Head deeply depressed transversely behind the eyes, with dense appressed concave scales; forehead narrowing in front and there as wide as the base of the rostrum, with dense scales that are somewhat raised at their apices and subcumbent spatulate setae; eyes flat.

Rostrum shorter than the pronotum in both sexes (♂ 5:7, ♀ 6:7), rapidly narrowing apically, densely squamose on the basal two-thirds (♂) or one-third (♀). Antennae rather stout, joints 4-7 of the funicle transverse. Prothorax somewhat transverse in both sexes, rounded laterally, widest at a little behind the middle, rather strongly constricted at the truncate apex, which is only a little more than half the width of the distinctly bisinuate base; dorsum feebly convex longitudinally, evenly clothed with dense concave scales and stout subcumbent setae which become suberect laterally. Elytra wider than the prothorax, ovate, parallel-sided only in the basal fourth, jointly sinuate at the base, with rounded prominent shoulders; the striae distinctly visible through the scaling, but the punctures in them concealed by recumbent white setae; the broad intervals slightly convex, each with two rows of densely overlapping subquadrate scales and a sparse row of stout pointed erect setae. Legs with dense overlapping grey scales and stout erect setae; femora and tibiae simple.

Length 2.7-3.0 mm., breadth 1.2-1.5 mm.


Allied to the preceding species by its subquadrate scales and stiff erect setae, but differing in the clothing of the pronotum and the conspicuous striae on the elytra.

New African Mallophaga

by

G. H. E. Hopkins, M.A.*

The Mallophaga are a group of exceptional interest because they are entirely parasitic on mammals and birds and (with rare exceptions) their evolution has lagged behind that of their hosts. For this reason their systematics will, when properly understood, throw most interesting light on the relationships and origins of the hosts. Unfortunately the systematics of the group are at present chaotic, and only a small proportion of the African genera and species have been described. We owe to a member of this Society, the late Mr. G. A. H. Bedford, the fact that the African members of one family, the Trichodectidae, are better-known than almost

* Published by permission of the Director of Medical Services, Uganda.
any other large group of Mallophaga, but our knowledge of the other families in this continent is infinitesimal. No apology is needed for the description of East African species in a journal primarily devoted to the entomology of South Africa, because the distribution of the Mallophaga is not geographical but according to host; *Felicola decipiens* sp. nov., for instance, will certainly be found to occur on the South African form of *Mungos mungo*. When the systematics of a group are in chaos it is incumbent on writers to take great care to avoid adding to the confusion. For this reason I have confined myself, in describing new forms, to small or well-known genera in which the description of new forms is not likely to increase the prevalent muddle. The statement that the types of the new forms described below are in the British Museum is an anticipation; they will remain in my care until it is safe to send them to England.

**Two new species of Felicola, with remarks on the genus.**

Bedford (1936, p. 52) recorded as *Felicola cooleyi* (Bedford) a short series of *Felicola* collected on a Banded Mongoose at Kampala, Uganda. He based on these specimens his decision to suppress the genus *Suricatoecus* and his belief that the types of *cooleyi* were somewhat teneral. I fully agree that *Suricatoecus* cannot be regarded as a good genus, but I have recently obtained a number of further specimens of the form found on the Banded Mongoose and have been able to compare them with the types and paratypes of *cooleyi*. I find that the two forms, though certainly very closely related, are not identical, and I think that Bedford’s belief that the types of *cooleyi* were teneral is probably incorrect.

*Felicola decipiens* sp. nov. (fig. 1) is obviously very close to *F. cooleyi* and the two species occupy a somewhat isolated position within the genus. The differences between them are rather small, though constant, and it would not be unreasonable to regard them as subspecific rather than specific. In *decipiens* the frons is distinctly produced on each side of the scutum, forming a well-developed median frontal notch; in *cooleyi* the frons is much more smoothly rounded and the notch is extremely poorly developed, though it is present (Bedford’s statement to the contrary notwithstanding) in all the specimens of the type series. The spiracles on the abdomen are excessively small in *cooleyi*, but rather large in *decipiens*. The general arrangement of the endoskeleton of the head is precisely the same in the two species, though there are differences in detail. The prothoracic setae is even smaller in *decipiens* than in *cooleyi*. In both species the male has a single pair of tergocentral setae on abdominal segments I and II (not shown in Bedford’s figure); these are distinctly larger in *decipiens* than in *cooleyi*. I can find no difference in the male genitalia, but the apex of the male abdomen is slightly more produced in *decipiens* than in *cooleyi*, and the copulatory lobes of the female are
differently shaped (cf. fig. 2 and the figure published by Bedford, 1932, p. 352, fig. 1b).

