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A REVIEW OF THE BITING LICE OF THE GENUS *STURNIDOEUS*  
ELCHLER 1944 (PHILOPTERIDAE : MALLOPHAGA) FOUND ON  
THE BIRD FAMILY STURNIDAE (PASSERIFORMES).

By

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INTRODUCTION

The genus *Sturnidoecus* was erected by Eichler (1944 : 81) for the *Bruelia*-like Ischnoceran lice found on the bird-order Passeriformes. Eichler's diagnosis "Die Gattung sei aufgestellt für die von Piaget (1880) errichtete Gruppe der Docophori Angustoclypeati" - is too brief to be helpful in splitting this genus from the allied genera. Because of small number of specimens available for study at any one natural history museum, the workers did not attempt a comprehensive review of the genus. Through the kindness of Dr. Theresa Clay of the British Museum (Natural History), London, I have been fortunate in securing a considerable number of specimen of the genus. In this interesting collection, most of the species so far described are represented. In addition, there are specimens of forms which appear to be undescribed. Some of the specimens discussed herein are very distinct and may be easily recognised while excellent likeness in other species makes separation a most difficult job. The best characters for the separation of good species, are the shape and characters of the pre-antennal region of the head, abdominal chaetotaxy, sternal plates and the male genitalia. In the closely allied forms, however, the details of male genitalia constitute an infallible means of identification.

Dr. Clay has most generously put at my disposal an account of the genus. The preliminary description of the genus given in this paper is partly drawn from a study of the specimens available and partly on the remarks furnished by her.

HISTORICAL

*Sturnidoecus* Eichler is a relatively small genus. Hopkins and Clay (1952 : 344) listed 18 valid species out of which 7 species are recognised from Sturnidae alone. During recent years 18 more new names (including one from Sturnidae) are added to this list.

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Ansari 1968

The first species—*Pediculus sturni*—now referable to the genus *Sturnidoecus* and occurring on the bird family Sturnidae (Passeriformes), of which we have any knowledge was described by Schrank in 1776. Eicher (1944) established the genus *Sturnidoecus* and designated this species—*Docophorus leontondon* Nitzsch 1818 *Nomen Novum* for *Pediculus sturni* Schrank 1776, *sensu* Piaget 1880—as the genotype.

For over three scores of years, no Mallophagan species from the bird family Sturnidae was described which could now be referred to this genus. Denny added one species—*Docophorus pastoris* from *Pastor roseus* (Linnaeus) - to this list in 1842. He was followed by Nitzsch, who contributed another species—*Nirmus quadrilineatus* from *Aegitholos caudatus* (Linnaeus) in 1866, Rudow who added *Docophorus senegalensis* from *Lamprocolius nitens* (Linnaeus) in 1869 and Giebel, who described *Docophorus capensis* from *Sturnus contra* Linnaeus in 1874. Piaget contributed two new species to this group viz., *Docophorus affinis* from *Acridotheres fuscus javanicus* Cabanis and *Docophorus subacutus* from *Lamprotornis australis* (Smith) in 1880.

For about seventy years, no other species which can now be included in this group was described from this bird family until 1955 when Ansari published the description of *Sturnidoecus bannoo* from *Acridotheres ginginianus* (Latham).

I have attempted in this paper to make a complete revision of all the known *Sturnidoecus* species parasitic on Sturnidae. The new forms contained in the collection are fully and completely described in order that there may be no confusion in future. A tentative key to all these species is also given.

All the hosts given herein have been varified by Dr. Clay. The measurements are in millimeters and all the camera lucida drawings were prepared by the author, and inking was however, done by Mr. Saleem Rahman. *Allotypes*, *holotypes* and *paratypes* of all the species discussed have been deposited in the British Museum (Natural History), London.

#### Acknowledgements

My grateful thanks are due to Dr. Theresa Clay for her kind cooperation in making this material available for study to me. Finally I wish to thank Mr. Saleem Rahman, Dr. (Mrs.) Athar Mukhtar Ahmad Chisti and Miss Tasneem Rahman who have assisted me in its preparation for the press. I am specially indebted to Professor M. Afzal Husain for his suggestions and help in many directions. The generosity of the Panjab University, Lahore, for the grant of a research fund is gratefully acknowledged.

Genus *Sturnidoecus* Eichler  
(Phloptoridae : Ischnocera)

1944 Eichler. *Stettin. ent. ztg.*, 1051, 81.

Moderate sized, robust phloptorids, feebly well pigmented and sclerotised species.

This genus finds its closest affinity in *phlopterus*. The commonest characters of the two are the shape of the head and clypeal signature, general body form and tergal plates, thoracic sternites. Trabeculae large, triangular, almost equal to first antennal segment. The male genital armature in the two are modified on very different pattern.

This genus is also allied to *Bruelia* from which it differs in the shape of the head, especially in the characters of the preantennal region. The characters of the clypeal region of *Sturnidoecus* species are very much diverse and do not fall within the *Bruelia* range of variation.

#### Description of the genus

Head longer than broad, somewhat pointed anteriorly and expanded at temples. The frontal margin is either rounded or slightly sinuated or medianly indented.

Marginal carina interrupted medianly. At the termination of marginal carina arise well marked, hyaline margin. Dorsal anterior plate present, well developed anterior margin and may or may not be demarkated posteriorly. Dorsal preantennal suture originates at the distal end of the marginal carina and bifid posteriorly. Ventral carina prolonged anteriorly beyond the level of distal end of marginal carina. Ventral anterior plate emarginate anteriorly and almost flat or rounded posteriorly so as to become kidney-shaped. Pharyngeal glands and sclerite well developed and more or less of uniform pattern. Antennae filiform, simple, weakly dimorphic in the two sexes. Clavi small, scarcely projecting beyond the anterior margin of the first antennal segment. Eyes simple, mono corneated, usually prominent with a short seta in the posterior angle, arising from dorsal surface.

Temples convexly rounded. Temporal carina present, joins ocular nodus and preantennary nodus. Occipital plate present, simple. Cephalic chaetotaxy simple and

remarkably constant in number and in the same position throughout the genus. On the dorsum there are : submarginal seta "A", anterior seta "B", preantennal seta "C", post nodal seta "D", ocular seta "E" and one long and 4-5 short marginal temporal setae. On the ventrum there : 3 submarginal setae ; *a, b, c*, 2 anterior setae : *d, g*, and 2 anteroventral setae : *e, f*.

Thoracic sclerites show no special feature and are more or less similar throughout the group. Prothorax short, dorsum with one long seta on each postero-lateral angle. Pterothorax short and wide, with a row of setae along the dorso-posterior margin. Thoracic sternites as in *Bruelia* and allied genera. Legs short and stout, femora and tibia about equal in length, claws short and thick.

There also seem to be no characters of the abdomen, which make it possible to separate the *sturnidoecus* species from *Bruelia* and other allied genera. Abdomen ovate, with tergal plates II-X in male and II-VIII in female interrupted medially. Dorsal chaetotaxy varies considerably from one group of species to another. Sternal plates II-VI are in the form of median plates, well developed, transverse, in some narrow, while in others considerably reduced to bars, each with a seta in the posterior lateral angle. VII-X in male fused to form an irregular triangular subgenital plate. Females with characteristic sclerotisation of the sub-genital plate, continuous with that round the edge of the vulval giving an anchor-shaped mark, like that found in *Bruelia* species and also with a vulval fringe of setae. Ventral sclerite each side of the abdominal segment IX+X in female well developed, each with clamp of setae. Male with anogenital opening on dorsum.

