Oestrus dubitatus n. sp. from the Nasal Cavities of the Blue Wildebeest (*Connochaetes taurinus* Burchell, 1823) in the Etosha National Park, South West Africa

by
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ABSTRACT

During a survey of nasal larvae an unidentified third instar was found in the nasal cavities of a blue wildebeest. It was characterized by heavy dorsal and ventral spinulation and is introduced as a new species *Oestrus dubitatus*.

INTRODUCTION

Larvae of six different species of nasal flies (Oestridae) viz.

Oestrus aureoargentatus Rodhain and Bequaert (1912),

O. variolosus (Loew, 1863),

O. macdonaldi Gedoelst (1912),

Kirkioestrus minutus (Rodhain and Bequaert, 1915),

Gedoelstia cristata Rodhain and Bequaert (1913).

G. haessleri Gedoelst (1915) and *Gedoelstia* hybrids (Basson, Zumpt and Bauristhene, 1963) are known to occur in the nasal cavities and paranasal sinuses of the blue wildebeest. The first stage larvae of all *Gedoelstia* spp. are present also in the cardiovascular system and those of *G. haessleri* constantly in the subdural cavity of this antelope (Basson, 1962). The insects deposit their larvae within the external nares, but those of *Gedoelstia* spp. were sometimes found to be deposited intraocularly. It is not known, however, whether this is a normal or an aberrant behaviour, but the eyes of unnatural hosts like sheep are often attacked. In such cases serious and fatal lesions are frequently caused in the heart and brain by migratory larvae.

MATERIALS AND METHODS

While carrying out investigations on gedoelstial myiasis in domestic animals and antelopes, many larvae were collected from various animals especially blue wildebeest. During these surveys and collections two strange third instar larvae were encountered in a blue wildebeest from Ovamboland in South West Africa in 1958. These larvae differed from all the others by their motility, the presence of dorsal denticles on most of the segments and the heavy ventral spinulation. Both larvae were saved for pupation, but neither pupated and they were consequently lost for detailed microscopical studies and identification. Subsequently specific examinations were conducted on at least ten blue wildebeest in this area and the Etosha National Park. It proved to be successful only in one case and the larva was preserved and forms the specimen on which the description is based.

Oestrus dubitatus n. sp.

Only one specimen of the 3rd instar larva was recovered from one antelope in the Etosha National Park on 28 July, 1967. Fully extended, it measured 28 mm in length and judging from the deep black and thickly sclerotized peritremal plates, it seemed to be fully grown and ripe for pupation.

The single specimen has not been dissected, but kept and preserved in toto. The description is therefore based on the externally visible features.

The barrel-shaped larva is composed of twelve segments, the first two being nearly completely fused. It is of a light yellow colour, without blackish markings on the dorsum. Antennal lobes each with two ocelli. Mouth hooks (labial sclerites) well developed and protruding. Second segment dorsally at the anterior margin with a double irregular row of relatively strong denticles, and ventrally two irregular rows of much smaller denticles are also detectable at the anterior margin. Segments III to XII ventrally each with transverse bands of dense and large denticles which are fairly irregularly placed, but 3 to 4 rows may be counted on segments III, IV, XI and XII, whereas the spinulose bands of segments V to X are composed of 5 rows. On the dorsal side, complete transverse bands are present on segments III to X and consist of two to three irregular rows of strong denticles, on segment XI only laterally is a patch of a few denticles visible. The posterior peritremal plates are rounded triangular, a vertical suture is not present, but may exist in younger specimens of the third instar. The post-anal bulge bears 17 large spines and 2 minute, not fully-developed ones. This number is certainly variable to a certain degree. Lateral humps are well developed. The preanal bulge is bare.

