibles** with two teeth of equal length.

**Thorax** nearly parallel-sided, conspicuously truncate in front; the truncate part is occupied by the pronotum alone, which is necessarily strongly produced upwards in front; the mesonotum extends forwards between the greatly enlarged shoulders of the pronotum, but does not extend downwards towards the neck of the insect; the mesonotum, in consequence, is but weakly arched in front when seen from the side. **Shoulders** of pronotum large and conspicuous from above. There is no trace of parapsidal furrows. **Scutellum** with an irregular and often feeble notch at the mid-point of its posterior margin. The postscutellum lies below the level of the scutellum, so that, in lateral aspect, its small process projects only a little beyond the apex of the scutellum. **Lateral carinæ** of the propodeum much modified; these carinæ are exaggerated and produced into more or less horizontal flaps on each side of the propodeum; the apical lateral corner of each flap is acutely angled, as is also the apical inner corner; the entire margin between the two corners is shallowly emarginate; the two inner angles are connected by a ridge (often indistinct in the middle) which is curved in such a way that the propodeum appears semicircularly hollowed out medially. **Legs** rather short; segment 1 of the hind tarsus shorter than the following segments together. **Fore-wings** with the subcostalis well separated from the edge of the wing along its entire length; marginalis punctiform and distinctly separated from the edge of the wing; postmarginalis entirely wanting; a false and feebly indicated radius encloses a long radial cell which is fully three-quarters of the length of the subcostalis; fringe very short and inconspicuous.

**Abdomen** not or extending but little beyond the apex of the wings, flattened above. All segments transverse; segment 1 strongly transverse, its basal margin with modifications correlated with those of the propodeum; the

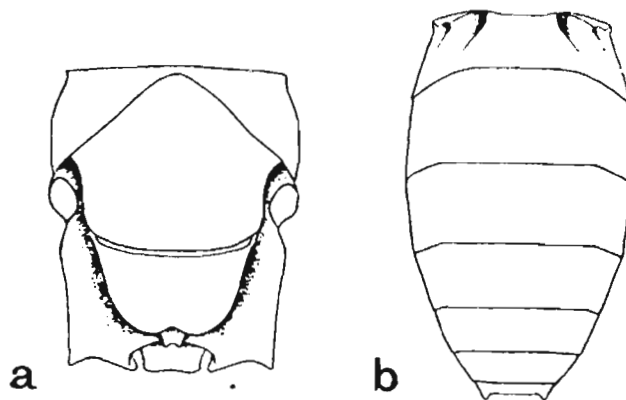
sides of the segments at the base are more or less hollowed out and, in consequence, the segment between the two excavations appears raised in the form of a shield, which, being margined at its sides and at its base, is more or less rectangular in outline. The median raised part of the segment would fit into the medial excavation of the propodeum; the two hollows on each side of the shield would receive the propodeal flaps. Segment 2 without any trace of a transverse groove or furrow at its base; 3 a little shorter than 2.

*Oriscelio turneri*, sp. n. (Text-fig. 1.)

Intense black. Antennæ of female (except pedicel and first four segments of the funicle, which are paler) black. Legs in both sexes (except tarsi, which are paler) black.

Head about one and three-quarter times as wide as long. Frontal impression roughly circular to transverse,

Text-fig. 1.



*Oriscelio turneri*, sp. n., ♂.

a, thorax; b, abdomen.

but always ill defined with regard to its lateral limits; at its sides the impression often has large punctures; distance between the upper margin of the impression and the anterior ocellus about two-thirds as great as the shortest distance between the eyes on the frons. Surface of the frons between the impression and the anterior ocellus strongly, but somewhat evenly, reticulate-punctate,

and highly polished; the pits themselves are rather shallow. Surface in the region of the ocelli irregularly sculptured. The declivous part of the vertex tends to be separated from the ocellar region by a slight change in the nature of the sculpture, the latter showing a marked tendency to develop continuous transverse ridges out of the otherwise reticulate surface; such ridges, though irregular, are especially distinct across the vertex immediately behind the ocelli. Cheeks both anterior and posterior to the genal sulcus very coarsely sculptured. Eyes closely margined by a carina, which is less distinct on the inner margin.

*Antennæ*: first four segments of the funicle very short and small; 3 and 4 very strongly transverse; 5 to 10 forming a very thick club, which is fully three times as long as the rest of the funicle. Mandibles narrow, strongly curved.

*Thorax* clothed sparsely with more or less upstanding hairs. Mesonotum coarsely reticulate; the meshes large, the ridges forming them thick; there is no marked tendency for the longitudinal sides of the reticulations to be connected up so as to form straight percurrent ridges over the length of the mesonotum. Scutellum a little more closely reticulate than the mesonotum; notch on the posterior margin shallow and irregular. Postscutellum, medially, with a small, slightly bidentate projection. Propodeal flaps more or less evenly reticulated all over, and with no trace of a longitudinal ridge. Fore-wings brownish, without conspicuous bristle-like hairs on the subcostalis.

*Abdomen* about one and two-third times as long as wide; segment 1 with its apical width nearly four times as great as its medial length; space within the median area with four or five wrinkled striations; 2 striate-reticulate; following segments becoming gradually less coarsely striate-reticulate than 2, but the sculpture remaining quite distinct and essentially of the same type.

Length about 3.3 mm.

♂.—*Antennæ* very short; scape about as long as the following four segments together; funicle about one and one-third times as long as the eye, all segments, except 1 and 10, strongly transverse; 3 slightly the widest; the entire funicle is densely clothed with extremely short



hairs, which do not however, completely obscure the sculpture of the segments.

*Abdomen*: segment 7 produced at each apical corner into a short tooth.

Length 2.8-3.2 mm.

Otherwise like the female.

CAPE PROVINCE (Port St. John, Feb.-Aug. incl.; Oct.), 16 ♂♂, 6 ♀♀.

This species is the most easily separated from *O. seychellensis* Kieffer by its shorter, stouter, form. *O. seychellensis* ♀♀ (the ♂ is not known) have the abdomen markedly narrower, hardly less than twice as long as wide. In this species, too, the longitudinal ridges forming the sides of the mesonotal reticulations tend to connect up to form distinct percurrent ridges over the entire length of the mesonotum; this tendency is correlated with a fading out of the transverse ridges of the reticulations, thus heightening the longitudinally ridged appearance of the sculpture. The legs also are bright reddish yellow and the entire body is not so intensely black as in *turneri*.

From *Sceliomorpha* Ashm., as understood by Dodd, *Oriscelio* is distinguished by having the truncature of the thorax formed by the pronotum alone.

*Sceliomorpha mirella* Dodd, a species from Australia, has the thorax conspicuously truncate in front, but the truncature quite definitely involves the anterior part of the mesonotum, which extends down towards the neck.

*Oriscelio* is distinguished from *Sceliomorpha*, sensu Kieffer, in that it possesses bare eyes and has two teeth to the mandibles instead of three.

Such differing characters as these, with regard to both Dodd's and Kieffer's treatment of *Sceliomorpha*, do not exhaust the differences between this genus and *Oriscelio*, but, since the characters which the author would like to see emphasized are overlooked by Kieffer and not fully dealt with by Dodd, it is impossible to make detailed comparisons.

*Oriscelio* is chiefly characterized by the shape of the head, position of the frontal impression, formation of the truncature of the thorax, notched scutellum, modified propodeum with corresponding modifications of the first tergite, and complete absence of any impression at the base of tergite 2.

HOPILOTELEIA Ashmead.

*Hoploteleia* Ashmead, Bull. U.S. Nat. Mus. v. 45, p. 227 (1893).

Key to the African Species.

Males.

1. Mesonotum medially, with an indistinct longitudinal carina. Scutellum with large unpunctured spaces, which are smooth except for an extremely fine scaly-reticulate surface-sculpture. Occipital margin conspicuously angled at the temples ..... *orthoptera* Dodd.
  2. Mesonotum medially, with a distinct or indistinct, longitudinal furrow or irregular band of puncture-like reticulations. Scutellum everywhere rugose-punctate or reticulate-punctate. Occipital margin more or less evenly circular throughout ..... 2.
  2. When the head is seen from above, the distance between the upper margin of the frontal excavation and the occipital margin is about as great as the shortest distance between the eyes across the anterior ocellus. Mesonotum evenly convex. Median groove of the mesonotum usually represented by an irregular band of puncture-like reticulations. Cheeks both anterior and posterior to the genal sulcus conspicuously striated, though the striae are sometimes irregular. Posterior to the genal sulcus the surface is striated up to about as far as the temples, at which point they sometimes merge into reticulations; the surface between these striations is smooth and shining. The distance between the bases of the mandibles is nearly as great as, or even greater than, the greatest width of the frontal excavation. *dissimilis*, sp. n.
- When the head is seen from above, the distance between the upper margin of the frontal excavation and the occipital margin is often considerably, and always distinctly, greater than the shortest distance between the eyes across the anterior ocellus. Mesonotum usually more or less flattened. Median groove of the mesonotum consisting of a row of puncture-like impressions and usually distinct for at least two-thirds of its possible length. Cheeks anterior to the genal sulcus more reticulate than striate, often nearly smooth and shining. Posterior to the genal sulcus, the surface is without conspicuous striations, and against the lower half of the sulcus it tends to become entirely smooth and shining; beyond this smooth area, up to as far as the temples, the surface is irregularly and finely reticulate; the space between the reticulations tends to be dull

by reason of an extremely fine scaly-reticulate sculpture. Sometimes the raised reticulations are scarcely visible, in which case the scaly-reticulate surface-sculpture is denser. The distance between the bases of the mandibles is only about one-half to two-thirds as great as the greatest width of the frontal excavation ..... *africana* Dodd.

*Females.*

- |  |                            |
|--|----------------------------|
| 1. Abdomen attenuated apically .....   | <i>dissimilis</i> , sp. n. |
| Abdomen not at all attenuated apically....   | 2.                         |
| 2. Mesonotum medially, with an indistinct longitudinal carina. Scutellum with large unpunctured spaces, which are smooth except for an extremely fine scaly-reticulate sculpture. Occipital margin conspicuously angled at the temples ..... | <i>orthopterae</i> Dodd.   |
| Mesonotum medially without a longitudinal carina. Scutellum everywhere rugose-punctate or reticulate-punctate. Occipital margin more or less evenly circular throughout .....  | <i>africana</i> Dodd.      |

*H. africana* Dodd appears to be common in South Africa. There are in the B.M. collection numerous examples from the Orange Free State (Harrismith) and from Cape Province (Port St. John).

*Hoploteleia dissimilis*, sp. n. (Text-fig. 2.)

Characters given in the key will be repeated only where amplification is necessary.

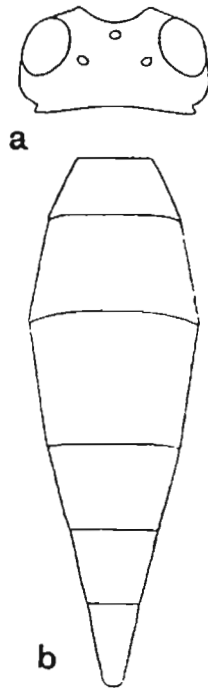
♂♀.—Dull black. Antennæ black. Legs vary from nearly all black, through black with the front tibiae entirely reddish yellow (1 ♂) to entirely red with only the coxæ black and the tarsi infuscated (in the one ♀).

♂.—*Head* transverse, its width fully twice as great as the distance between the frontal excavation and the occipital margin; the ring formed by the occipital margin is large, so that the vertex behind is not strongly declivous and the surface of the head behind the eyes is lateral. The distance between the frontal excavation and the anterior ocellus is about half the distance between the frontal excavation and the eye. Vertex behind the ocelli finely, irregularly, and somewhat indistinctly reticulate; there is no marked tendency for longitudinal ridges to form as in *africana*. Antennæ: funicular segments closely set one into the other; segments 4–9 all a little longer than wide; the entire funicle is densely clothed with extremely short, almost adpressed hairs, which obscure the sculpture

of the segments and give the entire funicle a greyish appearance. This funicular pubescence is denser and closer than in *africana*.

*Thorax*: Mesonotum evenly convex. Parapsidal furrows quite strongly widened posteriorly, consisting of a row of transverse puncture-like impressions. In one male an indistinct median groove is present; on its posterior third the surface of the median lobe is irregularly striate-reticulate or merely reticulate; the surface to the sides

Text-fig. 2.

*Hoploleia dissimilis*, sp. n.

a, head, ♂, from above; b, abdomen, ♀.

of the median sculptural modification and that of the lateral lobes, finely scaly-reticulate, with moderately large, distinct, but often ill-defined punctures, which are fairly close together. In *africana*, these punctures are smaller, much less distinct, and often entirely absent. Scutellum rugose-reticulate and without smooth areas. Postscutellum medially with a small tuberculate process

which is usually distinctly bicarinate. Wings typical for *Hoploteleia*; postmarginalis nearly twice as long as the stigmalis; marginalis punctiform; angle between the stigmalis and the postmarginalis about  $50^{\circ}$ .

*Abdomen* about two and a quarter to two and a half times as long as wide, slenderer and more regularly spindle-shaped than in *africana*; segment 1 with a deep transverse impression along its entire basal margin. The striæ, about 6-8 in number, form high ridges where they cross this impression; segment 3 very finely striate-reticulate, the sculpture sometimes so fine as to give the segment the appearance of being dull and finely rugose; 4, 5, and 6 predominantly finely punctured, though the punctures are not sharply defined.

Length about 3.7 mm.

♀.—Antennæ not differing from those of *africana*; funicle gradually thickened to segment 6; the segments very close-set; funicular 1 fully two and a half times as long as its apical width.

*Abdomen* remarkably elongated, slightly more than three times as long as wide, widest long before the middle, at the junction of segments 2 and 3; from the base of 3 it gradually tapers towards the apex; 4, 5, and 6 together nearly twice as long as 3; 5 hardly shorter than its basal width; 6 longer than its basal width; 4 towards the sides with a sculpture similar to that of 3.

Length 4.4 mm.

NATAL (Van Reenen, Drakensberg, Dec.-Jan.), 1 ♀, 4 ♂♂.

In spite of the difficulty of separating the male of this species from that of *africana* by the presence or absence of any one character, the two species are quite distinct from one another. *H. dissimilis*, sp. n., is a larger insect with an obviously different facies. The most reliable character for distinguishing the males would appear to be provided by the difference in the length of the head as shown by the frontal measurements. The females admit of no confusion whatsoever, and are at once separated by the shape of the abdomen.

