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TWO NEW COCCIDIANS FROM PASSERIFORM BIRDS

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Abstract. A description is given of two new coccidians, *Caryospora jiroveci* sp.n. from *Erithacus rubecula* and *Eimeria depuytoraci* sp.n. from *Sylvia curruca*. This is the second finding of a *Caryospora* species from passeriform birds and the first finding of an *Eimeria* species from sylviids.

Pellérdy (1974) reported in his monograph that descriptions of coccidians from birds of the order Passeriformes are available for 40 species of the genus *Isospora*, 5 species of the genus *Eimeria* and one species only of the genus *Caryospora*. In the years 1972, 1973 we investigated the incidence of coccidians in free-living birds from the environments of Prague (Černá 1973). In a total of 306 faecal samples from various free-living birds (mainly Passeriformes) we found, in addition to already known species of the genus *Isospora*, two new coccidian species: one a member of the genus *Caryospora* in *Erithacus rubecula*, the other a member of the genus *Eimeria* in *Sylvia curruca*. A description of these two new species is given in the text.

Our material of faecal samples was obtained by courtesy of Dr. Pithard, Department of Systematic Zoology, Faculty of Natural Sciences, Charles University, Prague, who collected it while ring-marking birds from the vicinity of Prague. The samples were transferred to the laboratory in test tubes containing 1.5 % $K_2Cr_2O_7$, and examined by means of the flotation method with saturated zinc sulphate.

1. *Caryospora jiroveci* sp. n.

Host: *Erithacus rubecula* (L.). In one out of 9 faecal samples examined.

Description: Oocysts spherical, average size 19-22 μm (40 oocysts measured), membrane thin (1 μm), micropyle absent. Oocyst occupied completely by sporont before sporulation. Complete sporulation requires more than 4 days at room temperature. Residuum in oocysts not formed. Polar bodies very marked, numbering 1-2. One sporocyst only produced by sporulation, sporocyst size 13—14 × 17—19 μm, number of sporozoites 8. Sporocyst residuum produced as residual granules. Stieda body distinct. The sporocyst was readily released from the oocyst; frequently, this had occurred already in material stored in potassium dichromate.

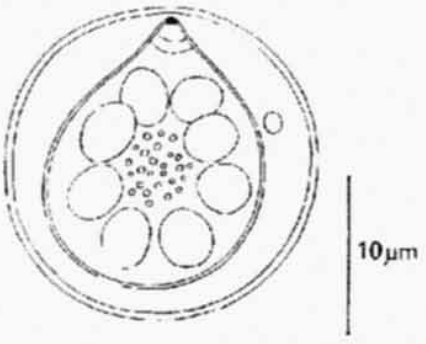

Fig. 1. Schematic illustration of oocyst of *Caryospora jiroveci* sp.n.

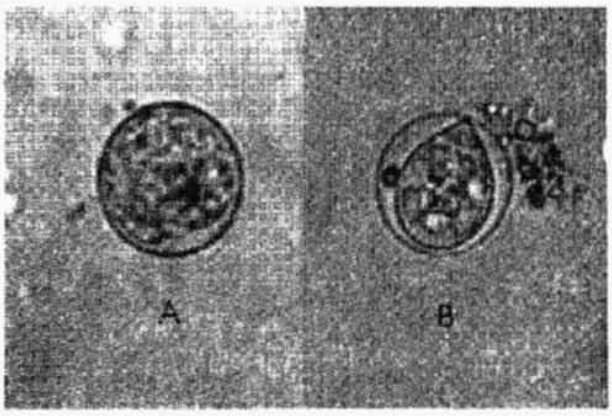

Fig. 2. *Caryospora jiroveci* sp.n.: A-unsporulated oocyst, B-sporulated oocyst (× 750)

Of the genus *Caryospora*, one member only (with a single sporocyst in the oocyst) had been reported from Cuban blackbird (*Ptiloxena atroviolacea* = *Dives atroviolaceus*) (d'Orbigny)) i.e., *Caryospora gloriae* Pellérdy, 1967. The oocysts of the Cuban species differ from those of our species both in shape and size (oval, 32—28 μm) and, moreover, were recovered from a far distant host. In spite of the regrettable fact that I have been unable to include a description of intracellular developmental stages, I feel that the parasite from *Erithacus rubecula* is a new *Caryospora* species. I have named it *Caryospora jiroveci* in honour of my teacher, the late Professor O. Jírovec.

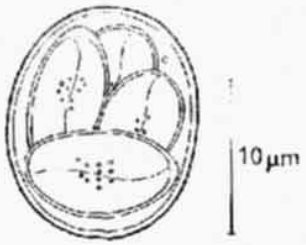

Fig. 3. Schematic illustration of oocyst of *Eimeria depuytoraci* sp.n.

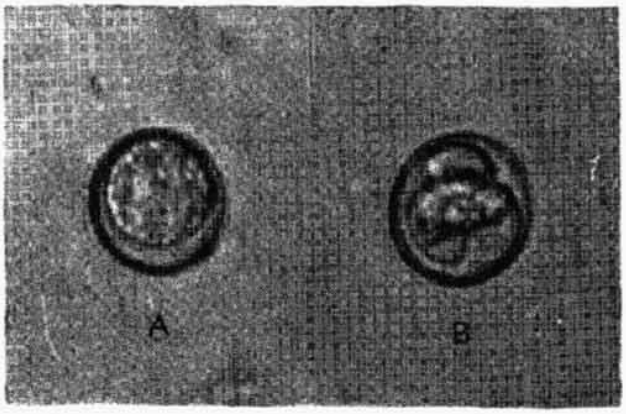

Fig. 4. *Eimeria depuytoraci* sp.n.: A-unsporulated oocyst, B-sporulated oocyst (× 750).

