1965

Translation of Anpilogova, N. V. 1965. On the finding of oocysts of coccidia of the genus *Isospora* Schneider in domestic birds [= O nakhozhdenii ootsist koktsidii roda *Isospora* Schneider u domashnikh ptits]. *Dokl. Akademie Nauk Tadzhik. SSR* 8(4): 44-46

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TRANSLATION NO. 18

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

Anpilogova, N. V.
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(Presented to Corresponding Member of the Academy of Sciences of the Tadzhik SSR M.N. Narzykulov on 3 May 1964)

Studies of coccidia of domestic birds in Tadzhikistan have revealed oocysts in the feces of ducks, geese, chickens and turkeys which, by virtue of their dimensions and morphological features, resembled those of the sparrow coccidium Isospora lacazei Labbé.

The material was gathered on the poultry-farm sections of the Leningrad and Communism collective farms in the Ordzhonikidzeabad region and the Kalinin Collective Farm in the Kolkhozabad region. On the first 2 farms the feces were collected from each bird individually, but on the third samples were taken from collections of droppings taken from under the roosts. The feces were treated in the usual manner to gain observation of the coccidia oocysts.

As a result of the observations conducted on adult ducks in July 1962 and February and March 1963, isolated oocysts of the genus Isospora were found; in May 1963 a preparation made from the feces of one duck had 74 oocysts in 20 microscope fields; another had 25, and 2 more ducks had 3 apiece. The oocysts were round or oval. The oval ones were 25.2-30.8 by 22.8-28 μ, while the round ones had a diameter of 25.2 μ. The width-length ratio was 1 to 1.2. Two sporocysts with an oval shape and easily noticed Stieda bodies measured 16.8 by 11.2 μ. Geese as well as ducks had single oocysts of the genus Isospora in February, March and May of 1963--round oocysts, measuring 25.2-30.8 by 25.2-30.8 μ. The oocysts contained one or 2 polar granules, sometimes invisible. The 2 oval-shaped sporocysts had easily-noticed Stieda bodies.

Oocysts of the genus Isospora were noted also in July and September in adult turkeys. Oocysts were round or oval, 24.3-29.7 by 24.3-27 μ. The length-width ratio varied from 1.0 to 1.1. Sporocysts were oval with a Stieda body. Svanbayev (1) described the species Isospora heissini from turkeys. However, the oocysts described by Svanbayev were observed only in turkeys under four months of age and were somewhat larger in size; they also had a pointed end on the spore. The question as to the species autonomy of the Isospora which we found requires experimental support.

Like the other domestic birds, the chickens in February, March and May of 1963 had oocysts of the genus Isospora. In February and May isolated oocysts were found. In March the feces of one chicken had 40 oocysts, and 2 others had single examples. The oocysts were round or oval, 25.2-30.8 by 25.2-28 μ. The length-width ratio was 1.0 to 1.1, with an average of 1.03. The sporocysts were oval, with a Stieda body, 14-16.8 by 11.2 μ.

Scholtyseck (2) described a new species of chicken coccidium I. gallinae on the basis of its oocysts. The oocysts of this species had only the oval form and were 19-27 by by 15-23 μ, with a mean of 24 by 19 μ. But it would be premature to identify the Isospora oocysts found in chickens in Tadzhikistan with I. gallinae, since they are larger, are both round and oval and not only oval as Scholtyseck pointed out, and in addition do not differ substantially from the Isospora oocysts found in the feces of ducks, geese and turkeys (Table 1).

It is too early to assign these oocysts from chickens to I. gallinae for another reason, viz., the strong resemblance between the oocysts of the Isospora of domestic birds and I. lacazei of sparrows.

As regards Isospora from cattle, Levine and Mohan (3) have already called attention to the possibility of erroneously describing the oocysts of I. lacazei which have gotten into cattle feces as specific for these species.

It is possible that the Isospora found in domestic birds are transient oocysts of coccidia of wild birds. This possibility is being checked experimentally. However, there are already several tangential data in favor of this hypothesis.

Oocysts of Isospora were not observed in the feces of chickens on the Kalinin Collective Farm in the Kolkhozabad region, the poultry farm of which has existed only since February 1963 and which has no sparrows, turtle-doves or other wild birds. On the other hand, many Isospora oocysts were collected in the feces of domestic chickens on the poultry farms in the Ordzhonikidzeabad region, where the farms have existed for many years and are heavily settled by sparrows, turtle-doves and mynahs. The oocysts collected included both sporulated and non-sporulated examples.

In connection with this we also studied the wild birds which lived within the boundaries of the poultry farms. Of 15 sparrows, 10 had oocysts of Isospora lacazei. The oocysts were round or oval, 20-28 by 20-25 μ with a mean of 24 by 23.3 μ. The length-width ratio was 1.0 to 1.1 with a mean of 1.03. The sporocysts were oval, more or less elongate, with a Stieda body and were 15.2-20 by 10-12.5 μ with a mean of 16.5 by 11.4 μ.

Of the 15 mynahs examined, 13 had oocysts of the genus Isospora. The oocysts were round or oval, and somewhat smaller than those found in sparrows; 15-25 by 15-25 μ with a mean of 23 by 21 μ. The length-width ratio was 1.0 to 1.3 with a mean of 1.06. There were also 2 oval sporocysts, also more or less elongate, with a Stieda body, 10-17.5 by 7.5-10 μ with a mean of 14 by 10 μ. The intensity of infection in sparrows and mynahs was significant, in some cases running to 150-300 oocysts in 20 microscope fields.

Of the 5 turtle-doves studied only one had oocysts--2 unsporulated ones measuring 15 by 15 μ.

Thus, oocysts of the genus Isospora found in domestic birds are very similar to I. lacazei from sparrows.

In recent times the literature has shown several references to the finding of oocysts of I. lacazei in domestic birds. Golemansky (4,5) observed them in turkeys and geese in Bulgaria. Rysavy (cited in Golemansky, 4) saw them in chickens in Czechoslovakia. Segga (cited in Golemansky, 5) saw oocysts of Isospora sp. in geese in Czechoslovakia and felt that they were probably I. lacazei. It is wholly possible that these oocysts were swallowed by domestic birds with the feces of sparrows. Levine and Mohan (3) mentioned a similar possibility in the finding of oocysts of Isospora identical to I. lacazei in cattle in America.

However, ultimate solution of the question as to the species affiliation of the Isospora found in ducks, geese, turkeys and chickens, and the problem of the transit of these oocysts, will come only after the completion of appropriate cross-infection experiments.

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Submitted 4 April 1964

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Table 1

Host	Oocysts: Form	Oocysts: length in microns	Oocysts: width in microns	Oocysts: Length-width ratio	Sporocysts: Form	Sporocysts: Size
Ducks	Round or oval	25.2-30.8	22.8-28	1 to 1.2	Oval with Stieda body	16.8 by 11.2
Geese	Round	25.2-30.8	25.2-30.8	1	"	--
Turkeys	Round or oval	24.3-29.7	24.3-27	1 to 1.1	"	--
Chickens	Round or oval	25.2-30.8	25.2-28	1 to 1.1	"	14-.6.8 by 11.2

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