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Musaev, M. A.; Surkova, A. M.; Elchiev, Ya. Ya.; Alieva, F. K.; and Plous, Frederick K. Jr., "Translation of Musaev, M. A., A. M. Surkova, Ya. Ya. Elchiev, and F. K. Alieva. 1966. A new species of coccidium of the genus *Eimeria* from the domestic duck, *Anas domestica* [= Novyi vid koktsidii iz roda *Eimeria* ot domasnie utki, *Anas domestica*. *Izvest. Akademii Nauk Azerbaid. SSR*, Otdel. Ottisk, Baku, USSR 1966(3): 34-36" (1966). *H. W. Manter Laboratory Library Materials*. 64.  
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COLLEGE OF VETERINARY MEDICINE  
UNIVERSITY OF ILLINOIS  
URBANA, ILLINOIS

TRANSLATION NO. 17

Translated from Russian by Frederick K. Plous, Jr.  
Edited by Norman D. Levine

Musaev, M. A., A. M. Surkova, Ya. Ya. Elchiev and F. K. Alieva  
1966. A new species of coccidium of the genus Eimeria  
from the domestic duck--Anas domestica. [Novyi vid koktsidii  
iz roda Eimeria ot domashnei utki--Anas domestica]. Izvest. Akad.  
Nauk Azerbaid. SSR, Otdel. Ottisk, Baku, USSR 1966(3):34-36.

We have found only one published work specially devoted to a description of coccidia in domestic ducks. Allen (1936) in the United States described a new species of coccidium for domestic ducks under the name Tyzzeria perniciosa. According to her, this species is very pathogenic for ducks. The affected bird becomes almost immobilized, loses appetite and has difficulty standing. Hemorrhagic congestion occurs in the mucuous membrane of the small intestine.

No coccidia of the genus Eimeria have been reliably described for this species of bird.

Several investigators (Yakimov, 1931; Golikov, 1951; Pronin, 1961; Rakhmatulina, 1965), finding coccidian oocysts of the genus Eimeria in domestic ducks, assigned them to species observed in other species of birds, mainly the domestic geese.

The authors of the article found oocysts of coccidia of the genus Eimeria in this species of bird in two natural zones of Azerbaydzhan and, on the basis of the strict parasite-host specificity of the coccidia, describe them as a new species under the name E. schachdagica.

In the period 1961-1963 (M.A. Masayev and F.K. Aliyeva) 640 domestic ducks from 3 farms in the Kuba-Khachmass zone of Azerbaydzhan were studied; seven ducks on one farm (village of Vladimirovka) had large ovoid oocysts.

Below we give a description of the new species.

E. schachdagica sp. n. Oocysts are ovoid, colorless (see drawing), with a single-layered, smooth wall 1.6-2.0  $\mu$  thick. The internal contour of wall is somewhat darker than external. There is no micropyle. The dimensions of oocyst were determined on basis of measurements of 127 mature oocysts obtained from 14 separate domestic ducks. They were 16.0-26.0 (23.94)  $\mu$  long and 12.0-20.0 (17.76)  $\mu$  wide.

There is no residual body in the oocyst; on its narrow end one can easily distinguish one or several polar granules. The sporocysts

are ellipsoidal or ovoid, 5.0-14.0 (9.2)  $\mu$  long and 3.0-10.0 (8.4)  $\mu$  wide.

One rarely encounters round sporocysts 5.0-6.0 (5.5)  $\mu$  in diameter. The sporozoites are piriform. A granular residual body is situated between the sporozoites.

Sporulation takes 72-96 hours.

Range of the host: Kuba region, village of Vladimirovka; Lenkoran region, Il'yich State Farm, Azerbaydzhan SSR.

Because no species of the genus Eimeria have been described from domestic ducks we are using Table 2 below to compare the new species with E. anatis and E. boschadis, which have been found in the mallard (Anas platyrhynchos platyrhynchos).

As is apparent from Table 2, the oocysts of E. schachdagica are distinguished from those of E. anatis by the absence of a micropyle and residual body and the presence of the polar granule (one of several) in the oocyst. E. schachdagica differs from E. boschadis by virtue of the smooth structure of its oocyst wall, the absence of a micropyle, the presence of a polar granule (one or several) the absence of a residuum in the oocyst and a Stieda body in the sporocysts.

In addition, the hosts of the oocysts we observed and of the other species of coccidia are different bird species; thus we describe them as a new species.

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Table 1  
Variations in length and width of E. schachdagica

In microns	12	13	14	15	16	17	18	19	20	21	22	23	24	26	Total measured
Width of oocysts	2	1	11	6	41		55	1	10						127
Length of oocysts					3	2	34	2	32	6	25	4	15	4	127

$$\text{Index} \quad \frac{\text{Length}}{\text{Width}} = 1.1-1.5 (1.20)$$

Table 2

Comparison of E. schachdagica with E. anatis and E. boschadis

Oocyst features	<u>E. anatis</u> Schol- tyseck, 1955	<u>E. boschadis</u> Walden, 1961	<u>E. schachdagica</u> sp. n.
Shape	Oval	Bottle-shaped	Egg-shaped
Color		Colorless	Colorless
Wall	One-layered, smooth	Tiny grains	One-layer, smooth
Wall thickness, microns	0.7-1.0		1.6-2.0 (internal side somewhat darker than outside)
Oocyst length (microns)	14.0-19.2 (16.8)	18.3-26.5 (23.9)	16.0-26.0 (23.94)
Oocyst width, (microns)	10.8-15.6 (14.1)	11.8-13.3 (12.7)	12.0-20.0 (17.76)
Length-width index			1.1-1.5 (1.20)
Micropyle	Present	Present, 2-3 microns in width	No
Polar granule			One or more present
Residual body in oocyst	Present		Not present
Sporocyst shape	Rounded, with cone-shaped end		Oval or egg- shaped
Sporocyst length (microns)			5.0-14.0 (9.2)
Sporocyst width (microns)			3.0-10.0 (8.4)
Diameter of round sporocysts (microns)			5.5
Residual body in sporocysts	Present, in form of tiny grains		Present, tiny grains

Table 2 (continued)

Oocyst features	<u>E. anatis</u> Schol- tyseck, 1955	<u>E. boschadis</u> Walden, 1961	<u>E. schachdagica</u> sp. n.
Stieda body	Present		Absent
Sporozoite shape			Pear-shaped
Sporulation	96 hours		72-96 hours
Host	<u>Anas platyryncha pl.</u>	<u>Anas platyryncha</u>	<u>Anas domestica</u>
Range		Sweden	Kuba and Lenkoran regions, Azerbaydzha