

EXPLORATION DU PARC NATIONAL ALBERT

DEUXIÈME SÉRIE

Fascicule 21 (1)

---

SIPHONAPTERA

BY

F. G. A. M. SMIT (Tring)

---

The only species of fleas hitherto recorded from the Parc National Albert are *Libyastus schorstedeni* BERTEAUX, 1947 (BERTEAUX, 1947 : 104), *Dinopsyllus hirsutus* (ROTHSCHILD, 1908) (COOREMAN, 1951 : 7) — both records are from the Mt Mikeno region in the southernmost part of the Parc — and *Moeopsylla sjoestedti* JORDAN & ROTHSCHILD, 1908 (HOPKINS & ROTHSCHILD, 1953 : 104) from the south shore of Lake Edward. Apparently no data on the flea-fauna of the northern part of this long and narrow Parc have been published. However, from the Uganda side of the Ruwenzori Mts, ROTHSCHILD (1908) recorded five species [*Aphropsylla wollastoni* (R., 1908), *Stivalius torvus* (R., 1908), *Listropsylla dolosa* R., 1907 [as *stygius* R., 1908, a synonym], *Dinopsyllus hirsutus* (R., 1908) and *Leptopsylla aethiopica aethiopica* (R., 1908)], while JORDAN (1939) added another four species [*Xenopsylla brasiliensis* (BAKER, 1904), *Xenopsylla cheopis* (R. 1903), *Ctenophthalmus calceatus cabirus* J. & R., 1913 and *Dinopsyllus lypusus* J. & R., 1913]. The 53 specimens of fleas collected by P. VANSCHUYTBROECK *et al.* in the northern sector of the Parc during the years 1952-1957 belong to 11 species, as detailed below, adding 10 species (including a hitherto undescribed one) to the list of fleas known to occur in the Parc National Albert.

The numbers in square brackets after each record listed below are the original collecting-numbers.

## Family HYSTRICHOPSYLLIDAE

## Subfamily DINOPSYLLINAE

**Dinopsyllus (Dinopsyllus) foedus** n. sp.

(Figs. 1-3.)

Kalivina river, 2.720 m, Tshiaberimu Mts, 8.III.1954, rodent No. 884 (in bamboo-Hagenia forest), leg. P. VANSCHUYTBROECK, ♂ holotype, 1 ♂ paratype [7805 A]. Holotype in the collections of the Institut royal des Sciences naturelles de Belgique, Bruxelles, paratype in flea-collection of the British Museum (Natural History) at Tring.

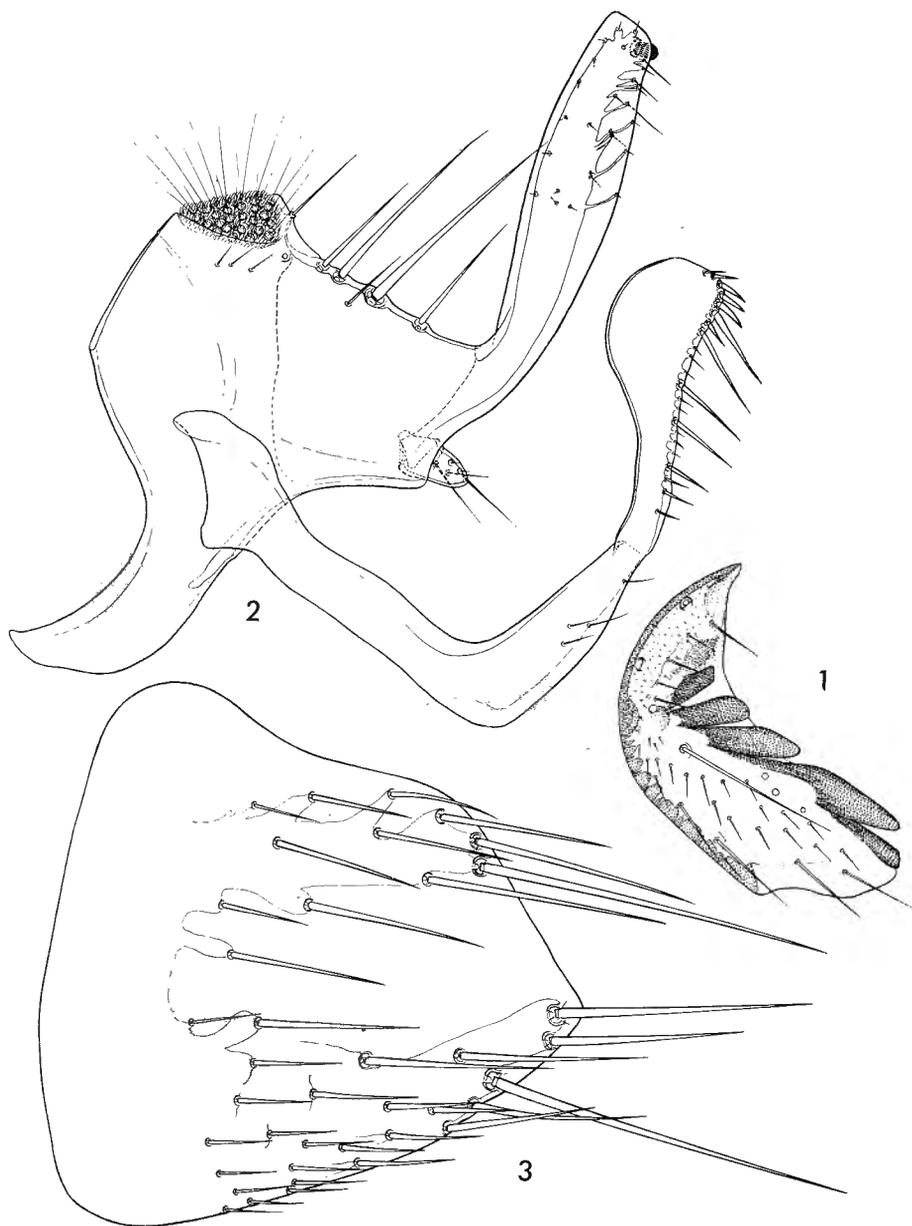
Diagnosis. — This new species appears to be nearest related to *Dinopsyllus dirus* SMIT, 1959 (from Katanga) and can be distinguished from it by the narrower band of frontal incassations and by the much expanded apex of sternum IX of the ♂ which also has a different chaetotaxy.

