

Genus **Rhinolophopsylla**.*Rhinolophopsylla*.1. **Rhinolophopsylla capensis** Jordan and Rothschild.

Rhinolophopsylla capensis Jord. and Rothschild, Ectoparasites, I, Pt. 3, p. 148, f. 126-128 (1921).

Described from a small series of ♂♂ and ♀♀ taken off *Nycteris capensis* (Cape long-eared bat) at Mfongosi, Zululand.

Order **DIPTERA**.Family **HIPPOBOSCIDAE**.

The flies included in this family are parasitic on mammals and birds.

TABLE OF SOUTH AFRICAN GENERA (after Speiser).

1. Wings well developed and functional.....	2
Wings rudimentary or wanting.....	8
2. Claws with the usual two points (heel and tip), parasitic on mammals..	3
Claws with three teeth; parasitic on birds.....	5
3. Head of normal form, not broadly impinging on the thorax, freely movable; ocelli absent; wings always present.....	<i>Hippobosca</i> .
Head flat, broadly impinging on the thorax; wings usually becoming detached, especially in the females, leaving only a shred.....	4
4. Ocelli absent.....	<i>Echestypus</i> .
Ocelli present.....	<i>Lipoptena</i> .
5. Ocelli present; anal cell present.....	<i>Ornithomyia</i> .
Ocelli absent; anal cell absent.....	6
6. Wings of usual shape; scutellum not truncate.....	7
Wings lanceolate, rounded at tip; scutellum truncate.....	<i>Lynchia</i> .
7. Distance of oral borders from frontal suture distinctly less than from the suture to the vertex.....	<i>Olfersia</i> .
Distance from oral borders to suture as great as from the suture to the vertex.....	<i>Pseudolfersia</i> .
8. Wings present, but rudimentary and functionless; halteres present	9
Wings and halteres absent.....	<i>Melophagus</i> .
9. Claws with the usual two points (heel and tip).....	10
Claws with three teeth.....	11
10. Ocelli absent.....	<i>Echestypus</i> .
Ocelli present.....	<i>Lipoptena</i> .
11. Ocelli present; wings narrow, nearly ten times as long as broad....	<i>Sternopteryx</i> .
Ocelli absent; wings not three times as long as broad....	<i>Oxypterus</i> .

Genus **Hippobosca** Linné.

Hippobosca Linné, Fauna Suecica, Ed. II, p. 471 (1761).

1. **Hippobosca capensis** Von Olfers.

In the laboratory collection there are seven specimens collected by E. M. Robinson off dogs in the Marico District, western Transvaal; also two specimens taken off the same animals in the Cape Province.

2. **Hippobosca equina** Linné.

This species is parasitic upon horses and cattle in Europe. Austen (2) states that there are specimens in the British Museum from the Cape of Good Hope, Algeria, Madeira, etc.

3. **Hippobosca maculata** Leach.

This species is widely distributed in Africa, and also occurs in India and Ceylon. It is mainly parasitic upon cattle and horses, but may occasionally attack man. Austen has recorded it from Lourenço Marques, and in the laboratory collection there is one specimen labelled "Barberton, Transvaal, March, 1909."

4. **Hippobosca rufipes** Von Olfers.

A very common parasite on horses and cattle in many parts of the Cape Province, Orange Free State, Transvaal, and Natal. It also occurs in Zululand, but is by no means common in that country. We have frequently observed this fly to settle on man, but it is doubtful whether they ever attempt to bite. They have also been observed, on one or two occasions, to settle on dogs, and we have taken it on *Gorgon taurinus* (blue wildebeest) in the Waterberg District, northern Transvaal.

5. **Hippobosca struthionis** Janson.

This fly is a common parasite on ostriches in the Cape Province. On two occasions specimens have settled on me when motoring in different parts of the Cape Province, and I also took a specimen on myself in the Waterberg District, northern Transvaal, on the 9th September, 1924.

Genus **Lipoptena** Nitzsch.1. **Lipoptena cervi** Linné.

Austen (2) records a specimen of this species taken in February, 1901, near Johannesburg, Transvaal, under circumstances pointing to the possibility that it had been introduced into South Africa with remounts during the Anglo-Boer war. It is a parasite of several species of deer in Europe.

2. **Lipoptena capensis** Walker.

Austen (2) records this species in his list of blood-sucking diptera found in Natal.

Genus **Echestypus** Speiser.1. **Echestypus paradoxus** Newstead.

In the laboratory collection there are numerous specimens taken off the following hosts: *Strepsiceros strepsiceros* (Cape koodoo) in the Pietersburg District, Transvaal, 2, VIII, 1913, and Zululand, 17, III, 1916 (coll. D. T. Mitchell); *Nyala angasi* (nyala) in the Ubombo Flats, Zululand, Feb., 1916 (coll. D. T. Mitchell); *Tragelaphus sylvaticus* (bushbuck) at Ntambanana, Zululand (coll. G.A.H.B.) and in Sukukuniland; *Redunca arundinum* (reedbuck) at Emakosini, northern Zululand (coll. G.A.H.B.); *Redunca fulvorufula* (mountain reedbuck) at Ntambanana, Zululand (coll. G.A.H.B.).

2. **Echestypus sepiaceus** Speiser.

Austen (2) records this species in his list of blood-sucking diptera found in the Cape Province.

Genus **Pseudolfersia**.1. **Pseudolfersia spinifera** Leach.

Austen (2) records this species in his list of blood-sucking diptera found in the Cape Province.

Genus **Olfersia**.1. **Olfersia minor** Bigot.

Austen (2) records this species in his list of blood-sucking diptera found in the Cape Province.

Genus **Lynchia**.1. **Lynchia capensis** Bigot.

Austen (2) records this species in his list of blood-sucking diptera found in the Cape Province.

2. **Lynchia maura** Bigot.

This species is a common parasite on domestic pigeons in the Pretoria District, Transvaal.

Genus **Ornithomyia**.1. **Ornithomyia fur** Schin.2. **Ornithomyia laticornis** Macquart.3. **Ornithomyia platycera** Macquart.

Austen (2) records the above three species in his list of blood-sucking diptera found in the Cape Province.

Genus **Melophagus** Latr.1. **Melophagus ovinus** Linné.

This species, known as the "sheep ked," is widely distributed throughout the world. It is a common parasite on sheep in South Africa, especially in parts of the Cape Province and Orange Free State.

Family **STREBLIDAE**.Genus **Nycteribosca**.1. **Nycteribosca africana** Walker.

Specimens have been taken off an undetermined species of bat at Onderstepoort, near Pretoria. For the determinations of both this and the following species the writer is indebted to Major E. E. Austen of the British Museum.

Genus **Raymondia**.1. **Raymondia huberi** Frfld.

We have taken specimens of this species off a bat at Onderstepoort, near Pretoria.

Family **NYCTERIBIIDAE**.Genus **Nycteribia** Latreille.1. **Nycteribia** sp.

In the laboratory collection there are three specimens taken by the writer off a bat at Onderstepoort, near Pretoria.

Genus **Eucampsipodia**.1. **Eucampsipodia hyrtl** Kolenati.

Nycteribia hyrtl Kolenati, Paras. d. Chirpot. Brünn, p. 42, 1856.

Eucampsipodia hyrtl Scott, Ann. Mag. Nat. Hist. (8), XIV, p. 228, Pl. 12, f. 18, 19 (1914).

Scott (3) records this species taken off a bat in South Africa. It has also been found on bats in Egypt, Senegal, Comoro Islands, Sumatra, Burma, and Ceylon. Among the list of hosts recorded is *Rousettus aegyptiacus* (fruit bat).

Order **RHYNCHOTA**.Family **CIMICIDAE**.Genus **Cimex** Linné.1. **Cimex lectularius** Linné.

This species, known as the "bed bug," is a common parasite of man in South Africa. It has also been recorded from other parts of Africa and from Europe, Asia, and North America. Chatton and Blanc (1) state they have found this species to exist where only small rodents and cats could have supplied meals of blood, and Mote (2) has recorded it infesting

poultry in America. It is very closely allied to *C. hemiptera* F. (syn. *C. rotundatus* Signoret), a common tropical and sub-tropical bug, which probably also occurs in South Africa. For differences between the two species, see Patton and Cragg (3).

2. *Cimex pipistrelli* Jenyns.

This species has been recorded found on bats in Europe, and has also been found on a bat in South Africa. Pringault (4) has proved this species to be a transmitting agent of *Trypanosoma vespertilionis*.

Genus *Cacodmus*.

This genus contains a few species found on bats.

The characters of the genus are: Bristles long, most of the lateral ones of the pronotum longer than the first segment of the antennae. Tibiae without pseudo-joints. Second segment of proboscis longer than fourth.

1. *Cacodmus sparsilis* Rothschild.

Cacodmus sparsilis Roths., Bull. Ent. Res., V, Pt. 1, p. 41, f. 3 (1914).

Described from a female in the British Museum taken off *Vespertilio dingani* = *Scotophilus nigrita dingani* (Zulu great house bat) at Durban, Natal.

2. *Cacodmus villosus* Stål.

Male and female very broad, particularly the male. Hind femur as long as hind tibia. Pronotum touching the eyes or nearly, its anterior angles much produced. Antennal segment 2 one-fifth or one-sixth longer than 3, and 3 slightly longer than 4. Penis of ♂ long, reaching to centre of segment 6.

This species has been taken off *Eptesicus capensis* (Cape house bat) in South Africa.

HOST-LISTS.

The host-lists have been divided into five parts as follows:—

1. Host-list of the external parasites found on man and domestic animals.
2. Host-list of the external parasites found on domestic birds.
3. Host-list of the external parasites found on South African mammals.
4. Host-list of the external parasites found on South African birds.
5. Host-list of the external parasites found on South African reptiles.

It was thought advisable to arrange the mammals and birds according to the latest check-lists of the mammals and birds of South Africa. The classification and arrangement of the mammals, therefore, is that adopted by Roberts in his MS. "A Synoptic Check-list of the Non-Marine Mammals of South Africa," which will probably be published in the *Annals of the Transvaal Museum*, and the birds have been arranged according to "Synoptic Check-List of the Birds of South Africa" by the same author.

The families and specific names of the birds have been numbered, the numbers corresponding to the numbers in the above check-list.

The letters between brackets before the specific names of the parasites refer to the orders and families to which they belong, the following being a list:—

(A.S.) = Acari.....	Family	Sarcoptidae (mange and scab mites).
(A.A.) =	"	Analgesidae (feather mites).
(A.D.) =	"	Demodicidae (sebatic mites).
(A.G.) =	"	Gamasidae.
(I.A.) =	"	Argasidae (ticks).
(I.I.) =	"	Ixodidae (ticks).
(O.H.) = Dermaptera.....	"	Hemimeridae.

(S.) = Anoplura.....	Sub-order	Siphunculata (sucking lice).
(M.) =	"	Mallophaga (biting lice).
(S.S.) = Siphonaptera.....	Family	Sarcopsyllidae (chigoes).
(S.P.) =	"	Pulicidae (true fleas).
(S.C.) =	"	Ceratopsyllidae (bat fleas).
(D.H.) = Diptera.....	"	Hippoboscidae.
(D.S.) =	"	Streblidae.
(D.N.) =	"	Nycteribiidae.
(R.C.) = Rhynchota.....	"	Cimicidae (bed bugs and bat bugs).

I.—HOST-LIST OF THE EXTERNAL PARASITES FOUND ON MAN AND DOMESTIC ANIMALS IN SOUTH AFRICA.

Homo sapiens.

(A.S.) *Sarcoptes scabiei equi*.

A number of cases of human beings becoming infected with the varieties *hominis*, *canis*, *equi*, and *bovis* have been recorded in Europe, and in addition to these the varieties *suus* and *caprae* have also been transmitted to man.

(A.D.) *Demodex folliculorum* G. Simon, is another acarus which probably occurs in man in South Africa, but has not yet been recorded.

(A.G.) *Dermanyssus gallinae* Dugès.

(A.G.) *Liponyssus bacoti* Hirst.

(I.A.) *Argas persicus* Oken.

(I.A.) *Argas vespertilionis* Latr.

(I.A.) *Ornithodoros mégnini* Dugès.

(I.A.) *Ornithodoros moubata* Murray.

(I.A.) *Ornithodoros pavementosus* Neu.

(I.A.) *Ornithodoros savignyi* Aud.

(I.A.) *Ornithodoros talaje capensis* Neu.

(I.I.) *Ixodes pilosus* Koch.

(I.I.) *Rhipicephalus appendiculatus* Neu.

(I.I.) *Rhipicephalus evertsi* Neu.

(I.I.) *Rhipicephalus maculatus* Neu.

(I.I.) *Rhipicephalus simus* Koch.

(I.I.) *Hyalomma aegyptium* Linné.

(I.I.) *Hyalomma impressum* Neu.

(I.I.) *Amblyomma hebraeum* Koch.

(S.) *Pediculus humanus* Linné.

(S.) *Pediculus humanus corporis* Linné.

(S.) *Phthirus pubis* Linné.

(S.S.) *Tunga penetrans* Linné.

(S.P.) *Pulex irritans* Linné.

(R.C.) *Cimex lectularius* Linné.

Equus caballus.

(A.S.) *Sarcoptes scabiei equi*.

(A.S.) *Sarcoptes scabiei bovis*.

(A.S.) *Sarcoptes scabiei caprae*.

(I.A.) *Ornithodoros mégnini* Dugès.

(I.A.) *Ornithodoros moubata* Murray.

(I.A.) *Ornithodoros savignyi* Aud.

(I.I.) *Ixodes pilosus* Koch.

(I.I.) *Rhipicephalus appendiculatus* Neu.

- (I.I.) *Rhipicephalus bursa* Canes & Fan.
- (I.I.) *Rhipicephalus capensis* Koch.
- (I.I.) *Rhipicephalus evertsi* Neu.
- (I.I.) *Rhipicephalus evertsi albigeniculatus* Warb.
- (I.I.) *Rhipicephalus lunulatus* Neu.
- (I.I.) *Rhipicephalus simus* Koch.
- (I.I.) *Margaropus winthemi* Karsch.
- (I.I.) *Boophilus decoloratus* Koch.
- (I.I.) *Boophilus australis* Fuller.
- (I.I.) *Hyalomma aegyptium* Linné.
- (I.I.) *Hyalomma impressum* Neu.
- (I.I.) *Amblyomma hebraeum* Koch.
- (I.I.) *Amblyomma variegatum* Fabr.
- (S.) *Haematopinus asini* Linné.
- (M.) *Trichodectes equi* Linné.
- (D.H.) *Hippobosca rufipes* Von Olfers.
- (D.H.) *Hippobosca maculata* Leach.