#### KEY TO THE SPECIES OCCURRING ON STURNIDAE

The following key is based entirely on the males *Sturnidoecus* species discussed in the text. Females of several species are identical and it is often most difficult to assign a particular female specimen to the proper species unless there is a male also. The characters of the female are therefore, some times provided in parentheses as additional aids but not as reliable guides to the species.

1. Endomerale plate elongate, reaching as far as the tips of parameres - - - - - 2
- - - Endomerale plate may be elongate or shield-shaped but never reaching - - - - - 4





12. Proximal-head of the parameres very strongly developed. Sternal plates very narrow, band of bar like - - - - - 13  
 - - - Proximal head of the parameres moderately developed. Sternal plates well developed, transverse stripes - - - - - 14
13. Preantennal region 1.64 times as wide as long. Parameres with slightly-up-turned proximal head - (Female subgenital plate squat, terminating posteriorly. Vulva with 12 - 13 + 5 - 6 setae on each side - - - *Sturnidoecus zahrae* sp. nov.  
 - - - Preantennal region 1.46 times as wide as long. Parameres with almost straight proximal head. (Female subgenital plate moderately developed. Vulva with 14 - 15 + 7 - 8 setae on each side) - - - *Sturnidoecus zahrae illustris* ssp. nov.
14. Hind-head not more than 1.5 times as wide as long. (Female subgenital plate moderately developed, narrow and elongate posteriorly. Vulva with 12 - 14 + 8 - 9 setae on each side) - - - *Sturnidoecus pastoris* (Denny, 1842)  
 - - - Hind head more than 1.75 - 2.00 times as wide as long - - - 15
15. Mesosomal plate widest in the anterior region, steadily narrowing posteriorly. Proximal parameres with a considerably narrow handle. (Female subgenital plate squat, blunt posteriorly. Vulva with 14 - 16 + 9 setae on each side) - - - *Sturnidoecus sturni* (Schrank, 1776).  
 - - - Mesosomal plate widest in the middle or little beyond and steadily narrowing both anteriorly and posteriorly. Proximal head of the parameres with well-developed squarish handle - - - - - 16
16. Abdominal tergites II - VII with a row of 6 - 14 setae. (Female subgenital plate moderately developed, top-shaped. Vulva with 9 - 12 + 4 - 5 setae on each side) - - - *Sturnidoecus parvifrons* sp. nov.  
 - - - Abdominal tergites II - VII with a row of 14 - 20 setae - - - 17
17. Abdominal tergite II with 10 - 12 setae - - - - - 18  
 - - - Abdominal tergite II with 15 - 20 setae - - - - - 21





13 - 15 + 6 - 7 setae on each side). — — — *Sturnidoecus bannoo* crist-ellus  
*laticephalum* ssp. nov.

— — — IX abdominal tergite with two long setae on each side — — — 23

23. IX abdominal tergite with eleven setae on each side (two short and one long followed by three short, one long and four short setae). Proximal head of the parameres with deep socket. (Female subgenital plate with considerably drawn out tip. Vulva with 12-13+ Tristis  
6-8 setae on each side) — — — *Sturnidoecus bannoo avinus* ssp. nov.

— — — IX abdominal tergite with ten setae on each side (two short and one long followed by six short and one long seta). Proximal head of the parameres with shallow socket. (Female subgenital plate moderately drawn out tip. Vulva with 14-15+7-8 setae on each side) — — — *Sturnidoecus bannoo* Ansari, 1955 sing. m. m. s.

TABLE 1—Measurements of various parts of the Body in *Sturnidoecus* Species Occurring on the Pastors, Starlings and Mynahs : Sturnidae

<i>Sturnidoecus</i>	Body	Head	Prothorax	Pterothorax	Abdomen
<b>Males</b>					
1. <i>avivorax</i> ...	1.605x0.731	0.497x0.487	0.096x0.279	0.168x0.431	0.848x0.731
2. <i>theresae</i> ...	1.208x0.572	0.428x0.436	0.093x0.237	0.171x0.381	0.521x0.572
3. <i>clayae</i> ...	1.662x0.728	0.513x0.503	0.118x0.282	0.184x0.441	0.852x0.728
4. <i>meinerzhageni</i> ...	1.461x0.615	0.476x0.462	0.118x0.272	0.144x0.395	0.728x0.615
5. <i>opeca</i> ...	1.286x0.544	0.414x0.421	0.077x0.215	0.144x0.349	0.656x0.544
6. <i>senegalensis</i> ...	1.483x0.621	0.452x0.493	0.133x0.266	0.154x0.431	0.749x0.621
7. <i>eichleri</i> ...	1.642x0.677	0.446x0.456	0.103x0.256	0.139x0.400	0.718x0.677
8. <i>distinguendus</i> ...	1.575x0.703	0.483x0.477	0.133x0.288	0.159x0.446	0.805x0.703
9. <i>afzali</i> ...	1.587x0.733	0.513x0.533	0.114x0.308	0.144x0.482	0.821x0.733
10. <i>husaini</i> ...	1.872x0.749	0.544x0.482	0.118x0.292	0.189x0.456	1.026x0.749
11. <i>h. prominens</i> ...	1.667x0.662	0.483x0.451	0.123x0.257	0.153x0.400	0.913x0.662
12. <i>zahrae</i> ...	1.595x0.708	0.503x0.508	0.118x0.292	0.174x0.456	0.805x0.708

13. <i>E. blattaria</i>	1.503x0.641	0.493x0.477	0.123x0.272	0.164x0.415	0.728x0.641
14. <i>pastoris</i>	1.958x0.708	0.633x0.497	0.115x0.272	0.179x0.456	1.036x0.708
15. <i>stural</i>	1.494x0.646	0.524x0.552	0.123x0.292	0.195x0.451	0.657x0.646
16. <i>parvifrons</i>	1.540x0.641	0.482x0.477	0.113x0.279	0.149x0.451	0.801x0.641
17. <i>acutifrons</i>	1.462x0.621	0.457x0.435	0.118x0.246	0.164x0.384	0.728x0.621
18. <i>zoophilic</i>	1.682x0.773	0.503x0.528	0.158x0.279	0.164x0.482	0.862x0.773
19. <i>capensis</i>	1.625x0.738	0.497x0.523	0.153x0.318	0.169x0.477	0.811x0.738
20. <i>c. fragilis</i>	1.525x0.641	0.473x0.487	0.156x0.262	0.158x0.416	0.743x0.641
21. <i>affinis</i>	1.585x0.713	0.503x0.472	0.138x0.287	0.164x0.446	0.785x0.713
22. <i>bannoo</i>	1.663x0.728	0.508x0.513	0.144x0.292	0.144x0.451	0.872x0.728
23. <i>b. laticephalum</i>	1.667x0.698	0.498x0.482	0.158x0.279	0.164x0.451	0.852x0.698
24. <i>b. avinus</i>	1.672x0.771	0.518x0.554	0.144x0.279	0.179x0.421	0.836x0.771
<b>Females :</b>					
1. <i>aviverax</i>	1.944x0.838	0.533x0.548	0.117x0.294	0.198x0.462	0.096x0.838
2. <i>theresae</i>	1.644x0.675	0.468x0.505	0.118x0.268	0.171x0.423	0.892x0.675
3. <i>clayae</i>	1.922x0.811	0.543x0.569	0.118x0.318	0.215x0.553	1.051x0.811
4. <i>meinertzhageni</i>	1.837x0.693	0.528x0.513	0.138x0.272	0.174x0.431	1.001x0.693
5. <i>opeca</i>	1.639x0.723	0.491x0.482	0.092x0.251	0.189x0.411	0.872x0.723