#### SHREEMANA, gen. nov.

*Head* transverse. Cheeks not strongly produced backwards, the head, in consequence, not conspicuously emarginate behind. Frons feebly concave, with a short,

median, longitudinal carina which originates at the antennal insertion. Antennæ 12-segmented in both sexes; funicle in the male filiform, the segments cylindrical and all longer than wide; funicle in the female slender, the first segment very long. Eyes virtually bare. Paired ocelli very close to the eye. Mandibles with three teeth.

*Thorax* not distinctly elongate. Shoulders of the pronotum not conspicuous from above. Mesonotum convex, strongly arched in front, without a specialised area anteriorly. Parapsidal furrows complete, sharply defined, and narrow. Scutellum produced posteriorly on each side into two flat, subtriangular, tooth-like processes; these processes are sometimes much reduced, but, at any rate, the scutellum is always more or less emarginate posteriorly as the result of their presence. Postscutellum at the most with a medial swelling. Propodeum with an excavation in both sexes; in the male it is shallow and ill defined; in the female it is smooth and deeply hollowed out to receive the horn of the first tergite. Fore-wings with the subcostalis well separated from the edge of the wing; marginalis not much longer than wide; postmarginalis present; the fringe extremely short on the apical margin of the wing. Legs slender.

*Abdomen* spindle-shaped, by no means parallel-sided; tergite 3 not longer than 2; 2 with a transverse impression across its basal margin.

Type of the genus, the following species.

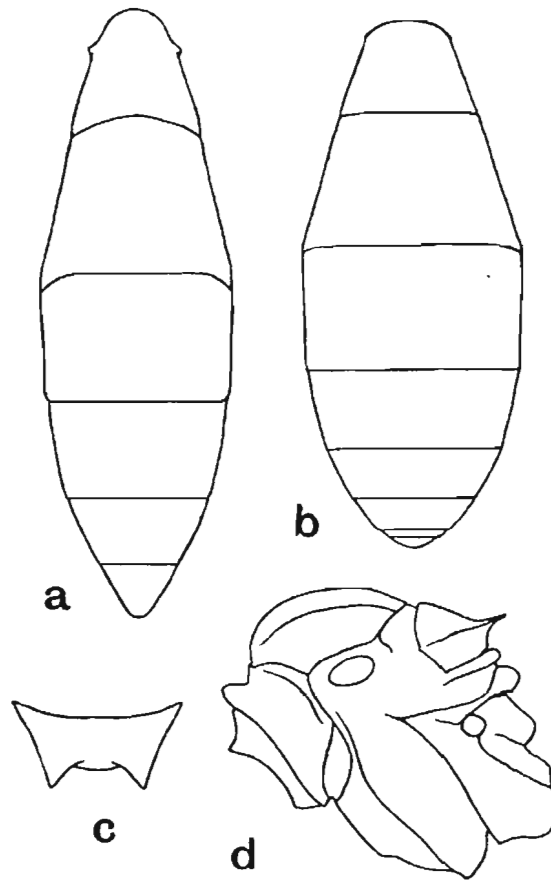
*Shreemana sera*, sp. n. (Text-fig. 3.)

♂.—Brownish black. Scape of antennæ dirty yellow, the coxæ sometimes darker.

*Head* transverse, nearly twice as wide as long, dull. Above the antennal insertions there are two small smooth areas separated by a short carina which extends upwards from the antennal prominence to a point about midway between the prominence and the anterior ocellus. The frons otherwise and the vertex above are closely but indistinctly punctured; the punctures are very small and by no means sharply defined; they are almost contiguous and the spaces between them are finely sculptured. The general sculpture of the head is characterized as being fine and even. From the apex of the frontal

carina there sometimes radiate fan-wise, short, delicate, wrinkly striations. Cheeks between the eyes and the mandibles evenly striated. Shortest distance between the eyes on the frons a little greater than the width

Text-fig. 3.

*Shreemana sera*, sp. n.

a, abdomen, ♀; b, abdomen, ♂; c, scutellum, from above;  
d, thorax, lateral.

of the eyes themselves; the eyes have usually a few scattered, extremely minute hairs which are hardly visible. Posterior ocelli separated from the eye-margin by about their own diameter. Antennæ moderately long;

scape about three-quarters as long as the following three segments together; segments of the funicle cylindrical, 1 about three times as long as wide; following becoming gradually shorter and thinner, but 8 and 9 still fully twice as long as wide; the entire funicle is clothed with short, almost erect, bristly hairs, which in no way obscure the sculpture of the segments; these hairs are about half as long as the width of the more apical segments; they are evenly placed, so that each one stands out more or less separately. Mandibles with three teeth, the middle one a little smaller than the other two. Clypeus prominent, with acutely pointed lateral angles.

*Thorax*: Mesonotum dull, punctured more or less like the frons and the upper part of the vertex, the sculpture always fine and even. Scutellum dull like the mesonotum, but its sculpture less definite; punctures are hardly present, at least in the males, and the entire surface appears very finely rugose; processes of the scutellum seen from the side, directed slightly upwards; sometimes these processes are very much reduced, but laterally they are always defined by a sharp edge, and their presence always causes the scutellum to appear more or less emarginate behind. Postscutellum lying much below the level of the scutellum, medially with a slight transverse swelling beneath the normal crenulate furrow; this swelling is usually coarsely punctured. Propodeum with a more or less circular excavation. Fore-wings pale brownish yellow; marginalis about twice as long as wide; postmarginalis somewhat ill defined, but evidently about two or three times as long as the stigmalis; a false radius encloses a long radial cell which is nearly five times as long as wide.

*Abdomen* shining, a little more than twice as long as wide, slightly more narrowed basally than apically; segment 1 a little longer than its basal width; the longitudinal striations of this segment are strong, very even, and so close together that no flat surface is visible between them, and the grooves between them appear very deep; 2 about one and three-quarter times as wide apically as basally, striated over its greater medial part, but at the sides finely punctured; 3 a little shorter than 2, striate-punctate, the striate element in the sculpture fading out on the apical half or third; 4, 5, and 6 closely and sharply



punctured, the spaces between the punctures smooth and shining.

Length about 3.4 mm.

♀.—Shortest distance between the eyes about as great as the width of the eyes themselves. Antennæ slender; scape, pedicel, and first four segments of the funicle brownish yellow; scape slender, but considerably shorter than the following three segments together; pedicel fully twice as long as wide; segment 1 of the funicle very long, about five times as long as its apical width; 2 two-thirds as long as 1; 3 nearly two and a half times as long as wide; 4 distinctly longer than wide, and intermediate in width between 3 and 5; 5-10 forming a weak club.

Abdomen narrow, spindle-shaped, about three times as long as wide; segment 1, in profile, raised at its base and quite strongly produced forwards in the direction of the propodeum; the resulting horn is large and occupies more than half the basal width of the segment; its apex is smooth and shining; further, tergite 1, seen from above, is a little longer than its basal width. In the one female under examination the striate sculpture of segment 3 is much reduced, the greater, medial, part of the tergite being predominantly, irregularly punctured.

Length 3.8 mm.

Otherwise as the male.

CAPE PROVINCE (Port St. John, Dec.-Feb.), 5 ♂♂, 1 ♀.

This interesting species is characterized by the fine sculpture of the head and of the thorax.

Justification for the erection of the genus is found in the peculiar modification of the scutellum, a sclerite, which, in the Scelionidæ, is usually monotonously uniform in structure.

In spite of the obvious morphological differences, the genus *Shreemana* has a clearly recognizable relationship with the genus *Vardhana*. The two genera are alike in that the general shape of the body is the same; both possess a similar type of antennæ and wing-venation, and, in the males, a similar abdominal form.

The same type of head and thorax in the two genera would lead one either to expect a specialized mesonotal area in *Shreemana*, since it occurs in *Vardhana*, or, on the other hand, to wonder why it exists in *Vardhana* at all.

[To be continued.]

*A further Contribution to the Study of South African  
Scelionidæ (Insecta, Hymenoptera, Proctotrupoidea).*  
By G. E. J. NIXON, B.A.

[Continued from p. 304.]

The species described below is certainly congeneric, and also possibly conspecific with an insect called *Holoteleia tenuicornis* Dodd from Java. So slight are the differences that the S. African species is entitled to hardly more than subspecific rank.

Dodd's reasons for placing *tenuicornis* in *Holoteleia* must have been a little obscure, for, according to Kieffer's table of genera, *Holoteleia* falls into a section in which the genera possess at the most only feebly developed parapsidal furrows and a punctiform marginalis. On the other hand, the type of *tenuicornis* has complete and well-marked parapsidal furrows and a marginalis which is fully as long as the stigmatis. Since Kieffer does not mention in his diagnosis of *Holoteleia* any of those characters which the author considers to be of paramount importance, it is not proposed to force an unnatural reconciliation between the S. African insect and this genus on account of *tenuicornis* Dodd, but it is proposed, rather, to erect a new genus, *Dula*, to contain *tenuicornis* as the genotype and the new subspecies herewith introduced.

## DUTA, gen. nov.

*Head* transverse. Frons evenly convex. Cheeks not strongly produced backwards. Eyes clothed with very short inconspicuous hairs. Paired ocelli almost touching the eye-margin. Antennæ 12-segmented. Mandibles with three small teeth.

*Thorax* not markedly elongate and not at all flattened. Shoulders of pronotum hardly visible from above. Mesonotum in front with a specialized area. Parapsidal furrows represented by complete narrow grooves. Post-scutellum medially without any trace of a process. Fore wings with the subcostalis not separated from the edge of the wing, more or less confused with it and forming with the marginalis a straight line; marginalis fully as long as the stigmalis; postmarginalis present.

*Abdomen* strongly narrowed at its base, almost petiolate; tergite 2 at least twice as wide apically as basally; tergite 1 without pit-like impressions on each side at its base; 3 a little longer than 2.

Type of the genus, *Duta tenuicornis* Dodd.

*Duta tenuicornis* subsp. *fragilis*, subsp. n.

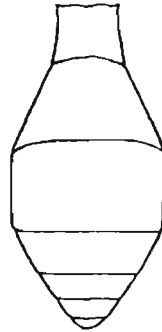
(Text-fig. 4.)

In greater part blackish brown. The legs, tergite 1, the greater part of tergites 2 and 3, honey-brown. Sometimes the propleuræ and the mesonotum are reddish brown, the propleuræ even paler than the mesonotum and providing a slight contrast with the other pleuræ, which are blackish brown.

*Head* seen from above about twice as wide as long, weakly emarginate behind, and hence, still seen from above, appearing slightly crescent-shaped. Frons up to the anterior ocellus more or less entirely smooth and shining; along the inner eye-margin, there is a tendency for the surface to show faint rugosities. A small area in front of each posterior ocellus is finely rugose; area within the triangle formed by the ocelli more or less smooth and shining; posterior, declivous part of the vertex everywhere and the temples along the posterior eye-margins, very finely rugose. Cheeks before and behind the genal sulcus and the face behind the eyes smooth and shining, and without a trace of striations. Eyes sparsely clothed with very short inconspicuous hairs.

Antennæ : scape as long as the following three segments together ; pedicel small and bead-like ; funicular segments regularly cylindrical ; 1 fully twice as long as wide ; following segments to 9 becoming very slightly shorter than 1 ; 3 with a weak keel extending from its base to within a third of its apex ; the entire funicle is thickly clothed with short, pale, semi-erect hairs ; these hairs are not regular—that is to say, each hair does not stand out separately ; they vary somewhat in length, but are hardly more than one-half to two-thirds the width of the funicular segments. The ocelli are separated from

Text-fig. 4.



*Duta tenuicornis* Dodd subsp. *fragilis*, subsp. n., ♂. Abdomen.

the eye-margin by about their own diameter. The three teeth of the mandibles are more or less of equal length.

*Thorax* short, thickly clothed with short brownish hairs ; these hairs, which are quite conspicuous, are semi-erect and become longer, more erect, and less close on the scutellum. Mesonotum behind, smooth or with very fine scattered punctures, strongly shining, but becoming less so towards the front of the mesonotum, where the surface appears very finely rugulose-punctate. Specialized area of the mesonotum entirely smooth and shining. Parapsidal furrows clearly defined as two narrow grooves. Postscutellum medially, smooth, very polished, and somewhat flattened ; this median shining area is in no sense lamelliform. Posterior face of the propodeum shallowly excavated and limited by two very

strong ridges, which run from the posterior propodeal corners and almost meet against the mid-point of the posterior margin of the postscutellum; lateral subtriangular areas of the propodeum covered with irregular, more or less coarse, rugosities. Meso- and metapleuræ in greater part smooth and shining. Fore-wings (see Pl. XI. fig. e) ample, extending nearly a quarter of their length beyond the apex of the abdomen; owing to the subcostalis being so close to the edge of the wing and forming with the marginalis a straight line the length of the latter is somewhat difficult to determine, but is, nevertheless, fully as long as the stigmalis; postmarginalis a little more than twice as long as the stigmalis; a basalis is faintly indicated; the fringe is long and conspicuous; from the subcostalis, marginalis, and the postmarginalis, spring very distinct, long, bristle-like hairs, many of which are fully as long as the stigmalis. Legs long and slender; segment 1 of the hind tarsus a little shorter than the following segments together.

*Abdomen* about twice as long as wide, strongly narrowed at its base, almost petiolate; above quite strongly convex, its sides evenly rounded; segment 1 about as long as its basal width; 2 fully two and a half times as wide apically as basally; this segment is smooth and shining, except for close, well-defined, regular striations at its base; usually these striations are restricted to the medial part of the segment, but sometimes they extend over all of its basal two-thirds; 3 transverse, a little longer than 2, entirely smooth and shining; 4, 5, and 6 together, a little shorter than 3, smooth except for some minute scattered punctures, which are most numerous on segment 6.

Length about 1.7 mm.

CAPE PROVINCE (Port St. John, *Jan.*); Orange Free State (Harrismith, *March*); 7 ♂♂.

The insect is of delicate build, but is not markedly slender; it is characterized by the shining, weakly sculptured mesonotum, a specialized area at the front of the mesonotum, through which character alone it is satisfactorily separated as a genus from *Ceratoteleia*, the narrow, sharply defined parapsidal furrows, the absence of any process on the postscutellum, and the shape and sculpture of the abdomen.

The wing-venation of *Duta* is very similar to that of *Ceratoteleia mellicolor* Nixon and *C. aphrodite*, sp. n. In these two species, however, which are regarded as typical of the genus *Ceratoteleia*, the marginalis is considerably shorter than the stigmalis, and in this respect they differ from *Duta*.