Equus asininus.

- (A.S.) *Sarcoptes scabiei equi*.
- (I.A.) *Ornithodoros mégnini* Dugès.
- (I.I.) *Rhipicephalus evertsi* Neu.
- (I.I.) *Margaropus winthemi* Karsch.
- (I.I.) *Boophilus decoloratus* Koch.
- (I.I.) *Hyalomma aegyptium* Linné.
- (I.I.) *Hyalomma impressum* Neu.
- (I.I.) *Amblyomma hebraeum* Koch.
- (S.) *Haematopinus asini* Linné.
- (M.) *Trichodectes equi* Linné.
- (D.H.) *Hippobosca rufipes* Von Olfers.

Mule.

- (I.A.) *Ornithodoros mégnini* Dugès.
- (I.I.) *Ixodes pilosus* Koch.
- (I.I.) *Rhipicephalus appendiculatus* Neu.
- (I.I.) *Rhipicephalus evertsi* Neu.
- (I.I.) *Margaropus winthemi* Karsch.
- (I.I.) *Amblyomma hebraeum* Koch.
- (I.I.) *Amblyomma variegatum* Fabr.
- (S.) *Haematopinus asini* Linné.
- (M.) *Trichodectes equi* Linné.
- (D.H.) *Hippobosca rufipes* Von Olfers.

Cattle.

- (A.S.) *Sarcoptes scabiei bovis*.
- (A.S.) *Sarcoptes scabiei caprae*.
- (A.S.) *Sarcoptes scabiei equi*.
- (A.S.) *Sarcoptes scabiei suis*.
- (A.S.) *Psoroptes communis bovis*.
- (A.S.) *Psoroptes natalensis* Hirst.
- (I.A.) *Ornithodoros mégnini* Dugès.
- (I.A.) *Ornithodoros moubata* Murray.
- (I.A.) *Ornithodoros savignyi* Aud.
- (I.I.) *Ixodes pilosus* Koch.
- (I.I.) *Ixodes rubicundus* Neu.
- (I.I.) *Haemaphysalis leachi* Aud.

- (I.I.) *Haemaphysalis silacea* Robinson.
 (I.I.) *Rhipicephalus appendiculatus* Neu.
 (I.I.) *Rhipicephalus bursa* Can. & Fan.
 (I.I.) *Rhipicephalus capensis* Koch.
 (I.I.) *Rhipicephalus evertsi* Neu.
 (I.I.) *Rhipicephalus evertsi albigeniculatus* Warb.
 (I.I.) *Rhipicephalus lunulatus* Neu.
 (I.I.) *Rhipicephalus oculatus* Neu.
 (I.I.) *Rhipicephalus sanguineus* Latr.
 (I.I.) *Rhipicephalus simus* Koch.
 (I.I.) *Margaropus winthemi* Karsch.
 (I.I.) *Boophilus australis* Fuller.
 (I.I.) *Boophilus decoloratus* Koch.
 (I.I.) *Hyalomma aegyptium* Linné.
 (I.I.) *Hyalomma impressum* Neu.
 (I.I.) *Amblyomma hebraeum* Koch.
 (I.I.) *Amblyomma variegatum* Fabr.
 (I.I.) *Amblyomma marmoreum* Koch.
 (S.) *Haematopinus eurysternus* Nitzsch.
 (S.) *Linognathus vituli* Linné.
 (M.) *Trichodectes bovis* Linné.
 (D.H.) *Hippobosca rufipes* Von Olfers.
 (D.H.) *Hippobosca maculata* Leach.

Sheep.

- (A.S.) *Sarcoptes scabiei bovis*.
 (A.S.) *Sarcoptes scabiei caprae*.
 (A.S.) *Psoroptes communis ovis*.
 (I.A.) *Ornithodoros mégnini* Dugès.
 (I.A.) *Ornithodoros moubata* Murray.
 (I.A.) *Ornithodoros savignyi* Aud.
 (I.I.) *Ixodes pilosus* Koch.
 (I.I.) *Ixodes rubicundus* Neu.
 (I.I.) *Rhipicephalus appendiculatus* Neu.
 (I.I.) *Rhipicephalus bursa* Can. & Fan.
 (I.I.) *Rhipicephalus evertsi* Neu.
 (I.I.) *Rhipicephalus sanguineus* Latr.
 (I.I.) *Rhipicephalus simus* Koch.
 (I.I.) *Boophilus decoloratus* Koch.
 (I.I.) *Hyalomma aegyptium* Linné.
 (I.I.) *Hyalomma impressum* Neu.
 (I.I.) *Amblyomma hebraeum* Koch.
 (I.I.) *Amblyomma variegatum* Fabr.
 (S.) *Linognathus pedalis* Osborn.
 (S.) *Linognathus stenopsis* Burm.
 (M.) *Trichodectes ovis* Linné.
 (D.H.) *Melophagus ovinus* Linné.

Fat-tailed Sheep.

- (M.) *Trichodectes peregrinus* Tasch.

Goats.

- (A.S.) *Sarcoptes scabiei caprae* Fürst.
 (A.S.) *Sarcoptes scabiei ovis* Mégn.
 (A.S.) *Psoroptes communis caprae*.
 (I.A.) *Ornithodoros mégnini* Dugès.

- (I.A.) *Ornithodoros moubata* Murray.
 (I.A.) *Ornithodoros savignyi* Aud.
 (I.I.) *Ixodes pilosus* Koch.
 (I.I.) *Ixodes rubicundus* Neu.
 (I.I.) *Rhipicephalus appendiculatus* Neu.
 (I.I.) *Rhipicephalus capensis* Koch.
 (I.I.) *Rhipicephalus oculatus* Neu.
 (I.I.) *Rhipicephalus simus* Koch.
 (I.I.) *Hyalomma aegyptium* Linné.
 (I.I.) *Hyalomma impressum* Neu.
 (I.I.) *Amblyomma hebraeum* Koch.
 (I.I.) *Amblyomma variegatum* Fabr.
 (I.I.) *Amblyomma marmoreum* Koch (larvae and nymphs).
 (S.) *Linognathus stenopsis* Burm.
 (M.) *Trichodectes caprae* Gur't.
 (M.) *Trichodectes limbatus* Cervais.
 (M.) *Trichodectes paini* Kellog & Nakayama.

Fig.

- (A.S.) *Sarcoptes scabiei bovis*.
 (A.S.) *Sarcoptes scabiei caprae* Fürsten.
 (A.S.) *Sarcoptes scabiei suis* Gerlach.
 (A.D.) *Demodex phylloides* Csokor.
 (I.A.) *Ornithodoros savignyi* Aud.
 (I.I.) *Ixodes pilosus* Koch.
 (I.I.) *Rhipicephalus capensis* Koch.
 (S.) *Haematopinus suis* Linné.

Dog.

- (A.D.) *Demodex canis* Leyd.
 (I.A.) *Ornithodoros mégnini* Dugès.
 (I.A.) *Ornithodoros moubata* Murray.
 (I.A.) *Ornithodoros savignyi* Aud.
 (I.I.) *Ixodes pilosus* Koch.
 (I.I.) *Haemaphysalis leachi* Aud.
 (I.I.) *Rhipicephalus appendiculatus* Neu.
 (I.I.) *Rhipicephalus bursa* Canes & Far.
 (I.I.) *Rhipicephalus capensis* Koch.
 (I.I.) *Rhipicephalus evertsi* Neu.
 (I.I.) *Rhipicephalus lunulatus* Neu.
 (I.I.) *Rhipicephalus simus* Koch.
 (I.I.) *Boophilus decoloratus* Koch.
 (I.I.) *Hyalomma aegyptium* Linné.
 (I.I.) *Hyalomma impressum* Neu.
 (I.I.) *Amblyomma hebraeum* Koch.
 (S.) *Linognathus setosus* Olfers.
 (S.S.) *Echidnophaga gallinaceus* Westw.
 (S.P.) *Ctenocephalus canis* Dugès.
 (S.P.) *Ctenocephalus felis* Bouché.
 (D.H.) *Hippobosca capensis* Von Olfers.

Cat.

- (I.A.) *Ornithodoros mégnini* Dugès.
 (I.I.) *Ixodes pilosus* Koch.
 (I.I.) *Haemaphysalis leachi* Aud.
 (I.I.) *Rhipicephalus sanguineus* Latr.

- (I.I.) *Hyalomma aegyptium* Linné.
- (I.I.) *Hyalomma impressum* Neu.
- (M.) *Trichodectes subrostratus* Nitzsch.
- (S.S.) *Echidnophaga gallinaceus* Westw.
- (S.S.) *Ctenocephalus felis* Bouché.

Rabbit.

- (A.S.) *Sarcoptes scabiei cuniculi*.
- (A.S.) *Notoedrus cati cuniculi* Gerlach.
- (A.S.) *Pseroptes communis cuniculi*.

Guinea-pig.

- (M.) *Gyropus ovalis* Nitzsch.
- (M.) *Gliricola porcelli* Linné.

II.—HOST-LIST OF THE EXTERNAL PARASITES FOUND ON DOMESTIC BIRDS IN SOUTH AFRICA.

Fowl.

- (A.S.) *Cnemidocoptes mutans* Robin Lanq.
- (A.S.) *Cnemidocoptes laevis gallinae* Raill.
- (A.S.) *Cytolichus nudus* Viz.
- (A.G.) *Liponyssus bursa* Berlese.
- (I.A.) *Argas persicus* Oken.
- (I.A.) *Ornithodoros moubata* Murray.
- (I.A.) *Ornithodoros savignyi* Aud.
- (I.A.) *Ornithodoros pavementosus* Neu.
- (I.A.) *Ornithodoros talaje capensis* Neu.
- (I.I.) *Hyalomma impressum* Neu. (Larvae and nymphs).
- (I.I.) *Amblyomma hebraeum* Koch (larvae and nymphs).
- (M.) *Menopon gallinae* Linné.
- (M.) *Menopon stamineum* Nitzsch.
- (M.) *Menopon numidae* Giebel.
- (M.) *Goniodes dissimilis* Nitzsch.
- (M.) *Goniocotes gallinae* Retz.
- (M.) *Goniocotes gigas* Taschb.
- (M.) *Lipeurus caponis* Linné.
- (M.) *Lipeurus heterographus* Nitzsch.
- (S.S.) *Echidnophaga gallinaceus* Westw.

Turkey.

- (A.S.) *Cnemidocoptes mutans* Robin and Lanq.
- (I.A.) *Argas persicus* Oken.
- (M.) *Menopon stamineum* Nitzsch.
- (M.) *Goniodes meleagridis* Linné.
- (M.) *Lipeurus gallipavonis* Geoff.

Goose.

- (I.A.) *Argas persicus* Oken.
- (M.) *Esthiopterum anseris* Linné.

Duck.

- (I.A.) *Argas persicus* Oken.
- (M.) *Menopon africanum* Kell and Paine.
- (M.) *Anatoecus dentatus* Scopoli.

Pigeon.

- (I.A.) *Argas persicus* Oken.
 (M.) *Menopon giganteum* Denny.
 (M.) *Colpocephalum turbinatum* Denny.
 (M.) *Goniocotes bibentatus* Scopoli.
 (D.H.) *Lynchia maura* Bigot.

Canaries.

- (I.A.) *Argas persicus* Oken.

Peacock.

- (M.) *Menopon phaeostomum* N.
 (M.) *Goniodes falcicornis* N.

Ostrich.

- (A.A.) *Pterolichus bicaudatus* Ger.
 (A.A.) *Pterolichus sculpturatus* Hirst.
 (I.A.) *Argas persicus* Oken.
 (I.A.) *Ornithodoros mégnini* Duges.
 (I.I.) *Hyalomma impressum* Neu.
 (I.I.) *Amblyomma hebraeum* Koch.
 (M.) *Esthiopterum struthionis* Ger.
 (D.H.) *Hippobosca struthionis* Janson.

III.—HOST-LIST OF THE EXTERNAL PARASITES FOUND ON SOUTH AFRICAN MAMMALS.

Order PRIMATES.**Sub-order Anthropoidea.**

- Papio porcarius* **Bedd.** (chacma baboon).
 (S.) *Pedicinus* sp.
Cercopithecus pygerythrus pygerythrus Cuv. (vervet monkey).
 (S.) *Pedicinus* sp.

Sub-order Lemuroidea.

- Galago moholi* A. **Smith** (moholi night-ape).
 (S.) *Nov. gen. et sp.*

Order CHIROPTERA.**Sub-order Megachiroptera.**

- Eidolon helvum* Kerr (long-winged fruit bat).
 (S.C.) *Thaumapsylla breviceps* Rothsch.
Roussetus leachi A. **Smith** (Cape fruit bat).
 (S.C.) *Thaumapsylla breviceps* Rothsch.

Sub-order Microchiroptera.**Family Rhinolophidae.**

- Rhinolophus geoffroyi augur* Anders. (Namaqua augur bat).
 (I.I.) *Ixodes pilosus howardi* Neu.
 (S.C.) *Ischnopsyllus arkworthi* Waterst.
Rhinolophus geoffroyi augur or *Miniopterus* sp.
 (S.C.) *Araeopsylla isomalus* Waterst.

Family Nycteridae.

- Nycteris capensis* A. **Smith** (Cape long-eared bat).
 (S.C.) *Rhinolophopsylla capensis* Jord. and Rothsch.

Family Vespertilionidae.

- Eptesicus capensis* A. Smith (Cape house bat).
 (S.C.) *Ischnopsyllus emminus* Jord. and Rothsch.
 (S.C.) *Ischnopsyllus grahami* Waterst.
 (R.C.) *Cacodmus villosus* Stål.
Scotophilus nigrita dingani A. Smith (Zulu great house bat).
 (R.C.) *Cacodmus sparsilis* Rothsch.
Miniopterus natalensis A. Smith (Natal sociable bat).
 (I.A.) *Argas vespertilionis* Latr.
Miniopterus sp. or *Rhinolophus geoffroyiaugur*.
 (S.C.) *Araeopsylla isomalus* Waterst.
Nyctinomus aegyptiacus Geof. (Egyptian free-tailed bat).
 (S.C.) *Araeopsylla scitululus* Rothsch.