TABLE I Measurements of various part of the Body in *Sturnidoecus* Species Occurring in the Pastors, Starlings and Mynahs : Sturnidae

<i>Sturnidoecus</i>	Body	Head	Prothorax	Pterothorax	Abdomen
6. <i>senegalensis</i>	...	Female	not	available	1.011x0.738
7. <i>eichleri</i>	2.091x0.738	0.498x0.508	0.131x0.266	0.189x0.451	
8. <i>distinguendus</i>	...	Female	not	available	
9. <i>afzali</i>	2.016x0.836	0.570x0.595	0.138x0.344	0.195x0.544	1.118x0.836
10. <i>husaini</i>	2.395x0.703	0.566x0.538	0.128x0.318	0.205x0.492	1.231x0.708
11. <i>h. prominens</i>	2.061x0.778	0.487x0.503	0.123x0.279	0.169x0.436	1.287x0.778
12. <i>zahrae</i>	1.898x0.754	0.533x0.544	0.144x0.318	0.195x0.477	1.031x0.754
13. <i>z. illustris</i>	1.846x0.687	0.513x0.518	0.133x0.272	0.189x0.451	1.016x0.687
14. <i>pastoris</i>	2.219x0.836	0.666x0.569	0.138x0.307	0.205x0.503	1.215x0.838
15. <i>sturni</i>	1.725x0.703	0.551x0.589	0.123x0.318	0.195x0.477	0.861x0.703
16. <i>parvifrons</i>	1.790x0.662	0.492x0.497	0.113x0.279	0.179x0.452	1.011x0.662
17. <i>acutifrons</i>	1.801x0.763	0.503x0.492	0.128x0.279	0.144x0.452	1.031x0.763

18. <i>zocephalic</i>	1.995x0.811	0.565x0.594	0.128x0.323	0.174x0.533	1.123x0.836
19. <i>compensis</i>	1.969x0.836	0.519x0.548	0.164x0.359	0.169x0.543	1.113x0.758
20. <i>c. fragilis</i>	2.017x0.758	0.571x0.579	0.144x0.311	0.189x0.503	0.893x0.738
21. <i>affinis</i>	1.722x0.738	0.532x0.523	0.128x0.315	0.174x0.477	1.251x0.795
22. <i>bannoo</i>	2.162x0.795	0.571x0.553	0.144x0.318	0.201x0.497	1.118x0.791
23. <i>b. laticephalum</i>	1.943x0.791	0.503x0.523	0.158x0.297	0.169x0.482	1.011x0.771
24. <i>b. avinus</i>	1.887x0.771	0.549x0.553	0.138x0.308	0.195x0.487	

TABLE II : Measurements of the head in *Sturnidoecus* species (Males) Occurring on Brackets)

<i>Sturnidoecus</i>	Head	Hyaline region
1. <i>avivorax</i>	0.497x0.487(1 : 0.98)	0.071x0.188
2. <i>theresae</i>	0.428x0.436(1 : 1.019)	0.067x0.149
3. <i>clayae</i>	0.513x0.503(1 : 0.98)	0.072x0.169
4. <i>meinhertzhageni</i>	0.476x0.462(1 : 0.98)	0.066x0.143
5. <i>opeca</i>	0.414x0.421(1 : 0.95)	0.061x0.128
6. <i>senegalensis</i>	0.452x0.493(1 : 1.09)	0.077x0.185
7. <i>eiehleri</i>	0.446x0.456(1 : 1.02)	0.041x0.149
8. <i>distinguendus</i>	0.483x0.477(1 : 0.98)	0.062x0.154
9. <i>afzali</i>	0.513x0.533(1 : 1.04)	0.067x0.179
10. <i>husaini</i>	0.544x0.482(1 : 0.88)	0.062x0.153
11. <i>h. prominens</i>	0.483x0.451(1 : 0.93)	0.062x0.138
12. <i>zahrae</i>	0.503x0.508(1 : 1.01)	0.056x0.164
13. <i>z. illustris</i>	0.493x0.477(1 : 0.96)	0.056x0.144
14. <i>pastoris</i>	0.633x0.497(1 : 0.78)	0.056x0.169
15. <i>sturni</i>	0.524x0.552(1 : 1.05)	0.076x0.195
16. <i>parvifrons</i>	0.482x0.477(1 : 0.99)	0.076x0.179
17. <i>acutifrons</i>	0.457x0.435(1 : 0.95)	0.067x0.128
18. <i>zoophilic</i>	0.503x0.528(1 : 1.05)	0.062x0.169
19. <i>capensis</i>	0.497x0.523(1 : 1.05)	0.066x0.236
20. <i>c. fragilis</i>	0.473x0.487(1 : 1.03)	0.067x0.153
21. <i>affinis</i>	0.503x0.472(1 : 0.94)	0.056x0.179
22. <i>bannoo</i>	0.508x0.513(1 : 1.01)	0.046x0.174
23. <i>b. laticephalum</i>	0.498x0.482(1 : 0.96)	0.062x0.179
24. <i>b. avinus</i>	0.518x0.554(1 : 1.07)	0.056x0.169