These remarks apply equally well to the genotype *D. tenuicornis* Dodd, which differs from its subspecies only as follows :—

The posterior, declivous part of the vertex is almost smooth; the median lobe of the mesonotum is less sculptured, and on its posterior half is virtually impunctate. The lateral, subtriangular, areas of the propodeum are predominantly longitudinally striated all over; the two carinæ meet before reaching the mid-point of the posterior margin of the postscutellum; the striated lateral areas, in consequence, are connected by a narrow band of similarly striated surface.

Dodd's species was described from both sexes.

*GITA*, gen. nov.

*Head* transverse. Frons evenly convex, without any trace of an impression. Cheeks not strongly produced backwards, and hence the head not conspicuously emarginate behind. Eyes clothed with very short hairs. Paired ocelli nearly touching the eye-margin. Antennæ 12-segmented. Mandibles with three teeth.

*Thorax* somewhat flattened above. Mesonotum with a specialized area in front. Parapsidal furrows present. Scutellum without a lamelliform process. Fore wings with the subcostalis well separated from the edge of the wing; marginalis about as long as the stigmalis, which is of normal length; postmarginalis present and considerably longer than the stigmalis.

*Abdomen* narrow, spindle-shaped, and about twice as long as the thorax; the first three tergites transverse; 3 a little longer than 2.

Type of the genus, the following species.

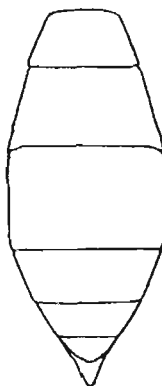
*Gita infortunata*, sp. n. (Text-fig. 5.)

Head and thorax black. The abdomen very dark brownish-black. Scape of the antennæ, mandibles, and

the legs, except the coxæ, more or less brownish-yellow.

*Head* a little over one and a half times as long as wide, moderately shining, fairly thickly clothed with short pale hairs, which are nearly erect. Frons immediately above the antennal insertions, smooth, and shining, but towards the anterior ocellus the surface has a fine scaly-reticulate sculpture with very small scattered punctures; in the region of the ocelli themselves the surface is likewise scaly-reticulate, but the punctures

Text-fig. 5.

*Gita infortunata*, sp. n., ♀. Abdomen.

become more crowded and they are ill defined and small; on the posterior declivous part of the vertex the punctures fade out, leaving only the scaly-reticulate sculpture. On the cheeks the surface becomes entirely smooth and shining, except for indistinct scattered punctures and the faintest traces of striations. Hairs of the eyes very short, but quite conspicuous. Antennæ: scape about as long as the following five segments together; funicle clothed with short, stiff, nearly erect hairs; segment 1 a little longer than wide; 2 not longer than wide; 3 and 4 bead-like; 5-10 forming a thick club. Middle tooth of the mandibles only a little shorter than the other two.

*Thorax*: Mesonotum flattened posteriorly, clothed

somewhat sparsely with short, irregular, nearly erect hairs; it is weakly shining, very finely punctate, the punctures small, ill defined, the spaces between them finely scaly-reticulate or appearing to be covered with faint scratches. The specialized area of the mesonotum is clearly defined and strongly polished. Parapsidal furrows sharply defined as narrow grooves. Scutellum much flattened, medianly becoming entirely smooth, but laterally with a sculpture similar to that of the mesonotum. Postscutellum, seen from the side, without any distinct projecting process, and yet, seen from above, it has a very short shield-like outgrowth, which is smooth and shining, but quite inconspicuous. Posterior surface of the propodeum shallowly excavated; this excavation is covered with fine rugosities, the ridges limiting it are high and distinct at the sides, but as they approach the postscutellar outgrowth they fade out and their place is taken by irregular striations; the lateral, subtriangular areas of the propodeum are without coarse sculpture. Fore wings (see Pl. XI. fig. *g*) more or less hyaline, strongly pubescent, the fringe long; marginalis thick, about two-thirds as long as the stigmalis; postmarginalis fully twice as long as the stigmalis; a faint basalis is present; it is distinctly chitinized and is by no means cloudy.

*Abdomen* shining, about two and a half times as long as wide and rather strongly flattened above; tergite 1 rather more than half as long as its apical width, without any trace of a horn, although the segment at its middle is very slightly swollen; further, this tergite is somewhat finely striated all over, and the striæ are as close as possible; 2 one and a half times as wide apically as basally, about one and a quarter times as long as 1, and delicately striated all over; 3 about one and one-third times as long as 2, very delicately striated; apically these striations fade into faint ripple-like flutings; 4, 5, and 6 shining, almost unsculptured except for a few microscopic punctures; 6 subtriangular, transverse. In the type the 7th tergite projects a little beyond the apex of the 6th, and is slightly constricted before its apex.

Length about 1.9 mm.

CAPE PROVINCE (Worcester, 27. iii. 1921); 1 ♀.

This genus is closely related to *Ceratoteleia*, from which it is distinguished by its possessing a specialized mesonotal



area. In general appearance, too, it is unlike *Ceratoteleia*; this is largely due to its having a simple, unmodified, first tergite, though this feature may well be only specific. On the other hand, the females of *Ceratoteleia* which are known to the writer possess a very conspicuous horn on the first abdominal segment.

*Gila infortunata* would seem to be characterized, as a species, by the fine sculpture of the head and of the thorax, and by the somewhat flattened appearance of the latter.

#### PARATRIMORUS Kieffer.

*Paratrimorus* Kieffer, Ann. Soc. Sci. Bruxelles, xxxii. pp. 117, 146 (1908).

The type of the genus, *P. perplexus* Kieffer, from Europe, would appear to stand somewhat apart from the other species here grouped with it. However, since Kieffer placed his *P. atriceps*, from the Seychelles, in *Paratrimorus*, and since *atriceps* has an obvious and close affinity with the African species described below, it has been thought advisable to accept the genus as Kieffer understood it, though its limits, as defined by him, certainly call for some modification.

The following diagnosis is suggested:—

*Head*: Frons with an impression which varies in depth, but is usually shallow and is never enclosed by a ridge. Cheeks not strongly produced backwards, hence the head is not conspicuously emarginate behind. Eyes bare or hairy. Posterior ocelli touching or almost touching the eye-margin. Mandibles with three teeth, the middle one sometimes very small (as in the genotype, according to Kieffer), but usually only a little shorter than the other two.

*Thorax* hardly elongate. Mesonotum with an ill-defined specialized area, the sculpture of which is not very different from the rest of the mesonotum. Parapsidal furrows present or wanting, represented by narrow grooves. Postscutellum medially, with a sharp, triangular process or a simple tooth. Fore wings with the subcostalis well separated from the edge of the wing; marginalis much shorter than the stigmalis; post-marginalis wanting or almost wanting.

*Abdomen* short and somewhat broad, often much

narrowed at its base, the first three segments transverse, the third by far the longest.

The species of *Paratrimorus*, at least as far as the African and the Seychellian species are concerned, are short, dumpy insects of somewhat stout build. They are usually shining and the predominant sculpture of the head and the thorax is one of fine scaly-reticulation. Only *P. pinguis*, sp. n., stands somewhat apart in this respect, but even in this species, in spite of the apparent dulness of the head and the thorax, the essential nature of the sculpture remains the same as in the other species.

#### Key to the known Species of *Paratrimorus*.

##### Females.

1. Eyes hairy ..... *perplexus* Kieffer.  
Eyes bare ..... 2. [(Europe.)]
2. Shortest distance between the eyes on the frons less or only a little more than half the width of the eye itself ..... 3.  
Shortest distance between the eyes on the frons greater or hardly less than the entire width of the eye itself ..... 4.
3. Mesonotum unpolished, finely rugose, clothed thickly with extremely short hairs; wings usually shortened ..... *pinguis*, sp. n.  
Mesonotum polished, with only a faint scaly-reticulate sculpture and without hairs.... *atriceps* Kieffer.
4. Length about 1.9 mm. Tergite 3 distinctly striated over the greater part of its surface. Legs in greater part blackish brown..... *cyclops*, sp. n.  
Length about 1.4 mm. Tergite 3 smooth or with only a faint scaly-reticulate sculpture. Legs almost entirely clear brownish yellow ..... *flebilis*, sp. n.

##### Males.

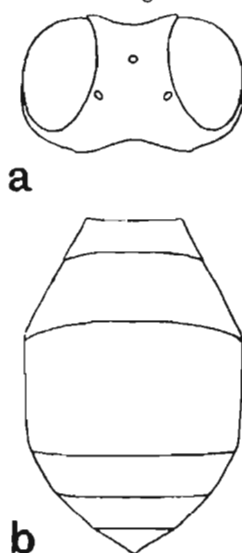
1. Mesonotum unpolished, finely rugose, thickly clothed with extremely short hairs ..... *pinguis*, sp. n.  
Mesonotum more or less polished, at the most with a well-defined scaly-reticulate sculpture, and then without a distinct clothing of hairs ..... 2.
2. Length about 1.9 mm. Segment 1 of the funicle considerably longer than wide. Tergite 3 distinctly striated all over. Legs in greater part blackish brown ..... *cyclops*, sp. n.  
Length about 1.4 mm. Segment 1 of the funicle only a little longer than wide. Tergite 3 with only a faint scaly-reticulate sculpture. Legs almost entirely clear brownish-yellow..... *flebilis*, sp. n.

*Paratrimorus pinguis*, sp. n. (Text-fig. 6.)

♂.—Black. Antennæ, except club, yellowish-brown. Legs yellowish-brown, the tibiæ and the tarsi often paler, brownish-yellow.

*Head* somewhat large in proportion to the size of the thorax and a little wider than this, about one and a half times as wide as long. Face above the antennal insertions with a large deep impression; this impression is smooth along its middle, but towards its sides it is unpolished, having a distinct surface-sculpture; when the head is seen from above, the narrow margin between the eyes

Text-fig. 6.



*Paratrimorus pinguis*, sp. n., ♀.  
a, head from above; b, abdomen.

is seen to be strongly emarginate. Frons above the impression and the vertex in the region of the ocelli hardly shining, unpolished, appearing finely rugose, but under a high magnification extremely closely scaly-reticulate; in addition to this sculpture there are very shallow, irregularly shaped, puncture-like reticulations present, which render the surface slightly uneven; the posterior declivous part of the vertex is smoother and

is either faintly and closely reticulate or has only the fine surface-sculpture. Cheeks shining, striated. Antennæ : scape about as long as the following six segments together ; pedicel a little longer and thicker than segment 1 of the funicle ; first four segments of the funicle very tiny, together only about half as long as the club ; 5-10 forming a thick club which is fully three times as wide as segment 1. Eyes very large, bare ; when seen from above they occupy almost the entire lateral surface of the head ; the shortest distance between the eyes on the frons is not much more than half the width of the eye itself. Mandibles with three pointed teeth of nearly equal length. Paired ocelli almost touching the eye-margin.

*Thorax* clothed above with extremely short, but quite distinct, hairs. Mesonotum two-thirds as wide as long, appearing dull, finely rugose ; its sculpture is the same as the surface-sculpture of the frons, but is coarser and has no puncture-like reticulations ; owing to the lack of the latter, the mesonotum appears smoother than the frons. Parapsidal furrows showing as narrow grooves, which do not quite reach the anterior margin of the mesonotum. Scutellum dull, weakly convex. Post-scutellum medially, with a short, pointed, triangular process ; this process is hardly half as long as the scutellum and is not lamelliform. Fore-wings shortened, extending only a little beyond the apex of tergite 2 ; these vestigial wings are about one and a half times as wide as the scutellum is long.

*Abdomen* short, ovate, about one and a half times as long as wide ; tergite 1 very short, strongly transverse, without any modification at its base, and with sharply defined ridges which are rather wide apart ; 2 about one and a half times as long as 1, with strong radiating ridges, which almost reach the apical margin of the segment, and which show no marked tendency to fork at their apex, where they are wide apart and the spaces between them smooth and shining ; this segment is about one and a half times as wide at its apex as at its base ; 3 transverse, a little longer than the two preceding segments together, weakly shining, and with a strong scaly-reticulate surface-sculpture ; this segment is virtually without striation, only along the extreme basal margin are there sometimes faint indications of striations ;

4, 5, and 6 together about as long as 3, with a surface-sculpture finer than that of 3; 6 very short, strongly transverse.

Length 1.8 mm.

♂ differs from the female as follows :—

*Head* slightly less long. Eyes less large, shortest distance between them but little less than the width of the eye itself. Antennæ ranging in colour from blackish-brown, with the scape paler, to entirely yellowish-brown; the scape is only a little shorter than the following six segments together; the funicle is weakly clavate; segment 1 very small, bead-like, hardly longer than 2; 2 and 3 bead-like, a little wider than 1; 5–9 weakly transverse, all distinctly wider than 1, and a little wider than 2 and 3; the funicle is clothed with extremely short, inconspicuous, semi-erect hairs.

*Thorax*: Fore-wings very distinctly and roughly hairy, the fringe somewhat long, and quite distinct on the upper wing-margin beyond the marginalis; the wings usually reach the apex of the abdomen, but in some specimens they do not extend beyond the apex of tergite 5; subcostalis distinctly separated from the edge of the wing; marginalis thick, about one and a half times as long as wide; postmarginalis wanting.

*Abdomen*. Tergite 3 not longer than 1 and 2 together.

Length 1.7–1.9 mm.

CAPE PROVINCE (Port St. John, *Dec.*, *Jan.*, *Feb.*); 11 ♀♀, 16 ♂♂.

This species is characterised in both sexes by the dull, unpolished appearance of the head and thorax, and in the male, further, by the distinctly clavate funicle. The shortened wings of the female appears to be a constant character when restricted to the species as it occurs in Port St. John.

A male from S.W. Zululand (Spadeni Kop, *May*) has the antennæ entirely pale brownish-yellow.

A single female from Cape Province (Transkei, Umtata) (*Feb.*–*March*) differs from typical specimens as follows :—

Fore-wings fully developed, reaching to the end of the abdomen; the venation is similar to that described above for the male. Tergite 2 with distinct short ridges between the longer radiating ridges on the apical half of the tergite. Tergite 3 with fine distinct striations

medially which are visible over about two-thirds the length of the segment.

This insect is not considered as at all abnormal, but as being doubtless typical of the species as it occurs in the Transkei district.

*Paratrimorus atriceps* Kieffer.