Description. — Head like that of *D. dirus* except for the band of internal sclerotizations of the frons which is about twice as wide below the frontal tubercle than above it and of almost uniform width, its inner margin irregular because of the presence of haemocoelae; frons elongate, with a straight lower part (fig. 1). Pronotum with two rows of setae; pronotal ctenidium of only 26-27 spines; ratio length pronotum : length pronotal spines (measured dorsally) : ♂ 1.5 : 1. Setae of main row of each tergum not or not quite reaching bases of those of main row of succeeding segment. Numbers of spinelets on each side of posterior margin of terga I-V, ♂ : 3-5, 6-8, 6-8, 8-9 and 6-7 respectively. A patch of 3-6 small setae on the side of tergum IX near the sensillum. Cuticular sculpture of body non-reticulate. Male (figs. 2, 3) : Sternum VIII (fig. 3) similar to that of *D. dirus*. Process of clasper (fig. 2) straight, with fewer small setae than in *D. dirus*. Apex of distal arm of sternum IX (fig. 2) markedly widened, its dorsal margin strongly convex; the ventral row of larger setae interrupted, with a few minute setae in the interspaces. Aedeagal hamulus relatively long and slender, its tapering apex curved upwards. Length : ♂ 3 mm.

**Dinopsyllus (Dinopsyllus) wansoni** BERTEAUX, 1947.

*Dinopsyllus wansoni* BERTEAUX, 1947, Rev. Zool. Bot. Afr., 40 : 99, figs. 4, 5.

Mt Kiurama, 2.100 m, near Mwenda, Ruwenzori Mts, 26.X.1953 (in mountain forest, host unknown), leg. P. VANSCHUYTBROECK & V. HENDRICKX, 2 ♂, 1 ♀ [6120 A].



FIGS. 1-3. — *Dinopsyllus (Dinopsyllus) foedus* n. sp., ♂ holotype.  
1. Preantennal part of head; 2. Segment IX; 3. Sternum VIII.

Hitherto known only from the neighbourhood of Blukwa (Kumu and Mont Wago, Ituri) where specimens were collected from *Rattus natalensis*, *Grammomys dryas*, *Lophuromys aquilus* and *Oenomys hypoxanthus*.

### Subfamily CTENOPHTHALMINAE

***Ctenophthalmus calceatus cabirus* JORDAN & ROTHSCHILD, 1913.**

*Ctenophthalmus cabirus* JORDAN & ROTHSCHILD, 1913, Novit. zool., 20 : 549, figs. 20, 21.

Lusilube river, 1.860 m, near Mwenda, Ruwenzori Mts, 27.VIII.1956 (in mountain forest, host unknown), leg. P. VANSCHUYTBROECK, 1 ♂ [VS 484].

This very common flea of murid rodents in east-central Africa occurs usually at rather low or moderate elevations. For a map showing the distribution of the three subspecies of *C. calceatus* see SMIT, 1964, Parc Nat. Garamba (Mission H. DE SAEGER) 44(2) : fig. 1.

***Ctenophthalmus phyris* JORDAN, 1941.**

*Ctenophthalmus phyris* JORDAN, 1941, Proc. R. Ent. Soc. Lond., (B) 10 : 45, figs. 2, 3.

