Proceedings of the Iowa Academy of Science

Volume 46 | Annual Issue Article 139

1939

A Study of Trichomonas Columbae

Margaret Stiles
Drake University

A STUDY OF TRICHOMONAS COLUMBAE

MARGARET STILES

Two varieties of *Trichomonas columbae* have been observed infecting the buccal and pharyngeal cavities of the common homing pigeon. A study was made of the morphology of each variety, the reproduction, and the pathogenicity in pigeons and developing chicks.

Variety A differs from variety B in that it has an average size of 15 microns in length by 6 microns in diameter, while variety B has an average size of 9 microns in length by 6 microns in diameter. The rate of locomotion of variety A is slightly more rapid than that of variety B. Varieties A and B possess four free anterior flagella of about body length; a large parabasal body, one-third to one-half of body length and 2-4 microns wide; a narrow chromatic basal rod of two thirds body length; and an axostyle which extends posteriorly, and protrudes beyond the end of the organism from to thirds of the body length to the entire body length. The axostyle in variety A is often bent anteriorly and is much more flexible than the axostyle in variety B, which is always extended rigidly posteriorly. All of the above organelles arise from the anterior blepharoplast situated approximately 2 microns from the anterior tip of the organism. A second blepharoplast is found posterior and to one side of the first. The undulating membrane arises from the second blepharoplast and extends along the side of the organisms for about two thirds of the body length in both varieties. A spherical nucleus, 2-3 microns in diameter is slightly posterior to the second blepharoplast to which it is connected by a rhizoplast, and is often hidden by the darkly stained parabasal body. Reproduction by longitudinal fission was observed. Formation of cysts has also been observed.

No pathogenic effects were observed in either adult or squab pigeons. Chicks, artificially infected, show no pathogenic effects and the Trichomonads were not found in any of the chicks studied after they had atained the age of 10 weeks.

DRAKE UNIVERSITY,
DES MOINES, IOWA.