

A note upon two South American Species of Warble-Flies (*Cuterebra apicalis* Guér. and Schmalzi Lutz), Parasites of Rodents.

By

Kai L. Henriksen.†

At his death in 1940 Dr. Henriksen left, among other manuscripts, the following short account which seems to have been written in 1932 and was ready for the press. The accompanying photographs were taken by the late Dr. R. H. Stamm.

The editor.

The Danish collector Johan Mogensen, Tucuman (Argentina) has formerly succeeded in taking interesting material of parasitic Diptera in South America (cf. J. C. Nielsen: *Mydæa anomala* Jeann., a parasite of South-American birds (Vid. Medd. naturh. For. Kbhvn. 1911, p. 197—208) and J. C. Nielsen: On some South-American species of the genus *Mydæa*, parasitic on birds (ibid. 1913, p. 251—256)). When catching small mammals in traps he often found these animals infested by warble-fly maggots; on my request he kindly sent to the Zoological Museum of Copenhagen some material which proved to contain the following two species:

***Cuterebra apicalis* Guér.**

Cuterebra analis Macquart Dipt. Exot. 1843, p. 22.

- *apicalis* Guérin-Mèneville Icon. du Regne Animal. Insectes. 1844, p. 547.
- — Bau Wytmsans Gen. Insect. fasc. 43 1906, p. 25.
- — Lutz Mem. Inst. Oswaldo Cruz IX 1917, p. 97, X 1918, p. 121.
- — Bau Senckenbergiana XI 1929, p. 6.

It is known to occur from Mexico in the north to Southern Brasilia (Santa Catharina) in the south. According to Lutz (l. c.) it infests *Holochilus vulpinus* and possibly also other American Murids.

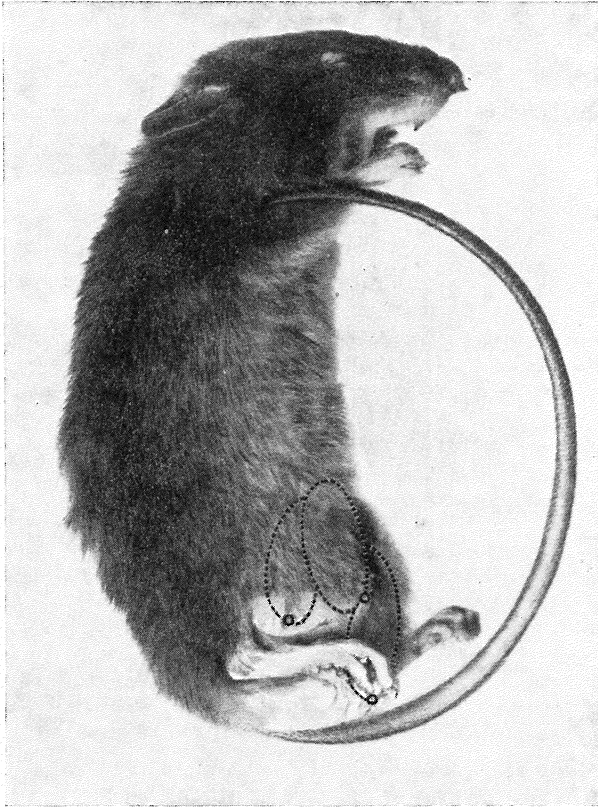


Fig. 1. *Cuterebra apicalis* in a mouse, *Oryzomys flavescens*. The shapes of the larvae outlined.

Mr. Mogensen took a mature warble fly maggot on a dead undetermined mouse caught in a trap in Tucuman (Western Argentina) April 20th 1925. It passed the winter as a puparium, and the adult fly emerged

in October 1925. It proved to be a male *Cuterebra apicalis* Guér.

Mr. Mogensen took another mature maggot under quite identic circumstances (on a dead mouse in a trap in Tucuman) June 6th 1925; the adult fly emerged 5 months later (November 1925); it proved to be a female *Cuterebra apicalis* Guér.

Finally Mr. Mogensen in Tucuman took a living mouse (*Oryzomys flavescens* Waterh.) infested by several, external as well as internal, parasites. In the fur of

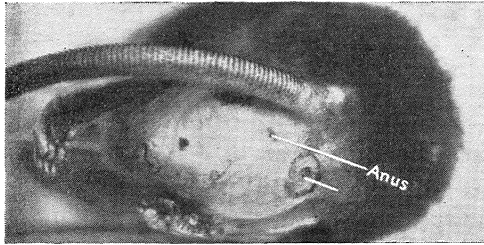


Fig. 2. The same as Fig. 1 showing the anus and the warbles with the openings.

the mouse different parasites were found, viz. fleas (*Craniopsylla wolffhegeli* Roths. 2 specimens, and *Craniopsylla sp.* (with 5 genal spines, but perhaps not identic with *minerva* Roths.) 5 specimens), Hippoboscids (*Hippobosca sp.* 3 specimens), and mites (*Liponyssus sp.* 3 specimens). The mouse was moreover infested by 4 *Cuterebra* maggots in different stages of development, 3 being rather near pupation, the one however obviously younger. The biggest larva measured 25 mm. The shape of the spiracles are drawn in figs. 3—4. All the larvae were found in the hindmost, thin-haired part of the belly, near and below the anus (see figs. 1—2). As the maggots were in the 3rd stage an opening which was more distinct and larger than the anus was seen in each of the warbles.