"Bats."

- (S.S.) *Echidnophaga aethiops* Jordan and Rothsch.
 (D.S.) *Nycteribosca africana* Walk.
 (D.S.) *Raymondia huberi* Frfld.
 (N.) *Nycteribia* sp.
 (R.C.) *Cimex pipistrelli* Jenyns.

Order **CHRYSOCHLOROIDEA.****Family Chrysochloridae:**

No parasites have been recorded from the South African golden moles.

Family Erinaceidae.

- Aethechinus frontalis* A. Smith (South African hedgehog).
 (I.I.) *Ixodes pilosus howardi* Neu.
 (I.I.) *Haemaphysalis leachi* Aud.
 (I.I.) *Rhipicentor vicinus* Neu.
 (I.I.) *Rhipicephalus bursa* Canest. and Fanzago.
 (I.I.) *Rhipicephalus lunulatus* Neu.
 (I.I.) *Rhipicephalus sanguineus* Latr.
 (I.I.) *Rhipicephalus simus* Koch.
 (S.S.) *Echidnophaga larina* Jordan and Rothsch.

Family Macroscelididae.

- Macroscelides proboscideus* Shaw (karroo elephant-shrew).
 (S.P.) *Hypsophthalmus granti* Roths.
Elephantulus myurus jamesoni Chubb (Jameson's rock-shrew).
 (S.) *Neolinognathus elephantuli* Bedford.

Family Crociduridae.

- Myosorex tenuis* Thos. and Schw. (least brown-footed shrew).
 (S.P.) *Listropsylla chelura* Rothsch.
Crocidura flavescens (red shrew).
 (S.P.) *Chiastopsylla rossi* Waterst.
 (S.P.) *Dinopsyllus ellobius* Rothsch.

Order **CARNIVORA.****Family Mustelidae.**

- Ictonyx striatus* Perry (stink muishond).
 (I.I.) *Haemaphysalis leachi* Aud.
 (S.S.) *Echidnophaga bradyta* Jordan and Rothsch.
 (S.P.) *Xenopsylla erilli* Rothsch.

Family Hyaenidae.

- Hyaena crocuta* (spotted hyaena).
 (S.S.) *Echidnophaga larina* Jordan and Rothsch.

Family **Proteleidae.***Proteles cristatus* Sparrm. (aardwolf).(S.P.) *Pulex irritans* Linné.Family **Felidae.***Leo leo* L. (lion).(I.I.) *Haemaphysalis leachi* Aud.(I.I.) *Rhipicephalus sanguineus* Latr.(I.I.) *Rhipicephalus simus* Koch.(I.I.) *Amblyomma hebraeum* Koch.*Lynx caracal* Guld. (caracal).(S.P.) *Pulex irritans* Linné.(S.P.) *Xenopsylla creusae* Rothsch.(S.P.) *Xenopsylla divergens* Jordan and Rothsch.*Felis ocreata caffra* Desm. (kaffir cat).(M.) *Trichodectes caffra* Bedford.*Panthera pardus melanotica* Günth. (Cape leopard).(I.I.) *Ixodes pilosus* Koch.(I.I.) *Haemaphysalis leachi* Aud.(S.S.) *Echidnophaga larina* Jordan and Rothsch.*Microfelis nigripes* Burch (black-footed cat).(I.I.) *Haemaphysalis leachi* Aud.Family **Viverridae.***Civettictis civetta* Screb. (civet cat).(I.I.) *Haemaphysalis leachi* Aud.*Genetta felina* Thunb. (southern small-spotted genet).(I.I.) *Haemaphysalis leachi* Aud.*Genetta ludia* Thos. and Schw. (Transvaal small-spotted genet).(M.) *Trichodectes genetta* Bedford.*Calogale ratlamuchi* A. Smith (bay mongoose).(S.S.) *Echidnophaga gallinaceus* Westw.*Calogale caurii* (slender mongoose).(S.P.) *Listropsylla agrippinae* Rothsch.(S.P.) *Chiastopysylla rossi* Waterst.*Calogale pulverulentus* Wagl. (grey mongoose).(S.S.) *Echidnophaga larina* Jordan and Rothsch.*Cynictis penicillata* Cuv. (yellow mongoose).(I.I.) *Haemaphysalis leachi* Aud.(S.S.) *Echidnophaga bradyta* Jordan and Rothsch.(S.S.) *Echidnophaga gallinaceus* Westw.(S.P.) *Xenopsylla isidis* Rothsch.(S.P.) *Ctenocephalus canis* Dugès.(S.P.) *Listropsylla stygius* Rothsch.*Suricata suricatta suricatta* Erxl. (typical suricate).(I.I.) *Haemaphysalis leachi* Aud.(S.S.) *Echidnophaga gallinaceus* Westw.(S.S.) *Echidnophaga bradyta* Jordan and Rothsch.(S.P.) *Xenopsylla erilli* Rothsch.(S.P.) *Ctenocephalus canis* Dugès.Family **Canidae.***Thos meosmelas* Schreb (black-backed jackal).(S.P.) *Pulex irritans* Linné.

Lycaon pictus venaticus H.D. (Cape hunting dog).

(I.I.) *Rhipicephalus appendiculatus* Neu.

(I.I.) *Rhipicephalus simus* Koch.

(I.I.) *Amblyomma hebraeum* Koch.

Order RODENTIA.

Family Sciuridae.

Geosciurus capensis Kerr (Cape ground-squirrel).

(I.I.) *Haemaphysalis leachi* Aud.

(I.I.) *Rhipicephalus theileri* Bedford and Hewitt.

(S.) *Linognathoides faurei* Bedford.

(S.S.) *Echidnophaga bradyta* Jordan and Rothsch.

(S.P.) *Xenopsylla erilli* Rothsch.

(S.P.) *Xenopsylla isidis* Rothsch.

Paraxerus palliatus ornatus Gray (Zululand squirrel).

(S.) *Enderleinellus zonatus* Ferris.

(S.) *Neohaem atopinus suahelicus* Ferris.

Family Gliridae.

Graphiurus nanus de Wint. (Rhodesian least grey dormouse).

(S.) *Schizopthirus graphiuri* Ferris.

Graphiurus ocellaris A. Smith (Cape dormouse).

(S.P.) *Chiastopsylla octavii* Roths.

Family Muridae.

Sub-family GERBILLINAE.

Tatera lobengulae (Gerbille).

(S.) *Polyplax biseriata* Ferris.

(S.P.) *Xenopsylla eridos* Rothsch.

(S.P.) *Listropsylla stygius* Rothsch.

(S.P.) *Dinopsyllus lypusus* Jordan and Rothsch.

Malacothrix typicus typicus A. Smith (typical large-eared mouse).

(S.) *Hoplopleura biseriata* Ferris.

(S.P.) *Listropsylla stygius* Rothsch.

(S.P.) *Dinopsyllus lypusus* Jordan and Rothsch.

Steatomys krebsi Ptrs. (Cape fat mouse).

(S.P.) *Listropsylla stygius* Rothsch.

Sub-family OTOMYINAE.

Otomys irroratus irroratus Brants (typical African water-rat).

(A.G.) *Laelaps parvulus* Hirst.

(S.) *Polyplax otomydis* Cummings.

(S.P.) *Listropsylla agrippinae* Rothsch.

(S.P.) *Chiastopsylla numae* Rothsch.

(S.P.) *Chiastopsylla rossi* Waterston.

(S.P.) *Dinopsyllus longifrons* Jordan and Rothsch.

Myotomys unisulcatus Cuv. (Karoo rat).

(S.P.) *Listropsylla agrippinae* Rothsch.

Parotomys brantsi A. Smith (Brants' karroo rat).

(S.P.) *Xenopsylla eridos* Rothsch.

(S.P.) *Chiastopsylla numae* Rothsch.

(S.P.) *Listropsylla agrippinae* Rothsch.

Parotomys luteolus Thos. and Schw. (Eastern karroo rat).

(S.) *Polyplax otomydis* Cummings.

(S.P.) *Pulex irritans* Linné.

Sub-family CRICETINAE.

- Mystromys albicaudatus* A. Smith (white-tailed rat).
 (S.P.) *Chiastopsylla rossi* Waterston.
 (S.P.) *Listropsylla agrippinae* Rothsch.
 (S.P.) *Dinopsyllus ellobius* Rothsch.

Sub-family CRICETOMYINAE.

- Cricetomys gambianus* Waterb. (giant rat).
 (O.H.) *Hemimerus talpoides* Walker.
 (S.) *Polyplax calva* Waterst. Gold Coast, Kenya Colony, and
 Zanzibar.
 (S.P.) *Xenopsylla scopulifer* Rothsch.
 (S.P.) *Xenopsylla tortus* Jordan and Rothsch.

Sub-family SACCOSTOMYINAE.

- Saccostomys campestris* Ptrs. (Peters' pouched mouse).
 (S.) *Polyplax jonesi* Kellogg and Ferris.
 (S.P.) *Xenopsylla scopulifer* Rothsch.

Sub-family MURINAE.

- Leggada deserti* Thom. (desert dwarf mouse).
 (S.P.) *Listropsylla stygius* Rothsch.
Arvicanthis rufinus.
 (S.P.) *Stivalius afer* Rothsch.
Rhodomys pumilio Sparrm. (Cape striped mouse).
 (A.G.) *Laelaps giganteus bakeri* Hirst.
 (I.I.) *Haemaphysalis leachi* Aud.
 (S.) *Polyplax arvicanthis* Bedford.
 (S.P.) *Chiastopsylla octavii* Rothsch.
 (S.P.) *Listropsylla agrippinae* Rothsch.
 (S.P.) *Listropsylla chelura* Rothsch.
 (S.P.) *Ctenophthalmus calceatus* Waterst.
 (S.P.) *Dinopsyllus longifrons* Jord. and Rothsch.
 (S.P.) *Dinopsyllus lypusus* Jord. and Rothsch.
Lemniscomys spinalis Thos. [*Arvicanthis dorsalis*] (bushveld striped mouse).
 (A.G.) *Laelaps giganteus* Berlese.
 (A.G.) *Laelaps parvulus* Hirst.
 (S.) *Hoplopleura enormis* Kellogg and Ferris.
Rattus rattus rattus L. (typical black rat).
 (S.) *Polyplax spinulosa* Burm.
 (S.S.) *Echnidophaga gallinaceus* Westw.
 (S.P.) *Xenopsylla cheopis* Rothsch.
 (S.P.) *Chiastopsylla rossi* Waterst.
 (S.P.) *Leptopsylla musculi* Dugès.
Rattus rattus frugivorus Rafin (arboreal black rat).
 (S.P.) *Xenopsylla brazilensis* Baker.
Rattus norvegicus Erxl. (brown rat).
 (S.) *Polyplax spinulosa* Burm.
 (S.P.) *Xenopsylla cheopis* Rothsch.
 (S.P.) *Ceratophyllus fasciatus* Bosc.
Aethomys chrysophilus de Wint. (African rat).
 (A.G.) *Laelaps vansomereni* Hirst.
 (S.) *Polyplax cummingsi* Ferris.
Praomys arborarius Ptrs. (golden rock-mouse).
 (S.P.) *Xenopsylla scopulifer* Rothsch.

- Myomys colonus* Brants (Brants' mouse).
 (S.P.) *Stivalius ahalae* Rothsch.
 (S.P.) *Stivalius aporus* Jord. and Rothsch.
- Mastomys coucha* A. Smith (multimammate mouse).
 (A.G.) *Laelaps muricola* Trägårdh.
 (S.) *Hoplopleura intermedia* Kellogg and Ferris.
 (S.S.) *Echnidophaga larina* Jord. and Rothsch.
 (S.P.) *Dinopsyllus longifrons* Jord. and Rothsch.
 (S.P.) *Dinopsyllus lypusus* Jord. and Rothsch.
- Mastomys silaceus* Wagner.
 (A.G.) *Laelaps muricola* Trägårdh.
- Dasymys incomtus* Sund. (Peters' water-rat).
 (S.) *Polyplax cummingsi* Kellogg and Ferris.
- Cryptomys bocagei* de Winton (Bocage's mole-rat).
 (S.P.) *Otenophthalmus ansorgei* Roths.
- Cryptomys hottentottus* Less. (Hottentot mole-rat).
 (A.G.) *Haemolaelaps capensis* Hirst.
Myonyssoides capensis Hirst.
- Mus.* sp.
 (S.P.) *Xenopsylla tortus* Jord. and Rothsch.
 (S.P.) *Dinopsylla ellobius* Rothsch.
 (S.P.) *Hypsophthalmus aganippes* Rothsch.

Family Bathyergidae.

- Bathyergus suillus suillus* Schreb (Cape dune mole).
 (S.P.) *Dinopsyllus ingens* Rothsch.

Family Pedetidae.

- Pedetes caffer* Pall. (springhare).
 (S.) *Eulinognathus denticulatus* Cum. m.
 (S.P.) *Xenopsylla* nov. sp.

Family Octodontidae.

- Thryonomys swinderemianus variegatus* Ptrs. (Natal cane-rat).
 (I.I.) *Ixodes pilosus* Koch.
 (I.I.) *Ixodes ugandanus* Neu.
 (I.I.) *Rhipicephalus evertsi* Neu.
 (S.) *Scipio aulacodi* Neu.
 (S.) *Scipio breviceps* Ferris.

Family Hystricidae.

- Hystrix africae-australis* Ptrs. (Cape porcupine).
 (S.P.) *Parodontis riggenbachi* Rothsch.
 (S.S.) *Echnidophaga larina* Jordan and Rothsch.
 (S.P.) *Dinopsyllus ingens* Rothsch.

Family Leporidae.