Measurements, in millimetres, of the types of *decipiens* are as follows:—

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Length</td>
<td>Width</td>
</tr>
<tr>
<td>Head</td>
<td>0.35</td>
<td>0.40</td>
</tr>
<tr>
<td>Prothorax</td>
<td>0.07</td>
<td>0.27</td>
</tr>
<tr>
<td>Pterothorax</td>
<td>0.07</td>
<td>0.34</td>
</tr>
<tr>
<td>Abdomen</td>
<td>0.74</td>
<td>0.48</td>
</tr>
<tr>
<td>Total</td>
<td>1.22</td>
<td></td>
</tr>
</tbody>
</table>

Described from 12 males and 12 females collected from four individuals of *Mungos mungo macrurus* (Thomas), Banded Mongoose, at Kampala, Uganda, by Mr. T. W. Chorley and myself. The host was originally determined as *M. m. colonus* Heller, but further specimens show that the Kampala form of the species is nearer to *macrurus*. Holotype male and allotype female in the British Museum, paratypes in the Bedford, Hopkins, Thompson and Werneck collections.

Reverting to Bedford’s belief that the types of *cooleyi* were slightly teneral, it seems worth remarking that the shape of the head (usually very characteristic of a species) is assumed very early in the life of a member of the genus *Felicola*. My examination of very large numbers of this genus (several thousands of *F. rostrata*) has shown that the head-shape is almost the same in mature adults, teneral adults, and all stages of nymphs. Furthermore, one of the paratypes of *decipiens* is a decidedly teneral adult, yet it shows the same differences from *cooleyi* as do the fully-sclerotised specimens.

*Felicola wernecki* sp. nov.

The second new species, *Felicola wernecki*, is based on material some of which Bedford (1936, p. 55 and 1939, p. 104) determined as *F. acuticeps* (Neumann); he recognised the most important of the differences between the two forms, but did not attach much weight to them.

*F. wernecki* is almost exactly like *acuticeps*, but differs strikingly by the possession, in both sexes, of four pairs of small but perfectly distinct abdominal spiracles, whereas *acuticeps* has none. In the male genitalia the parameres are distinctly shorter in *wernecki* than in *acuticeps*, in the former only just reaching the tip of the pseudopenis and in the latter projecting well beyond it. My conception of *acuticeps* is based on material of *F. genetta* (Bedford), which Bedford, Werneck and myself all consider to be a synonym of *acuticeps*, and on photographs of his beautiful drawings of the types of *acuticeps* most kindly sent to me by Dr. Werneck.

Holotype male and allotype female of *F. wernecki* from *Genetta tigrina stuhlmanni* Matschie, near Butiaba, Uganda, 13. xi. 1933; a short series of paratypes from the same host, at the same
locality and at Kigowa, near Kampala, Uganda. Types in the British Museum, paratypes in the Bedford, Hopkins, Thompson and Werneck collections.

Two attempts have been made to split up the genus *Felicola*: Bedford (1932, p. 354) erected the genus *Suricatoecus* for *cooleyyi*, but suppressed it four years later; Kéler (1938, p. 463) erected *Bedfordia* with *F. helogale* Bedford as genotype; this also was rejected by Bedford (1939, p. 104). Ewing (1936, p. 242) referred certain species of *Felicola* to his genus *Neotrichodectes* because of the absence in these species of abdominal spiracles, but the singling-out of one character in this way only tends to obscure natural relationships. I have been exceptionally fortunate in having been able to see the types or authentic material (from the type-host) of all the 15 known African species of *Felicola*, comprising by far the greater part of the genus, as at present known.* This has given me an opportunity to form opinions on the validity or otherwise of the proposed divisions of the genus, and also to make out a key to the African species, which is reproduced below.

*Suricatoecus* was founded mainly on the rounded anterior margin of the head and the alleged absence of a median frontal notch, the alleged absence of the temporal bands, and the great reduction of the abdominal tergal sclerites. I have already mentioned that the median notch, though very poorly developed, is present; careful re-examination of the types shows that the temporal bands are also present, though weakly sclerotised. In both these respects *decipiens* is transitional between *cooleyyi* and more typical members of the genus. To the differences between *Suricatoecus* and *Felicola* mentioned in Bedford's original description of the former, Kéler (1938, p. 463) adds a statement that the antennae are similar in the two sexes; this is incorrect, sexual dimorphism of the antenna is poorly-marked in *cooleyyi* and *decipiens* but it is present to a small degree in both. The reduction of the tergal sclerites is a very striking character, but some other species show an approach to this condition: in *setosa* (see Bedford, 1932, p. 361, fig. 7) the number of these plates is somewhat reduced, and an unusually interesting undescribed species in my collection is still more informative in this respect, the number of plates being almost normal, but the anterior ones being much smaller than usual and obviously tending to disappear as they have done in *cooleyyi* and *decipiens*. This undescribed species has a head very like that of *helogale* and forms a beautiful transition between the latter and the *cooleyyi-decipiens* group; it will shortly be described by Dr. Werneck.