*Paratrimorus atriceps* Kieffer, Bull. Soc. Ent. France, p. 294 (1910).

The type of the species in the collection of the British Museum. It is very closely related to *P. flebilis*, both in general facies and in sculpture, but is at once separated from the latter insect by the much larger eyes and the consequently narrower space between the eyes on the frons.

*Paratrimorus cyclops*, sp. n.

♀.—Black. Antennæ nearly black; the scape and the first few segments of the funicle brownish-black. Legs blackish-brown, the tarsi paler. The entire insect is shining and more or less glabrous.

*Head* strongly transverse, about twice as wide as long. Frons above the antennal insertions with a shallow impression which is about two-thirds the length of the scape. Frons and vertex shining, more or less polished, with a fine scaly-reticulate sculpture, and with scattered punctures which are quite inconspicuous. Cheeks with some very faint striations. Antennæ: segment 1 of the funicle distinctly longer than wide; 2, 3, and 4 transverse; 5-10 forming a club which is about three times as wide as segment 1. Eyes not large; distance between them a little greater than their width; when the head is viewed from above, the eyes occupy its entire lateral surface—that is to say, the temples behind the eyes form part of the posterior surface of the head. Posterior ocelli separated from the eye-margin by about half their diameter. Mandibles with three teeth of about equal length.

*Thorax* a little narrower than the head, its sculpture similar to that of the head. Parapsidal furrows narrow, sharply defined, not reaching the anterior margin of the mesonotum, from which margin they are separated by a distance equal to about one-third of their length. Scutellum separated from the mesonotum by a very distinct crenate furrow. Postscutellum medially with a sharp, triangular tooth on its posterior margin.

Propodeum with irregular longitudinal ridges and with indications of a transverse semicircular carina; on each side of the propodeum there is a tuft of silvery-white hairs. Fore wings extending slightly beyond the apex of the abdomen, extremely finely pubescent, the fringe very short and inconspicuous; the upper wing-edge beyond the marginalis is without a distinct fringe of hairs; venation similar to that described for the male of *pinguis*, sp. n.

*Abdomen* oval, very shining, nearly twice as long as wide; tergite 1 strongly transverse, about twice as wide basally as its medial length; this segment is without any modification, and has longitudinal ridges which are rather wide apart; 2 strongly transverse, nearly twice as long as 1 and about one and three-quarter times as wide apically as basally; this segment has strong radiating ridges which almost reach the apical margin of the tergite; the ridges, at least on the middle part of the segment, may be wide apart, the spaces between them more or less smooth, or all the ridges may appear forked, so that the whole segment is closely striated; 3 with an indefinite scaly-reticulate sculpture and weakly striated all over; the striae tend to fade out in the middle of the tergite; 4, 5, and 6 with only a faint scaly-reticulate sculpture; 6 strongly transverse.

Length 1.9 mm.

♂ differs from the ♀ only as follows:—

Antennae brownish-black; scape a little shorter than the following four segments together; pedicel about as long as segment 2 of the funicle; funicle 1 about one and three-quarter times as long as wide; 2–9 all distinctly longer than wide; the more apical segments become very slightly thicker than 1; the entire funicle is densely clothed with nearly erect, stiff, bristling hairs; these hairs are conspicuous, very regular, and fully as long as half the width of the funicular segments.

Fore-wings extending well beyond the apex of the abdomen.

Length 1.9 mm.

CAPE PROVINCE (Mossel Bay, April & Aug.), 3 ♀♀, 1 ♂.

*Paratrimorus flebilis*, sp. n.

This species is closely related to *cyclops*, sp. n., from which it differs as follows :—

♀.—Colour not such a deep black, the abdomen often brownish-black. Antennæ with the scape, pedicel, and the first four segments of the funicle brownish-yellow. The legs, except sometimes the coxæ, clear brownish-yellow.

*Head* slightly less transverse, in the region of the temples often with scattered adpressed hairs.

*Thorax*: Mesonotum more shining, the scaly-reticulate sculpture fainter in two females, but quite strong in the other. Parapsidal furrows absent or weakly indicated. Postscutellar tooth very short and sharp. Fore-wings with a moderately long fringe, which is distinct on the upper edge of the wing beyond the marginalis.

*Abdomen* much more strongly narrowed at its base, appearing almost petiolate; segment 1 about one and two-thirds as wide basally as its medial length; in one female this tergite is distinctly swollen in the middle, so that the tergite there appears to have a small hump, which is more or less smooth; in one other female there is the faintest indication of a swelling, but the striations are everywhere distinct; tergite 2 about twice as wide apically as basally, with close, regular striations, which do not nearly reach the apex of the segment, and leave, in consequence, along its apical margin, a conspicuous shining band, which in two of the females becomes wider laterally; 3 almost entirely smooth in one female, in another with a distinct, though faint, scaly-reticulate sculpture, in the third female with a definite scaly-reticulate sculpture, which shows a slight tendency to develop into a striate sculpture.

Length about 1.4 mm.

♂.—The scaly-reticulate sculpture is sharper than in the female; a male from Somerset East has it conspicuously strong, the insect appearing less shining in consequence.

*Head*: Antennæ shorter than in *cyclops*, approximating in structure more closely to those of *pinguis*, but with a less distinctly clavate funicle than in that species; they are brown or yellowish-brown, the scape paler,



yellowish; pedicel about equal in size to funicle 1; funicle 1 only a little longer than wide; 2 and 3 bead-like; 4-9 slightly transverse and a little thicker than 1; the entire funicle is densely clothed with nearly erect, stiff, hairs; these hairs are conspicuous, and their length is considerably greater than half the width of the segments, and in proportion to these they appear longer than in *cyclops*.

*Thorax*: Fore-wings with the fringe conspicuously longer than in *cyclops*, and quite distinct on the upper wing-edge beyond the marginalis.

Length about 1.4 mm.

CAPE PROVINCE (Port St. John, *May*, 1 ♀; Somerset East, *Sept.*, 1 ♂; Transkei, *Feb.*, 1 ♂). ZULULAND (Eshowe, *May*, 1 ♀). NATAL (Van Rienen, Drakensberg, *Jan.*, 1 ♀, 2 ♂♂). The female from Natal shows the strongest sculpture and approaches the most closely in structural details to *cyclops*.

The writer realizes that a description such as the above is far from satisfactory, but he is also of the opinion that to define the limits of a species on such scanty material would be imprudent.

#### VARDHANA, gen. nov.

*Head* transverse. Cheeks not strongly produced backwards, the head in consequence not conspicuously emarginate behind. Frons feebly concave, with a median longitudinal carina which originates at the antennal insertions. Antennæ 12-segmented in both sexes; funicle in the male filiform, the segments cylindrical and all longer than wide; funicle in the female somewhat slender, the first segment much longer than wide. Eyes bare. Paired ocelli almost touching the eye-margin. Mandibles with three teeth, the middle one considerably shorter than the other two.

*Thorax* not distinctly elongate. Shoulders of the pronotum not conspicuous from above. Mesonotum convex, strongly arched in front, and possessing anteriorly a specialized area; this area is entirely smooth, the ridge bounding it posteriorly, bisinuate. Parapsidal furrows indefinitely indicated posteriorly. Scutellum normal, transverse. Postscutellum with a projecting process which is not more than half the length of the scutellum; this process is more or less bidentate at its

apex and is directed slightly upwards. Propodeum with an excavation in both sexes; it is ill defined in the male, and is bounded by two irregular carinæ: in the female it is smooth, and is deepened to receive the horn of the first tergite. Fore-wings with the subcostalis well separated from the edge of the wing: marginalis more or less punctiform; postmarginalis much longer than the stigmalis; the fringe is more or less absent, except on the lower part of the wing where it is short and inconspicuous. Legs slender.

Abdomen oval, the tergites all strongly transverse; 2 about as long as 3, and with a distinct transverse impression across its basal margin. Apical segments with a strong punctate sculpture.

Type of the genus, the following species.

*Vardhana selene*, sp. n. (Text-fig. 7.)

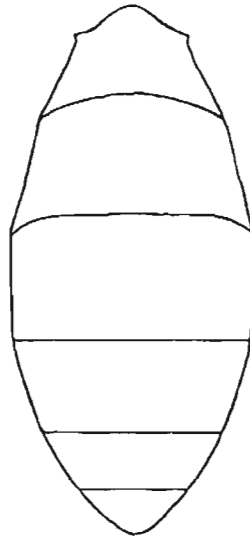
♂♀.—Very dark brown, almost black. Sides and ventral surface of the thorax dark reddish-brown. Antennal scape in greater part, first three funicular segments, coxæ, femora, and the tibiæ, bright transparent ochreous-yellow; sometimes the coxæ are whitish yellow; the tarsi tend to become darker and are more opaque than the rest of the legs.

♀.—Head about one and three-quarter times as wide as long, strongly shining and almost glabrous. Frons with a carina which extends upwards from the antennal insertions to a point usually about midway between the antennal insertions and the anterior ocellus; often it fades out long before. On each side of this carina there is a very shallow, smooth, narrow impression. Frons otherwise and the vertex above, strongly striate-reticulate; along the inner eye-margins, the surface is often only strongly punctured. Striæ between the mandibles and the cheeks even. Face behind the eyes striate-reticulate, except for a narrow, almost smooth, area which extends from the base of the mandibles upwards against the occipital margin to a point about level with the middle of the eye. Antennæ long and somewhat slender; scape nearly as long as the eye and a little shorter than the following three segments together; pedicel nearly two and a half times as long as wide; segment 1 of the funicle very long, about twice as long as the pedicel; 2 considerably shorter than 1, but fully

twice as long as wide; 3 and 4 about as long as wide; 5-10 forming a somewhat slender club, which is hardly twice as wide as the apex of segment 1. Eyes large, their width a little greater than the shortest distance between them on the vertex.

*Thorax* shining, not distinctly elongate. Mesonotum evenly convex, its sculpture different from that of the frons; in greater part, it is closely and strongly punctured, the punctures somewhat small and almost contiguous; posteriorly these punctures become slightly larger and here the surface often shows a tendency to become

Text-fig. 7.

*Vardhana selene*, sp. n., ♀. Abdomen.

slightly striate-punctate. Parapsidal furrows usually visible posteriorly as smooth, shallow, irregularly shaped impressions which narrow and fade out at about the middle of the mesonotum; the lateral lobes of the mesonotum, where they are defined posteriorly by the parapsidal furrows, are shining and nearly smooth with a more or less even row of large punctures, which runs along the side of the parapsidal furrows. Scutellum punctured more or less like the median part of the mesonotum. The apical margin of the postscutellar process varies from being entire to quite strongly emarginate, so that

it is usually more or less bidentate ; further this process is longitudinally striated, the striæ tending to diverge towards each apical lateral angle or tooth. Fore-wings (see Pl. X. fig. *a*) strongly brownish, extending a little beyond the apex of the abdomen, fully as wide as the abdomen ; postmarginalis about three times as long as the stigmalis ; a false radius encloses a long, feebly defined radial cell. Legs slender, with segment 1 of the hind tarsus about as long as the following segments together.

*Abdomen* regularly spindle-shaped, about twice as long as wide ; segment 1 transverse, its apical width almost twice as long as its medial length ; at its base it is strongly raised, the raised part developed into a short blunt horn, which, when seen from the side, is not higher than the level of the rest of the segment ; the medial striations of segment 1 are even and not very close together ; those at the sides are somewhat wrinkled ; 2 about one and a quarter times as wide apically as basally ; this segment is irregularly striated all over ; except where they cross the basal impression, the striæ are all somewhat wrinkled ; towards the sides there is a tendency for the surface to become striate-reticulate ; 3 strongly transverse, hardly longer than 2, very closely and regularly striate-punctate ; following segments together about one and a half times as long as 2, their surface somewhat dull, closely and strongly punctured ; the dull surface is largely due to the presence of a very fine surface-sculpture between the punctures ; 5 at the sides tends to become striate-punctate, but on 5 and 6 the sculpture is predominantly punctate.

♂.—*Head* more distinctly hairy than in the female. Eyes not so large, their width hardly greater than the shortest distance between them on the vertex. Antennæ short, pale yellowish-brown, the scape in greater part yellowish ; scape shorter than the following three segments together ; segment 1 of the funicle about two and a quarter times as long as wide ; 2 as long as 1 ; following segments to 9 becoming gradually shorter, but 8 and 9 still distinctly longer than wide ; the entire funicle is clothed with extremely short, more or less erect, bristling hairs ; these hairs do not obscure the slightly shining surface of the segments, and there are no adpressed hairs among them. Propodeum with an ill-defined, median excavation ; each ridge limiting the

upper lateral areas of the propodeum extends inwards from the upper posterior corner of the propodeum and describes a usually distinct, acute, but irregular angle before reaching the postscutellar margin; these two ridges are quite far apart at their junction with the postscutellar margin; each of the upper lateral areas is usually traversed by a more or less distinct carina. Abdomen with tergite 1 transverse, about as long as its basal width, and with two indistinct impressions on each side at its base. The striations of this tergite are rather wide apart.

Length: ♂♀ about 3.5 mm.

CAPE PROVINCE (Port St. John, Nov.-Dec., Jan.-April), 13 ♂♂, 11 ♀♀.

A single male from C.P. (Mossel Bay) has the head beneath, the pro- and mesonotum and all the pleuræ, reddish-brown. The antennal scape is dark brown. The legs are more or less the same colour as the lighter parts of the thorax. Details of sculpture agree with those described for the Port St. John specimens except that the punctures of the mesonotum are not quite so close together. The median, oval, area of the scutellum is nearly smooth, and whatever punctures there are are small and placed far apart.

A male from Natal (Van Reenen) has the body and the antennæ entirely black with the legs reddish-brown, the femora darker, the coxæ nearly black. In all other respects the insect resembles the Port St. John material.

As the writer considers that there is no justification for excluding the two above-mentioned individuals from the limits of colour-variation peculiar to *V. selene*, sp. n., it follows that colour can have only a problematical value in the characterization of this species. Certainly the yellow legs of the Port St. John specimens are a striking feature, but the lack of material from other localities does not admit of any conclusions being drawn as to the range of this form.

The species is at once characterized by the contrast provided by the striate-reticulate sculpture of the head and the finer, punctate sculpture of the mesonotum, the genus, by the presence of a specialized mesonotal area, the postscutellar process, and the venation.

[To be continued.]

*A further Contribution to the Study of South African  
Scelionidæ (Insecta, Hymenoptera, Proctotrupoidæ).*  
By G. E. J. NIXON, B.A.

[Continued from p. 324.]