Kiondo ya Kwanza river, near Kalonge, 2.180 m, Ruwenzori Mts, 2.VIII.1952, (in mountain forest, host unknown), leg. P. VANSCHUYTBROECK & J. KEKENBOSCH, 1 ♀ [634 A].

A parasite of murid rodents (*Lophuromys ansorgei*, *L. aquilus*, *Arvicanthis niloticus*, *Rattus natalensis*, *Dendromus mesomelas*, *Otomys tropicalis*, *Grammomys dryas*, *Oenomys hypoxanthus*, *Pelomys minor*, *Mus bellus*), known from north-east Congo [the region between Bukavu (Kivu), Basoko (Kisangani), Paulis (Haute-Uele) and Logo (Ituri)].

### Family CERATOPHYLLIDAE

***Libyastus hopkinsi* JORDAN, 1943.**

*Libyastus hopkinsi* JORDAN, 1943, Entomologist, 76 : 31, fig. 1.

Mt Ngulingo, 2.500 m, Ruwenzori Mts, 17.IV.1953, from a bird (in mountain forest), leg. P. VANSCHUYTBROECK & J. KEKENBOSCH, 1 ♂ [3140 A]. Kamusonge river, near Kalonge, 1.900 m, Ruwenzori Mts, 10.II.1953, from a bird (in mountain forest), leg. P. VANSCHUYTBROECK & J. KEKENBOSCH, 1 ♂, 1 ♀ [2334 A]. Katauleko river, 2.060 m, near Kalonge, Ruwenzori

Mts, 28.I.1953, from a bird (in mountain rain-forest), leg. P. VANSCHUYT-BROECK & J. KEKENBOSCH, 1 ♀ [2321 A].

Specimens of *Libyastus* (squirrel parasites) are rather infrequently collected from the host animals. However, their apparent rarity may be due to the fact that they are nest-fleas. Examination of nest material of African squirrels may result in good series of the various species as well

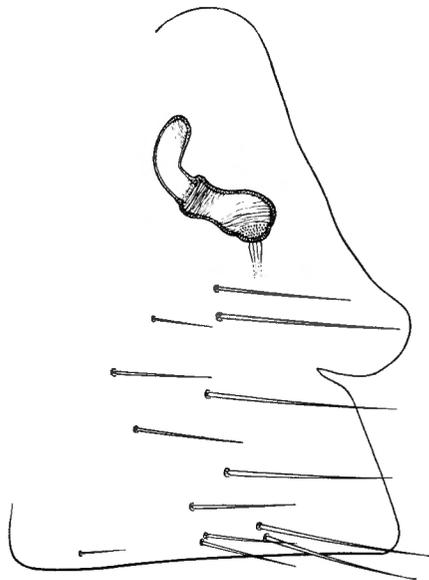


FIG. 4. — *Libyastus hopkinsi* JORDAN.  
Sternum VII and spermatheca (Katauleko river, Ruwenzori Mts).

as new distributional data (see fig. 7). As these fleas occur in arboreal nests it is not surprising that they stray on to birds, as the records in this paper show.

*Libyastus hopkinsi* was hitherto only known from the Butale forest (Kigezi, Uganda) and the Astrida forest (Rwanda). As the position of the spermatheca in the ♀ neallotype, described and figured by BERTEAUX (1947 : 104, fig. 8), is unsatisfactory, a new figure of sternum VII and the spermatheca of the female from Katauleko river is given here (fig. 4).

#### ***Libyastus piger* (JORDAN, 1925).**

*Ceratophyllus piger* JORDAN, 1925, Novit. zool., 32 : 105, figs. 21, 22.

Kamahoro river, 2.040 m, near Kalonge, Ruwenzori Mts, 19.II.1953, from a bird (in mountain rain-forest), leg. P. VANSCHUYT-BROECK & J. KEKENBOSCH, 1 ♂, 1 ♀ [2301 A].

The few specimens which I have seen of this species from the Mabira Forest (Uganda), Kamahoro river, Djugu (Ituri) and Bafwasende (Congo) differ slightly from each other but on the basis of the material available for study it has not been possible to assess the significance of the variation which for the time being is regarded to be of an individual nature.

***Libyastus schoutedeni* BERTEAUX, 1947.**

*Libyastus schoutedeni* BERTEAUX, 1947, Rev. Zool. Bot. Afr., 40 : 102, figs. 6, 7.

Mt Musimba, 2.450 m, Tshiaberimu Mts, 25.IV.1955, from *Phoeniculus bollei jacksoni* (in bamboo forest), leg. P. VANSCHUYTBROECK & R. FONTEYNE, 1 ♂, 1 ♀ [12884 A]. Same locality and date, from rodent No. 1420, leg. P. VANSCHUYTBROECK, 1 ♀ [1774 B].