* The only other described species are *F. felis* (Werneck), *F. zeylonica* Bedford, *F. genettae* (Fresca), *F. inaequalis* (Piaget), *F. viverriculae* (Stobbe) and *F. tigris* (Ponton). I have seen paratypes of *felis* and *zeylonica*, *genettae* is fairly well figured by Fresca, *inaequalis* is insufficiently described and figured and is likely to prove an earlier name for one of the African species, and *tigris* is so inadequately described that the only evidence that it belongs to this genus is that it was found on a tiger. My knowledge of *viverriculae* is derived from photographs of Dr. Werneck's beautiful drawings of the types.
Bedfordia was characterised by the pre-antennal region being convex laterally, constricted towards the apex and drawn out into a short rounded projection, by the head being broader than long, and by the absence of abdominal spiracles; the genotype is F. helogale Bedford, and Kéler also referred F. acuticeps (Neumann) to this genus. Let us first consider the absence of abdominal spiracles, because at first sight it seems of particular importance. In Felicola the number of pairs of abdominal spiracles may be 6 (caffra and felis), 4 (vernecki), 3 (acutirostris, calogalea, cooleyi, decipiens, rammei, rostrata, setosa, subrostrata, viverriculae and zeylonica), or none (acuticeps, helogale, hopkinsi and mungos). Not only is the number of spiracles often very different in closely-related species (their small size often suggesting that they are on the way towards disappearance), but their presence or absence is not correlated with other characters. F. caffra and F. felis, in which there are 6 pairs, are obviously closely related, but the former is at least as closely related to F. subrostrata, in which there are 3 pairs, while the latter is somewhat transitional in shape of head to such a species as F. helogale, in which there are none. The best example is, however, provided by the species found on African Viverrinae, all of which are undoubtedly closely related: in hopkinsi and acuticeps there are no abdominal spiracles, but in vernecki, so closely related to acuticeps that Bedford did not consider it separable, there are four pairs, while in viverriculae (found on an Asiatic host introduced into Madagascar) there are three. In fact, as already pointed out by Bedford (1939, p. 104) the presence or absence of abdominal spiracles, and their number if present, are of purely specific importance in Felicola and possibly throughout the Trichodectidae. Kéler (1938, p. 444) even found a specimen of F. subrostrata which possessed, besides the normal three pairs of abdominal spiracles, a fourth rudimentary spiracle on one side only. Shape of head is equally unreliable as a generic character, though the difference is certainly striking in extreme cases. F. cooleyi, F. decipiens, F. helogale, F. mungos, F. felis, F. caffra form a complete transition from the round-headed forms to such triangular-headed species as F. rammei and F. rostrata; the long-headed species tend to have a straight-sided pre-antennal region and the short-headed ones to have this region convex, but it is impossible to draw a line between the two shapes of head. Moreover, the difference is only one of degree; if a triangular-headed species is examined carefully it will be found that the margin of the preantennal region is not really straight but is an extremely flattened S-curve, concave just behind the median notch and convex as it nears the trabeculoid process.

I am in full agreement with Bedford that neither Suricateoeus nor Bedfordia can be maintained, even as a subgenus, but we can detect certain natural groups within the genus, bearing in mind that their limits are not sharp and that the discovery of further new
species is very likely to upset our definitions. My opinion as to the recognisable groups within the genus is as follows:—

Group A. No indication of a post-oscular concavity, nor of any production of the margins of the osculum. Abdominal spiracles either 3 or 4 pairs or none. Parasitic on Viverrinae (Genets and Civets). This group includes acuticeps, hopkinsi, viverriculae and wernecki.

Group B. Always some indication of a post-oscular concavity and of production of the margins of the osculum to form a median frontal notch; these characters usually very marked, but great development of either tends to obscure the other. Abdominal spiracles either 3 or 6 pairs or none.

Subgroup 1. Post-oscular concavity and frontal notch very poorly developed, sides of head mainly convex. Abdominal tergal sclerites reduced to one in female and none in male. On Mungotinae (Mongooses). Included species: cooleyi and decipiens.

Subgroup 2. Post-oscular concavity and frontal notch poorly developed, sides of head mainly convex. Abdominal tergal sclerites not markedly reduced in number. On Mungotinae. Includes helogale, mungos and the undescribed species mentioned above.

Subgroup 3. Frontal notch and production of the margins of the osculum so marked as to flatten out the post-oscular concavity and the convexity posterior to it into an almost straight flattened S-curve. Abdominal sclerites not markedly reduced in number. On Mungotinae, Felidae and apparently also Viverrinae. Comprises the rest of the genus, including F. genettae (Fesca), whose occurrence on a genet perhaps requires confirmation.