GOVINDA, gen. nov.

*Head* transverse. Frons evenly convex. Cheeks not strongly produced backwards. Eyes bare or clothed with very short inconspicuous hairs. Posterior ocelli almost touching the eye-margins. Antennæ 12-segmented. The distance between the bases of the mandibles usually conspicuously long. Mandibles with two or three teeth; when there are three teeth, the middle one is very small.

*Thorax* not markedly elongate. Mesonotum entirely or virtually without parapsidal furrows. Postscutellum medially with a horizontal triangular or semicircular lamelliform process, which is not longer than the scutellum. Fore wings with the subcostalis well separated from the edge of the wing; marginalis considerably shorter than the stigmatis; postmarginalis present.

*Abdomen* somewhat narrow, spindle-shaped, not strongly narrowed at its base; the first three tergites transverse; tergite 1 with or without impressions on each side at its base; 2 by no means twice as wide apically as basally; 3 considerably longer than 2.

Type of the genus, *Govinda mila*, sp. n.

*Key to the Species of Govinda.**Females.*

1. When the head is viewed from in front, the distance between the angles formed by the junction of the cheek with the mandible is greater than the shortest distance between the eyes on the frons ..... 3  
 When the head is thus viewed, the distance between the angles formed by the junction of the cheek with the mandible is less than the shortest distance between the eyes on the frons ..... 2.
2. Tergite 1 at its base with a distinct, blunt, horn-like protuberance. Punctures of the head in the region of the ocelli ill defined and somewhat crowded together ..... *G. rea*, sp. n.  
 Tergite 1 at its base without such a protuberance, at the most feebly raised and somewhat shining at that point. Punctures of the head in the region of the ocelli well defined and wide apart. .... *G. nona*, sp. n.
3. Tergite 1 at its base with a distinct, blunt, horn-like protuberance. Mesonotum evenly and somewhat finely rugose ..... *G. undina*, sp. n.  
 Tergite 1 at its base without such a protuberance, at the most slightly raised at that point. Mesonotum evenly, but somewhat coarsely rugose. .... 4.
4. When seen from above, the basal margin of tergite 1 is very weakly emarginate and the segment, in consequence, appears narrower in the middle than at the sides. Lamella of the postscutellum more or less triangular. .... *G. mila*, sp. n.  
 When seen from above, the basal margin of tergite 1 is straight or even slightly produced forwards and the segment, in consequence, does not appear narrower in the middle than at the sides. Lamella of the postscutellum evenly semicircular ..... *G. incerta*, sp. n.

*Males.*

1. Eyes bare. Posterior surface of the mesonotum, at least in part, with a conspicuous striate-reticulate sculpture, which contrasts sharply with the anterior mesonotal sculpture ..... *G. nona*, sp. n.  
 Eyes with short, sparse, sometimes hardly visible hairs. Mesonotum posteriorly at the most with a reticulate sculpture which does not contrast sharply with the anterior mesonotal sculpture. .... 2.
2. Tergite 1 with a conspicuous, deep, pit-like impression on each side at its base. .... *G. rea*, sp. n.  
 Tergite 1 without pit-like impressions on each side at its base ..... 3.
3. When seen from above, the basal margin of tergite 1 is very weakly emarginate and the

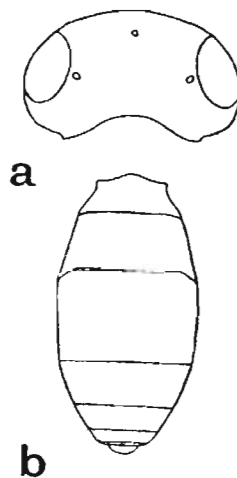
- segment in consequence appears narrower in the middle than at the sides. Lamella of the postscutellum more or less triangular. When seen from above, the basal margin of tergite 1 is straight or even slightly produced forwards, and the segment in consequence does not appear narrower in the middle than at the sides. Lamella of the postscutellum evenly semicircular . . . . . 4.
4. Mesonotum evenly and somewhat finely rugose . . . . . *G. undina*, sp. n.
- Mesonotum evenly but somewhat coarsely rugose . . . . . *G. incerta*, sp. n.

The wide intermandibular space is a much more striking feature of the females than of the males.

*Govinda nona*, sp. n. (Text-fig. 8.)

♀.—Black, but not deep black. Scape, the first few segments of the funicle, the mandibles, and the legs more or less the same colour, reddish- or yellowish-brown.

Text-fig. 8.



*Govinda nona*, sp. n.

a, head, ♀, from above; b, abdomen, ♂.

The whole insect appears strongly shining and more or less glabrous; whatever hairs there are, are inconspicuous.

*Head* strongly transverse, about twice as wide as long,



and conspicuously emarginate behind. Except immediately above the antennal insertions, where the surface is smooth and impunctate, the frons and also the vertex is evenly, but not closely punctured; the punctures are small, the intervals between them several times greater than their own diameter; further, these intervals are shining and smooth, except for an extremely fine scaly-reticulate surface-sculpture, which varies in intensity, on some specimens being hardly visible; on the posterior, declivous part of the vertex, the punctures fade out, the surface there being more or less smooth. Cheeks delicately striated. Eyes moderately large, quite bare. Ocelli inconspicuous, the posterior pair touching the eye-margin. Antennæ short and small, without conspicuous upstanding hairs; scape considerably shorter than the length of the eye; segment 1 of the funicle hardly longer than wide; 3 and 4 very small, transverse; the first four segments are equal to not much more than half the length of the scape; club not very thick, but little thicker than the scape. Mandibles with three teeth, the middle one very small.

*Thorax*: Mesonotum transverse, its sculpture peculiar; on its anterior surface, it has moderately large, shallow punctures; these punctures are larger than those of the head, they are by no means close together, and the spaces between them show a distinct scaly-reticulate surface-sculpture, which is more intensified than that of the head; the mesonotum, in consequence, appears anteriorly duller and less polished than the head; on the posterior half or third, the surface is somewhat coarsely striate-reticulate longitudinally; frequently this sculpture is reduced in such a way that the smoother sculpture of the anterior part of the mesonotum extends medially backwards to as far as the scutellum, limiting the striate-reticulate sculpture to a small area on each side just where the parapsidal furrows would meet the scutellum if these were present. Scutellum with a fine surface-sculpture and a few small, scattered punctures. Lamelliform process of the postscutellum subtriangular, coarsely longitudinally or reticulately rugose all over; it is about two-thirds as long as the scutellum, about as long as wide basally, and, when seen from above, extends over the propodeum and overlaps the base of the abdomen.

Propodeum perpendicular, with its entire posterior surface more or less depressed and shining and limited by a ridge. Fore wings (see Pl. XI. fig. *h*) brownish, nearly hyaline on their basal third, reaching to nearly the apex of tergite 4 and considerably narrower than the abdomen; venation sometimes very indistinct; subcostalis well separated from the edge of the wing, devoid of conspicuous bristle-like hairs; marginalis more or less punctiform; stigmalis somewhat short; postmarginalis variable in length, sometimes a little shorter than the stigmalis, sometimes as long as, or a little longer than, this, but not being strongly chitinised and tending to fade out apically, its limits are never clearly definable. Legs with segment 1 of the hind tarsus a little shorter than the following segments together.

*Abdomen* rather more than twice as long as the mesonotum and the scutellum together. Tergite 1 strongly transverse; when viewed from the side it is seen to be strongly raised at its base, but hardly produced backwards, though, owing to the shortness of the propodeum, the mid-point of the posterior margin of the segment almost touches the basal margin of the postscutellum beneath the postscutellar lamella; on each side of this tergite, at its base, there is a shallow, somewhat shining impression; between these impressions, at the extreme base of the segment, the surface tends to become smooth and shining, suggesting the presence of a slight horn, but if the segment is seen from the side there is no indication of a clearly rounded protuberance; tergite 1, further, is irregularly striated, the surface between the striations distinctly sculptured; 2 strongly transverse, a little longer than 1; 3 about twice as long as 2, shining, but not polished owing to a surface-sculpture over the greater, medial, part of it; at the sides this tergite is delicately and unevenly striated, but the amount of striation is variable; 4, 5, and 6 together shorter than 3; 6 very short and strongly transverse.

Length 2 mm.

♂ differs from the female only in the following respects:—

*Head*: Antennæ: scape brownish yellow on its basal half, almost as long as the following three segments together; pedicel very short, half as long as segment 1 of the funicle; funicle thick, somewhat shining; seg-

ments 1-9 about one and a half to one and three-quarters times as long as wide, clothed with very short, somewhat coarse, dark hairs; these hairs are semi-erect and most of them are curved; there are no adpressed hairs present.

*Thorax*: Mesonotum often duller than in the female by reason of the scaly-reticulate sculpture being intensified; when this is the case, the punctures become indistinct and tend to fade out; the punctures are often more numerous in the male than in the female, and the hairs which arise from them are longer. Fore-wings extending to almost the apex of the abdomen, much wider than in the female.

*Abdomen*: Tergite 1, when viewed from the side, less raised at its base than in the female; 3 hardly more than one and two-thirds as long as 2.

Length 1.8-2 mm.

CAPE PROVINCE (Somerset East; Mossel Bay, *Jan.-July, Oct.-Dec.*), 25 ♀♀, 38 ♂♂. 52 of the total number of specimens are from the latter locality.

A single female from Zululand (Eshowe, *July*) differs from typical females in having the head considerably less transverse (hardly one and two-thirds as wide as long), and less polished, by reason of the surface-sculpture being stronger. The striate-reticulate sculpture of the posterior part of the mesonotum is less strong everywhere, but is, nevertheless, evident. The raised space between the impressions of tergite 1 is more or less smooth and slightly swollen basally; the segment, in consequence, appears to have a short blunt horn.

This species is characterized by its shining appearance, and especially by its normally, strongly shining head with its scattered punctures, and, further, by the peculiar contrast provided by the sculpture of the front part of the mesonotum and that of its posterior surface.

*Govinda rea*, sp. n.

This species is closely related to *G. nona*, sp. n., and is closely congeneric with it. The two species have the same facies, and the differences in details of sculpture are gradational.

The differences are as follows:—

♂.—*Head* with its sculpture much less determinate; a small area just above the antennal insertions is more or less impunctate, elsewhere the frons has an indefinite

striate sculpture with small scattered punctures of somewhat irregular shape. The vertex in the region of the ocelli appears dull and finely rugose; no punctures are visible here; on its posterior, declivous part, the vertex becomes more shining. Antennæ shorter; segments 4-9 of the funicle only a little longer than wide; clothing of the funicle somewhat different; the hairs are equally short but they are pale and most of them are stiff and bristling. Eyes with extremely short scattered hairs, which are difficult to see.

*Thorax*: Mesonotum evenly and fairly thickly clothed with short, pale, adpressed hairs. Anteriorly the mesonotum shows an even, but indeterminate sculpture; there are faint indications of extremely shallow, close punctures; these punctures appear slanting in such a way that their margin is visible only anteriorly; in consequence, the mesonotum appears to have, in front, minute, transverse ripples; on the posterior half or third of the mesonotum, the sculpture becomes much more determinate and there the punctures develop into distinct, but delicate reticulations; the mesonotum has, further, a very close scaly-reticulate sculpture all over, which renders it somewhat dull. Postscutellar lamella fully two-thirds as long as the scutellum, and considerably wider than long. Fore-wings faintly brownish; post-marginalis one and a half times as long as the stigmalis; stigmalis a little longer.

*Abdomen*: The impressions on each side of tergite 1, at its base, conspicuous and deep, their inner margin very sharply defined.

Length 2 mm.

♀.—Legs brownish yellow.

*Head* with its sculpture much more determinate than in the male. The greater part of the frons is nearly smooth and is very shining; towards the ocelli, small, not very clearly defined punctures are present, which become more crowded in the region of the ocelli; the small intervals between these punctures are finely scaly-reticulate, and there are faint indications of an additional striate sculpture. No hairs are visible on the eyes, but the insect is not in perfect condition.

*Thorax*: Fore-wings not extending beyond the apex of tergite 4, considerably narrower than in the male.

*Abdomen*: Tergite 1, seen from the side, strongly

raised, distinctly produced backwards and with a distinct horn—that is to say, there is a clearly rounded protuberance present; seen from above, this horn is short and blunt, and becomes nearly smooth at its apex; the impressions on each side of the horn are deep as in the male.

Length 1.9 mm.

CAPE PROVINCE (Queenstown, *Jan. & Feb.*, 2 ♂♂; Ceres, *March*, 1 ♀).

The female here, cannot be definitely associated with the male, but a similar facies, a like type of mesonotal sculpture, and the deep impressions of the basal abdominal tergite seem to provide adequate justification for a provisional association of the two sexes. In the presence of two types of mesonotal sculpture lies a strong resemblance between this species and *G. nona*, sp. n., but in the latter species there are normally large spaces on the front part of the mesonotum, where only the scaly-reticulate sculpture is present, the punctures being wide apart. In *G. rea*, sp. n., there are no such unpunctured areas, the sculpture being as much punctate as scaly-reticulate. The increase of punctures in this species, too, is correlated with its having a denser, more conspicuous clothing of hairs than *G. nona*, sp. n., since each hair springs from a puncture or puncture-like impression.

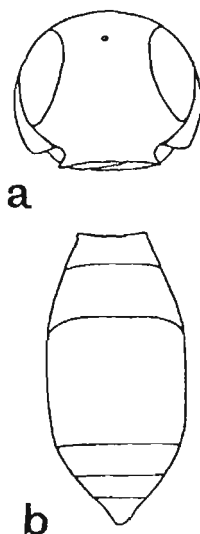
*Govinda mila*, sp. n. (Text-fig. 9.)

♂.—Black, the abdomen sometimes brownish-black. Mandibles, legs, and usually the antennal scape brownish-yellow. The head and the thorax of the insect have a dense clothing of short, fine, adpressed hairs, which in some specimens give these parts a distinctly greyish appearance.

*Head* nearly twice as wide as long, dull above. Frons to the side of, and immediately above, the antennal insertions much less pubescent than the vertex, strongly shining and very finely striated, sometimes with an entirely smooth median space; sometimes the striations fade out, and the surface shows only a close scaly-reticulate, almost chagrined sculpture. Frons otherwise, the vertex and the temples, dull, very finely rugose, almost chagrined. Antennæ somewhat short; scape not quite as long as the following three segments together; funicle

shining, clothed with very short, semi-erect, bristling hairs; segment 1 about one and a half times as long as wide; 3 a little longer than 2, but shorter than 1, slightly produced beneath at its apex; other segments, except 12, not, or a little, longer than wide. Eyes rather small, clothed somewhat sparsely with very short, inconspicuous hairs. Cheeks finely but unevenly striated. Distance between the base of the mandibles unusually great, and, in consequence, the side of the head, when this

Text-fig. 9.