Pastors, Starlings and Mynahs : Sturnidae (ratios of length to width is given in

antennal region	Hind-head	Dorsal plate	Ventral plate
33x0.341(1 : 1.46)	0.264x0.487(1 : 1.84)	0.108x0.135	0.078x0.097
33x0.278(1 : 1.25)	0.206x0.436(1 : 2.12)	0.140x0.136	0.081x0.082
31x0.359(1 : 1.42)	0.262x0.503(1 : 1.92)	0.101x0.105	0.073x0.067
30x0.315(1 : 1.32)	0.238x0.462(1 : 1.94)	0.138x0.107	0.108x0.076
19x0.297(1 : 1.53)	0.221x0.421(1 : 1.91)	0.088x0.072	0.126x0.015
21x0.338(1 : 1.46)	0.221x0.493(1 : 2.23)	0.111x0.113	0.087x0.076
20x0.303(1 : 1.48)	0.241x0.456(1 : 1.89)	0.181x0.114	0.081x0.085
22x0.323(1 : 1.46)	0.262x0.477(1 : 1.82)	0.140x0.108	0.105x0.081
24x0.379(1 : 1.54)	0.267x0.533(1 : 1.99)	0.138x0.116	0.095x0.072
267x0.369(1 : 1.38)	0.277x0.482(1 : 1.74)	0.116x0.108	0.087x0.076
221x0.318(1 : 1.44)	0.262x0.451(1 : 1.71)	0.116x0.105	0.065x0.068
231x0.379(1 : 1.64)	0.272x0.508(1 : 1.86)	0.096x0.119	0.087x0.087
236x0.344(1 : 1.46)	0.257x0.477(1 : 1.86)	0.076x0.114	0.089x0.062
279x0.354(1 : 1.27)	0.354x0.497(1 : 1.41)	0.149x0.100	0.095x0.089
262x0.349(1 : 1.33)	0.262x0.552(1 : 2.11)	0.130x0.122	0.108x0.095
251x0.369(1 : 1.47)	0.231x0.477(1 : 2.06)	0.114x0.271	0.073x0.092
246x0.315(1 : 1.28)	0.211x0.435(1 : 2.06)	0.119x0.096	0.076x0.062
246x0.375(1 : 1.52)	0.257x0.528(1 : 2.06)	0.149x0.114	0.089x0.096
246x0.349(1 : 1.42)	0.251x0.523(1 : 2.08)	0.143x0.105	0.089x0.084
211x0.323(1 : 1.53)	0.262x0.487(1 : 1.86)	0.146x0.102	0.092x0.084
241x0.364(1 : 1.53)	0.262x0.472(1 : 1.80)	0.145x0.102	0.078x0.071
231x0.369(1 : 1.59)	0.277x0.513(1 : 1.85)	0.138x0.112	0.095x0.081
241x0.364(1 : 1.51)	0.257x0.482(1 : 1.88)	0.127x0.084	0.078x0.073
246x0.369(1 : 1.50)	0.272x0.554(1 : 2.04)	0.143x0.119	0.130x0.099

TABLE III Measurements of the head in *Sturnidoecus* Species (Females) Occurring on

<i>Sturnidoecus</i>	Head	Hyaline region
1. <i>avivorax</i>	0.533x0.548(1 : 1.03)	0.076x0.198
2. <i>theresae</i>	0.468x0.505(1 : 1.08)	0.072x0.165
3. <i>Clayae</i>	0.543x0.569(1 : 1.05)	0.072x0.169
4. <i>meinertzhageni</i>	0.529x0.513(1 : 0.97)	0.072x0.143
5. <i>opeca</i>	0.491x0.482(1 : 0.98)	0.067x0.154
6. <i>senegalensis</i>	—	—
7. <i>eichleri</i>	0.498x0.508(1 : 1.02)	0.046x0.159
8. <i>distinguendus</i>	—	—
9. <i>afzali</i>	0.570x0.595(1 : 1.05)	0.067x0.179
10. <i>husaini</i>	0.566x0.538(1 : 0.95)	0.062x0.164
11. <i>h. prominens</i>	0.487x0.503(1 : 1.04)	0.067x0.138
12. <i>zahrae</i>	0.533x0.554(1 : 1.44)	0.056x0.164
13. <i>z. illustris</i>	0.513x0.518(1 : 1.01)	0.062x0.144
14. <i>pastoris</i>	0.666x0.569(1 : 0.85)	0.056x0.169
15. <i>sturni</i>	0.551x0.589(1 : 1.07)	0.076x0.215
16. <i>parvifrons</i>	0.492x0.497(1 : 1.01)	0.076x0.179
17. <i>acutifrons</i>	0.503x0.492(1 : 0.97)	0.067x0.158
18. <i>zoophilic</i>	0.565x0.594(1 : 1.05)	0.067x0.169
19. <i>capensis</i>	0.519x0.548(1 : 1.05)	0.066x0.236
20. <i>c. fragilis</i>	0.571x0.579(1 : 1.01)	0.076x0.169
21. <i>affinis</i>	0.532x0.523(1 : 0.98)	0.067x0.179
22. <i>bannoo</i>	0.571x0.553(1 : 0.97)	0.062x0.189
23. <i>b. laticephalum</i>	0.503x0.523(1 : 1.04)	0.062x0.189
24. <i>b. avinus</i>	0.549x0.553(1 : 1.01)	0.072x0.169



in Pastors, Starlings and Mynahs : Sturnidae (ratio of length to width given in brackets)

Preantennal region	Hind-head	Dorsal plate	Ventral plate
0.244x0.301(1 : 1.24)	0.289x0.548(1 : 1.89)	0.130x0.168	0.073x0.098
0.226x0.309(1 : 1.36)	0.242x0.505(1 : 2.09)	0.015x0.017	0.011x0.011
0.251x0.334(1 : 1.53)	0.292x0.569(1 : 1.95)	0.108x0.122	0.073x0.067
0.273x0.318(1 : 1.29)	0.256x0.513(1 : 2.01)	0.138x0.107	0.108x0.076
0.235x0.318(1 : 1.36)	0.256x0.482(1 : 1.85)	0.088x0.082	0.013x0.015
—	—	—	—
0.231x0.354(1 : 1.53)	0.267x0.508(1 : 1.91)	0.127x0.114	0.106x0.084
—	—	—	—
0.267x0.415(1 : 1.55)	0.303x0.595(1 : 1.96)	0.138x0.116	0.095x0.072
0.287x0.389(1 : 1.35)	0.279x0.538(1 : 1.92)	—	0.071x0.081
0.215x0.379(1 : 1.76)	0.272x0.503(1 : 1.85)	0.127x0.119	0.076x0.076
0.246x0.405(1 : 1.65)	0.287x0.554(1 : 1.93)	0.092x0.136	0.087x0.087
0.236x0.369(1 : 1.56)	0.277x0.518(1 : 1.86)	0.119x0.124	0.089x0.078
0.287x0.379(1 : 1.32)	0.379x0.569(1 : 1.76)	0.190x0.119	0.095x0.089
0.272x0.384(1 : 1.41)	0.279x0.589(1 : 2.11)	0.149x0.122	0.119x0.095
0.251x0.395(1 : 1.58)	0.241x0.497(1 : 2.07)	0.114x0.127	0.073x0.092
0.262x0.354(1 : 1.35)	0.241x0.492(1 : 2.04)	0.119x0.096	0.076x0.062
0.262x0.415(1 : 1.58)	0.303x0.594(1 : 1.96)	0.157x0.130	0.105x0.122
0.257x0.431(1 : 1.67)	0.262x0.548(1 : 2.09)	0.143x0.125	0.099x0.084
0.292x0.411(1 : 1.41)	0.279x0.579(1 : 2.07)	0.146x0.102	0.114x0.095
0.266x0.389(1 : 1.45)	0.266x0.523(1 : 1.97)	0.141x0.018	0.095x0.071
0.279x0.411(1 : 1.47)	0.292x0.553(1 : 1.89)	0.149x0.130	0.111x0.092
0.241x0.379(1 : 1.57)	0.262x0.523(1 : 1.98)	0.127x0.084	0.089x0.073
0.272x0.389(1 : 1.43)	0.277x0.533(1 : 1.98)	0.168x0.119	0.130x0.099

