

Brief Communication

OBSERVATIONS OF 1st INSTAR LARVAE OF NOSTRIL FLY (CEPHENOMYIA TROMPE L.) IN THE EYE OF REINDEER AND THEIR RELATION TO KERATITIS IN THIS ANIMAL

Keratitis in reindeer (*Bergman* 1912) appears during the summer season, sometimes in the late spring but more frequently in the height of the summer, rather regularly in parts of the reindeer herding areas in the northern parts of Scandinavia, USSR, and North America.

Outbreaks of the disease are often seen in connection with changes in the weather from cold to heat and sunshine. Primarily calves are affected.

In connection with a field study in July 1969 the following observations were made.

Two different initial clinical stages of the disease were found, one of them beginning with a diffuse opacity of the cornea, the other one beginning with a central greyish swelling of the cornea, rather often combined with an ulcer. Both these forms usually lead to the cornea becoming entirely covered by a greyish membrane which grows thicker during the progress of the disease.

In a rather early phase of the disease the animal is totally blind in the affected eye. Keratitis may appear in one or both eyes, the former case being slightly predominant.

The morbidity rate is definitely higher in more densely gathered herds in which about 30 % of the fawns may be affected only a couple of weeks after the appearance of the first cases. In small and scattered herds the morbidity rate is seldom above the 1 % level.

Bacteriological, virological and parasitological investigations were performed on material from 31 cases sent to the institute.

At bacteriological investigations no specific infection was found and, in several cases, not even growth of bacteriae. Thus, bacterial infection may be excluded as the cause of this type of keratitis.

Attempts at isolating virus or Miyagawanella have so far been unsuccessful.

In about 25 % of 90 examined animals suffering from keratitis small parasites were observed in the affected eyes. They were hardly 1 mm of length and appeared white in the light of a lamp. They were moving rather fast across the cornea and in the conjunctival sac.

In two cases parasites have been identified in a laboratory examination as the 1st instar larvae of the nostril fly (*Cephenomyia trompe* L.). According to *Bergman* (1916, 1917) the nasal cavities are their natural residence of development. Appearance in the eye of reindeer has not previously been reported. Direct deposition or migration through the lacrimal duct are conceivable ways for the larvae to reach the eye.

No larvae were found in eyes of 20 calves unaffected by keratitis.

The presence of these larvae in the eyes of calves affected by keratitis means that the larvae must be considered as a possible etiological factor of the disease.

The larvae may act mechanically on the cornea by means of their hooks, or chemically by their excretion or the fluid in which they are deposited, but they may also act as the vector of a possible virus infection.

The investigations are being continued.

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(Received June 15, 1970).