*Govinda mila*, sp. n., ♀.

a, head, from in front; b, abdomen.

is viewed from in front, appear only weakly rounded; the distance between the blunt angles of the cheeks is considerably longer than the antennal scape or a little longer than the distance between the bases of the eyes; the width of the clypeus between its acutely pointed lateral angles about equal to the length of the antennal scape or a little shorter. Mandibles with two teeth of more or less equal length.

*Thorax*: Mesonotum about one and a half times as wide as long, dull and appearing evenly and quite strongly rugose; when, however, the mesonotum is viewed from

behind, its sculpture is seen to consist of fine close reticulations on a more or less flat surface; the tiny spaces within the reticulations appear slightly shining, and have a fine surface-sculpture. The reticulations are oblique, instead of being perpendicular, to the surface of the mesonotum, so that the true nature of the sculpture is not at first evident. Scutellum with a much finer sculpture than the mesonotum, dull, chagrined, but coarser at the sides. Medial process of the postscutellum triangular or subtriangular; this process is about twice as wide as long and is coarsely sculptured; its length is about one-half to two-thirds that of the scutellum. Propodeum with a transverse, more or less distinct, semicircular carina, which extends between its posterior angles; the surface of the propodeum is more shining than that of the mesonotum, and has longitudinal rugosities or short ridges above and below the transverse carina; when this carina is medially obliterated, the longitudinal ridges are often percurrent over the entire length of the propodeum. Mesopleural impression more or less distinctly, transversely striated. Fore-wings (see Pl. X. fig. *d*) brownish, extending to nearly the apex of the abdomen, rather thickly pubescent, but less so on the basal fourth; venation very distinct; just before its middle the subcostalis takes a gradual, but quite conspicuous, downward curve before reaching the marginalis; marginalis about twice as long as wide or shorter, a good deal shorter than the stigmalis; postmarginalis a little longer than the stigmalis; the angle between the stigmalis and the postmarginalis is hardly more than 30°. Legs with segment 1 of the hind tarsus a little shorter than the following segments together.

*Abdomen* about twice as long as wide, weakly shining, but sculptured. Tergite 1 strongly transverse; on each side at its base it is neither compressed nor has any trace of an impression; seen from above the segment appears narrower in the middle than at the sides, and its posterior margin is seen to be straight or even slightly emarginate; this segment is not raised at all at its base, and has even, not very close striations over its entire surface; 2 nearly twice as long as 1, with rather weak striations; 3 twice as long as 2, weakly and unevenly striated all over, the surface between the striæ with

irregular sculpture; 4-6 together, two-thirds as long as 3, and with a fine, indefinite sculpture; the apex of these segments tends to become smooth and shining.

Length 1.7-2.2 mm.

♀.—Antennæ: scape about as long as the following three segments together; segment 1 of the funicle about one and a half times as long as wide and as long as the pedicel; 2 more or less square in outline; 3 and 4 very small, transverse; 4 smaller than 3; 5-10 forming a club which is about twice as thick as segment 1.

Abdomen: Tergite 1 exactly as in the male; 3 sometimes nearly three times as long as 2; 6 short, transverse, with a slight constriction before its apex.

Length 1.8-2 mm.

In all other respects, the female is like the male.

CAPE PROVINCE (Port St. John, *Mar. & May*; Somerset East, *Oct.-Nov., Jan.*; Mossel Bay, *March*; Transkei, Umtata, *Feb.-Mar.*), 23 ♂♂, 3 ♀♀. NATAL (Kloof, *Sept.*), 1 ♀.

*G. mila*, sp. n., is usually easily recognizable by the great distance between the bases of the mandibles, the dull appearance of the head and the thorax, the regular, somewhat coarse sculpture of the mesonotum combined with complete absence of parapsidal furrows, and by the triangular process of the postscutellum.

This insect will be discussed further under the two following species:—

*Gorinda incerta*, sp. n.

This insect is extremely like *N. mila*, sp. n., both in facies and in sculpture, and its distinctness from that species is not altogether satisfactory. However, since the two species can be separated by characters which appear to be constant in the small series under examination, it has been considered convenient to keep them apart.

The ♂ differs from that of *mila* as follows:—

*Head*: The intermandibular space is slightly less great. The striate sculpture of the frons is often very much reduced, the surface there showing only a close scaly-reticulate, almost chagrined sculpture.

*Thorax*: If the mesonotum is viewed from behind, parapsidal furrows sometimes show in large examples, not as distinct grooves, but as weakly shining, hardly



visible, band-like impressions. Postscutellar lamella more or less like that of *mila* in size, but with its posterior margin evenly semicircular. Propodeum: instead of having a single semicircular carina—that is to say, instead of the two ridges which extend inwards from the upper posterior angles of the propodeum meeting in the middle of its dorsal surface as in *mila* and thus forming a semicircular carina—the propodeum of *incerta* has these two ridges extending upwards towards the posterior margin of the postscutellum, where they almost meet just beneath the postscutellar lamella; the lower part of the dorsal surface of the propodeum, though sometimes nearly smooth, more often shows distinct longitudinal rugosities.

*Abdomen* slightly narrower than that of *mila*; tergite 1 weakly compressed on each side at its base and medially slightly raised at its base; when seen from above, the basal margin of this tergite is always weakly produced forwards towards the propodeum, so that the tergite does not appear narrower at its middle than at its sides.

Length 1.7–2.4 mm.

The female differs from that of *mila* by the same characters as separate the males of the two species, except that the intermandibular space is hardly less great than in *mila*. In the four females which are referred to this species, none of them has any trace of the faint parapsidal furrows which appear in some of the males.

Length 1.8 mm.

CAPE PROVINCE (Somerset East, Nov., Dec., Jan.), 8 ♂♂, 3 ♀♀ (Transkei, Umtata, Feb.–Mar.), 1 ♀.

*Govinda undina*, sp. n.

This is a species closely related to both *G. mila* and *G. incerta*, but about its distinctness from either of these the author feels little doubt. The insect shows more affiliation with *incerta* than with *mila*, and could only be confused with that species.

♂.—Legs blackish-brown, the tarsi paler.

*Head* less transverse than that of *incerta*, about one and a half times as wide as long, its sculpture finer. Intermandibular space less great than in *incerta*, the width of the clypeus between its acute lateral angles being considerably shorter than the length of the antennal scape.

*Thorax*: Mesonotum appearing finely rugose; when viewed from behind, less distinctly reticulate than in *incerta*—that is to say, the meshes forming the reticulations less raised, the surface being shallowly, closely, but indistinctly punctate; in addition to the punctures, there is a fine surface-sculpture over the whole of the mesonotum. Scutellum much more finely sculptured than the mesonotum, weakly shining in the middle, where the sculpture tends to become reduced; the scutellum, further, is quite strongly flattened. Forewings only very faintly brownish. Propodeum with a much more constant type of sculpture than in either of the two preceding species, and in *undina* being quite distinctive; as in *incerta*, two carinæ extend from the posterior angles inwards and upwards, describing an angle, to the anterior margin of the propodeum, but in this species these carinæ become strong ridges separating two raised lateral areas of the propodeum from a medial area, which, modified to receive the raised base of abdominal tergite 1, has the form of an entirely smooth shining excavation; the two lateral areas are sharply contrasted with the median excavation, and their surface is more or less finely rugose.

*Abdomen* narrower than in *incerta*; tergite 1 compressed basally at its sides and medially at its base strongly raised; the mid-point of its basal margin is produced into a blunt point; in normal attitude of the insect the raised base of the tergite more or less fills the excavation of the propodeum; when viewed from above the basal margin of the segment is seen to project quite strongly forwards towards the propodeum. The sculpture of the abdomen is similar to that of *mila*, but finer; tergite 3 has, in greater part, a fine scaly-reticulate sculpture with weak striations laterally.

Length 1.7 mm.

♀.—Legs paler than in the male, brownish-yellow.

Apart from those differing characters which it shares with the male, the female differs further from that of either of the two preceding species in the sexually modified first tergite. The base of this tergite is strongly elevated and produced into a distinct but blunt horn, which completely fills the excavation of the propodeum; the apex of this horn is more or less smooth and shining.

The wings, too, are slightly longer than in *mila* and *incerta*, extending to nearly the apex of the abdomen.

Length 1.9 mm.

In details of sculpture the female is like the male.

CAPE PROVINCE (Somerset East, Nov.-Dec., Jan., 4 ♂♂, 2 ♀♀; Aliwal North, Dec., 1 ♂).

It should be noted that in *G. incerta* and *G. undina* the upper tooth of the mandibles is often very much longer than the lower one, while in *G. mila* the two teeth tend to be more or less of equal length.

The three preceding species are interesting in that they appear to show different stages in the development of structural modifications of the propodeum induced by corresponding modifications of the first abdominal tergite.

In *G. mila*, a species in which the first tergite is of simple form in both male and female, not being at all raised at its base and thus in normal attitude of the insect, not pressing up against the propodeum, the propodeum has no sharply defined, shining excavation, although its dorsal surface is more or less limited as an area by two ridges or by a single semicircular ridge. Furthermore, the surface within this area is almost as strongly sculptured as that outside it. In *G. undina*, on the other hand, an insect in which the first tergite in the female has a distinct horn and in the male, too, is quite strongly raised, the propodeum is highly specialized in its form, its dorsal surface having a deep, shining, excavation which contrasts sharply with the sculptured lateral areas, and into which the modified base of the first tergite would fit in normal attitude of the insect. *G. incerta* represents an intermediate form; in this species the first tergite is certainly raised at its base, but less conspicuously so than in *undina*, and the propodeum, in consequence, is more specialized than in *mila*, but has not the sharp division into an entirely smooth median area and sculptured lateral areas as in *undina*. The median excavation in *incerta*, though sometimes nearly smooth, more often shows irregular rugosities. Here, since the modification of the first tergite is not of an extreme type, the dorsal surface of the propodeum is necessarily not completely adapted to receive it.

The three preceding species form a natural group,

united by a similar type of sculpture. There is no clear gradation between them and the two species *G. nona* and *G. rea*, spp. n., which in themselves form a likewise isolated group.

[To be continued.]

*A further Contribution to the Study of South African  
Scelionidæ (Insecta, Hymenoptera, Proctotrupoidea).*  
By G. E. J. NIXON, B.A.

[Concluded from p. 479.]

LAPITHOIDES, gen. nov.

*Head* transverse. Frons evenly convex. Cheeks not strongly produced backwards. Eyes with minute, scattered hairs. Posterior ocelli almost touching the eye-margin. Antennæ 12-segmented. Mandibles with three teeth of nearly equal size and length.

*Thorax* not much longer than high. Mesonotum evenly convex, without a specialized area in front. Shoulders of the pronotum hardly visible from above. Parapsidal furrows entirely absent. Postscutellum with a transverse, lamelliform process, which is shorter than the scutellum and is directed more or less upwards. Fore-wings with the subcostalis taking a distinct downward curve before reaching the marginalis, so that the wing-membrane is clearly visible above the former; marginalis about twice as long as wide, shorter than the stigmalis; postmarginalis apparently about three times as long as the stigmalis, but actually false over its greater length; the chitinized part of the postmarginalis is but little longer than the marginalis.

*Abdomen* narrow, considerably longer than wide, strongly narrowed towards its base; tergite 1 not transverse and without pit-like impressions on each side at

its base; 2 nearly twice as wide apically as basally; this segment has a transverse impression at its extreme base, but owing to the transparency of the tergite it is not sharply defined; 3 not longer than 2.

Type of the genus, the following species:—

*Lapithoides semiramis*, sp. n.

♂.—Head clear honey-brown. The eyes black. Each ocellus is set in a black spot; in one specimen, the anterior ocellus is connected with each of the posterior ocelli by a blackish band. A large blotch on the front of the mesonotum is blackish; the posterior half of the thorax is more or less suffused with blackish; the scutellum is blackish with a pale spot on each side; the thorax otherwise, and the legs are more or less honey-brown. Tergites 1, 2, and 3 in greater part transparent honey-yellow.

*Head*, seen from above, nearly one and a half times as wide as long. Frons in greater part smooth and shining. Vertex in the region of the ocelli very finely scaly-reticulate, and with minute, scattered, indistinct punctures. Cheeks very delicately striated. Posterior ocelli separated from the eye-margin by about their own diameter. Eyes sparsely clothed with very short, hardly visible hairs. Antennæ: scape a little shorter than the following three segments together; pedicel more or less spherical; funicle long and cylindrical; segment 1 nearly two and a half times as wide as long; 2 hardly two-thirds as long as 1; 3-9 all a trifle longer than 1; the funicle is thickly clothed with short, semi-erect, somewhat bushy hairs; these hairs are not all of equal length, but many of them are nearly as long as the width of the segments. Mandibles with three teeth, the middle one smaller than the other two, but quite distinct.

*Thorax*: Mesonotum weakly shining and with a sculpture more or less similar to that of the vertex, especially at the sides and behind. Scutellum sculptured more or less like the mesonotum. The length of the postscutellar process is hardly half that of the scutellum; it is pointed at its apex, and each of its sides is weakly angled behind the middle, so that it appears to be more or less three-cornered. Propodeum with its entire surface covered with moderately coarse rugosities; its

posterior surface is not distinctly excavated, nor is it smooth; the usual carinæ, which limit the posterior propodeal surface, are distinct in one specimen, but only weakly indicated in the other two. The small area on the lower part of the mesopleuræ and in front of their smooth impression is coarsely and irregularly punctate. Fore-wings (see Pl. XI. fig. *f*) large, extending well beyond the apex of the abdomen; marginalis considerably shorter than the stigmalis; the limits of the postmarginalis are difficult to define; when the wing is seen from beneath, however, it appears to be fully three times as long as the stigmalis; a chitinized basal nervure is weakly indicated; the fringe is long, and bristle-like hairs arise from the subcostalis, marginalis, and the postmarginalis. Legs long and slender; segment 1 of the hind tarsus as long as the following segments together.

*Abdomen* slightly narrower than the thorax, nearly three times as long as wide; segment 1 about as long as its apical width, striated and without impressions on each side at its base; 2 nearly twice as wide apically as basally; 3 about as long as 2; 2 and 3 delicately striated everywhere except along the extreme lateral margins; 3 and 4 together a little longer than 2, which is transverse; 4, 5, and 6 slightly shining, and with an extremely faint, indefinite sculpture.

