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Miscellanea.

An Illustration of the Appearance Presented by Trypanosome Colonies Occurring on the Proboscis and in the Salivary Glands of a Tsetse-Fly.

By ERIC BURTT, D. Sc., D. I. C.

Research Officer of the East African Tsetse Research Organisation.

During 1937 I dissected large numbers of wild *Glossina brevipalpis* near Amani, Tanganyika Territory. The results are already recorded (1942). The method of dissection used for extraction of the salivary glands was to pin the lightly chloroformed flies into a dish containing normal saline as described in a previous note (1936). Slight pressure was applied to the cover-slip so as somewhat to splay out the proboscis sclerites. Many of the flies carried double infections—i.e. there were trypanosome colonies on the labrum as well as in the salivary glands. I drew such a preparation as it appeared when viewed under the low power of the Baker microscope I was using. Typically both glands were equally and heavily infected, but in my drawing I depicted one gland as uninfected for comparison. The original drawing is lost, but I still have a photographic copy which Prof. *R. Geigy* of the Swiss Tropical Institute, suggested ought to be published, as this theme does not appear to have been so fully illustrated elsewhere.

Explanation of the Figure.

This figure shows, from the ventral aspect, the proboscis and attached salivary glands of a wild *G. brevipalpis*. It is drawn to convey the dimensions presented to the eye when viewed under the low power of the microscope in the course of tsetse dissections made near Amani. The parts are shown flattened and somewhat distorted through pressure having been applied to the cover-slip. The example portrayed bore a double infection of *T. vivax* (probably) on the labrum, together with one of *T. brucei* in the salivary gland on the left. Such a unilateral infection was of comparatively rare occurrence. Usually both glands were infected equally. That on the right has been shown in the uninfected condition chiefly for purposes of comparison. Note the heavily blackened appearance of the infected gland which was typical of these infections in *G. brevipalpis* in the Amina area. This probably indicated an old stage. In a proportion the glands were colourless and had a dull-opalescent, fine-grained appearance. These probably represented earlier stages. The inner limiting layer of cells in a uninfected gland is clearly marked and, when examined in optical section, presents the appearance shown in the gland on the right. Infected glands were usually immediately recognisable since this limiting layer was no longer in evidence.

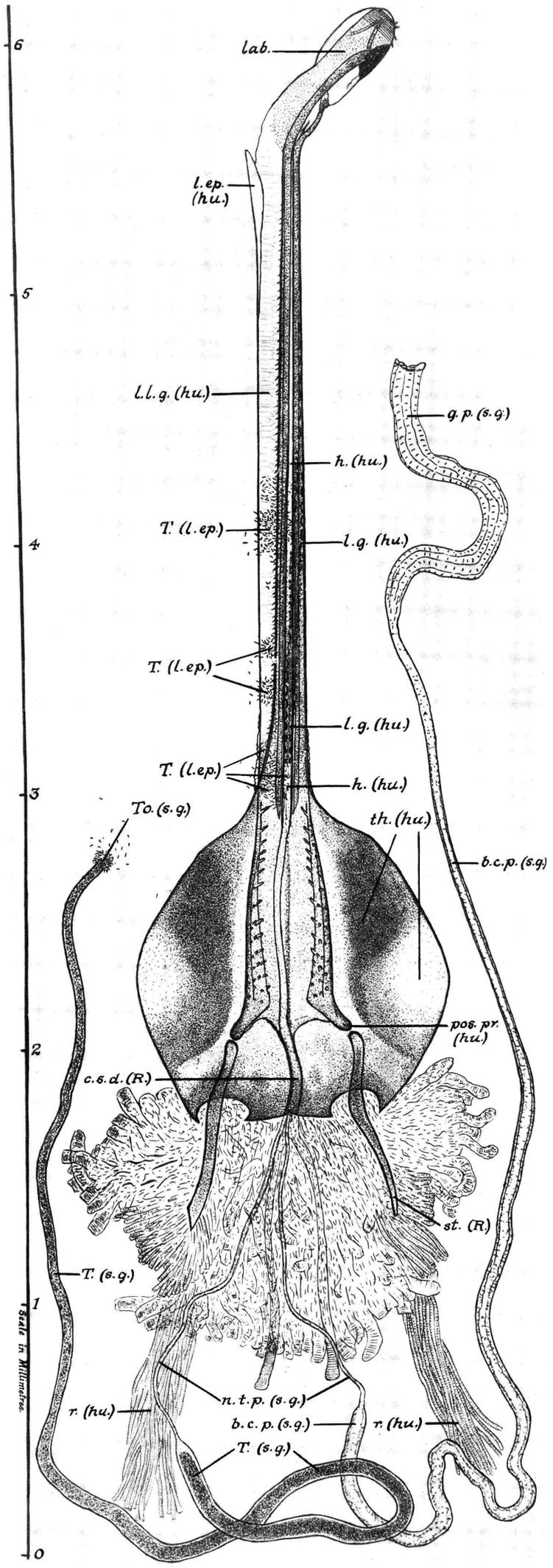
Explanation of Symbols.

- b. c. p. Broader cellular portion of salivary gland.
 c. s. d. Common salivary duct.
 g. p. Proximal end of glandular portion of salivary gland.
 n. Hypopharynx.
 (hu.) Belonging to the haustellum.
 lab. Labella.
 l. ep. Labrum-epipharynx.
 l. g. Labial gutter.
 l. l. g. Lateral part of labial gutter.
 n. t. p. Narrow, tubular portion of salivary gland.
 pos. pr. Posterior process of labrum.
 (R.) Belonging to the rostrum.
 r. Retractor muscle of haustellum.
 (s. g.) Belonging to the salivary gland.
 st. Stipite.
 th. Theca.
 I. (l. ep.) Colonies of trypanosomes on the ventral surface of the labrum-epipharynx seen through the transparent chitin of the lateral part of the labial gutter (above) as well as through the chitin of the theca and hypopharynx (below).
 T. (s. g.) Trypanosomes in the salivary glands.
 To. (s. g.) Trypanosomes escaping from the cut end of an infected salivary gland.

The tsetse terminology follows that used by *Jobling* (1933).

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lab.

l.ep.
(hu.)

l.l.g. (hu.)

h. (hu.)

g.p. (s.g.)

T. (l.ep.)

l.g. (hu.)

T. (l.ep.)

l.g. (hu.)

T. (l.ep.)

h. (hu.)

th. (hu.)

b.c.p. (s.g.)

To. (s.g.)

pos. pr.
(hu.)

c.s.d. (R.)

st. (R.)

T. (s.g.)

Scale in Millimetres

r. (hu.)

n.t.p. (s.g.)

b.c.p. (s.g.)

r. (hu.)

T. (s.g.)

0

1

2

3

4

5

6

