

Table 1. FREQUENCY OF OVULATION BETWEEN RIGHT AND LEFT OVARIES; NUMBER OF COTYLEDONS IN GRAVID AND NON-GRAVID UTERINE HORNS IN UGANDA KOB, *Adenota kob thomasi* (P. L. SCLATER)

Phase of reproduction	No. of animals	Site of implantation		Larger ovary		Mean No. of cotyledons (range in parentheses)	
		Right	Left	Right	Left	Right horn (Gravid)	Left horn (Non-gravid)
Pregnant	116	116	0	57	59	14.0 (8-20)	7.6 (3-12)
Non-pregnant (lactating)	39	39	0	18	21	15.0 (10-21)	7.2 (5-10)
Non-pregnant (non-lactating)	5	5	0	2	3	15.0 (13-16)	7.0 (6-8)
Total	160	160	0	77	83	14.9 (8-21)	7.4 (3-12)

implantation appears to be a phenomenon that is unique in the Uganda kob. Since about 50 per cent of the ova are released from the left ovary, trans-uterine migration of the ovum or embryo must occur. This does not preclude the possibility of trans-peritoneal migration of the ova, although this route seems less likely. Trans-uterine migration has been recorded in the mink, *Mustela vison* Schreber⁴; the raccoon, *Procyon lotor* (L.)⁵; and the skunk, *Mephitis mephitis nigra* (Peale and Palisot de Beauvois)⁶. In sows, Hafez⁷ found 41 per cent migration of ova on the basis of excess of ovulation sites over the number of implantations in the corresponding uterine horn. The physiological significance of unilateral implantation is not understood. E. M. Amoroso (personal communication) has shown that the distal portion of the uterus in the cat is more favourable for implantation than the proximal end. Possibly the endometrium of the right uterine horn provides the most favourable site for implantation in the Uganda kob.

One case (No. 47) of twins was discovered by W. O. Pridham, game ranger, Uganda Department of Game and Fisheries, immediately after parturition. Although the fawns (1 male and 1 female) were fully haired and approached mean parturition weight, they were dead. The female was shot while the extra-embryonic membranes were still retained in the uterus. At autopsy it was found that both fetuses had been in the right horn of the uterus, and two corpora lutea were present in the right ovary.

The results presented here were obtained during a Fulbright appointment to Uganda. I am indebted to Prof. E. M. Amoroso of the Royal Veterinary College (University of London) for encouragement in this work. A. C. Brooks, biologist of the Uganda Department of Game and Fisheries, transmitted Prof. Amoroso's ideas for field collection of the data and assisted with most of the field work. Eleven of the Uganda kob were collected by I. O. Buss, professor of wildlife management, Washington State University.

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Experimental Elimination of *Trypanosoma melophagium* Flu from its Hosts the Sheep and the Ked, *Melophagus ovinus* (L.)

Trypanosoma melophagium Flu is a non-pathogenic parasite of sheep, and its intermediate host is the sheep ked². The parasite is world-wide in its distribution and is found wherever there are keds¹. Infection of sheep usually takes place via the oral mucosa following ingestion of infected keds^{2,4}. If sheep are treated to destroy keds, it is several months before the flagellates disappear from the host's blood. I³ reported the death of large numbers of keds due to blockage of the midgut by masses of crithidia. Control over the trypanosome infection would be a useful tool for investigating this phenomenon further. The organism is not trans-ovarially transmitted in the ked³ and thus flagellate-free insects should be easy to obtain.

Infected populations of keds on sheep were destroyed by spraying with 0.5 per cent toxaphene or malathion 6-8 weeks in advance of experiments to avoid residual toxicity to keds.

A week before re-infestation, sheep were given quinapyramine sulphate ('Antrycide', Imperial Chemical Industries, Ltd.), 8 mgm./kgm. subcutaneously. Sheep were infested with puparia which had been disinfected in 1 per cent mercuric chloride. Effectiveness of the drug in suppressing trypanosomes in the blood was checked weekly by dissecting 4-6 keds from each animal, wet-smearing the posterior midgut beneath a coverslip, and examining for crithidia under high dry magnification.

Lower doses of 'Antrycide' were not completely effective, and infection appeared in some keds within a few weeks. Higher doses caused toxic symptoms and occasionally death in sheep. At 8 mgm./kgm., trypanosome-free units can be maintained for several months provided there is no opportunity for re-infection. Sheep should be housed separately in clean quarters which have not recently contained infected animals. Even when trypanosome-free sheep were kept 50 ft. from infected sheep in the same barn, infection appeared in keds within a few weeks. This suggests that the infective forms present in ked faeces may be air-borne and may enter the sheep via the respiratory mucosa as well as by the oral route.

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Culicoides adersi Ingram and Macfie, 1923, a Presumed Vector of *Hepatozoon* (= *Plasmodium*) *kochi* (Laveran, 1899)

MONKEYS of tropical Africa are well known to harbour a malaria parasite *Hepatozoon* (= *Plasmodium*) *kochi*, characterized by the presence of gametocytes only in the blood, and by the occurrence of schizogony in the form of macroscopic merocysts in the liver. As a malaria parasite, its vector was suspected for a long time as being a mosquito and several attempts were made experimentally and in Nature to incriminate these insects^{1,2}. All failed, not altogether unexpectedly, when it was shown³ that the parasite