Length about 1.9 mm.

ORANGE FREE STATE (Harrismith, *Feb.*), 3 ♂♂.

The species is of delicate slender build. Especially characteristic features of it are the comparative smoothness of the mesonotum combined with complete absence of parapsidal furrows and with the structure of the post-scutellar process.

*Lapithoides* is closely related to *Lapitha* Ashmead, but the writer is of the opinion that the two genera can be separated quite naturally if the presence of a specialized mesonotal area is consistently regarded as a character of generic value.

Specimens of *spinosa* Ashmead, the genotype of *Lapitha*, bearing identification labels in Ashmead's own handwriting are in the collection of the British Museum. An examination of this material has enabled the following conclusions to be drawn:—*Lapithoides* differs from *Lapitha* only in that it possesses no trace of a specialized mesonotal

area, and has the postscutellum produced medially in the form of a transverse process instead of into a single spine. *Lapitha* has a very distinct specialized area at the front of the mesonotum, but, owing to the pale colour of the thorax, it is not readily visible. Although Ashmead says that *spinosa* has parapsidal furrows indicated in front, the specimens in the British Museum (all males) reveal hardly a trace of them.

Ashmead, and Kieffer following him, fails to mention that *spinosa* has the eyes thickly clothed with very short, but quite distinct, hairs. This may have been the reason why Dodd placed his three species (*divina*, *javanica*, and *citricoxa*) in this genus, for all of them have bare eyes. They possess, further, no trace of a specialized mesonotal area and have, too, a postscutellar process which more nearly approaches the form of that found in *Lapithoides semiramis*, sp. n., than the spine of the postscutellum of *Lapitha spinosa* Ashm. These three species of Dodd would therefore be better placed in the former genus than in the latter if the presence of hairs on the eyes is not regarded as being of generic importance in this case.

#### PARANTERIS Kieffer.

*Paranteris* Kieff. Bull. Soc. Ent. France, p. 292 (1910).

The genus is closely related to *Ceratoteleia* Kieff., from which only its having distinctly hairy eyes separates it satisfactorily.

As Kieffer's key to the species and his descriptions of them are so inadequate and misleading, they are tabulated again here, a short diagnosis also being added in most cases.

The thought which prompted the undertaking of this revision has been a happy one, for an examination of the type-material in the B.M. collection has revealed a female of *nitidiceps* Kieff. (hitherto unknown) hidden among the examples of *nigraticeps* Kieff.

The species reviewed here include a new insect from S. Africa and the five species from the Seychelles Islands. None of the following remarks, however, refer to *Paranteris opacus* Kieff., from Brazil, a species with which the author is not acquainted.

The species of *Paranteris* have the wings conspicuously hairy; the fringe is long, and long bristle-like hairs arise from the subcostalis; a little beyond its mid-point



the subcostalis takes a distinct downward curve before reaching the marginalis, so that apically it is well separated from the edge of the wing; the marginalis is somewhat thick, and is never more than about one and a half times as long as wide; the postmarginalis varies in length, even within a species, but is never much longer than the stigmalis.

*Key to the Species of Paranteris.*

*Females.*

1. Postscutellum, medially, more or less bidentate.  
Posterior ocelli separated from the eye-margin by at least their greatest width . . . . . 2.
- Postscutellum, medially, simple. Posterior ocelli separated from the eye-margin by a distance usually markedly less than their greatest width. (Species with segment 2 of the funicle conspicuously longer than wide and fully, or but little less than, twice as long as 3; tergite 6 strongly transverse, but distinctly triangular in outline.) . . . . . 4.
2. Tergite 1 a little longer than wide; 3 not distinctly transverse . . . . . *tenuis*, sp. n.
- Tergite 1 not longer than wide; 3 distinctly transverse . . . . . 3.
3. Parapsidal furrows indicated only posteriorly; the abdomen not extending beyond the apex of the wings . . . . . *densiclava* Kieffer.
- (A small, stout species, 1.5 mm. approx., the frons and the vertex with a very faint scaly-reticulate sculpture. Segment 2 of the funicle not longer than wide. Teeth of the postscutellum small and wide apart. Tergite 6 very strongly transverse, and by no means distinctly triangular in outline, the abdomen, in consequence, appearing more or less rounded at its apex. In general facies approaching very closely to the African species of the genus *Paratrimorus*.)
- Parapsidal furrows complete; the abdomen extending beyond the apex of the wings. . . . . *nitidiceps* Kieffer.
- (Hitherto undescribed: *Head* black, rest of body honey-brown. Frons and vertex smooth and shining, more or less unpunctured, clothed with upstanding, scattered, bristle-like, brownish hairs. Segment 2 of funicle about one and a half times as long as wide. Shortest distance between the eyes on the frons considerably greater than their width; posterior ocelli separated from the eye-margin by considerably more than their greatest width. *Mesonotum* shining, with small punctures, which are separated from each other mostly by much more than their diameter; spaces between the punctures entirely smooth. Parapsidal furrows represented by smooth narrow grooves, which are

slightly clavately widened posteriorly. Postscutellar teeth small and wide apart. Propodeum deeply excavated, but the excavation not entirely smooth. Forewings with the postmarginalis as long as the stigmalis. Abdomen regularly spindle-shaped, with tergite 1 distinctly transverse; this tergite has on its basal portion a swelling which, when seen from the side, does not project backwards as a horn, and hence does not completely fill the propodeal cavity; the ridges on this segment are irregular and wide apart; 3 smooth, except for faint longitudinal flutings and some punctures at the sides; 4 and 5 with small scattered punctures; 6 transverse, very sharply constricted before its apex, on its apical half dull, finely rugose, the sculpture contrasting with that of the preceding segments. This species could be confused only with *tenuis* and *densiclava* on account of the postscutellar teeth, but from both of these species it is readily distinguished by the absence of sculpture on frons and vertex and by the form of the 1st and the 6th tergite.)

4. The shortest distance between the eyes on the frons not less than their width. Frons and vertex smooth and shining and with very small, sharply defined punctures, which are not very close together. Parapsidal furrows indicated only posteriorly ..... [*= striatigena* Kieff.\*,  
*nigraticeps* Kieff.  
(A species with a black head and a brown body, the head clothed with short, brownish, semi-erect hairs. Postmarginalis feebly developed. Tergite 3 finely to very faintly striated; tergites 4 to 6 finely punctate.)
- The shortest distance between the eyes on the frons much less than their width. Frons and vertex not smooth and shining. Parapsidal furrows complete, sharply defined, and narrow..... 5.  
(Species with brown head and body and with tergite 3 entirely smooth and tergites 4-6 feebly and indistinctly punctate.)
5. Shortest distance between the eyes about half the width of the eyes themselves. Funicle more or less brownish black..... *nigriclava* Kieffer.  
(A species with the head clothed with fine, not conspicuous, whitish pubescence. Almost the entire frons very finely rugose, almost chagrined, the sculpture slightly coarser on the vertex. Paired ocelli virtually touching the eye-margin. Mesonotum dull, the surface scratched between the small punctures, which are close together and ill defined, especially anteriorly, where the surface becomes rugose.)

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\* *P. striatigena* Kieff., represented by a single female, is quite definitely synonymous with *P. nigraticeps* Kieff.

Shortest distance between the eyes a little less than the width of the eyes themselves.

Funicle entirely honey-yellow .....

*flaviclava* Kieffer.

(A species with the head clothed with more or less upstanding, brownish hairs, which are very short and somewhat stiff. The frons distinctly punctured, the punctures rather small, but ill-defined, close, and the surface between them scratched. Paired ocelli separated from the eye-margin by about their shortest width. Mesonotum, at least on its posterior two-thirds, shining, the surface more or less smooth between the punctures.)

#### Males.

1. Posterior ocelli separated from the eye-margin by a distance greater than, or as great as, their greatest width .....

2.

- Posterior ocelli separated from the eye-margin by a distance smaller than, or hardly as great as, their greatest width .....

3.

(Species with the segments of the funicle conspicuously cylindrical, fully three times as long as wide, clothed with dark, very short, semi-erect hairs, most of which are curved at their apex so that they have a somewhat tangled appearance.)

2. Postscutellum medially bidentate, the teeth very small and wide apart. Frons and vertex entirely smooth and shining .....

*nitidiceps* Kieff.

(A species with the head black, the rest of the body brown, the head clothed above with short, irregular, upstanding hairs. Segments of the funicle about one and a half times as long as wide; hairs of these segments very short, stiff, bristling, each one standing out more or less separately.)

- Postscutellum medially with a row of three or four shallow pits. At least the vertex considerably sculptured .....

*tenuis*, sp. n.

3. Frons smooth, shining, with small well-defined punctures .....

*nigraticeps* Kieff.

(In the region of the ocelli the surface tends to become scratched between the punctures, producing a dull appearance.)

- Frons dull, apparently extremely finely rugose.

*nigriclava* Kieff.

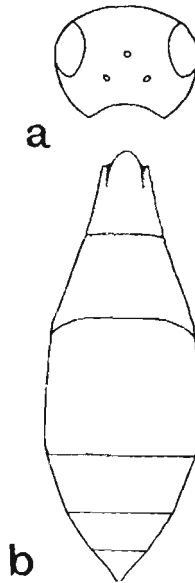
(Sculpture of the frons and the vertex less strong than in the female; minute close punctures can be detected, but their edges are very ill defined, and the spaces between them are scratched or scaly-reticulate. The eyes are not so large nor so close together. The sculpture of the mesonotum is less dull, especially posteriorly, where, owing to a reduction of the fine surface-sculpture, the spaces between the punctures are almost smooth. The whitish pubescence of the head is hardly visible, except perhaps on the temples.)

*Paranteris tenuis*, sp. n. (Text-fig. 10.)

♀.—Black, but not deep black. Scape and pedicel brownish-black. Legs honey-brown, the coxæ sometimes darker. Abdomen sometimes blackish-brown. The whole insect is conspicuously hairy, the hairs being brownish, semi-erect, and uneven.

*Head* about one and a half times as wide as long, its shape distinctive; when viewed by looking down directly

Text-fig. 10.

*Paranteris tenuis*, sp. n., ♀.

a, head from above; b, abdomen.

on to the ocelli it is seen to be strongly narrowed behind; the shining occipital area is extended high up towards the ocelli, so that the shortest distance between the occipital margin (on the vertex) and either of the paired ocelli is about equal to the distance between these ocelli. The head is, in greater part, entirely smooth, shining, and unsculptured, except for scattered inconspicuous punctures which are most numerous on the frons; vertex in the region of the ocelli, and the vertex behind the ocelli with extremely fine scale-like reticulations; this sculpture

sometimes extends downwards over the temples; there is usually a small unsculptured space on the middle of the vertex against the occipital margin. Cheeks between the mandibles and the eyes finely and evenly striated. Antennæ: scape nearly as long as the following six segments together; segment 1 of the funicle about one and three-quarters times as long as wide; 2 hardly shorter; 3 and 4 very small, bead-like; 5-10 forming a thick club. Eyes unusually small, the distance between them, across the frons, much greater than their width, clothed with rather long hairs, which are moderately close together. Posterior ocelli separated from the eye-margin by a distance about equal to that separating them from the anterior ocellus. Mandibles with three teeth.

*Thorax*: Mesonotum in greater part smooth and shining with scattered, irregular punctures; anteriorly the mesonotum becomes much less smooth, owing to the surface being scratched between the punctures, which now appear less distinct than on the shining median and posterior surface of the mesonotum. Parapsidal furrows showing as more or less smooth, but somewhat irregular, grooves; often the surface along the outer side of the furrows is scratched between the punctures. Scutellum more or less smooth medianly, but margined with irregular crenulations and punctures. Postscutellum with its posterior edge slightly produced medially and widely emarginate, hence appearing weakly bidentate. Forewings (see Pl. X. fig. *b*) extending to about the apex of tergite 4, considerably narrower than the abdomen; fringe rather long; hairs along the subcostalis long and conspicuous; the subcostalis takes a downward, very gradual curve before reaching the marginalis; marginalis almost punctiform; stigmatis somewhat short, describing between itself and the wing-edge an angle of rather more than  $45^{\circ}$ ; postmarginalis wanting or weakly indicated. Legs with segment 1 of the hind tarsus about as long as the following segments together.

*Abdomen* nearly three times as long as the visible dorsal surface of the thorax; tergite 1 elevated basally and produced backwards over the propodeum to as far as the postscutellum; this tergite, inclusive of the horn, is a little longer than its apical width; the apex of the

horn is smooth and shining; at the base of the horn and at about the mid-point of the segment there is a short sharp tooth which is directed towards the apex of the abdomen; tergite 1 is otherwise longitudinally striated, the striae somewhat irregular, not very close, the intervals between them with weak transverse rugulosity; tergite 2 about one and a half times as wide apically as basally, longitudinally striated all over; 3 about one and three-quarters times as long as 2, hardly transverse, in greater part smooth and shining, but with some very delicate striae towards the sides; following tergites shining and finely punctate; tergite 6 pointed, but transverse; there is no trace of an angulation between it and the preceding segment.

Length 1.9 mm.

The male differs from the female in the following respects:—

*Head* slightly more transverse. Antennae blackish-brown, extreme base of scape paler; scape about as long as the following three segments together; pedicel short and bead-like, smoother, much less hairy, and less thick than segment 1 of the funicle; funicle rather thick, shining, clothed with short, semi-erect, brownish hairs; many of these hairs are more or less curved at their tip; there are no adpressed hairs among them; segment 1 about one and three-quarters times as long as wide, twice as long as the pedicel; following segments slightly shorter, but all conspicuously longer than wide.

*Thorax*: Postscutellum with its medial area not emarginate apically; this area consists of three or four shallow pits arranged in a row. Propodeum coarsely rugose and with two strong longitudinal carinae. Forewings extending to the apex of the abdomen and hardly narrower than the abdomen.

*Abdomen*. Tergite 1 a little longer than wide, longitudinally striated all over and without a conspicuous impression on each side at its base. Tergites 2 and 3 tend to become paler than the rest of the abdomen.

Length 1.7 mm.

CAPE PROVINCE (Somerset East, *Dec. & Jan.*), 9 ♀♀, 4 ♂♂. CAPE PROVINCE (Port St. John, *Mar.*; Aliwal North, *Dec. & Jan.*), 4 ♀♀. ORANGE FREE STATE (Harrismith, *Mar.*), 1 ♂.

