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Translation of Svanbaev, S. K. 1955. A new species of coccidia in turkeys. *Works of the Institute of Zoology Academy of Sciences Kazakh SSR* 3: 161-163. Transliteration: Novyi vid koktsidii u indeek. *Trudy Instituta Zoologii Akademii Nauk Kazakh SSR* 3: 161-163

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COLLEGE OF VETERINARY MEDICINE  
UNIVERSITY OF ILLINOIS  
URBANA, ILLINOIS

TRANSLATION NO. 7

Translated from Russian by Virginia Ivens

Svanbaev, S. K.

1955. A new species of coccidia in turkeys. Works of the Institute of Zoology Acad. Sci. Kazakh SSR 3:161-163. Figures.

Transliteration:

Novyĭ vid koktsidiĭ u indeek. Trudy Instituta Zoologii Akad. Nauk Kazakh SSR 3:161-163.

Eimeria meleagridis and Eimeria meleagritidis are the only species of coccidia described from domestic turkeys. Turkey coccidia had never been studied in Kazakhstan before our investigation in 1951 in the Alma-Atinsk region. At that time we examined 15- to 20-day-old turkey poults and found oocysts of the genus Isospora. Usually unsporulated oocysts were passed in the feces, but occasionally some contained two sporoblasts. After sporulation, the oocysts contained two sporocysts each with four sporozoites.

It should be mentioned that these isosporan oocysts do not resemble the oocysts of Isospora lacazei (described in passerine birds) in measurements or morphological characteristics. We have studied in detail these oocysts that we found in turkeys and believe that they belong to a new species. A description of them follows.

Isospora heissini n. sp.

The oocyst is round, occasionally short-oval, greenish, 24.6 to 32.8 by 24.6 to 32.8 microns with a mean of 30.5 by 29.8 microns. The mean form index is 1:0.98. The wall is double-contoured, smooth, greenish, 1.5 to 1.7 microns thick. The protoplasmic mass in the fresh oocyst is usually spherical, occasionally divided into two round sporoblasts. A polar granule is located between the protoplasmic mass and the oocyst wall and is sometimes overlooked. It is also present in other stages of sporogony.

The oocysts sporulated in 16 to 20 hours at 20° to 25° in a 2% solution of potassium dichromate. After 8 to 10 hours the majority contained two sporocysts, which were round, egg-shaped, or oval, pointed at one end, and with a mean measurement of 14.9 by 10.1 microns. The sporozoites are oval, 7.2 to 9.0 by 4.5 to 5.4 microns. Oocyst and sporocyst residua are absent (Fig. 1). The oocysts were found only in turkey poults up to four months of age.

Table 1 compares the oocysts of Isospora lacazei and Isospora heissini. The descriptions of Isospora lacazei are by Smith and Smillie, 1917 (Yakimov);

Table 1--Comparing the Oocysts of I. lacezei and I. heissini n. sp. (Measurements in Microns)

No.	Morphological Data	<u>Isospora lacezei</u>				
		<u>Hosoda, 1928</u>	<u>Smith &amp; Smillie, 1917</u>	<u>Yakimov, 1931</u>	<u>Yakimov, Gusev &amp; Suz'ko, 1945</u>	
1	Shape of oocyst	Ellipsoidal, ovoid, or subspherical	Oval and round	Round	Round	<u>Isospora heissini</u> n. sp. Round, occasionally short-oval
2	Oocyst color	-	-	-	-	Greenish
3	Wall characteristics	Double-contoured	-	-	-	Double-contoured, smooth 1.5-1.7 thick
4	Oocyst size	-	Oval: 22.1 by 18.7 Round: 17.5 by 18.7	Thick-walled: 16.0 to 22.0 Thin-walled: 22.0	22.5-27.0 M 25.4	24.6-32.8 by 24.6-32.8 M 30.5 by 29.8
5	Form-index	-	-	-	-	0.98
6	Shape of protoplasmic mass	-	-	-	-	Spherical
7	Polar granules	-	-	-	-	One
8	No. of sporoblasts	-	-	2	-	2, round
9	No. of sporocysts in oocysts	2, pear-shaped with stieda body	2	2, pear-shaped or spindle-shaped with micropyle	2	2, round, egg-shaped, and oval with pointed end
10	Sporocyst size	-	-	-	18.0 by 9.0	14.9 by 10.1
11	No. of sporozoites in sporocyst	4, crescent-shaped	4	4	4	4, oval
12	Sporozoite size	-	-	-	-	7.2-9.0 by 4.5-5.4
13	Residual bodies	none	-	Only in the sporocysts	-	None in oocysts, none in sporocysts
14	Sperulation time	65-70 hours	-	Thin-walled: 3-4 days Thick-walled: 12-14 days	-	16-20 hours

Hosoda, 1928 (Yakimov); V. L. Yakimov, 1931; and V. L. Yakimov, V. F. Gusev and S. F. Suz'ko, 1945. The oocysts of I. heissini are larger than those of I. lacazei and lack an oocyst residuum; the sporocysts and sporozoites differ in shape from those of I. lacazei and a sporocyst residuum is absent.

We have named this new species in honor of Professor E. M. Kheïsin (Cheïssin), who has studied the coccidia of animals extensively.

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