- Pronolagus crassicaudatus rupestris* A. Smith (Cape red hare).
 (I.I.) *Ixodes pilosus* Koch.
 (I.I.) *Haemaphysalis leachi* Aud.
- Lepus capensis* L. (Cape hare).
 (I.I.) *Haemaphysalis leachi* Aud.
 (I.I.) *Rhipicephalus appendiculatus* Neu.
 (I.I.) *Rhipicephalus evertsi* Neu.
 (I.I.) *Rhipicephalus oculatus* Neu.
 (I.I.) *Rhipicephalus sanguineus* Latr.
 (I.I.) *Hyalomma impressum* Neu.
 (S.S.) *Echnidophaga gallinaceus* Westw.
- Lepus saxatilis* F. Cuv. (grey hare).
 (I.I.) *Rhipicephalus capensis* Koch.

Family **Procaviidae**.

- Procavia capensis capensis* Pall. (Cape dassie).
 (I.I.) *Haemaphysalis leachi* Aud.
 (S.P.) *Xenopsylla creusae* Rothsch.
 (S.P.) *Xenopsylla divergens* Jord. and Röthsch.
Procavia capensis natalensis Rbts. (Natal dassie).
 (I.I.) *Haemaphysalis leachi* Aud.
 (S.) *Linognathus caviae-capensis* Pallas.
 (M.) *Trichodectes lindfieldi* Hill.
 (M.) *Trichodectes univirgatus* Neu.
Procavia capensis coombi Rbts. (Transvaal dassie).
 (S.) *Linognathus caviae-capensis* Pallas.
 (S.P.) *Xenopsylla creusae* Rothsch.

Order **PROBOSCIDEA**.Family **Elephantidae**.

- Loxodon africanus* L. (African elephant).
 (I.I.) *Amblyomma hebraeum* Koch.
 (S.) *Haematomyzus elephantis* Piaget.

Order **PERISSODACTYLA**.Family **Rhinocerotidae**.

- Ceratotherium simum* Burch. (white rhinoceros).
 (I.I.) *Rhipicephalus maculatus* Neu.
 (I.I.) *Amblyomma hebraeum* Koch.
 (I.I.) *Amblyomma petersi* Karsch.
Rhinaster bicornis L. (black rhinoceros).
 (I.I.) *Rhipicephalus maculatus* Neu.
 (I.I.) *Dermacentor rhinocerotis* De Geer.
 (I.I.) *Amblyomma hebraeum* Koch.
 (I.I.) *Amblyomma petersi* Karsch.
 (I.I.) *Amblyomma variegatum* Fabr.

Family **Equidae**.

- Hippotigris burchelli wahlbergi* Poc. (Wahlberg's zebra).
 (I.I.) *Rhipicephalus evertsi* Neu.
Hippotigris burchelli var.
 (S.) *Haematopinus asini* L.
 (M.) *Trichodectes equi ocellata* Piaget.
Hippotigris sp.
 (I.I.) *Amblyomma variegatum* Fabr.

Order **ARTIODACTYLA**.Family **Hippopotamidae**.

- Hippopotamus amphibius* L. (hippopotamus).
 (I.I.) *Hyalomma hippopotamense* Denny.

Family **Suidae**.

- Koiropotamus choeropotamus choeropotamus* Desm. (bush pig).
 (I.I.) *Rhipicephalus simus* Koch.
 (I.I.) *Hyalomma aegyptium* Linné.
 (S.) *Haematopinus phachochoeri* Enderl.
Phachochoerus aethiopicus L. (West African warthog).
 (S.) *Haematopinus phachochoeri* Enderl.
Phachochoerus sundevalli Lönnb. (Natal warthog).
 (I.I.) *Rhipicephalus simus* Koch.
 (S.) *Haematopinus phachochoeri* Enderl.
 (S.S.) *Echidnophaga larina* Jord. and Rothsch. (N.R.).

Family Giraffidae.

Giraffa camelopardalis L.

- (I.I.) *Rhipicephalus evertsi* Neu.
- (I.I.) *Hyalomma impressum* Neu.
- (I.I.) *Amblyomma hebraeum* Koch.
- (S.) *Linognathus brevicornis* Giebel.

Family Bovidae.

Synceros caffer Sparrm. (African buffalo).

- (I.I.) *Rhipicephalus appendiculatus* Neu.
- (I.I.) *Rhipicephalus evertsi* Neu.
- (I.I.) *Boophilus decoloratus* Koch.
- (I.I.) *Amblyomma hebraeum* Koch.
- (S.) *Haematopinus bufali* De Geer.

Gorgon taurinus Burch. (blue wildebeest).

- (A.S.) *Sarcoptes scabiei* var.
- (I.I.) *Boophilus decoloratus* Koch. (N.R.).
- (I.I.) *Hyalomma aegyptium* Linné.
- (S.) *Linognathus* sp.
- (M.) *Damalinea* nov. sp.
- (D.H.) *Hippobosca rufipes* Von Olfers.

Connochaetes gnu Zimm. (black wildebeest).

- (S.) *Linognathus* nov. sp.
- (M.) *Trichodectes harrisoni* Cumm.

Damaliscus albifrons Burch. (blesbok).

- (M.) *Damalinea crenelata* Piaget.

Damaliscus pygargus Pall. (bontebok).

- (S.P.) *Xenopsylla cheopis* Rothsch.

Kobus ellipsiprymnus ellipsiprymnus Olig. (waterbuck).

- (I.I.) *Rhipicephalus appendiculatus* Neu.
- (I.I.) *Rhipicephalus evertsi* Neu.
- (I.I.) *Rhipicephalus sanguineus* Latr.
- (I.I.) *Boophilus decoloratus* Koch.

Redunca arundinum Bodd. (reedbuck).

- (I.I.) *Haemaphysalis aciculifer* Warburton.
- (I.I.) *Rhipicephalus evertsi* Neu.
- (I.I.) *Hyalomma aegyptium* Linné.
- (S.) *Linognathus fahrenheitzi* Paine (Nyasaland).
- (M.) *Trichodectes cornutus* Gervais.
- (D.H.) *Echestypus paradoxus* Newst.

Redunca fulvorufula Afz. (mountain reedbuck).

- (S.) *Linognathus fahrenheitzi* Paine.
- (M.) *Trichodectes cornutus* Gervais.
- (D.H.) *Echestypus paradoxus* Newst.

Pelea capreolus Bchst. (vaal rhebok).

- (I.I.) *Ixodes pilosus* Koch.

Antidorcas marsupialis Zimm. (springbok).

- (S.) *Linognathus tibialis euchore* Waters.

Aepyceros melampus Leht. (impala).

- (S.) *Linognathus tibialis* Piaget.
- (S.) *Linognathus tibialis euchore* Waters.

Raphicerus campestris Thunb. (steenbok).

- (S.) *Linognathus tibialis euchore* Waters.
- (M.) *Trichodectes lineatus* Bedford.

- Taurotragus oryx* Pall. (eland).
 (I.I.) *Rhipicephalus evertsi* Neu.
 (S.) *Haematopinus taurotragi* Cumm.
 (S.) *Linognathus* sp. nov.
- Strepsiceros strepsiceros* Pall. (Cape koodoo).
 (A.S.) *Sarcoptes scabii strepsiceros* nov. var.
 (I.I.) *Rhipicephalus evertsi albigeniculatus* Warburton.
 (I.I.) *Rhipicephalus maculatus* Neu.
 (I.I.) *Amblyomma hebraeum* Koch.
 (S.) *Linognathus tibialis euchore* Waters.
 (D.H.) *Echestypus paradoxus* Newst.
- Nyala angasi* Ang. (nyala).
 (D.H.) *Echestypus paradoxus* Newst.
- Tragelaphus sylvaticus* Sparrm. (bushbuck).
 (I.I.) *Haemaphysalis parmata* Neu.
 (I.I.) *Ixodes pilosus* Koch.
 (I.I.) *Rhipicephalus evertsi* Neu.
 (I.I.) *Rhipicephalus sanguineus* Latr.
 (I.I.) *Amblyomma hebraeum* Koch.
- Sylvicapra grimmii* L.
 (S.) *Linognathus angulatus* Piaget.
- Cephalophus natalensis* A. Sm. (red duiker).
 (S.) *Linognathus angulatus* Piaget.
- Cephalophus monticola* Thunb. (blue duiker).
 (M.) *Trichodectes bedfordi* Hill.
 (S.S.) *Echidnophaga gallinaceus* Westw.
 (S.P.) *Ctenocephalus canis* Curt.
 (S.P.) *Ctenocephalus felis* Bouché.
- Orycteropus afer* Pall. (Cape ant-bear).
 (S.) *Hybophthirus notophallus* Neu.
 (S.S.) *Echidnophaga larina* Rothsch.

IV.—HOST-LIST OF THE EXTERNAL PARASITES FOUND ON SOUTH AFRICAN BIRDS.

1. Family **Struthionidae**.
 1. *Struthio australis* Gurn. (southern ostrich). Parasites recorded in List No. II.
2. Family **Phasiamidae**.
 2. *Pternistis swainsoni* A. Smith (Swainson's red-necked francolin).
 - (M.) *Menopon powelli* Bedford.
 - (M.) *Menopon francolinus* Bedford.
 6. *Chaetopus capensis* Gm. (Cape noisy francolin).
 - (M.) *Colpocephalum spinosum* Piaget.
 - (M.) *Goniodes assimilis* Piaget.
 11. *Dendroperdix sephaena* A. Sm. (bush partridge).
 - (M.) *Menopon francolinus* Bedford.
 - (M.) *Menopon powelli* Bedford.
 - (M.) *Goniocotes gallinae* Retz.
3. Family **Numididae**.
 20. *Numida coronata* Gurn. (crowned guinea-fowl).
 - (M.) *Menopon antennatum* Kellogg and Paine.
 - (M.) *Menacanthus numidae* Giebel.
 - (M.) *Goniodes numidae* Mjöberg.
 - (M.) *Goniocotes gallinae* Retz.
 - (M.) *Goniocotes gigas* Taschenberg.

4. Family **Pteroclididae.**

28. *Pterocles namaquus* Gm. (Namaqua sand-grouse).
(M.) *Neomenopon pteroclorus* Bedford.

5. Family **Treronidae.**

32. *Vinago delalandei* Bp. (Delalande's green pigeon).
(M.) *Goniodes aegypticus* Kellogg and Paine.
(M.) *Esthiopterum columbae* Linné.

6. Family **Columbidae.**

36. *Streptopelia semitorquata* Rupp. (red-eyed turtle dove).
(M.) *Goniodes hilli* Bedford.
(M.) *Esthiopterum sudanicum* Mjöberg.
38. *Afropelia capicola* Sund. (Cape turtle dove).
(M.) *Menopon giganteum* Denny.
(M.) *Goniodes aegypticus* Kellogg and Paine.
Afropelia capicola damarensis Finsch. and Hartl. (Damara turtle dove).
(M.) *Goniodes aegypticus* Kellogg and Paine.
(M.) *Esthiopterum columbae* Linné.
(M.) *Esthiopterum sudanicum* Mjöberg.
39. *Stigmatopelia senegalensis aequatorialis* Erl. (laughing dove).
(M.) *Goniodes aegypticus* Kellogg and Paine.
(M.) *Esthiopterum columbae* Linné.
(M.) *Esthiopterum sudanicum* Mjöberg.

7. Family **Rallidae.**

45. *Fulica cristata* Gm. (red-knobbed coot).
(M.) *Pseudomenopon tridens* Nitzsch.
48. *Gallinula chloropus brachyptera* Brehm. (African moorhen).
(M.) *Pseudomenopon tridens* Nitzsch.
49. *Porphyriops angulata* Sund. (lesser moorhen).
(M.) *Pseudomenopon tridens* Nitzsch.
51. *Ortygometra porzana* L. (spotted crane).
(A.A.) *Pterolichus porzanae* Can.
(A.A.) *Mégninia gallinulae* Buchb.
(A.A.) *Mégninia gallinulae major* Berl.
(A.A.) *Pterodectes ortygometrae* Can.
(M.) *Rallicola mystax* Giebel.
53. *Crex crex* L. (corn-crake).
(A.A.) *Pterolichus rallorum* Robin.
(M.) *Rallicola ortygometrae* Schrank.

9. Family **Heliornithidae.**

63. *Podica petersi* Hartl. (Peter's finfoot).
(A.A.) *Alloptes discosurus* Trt.
(M.) *Esthiopterum rotundatum* Piaget.

11. Family **Podicipedidae.**

67. *Poliocephalus capensis* Salvad. (Cape dabchick).
(M.) *Degeeriella kilimandjarensis* Kellogg.
69. *Podiceps infuscata* Salvad. (crested grebe).
(A.A.) *Pterolichus colymbi major* Mégn. and Trt.
(M.) *Degeeriella colymbina* Scop.

12. Family **Spheniscidae.**

70. *Spheniscus demersus* L. (jackass penguin).
(I.A.) *Ornithodoros talaje capensis* Neu.
(M.) *Austrogoniodes bifasciatus* Piaget.

13. Family **Hydrobatidae.**

77. *Adamastor cinerea* Forster (great grey petrel).
(M.) *Esthiopterus angusticeps* Piaget.
78. *Procellaria aequinoctialis* L. (Cape hen).
(M.) *Esthiopterus diversum* Kellogg.
(M.) *Esthiopterus fuliginosum* Taschb.
(M.) *Giebelia hexakon* Waterston.
(M.) *Docophoroides simplex* Waterston.
(M.) *Docophoroides brevis* Dufour.
82. *Pterodroma mollis* T. Gould (salt-plumaged petrel).
(M.) *Colpocephalum furcatum* Rud.
87. *Daption capensis* L. (Cape sea-pigeon).
(A.A.) *Freyana manicata major* Trt. and Neum.
(M.) *Ancistrona vagelli* Fabr.
(M.) *Esthiopterus fuliginosum* Taschb.
(M.) *Esthiopterus gurli* Taschb.
88. *Macronectes giganteus* Gm. (giant petrel).
(M.) *Esthiopterus obscurum* Rudow.
(M.) *Trabculus schillingi* Rudow.
89. *Oceanites oceanicus* Kuhl. (sooty petrel).
(M.) *Ancistrona vagelli* Fabr.
(M.) *Esthiopterus diversum* Kellogg.
(M.) *Esthiopterus fuliginosum* Taschb.
(M.) *Trabculus schillingi* Rudow.