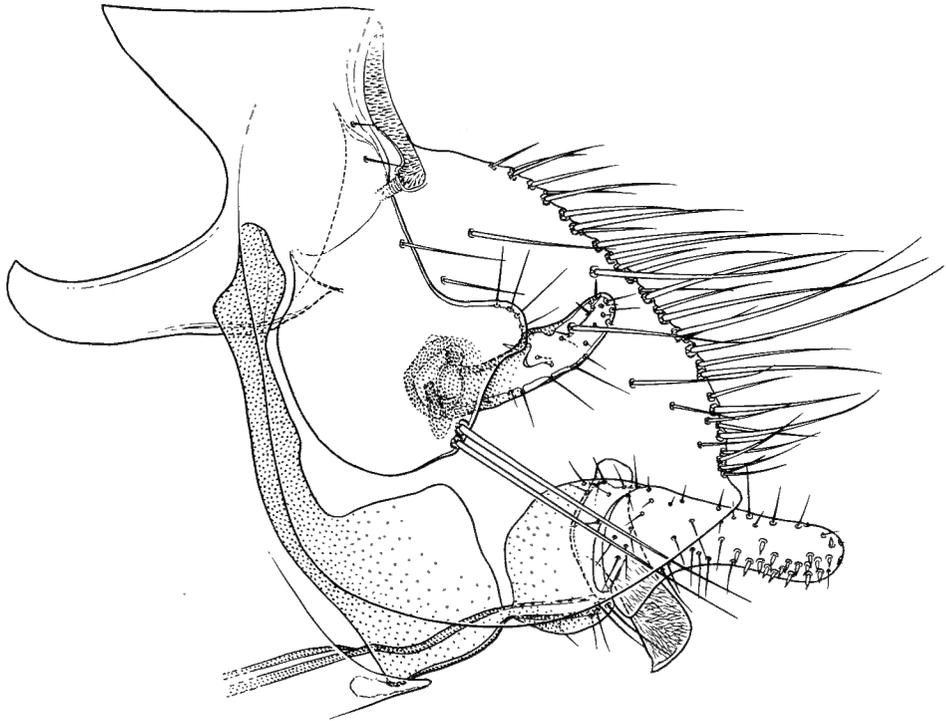


FIG. 5. — *Libyastus schoutedeni* BERTEAUX. Segments VIII and IX of lectotype.

Apart from the type specimens (1 ♂, 3 ♀) from the Astrida forest (Rwanda) and Lulenga (Kivu), no other specimens of this flea — the largest species of *Libyastus* (♂ 4.5-5 mm, ♀ 4.5-6.5 mm) — have been recorded. As the figures accompanying the original description are not

