phasis will appear to be placed on inspection, the limitations of which have in very recent years been recognized.

The book is remarkably free from grammatical and typographical error. Furthermore, the good quality of paper, the large bold type and the pleasing cover should make the book a welcome addition to the library of the dairyman, dairy inspector, milk examiner, milk distributer, public health official and others who are at all interested in the field which the author has covered.

Leo F. Rettger

SPECIAL ARTICLES

THE OVIPOSITION HABIT OF GASTROPHILUS NASALIS L.

In a short article recently published in the *Canadian Entomologist,* Vol. L., No. 7, July, 1918, pp. 246–248, entitled "Note on Oviposition of *Gasterophilus nasalis* L.," Dr. C. H. T. Townsend makes the statement that he has observed this species darting at the muzzle of a horse, leaving "whitish eggs with their sharp bases penetrating and adhering in the skin of the upper lip." Unfortunately for the proof of this observation the eggs were lost, but the author states that similar eggs were dissected from the abdomen of the fly. In the same note the author remarks that the egg of *nasalis* "is practically the same size and shape as that of *intestinalis* and that by reason of the moderately pointed anal end it is capable of penetrating tender skin." Dr. Townsend concludes that the attachment of the eggs of *nasalis* to the hairs of the host only happens inadvertently when the fly misses its true mark, namely, the tender skin of the lips.

It is not unlikely that Dr. Townsend may be capable of distinguishing the eggs of *G. hæmorrhoidalis* from those of the other two species by reason of its black color, but it is rather unfortunate that he should say that the egg of *G. nasalis* is of the same size and shape as that of *G. intestinalis.* The eggs are absolutely distinct both as regards shape and attachment to the hair, and the egg of *G. nasalis* is certainly not adapted for the penetration of the host's skin.

Far from the deposition of the eggs of *G. nasalis* on the hairs of the throat being accidental, it has been my experience that this is almost invariable. Occasionally, as many as six to eight eggs have been found on a single hair. The adult fly so far as I am aware, has never been seen to strike at the lips but always at the hairs of the skin between the mandibles and sometimes on the hairs of the cheek.

The eggs of all three species are transversely striated, a fact to which Dr. Townsend probably refers when he remarks on the transversely corrugated structure of the chorion of the egg of *G. nasalis.* But to add that these striations in the case of the latter egg serve to retain the egg in the skin after it is inserted is purely fictitious. It is undoubtedly true that the stalked egg of *G. hæmorrhoidalis* which is invariably found attached to the short hairs of the lips, often appears to penetrate the skin. Repeated examination has shown, however, that the clasping stalk may sometimes enter the hair follicle and thus give the impression that it is actually inserted in the skin.

In summing up, it is my opinion that Dr. Townsend has conceived of his ideas from observations that are quite inaccurate and that in a more detailed study of the habits of botflies he would find *nasalis* never "strikes" at the lips of the horse, and certainly in my experience it has never been known to oviposit there.

A. E. Cameron
University of Saskatchewan

SCIENCE

A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science

Published every Friday by

THE SCIENCE PRESS

LANCASTER, PA. GARRISON, N. Y.

NEW YORK, N. Y.

Entered in the post-office at Lancaster, Pa., as second class matter