TABLE IV : Measurements of Male Genital of Armature in *Sturnidoecus* Species

<i>Sturnidoecus</i>	Length	Basal Plate	
		Basal Width	Anterior Width
1. <i>avivorax</i> ...	0.200	0.1297	0.1486
2. <i>theresae</i> ...	0.183	0.0951	0.127
3. <i>elayae</i> ...	0.265	0.101	0.121
4. <i>meinertzhageni</i> ...	0.1881	0.1324	0.1031
5. <i>opeca</i> ...	0.0160	0.0081	0.0111
6. <i>senegalensis</i> ...	0.2027	0.1378	0.1703
7. <i>eichleri</i> ...	0.2081	0.1271	0.1649
8. <i>distinguendus</i> ...	0.2162	0.1405	0.1703
9. <i>afzali</i> ...	0.2108	0.1108	0.1216
10. <i>husaini husaini</i> ...	0.2892	0.1641	0.1902
11. <i>husaini prominens</i> ...	0.2081	0.1108	0.1216
12. <i>zahrae zahrae</i> ...	0.2162	0.1324	0.1729

## on the Pastors, Starlings and Mynahs (Sturnidae)

Mesosomal Plate		Parameres	Ratio of Parameres to basal plate.
Length	Width		
0.222	0.0729	0.222	1 : 0.901
0.136	0.0551	0.139	1 : 1.316
0.181	0.057	0.157	1 : 1.688
0.1216	0.100	0.200	1 : 0.945
0.0134	0.0054	0.0172	1 : 0.931
0.1946	0.0865	0.2162	1 : 0.938
0.1973	0.0781	0.2108	1 : 0.987
0.2054	0.0946	0.1919	1 : 1.126
0.1216	0.0703	0.1487	1 : 1.417
0.1676	0.1107	0.1837	1 : 1.574
0.1081	0.0892	0.1324	1 : 1.572
0.1189	0.0811	1.1676	1 : 1.289

TABLE IV : Measurements of Male Genital Armature in *Sturnidoecus* Species

<i>Sturnidoecus</i>	Length	Basal Plate	
		Basal Width	Anterior Width
13. <i>zahrae illustris</i> ...	0.2162	0.1189	0.1405
14. <i>pastoris</i> ...	0.2189	0.1054	0.1298
15. <i>sturni</i> ..	0.1946	0.1108	0.1108
16. <i>parvifrons</i> ...	0.2027	0.1018	0.1405
17. <i>acutifrons</i> ...	0.1676	0.0838	0.1162
18. <i>zoophilic</i> ...	0.2351	0.1081	0.1378
19. <i>capensis capensis</i> ...	0.2216	0.0963	0.1595
20. <i>capensis fragilis</i> ...	0.2162	0.1018	0.1459
21. <i>affinis</i> ...	0.2189	0.1216	0.1568
22. <i>bannoo bannoo</i> ...	0.2351	0.1081	0.1568
23. <i>bannoo laticephali m</i> ...	0.2081	0.1018	0.1512
24. <i>bannoo avinus</i> ..	0.2162	0.1108	0.135

## on the Pastors Starlings and Mynahs (Sturnidae)

Mesosomal Plate		Parameres	Ratio of Parameres to basal plate.
Length	Width		
0.1189	0.0865	0.1567	1 : 1.379
0.1162	0.0703	0.1595	1 : 1.379
0.1298	0.0595	0.1513	1 : 1.286
0.1108	0.0621	0.1459	1 : 1.389
0.1135	0.0568	0.1405	1 : 1.193
0.1351	0.0676	0.1837	1 : 1.274
0.1405	0.0731	0.1703	1 : 1.301
0.1298	0.0703	0.1809	1 : 1.195
0.1405	0.0731	0.1809	1 : 1.210
0.1298	0.0676	0.1676	1 : 1.403
0.1298	0.0648	0.1539	1 : 1.352
0.1216	0.0703	0.1676	1 : 1.289

TABLE V : Dorsal Abdominal Chaetotaxy  
Occurring on the Pastors, Starlings

<i>Sturnidaecus</i>	Pterothorax	II	III	IV
1. <i>avivorax</i>	10+10	7+7	1+6+6+1	2+5-6+6+2
2. <i>theresae</i>	10+10	3+4	1+4+3-4+1	2+4+4+2
3. <i>clayae</i>	11+11	4+4	1+4+4+1	2+4+4+2
4. <i>meinertzhageni</i>	8+8	4+4	4+4	5+5
5. <i>opeca</i>	9+9	3+4	4+4	2+3+3+2
6. <i>senegalensis</i>	10+10-11	4+4	4+5	2+4+4+2
7. <i>eichleri</i>	11+11	4-6+4	5+5	2+6+6+2
8. <i>distinguendus</i>	11-14+11	5+5	1+6+4+1	1+5+5+1
9. <i>afzali</i>	13+12-13	8-9+9	9-10+10	10-11+12
10. <i>husaini husaini</i>	9+9	-1+1-	1+1+1+1	2+1+1+2
11. <i>husaini prominens</i>	9+8-9	-1+1-	1+1+1+1	2+1+1+2
12. <i>zahrae zahrae</i>	10=10	1+3+3+1	1+3+3+1	1-2+3+3+2

Males of *Sturnidoecus* Species  
(Mynahs (Sturnidae))

V	VI	VII	VIII	IX	X + XI
5-6+6+2	2+4-5+5+2	2+3+3+2	1+2+3+1	1+1+3+1-----	3+3
1+4+4+2	2+4+4+2	2+3+3+2	1+3+3+1	1+1+3+1+2---	3+3
1+4+4+2	2+4+4+2	2+4+4+2	1+3+3+1+1	1+1+4-----	3+3
1+4+4+2	2+4+4+2	2+4+4+2	1+4+4+1	1+1+6-----	3+3
1+4+4+2	2+3+3+2	1+3+3+1	1+2+2+1	2+1+5-----	3+3
1+4+5+4+2	2+4+4+2	2+3-4+4+2	1+1+4+4+1+1	2+1+5-6-----	3+3
1+4+5+4+2	2+4+4+2	2+3-4+3+2	1+4+4+1	1+1+1+6-----	3+3
1+4+4+2	2-3+3-4	3+4+3+2	2+2+2+2	3+1+8-----	3+3
10-11+11	10-11+12	8-9+9-10	1+8+8+1	6+5+5+6-----	2+2
1+1+1+2	2+1+1+2	2+1+1+2	1+1+1+1	1+1+7-----	3+3
1+1+1+2	2+1+1+2	2+1+1+2	1+1+1+1	1+1+1+6-----	3+3
1+1+1+2	2+2-3+3+2	2+3+3+2	2+2+2+2	1+1+5-7-----	3+3