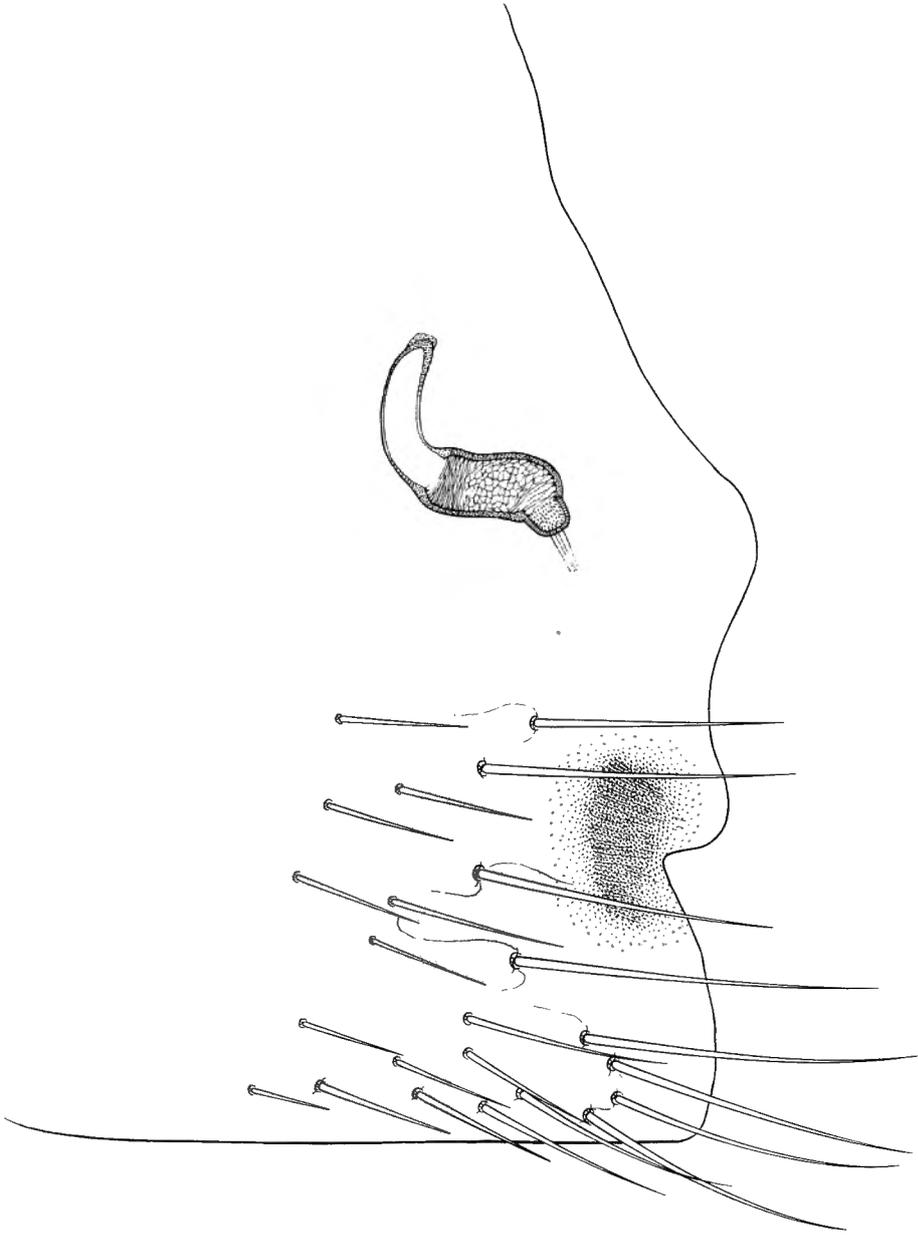


FIG. 6. — *Libyastus schoutedeni* BERTEAUX.  
Sternum VII and spermatheca of lectoallotype.

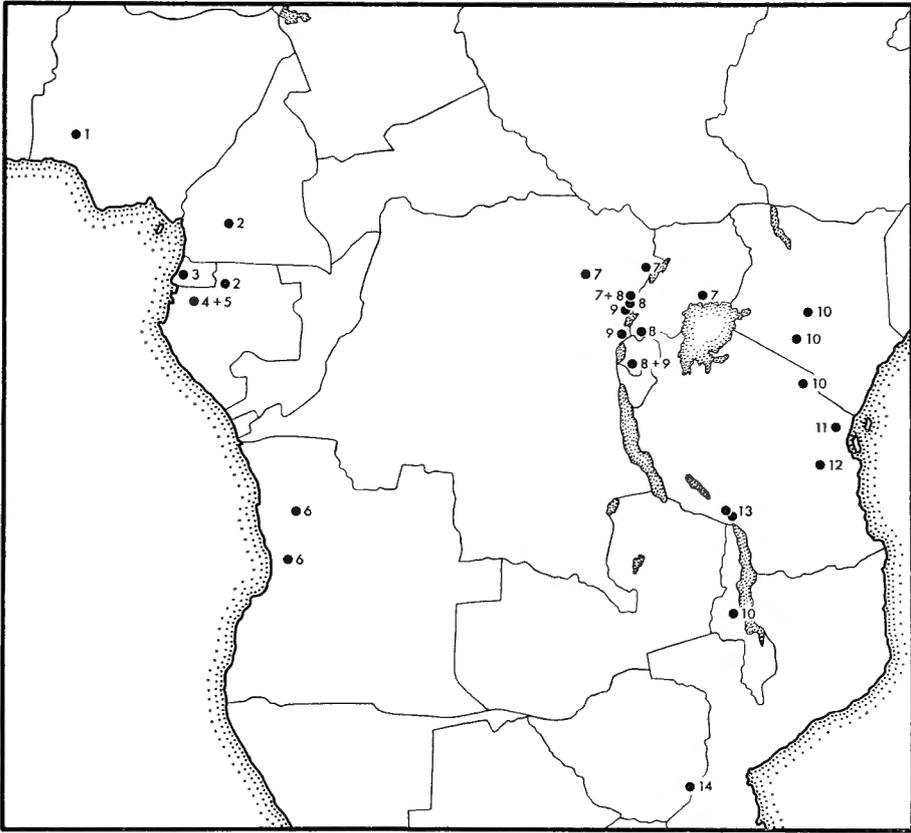


FIG. 7. — Map showing the distribution of the species of *Libyastus*: 1. *cognatus* SMIT, 1958 (Ife); 2. *proximus* SMIT, 1958 (Yaoundé, Bipindi); 3. *stratiotes* (ROTHSCHILD, 1905) (Benito river); 4. *consobrinus* (JORDAN, 1925) (Abanga river); 5. *notabilis* (JORDAN, 1925) (Abanga river, Belinga) (\*); 6. *vates* JORDAN, 1936 [Congulu, N'Dala Tando (=Vila Salazar)]; 7. *piger* (JORDAN, 1925) (Bafwasende, Djugu, Kamahoro, Mabira Forest); 8. *hopkinsi* JORDAN, 1943 (Kamasonge, Mt Ngulingo, Katauleko river, Butale forest, Astrida forest); 9. *schoutedeni* BERTEAUX, 1947 (Mt Musimba, Lulenga, Astrida forest); 10. *infestus* (ROTHSCHILD, 1908) (Mt Kenia, Nairobi, Kibongoto, Nchisi); 11. *wilsoni* HUBBARD, 1963 (Amani); 12. *smitti* JOHNSON, 1957 (Uluguru Mts); 13. *duratus* (JORDAN, 1931) (Madehani, Rungwe Mts); 14. *selindae* DE MEILLON, 1940 (Mt Selinde).