One further insect must be taken into consideration in discussing the genus Felicola: this is the very interesting species described by Bedford as Protelicola intermedia. I am at a disadvantage in discussing this species because I have no specimens, but it seems to me that it is not only a Felicola but belongs to my Group B, subgroup 1. Comparison of my fig. 1 with Bedford’s figure of P. intermedia (1932, p. 355, fig. 2), both drawn from the ventral aspect, will show the very close resemblance between these two species, and the arrangement of the tergal sclerites, as described by Bedford, is also the same in both. But in the absence of specimens I do not care to do more than suggest the probability that Protelicola should be regarded as a synonym of Felicola.

Another point of interest concerns the host-parasite relationships in the genus. The known species, excluding P. intermedia, are found solely on Felidae and Viverridae, and it might reasonably be expected that the species on these two families of hosts would fall into separate groups. This is, however, not the case: F. rostrata Bedf., from a mongoose, is so closely related to F. subrostrata (Burmeister), from the domestic cat, as to be difficult to distinguish from it; it might be supposed that F. subrostrata had been derived in the remote past from a form found on a mongoose, but for the
existence of *F. caffra* (Bedford) and *F. felis* (Werneck), the latter from Felidae in South America, where no mongooses exist. The *cooleyi-decipiens* group come from two closely related genera of Mungotinae, but I think it probable that the three divisions of group B will all have to be merged as further species become known. Group A seems to be genuinely distinct and all the members occur on Viverrinae. As regards *Protelicola intermedia*, its host (*Proteles cristatus*) is of somewhat uncertain status, though there is little or no doubt about its relationships: most authors make it the sole representative of the family Proteilidae, others refer it to the Hyaenidae, and yet others consider that it belongs to the Viverridae. But the difference of opinion is not so great as would appear, because the Hyaenidae and Viverridae are admittedly closely related to one another. The structure of its parasite suggests the possibility that *Proteles* may be very close to some groups of the Viverridae, but in this connection the Mallophaga of the hyaenas (as yet unknown) are sure to be of exceptional interest.

A curious contribution to the host-parasite relationships of *Felicol a* is that a species which I am quite unable to separate from *F. rostrata* occurs on *Civettictis civetta schwarzii* Cabrera. There is no question that *F. rostrata* is a normal parasite of *Ichneumia albicauda*, since I have found it on practically every one of the dozen or more specimens of the East African form of this mongoose which I have examined (in one instance 279 male, 241 female and 994 immature specimens on one individual). But its presence on the civet also appears to be normal, and is certainly not due to artificial straggling; of four specimens of this host which I have examined two had no Mallophaga, one had 140 specimens of *F. rostrata* and had probably lost many before the skin reached me, while the fourth was infested with 869 male, 1,069 female and 2,142 immature specimens of *F. rostrata*. These civets had not been in contact with each other or with specimens of *Ichneumia* before examination; both were from the same district (Kigezi), but they were captured in widely-separated localities and on separate visits to the district.

*Key to the known African species of the genera Felicol a and Proteilicola.*

1. Median tergal plates of abdomen reduced to 0 in ♂ and 1 in ♀; sternal plates also reduced in number; 3 or 6 pairs of abdominal spiracles present
   Tergal and sternal plates more numerous, at least 5 tergal plates in both sexes; abdominal spiracles either absent or 3, 4, or 6 pairs
   2

2. Lateral margins of pre-antennal region nearly straight; 6 pairs of abdominal spiracles
   *P. intermedia* Bedford.
   Lateral margins of pre-antennal region strongly convex; only 3 pairs of abdominal spiracles
   3
3. Frons almost entirely rounded, oscular notch very poorly developed; spiracles extremely small... *F. cooleyi* Bedf. Frons distinctly angulate, with well-marked oscular notch; spiracles large... *F. decipiens* sp. nov.

4. Frons at least slightly produced on each side of osculum, often very markedly so; the margin of the frons immediately behind the osculum at least slightly concave (the species in which the production of the oscular region is least marked with heads distinctly broader than long); abdominal spiracles either absent or 3 or 6 pairs... Osular region not at all produced; no trace of a post-ocular concavity, this area of the margin of the head distinctly convex; head as long as broad or longer; abdominal spiracles absent or 3 or 4 pairs... 5

5. Frons only very slightly produced, its sides markedly convex behind the post-ocular concavity; head distinctly broader than long; abdominal spiracles absent... 6

Frons very markedly produced, its sides nearly straight; head as long as broad or longer; 3 or 6 pairs of abdominal spiracles present... 8

6. Post-ocular concavity poorly developed; head only slightly broader than long... *F. mungos* (Stobbe). Post-ocular concavity well-marked; head markedly broader than long... 7

7. Eye hardly prominent; temporal angle almost a right angle... *F. helogale* Bedf.

Eye much more prominent; temporal angle very obtuse *F. sp. nov.