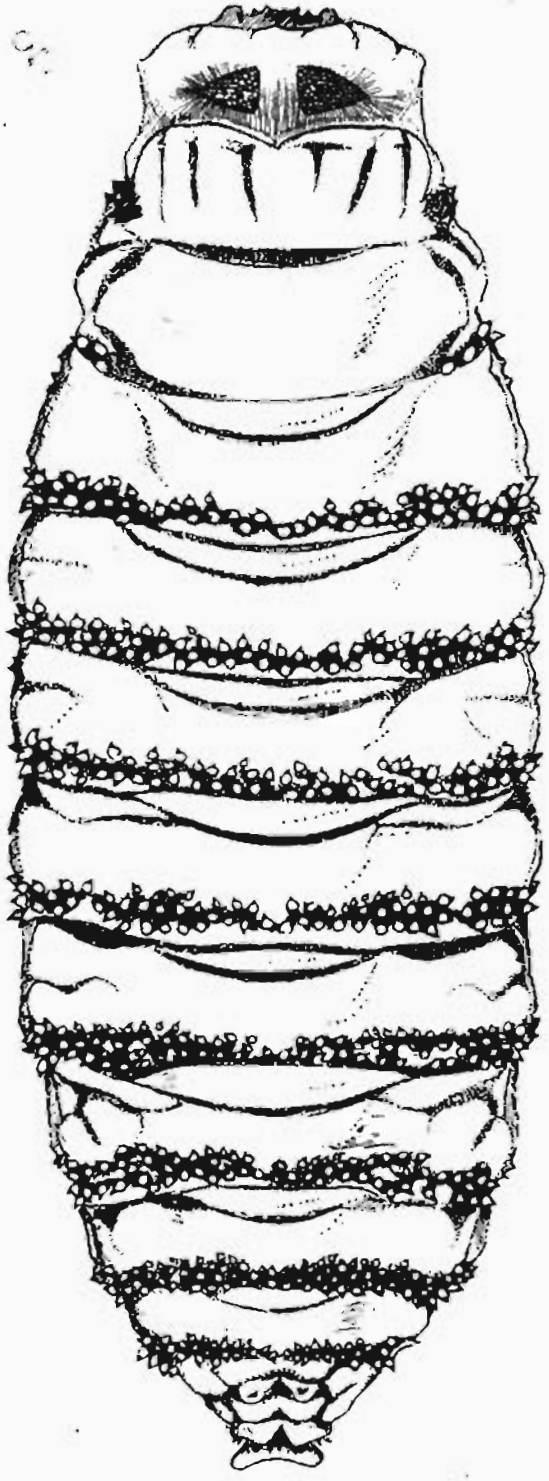

Figure 1. Third instar larva of *Oestrus dubitatus* n. sp. in dorsal view.