2. *Eimeria depuytoraci* sp. n.

Host: *Sylvia curruca* (L.). In 3 out of 13 faecal samples examined.

Description: Oocysts extremely small, shape either spherical or widely oval; size of spherical oocysts 13—14 μm (average of 20 oocysts), or widely oval oocysts 17 to 19 × 12—17 μm (average of 40 oocysts). Sporont in unsporulated oocyst finely granular occupying almost the entire inside space of the oocyst. Residuum in oocyst absent. Number of polar bodies 1—2. Sporocysts oval, size 8—9 μm; 4 sporocysts occupy the entire inner space of the oocyst. Sporocyst residuum formed by several granules; Stieda body very indistinct.

Of the 5 members of the genus *Eimeria* recovered from passeriform birds, none has been found in members of the family Sylviidae. Three species were described from hosts of the family Motacillidae — *Eimeria anthi* Schwalbach, 1959 from *Anthus pratensis* (L.); *E. lucknowensis* Misra, 1947 and *E. roscoviensis* (Labbé, 1893) from *Motacilla alba* L.; *E. balozeti* Yakimoff et Gousseff, 1938 from *Sturnus vulgaris* L.; *E. malaccae* Chakravarty et Kar, 1944 from *Munia malacca* (L.). The oocysts of these species are dissimilar to ours in the larger size; the sporocysts differ in having a distinct Stieda body. In addition, oocysts of *E. roscoviensis* have a completely different shape: they are pyriform with a "pseudomicropyle" on the attenuated pole.

In spite of the fact that our material was unsuitable for examination of the intestinal development of the coccidian with histological methods we are convinced that the coccidian species from *Sylvia curruca* is a new species of *Eimeria*. We have named it *Eimeria depuytoraci* in honour of the French protozoologist Professor P. de Puytorac. This is the first finding of a member of the genus *Eimeria* in hosts of the family Sylviidae.

ДВА НОВЫХ ВИДА КОКЦИДИЙ ОТ ВОРОБЬИНЫХ

Ж. Черна

Резюме. Дано описание двух новых видов кокцидий, *Caryospora jiroveci* sp.n. от *Erithacus rubecula* и *Eimeria depuytoraci* sp.n. от *Sylvia curruca*. Это вторая находка рода *Caryospora* от воробьиных и первая находка рода *Eimeria* от славковых (Sylviidae).

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G. S.Pervomaisky, V. Ya. Podolyan (Ed.): Parasitologiya cheloveka (Parasitology of man). *Publ. House Medicina, Leningrad 1974, 576 pp., 296 Figs., 17 Tables, 6 diagrams. Price 4.46 R.*

Parasitic and transmissive diseases occupy an important place in the pathology of man. In the USSR, thanks to the activity of institutes specialized in medical parasitology and tropical medicine, these diseases have either been eradicated or are on the verge of complete elimination. However, the causative agents or vectors still survive in natural or synanthropic conditions and may cause sporadic cases or epidemic outbreaks of diseases. The present developing contacts with many countries of Asia, Africa nad Latin America propagate the possibility of importation of protozoan infections, helminthiases and transmissive diseases of various etiology. All these facts make it obligatory to the workers of preventive medicine to deepen their knowledge of medical parasitology.

The publication consists of 4 parts. Part 1, written by the late Academician E. N. Pavlovsky, is devoted to general problems of parasitology and parasitism as a biological phenomenon. Various forms of parasitism, the effects of parasitism on the life of parasitic organisms and the concept of invasion are discussed. The author uses the term invasion and invasive diseases in the sense of infection by animal parasites as parallels to the term infection and infectious diseases. Moreover, factors which determine the host's state, the character of parasite influence upon host, definition of pathogenicity of parasites, parasite-carriage and definition of reservoirs are presented. This part of the book also deals with transmissive diseases and forms of transmission of causative agents, with human organism as an environment. Detailed sections are concerned with the theory of natural focality of transmissive diseases, peculiarities of geographic distribution of parasites, parasitic and transmissive diseases and with the principles of the studies on parasitological indices in relation to territory. The final section of this part covers biological and ecological-parasitological rules of the control of parasitic and transmissive diseases and the position of parasitology in the system of sciences.

Part 2 is devoted to medical protozoology. Its co-authors are A. F. Tumka, A. K. Shustrov, V. Ya. Podolyan and I. K. Teravsky. The introduction contains a survey of the biology and systematics of parasitic protozoans. Individual parasite species and relevant nosologic units are discussed here. In each chapter, as a rule, first the causative agent and then the pathogeny and pathological anatomy of the disease, clinical symptomatology, parasitological diagnosis, treatment, epidemiology, preventive and anti-epidemic measures are described. In this way amoebiasis and amoebas parasitizing man are dealt with, together with a note on amoebas of the group "*limax*" as agents of primary meningo-