8. With 6 pairs of abdominal spiracles... *F. caffra* (Bedf.) With only 3 pairs of abdominal spiracles... 9

9. Males... 10

Females... 16

10. Sclerite on first tergite of abdomen either absent or with only minute setae; preputial sac with coarse spines... 11

This sclerite well-developed and with either 2 or 6 particularly long and stout setae; preputial sac only finely denticulate... 12

11. Large; frontal angle more than a right angle; sclerite on first tergite of abdomen absent... *F. rammei* (Stobbe). Much smaller; frontal angle less than a right angle; sclerite on first abdominal tergite present... *F. calogalea* (Bedf.).

12. Sclerite on first tergite with 6 setae... *F. setosa* Bedf. This sclerite with only 2 setae... 13

13. With only 5 abdominal tergal sclerites, including the specialised one on the first tergite... *F. cynictis* (Bedf.). With 7 or 8 such sclerites... 14

14. First pair of abdominal spiracles distinctly larger than the others; parameres not fused; abdominal tergites 3-7 without setae... *F. acutirostris* (Stobbe).

All spiracles of equal size; parameres fused at tips to form a ring; all abdominal tergites with a row of minute setae... 15
15. Length of head markedly greater than its breath at level of eyes (as 1.0:0.8); tergal plates relatively narrow and deep; longitudinal sclerites on tergite 8 not united anteriorly *F. subrostrata* (Burm.). Head distinctly broader (length: breath as 1.0:0.9); tergal plates relatively wide and shallow; longitudinal sclerites on tergite 8 usually united anteriorly  *F. rostrata* Bedf.

16. Sclerite on abdominal tergite 8 absent  
   This sclerite present  

17. Head decidedly narrow, longer than broad  *F. cynictis* (Bedf.)  
   Head as broad as long  *F. setosa* Bedf.

18. Sclerite on abdominal tergite 8 interrupted medially  
   This sclerite entire  

19. First pair of abdominal spiracles distinctly larger than the rest  
   *F. acutirostris* (Stobbe).

20. Tergal sclerites of first four abdominal segments almost linear, very wide in proportion to their depth; main process of copulatory lobe long, inner lobe rather narrow  *F. rostrata* Bedf.  
   These sclerites comparatively deep and narrow; main process of copulatory lobe comparatively short and inner lobe comparatively broad  *F. subrostrata* (Burm).

21. Large (over 1.7 mm. long)  *F. rammei* (Stobbe).  
   Much smaller (under 1.5 mm. long)  *F. calogalea* Bedf.

22. With 3 or 4 pairs of abdominal spiracles  
   Without abdominal spiracles  

23. With 4 pairs of small abdominal spiracles  *F. wennecki* sp. nov.  
   with 3 pairs of large abdominal spiracles  *F. viverriculatae* (Stobbe)

   Abdomen of ♂ much less tapered; apical sternal plate of ♀ much more shallowly emarginate apically  *F. acuticeps* (Neum.)

**Otilipeurus elliotti** sp. nov. (figs. 3 and 4) is exceedingly easily distinguished from any described species of the genus by the strongly triangular frons. It is slightly approached in this respect by *O. dissimilis* (Piaget), but Piaget's description states that in this species the head is “a peine angulaire en avant” and Clay (1938, p. 200) states that “the figure shows the head more pointed than it is in the specimens.” There is, therefore, no possibility of confusion between the two species, but dissimilis is of interest as showing the beginning of the condition which has culminated in *O. elliotti*. The latter species has a higher cervical index than any described species of the genus; the head is about $1\frac{1}{3}$ times as long as broad in this species, whereas in the remainder of the genus the index hardly exceeds 1.2 (according to Piaget's measurements the index in the female of *O. antilocus* (Nitzsch) is 1.23).

**Female.** Chaetotaxy of head as in *O. kori* Bedford, but the posterior dorsal seta much smaller than the anterior, and the latter
Felicola decipiens sp. nov.

Fig. 1. Ventral surface of male; the asymmetry of the frons is normal, other asymmetries are due to the accidents of mounting.

Fig. 2. Genital valve of female.

Otilipeurus elliotti sp. nov.

Fig. 3. Head of female; chaetotaxy omitted.

Fig. 4. Head of male; a few of the least important setae omitted.

Buceronirmus longicuneatus sp. nov.