The empty puparia show very plainly the generic characters of *Cuterebra*: the surface apparently covered with scales, large conical protuberances present on the sides of the segments, forming together 3 longitudinal rows on either side of the body, and finally a small, but distinct, retractile terminal segment.

According to the information given in a letter from Mr. Mogensen the maggots cause a violent itch in the

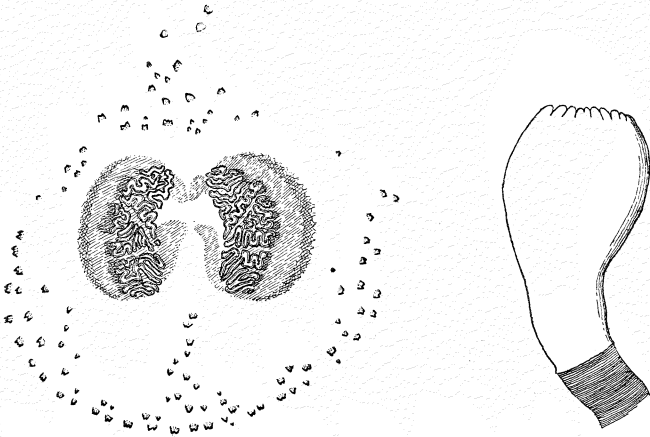


Fig. 3—4. *Cuterebra apicalis*, larva. Shape of the spiracles. To the left the posterior spiracles, to the right one of the anterior spiracles.

warbles. The mouse is seen scraping, biting and licking itself, thereby giving rise to bare spots on the skin. Mr. Mogensen once caught a mouse in which the peritoneum and part of the intestine were quite green coloured. If many maggots are present the mouse will die.

***Cuterebra Schmalzi* Lutz.**

Cuterebra Schmalzi Lutz Mem. Inst. Oswaldo Cruz IX 1917, p. 100,
X 1918, p. 124.

— — Bau Senckenbergiana XI 1929, p. 7.

This species was described from 2 specimens caught

in Joinville in Santa Catharina (Southern Brazil). The host has not been known.

Mr. Mogensen caught an undetermined rat in a trap in the virgin forest at Alto Parana, Misiones (Eastern Argentina) on November 19th 1925. It was infested by 2 mature Cuterebrid larvae in warbles on its back; the larvae measured 40 mm. The maggots were removed and put into a box with earth, into which they buried

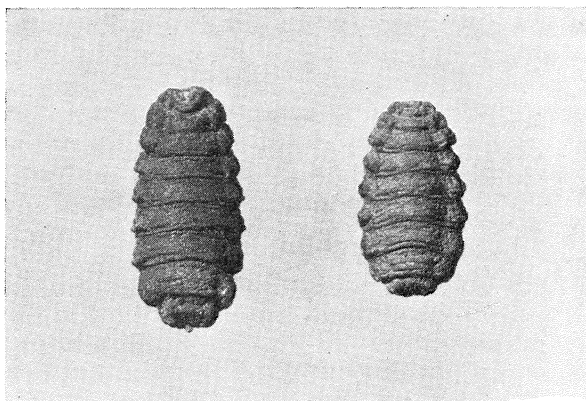


Fig. 5. *Cuterebra Schmalzi*. Puparia.

and pupated. One of them emerged on December 25th 1925 — the pupal stage having lasted only 1 month — while the other specimen had died and was decaying.

The reared adult was rather damaged and mouldy when I received it. It could, however, be recognized as a specimen of *Cuterebra Schmalzi* Lutz, only differing from the description by Lutz as to the pilosity of the 1st abdominal segment: the median upper part of the 1st tergite being black-haired, the lateral parts golden yellowish-haired and the lower part black-haired, and scutellum is obviously more reddish coloured than scutum in front of it.

Also the puparium of this species (fig. 5) is a typical *Cuterebra*-puparium; it differs from that of the preceding species only in colour (the *analisis*-puparium is blackish brown, the *rufiventris*-puparium more reddish brown), and in size, being a little larger.

As to the geographical distribution Mr. Mogensen remarks that he dare not deny the possibility of the occurrence of *apicalis* (which was taken in Tucuman, i. e. West Argentina) also in Misiones — and a comparison with the remarks above on the geographical distribution as hitherto known makes an occurrence here much probable; but he feels rather sure that *Schmalzi* (which was taken in Misiones, i. e. East Argentina) does not occur in Tucuman in West Argentina, his other collecting field. — This also agrees well with the former record of this rare species only from Santa Catharina.

Mr. Mogensen further remarks, that as the flies are active by day, and the rats at that time hide themselves in their dens, the flies consequently must pursue them into their burrows; this explains why the warbles are generally placed on the hindmost parts of their bodies, especially on the thighs and the back, and sometimes also on the belly between the hind legs.