15. Family **Diomedidae.**

92. *Diomedea exulans* L. (wandering albatross).
(M.) *Colpocephalum pingue* Kellogg.
(M.) *Esthiopterus diomedea* Fabr.
(M.) *Esthiopterus fuliginosum* Taschb.
(M.) *Esthiopterus giganticola* Kellogg.
(M.) *Docophoroides brevis* Dufour.
93. *Thalassarche melanophrys* Boie. (mollymawk).
(M.) *Philopterus gonothorax* Giebel.
(M.) *Esthiopterus fuliginosum* Taschb.
(M.) *Esthiopterus giganticola* Kellogg.
(M.) *Docophoroides simplex* Waterston.
94. *Diomedella cauta layardi* Salvin (Layard's albatross).
(M.) *Esthiopterus giganticola* Kellogg.
96. *Nealbatrus chlororhynchus* Gm. (yellow-billed mollymawk).
(A.A.) *Pterolichus rubidus* Trt.
(A.A.) *Pterolichus rubidus petalifera* Trt.
(M.) *Esthiopterus fuliginosum* Taschb.
(M.) *Esthiopterus giganticola* Kellogg.
(M.) *Docophoroides bevis* Dufour.
97. *Phoebetria palpebrata* Forst. (sooty albatross).
(M.) *Esthiopterus obscurum* Rudow.

16. Family **Laridae.**

98. *Larus dominicanus* Licht. (Cape black-headed gull).
(M.) *Philopterus gonothorax* Giebel.
100. *Bruchigavia novae-hollandiae hartlaubi* Bruch. (white-headed gull).
(M.) *Philopterus gonothorax* Giebel.
(M.) *Degeeriella lingulata* Waterston.

17. Family **Sternidae.**

101. *Chlidonias leucoptera* Schinz. (white-winged tern).
(A.A.) *Thecarthra simplex tyroglyphina* Trt. and Neum.
103. *Hydroprogne tschegrava* Lepech. (Caspian tern).
(A.A.) *Thecarthra theca* Mégn. and Trt.
104. *Sterna hirundo* L. (common tern).
(A.A.) *Pterolichus martini* Trt.
(A.A.) *Thecarthra semaphora* Trt.
(A.A.) *Alloptes bisetatus* Haller.
(M.) *Menopon pachypus* Piaget.
(M.) *Philopecterus melanocephalus* Nitzsch.
(M.) *Degeeriella sellata* Burm.
(M.) *Esthiopterum parviceps* Piaget.
107. *Thalasseus sandvicensis* Lath. (Sandwich tern).
(A.A.) *Alloptes bisetatus* Haller.
(M.) *Menopon fuscifasciatum* Piaget.
(M.) *Colpocephalum piceum* Denny.
(M.) *Philopecterus melanocephalus* Nitzsch.
(M.) *Degeeriella sellata* Burm.
109. *Thalasseus bergii* Lcht. (swift tern).
(M.) *Actornithophilus crassipes* Piaget.
(M.) *Colpocephalum piceum* Denny.
(M.) *Philopecterus melanocephalus* Nitzsch.
110. *Sternula albifrons* Pall. (little tern).
(M.) *Philopecterus melanocephalus* Nitzsch.
(M.) *Degeeriella nycthemera* Nitzsch.
114. *Anous stolidus* L. (common noddy).
(M.) *Actornithophilus epiphanes* Kellogg and Chapman.
(M.) *Degeeriella emarginata* Kellogg and Chapman.
(M.) *Degeeriella gloriosa* K. and K.
(M.) *Degeeriella hebes* Kellogg.

18. Family **Rhynchopidae.**

115. *Rhynchops flavirostris* Vieill. (African skimmer).
(A.A.) *Freyana marginata* Trt.
(M.) *Actornithophilus latifasciatum* Piaget.
(M.) *Philopecterus elongatus* Piaget.

19. Family **Stercorariidae.**

116. *Stercorarius parasiticus* L. (white-necked skua).
(A.A.) *Thecarthra theca* Mégn. and Trt.
(A.A.) *Alloptes bisetatus* Haller.
(M.) *Philopecterus cephalus* Denny.
(M.) *Degeeriella normifer* Grube.
117. *Coprotheres pomarinus* Temm. (large white-necked skua).
(M.) *Menopon circinatum* Piaget.
(M.) *Menopon fuscifasciatum* Piaget.
(M.) *Actornithophilus brachycephalum* Giebel.
(M.) *Philopecterus cephalus* Denny.
(M.) *Philopecterus pustulosus* Nitzsch.
(M.) *Degeeriella normifer* Grube.
(M.) *Esthiopterum modestum* Giebel.

20. Family **Arenariidae.**

119. *Arenaria interpres* L. (turnstone).
(A.A.) *Pterolichus buchholzi fascigera* Mégn. and Trt.
(A.A.) *Thecarthra trouessarti* Berl.

- (A.G.) *Rhinonyssus coniventris* Trt.
 (M.) *Menopon strepsilae* Denny.
 (M.) *Colpocephalum pediculoids* Mjöburg.
 (M.) *Actornithophilus bicolor* Piaget.
 (M.) *Actornithophilus spinulosum* Piaget.
 (M.) *Degeeriella holophaea* Nitzsch.
 (M.) *Degeeriella strepsilaris* Denny.

22. Family Charadriidae.

121. *Crocethia alba* Pall. (sanderling).
 (M.) *Actornithophilus spinulosum* Piaget.
 (M.) *Philopterus cephalus* Denny.
 (M.) *Degeeriella cingulata* Nitzsch.
 (M.) *Degeeriella complexiva* Kellogg and Chapman.
 122. *Pagoa leschenaultii* Less. (great sand-plover).
 (M.) *Degeeriella furva* Nitzsch.
 123. *Eupodella asiatica* Pall. (Caspian plover).
 (M.) *Degeeriella assimilis* Piaget.
 124. *Leucopolius marginatus* Vieill. (white-fronted sand-plover).
 (M.) *Philopterus platygaster* Denny.
 (M.) *Degeeriella macrocephalus* Waterston.
 125. *Leucopolius varius* Vieill. (Kittlitz's sand-plover).
 (M.) *Philopterus platygaster* Denny.
 (M.) *Degeeriella macrocephalus* Waterston.
 127. *Charadrius hiaticula* L. (ringed plover).
 (A.A.) *Pterolichus charadrii* Can.
 (A.A.) *Thecarthra bouveti* Mégn. and Trt.
 (A.G.) *Rhinonyssus echinipes* Hirst.
 (M.) *Degeeriella hiaticulae* Müller.
 128. *Afroxechus tricoloris* Vieill. (three-banded sand-plover).
 (M.) *Philopterus platygaster* Denny.
 (M.) *Degeeriella macrocephalus* Waterston.
 129. *Squatarola squatarola* L. (grey plover).
 (A.A.) *Pterolichus squatarolae* Can.
 (A.A.) *Pterolichus buchholzi* Can.
 (A.A.) *Thecarthra longitarsa* Mégn. and Trt.
 (M.) *Philopterus acanthus* Giebel.
 (M.) *Philopterus conicus* Denny.
 (M.) *Philopterus naumanni* Giebel.
 (M.) *Degeeriella hospes* Nitzsch.
 133. *Hoplopterus armatus* Burch. (blacksmith plover).
 (M.) *Degeeriella hoplopteri* Mjöberg.
 134. *Xiphidiopterus albiceps* Gould (white-crowned wattled plover).
 (M.) *Menopon albipes* Giebel.

23. Family Recurvirostridae.

137. *Recurvirastra avosetta* L. (avocet).
 (M.) *Menopon micrandum* Nitzsch.
 (M.) *Actornithophilus uniseriatum* Piaget.
 (M.) *Degeeriella decipiens* Nitzsch.
 (M.) *Degeeriella hiaticulae* Müller.
 (M.) *Degeeriella signatus* Piaget.
 (M.) *Degeeriella testudinaria* Children.

138. *Hypsibates himantopus* L. (black-winged stilt).
 (A.A.) *Pterolichus rehbergi gracilis* Mégn. and Trt.
 (M.) *Degeeriella furva* Nitzsch.
 (M.) *Degeeriella hemichroa* Nitzsch.
 (M.) *Degeeriella opisthotoma* Kellogg.

24. Family **Scolopacidae.**

139. *Numenius arquatus* L. (curlew).
 (A.A.) *Pterolichus ninnii* Can.
 (M.) *Menopon crocaceum* Nitzsch.
 (M.) *Actornithophilus patellatum* Piaget.
 (M.) *Philopecterus humeralis* Denny.
 (M.) *Philopecterus major* Waterston.
 (M.) *Dolabella testudinarius* Denny.
 (M.) *Degeeriella numenii* Denny.
 (M.) *Degeeriella phaeopi* Denny.
140. *Phaeopus phaeopus* L. (whimbrel).
 (A.A.) *Pterolichus numenii* Can.
 (M.) *Menopon ambiguum* Nitzsch.
 (M.) *Colpocephalum ocellatum* R.
 (M.) *Philopecterus acanthus* Giebel.
 (M.) *Philopecterus humeralis* Denny.
 (M.) *Philopecterus rotundus* R.
 (M.) *Degeeriella phaeopi* Denny.
141. *Limosa limosa* L. (black-tailed godwit).
 (A.A.) *Pterolichus buchholzi* Can.
 (A.A.) *Alloptes crassipes* Can.
 (A.A.) *Alloptes crassipes conura* Trt.
 (M.) *Actornithophilus spinulosum* Piaget.
 (M.) *Philopecterus limosae* Denny.
 (M.) *Degeeriella cingulata* Nitzsch.
143. *Vetula lapponica* L. (bar-tailed godwit).
 (A.A.) *Pterolichus limosae selenura* Mégn. and Trt.
 (A.A.) *Thecarthra setigera* Mégn. and Trt.
 (M.) *Menopon meyeri* Giebel.
 (M.) *Philopecterus acanthus* Giebel.
144. *Tringa ochropus* L. (green sandpiper).
 (A.A.) *Syringobia calceata* Trt.
 (M.) *Colpocephalum affine* Nitzsch.
 (M.) *Degeeriella ochropi* Denny.
 (M.) *Esthiopterum emarginatum* Piaget.
147. *Terekia cinerea* Gulden. (Terek sandpiper).
 (M.) *Degeeriella fulvofasciata* Grube.
148. *Totanus totanus* L. (redshank).
 (A.A.) *Pterolichus totani* Can.
 (A.A.) *Pterolichus buchholzi fascigera* Mégn. and Trt.
 (A.A.) *Syringobia chelopus* Trt. and Neum.
 (A.A.) *Pteronyssus gracilipes* Trt. and Neum.
 (M.) *Menopon nigropleurum* Denny.
 (M.) *Philopecterus mollis*.
149. *Glottis nebularius* Gunn. (greenshank).
 (A.A.) *Sphaerogastra thylacodes* Trt.
150. *Rhyacophilus glareola* L. (wood sandpiper).
 (M.) *Philopecterus cephalus* Denny.
 (M.) *Degeeriella obscura* Burmeister.

151. *Philomachus pugnax* L. (ruff).
 (A.A.) *Pterolichus totani* Can.
 (A.A.) *Alloptes crassipes* Can.
 (A.A.) *Alloptes crassiptes conura* Trt.
 (M.) *Menopon lutescens* Nitzsch.
 (M.) *Menopon nigropleurum* Denny.
 (M.) *Actornithophilus pustulosum* Piaget.
 (M.) *Actornithophilus umbrinum* Nitzsch.
 (M.) *Degeeriella holophaea* Nitzsch.
 (M.) *Degeeriella scalaris* Piaget.
152. *Pisobia minuta* Leisl. (little stint).
 (M.) *Colpocephalum trilobatum* Giebel.
 (M.) *Philopterus fusiformis* Denny.
 (M.) *Degeeriella actophila* Kell. and Chap.
 (M.) *Degeeriella cingulata* Nitzsch.
 (M.) *Degeeriella zonaria* Nitzsch.
153. *Erolia testacea* Vroeg. (curlew sandpiper).
 (A.A.) *Pterolichus buchholzi securicata* Mégn. and Trt.
 (A.A.) *Dermoglyphus diplectrum* Trt.
 (A.A.) *Sphaerogastra thylacodes* Trt.
 (M.) *Actornithophilus umbrosum* Harrison.
 (M.) *Actornithophilus umbrinum* Piaget.
 (M.) *Philopterus fusiformis* Denny.
 (M.) *Degeeriella actophila* Kell. and Chap.
 (M.) *Degeeriella brevipes* Piaget.
 (M.) *Degeeriella zonaria* Nitzsch.
154. *Calidris canutus* L. (knot).
 (A.A.) *Pterolichus buchholzi fascigera* Mégn. and Trt.
 (M.) *Philopterus fusiformis* Denny.
 (M.) *Degeeriella holophaea* Nitzsch.
157. *Rostratula benghalensis* L. (painted snipe).
 (M.) *Pseudomenopon rostratula* Bedford.
25. Family **Cursoriidae**.
 162. *Smutsornis africanus* Temm. (two-banded courser).
 (A.A.) *Pterodectes ortygometrae furcifer* Trt.
27. Family **Dromadidae**.
 166. *Dromas ardeola* Payk. (crab plover).
 (A.A.) *Pteronyssus puffini* Buchh.
 (A.A.) *Alloptes crassipes myosura* Trt.
 (M.) *Philopterus antennatus* Piaget.
 (M.) *Degeeriella brunnea* Nitzsch.
 (M.) *Degeeriella stictochroa* Nitzsch.
31. Family **Plegadidae**.
 183. *Threskiornis aethiopica* Lath. (sacred ibis).
 (M.) *Colpocephalum pygidiale* Mjöberg.
 185. *Plegadis falcinellus* L. (glossy ibis).
 (A.A.) *Mégninia ibidis* Trt.
 (A.A.) *Pteraloptes mégnini falcinelli* Trt.
 (M.) *Colpocephalum fusconigrum* Giebel.
 (M.) *Degeeriella sacra* Giebel.
 186. *Hagedashia hagedash* Lath. (hadadah ibis).
 (A.A.) *Freyana oblonga* Trt. and Neum.
 (A.A.) *Pterolichus marginatus* Trt.