Fig. 5. Outline of head of male,

Fig. 6. Female.
not placed so far forward as in kori. The boundaries of the clypeal suture are very irregular and variable. Shape and chaetotaxy of thorax as in kori. Chaetotaxy of abdomen similar to that of kori, but tergite of 7th. segment with a deep triangular median excavation anteriorly and a shallow one posteriorly, showing clearly its origin from a pair of separate plates. The sternal plates are somewhat obscure but appear to be similar to those of kori. Abdomen widest at segment 5.*

Male. Paler than the female and somewhat smaller. Sexual differences in the antenna more marked than in kori, the appendage much longer and arising from the apex of the second segment. Pterothorax with 6 long setae on each side of the median line, of which 4 (arranged in pairs) are much longer and stouter than the others; the arrangement in kori is somewhat similar but one of the longest setae is unpaired and the members of the other pair are much wider apart than in elliotti, in which their areolae ("pustules") are almost, or quite, in contact. The intertergal or accessory tergal plates are very poorly sclerotised and obscure, but are certainly present on abdominal segments III-V. I cannot make out in elliotti the "large indistinct longitudinal plate" on each of the sternites VI-VIII of which Bedford writes in his description of kori. Genitalia of the same type as in kori, but the basal plate longer and narrower, with almost straight and parallel sides, the parameres and apically-fused endomerises longer and without the very pronounced double curve found in kori, the parameres especially only very slightly curved. The abdomen is widest at segments V and VI, which are of almost exactly equal breadth, the sides curve gradually outwards from the base of the abdomen to this point, and then curve rapidly inwards to the apex.

Measurements of the types, in millimetres, are as follows:—

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th></th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Length</td>
<td>Breadth</td>
<td>Length</td>
</tr>
<tr>
<td>Head</td>
<td>0.73</td>
<td>0.54</td>
<td>0.76</td>
</tr>
<tr>
<td>Prothorax</td>
<td>0.15</td>
<td>0.37</td>
<td>0.15</td>
</tr>
<tr>
<td>Pterothorax</td>
<td>0.21</td>
<td>0.58</td>
<td>0.22</td>
</tr>
<tr>
<td>Abdomen</td>
<td>1.64</td>
<td>0.74</td>
<td>1.77</td>
</tr>
<tr>
<td>Total</td>
<td>2.73</td>
<td></td>
<td>2.90</td>
</tr>
</tbody>
</table>

Holotype male, allotype female and two male and three female paratypes on Lissotis m. melanogaster (Rüppell) (Black-bellied Florican), Katwe, Toro, Uganda, 19th and 21st July 1939, collected by myself; a female paratype from the same host, Biharamulo, Tanganyika Territory, 29. xii. 1937, H. F. Elliot. Types in the British Museum, paratypes in the Bedford, Carriker, Hopkins and Meinertz-hagen collections.

*In this connection it may be noted that I have examined Bedford's types of kori and his suggestion that the holotype was distorted in mounting is certainly correct.
Bedford's definition of the genus (1931, p. 287) needs a little modification. As demonstrated most clearly by O. elliotti, but also to some extent by O. dissimilis (Piaget), the head of Otilipeurus is not necessarily only slightly longer than wide, nor the frons necessarily semicircular; the head may be much longer than wide and the frons strongly triangular. The antennal appendage of the male may arise from the second or the third antennal segment, but I agree with Clay (1938, p. 187) in considering that the presence and position of this appendage are not, by themselves, of generic importance. A further important generic character is omitted by Bedford from his definition of the genus but mentioned in the description of O. kori (1931, p. 289): this is the presence in the male of accessory or intertergital plates on (apparent) abdominal segments III-V. In the two species known to me from actual specimens the male is decidedly less strongly sclerotised than the female and these plates are difficult to see; from Piaget's account (1880, p. 374) this would also seem to be true of Otilipeurus turmalis (Denny), but not of some of the other species.

**Buceronirmus** gen. nov.

This genus is obviously closely related to Upuplicola, Cuculicola and Hopkinsiella, but is easily distinguished from all three. I consider it nearest to Hopkinsiella, from which it is at once separated by the long peg-like process of the clypeal band and the absence of sertal plates. It appears to be confined to the Bucero-tinae and probably occurs on all the genera of this subfamily of hornbills, but is apparently absent on the Bucorvinae.

Form elongated. Head circumfasciate, clypeal band broad and extending backwards medially as a peg-like process which may almost reach the mandibles. Clypeal suture obscure, occipital bands absent. Clavi well-developed. Antennae almost alike in the two sexes, those of the male somewhat longer and stouter than those of the female. Pharyngeal gland and sclerite present. Prothorax moderately large, pterothorax with the meso-metathoracic division indicated laterally, legs slender. Abdomen elongate, tergal plates divided medially on segment I in male and segments I-VI in female, in male often so weakly sclerotised as to appear divided on the other segments except VII and VIII; segment IX of male as in Upuplicola and Hopkinsiella, terminal segment of female strongly bilobed. Pleurites as in Hopkinsiella; sertal plates absent. Whole of chaetotaxy very similar to that of Hopkinsiella. In one or two respects Buceronirmus has a strong resemblance to Pseudolipeurus, but I believe this likeness to be purely superficial.

Genotype Buceronirmus longicuneatus sp. nov.