TABLE III : Dorsal Abdominal Chaetotaxy  
Occurring on the Pastors, Starlings

<i>Sturnidoecus</i>	Pterothorax	II	III	IV
13. <i>zahrae illustris</i>	8+8	1+3+3+1	1+5+5+1	1+4+4+1
14. <i>pastoris</i>	12+12	7+7	2+7+7+2	2+7+7+2
15. <i>sturni</i>	14+14	10+9-10	12-13+12-13	12+12-13
16. <i>parvifrons</i>	10+9-10	4+4	1+3+3+1	2+4+4+2
17. <i>acutifrons</i>	10-11+11	5+5	2+5+6+2	2+6+5+2
18. <i>zoophilic</i>	11-12+12	6+6	7-8+7-8	7-8+7-8
19. <i>capensis capensis</i>	12+12	2+5+5+2	2+6+6+2	2+6+6+2
20. <i>capensis fragilis</i> <i>Andalus</i>	10-12+12	5-6+6	2+5-6+6+2	2+6-7+7+2
21. <i>affinis</i> <i>Javanicus</i> <i>Formos</i>	10-12+12-13	10+10-11 20	2+6+6-7+2 16	2+8+7-8+2 20
22. <i>bannoo bannoo</i> <i>gigantis</i>	12-13+13	7-8+8 16	9+9-10 18	9-10+10 20
23. <i>bannoo laticephalum</i> <i>crystallic</i>	11+11	7-8+8 16	8 9+8 16	2+6+6-7+2 16
24. <i>bannoo avinus</i> <i>Andalus</i>	12+13	2+5-6+6+2 16	2+6-7+8+2 18	2+6-7+8+2 20



Tales of *Sturnidoecus* Species  
Mynahs (Sturnidae)

V	VI	VII	VIII	IX	X + IX
1+4+4+2	2+4+4+2	2+3+3+2	2+3+3+2	2+1+7- - - - -	3+3
1+7+7+2	2+7+7+2	2+7+7+2	1+5+5+1	2+1+4- - - - -	3+3
1-12+12	12+11-12	9+8-9	5-6+5	1+1+3+1+2- - -	3+3
1+4+4+2	2+4+4+2	2+3+3+2	1+2+2+1	1+1+6- - - - -	3+3
1+6+7+2	2+4-5+5+2	2+5+5+2	1+3+3+1	1+1+5- - - - -	3+3
8+8-9	7+7	8-9+8	6+6	1+5+1+1- - - - -	3+3
2+6+6+2	2+6+5+2	2+5+6+2	1+4+4+1	1+1+7-9- - - - -	3+3
2+6+7+2	2+5-6+6+2	2+6+6+2	1+6+6+1	1+1+9+1- - - - -	3+3
6-7+6+2 16	2+6-7+6+2 16	2+5+6+2 16	1+5+6+1 12	1+1+2+1+3- - -	3+3
9-10+10 20	8-9+8 16	8-9+8 16	5-6+6-7 12	2+1+6+1- - - - -	3+3
6-7+7+2 18	2+6-7+7+2 18	2+6-7+7+2 18	1+3-4+4+1 10	1+1+6-7- - - - -	3+3
2+7+8+2 20	2+7+6+2 18	2+6-7+7+2 18	1+5-6+6+1 19	2+1+3+1+4- - -	3+3

TABLE VI : Dorsal Abdominal Chaetotaxy in Females of *Sturnidoecus* Species

<i>Sturnidoecus</i>	Pterothorax	II	III	IV	V
1. <i>avivorax</i> ...	10+10	5+5	1+6+6+1	2+6+6+2	2+5+5+2
2. <i>theresae</i> ...	10+10	4+4	-4+4-	2+4+4+2	2+4+4+2
3. <i>clayae</i> ...	10+11	5+6	1+4+4+1	2+4+4+2	2+4+4+2
4. <i>meinertzhageni</i> ...	9+9	4+4	4+4	5+5	2+4+4+2
5. <i>opeca</i> ...	10+10	5+4	4+4	1+4+4+1	2+4+4+2
6. <i>senegalensis</i> ...	—	—	—	—	—
7. <i>eichleri</i> ...	9+9	4+4	6+5	6+5	2+4+4+2
8. <i>distinguendus</i> ...	—	—	—	—	—
9. <i>afzali</i> ...	14+14	8-10+10	9-12+ 10-12	10-12+13	11-12+13
10. <i>husaini husaini</i> ...	8+8	-1+1-	-1+1-	1+1+1+1	1+1+1+1
11. <i>husaini prominens</i>	8+8	-1+1-	-1+1-	1+1+1+1	1+1+1+1
12. <i>zahrae zahrae</i> ...	10+10	4+4	4+4	1+3+3+1	2+3+3+2
13. <i>z. illustris</i> ...	10+10	4+4	1+4+4+1	2+4+4+2	2+4+4+2
14. <i>pastoris</i> ...	12-13+13	7+7	9+9-10	10+10	9-10+10
15. <i>sturni</i> ...	15+16	12+12	16-17+17	16-17+17	16-17+17

occurring on the Pastors, Starlings and Mynahs (Sturnidae)

VI	VII	VIII	IX	vulva
1+5+5+2	2+4+4+2	1+1+3+3+1+1	1+1+1-----	9+5+5+9
1+4+4+2	2+3+3+2	4+4	1+1+1+1----	9+5+5+9
1+4+4+2	2+3+3+2	1+3+3+1	1+1+1-----	13+4+4+13
1+4+4+2	2+4+4+2	1+5+5+i	1+1+1+1----	—
1+4+4+2	2+4+4+2	1+3+3+1	1+1+1-----	10+5+5+10
—	—	—	—	—
1+5+5+1	2+3+3+2	1+3+3+1	1+1+1-----	10+5+5+10
—	—	—	—	—
1-12+12	10-13+13	1+6-7+7+1	1+3+3+1	8-9+16-18+7-8
1+1+1+1	1+1+1+1	1+1+1+1	1+4+4+1	5+9+9+5
1+1+1+1	1+1+1+1	1+1+1+1	1+2+2+1	5+6
1+3+3+2	1+3+3+1	1+1+2+2+1+1	1+1+1-----	—
1+4+4+2	2+3+3+2	1+1+3+3+1+1	2+1+2+1-----	—
9+9	9+9	7+7	4+4	5+12+8----
14-15+15	14-15+15	7+7	5+5	9+16+15+10

TABLE VI : Dorsal Abdominal Chaetotaxy in Females of *Sturnidoecus* Species

<i>Sturnidoecus</i>	Pterothorax	II	III	IV	V
16. <i>parvifrons</i> ...	10+8-9	4+4	4+5	2+4+4+2	2+4+5+2
17. <i>acutifrons</i> ...	10+10	5+5	2+5+5+2	2-5+5+2	2+7+7+2
18. <i>zoophilic</i> ...	11-12+12	7+7	8+8	8+8	8-9+9
19. <i>capensis capensis</i> ...	12+12	7-8+7	2+6+6+2	2+7+8+2	2+7+7+2
20. <i>fragilis</i> ...	12+13	—	—	—	—
21. <i>affinis</i> ...	11-12+12	8+8	9-10+8-10	8+8-9	9-10+9
22. <i>bannoo bannoo</i> ...	12+13	8+8	13+13	12+12	13+13
23. <i>bannoo laticepalum</i>	10+10	6+6	7+8	9+8	9+8
24. <i>bannoo avinus</i> ...	11+13	7+7	8-9+8	8-9+9-10	8-9+9-10

Working on the Pastors, Starlings and Mynahs (Sturnidae)

