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Elaeophora poeli (NEMATODA: FILARIOIDEA) IN AFRICAN BUFFALO IN UGANDA, EAST AFRICA

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Abstract: One hundred and thirteen African buffalo, *Syncerus caffer*, from two areas of Uganda were examined for *Elaeophora poeli*. The parasite was not found in 69 buffalo from the West Acholi District but was present in the aorta of 6 (14%) of 44 buffalo from the Queen Elizabeth Park. It was also found on the surface of the heart of a seventh animal. The gross appearance of the seven infections are described and illustrated. Male buffalo over 5 years of age were most frequently infected.

INTRODUCTION

Elaeophora poeli (Vryburg, 1879) Railliet and Henry, 1912 has long been known from the aorta of the water buffalo *Buffalus bubalus* and the zebu *Bos indicus* in Malaysia. Sandground^{2,3} first reported it from the African buffalo in the Katanga province of the former Belgian Congo where one of three buffalo examined was infected. The only other known records of *E. poeli* in Africa are those of Dinnick *et al.*¹ who found it in western Uganda in "many" of the buffalo shot in the Queen Elizabeth Park and its vicinity, and Crawford (personal communication) who found it in all (seven) old male buffalo collected near the Queen Elizabeth Park in 1967.

During 1965-67 several hundred African buffalo were cropped in two areas of Uganda as part of a game cropping project or for scientific purposes. One hundred and thirteen were examined for *E. poeli*.

METHODS

Examination consisted of longitudinally incising the dorsal aorta in the region of the systemic arch and laying it open for visual inspection.

RESULTS

The aorta of 69 buffalo from the West Acholi District and 44 buffalo from the Queen Elizabeth Park were examined.

E. poeli was not found in the buffalo from the West Acholi study area.

Six (14%) of the 44 aortae of buffalo from the Queen Elizabeth Park contained *E. poeli*. Four of these infections consisted of a single female with its anterior end embedded in a pea-sized nodule attached to the wall of the aorta (as in Fig. 1, left). The fifth consisted of two females of which one was embedded in a nodule (Fig. 1, left) and the other, possibly only recently established, was attached to a depression in the aorta wall (Fig. 1, right). The sixth infection consisted of a nodule only. A single male nematode was found in each of two nodules from which the female had been dissected.

In addition to these six infections of the aorta, a seventh animal had an infection consisting of two small female *E. poeli* attached to a nodule on the epicardium and hanging in the pericardial space (Fig. 2).

The distribution of *E. poeli* in the sample of the buffalo population of Queen Elizabeth Park, according to host sex and age, is as follows: Four (31%) of 13 male buffalo were infected whereas only three (10%) of 31 females were

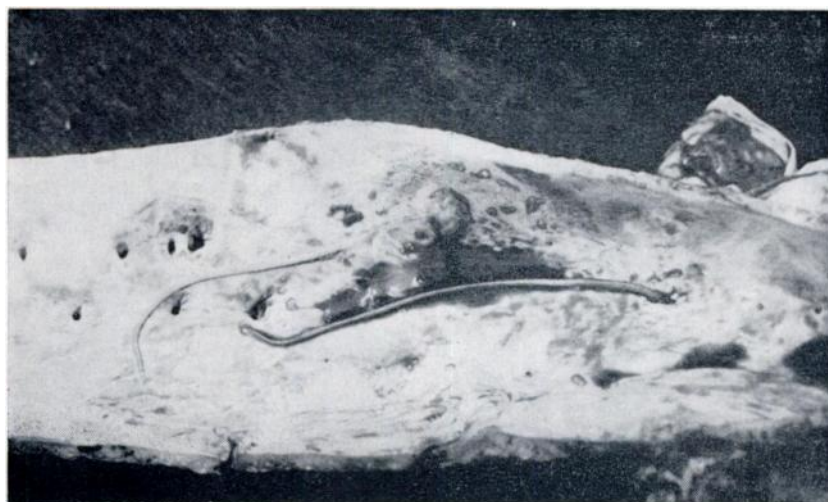


FIGURE 1. Buffalo aorta laid open showing established female *Elaeophora poeli* (left) with anterior and embedded in nodular lesion. Absence of nodular lesion at point of attachment of other female (right) probably indicates recent attachment.



FIGURE 2. Two small female *Elaeophora poeli* embedded in nodular lesion on epicardium.

infected. Four (18%) of 22 animals less than 6 years of age were infected and three (14%) of 22 older animals were infected. One of four young males and three of 18 young females were infected. Three of nine old males were infected whereas none of 13 old females was infected.

DISCUSSION

This is apparently the first report of *E. poeli* on the heart.

The occurrence of *E. poeli* in 16% of the buffalo examined in Queen Elizabeth Park is in contrast to its absence in West Acholi District. Perhaps the vector is absent or rare in the latter area. The two study areas differ markedly with regard to vegetation and topography. Also, whereas buffalo density in the West Acholi study area is approximately 5 per square mile, it averages 27 per square mile in the Queen Elizabeth Park.

The prevalence of *E. poeli* in old male buffalo suggests that this age and sex group may be more exposed to infection

than other buffalo. Old male buffalo leave the large breeding herds and form "bachelor-herds" of up to about 10 animals. These small groups are normally quite sedentary and frequently restrict their movements to a stream valley or the vicinity of waterholes. Possibly the type of habitat chosen by these animals coincides with the preferred habitat of the vector.

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