Of the described Ischnocera from Bucerotidae, Lipeurus albipes Piaget certainly and Nirmus taurus Giebel almost certainly belong to the new genus, and I consider that Nirmus arcellus Piaget, N. grandiceps Piaget, Lipeurus trabeculus Piaget and L. zona-
tus Piaget also probably belong here. *Lipeurus docophorus* Giebel is definitely not congenic and will require a new genus. It is just possible that the genotype is a synonym of *taurus* Giebel, but there are several small differences from Giebel's description and I think this suggestion very improbable; it is more probable that *longicuneatus* should be regarded as a subspecies of *taurus*, but this cannot be decided until Giebel's species has been redescribed.

**Buceronirmus longicuneatus** sp. nov. (figs. 5 and 6). *Male.*
Cervical index 1.53, margins of head strongly sclerotised and almost black except anteriorly; clypeal region with 4 small marginal setae and 3 submarginal setae on each side; a marginal seta and a submarginal seta placed a little anterior to the clavus; ocular seta large and distinct; 4 temporal setae on each side, of which the most anterior is small, the second long and stout, and the posterior two minute; 2 pairs of discal setae on head, one placed about half-way between clavus and anterior margin and the other opposite the eye. Peg-like extension of clypeal band long and narrow, very variable but often extending back almost to the mandibles. First segment of antenna short and broad, second longer than third and fourth together, third and fourth short, of almost equal length, fifth half as long again as third or fourth and about length of first segment. Eye well-developed.

Prothorax almost rectangular but slightly narrower anteriorly, lateral margins heavily sclerotised; a single small seta on each side in the postero-lateral angle. Pterothorax much broader posteriorly than anteriorly, margins of segment strongly sclerotised except in the median area, hinder margin only weakly convex but deeply incised by the fused areolae of 4 large setae, a fifth much smaller seta placed external to these in a small separate areola.

Abdomen elongate, broadening very gradually to 6th (apparent) segment, thence rapidly narrowing; pleurites strongly sclerotised, tergal bands very weakly sclerotised medially on segments II-IV but fairly strongly sclerotised laterally and on the other segments; spiracles small but conspicuous and each set in a large pale area. There is a large single seta on each side in the antero-internal angle of the broken tergal plate of the first segment and two large setae just behind the median portion of the posterior edge of the same plate, three setae just behind the posterior margin of the tergal plate of each segment from the second to the fifth inclusive, 6th and 7th segments with five such setae of which the outermost is much larger than the remainder, 8th segment with only one large seta on the posterior margin which seems to represent the outermost of those found on the other segments, 9th segment broadly heart-shaped with four large setae on each side on the posterior margin; either one or two setae present in the postero-lateral angles of segments five to eight. Ventral surface of abdominal segments one to five with a row of 4 long setae on each side on the posterior
margin, sixth and seventh segments with only two such setae on each side, eighth with none.

Female. Similar to male in most respects. Cervical index 1.45, head slightly more narrowed anteriorly. Tergites of abdominal segments I-VI broken in the median line, inner margins truncate, tergite of segment VII with a rather deep median incision anteriorly. Chaetotaxy as shown in the figure. On segments II-VI one of the row of setae is set in a very conspicuous clear areola in the sclerotised tergite and on segments V-VIII the postero-lateral seta is set in a similar but smaller areola. The vulva is bordered by a row of about 24 small but moderately stout setae of which one or two are modified into small stout spines, and there is a lateral patch of about 7 larger setae on the ventral surface of segment VIII.

Measurements (in millimetres).

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Length</td>
<td>Breadth</td>
</tr>
<tr>
<td>Head</td>
<td>0.52</td>
<td>0.34</td>
</tr>
<tr>
<td>Prothorax</td>
<td>0.15</td>
<td>0.25</td>
</tr>
<tr>
<td>Pterothorax</td>
<td>0.14</td>
<td>0.33</td>
</tr>
<tr>
<td>Abdomen</td>
<td>0.98</td>
<td>0.42</td>
</tr>
<tr>
<td>Total</td>
<td>1.78</td>
<td></td>
</tr>
</tbody>
</table>

Male holotype and female allotype from Bycanistes subcylindricus subquadratus Cabanis, (Black-and-white-casqued Hornbill) collected at Kampala, Uganda, on 17th January 1937 by myself. Types in British Museum. A large number of paratypes from the same host and locality, various dates, have been distributed to many collections.

Mr. Walker of Onderstepoort kindly drew for me the figures of this species.

Soricella streptopeliae oenae ssp. nov. The genus Soricella appears to be decidedly rare and I have searched many scores of African doves without encountering it except on two occasions. On two out of sixteen specimens of Streptopelia vinacea barbaru Antinori (Sudan Vinaceous Dove) I collected a few specimens of Soricella streptopeliae streptopeliae Clay and Meinertzhagen, and from the only two specimens of Oena capensis from which I have seen material I obtained a short series of a form which I describe below as Soricella streptopeliae oenae.