VI	VII	VIII	IX	vulva
4+2	2+3+3+2	1-2+2+2+1	+1+2+1- - - -	9+9+5
7+2	2+7+7+2	1+5+5+1	3+3	10+16+7
9+9	7-8+8	6-7+6	2+1+1+1- - - -	8+14
6+7+2	2+6+6+2	1+5+5+1	1-2+1+3- - - -	7+20+9
8+8	6+7	5+5	4+5	16+8
7-8+8	8-9+7-8	1+6+6+1	1+3+4+1	6+13+14+5-6
9+8	9+8	1+7+6+1	4+5	8+15+7-8
8+8	7+8	6+6	3+3	9+14+6-7
9+9-10	7-8+8-9	1+6+7+1	1+1+1+1- - - -	6+12-13+7-8

Table VII : The *Sturnidoecus* Species and their Sturnid Hosts—Pastors,  
Starlings and Mynahs Sturnidae

<i>Sturnidoecus</i>	Sturnidae	Locality (Collection, *Type material)
1. <i>acutifrons</i> sp. nov.	<i>Sturnia malabarica malabarica</i> (Gmelin).	Nepal *9327 : III. 1937 (male) -----*10614 : III 1937 (male, female) Mysore : 14280-14282 : XI. 1938 (5 males, 5 females, 2 immature females)
2. <i>affinis</i> (Piaget, 1880)	<i>Aethiopsar fuscus fuscus</i> (Wagler)  <i>Aethiopsar fuscus javanicus</i> (Cabanis)	Nepal : *3858 : VI. 1935 (male) -----*3858 : VI. 1935 (2 males, 4 females) -----3857 : VI. 1935 (male, 2 female) Hopkins & Clay (1952) : 344
3. <i>afzali</i> sp. nov.	<i>Creatophora carunculata</i> (Gmelin)	Kenya (Isiolo) : *20469 : I. 1956 (male) -----*20469 : I. 1956 (male, female) -----20469 : I. 1956 (male, female) Kenya : 6957 : III. 1936 (male) -----6953-6957 : III. 1936 (6 males, 6 females) -----6953-6957 : III. 1936 (2 males, 11 females)

4. <i>ansarii</i> sp. nov.	<i>Oxychogonimus mangani</i> <i>maurandae</i> <i>maurandae</i> (Lor & Hellm.)	Ages : *1735 : XI. 1949 (4 males, 5 females)
5. <i>bannoo bannoo</i> Ansari, 1955	<i>Acridotheres ginginianus</i> (Latham)	Rajputana : *9024 : III. 1937 (male) -----9024 : III. 1937 (7 females, 11 females)  Lyallpur (Pakistan) : (male, female, numerous immature specimens.)
6. <i>bannoo avinus</i> ssp. nov.	<i>Acridotheres tristis tristis</i> (Linn.)	Nepal *4953 : VII. 1936 (male, female)  Rajputana : 8275 : III. 1937 (male) ----- 8975 : III. 1937 (5 males, 13 females) ----- 8975 : III. 1937 (7 males, 10 females) also amblyceran females.  Lyallpur (Pakistan) : several males and females.
7. <i>bannoo laticephalum</i> ssp. nov.	<i>Aethiopsar albacinetus</i> Godwin-Aust & Walden	Moraing (Manipur) *19827 : 2.I.1952 (male, female)

TABLE VII : The *Sturnidoecus* Species and their Sturnid Hosts—Pastors.  
Starlings and Mynahs (Sturnidae)

<i>Sturnidoecus</i>	Sturnidae	Locality (Collection : *Type material)
8. <i>capensis</i> (Giebel, 1947)	<i>Sturnus contra superciliaris</i> Blyth  <i>Sturnus contra contra</i> Linn.	Assam : *19894 : 2. II. 1952 (2 males, female) ----- 19894 : II. 1952 (4 males, 4 females) Hopkins & Clay (1952) : 344
9. <i>capensis fragilis</i> sp. nov.	<i>Acridotheres tritis melanosternus</i> Leggè.	Ceylon ; *3460 : III. 1935 (male) -----3460 : III. 1935 (2 male, 4 females) -----3511, IV. 1935 (2 males, female)
10. <i>clayae</i> sp. nov.	<i>Onychognathus moria blythi</i> (Harlaub)	Somaliland : *18239 : I. 1949 (male, female) ----- 18239 : I. 1949 (male, female) ----- 18239 : I. 1949 (male, female) ----- 18240 : I. 1949 (4 males, 4 female, also amblyceran male)
11. <i>distinguendus</i> sp. nov.	<i>Lamprotornis purpuropterus</i> Ruppel	Uganda : *7754 : IV 1936 (male) ----- 7754 : IV. 1936 (female)



<p>12. <i>eichleri</i> sp. nov.</p>	<p><i>Lamprocolius chalybaeus chalybaeus</i> (Hamp &amp; Ehr.)</p>	<p>Kenya : *6668 : III. 1936 (male) ----- 6660-6668 : III. 1936 (5 males, 3 females)</p>
<p>13. <i>husaini husaini</i> sp. nov.</p>	<p><i>Buphagus africanus africanus</i> Linn.</p>	<p>Isiolo (Kenya) : *20442 : I. 1956 (male) ----- *20442 : I. 1956 (male, female) ----- 20442 : I. 1956 (male, female) Kenya : 18902 : IV. 1949 (male, 2 females)</p>
<p>14. <i>husaini prominens</i> ssp. nov.</p>	<p><i>Buphagus erythrorhynchus erythrorhynchus</i> (Stenley)</p>	<p>Kenya ; *6646-6930 . II. 1936 (male, 4 females) Somaliland : 18524 : II. 1949 (6 males, 6 females)</p>
<p>15. <i>meinertzhageni</i> sp. nov.</p>	<p><i>Lamprocolius splendidus splendidus</i> (Viellot)</p>	<p>Ndikinimeki (Cameron) : *V. Aellen No. 486 : 12. IV. 1947 (male, female) Uganda : 7644 : IV. 1936 (male) N.W. Rodesia ; 13331 : 1939 (male, female) 13331 ; 1939 (female)</p>
<p>16. <i>opeca</i> sp. nov.</p>	<p><i>Speculipaster bicolor</i></p>	<p>Kenya : *6925 : III 1936 (male) *6925 : III. 1936 (male, 6 females)</p>

Table VII : The *Sturnidoecus* Species and Their Sturnid Hosts—*Pastors*  
Starlings and Mynahs (*Sturnidae*)

<i>Sturnidoecus</i>	Sturnidae	Locality (Collection : *Type material)
17. <i>parvifrons</i> sp. nov.	<i>Lamprotornis meuesii</i> Vahlberg	*Gotomwe, SR(H.E. Peterson) : Brit. Mus. 1955-660 : 18. VII 1954 (male, female)  Bechuanaland (Debecte) : 26. VII. 1956 (77) (male, headless female)  -----(male) 30 XII. 1954 (2 males, female)
18. <i>pastoris</i> (Denny, 1842)	<i>Pastor roseus</i> (Linn.)	Deccan : 8832 : II. 1937 (male) ..... 8828-8832 : II 1937 (male, female) ..... 8828-8832 : II 1937 (2 males, 2 females) -----8828-8832 : II 1937 (9 males, 10 females)  Lyallpur (Pakistan) : numerous males, females, immature specimens.