One of two females from Aliwal North shows slight differences from typical specimens, but the writer does not consider that these differences lie outside the range of specific variation.

In the female in question the vertex shows no scaly-reticulate sculpture, but is very shining and has scattered punctures of very irregular shape. In the fore-wings there is present a postmarginalis, which is very slightly longer than the stigmalis. Tergite 1 of the abdomen, when seen from the side, has no sharp tooth medially, there being only a somewhat abrupt angulation between the base of the horn and the remaining flat surface of the segment.

The other female from Aliwal North is quite typical.

This species is characterized by the position of the posterior ocelli, the small eyes, the distribution of sculpture on the head and the thorax, and, further, in the female, by the presence of the tooth on the 1st abdominal tergite.

The medial emargination of the postscutellum is regarded as a secondary sexual character, since it does not occur in the male. It is doubtless a necessary modification to accommodate the intruding apex of the abdominal horn.

According to Kieffer's table of genera this insect would fall into the genus *Anteris* Forst., on account of the ocelli being remote from the eye-margin. But this character associated with the position of the posterior ocelli has hardly more than specific value, as is shown by an examination of the species of *Paranteris* Kieff. *P. tenuis*, therefore, can be quite naturally placed in the latter genus.

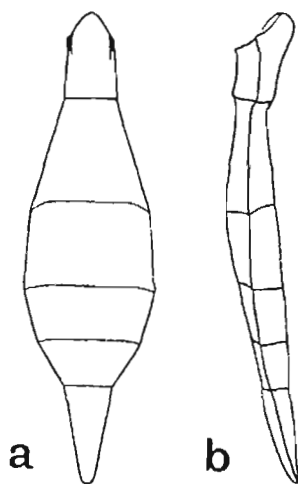
*Ceratoteleia aphrodite*, sp. n. (Text-fig. 11.)

♀.—Entirely black, including the antennæ. Extreme base of the scape and of the pedicel and the mandibles brownish-yellow; the mandibles become reddish towards the tip. Legs dirty brownish-yellow, the hind femora darker.

*Head* once and a half times as wide as long, seen from above, very slightly wider behind the eyes than across them. Face immediately above the antennal insertions evenly convex and medially more or less smooth and shining. Frons and vertex quite dull, very finely rugose;

along the inner eye-margins, down to the somewhat indistinct genal sulcus and on the temples, the sculpture becomes finer and appears to be finely scaly-reticulate. Cheeks smooth and shining. Antennæ: scape somewhat short, as long as the following three segments together; pedicel no wider than segment 1 of the funicle, nearly twice as long as its apical width; segment 1 of funicle about twice as long as its apical width; 2 hardly longer than wide; 3 and 4 still smaller, bead-like; 4 transverse; these two segments together about equal to 1;

Fig. 11.

*Ceratoteleia aphrodite*, sp. n., ♀.

Abdomen: a, dorsal; b, lateral.

segments 5-9 transverse, with 10, forming a moderately thick club. Posterior ocelli touching the eye-margins. Eyes clothed with scattered, extremely short, inconspicuous hairs; distance between the eyes across the frons greater than the width of the eyes themselves. Mandibles with two more or less equal teeth of moderate length.

*Thorax* a little narrower than the head. Mesonotum dull, sculptured like the vertex; anteriorly, against the pronotum, the mesonotum has no specialized area. Parapsidal furrows represented by two very fine, somewhat inconspicuous grooves. Scutellum transverse,



strongly shining, smooth, and with a few small scattered punctures. Postscutellum with its posterior edge straight and not projecting medially, as a lamella, over the apex of the abdominal horn. Propodeum deeply excavated to receive the horn of tergite 1. Pleuræ in greater part smooth and shining. Fore-wings (see Pl. X. fig. c) smoky-grey, narrow, two-thirds as wide as the abdomen, extending to nearly the middle of tergite 5; subcostalis running so close to the edge of the wing as to be almost confused with it; marginalis but little longer than wide; post-marginalis about as long as the stigmalis. Legs slender; fore and middle tibiæ spinose in front, the spines very short and tooth-like; segment 1 of the hind tarsus a little longer than the following segments together.

*Abdomen* spindle-shaped, strongly narrowed at its base, almost petiolate, wider than the thorax, and between three and four times as long as the visible dorsal surface of the thorax; tergite 1 elevated at its base and produced backwards over the propodeum to as far as the postscutellum, including the horn nearly twice as long as wide; except for the smooth apex of the horn, this tergite is regularly and closely striated; 2 fully twice as wide apically as basally, smooth and shining, striated at its base, the striæ longest medially, where they extend about two-thirds the length of the tergite; 3-5 smooth and shining; 4 and 5 together a little longer than 3; tergite 6 narrow, about two and a half times as long as its basal width, shining and smooth except for some very delicate longitudinal striations; owing to the narrowness of this tergite there is a conspicuous angulation between it and tergite 5. The abdomen is clothed with fine inconspicuous hairs towards its apex.

Length 2.5-3 mm.

CAPE PROVINCE (Somerset East, Jan.), 2 ♀♀.

This species has an obvious and natural affinity with *C. mellicolor* Nixon. The general facies is the same, although *aphrodite* is a slenderer insect than *mellicolor*; the venation is identical in the two species. The absence of a small median tooth between the two teeth of the mandibles and the presence of fine hairs on the eyes in *aphrodite* cannot be regarded as having generic importance. As a species *C. aphrodite* admits of no confusion with *C. mellicolor*; in addition to the two characters just

mentioned, the former insect differs in its entirely black body, its spinose fore and middle tibiae, and in the much more striking contrast provided by the entirely dull mesonotum and the highly polished scutellum.

*Ceratoteleia mellicolor* Nixon.

♂ (hitherto undescribed).—In greater part honey-brown. The head is entirely black. The mesonotum, scutellum, and tergites 4, 5, and 6 more or less brownish-black. Legs brownish. The insect is long and narrow.

*Head* about one and three-quarter times as wide as long, dull; when seen from above, it is evenly oblong, does not appear at all emarginate behind, and hence gives no impression of being crescent-shaped. The frons, except for a moderate-sized area above the antennal insertions, which is nearly smooth, the vertex and the temples, very finely rugose all over. Cheeks less dull than the vertex, but still finely rugose and without a trace of striation. Eyes sparsely clothed with minute, inconspicuous hairs. Ocelli separated from eye-margin by about their own diameter. Antennae: scape a little shorter than the following three segments together; segment 1 of the funicle about one and three-quarter times as long as wide; 2 a little shorter; following segments to 11 about one and a half times as wide as long; 3 slightly thicker than the other segments and weakly excavated on its basal two-thirds; the hairs of the funicle are rather more than half the width of the segments, and are nearly erect, bristle-like, and very regular—that is to say, nearly every hair stands out separately. Mandibles with two rather short teeth.

*Thorax* distinctly elongate. Mesonotum more or less dull, with an irregular scaly-reticulate sculpture, which gives it the appearance of being extremely finely rugose. Parapsidal furrows clearly defined as two narrow grooves. Scutellum smoother and more shining than the mesonotum. Postscutellum showing medially as a short, strongly transverse process, the posterior edge of which is straight and very slightly lamelliform. Propodeum with its posterior surface shallowly excavated, the limits of the excavated area defined by two very distinct ridges which extend from the posterior propodeal corners and converge towards a point, distant from the postscutellum

by about the length of the postscutellum, and from which point they run more or less parallel to the posterior margin of the postscutellum itself. Wings extending to about the apex of the abdomen.

*Abdomen* three times as long as wide, strongly narrowed at its base, almost petiolate; segment 1 about one and a half times as long as its apical width; 2 about two and a half times as wide apically as basally, smooth except for striations at its base, which are longest medially; segments 3-7 smooth and shining; 3 transverse; 4, 5, and 6 together a little longer than 3.

Length 1.9 mm.

CAPE PROVINCE (Somerset East, Jan.), 1 ♂.

The writer has no hesitation in associating this male with the previously described female, in spite of slight differences, such as the presence of minute hairs on the eyes and the possession of only two teeth to the mandibles. The first of these details is regarded in the light of a secondary sexual character, the other as a slight variation well within the limits of the variation of the species, since the middle mandibular tooth in the female is much smaller than the other two, and may well be expected to disappear in some individuals.

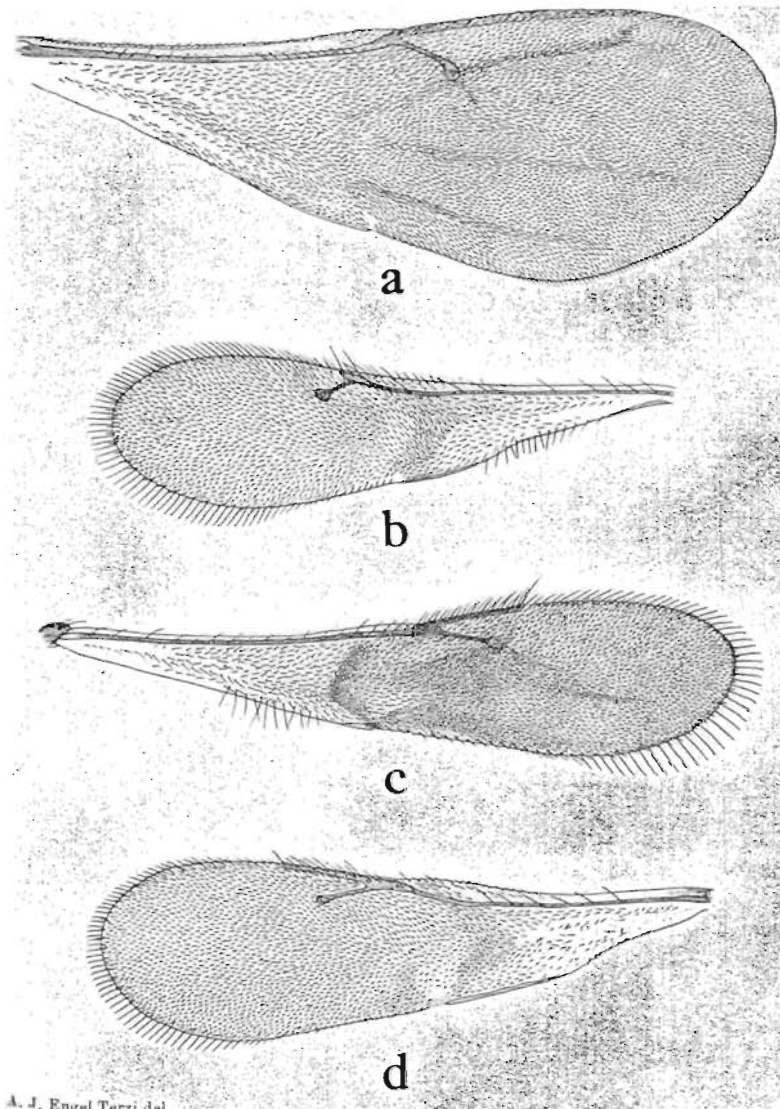
#### EXPLANATION OF THE PLATES.

##### PLATE X.

- Fig. a. *Vardhana selene*, sp. n. Fore wing.  
 Fig. b. *Paranteris tenuis*, sp. n. Fore wing.  
 Fig. c. *Ceratoteleia aphrodite*, sp. n. Fore wing.  
 Fig. d. *Govinda mila*, sp. n. Fore wing.

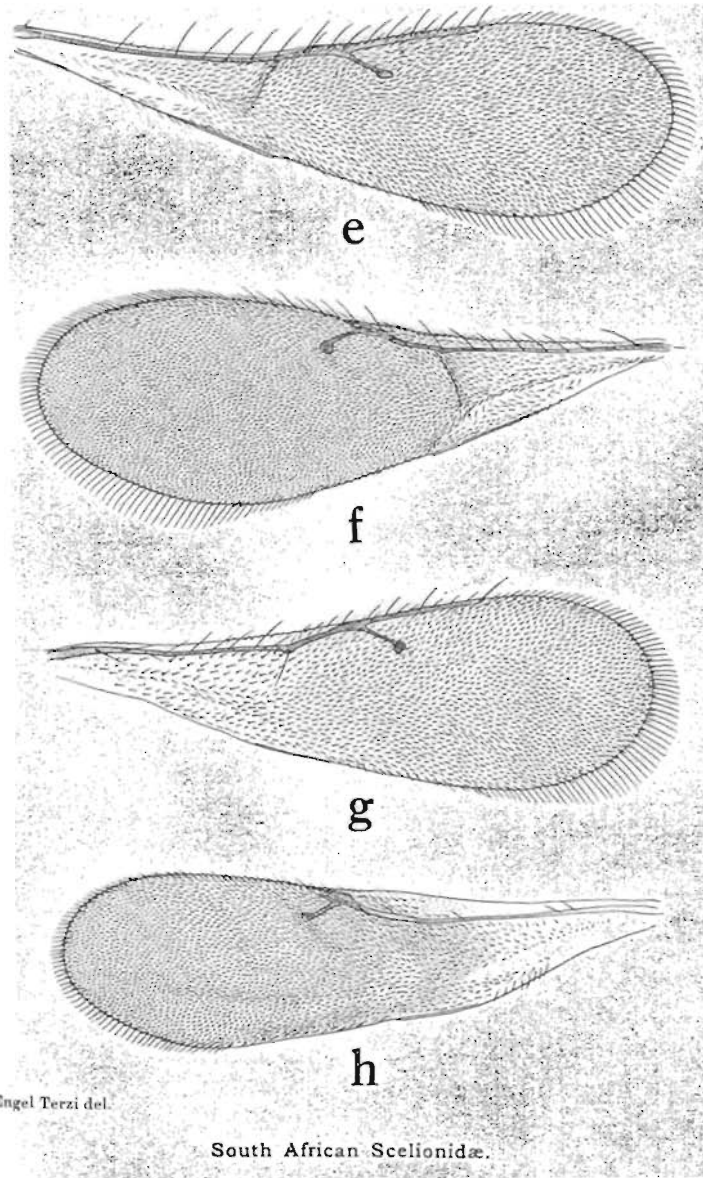
##### PLATE XI.

- Fig. e. *Duta tenuicornis* Dodd subsp. *fragilis*, subsp. n. Fore wing.  
 Fig. f. *Lapithoides semiramis*, sp. n. Fore wing.  
 Fig. g. *Gita infortunata*, sp. n. Fore wing.  
 Fig. h. *Govinda nona*, sp. n. Fore wing.



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