- (M.) *Colpocephalum subpenicillatum* Piaget.
 (M.) *Laemobothrion kelloggi* Bedford.
 (M.) *Esthiopterum capitatum* Piaget.
 187. *Platalea alba* Scop. (African spoonbill).
 (M.) *Ibidoecus plataleae* Denny.
 188. *Ibis ibis* L. (wood ibis).
 (A.A.) *Freyana ceratorhina* Trt.
33. Family **Ciconiidae.**
190. *Dissoura episcopus* Bodd. (woolly-necked stork).
 (M.) *Neophiloferus episcopi* Kellogg.
 192. *Ciconia ciconia* L. (white stork).
 (A.A.) *Freyana pelargica* Trt. and Mégn.
 (A.A.) *Pterolichus ciconiae* Can. and Berl.
 (A.A.) *Xoloptes didactylus* Trt.
 (M.) *Colpocephalum quadripustulatum* Nitzsch.
 (M.) *Colpocephalum zebra* Nitzsch.
 (M.) *Neophiloferus incompletus* Nitzsch.
 (M.) *Esthiopterum ciconiae* Linné.
 193. *Melanopelargus niger* L. (black stork).
 (A.A.) *Freyana pelargica* Trt. and Mégn.
 (M.) *Colpocephalum quadripustulatum* Nitzsch.
 (M.) *Neophiloferus tricolor* Nitzsch.
 (M.) *Esthiopterum ciconiae* Linné.
 194. *Anastomus lamelligerus* Temm. (openbill stork).
 (M.) *Colpocephalum occipitale* Nitzsch.
 (M.) *Philoferus platyclypeatus* Piaget.
 (M.) *Esthiopterum lepidum* Nitzsch.
 195. *Ephippiorhynchus senegalensis* Shaw (saddle-bill stork).
 (A.A.) *Freyana gracilipes* Trt. and Mégn.
 (M.) *Colpocephalum ephippiorhynchi* Mjöberg.
 (M.) *Colpocephalum oreas* Kellogg.
 (M.) *Colpocephalum subflavescens* Piaget.
 (M.) *Neophiloferus episcopi* Kellogg.
 (M.) *Rallicola turbinata* Piaget.
 196. *Leptoptilus crumeniferus* Less. (marabou stork).
 (A.A.) *Pterolichus serrativentris* Trt.
 (M.) *Colpocephalum longissimum* Rudow.
 (M.) *Esthiopterum ciconiae* Linné.
34. Family **Scopidae.**
197. *Scopus umbretta bannermani* Grant (hammerhead).
 (M.) *Menopon madagascariense* Mjöberg.
 (M.) *Colpocephalum scopinum* Mjöberg.
 (M.) *Degeeriella umbrina* Nitzsch.
35. Family **Ardeidae.**
198. *Ardea cinerea* L. (common grey heron).
 (M.) *Colpocephalum decimfasciatum* Bois and Lac.
 (M.) *Esthiopterum ardeae* Linné.
 201. *Pyrhrherodia purpurea* L. (purple heron).
 (M.) *Colpocephalum trochiorum* Nitzsch.
 (M.) *Esthiopterum leucoproctum* Nitzsch.
 202. *Casmerodius albus* L. (great white heron).
 (M.) *Colpocephalum oreas* Kellogg.
 (M.) *Colpocephalum veratrum* Kellogg.
 (M.) *Neophiloferus episcopi* Kellogg.

204. *Egretta garzetta* L. (little egret).
(M.) *Colpocephalum decimfasciatum* var.
212. *Ixobrychus minutus* L. (European little bittern).
(M.) *Colpocephalum decimfasciatum* var.
(M.) *Philopterus sulcatus* Piaget.
213. *Nycticorax nycticorax* L. (night heron).
(M.) *Colpocephalum nyctarde* Denny.
215. *Botaurus stellaris* L. (bittern).
(M.) *Colpocephalum trochioxum* Nitzsch.
(M.) *Philopterus ovatus* Giebel.
(M.) *Esthiopterum stellare* Denny.
36. Family **Phoenicopteridae.**
216. *Phoenicopterus major* Dumont (greater flamingo).
(A.A.) *Freyana hirsutirostris* Trt. and Mégn.
(A.A.) *Pterolichus phoenicopteri* Mégn. and Trt.
(M.) *Colpocephalum heterosoma* Piaget.
(M.) *Trinoton femoratum* Piaget.
(M.) *Philopterus phoenicopterus* Mjöberg.
(M.) *Philopterus pygaspis* Nitzsch.
(M.) *Esthiopterum subsignatum* Giebel.
37. Family **Anatidae.**
218. *Plectropterus gambensis* L. (spurwing goose).
(M.) *Menopon africanum* Kellogg and Paine.
(M.) *Menopon tumidum* Piaget.
(M.) *Trinoton anserinum* Fabr.
(M.) *Acidoproctus bifasciatus* Piaget.
(M.) *Acidoproctus stenopygus* Nitzsch.
(M.) *Esthiopterum gambensis* Piaget.
219. *Sarkidiornis melanotos africanus* Eyt. (knob-billed duck).
(M.) *Menopon africanum* Kellogg and Paine.
(M.) *Trinoton aculeatum* Piaget.
(M.) *Trinoton querguedulae* Linné.
(M.) *Anatoecus ferrugineus* Giebel.
(M.) *Acidoproctus bifasciatus* Piaget.
221. *Dendrocygna viduata* L. (white-faced duck).
(M.) *Menopon africanum* Kellogg and Paine.
(M.) *Trinoton aculeatum* Piaget.
(M.) *Anatoecus dentatus* Scopoli.
(M.) *Acidoproctus bifasciatus* Piaget.
223. *Alopochen aegyptiacus* L. (Egyptian goose).
(A.A.) *Bdellorhynchus psalidurus* Trt.
(A.A.) *Pterodectes gymurus* Trt.
(M.) *Esthiopterum asymmetricum* Rudow.
224. *Casarca cana* Gm. (South African shelduck).
(M.) *Menopon africanum* Kellogg and Paine.
(M.) *Trinoton aculeatum* Piaget.
(M.) *Trinoton querguedulae* Linné.
(M.) *Acidoproctus bifasciatus* Piaget.
227. *Paecilornitta erythrorhyncha* Gm. (red-billed teal).
(M.) *Menopon africanum* Kellogg and Paine.
(M.) *Trinoton querguedulae* Linné.
(M.) *Acidoproctus bifasciatus* Piaget.
(M.) *Esthiopterum crassicornae* Scopoli.

230. *Spatula clypeata* L. (European shoveller).
 (A.A.) *Bdellorhynchus polymorphus* Trt.
 (M.) *Trinoton quergedulae* Linné.
 (M.) *Anatoecus ferrugineus* Giebel.
 (M.) *Esthiopterum crassicorne* Scopoli.
232. *Thalassornis leuconotus* Smith (white-backed duck).
 (M.) *Menopon africanum* Kellogg and Paine.
 (M.) *Trinoton aculeatum* Piaget.
 (M.) *Anatoecus dentatus* Scopoli.
 (M.) *Acidoproctus bifasciatus* Piaget.
234. *Nyroca capensis* Less. (South African pochard).
 (M.) *Trinoton quergedulae* Linné.
38. Family **Phalacrocoracidae**.
235. *Phalacrocorax lucidus* Leht. (South African cormorant).
 (M.) *Menopon sigmoidale* Pic.
 (M.) *Esthiopterum longicorne* Piaget.
236. *Pseudocarbo capensis* Sparrm. (Cape cormorant).
 (M.) *Menopon brevipalpe* Piaget.
 (M.) *Menopon pellucidum* Rudow.
 (M.) *Esthiopterum acutifrons* Rudow.
238. *Microcarbo africana* Gm. (reed cormorant).
 (M.) *Menopon eulassium* Kellogg.
 (M.) *Esthiopterum afer* Kellogg.
 (M.) *Esthiopterum setosum* Piaget.
39. Family **Anhingidae**.
240. *Anhinga rufa levailanti* Leht. (Cape snakebird).
 (M.) *Esthiopterum setosum* Piaget.
40. Family **Sulicidae**.
241. *Sulita capensis* Leht. (malagas).
 (M.) *Menopon pustulosum* Nitzsch.
 (M.) *Pectinopygas bassanae* F.
43. Family **Pelecanidae**.
248. *Neopelecanus rufescens* Gm. (pink-backed pelican).
 (M.) *Esthiopterum forficulatum* Nitzsch.
44. Family **Vulturidae**.
249. *Gyps coprotheres* Forst. (Cape vulture).
 (M.) *Colpocephalum caudatum* Giebel.
 (M.) *Laemobothrion gypsis* Kellogg.
250. *Gyps rüppelli* Bp. (Rüppell's vulture).
 (M.) *Colpocephalum flavescens* Nitzsch.
 (M.) *Laemobothrion tinnunculi* Linné.
 (M.) *Degeeriella fusca* Nitzsch.
 (M.) *Esthiopterum quadripustulatum* Nitzsch.
253. *Pseudogyps africanus füllebornei* Erl. (southern white-backed vulture).
 (M.) *Colpocephalum caudatum* Giebel.
254. *Neophron percnopterus* L. (Egyptian vulture).
 (M.) *Menopon albidum* Giebel.
 (M.) *Laemobothrion percnopteri* Gervais.
 (M.) *Esthiopterum monile* Nitzsch.
45. Family **Sagittariidae**.
256. *Sagittarius serpentarius* Miller (secretary-bird).
 (I.A.) *Argas persicus* Oken.
 (M.) *Colpocephalum cuculare* Giebel.
 (M.) *Esthiopterum secretarius* Giebel.

46. Family **Falconidae.**

259. *Circus aeruginosus* L. (European marsh harrier).
 (M.) *Colpocephalum tricinctum* Nitzsch.
 (M.) *Laemobothrion tinnunculi* Linné.
 (M.) *Philopterus nisi* Denny.
 (M.) *Degeeriella fusca* Nitzsch.
260. *Pseudocircus macrourus* Gm. (pallid harrier).
 (M.) *Degeeriella fusca* Nitzsch.
262. *Pygargus pygargus* L. (Montagu's harrier).
 (A.A.) *Pterolichus nisi* Can.
263. *Melierax musicus* Daud. (chanting goshawk).
 (M.) *Degeeriella fusca* Nitzsch.
265. *Micronisus gabar* Daud. (gabar goshawk).
 (M.) *Degeeriella fusca* Nitzsch.
267. *Neonisus melanoleucus* Smith (black sparrow-hawk).
 (M.) *Degeeriella fusca* Nitzsch.
268. *Aerospiza tachiro* Daud. (African goshawk).
 (M.) *Degeeriella fusca* Nitzsch.
275. *Pterolestes rufofuscus* Forst. (jaekal buzzard).
 (M.) *Philopterus platyrhynchus* Nitzsch.
 (M.) *Degeeriella fusca* Nitzsch.
282. *Nisaetus spilogaster* Bp. (African hawk-eagle).
 (M.) *Colpocephalum subpachygaster* Piaget.
 (M.) *Degeeriella fusca* Nitzsch.
284. *Hieraetus pennatus* Gm. (booted eagle).
 (M.) *Degeeriella fusca* Nitzsch.
293. *Cuncuma vocifer* Daud. (Cape sea-eagle).
 (M.) *Degeeriella fusca* Nitzsch.
295. *Milvus aegyptius* Gm. (kite).
 (M.) *Colpocephalum abruptofasciatum* Mjöberg.
 (M.) *Colpocephalum dissimile* Piaget.
 (M.) *Laemobothrion titan* Piaget.
 (M.) *Philopterus milvi* Mjöberg.
 (M.) *Philopterus spathulatus* Giebel.
 (M.) *Degeeriella fusca* Nitzsch.
296. *Elanus caeruleus* Desf. (black-shouldered kite).
 (M.) *Degeeriella fusca* Nitzsch.
298. *Pernis apivorus* L. (honey buzzard).
 (A.A.) *Pterolichus nisi* Can.
 (M.) *Colpocephalum flavescens* Nitzsch.
 (M.) *Philopterus aquilinae* Denny.
 (M.) *Philopterus cornutus* Piaget.
 (M.) *Degeeriella phlyctopyga* Nitzsch.
302. *Falco subbuteo* L. (hobby).
 (A.A.) *Pterolichus minor* Mégn. and Trt.
 (M.) *Laemobothrion tinnunculi* Linné.
 (M.) *Degeeriella rufa* Nitzsch.
309. *Cerchneis rupicola* Daud. (South African kestrel).
 (M.) *Degeeriella fusca* Nitzsch.
311. *Tichornis naumanni* Fleisch. (lesser kestrel).
 (M.) *Degeeriella fusca* Nitzsch.

47. Family **Pandionidae.**

313. *Pandion haliaetus* L. (osprey).
 (A.A.) *Pteronyssus fuscus* Nitzsch.
 (M.) *Colpocephalum flavescens* Nitzsch.
 (M.) *Colpocephalum haliaeti* Denny.