quite satisfactory I avail myself of this opportunity to give new ones (figs. 5, 6) of details of the male (which is hereby selected as lectotype) and of the female (now lectoallotype) from the Astrida forest. I am much indebted to the authorities of the Musée Royal de l'Afrique Centrale, Tervuren, for having enabled me to study the material in their collection.

(\*) *L. dubosti* BEAUCOURNU, 1966, was recently described from Belinga.

The male from Mt Musimba differs slightly from the lectotype (base of apical portion of distal arm of sternum IX narrower and ventral margin of that portion less markedly concave; small ventro-posterior lobe of tergum VIII more pronounced; movable process of clasper a little broader, but this is presumably merely due to the greater degree of flattening); these differences are very likely only individual.

## Family LEPTOPSYLLIDAE

### Subfamily LEPTOPSYLLINAE

**Leptopsylla (Leptopsylla) aethiopica aethiopica** (ROTHSCHILD, 1908).

*Ctenopsyllus aethiopicus* ROTHSCCHILD, 1908, Ent. mon. Mag., 44 : 79.

Kalonge, 2.210 m, Ruwenzori Mts, 18.VIII.1952, from a young rat (in mountain bamboo-forest), P. VANSCHUYTBROECK & J. KEKENBOSCH, 1 ♂, 1 ♀ [112 B].

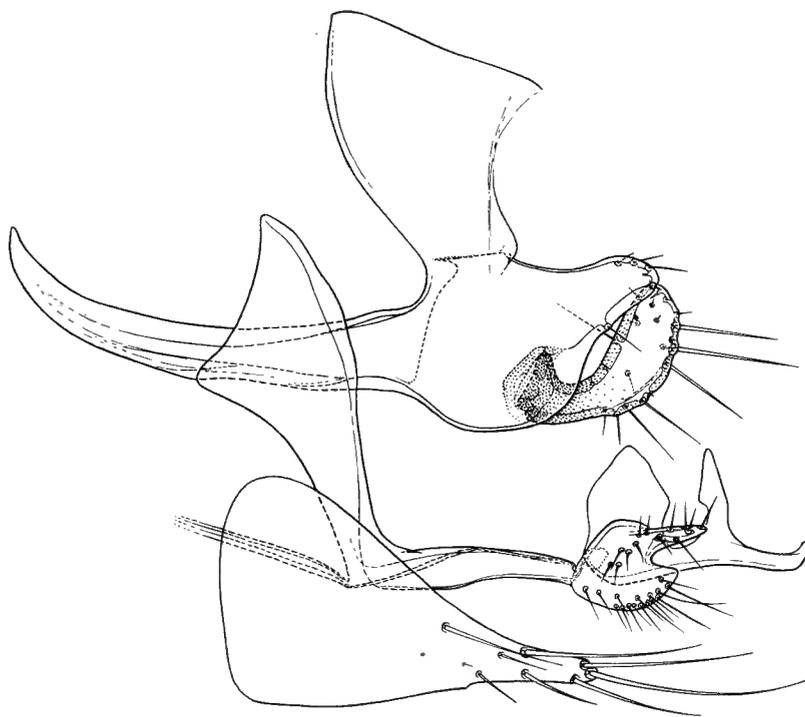


FIG. 8. — *Leptopsylla (Leptopsylla) aethiopica aethiopica* (ROTHSCHILD).  
Sternum VIII, segment IX and aedeagal hamulus of ♂ neallotype.

It should be noted that the original description of this flea has always erroneously been referred to ROTHSCHILD, 1908, *Wiss. Ergebn. Schwed. Zool. Exped. Kilimandjaro* 2(11) : 5, pl. 1, figs. 8, 9, published in May 1908 [cf. *L.c.* 1(1) : 77 (1910)]. The paper referred to above, also containing