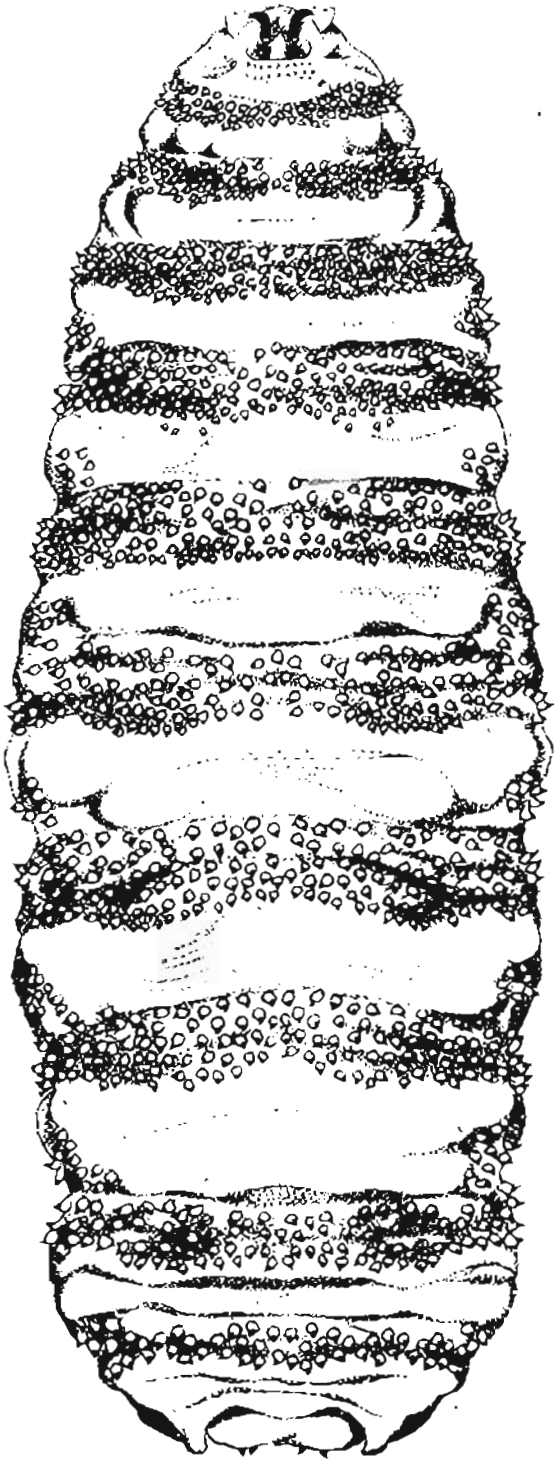

Figure 2. Third instar larva of *Oestrus dubitatus* n. sp. in ventral view.

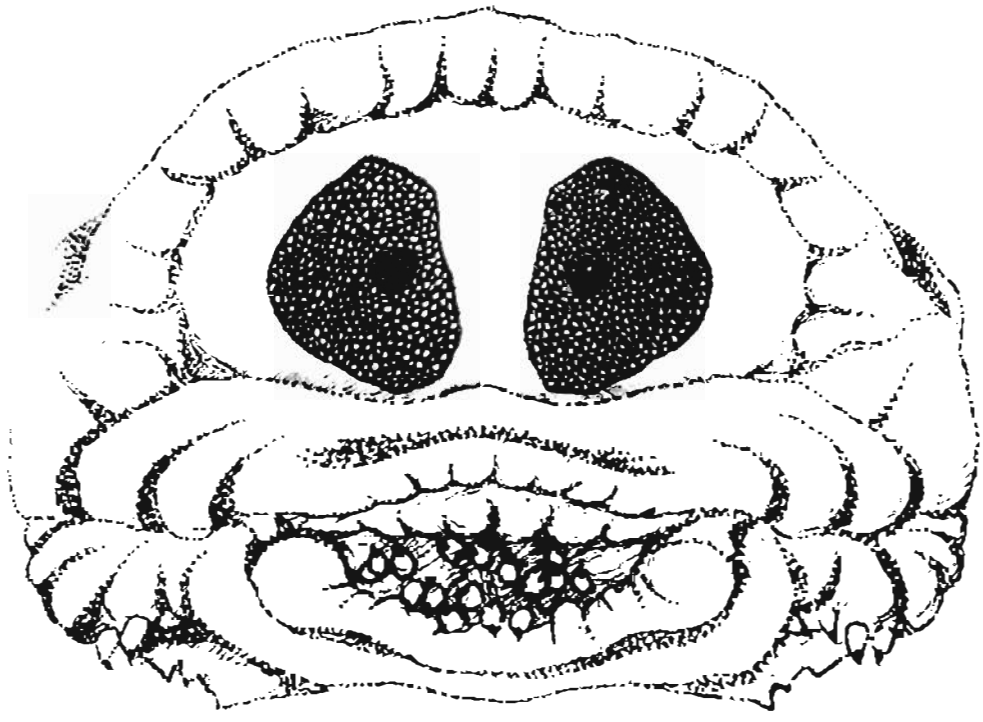

Figure 3. Posterior view of the 3rd. instar larva of *Oestrus dubitatus* n. sp.

The only known specimen, representing the holotype, is preserved in the collection of the South African Institute for Medical Research, Johannesburg.

DISCUSSION

In the key to the dipterous larvae found in head cavities given by Zumpt (1965), the larva belongs to the genus *Oestrus* Linnaeus, but it is quite different and not related to any of the *Oestrus* larvae described so far, and due to the heavy spinulation on the ventral as well as the dorsal side, this type of larva may even represent a new genus. However, this conclusion can only be finalised when the adult fly has been reared which may differ from a typical *Oestrus* even more than the larva does. So far, this single 3rd instar larva may be regarded as the representative of a new *Oestrus* species and introduced into science as *Oestrus dubitatus n. sp.*

SUMMARY

The external morphological features of an unknown oestrid larva from a blue wildebeest in the Etosha National Park in South West Africa are given and it is introduced as *Oestrus dubitatus n. sp.*

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