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The Occurrence of *Nuttallia cynicti* Sp. nov. in the Yellow Mungoose *Cynictus penicillata* in South Africa.

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Introduction.

Blood parasites belonging to the family Babesidae have been described in four species of carnivora belonging to the family Viverridae. With the exception of Patton who records only the fact that he has seen piroplasms in the blood of a mungoose, the authors mentioned in the subjoined table have placed the parasites into the genus *Nuttalia*.

Table showing the various species of *Nuttalia* described in the family Viverridae.

Parasite.	Host.		Country.	Author.	Year.	Measurements.
	Zoological Name.	Vernacular Name.				
Nuttallia herpestedis	*Herpestes ichneumon*	Egyptian mungoose	Portugal....	Franca.....	1908	Round forms 0·5–1·0μ. Pearshaped forms 1·5 × 1·8μ
Piroplasma species	*Herpestes edwardsi Herpestes mungo*	Mungoose.	India.....	Patton.....	1910	—
Nuttallia civettae	*Viverra civetta*	Civet Cat.	Senegal.....	A. & M. Leger	1920	0·3, 0·4 and 1μ
Nuttallia legeri	*Herpestes calera*	Mungoose.	Africa.....	Bedier.....	1924	1–1·5μ
Nuttallia cynicti	*Cynictis penicillata*	Yellow Mungoose	Orange Free State	Neitz.....	1937	Round forms 1·8—2·2μ Ovoid forms 1·5 × 2μ Large round forms 3–6μ

Personal Observations.

Through the kindness of Dr. A. D. Thomas of this Institute the author received spleen smears prepared from several yellow mungoose (*Cynictis penicillata*) which were killed in the vicinity of Fauresmith in the Orange Free State in December, 1936. In two of the mungoose which were comparatively young blood parasites belonging to the genus *Nuttallia* could be demonstrated. In one animal the parasites were rare and in the other fairly frequent. The blood of the latter animal showed signs of anaemia, viz., anisocytosis, polychromasia and erythrophagocytosis of the parasitized cells.

Description of the Parasites.

Most of the parasites appeared as small circular bodies with a faintly blue staining cytoplasm and a dark red staining round nucleus situated at the periphery. These forms measured 1·8 to 2·2μ in diameter. Small ovoid forms measuring 1·5 by 2μ in size were also found. Large ring forms measuring from 3 to 6μ in diameter with an average of 4μ were not uncommon.

The parasitized cells usually contained one, two and four organisms and in some three, five, six, seven, eight or even sixteen parasites were seen.

Although the process of division into two was not observed it must be assumed that multiplication by this method did take place judging from the number of erythrocytes in which two parasites were found. Usually multiplication takes place by cruciform quadruple division characteristic of the genus *Nuttallia*. In the first stage the nucleus divides (see Fig. 3), the cytoplasm increases in size and the chromatin collects at the two opposite poles (see Fig. 4 and 5). The chromatin at the poles again divides (see Fig. 4), eventually giving rise to four parasites. These parasites may escape from the erythrocyte or may continue to multiply by the quadruple division thereby producing sixteen parasites as shown in Fig. 6.

Conclusions.

A blood parasite showing the characteristics of the genus *Nuttallia* has been described in the yellow mungoose. This species is considerably larger than those described by Franca, Leger and Bedier. The mode of transmission is not known.

It is provisionally proposed to name this parasite *Nuttallia cynicti*.

LITERATURE.

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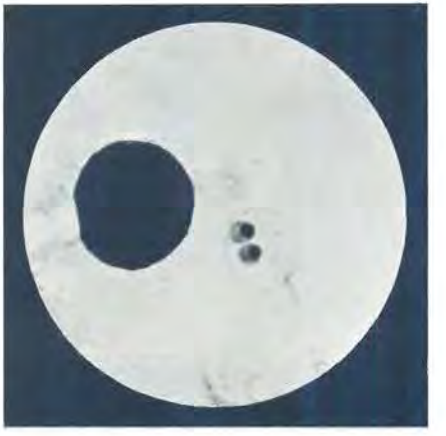

Fig. 1.—*Nuttallia cyniciti*. Magnification 1,500×.

Fig. 2.—Showing an erythrocyte infected with 2 parasites. Magnification 1,500×.

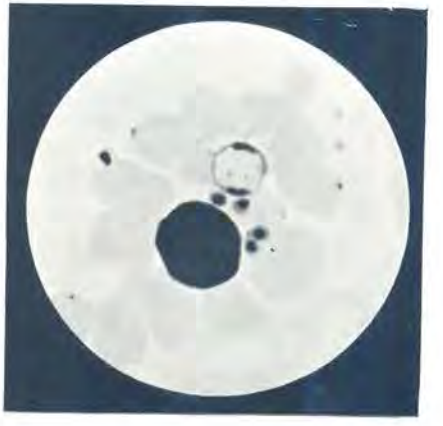

Fig. 3.—Showing erythrocytes infected with one, a dividing form and four parasites respectively. Magnification 1,500×.

Fig. 4.—Showing 4 small and one large parasite. Magnification 1,500×.

Fig. 5.—Showing 4 large parasites in an erythrocyte. Magnification 1,500×.

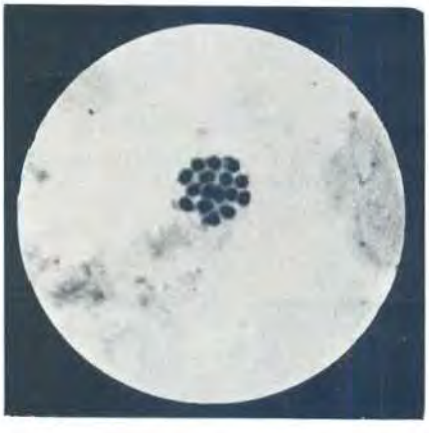

Fig. 6.—Showing 16 parasites in an erythrocyte. Magnification 1,500×.