48. Family **Tytontidae**.
 314. *Tyto alba affinis* Lay. (Cape barn owl).
 (I.I.) *Rhipicephalus lunulatus* Neu.
 (M.) *Colpocephalum subpachygaster* Piaget.
 (M.) *Philopterus rostratus* Nitzsch.
 (S.S.) *Echidnophaga gallinaceus* Westw.
49. Family **Bubonidae**.
 317. *Nyctactus lacteus* Temm. (giant eagle-owl).
 (M.) *Philopterus ceblebrachys* Nitzsch.
 (M.) *Philopterus cursor* Nitzsch.
 318. *Bubo capensis* Smith (Cape eagle-owl).
 (M.) *Colpocephalum subpachygaster* Piaget.
 (M.) *Philopterus cursor* Nitzsch.
 (M.) *Philopterus rostratus* Nitzsch.
 319. *Bubo africanus* Temm. (Cape spotted owl).
 (M.) *Philopterus cursor* Nitzsch.
 323. *Strix woodfordi* Smith (Woodford's bush owl).
 (M.) *Philopterus cursor* Nitzsch.
50. Family **Psittacidae**.
 326. *Poicephalus meyeri transvaalensis* Neum. (Transvaal Meyer's parrot).
 (M.) *Menopon impar poicephalus* Bedford.
52. Family **Coraciidae**.
 333. *Coracias garrulus* L. (European roller).
 (M.) *Menopon virgo* Giebel.
 (M.) *Degeeriella subcuspidata* Nitzsch.
53. Family **Alcedinidae**.
 340. *Ceryle rudis* L. (pied kingfisher).
 (M.) *Philopterus cerylinus* Mjöberg.
 347. *Chelicutona albiventris* Scop. (brown-hooded kingfisher).
 (M.) *Philopterus capistratus* Neumann.
54. Family **Nucerotidae**.
 350. *Baryrhynchus cristatus* Rüpp. (crested hornbill).
 (M.) *Menopon bucerotis* Kellogg.
 351. *Bycanistes bucinator* Temm. (trumpeter hornbill).
 (M.) *Menopon bucerotis* Kellogg.
 352. *Rhynchaceros melanoleucus* Licht. (crowned hornbill).
 (A.A.) *Pterolichus vexillarius minuta* Mégn. and Trt.
 353. *Lophoceros epirhinus* Sund. (South African grey hornbill).
 (M.) *Menopon lophocerus* Bedford.
 355. *Tockus erythrorhynchus* Temm. (red-billed hornbill).
 (A.A.) *Pterolichus vexillarius minuta* Mégn. and Trt.
 (M.) *Menopon lophocerus* Bedford.
 356. *Xanthorynchus leucomelas* Licht. (yellow-billed hornbill).
 (M.) *Menopon lophocerus* Bedford.
55. Family **Upupidae**.
 358. *Upupa africana* Bechst. (African hoopoe).
 (M.) *Degeeriella upupae* Denny.
56. Family **Meropidae**.
 362. *Merops apiastre* L. (European bee-eater).
 (A.A.) *Pterolichus cuculi* Mégn. and Trt.
 (A.A.) *Allanalges analgoides* Trt.
 (M.) *Philopterus meropis* Denny.
 (M.) *Degeeriella apiastri* Denny.

367. *Coccolarynx bullockoides* Smith (white-fronted bee-eater).
 (M.) *Philopterus meropis* Denny,
 (M.) *Degeeriella erythropteri* Piaget.
368. *Melittophagus pusillus meridionalis* Sharpe (little bee-eater).
 (M.) *Degeeriella erythropteri* Piaget.
57. Family **Caprimulgidae**.
 370. *Caprimulgus europaeus* L. (European nightjar).
 (M.) *Philopterus macropus* Giebel.
 (M.) *Degeeriella hypoleucum* Nitzsch.
58. Family **Macropterygidae**.
 383. *Micropus apus* L. (European swift).
 (A.A.) *Pterolichus cultrifer* Robin.
 (A.A.) *Pterolichus securiger* Robin.
 (A.A.) *Mégninia aestivalis* Berl.
 (A.A.) *Alloptes cypseli* Can. and Berl.
 (A.A.) *Trouessartia appendiculata* Berl.
 (M.) *Menopon parvulum* Piaget.
 (M.) *Eureum cimoides* Nitzsch.
 (M.) *Dennyus truncatus* Olfers.
388. *Colleoptera affinis* Grey (Indian swift).
 (M.) *Dennyus minor* Kellogg and Paine.
59. Family **Coliidae**.
 391. *Urocolius indicus transvaalensis* Rbts. (Transvaal red-faced coly).
 (M.) *Esthiopterum colius* Bedford.
61. Family **Musophagidae**.
 398. *Crinifer concolor* Smith (grey lourie).
 (A.A.) *Dermoglyphus deformis* Trt. and Neum.
62. Family **Cuculidae**.
 405. *Cuculus canorus* L. (European cuckoo).
 (A.A.) *Pterolichus cuculi* Mégn. and Trt.
 (A.A.) *Xolalges scaurus* Trt.
 (M.) *Menopon fasciatum* Scop.
 (M.) *Philopterus latifrons* Nitzsch.
 (M.) *Degeeriella latirostris* Burm.
411. *Chrysococcyx intermedius sharpei* van Som. (southern emerald cuckoo).
 (A.A.) *Allanalges podagricus* Trt.
412. *Centropus senegalensis* L. (Senegal coucal).
 (I.I.) *Haemaphysalis hoodi* Warb. and Nuttall.
413. *Centropus burchelli* Swain (Burchell's coucal).
 (I.I.) *Haemaphysalis hoodi* Warb. and Nuttall.
69. Family **Hirundinidae**.
 443. *Hirundo rustica* L. (European swallow).
 (M.) *Myrsidea rusticum* Nitzsch.
 (M.) *Eureum malleus* Nitzsch.
 (M.) *Philopterus excisus* Nitzsch.
 (M.) *Degeeriella gracilis* Nitzsch.
451. *Chelidonaria urbica* L. (house martin).
 (A.A.) *Pteronyssus obscurus* Berl.
 (A.A.) *Mégninia aestivalis subintegra* Berl.
 (A.A.) *Trouessartia appendiculata minutipes* Berl.
 (A.A.) *Pterodectes rutilus* Robin.
 (M.) *Philopterus excisus* Nitzsch.
 (M.) *Philopterus quinque maculatus* Piaget,
 (M.) *Degeeriella gracilis* Nitzsch.

458. *Riparia riparia* L. (European sand-martin).
 (A.A.) *Pteronyssus obscurus* Berl.
 (A.A.) *Pteronyssus nuntiae* everis Berl.
 (A.A.) *Mégninia aestivalis subintegra* Berl.
 (A.A.) *Trouessartia appendiculata* Berl.
 (M.) *Myrsidea rusticum* Nitzsch.
 (M.) *Degeeriella tenuis* Nitzsch.
70. Family **Laniidae**.
 463. *Enneactonus colluro* L. (red-backed shrike).
 (M.) *Menopon coarctatum* Scop.
 (M.) *Menopon inaequale* Piaget.
 (M.) *Philopterus lanii* Fabr.
 (M.) *Degeeriella cruciata* Burm.
 466. *Laniarius ferrugineus* Gm. (ferruginous bush-shrike).
 (M.) *Philopterus subflavescens* Geoff.
74. Family **Muscicapidae**.
 517. *Alseonax adustus adustus* Boie (Cape dusky flycatcher).
 (M.) *Philopterus subflavescens* Geoff.
 518. *Muscicapa striata* Vroeg (spotted flycatcher).
 (A.A.) *Pteronyssus integer* Trt. and Neum.
 (M.) *Philopterus subflavescens* Geoff.
 524. *Melaenornis ater* Sund. (black flycatcher).
 (M.) *Menacanthus spinosum* Piaget.
75. Family **Sylviidae**.
 530. *Sylvia curruca* L. (common whitethroat).
 (M.) *Menopon currucae* Sch.
 (M.) *Philopterus subflavescens* Geoff.
 532. *Hippolais coelebs* Frent. (icterine warbler).
 (M.) *Philopterus subflavescens* Geoff.
 534. *Acrocephalus arundinaceus* L. (great reed warbler).
 (A.A.) *Pteronyssus pallens* Berl.
 (A.A.) *Analgas bidentatus* Gieb.
 (A.A.) *Heteropsorus pteroptopus* Trt. and Neum.
 542. *Muscipeta schoenobaena* L. (European sedge warbler).
 (M.) *Philopterus subflavescens* Geoff.
76. Family **Pychnonotidae**.
 598. *Loidorus layardi* Gurn. (Layard's bulbul).
 (M.) *Menacanthus spinosum* Piaget.
77. Family **Turdidae**.
 608. *Turdoides bicolor* Jard. (white babbler).
 (M.) *Menacanthus crateropus* Bedford.
 611. *Turdoides jardinei jardinei* Smith (Jardine's babbler).
 (M.) *Menacanthus crateropus* Bedford.
 629. *Oenanthe oenanthe* L. (European wheatear).
 (M.) *Menopon exile* Nitzsch.
82. Family **Nectariniidae**.
 683. *Notocinnnyris afer* L. (greater double-collared sunbird).
 (A.A.) *Pterodectes megacaulus* Trt.
83. Family **Motacillidae**.
 706. *Spipola trivialis* L. (European tree pipit).
 (A.A.) *Pterodectes bilobatus* Robin.

84. Family **Alaudidae**.
 735. *Calendula magnirostris* Steph. (thick-billed lark).
 (I.I.) *Hyalomma impressum* Neu.
85. Family **Fringillidae**.
 752. *Passer melanurus melanurus* St. Mull (Cape black-headed sparrow).
 (M.) *Philopterus subflavescens* Geoff.
 (M.) *Degeeriella vulgata* Kell. and Chap.
86. Family **Ploceidae**.
 776. *Steganura paradisea* L. (paradise widowbird).
 (A.A.) *Pterolichus uncinatus* Mégn.
 (M.) *Degeeriella bicurvata* Piaget.
 788. *Diatropura procne* Bodd. (long-tailed widowbird).
 (A.A.) *Pteraloptes trifolium* Trt.
 794. *Quelea sanguinirostris lathamii* Smith (pink-billed quelea).
 (I.I.) *Ixodes daveyi* Nuttall.
 799. *Amadina erythrocephala* L. (red-headed finch).
 (M.) *Degeeriella vulgata* Kell. and Chap.
 (M.) *Machaerilaemus plocei* Bedford.
87. Family **Sturnidae**.
Sturnus vulgaris L. (starling).
 (A.A.) *Pteronyssus truncatus* Trt.
 (A.A.) *Trouessartia corvina rosteri* Berl.
 (M.) *Myrsidea cucullaris* Nitzsch.
 (M.) *Philopterus sturni* Schrank.
 (M.) *Degeeriella nebulosa* Burm.
 843. *Spreo bicolor* Gm. (pied starling).
 (S.P.) *Xenopsylla creusae* Rothsch.
 845. *Lamprocolius phoenicopterus phoenicopterus* Swain (Cape glossy starling).
 (M.) *Philopterus senegalensis* Rudow.
Lamprocolius phoenicopterus bispecularis Str. (northern Cape glossy starling).
 (M.) *Menacanthus spinosum* Piaget.
 (M.) *Philopterus senegalensis* Rudow.
 853. *Amydrus morio* L. (common redwing starling).
 (I.I.) *Haemaphysalis hoodi* Warb. and Nutt.
89. Family **Oriolidae**.
 859. *Oriolus oriolus* L. (European golden oriole).
 (M.) *Ricinus dolichocephalus* Scop.
 (M.) *Philopterus ornatus* Nitzsch.
 (M.) *Degeeriella munda* Nitzsch.
 860. *Oriolus larvatus larvatus* Lcht. (black-headed oriole).
 (M.) *Ricinus dolichocephalus* Scop.
 (M.) *Philopterus ornatus* Nitzsch.
91. Family **Corvidae**.
 863. *Corvus albus* Müll. (pied crow).
 (A.A.) *Pterolichus delibatus* Robin.
 (M.) *Colpocephalum semicinctum* Rudow.
 (M.) *Myrsidea obovato* Piaget.
 (M.) *Myrsidea ovata* Piaget.
 (M.) *Myrsidea sjoestedti* Kellogg.
 (M.) *Philopterus semisignatus* Nitzsch.
 (M.) *Degeeriella bipunctata* Rudow.
 (M.) *Degeeriella quadrangularis* Rudow.

864. *Heterocorax capensis* Licht. (black crow).
 (M.) *Degeeriella argula* Nitzsch.
 (M.) *Degeeriella varia* Nitzsch.
- 865: *Corvultur albicollis* Lath. (white-necked raven).
 (A.A.) *Pterolichus delibatus* Robin.
 (M.) *Myrsidea nigra* Kellogg and Paine.
 (M.) *Myrsidea sjoestedti* Kellogg.
 (M.) *Philopterus leptomelas* Giebel.
 (M.) *Degeeriella leucocephala* Nitzsch.

V.—HOST-LIST OF THE EXTERNAL PARASITES FOUND ON
 SOUTH AFRICAN REPTILES.

Sub-class **CHELONIA.**

Family **Testudinidae.**

- Testudo angulata* Schweigg (angulated tortoise).
 (I.I.) *Amblyomma sylvaticum* De Geer.
 "Tortoise."
 (I.I.) *Amblyomma marmoreum* Koch.

Sub-class **SQUAMATA.**

Order **LACERTILIA.**

Family **Varanidae.**

- Varanus niloticus* Linné (water leguaan).
 (I.I.) *Aponomma exornatum* Koch.
 "Lizard."
 (I.I.) *Amblyomma marmoreum* Koch (larvae).

Order **OPHIDIA.**

Family **Boidae.**

- Python sebae* (South African python).
 (I.I.) *Aponomma exornatum* Koch.
 (I.I.) *Aponomma globulus* Lucas.
 (I.I.) *Aponomma transversale* Lucas.

Division A.—**Aglypha.**

Family **Colubridae.**

- Pseudaspis cana* Linné (mole snake).
 (I.I.) *Amblyomma sylvaticum* De Geer.

Division B.—**Opisthoglypha.**

Sub-family **Elapinae.**

- Dendraspis angusticeps* (mamba).
 (I.I.) *Aponomma laeve capensis* Neu.
 "Snakes."
 (I.I.) *Amblyomma marmoreum* Koch.
 (I.I.) *Aponomma laeve capensis* Neu.
 (I.I.) *Aponomma latum* Koch.

LIST OF REFERENCES.

ACARI.