19. <i>quadrilineatus</i> Nitzsch 1886	<i>Aegithalos caudatus</i> (Linn.)	Hopkins & Clay (1952) : 345 (Generic position doubtful)
20. <i>senegalensis</i> (Rudow, 1869)	<i>Lamprocolius nitens nitens</i> Linn. <i>Lamprocolius nitens pochefstrom</i>	Hopkins & Clay (1952) : 345 W. Transvaal : 1954-474 : 27.XII.1952 (male) _____ 1954-474 : 27.XII, 1952 (male)
21. <i>sturni</i> (Schrank, 1776)	<i>Sturnus vulgaris vulgaris</i> Linn. <i>Sturnus vulgaris humii</i> Brooks	Lines : *8149 : XII. 1936 (2 males) : Neoparatype Norfolk : 764 : IV. 1934 (10 males, 16 females) Lyallpur (Pakistan) : numerous specimens Shetland : 13573-6 : VIII. 1939 (6 males, 10 females)
22. <i>subacutus</i> (Piaget, 1880).	<i>Sturnus vulgaris zetlandi</i> Hartert <i>Lamprotornis</i> sp. [? <i>australis</i> (Smith)]	Hopkins & Clay (1952) 345.
23. <i>theresae</i> sp. nov.	<i>Spreo superbus</i> (Ruppel)	Somaliland : *18671 ; II. 1949 (5 males, 7 females)

Table VII: The *Sturnidoecus* Species and Their Sturnid Hosts—Pastors  
Starlings and Mynahs (*Sturnidae*)

<i>Sturnidoecus</i>	Sturnidae	Locality (Collection : *Type material)
24. <i>zahrae</i> sp. nov.	<i>Onychognathus moria shelleyi</i> (Hartert)	Kenya : *7443 : III. 1936 (male) *7443 : III. 1936 (2 males, 4 females)
25. <i>zahrae illustris</i> ssp. nov.	<i>Onychognathus tenuirostris ray- mondi</i> Meinertzhagen	Kenya : *6577 : II. 1936 (male) .....*6577 : II. 1936 (3 males, 4 females) .....7510-7515 : III. 1936 (2 males 12 females)
26. <i>zoophilic</i> sp. nov.	<i>Sturnopastor sinensis sinensis</i> (Gmelin)	Nepal : *9253 : III. 1937 (2 males) Bihar (India) : 9253 : III. 1937 (9 males, 13 females) ..... 9253 : III. 1937 (7 males, 11 females)

TABLE VIII

The List of Hosts (Sturnidae) with the *Sturnidoecus* Species Occurring on them

Host (Sturnidae)	Locality	<i>Sturnidoecus</i>
1. <i>Acridotheres tristis melanosternus</i> Legge	Ceylon ...	<i>capensis fragilis</i> ssp. nov.
2. <i>Acridotheres tristis tristis</i> (Linn.) ...	Rajputana, Nepal, Lyallpur.	<i>bannoo avinus</i> ssp. nov.
3. <i>Acridotheres ginginianus</i> (Latham) ...	Rajputana, Lyallpur ...	<i>bannoo bannoo</i> Ansari.
4. <i>Aethiopsar albacinctus</i> Godwin-Aust. & Walden ...	Manipur ...	<i>bannoo laticephalus</i> ssp. nov.
5. <i>Aethiopsar fuscus fuscus</i> (Wagler) ( <i>Acridotheres</i> ) ...	Nepal ...	<i>affinis</i> (Piaget, 1880)
6. <i>Aethiopsar fuscus javanicus</i> Cabins ( <i>Acridotheres</i> ) ...	...	<i>affinis</i> (Piaget, 1880)
7. <i>Aegithalos caudatus</i> ...	...	<i>quadrilineatus</i> (Nitzsch, 1866)

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8. <i>Buphagus africanus</i> Linn	...	Kenya	...	<i>husaini</i> sp. nov.
9. <i>Buphagus erythrorhynchus</i> (Stanley)	<i>erythrorhynchus</i>	Somaliland, Kenya	...	<i>husaini prominens</i> ssp. nov.
10. <i>Creatophora carunculata</i> (Gmelin)	...	Kenya	...	<i>afzali</i> sp. nov.
11. <i>Lamprocolius chalybaeus</i> (Hemp. & Ehr.)	<i>chalybaeus</i>	Kenya	...	<i>eichleri</i> sp. nov.
12. <i>Lamprocolius nitens</i> (Linn.)	...	W. Transvaal	...	<i>senegalensis</i> (Rudow, 1869)
13. <i>Lamprocolius splendidus</i> baitundensis Neumann...	<i>splendidus</i>	N. W. Rhodesia	...	<i>meinertzhageni</i> sp. nov.
14. <i>Lamprocolius splendidus</i> (Vieillot)	<i>splendidus</i>	Uganda	...	<i>meinertzhageni</i> sp. nov.
15. <i>Lamprotornis meuesii</i> Vahlberg	...	Bechuanaland	...	<i>parvifrons</i> sp. nov.
16. <i>Lamprotornis purpuropterus</i> Ruppell	<i>purpuropterus</i>	Uganda	...	<i>distinguendus</i> sp. nov.

TABLE VIII

The List of Hosts (Sturnidae) with the Sturnidoecus Species Occurring on them

Host (Sturnidae)	Locality	Sturnidoecus
17. <i>Lamprotornis</i> sp. [? <i>australis</i> (Smith)]	...	<i>subacutus</i> (Piaget, 1880).
18. <i>Onychognathus temirostris raymondi</i> Meinertzhagen. gen.	Kenya	<i>zahrae illustris</i> sp. nov.
19. <i>Onychognathus moria blythi</i> (Harlaub)	Somaliland	<i>clayae</i> sp. nov.
20. <i>Onychognathus moria shelleyi</i> (Hartart)	Kenya	<i>zahrae</i> sp. nov.
21. <i>Onychognathus tristamii hadramauticus</i> (Lor. & Hellm)	Aden	<i>avivorax</i> sp. nov.
22. <i>Pastor roseus</i> (Linn.)	Deccan, Lyallpur	<i>pastoris</i> (Denny, 1842)
23. <i>Speculipaster bicolor</i>	Kenya	<i>opeca</i> sp. nov.

24. <i>Spreo superbus</i> (Ruppell)	...	Somaliland	...	<i>theresae</i> sp. nov.
25. <i>Sturnia malabarica malabarica</i> (Gmelin)	...	Nepal, Mysore	...	<i>acutifrons</i> sp. nov.
26. <i>Sturnus contra contra</i> (Linn.)	...	...	...	<i>capensis</i> (Giebel, 1874).
27. <i>Sturnus contra superciliaris</i> Blyth	...	Assam	...	<i>capensis</i> (Giebel, 1874).
28. <i>Sturnus vulgaris humii</i> Brooks	...	Lyallpur, Lahore	...	<i>sturni</i> (Schrank, 1776).
29. <i>Sturnus vulgaris vulgaris</i> (Linn)	...	Norfolk	...	<i>sturni</i> (Schrank, 1776).
30. <i>Sturnus vulgaris zetlandi</i> Hartert	...	Shetland	...	<i>sturni</i> (Schrank, 1776).
31. <i>Sturnopastor sinensis sinensis</i> (Gmelin),	...	Nepal	...	<i>zoophilic</i> sp. nov.