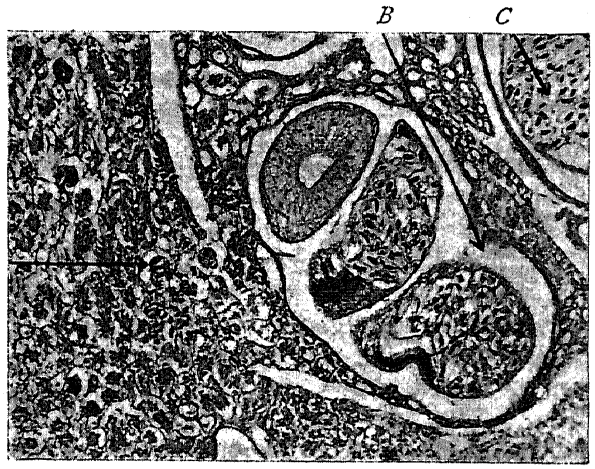
AN UNUSUAL RECORD OF A NEMATODE IN AN AVIAN KIDNEY

MATERIALS from an Indian Emerald Dove (*Chalcophaps indica indica*) which died of unknown causes have been sent by the authorities of the Zoological Gardens, Bombay, to the Bombay Veterinary College for histopathological examination and report. These consist of pieces from liver, kidney and intestines. The intestine pieces were opened up and found to contain a number of tapeworms belonging to *Raillietina* spp. and round worms belonging to *Ascaridia* spp. Besides these, a few minute, slender, hair-like nematodes which were indistinguishable from *Ornithostrongylus quadriradiatus*, a parasite which is not uncommonly the cause of losses in pigeons and doves, were also present.

During the histopathological examination of the tissues we discovered a number of nematode eggs in transversely cut gravid parasites embedded in the parenchyma of the kidney sections (see microphotograph). The presence



Microphotograph of the kidney section showing the parasite

A. Kidney parenchyma showing tubules and glomeruli.
B. A transverse section of the parasite showing gravid uterus and intestine.
C. A transverse section of a portion of the parasite through the gravid uterus.

of the parasite with fully developed eggs in an avian kidney was quite surprising as it was not reported in literature so far. Worms in the kidney are generally seen in pigs (*Stephanurus dentatus*) and dogs (*Dioctophyme renalis*). The parasite in the kidney could not be studied entire as only a small piece of kidney was available and only a few sections could be cut for histopathological examination.

The findings of the nematode in an Avian kidney is quite unusual and it would be interesting to find out if this is quite common, and if so, what the species involved are.

Bombay Veterinary College, Bombay, *January* 21, 1954. R. M. KALAPESI. S. R. RAO.

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ALKALINE PHOSPHATASE IN THE NEPHRON OF *RANA HEXADACTYLA* (LESSON)

THE distribution of alkaline phosphatase in the vertebrate kidney has formed a subject of study by a number of workers since Gomori's report[1] of its occurrence in the glomeruli of the cat. It has generally been found that the proximal convoluted tubule, especially the brush border, shows pronounced phosphatase activity in a number of animals,[2,4,5,9] while the glomerulus is ordinarily devoid of it or shows only faint indications of its presence. Under pathological conditions, however, as in choline deficiency[5] in the rat, the glomerulus shows intense phosphatase activity while there is a significant decline in the convuluted tubule. Similarly, in diabetic rats, Kar and Ghosh[2] observed a great concentration of the enzyme in the glomerulus, though Soulairac[8] had earlier reported the complete disappearance of renal phosphatase from the nephron of diabetic rats. These observations have afforded confirmation of the concept prevailing in recent years that the actual absorption of "threshold substances" such as sugar and sodium chloride takes place in the convoluted tubule, while the function of the glomerulus was one of simple mechanical filtration. This difference between the functions of the two parts of the nephron was reflected in the marked difference between the phosphatase activity exhibited by them. Even in cases where the glomerulus showed a positive reaction, it was significantly less than that in the convoluted tubules.

During a recent study of the occurrence and distribution of alkaline phosphatase in a variety of animals under different conditions, it was discovered that the common frog, *Rana hexadactyla* displayed a condition which seemed