1. Bedford, G. A. H.... (1912) "A Tick New to South Africa." Second Rep. Dir. Vet. Res., Union of S. Afr., pp. 343-344, Pl. 37.
2. " " ... (1916) "Experiments and Observations carried out with *Psoroptes communis* at Onderstepoort." Third and Fourth Repts., Dir. Vet. Res., Union of S. Afr., pp. 101-107, f. 1-7.
3. " " ... (1920) "Ticks found on Man and his Domestic Animals and Poultry in South Africa." *Journ. Dept. Agric.*, Union of S. Afr., pp. 317-340, f. 1-29, and Reprint No. 16.
4. " " ... (1924) "The External Parasites of Poultry, with Measures for their Control." *Journ. Dept. Agric.*, Union of S. Afr., IX, No. 2, pp. 123-140, and Reprint No. 33.
5. Bedford and Hewitt, J. (1925) "Descriptions of Two New Species of Ticks, and Notes on Rare and hitherto unrecorded Species from South Africa." *S. Afr. Journ. Nat. Hist.*, V, i, pp. 259-266, Pls. XIX, XX.
6. Canestrini, G., and (1899) *Das Tierreich Demodicidae und Sarcoptidae.*
Kramer, P.
7. Hirst, S..... (1916) "Notes on Parasitic Acari." *Journ. Zool. Res.*, Lond., I, No. 2, pp. 59-89.
8. " (1919) *Studies on Acari*, No. 1. The genus *Demodex* Owen.
9. " (1920) "Notes on Acari Parasitic on Birds, with Descriptions of Two New Species." *Ann. Mag. Nat. Hist.* (9), V, pp. 121, 122.
10. " (1921) "On Some New or Little-known Acari, mostly Parasitic in Habit." *Proc. Zool. Soc.*, Lond., pp. 357-378.
11. " (1922) "Mites Injurious to Domestic Animals." *Brit. Mus. Series* No. 13.
12. " (1925) "Descriptions of New Acari, mainly Parasitic on Rodents." *Proc. Zool. Soc.*, Lond., Pt. I, pp. 49-69, f. 1-16.
13. Howard, C. W..... (1908) "A List of the Ticks of South Africa." *Ann. Transv. Mus.*, No. 2, pp. 73-122, pl. 1-16.
14. " (1909) "A New Species of *Haemaphysalis* from South Africa." *Ann. Transv. Mus.*, I, pp. 219-223, and Reprint (*H. africana* = *H. hoodi* Ward and Nutt.).
15. Hutecheon, D..... (1895) "Scab: Its Nature, Cause, Symptoms, and Treatment." Capetown.
16. Neumann, L. G..... (1911) *Das Tierreich. Ixodidae.*
17. Nuttall, G. H. F., (—) "Ticks: A Monograph of the Ixodoidea."
Warburton, C.
18. Cooper, W. F., and (1908) Part I. *Argasidae.*
Robinson, L. E.
- 18a. " " (1911) Part II. *Ixodes.*
19. " " (1915) Part III. *Haemaphysalis.*
20. Robinson, L. E..... (1911) "New Species of Ticks (*Haemaphysalis* and *Amblyomma*)." *Parasit.*, IV, pp. 478-484.
21. Shilston, A. W..... (1916) "Sheep Scab." Third and Fourth Repts., Dir. Vet. Res., Union of S. Afr., pp. 71-98.
22. Walker, J..... (1916) "A Short Note on the Occurrence of *Cytodites nudus* (Viziali) in the Domestic Fowl in South Africa." Third and Fourth Repts., Dir. Vet. Res., Union of S. Afr., pp. 527-529.
23. Warburton, C..... (1912) "Notes on the Genus *Rhipicephalus*, with the Description of New Species, and the consideration of some Species hitherto described." *Parasit.*, V, No. 1, pp. 1-20.

DERMAPTERA.

Family HEMIMERIDNE.

1. Carpenter, G. H..... (1909) *Ent. Mo. Mag.* (2), XX, pp. 254-257, Pl. iv, f. 1-1.
(For other references, see the above.)

ANOPLURA.

1. Bedford, G. A. H. . . . (1919) "Anoplura from South African Hosts." Fifth and Sixth Rep., Dir. Vet. Res., Union of S. Afr., pp. 709-731, f. 1-13.
2. " . . . (1920) "Anoplura from South African Hosts." Part II, Seventh and Eighth Rep., Dir. Res., Union of S. Afr., pp. 708-734, Pl. 1-7.
3. " . . . (1920) "Mallophaga from South African Birds." Parasit., XII, No. 2, pp. 167-172, pl. 12 and 13.
4. " . . . (1920) "Description of a New Genus and Species of Louse from an Elephant-shrew." *Ent. Mo. Mag.* (3), VI, pp. 87-90, f. 1, 2.
5. " . . . (1924) "The External Parasites of Poultry, with Measures for their Control." *Journ. Dept. Agric.*, Union of S. Afr., IX, No. 2, pp. 123-140, 2 plates, and Reprint No. 33.
6. Cummings (1912) "Anoplura from African Hosts." Bull. Ent. Res., III, pp. 393-397.
7. " (1913) "On some Nondescript Anoplura and Mallophaga." Bull. Ent. Res., IV, pp. 35-45.
8. " (1914) "Descriptions of Five New Species of Anoplura and Mallophaga." Bull. Ent. Res., V, pp. 155-177.
9. " (1916) "Studies on the Anoplura and Mallophaga: Being a Report upon a Collection from the Mammals and Birds in the Society's Gardens." Part I. Proc. Zool. Soc., London, pp. 253-295.
10. " (1916) Part II. Proc. Zool. Soc., London, pp. 643-693.
11. Denny (1842) Monographia Anoplororum Britanniae, London.
12. Ferris, G. F. (1916) "Mallophaga and Anoplura from South Africa, with List of Mammalian Hosts of African Species." Ann. Durban Mus., pp. 230-252.
13. " (1916) "Some Generic Groups in the Mallophagan Family Menopidae." Canadian Ent., pp. 301-311.
14. " (1916) "A Catalogue and Host-list of the Anoplura." Proc. Calif. Acad. Sci., VI, No. 6, pp. 129-213.
15. " (1919-23) "Contributions towards a Monograph of the Sucking Lice." Stanford University Publications. Parts I to IV published.
16. " (1924) "The Mallophagan Family Menoponidae." Parasit., XVI, No. 1, pp. 55-66.
17. Giebel (1874) Insecta Epizoa, Leipsic.
18. Harrison, L. (1916) "The Genera and Species of Mallophaga." Parasit., IX, pp. 1-154.
19. Hill, L. (1922) "Three New Species of *Trichodectes* from *Cephalophus monticola* and *Procapra capensis*." Parasit., XIV, No. 1, pp. 63-68, Pl. 1, 2.
20. Kellogg, V. (1896) New Mallophaga, I, Proc. Calif. Acad. Sci., VI, pp. 31-168.
21. " (1896) New Mallophaga, II, Proc. Calif. Acad. Sci., VI, pp. 431-548.
22. " (1906) "A Gigantic New Biting Bird-louse." Ent. News., pp. 62, 63.
23. " (1910) Mallophaga. Wirs. Ergebu. Schwed. Zool. Exp., Kilimanjaro, III, abt. 15, pp. 43-56.
24. Kellogg, and Ferris, (1915) "Anoplura and Mallophaga from Zululand." Ann. Durban Mus., I, pp. 147-158.
25. Kellogg and Naka- (1914) "A New *Trichodectes* from Baja, California." Psyche., yama XXI, pp. 90-92.
26. " " (1915) "A New *Trichodectes* from the Goat." Psyche., XXII, pp. 33-35.
27. Kellogg and Paine . . . (1911) "Anoplura and Mallophaga from African Hosts." Bull. Ent. Res., II, pp. 145-152.
28. " " . . (1914) "Mallophaga of Birds (mostly Corvidae and Phasiamidæ) of India." Rec. Indian Mus., X, pp. 217-243.
29. Mjöberg (1910) "Studien über Mallophagen und Anopluren." Arkiv. f. Zool., VI, pp. 1-296.
30. Neumann, L. G. (1911) Notes Sur les Pédiculidés, II, Arch. d. Parasit., XIV, pp. 401-414.
31. " (1913) Notes sur les Mallophages, III, Arch. d. Parasit., XV, pp. 608-634.

32. Piaget..... (1880) Les Pédiculines, Leyden.
 33. „ (1885) Les Pédiculines, Supplement. Leyden.
 34. „ (1890) *Nirmus assimilis*. Trans. Ent. Soc., London. Proceedings, p. xxiii.
 35. „ (1895) Un nouveau parasite du Transvaal. Tijds. v. Ent., XXXVIII, pp. 101, 102.
 36. Waterston, J..... (1914) "On Some Ectoparasites in the South African Museum, Capetown." Ann. S. Afr. Mus., X, pp. 271-321, Pl. 25-26.
 37. „ (1915) "On Two New Species of Mallophaga." *Ent. Mo. Mag.* (3), 1, pp. 12-16.
 38. „ (1917) "A New African Louse (*Polyplax calva*, n. sp.) from *Cricetomys*." Parasit., IX, pp. 199-202, f. 1, 2.

SIPHONAPTERA.

1. Bedford, G. A. H... (1924) "The External Parasites of Poultry, with Measures for their Control." *Journ. Dept. Agric.*, Union of South Africa, IX, No. 2, pp. 123-140, and Reprint No. 33.
 2. Jordan and Rothschild (1906) "A Revision of the Sarcopsyllidae—a Family of Siphonaptera." Thom. Yates and John. Labs. Rep., VII, Pt. 1, pp. 15-72, Pl. 1-4.
 3. „ „ (1908) "Revision of the Non-combed Eyed Siphonaptera." Parasit., I, No. 1, pp. 1-100, Pl. 1-7.
 4. „ „ (1913) "Siphonaptera Collected by Mr. Robin Kemp in Tropical Africa." *Novit. Zool.*, XX, No. 3, pp. 528-581.
 5. „ „ (1921) "New Genera and Species of Bat-fleas." *Ectoparasites*, I, No. 3, pp. 142-162, f. 116-147.
 6. „ „ (1921) "On *Ceratophyllus fasciatus*, and Some Allied Indian Species of Fleas." *Ectoparasites*, I, No. 3, pp. 178-198.
 7. „ „ (1922) "On *Pygiopsylla* and the Allied Genera of Siphonaptera." *Ectoparasites*, I, No. 4, pp. 231-265.
 8. Mitchell, J. A..... (1921) "Plague in South Africa: Perpetuation and Spread of Infection by Wild Rodents." *S. Afr. Med. Rec.*, XIX, No. 24, pp. 475-477.
 (Gives list of fleas collected from wild rodents and small carnivora in north-western Orange Free State.)
 9. Rothschild, Hon. N. C. (1900) "Some New Exotic Fleas." *Ent. Rec. and Journ. Var.*, XII, pp. 36-38.
 10. „ „ (1904) "Further Contributions to the Knowledge of Siphonaptera." *Novit. Zool.*, XI, pp. 602-653.
 11. „ „ (1905) "Some New Siphonaptera." *Novit. Zool.*, XII, pp. 479-491.
 12. „ „ (1907) "Some New Siphonaptera." *Novit. Zool.*, XIV, pp. 329-333.
 13. „ „ (1907) "Some New African Siphonaptera." *Ent. Mo. Mag.* (2), XVIII, pp. 175, 176.
 14. „ „ (1908) "Notes on a Collection of Siphonaptera from the Ruwenzori, Uganda." *Ent. Mo. Mag.* (2), XIX, pp. 76-79, Pl. 1.
 15. „ „ (1909) "Some New Siphonaptera." *Novit. Zool.*, XVI, pp. 53-56.
 16. „ „ (1910) "A Synopsis of the Fleas found on Domestic Rats and Mice." *Bull. Ent. Res.*, I, Pt. 2, pp. 89-98.
 17. „ „ (1913) "A New *Listropsylla* and the Male of *Ctenophthalmus calceatus*, Waterst. (1912), both from South Africa." *Ent. Mo. Mag.* (2) XXIV, pp. 207, 208, Pl. 5, f. 1-3.
 18. Waterston, J..... (1909) "A New *Ceratophyllus* from South Africa." *Ent. Mo. Mag.* (2), XX, p. 271, Pl. 5.
 19. „ „ (1912) "A New African Flea." *Ent. Mo. Mag.* (2), XXIII, pp. 27, 28.
 20. „ „ (1913) "Notes on *Chiastopsylla* Rothschild, a genus of Siphonaptera, with Description of a New Species (*Ch. godfreyi*)." *Proc. R. Physic. Soc., Edin.*, pp. 8-11.
 21. „ „ (1913) "A New Species of *Ichnopsyllus* (*I. ashworthi*) Parasitic upon the Cape Horse-shoe Bat (*Rhinolophus augur*)." *Proc. R. Physic. Soc. Edin.*, pp. 12-15.

22. Waterston, J..... (1914) "On Some Ectoparasites in the South African Museum, Capetown." *Ann. S. Afr. Mus.*, X, Pt. ix, pp. 273, 274.
23. " " (1915) "Notes on Siphonaptera in the Albany Museum, Grahamstown, South Africa, with Descriptions of Two New Species of the Genus *Ischnopsyllus*." *Rec. Albany Museum, Grahamstown*, III, Pt. 2, pp. 107-119, f. 1-5.
24. " " (1920) "Description of the Female of *Chiastopsylla godfreyi* Waterst., with further Notes on the Genus." *Trans. Ent. Soc. Lond.*, Pts. 3-5, pp. 414-416, f. 1.

DIPTERA.

1. Austen, E. E..... (1906) British Blood-sucking Flies.
(In the book are included coloured figures of *Hippobosca equina*, *Liptoptena cervi*, and *Melophagus ovinus*.)
2. " (1909) African Blood-sucking Flies other than Mosquitoes and Tsetse-flies.
(In the book are included coloured figures of *Hippobosca rufipes*, *H. maculata*, and *H. struthionis*.)
3. Scott, H..... (1917).

RHYNCHOTA.

1. Chatton, E., and Blanc, G. (1918) "Large Ectectisme parasitaire de la Punaise des Lits—Son Entretien aux Depens des Reptiles." *Bull. Soc. Path. Exot.*, Paris, XI, No. 5, pp. 382-387.
2. Mote, D. C..... (1917) "Some External Parasites of Poultry." *Ohio Agric. Expt. St.*, Wooster, Bull. No. 320.
3. Patton and Cragg... (1913) "A Text-book of Medical Entomology," pp. 498-525, Pl. 41, 43.
4. Pringault, E..... (1914) "*Cimex pipistrelli* Jen., Agent de la Transmission de la Trypanosomiase des Chauves-Souris." *C. R. Soc. Biol.*, Paris, LXXVI, No. 19, pp. 881-884.
5. Rothschild, Hon. N.C. (1912) "On the Genus *Cacodmus*." *Ent. Mo. Mag.* (2), XXIV, pp. 102, 103.
6. " " (1914) "On Some Species of *Cacodmus*, a Genus of Bed-bugs." *Bull. Ent. Res.*, V. Pt. i, pp. 41, 42, f. 1-5.

MAMMALS.

- Roberts, Austin..... "A Synoptic Check-list of the Non-Marine Mammals of South Africa." (In Manuscript.)

BIRDS.

- Roberts, Austin..... (1924) "Synoptic Check-list of the Birds of South Africa." *Ann. Transvaal Museum*, X, Pt. 3, pp. 89-195, Pl. 2-5.