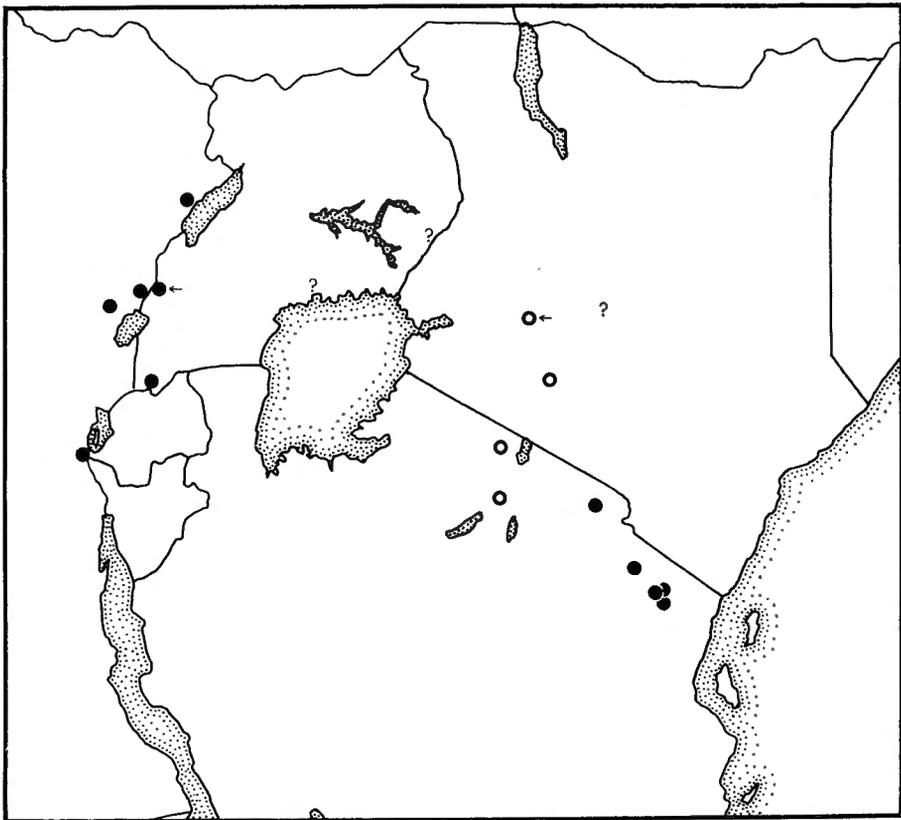


FIG. 9. — Map showing the distribution of ● *Leptopsylla (Leptopsylla) aethiopia aethiopia* (ROTHSCHILD) (Congo : Blukwa, Kalonge, Lubero, Bukavu; Uganda : Mubuku valley, Bufundi; Tanzania : Kibongoto, Suji valley, Chome, Shume, Sunga, Lushoto) and ○ *L. (L.) aethiopia nakuruensis* SMIT (Kenya : Nakuru, Mt Suswa; Tanzania : Olalaa, Ngrongoro). From the localities denoted with a question-mark (Uganda : Kampala, Mt Elgon; Kenya : Mt Kenia) only female specimens have been available for study. The type-localities are indicated with a small arrow.

a description of *aethiopicus*, was issued in April 1908 and has therefore priority. This results in a change in type-material : the former description was based on 2 ♂, 5 ♀ syntypes from Kibonoto (now Kibongoto; in the foothills of the) Kilimanjaro — these seven specimens now have no special status; the latter — valid — description mentions only one female from

Ruwenzori, Uganda, collected from a mouse on 15.I.1906 by A. F. R. WOLLASTON. This female is the holotype of *Ctenopsyllus aethiopicus* ROTHSCHILD, 1908; the specimen was collected in the Mubuku valley on the east side of the Ruwenzori Mts at 6.000 ft or higher (vide R. B. WOOSMAN, 1909, Trans. zool. Soc. Lond., 19(1):5-23, figs. 1, 2).

The three subspecies of *Leptopsylla aethiopica* (*a. aethiopica*, *a. nakuruensis* SMIT, 1951 and *a. thalia* DE MEILLON, 1949; the latter has so far only been found in south Rhodesia and north Transvaal and is left out of consideration here) are indistinguishable in the female. Although the most insufficiently known distribution of the two east African subspecies indicates that the ♀ holotype of *aethiopica* is consubspecific with the former syntypes from Kibongoto, the new material — recorded above — from Kalonge (only about 12 km W.S.W. of the Mubuku valley) confirms the identity of the ♀ holotype. The male from Kalonge is therefore selected here as neallotype of *Leptopsylla aethiopica aethiopica* (ROTHSCHILD, 1908); sternum VIII, segment IX and aedeagal hamulus of the neallotype are shown in fig. 8.

The apparently rather abnormal distribution of *L. a. aethiopica* (markedly disjunct) and *L. a. nakuruensis* (fig. 9) may be due to the fact that presumably no collecting has been carried out in north-western Tanzania and very little at the right time and place in Uganda and Kenya. Moreover, the distribution seems to be governed by altitude requirements as the species has not been encountered at very low altitudes.

## Family ISCHNOPSYLLIDAE

### Subfamily ISCHNOPSYLLINAE

#### **Lagaropsylla consularis** SMIT, 1957.

*Lagaropsylla consularis* SMIT, 1957, Rev. Zool. Bot. Afr., 55 : 167, figs. 13-18.