S.s. oenae greatly resembles S.s. streptopeliae, but the clypeal spines are slenderer, the clavi slightly narrower, the temples less expanded, the head distinctly shorter (cervical index of male 1.12 as against 1.21 in S.s. streptopeliae), and the parameres of the male genitalia shorter and stouter. I am not at all confident that it would not be more correct to consider this form a full species, but prefer to take a conservative view until we have a better knowledge of the degree of difference usual in members of the genus.
Holotype male, allotype female and three male and four female paratypes from *Oena c. capensis* (Linn.) (Long-tailed Dove), Bugungu, Bunyoro, Uganda, 23. i. 1934, W. J. Eggeling; one male and one female paratypes from same host, Kaiso, Bunyoro, 8. i. 1934, A. W. Williams. Types in British Museum, paratypes in Bedford, Carriker, Hopkins and Meinertzhagen collections.

**CLAYIA** gen. nov.

Menoponidae with a very distinct patch of coarse spine-like setae on the ventral surface of the hind femur and patches of smaller setae on abdominal sternites 3 to 7 inclusive, these setae not forming definite combs as in *Colpocephalum, Tetrophthalmus Turacoeca* and other genera, but resembling those found in *Actornithophilus* or *Menopon*. Head much as in *Colpocephalum s. str.*, with a deep incision in front of the eye; eye well-developed, lens partially divided into two by a constriction; endoskeleton of head weakly sclerotised. Thorax as in *Colpocephalum s. str.* Whole chaetotaxy marked by a strong tendency for the setae to be stout and spine-like. Male genitalia characteristic, basal plate rather long and moderately broad, parameres and endomeres free distally, rod-like and almost alike.

Genotype: *Colpocephalum mjöbergi* Cummings (1914, p. 163, figs. 4-6).

Besides the genotype the genus includes *Clayia theresae* sp. nov. and probably *Colpocephalum spinosum* Piaget. The hosts are Galliformes.

**Clayia theresae** sp. nov. Male. Very similar to *Clayia mjöbergi* (Cummings), but at once distinguished by the form of the male genitalia: in *mjöbergi* the endomeres are very nearly as long as the parameres and their apices are very distinctly curved outwards like those of the parameres, but in *theresae*, while the parameres are similar to those of *mjöbergi*, the endomeres are much shorter than the parameres and are quite straight. Most of the head-chaetotaxy is similar in the two species, but in *mjöbergi* the two members of the pair of occipital setae on each side of the middle line are of very unequal size, whereas in *theresae* they are of about equal size, both reaching nearly to the posterior margin of the pronotum. The most posterior of the spines on the lateral wing of the pronotum is replaced in the new species by a moderately long seta, and there are usually only three spines or etae in this position instead of four. The chaetotaxy of the venter of the abdomen is more diffuse and scantier in *theresae* than in *mjöbergi*.

Female. Genital plate like that of *mjöbergi* but forming a somewhat more obtuse triangle, the plate anterior to it without the dense cluster of setae characteristic of *mjöbergi*. Abdominal tergites not bare, but each with two transverse rows of setae, one roughly in
the middle (in the antero-posterior sense) of each plate and the
other very close to the hind margin, these rows of setae almost as
in the male but the setae stronger and more spindle-shaped.

Male holotype, female allotype and many paratypes from
*Numida meleagris major* Hartlaub (Uganda Tufted Guineafowl),
Buruli, Buganda Province, Uganda, numerous other paratypes from
same host, various Uganda localities. Types in British Museum.

The genus and species are named in honour of Miss Theresa
Clay, as a small recognition of her outstanding work on the Mallo-
phaga of Galliformes.

**References.**

Bedford, G. A. H., 1931. New Genera and Species of Mallophaga.—17th

Bedford, G. A. H., 1936. Notes on Species of Trichodectidae with De-
Indust.,* 7, pp. 33-58.

Clay, T., 1938. A Revision of the Genera and Species of Mallophaga occurring
pp. 109-204.

Cummings, B. F., 1914. Descriptions of five new Species of Anoplura and


---

**New African Acrididae (Orthoptera)**

by

B. P. UVAROV, D.Sc.,
British Museum (Natural History).

The present paper contains descriptions of 6 new genera, 16
new species and two new subspecies of Acrididae, mostly collected
by entomologists working on locust investigations in various regions
of Africa during the last few years. The types are deposited in the
British Museum, unless stated otherwise.

Subfamily **ACRIDINAE**.

**Gelastorhinus africanus** sp.n. Figs. 1-4, and 14.

This is the first African member of a genus well represented in
Indo-Malaya, with one species in Madagascar.

♂ (type). Antennae much longer than head and pronotum,
joints 4-8 somewhat expanded and smooth, the rest rounded and