Bongeya river, 1.980 m, Ruwenzori Mts, 19.XII.1957, from a bat, leg. P. VANSCHUYTBROECK, 1 ♂, 3 ♀ [VS 264].

This specific parasite of bats of the genus *Tadarida* is known from Ethiopia, Uganda, Kenya, Tanzania, Congo, Angola, Moçambique and French Equatorial Africa.

#### **Lagaropsylla idae** SMIT, 1957.

*Lagaropsylla idae* SMIT, 1957, Rev. Zool. Bot. Afr., 55 : 165, figs. 7-12.

Bongeya river, 1.980 m, Ruwenzori Mts, 19.XII.1957, from a bat, leg. P. VANSCHUYTBROECK, 13 ♂, 17 ♀ [VS 264].

A common flea of *Tadarida* in Malawi, Tanzania, Uganda, Congo, Congo Republic, Angola, Central African Republic, Nigeria, Sierra Leone and Dahomey.

Family PULICIDAE

Subfamily ARCHAEOPSYLLINAE

***Ctenocephalides felis strongylus*** (JORDAN, 1925).

*Ctenocephalus felis strongylus* JORDAN, 1925, Novit. zool., 32 : 98.

Kyandolire, 1.750 m, Ruwenzori Mts, 10.X.1952 (in wooded savannah; host unknown), leg. P. VANSCHUYTBROECK & J. KEKENBOSCH, 1 ♂ [3140 A].

An extremely common flea in eastern and central Africa of fairly large mammals, usually carnivores, which do not construct a proper nest.

---

---

## REFERENCES

---

- BERTEAUX, M., 1947, Nouveaux Siphonaptères du Congo belge [*Rev. Zool. Bot. Afr.*, 40(1) : 96-106, figs. 1-9].
- COOREMAN, J., 1951, Suctoria (Aphaniptera) [*Explor. Parc Nat. Albert, Miss. de Witte* (1933-1935), (77) : 7-8, figs. 1-2].
- HOPKINS, G. H. E. & ROTHSCHILD, M., 1953, Cat. ROTHSCHILD, coll. Fleas. I.
- JORDAN, K., 1939, Siphonaptera [*Ruwenzori Exped.*, 1934-1935, London, 3(2) : 41-49, figs. 1-6, Pl. IV].
- ROTHSCHILD, N. C., 1908, Notes on a collection of Siphonaptera from the Ruwenzori, Uganda [*Ent. mon. Mag.*, 44(527) : 76-79, Pl. I, figs. 1-4].
-

## INDEX ALPHABÉTIQUE

### FAMILLES ET SOUS-FAMILLES.

	Pages.
<i>Archaeopsyllinae</i> ... ..	14
<i>Ceratophyllidae</i> ... ..	6
<i>Ctenophthalminae</i> ... ..	6
<i>Dinopsyllinae</i> .. ...	4
<i>Hystrihopsyllidae</i> .. ...	4
<i>Ischnopsyllidae</i> ... ..	13
<i>Ischnopsyllinae</i> ... ..	13
<i>Leptopsyllidae</i> . ...	11
<i>Leptopsyllinae</i> . ...	11
<i>Pulicidae</i> .. ...	14

### GENRES ET SOUS-GENRES.

	Pages.
<i>Ctenocephalides</i> ... ..	14
<i>Ctenophthalmus</i> ... ..	6
<i>Dinopsyllus</i> ... ..	4
<i>Lagaropsylla</i> ... ..	13
<i>Leptopsylla</i> ... ..	11
<i>Libyastus</i> . ... ..	6,7,8

### ESPÈCES ET SOUS-ESPÈCES.

	Pages.
<i>aethiopica aethiopica</i> (ROTHSCHILD) ( <i>Leptopsylla</i> ) ( <i>Leptopsylla</i> ) ... ..	11
<i>calceatus cabirus</i> JORDAN & ROTHSCCHILD ( <i>Ctenophthalmus</i> ) ... ..	6
<i>consularis</i> SMIT ( <i>Lagaropsylla</i> ) ... ..	13
<i>felis strongylus</i> (JORDAN) ( <i>Ctenocephalides</i> ) . ... ..	14
<i>foedus</i> n. sp. ( <i>Dinopsyllus</i> ) ( <i>Dinopsyllus</i> ) ... ..	4
<i>hopkinsi</i> JORDAN ( <i>Libyastus</i> ) ... ..	6
<i>idae</i> SMIT ( <i>Lagaropsylla</i> ) ... ..	13
<i>pyris</i> JORDAN ( <i>Ctenophthalmus</i> ) . ... ..	4
<i>piger</i> (JORDAN) ( <i>Libyastus</i> ) ... ..	7
<i>schoutedeni</i> BERTEAUX ( <i>Libyastus</i> ) ... ..	8
<i>wansoni</i> BERTEAUX ( <i>Dinopsyllus</i> ) ( <i>Dinopsyllus</i> ) ... ..	4