

COCCIDIA FROM CONGA HUTIA — CAPROMYS PILORIDES SAY, 1822

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Abstract. In 1966, during my stay in Cuba, I examined parasitologically four specimens of the endemic Cuban rodent *Capromys pilorides* Say 1822, kept for experiments in the Biological Institute of the Cuban Academy of Sciences in Havana. All four specimens were captured in the western province Pinar del Rio. In addition to parasitic worms I found also four coccidia species during caprological examinations of these hosts. All four coccidia species, belonging to the genus *Eimeria* Schneider 1875 are described in the following text.

1. *Eimeria normanlevinei* n. sp. (Fig. 1, a, b)

Description: Oocysts ellipsoidal. Oocyst wall brownish-yellow, 1.5 μ thick. Micropyle absent. Fifty oocysts measured; $31-37 \times 27-29 \mu$ with a mean of $35 \times 28 \mu$. Their length-width ratios ranged from 1.14—1.27 μ with a mean of 1.22. Polar granules absent. Oocyst residuum presented by a spherical dark body 6—7 μ in diameter. Sporocysts $12-13 \times 8-9 \mu$, ellipsoidal. Sporocyst residuum absent. Stieda body absent. Sporozoites pear-shaped. Sporulation time: 120—144 hrs at a temperature of 28—30 °C in 2% potassium dichromate solution.

Schizogony and gametogony: unknown.

Prepatent period: unknown.

Type host: *Capromys pilorides* Say, 1822.

Location: central part of small intestine (post mortem finding).

Geographic distribution: Cuba.

Pathogenicity: unknown.

Cross-transmission studies: none.

Prevalence: This species was found in 3 out of 4 *C. pilorides* Say, captured in the area of Guanahacabibes, province Pinar del Rio, Cuba.

This species was named in honour of Professor Dr. Norman D. Levine, College of Veterinary Medicine, University of Illinois, Urbana.

2. *Eimeria jiroveci* n. sp. (Fig. 1, c, d)

Description: Oocysts ellipsoidal. Oocyst wall clear, $1.5\ \mu$ thick. Micropyle absent. Twenty oocysts measured; $25\text{--}27 \times 17\text{--}21\ \mu$ with a mean of $26 \times 28\ \mu$. Their length-width ratios ranged from $1.3\text{--}1.6\ \mu$ with a mean of 1.44 . Polar granules absent. Oocyst residuum a spherical body $5\text{--}6\ \mu$ in diameter. Sporocysts ovoid, $12\text{--}13 \times 3.9\ \mu$, with a mean of $1.23 \times 8.3\ \mu$. Stieda body present. Sporocyst residuum a small spherical body composed of small granules located between the sporozoites with a diameter of $2\ \mu$, occasionally absent. Sporozoites pear-shaped.

Sporulation time: 168 hrs at a temperature of $28\text{--}30^\circ\text{C}$ in 2% potassium dichromate solution.

Schizogony and gametogony: unknown.

Prepatent period: unknown.

Type host: *Capromys pilorides* Say, 1882.

Location: intestine.

Geographic distribution: Cuba

Pathogenicity: unknown.

Cross-transmission studies: none.

Prevalence: This species was found in two out of four *C. pilorides*, captured in the area of Guanahacabibes, province Pinar del Rio, Cuba.

This species was named in honour of Professor Dr. Otto Jírovec. Faculty of Natural Sciences, Charles University, Prague.

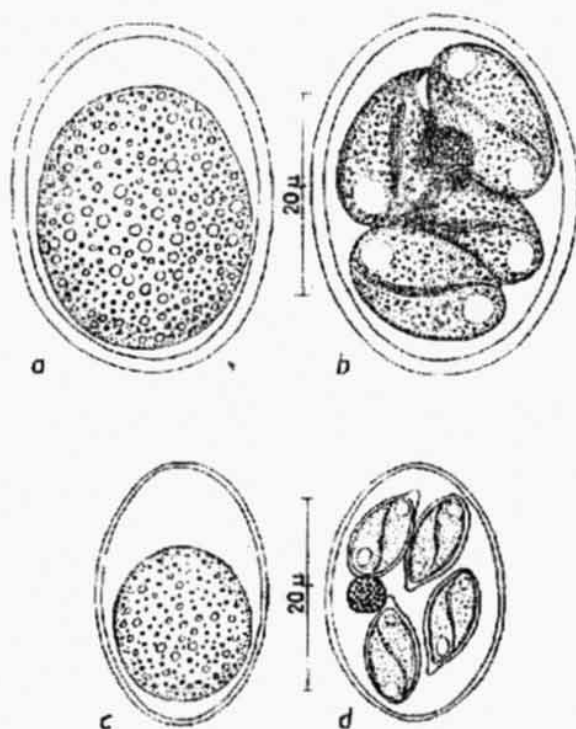


Fig. 1. a, b — *Eimeria normanlevinei* n. sp.
c, d — *Eimeria jiroveci* n. sp.

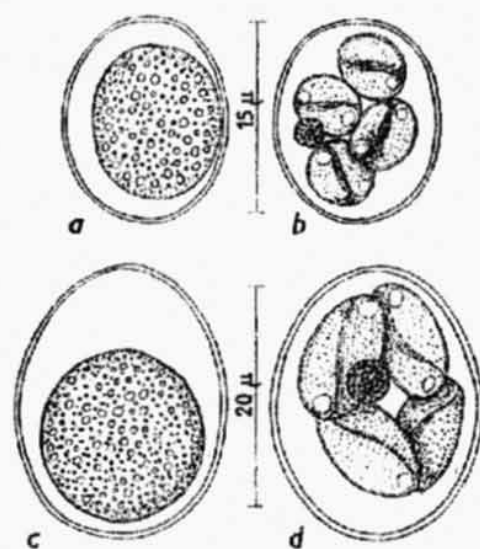


Fig. 2. a, b — *Eimeria garridoi* n. sp.
c, d — *Eimeria capromydis* n. sp.

3. *Eimeria garrido* n. sp. (Fig. 2, a, b)

Description: Oocysts broadly ellipsoidal to subspherical. Oocyst wall colourless, smooth, thin. Micropyle absent. Twenty oocysts measured; $16-18 \times 14-16 \mu$ with a mean of 16.6 by 15.1μ . Their length-width ratios ranged from $1.06-1.22 \mu$ with a mean of 1.13 . Oocyst polar granule absent. Oocyst residuum spherical, 4μ in diameter, occasionally absent. Sporocysts subspherical or broadly ellipsoidal, $7-8 \times 6 \mu$. Sporocyst residuum absent. Stieda body absent. Sporozoites bean-shaped, $6 \times 3 \mu$.

Sporulation time: 120–168 hrs at a temperature of $28-30^{\circ}\text{C}$ in 2% potassium dichromate solution.

Schizogony and gametogony: unknown.

Prepatent period: unknown.

Type host: *Capromys pilorides* Say, 1822.

Geographic distribution: Cuba.

Location: intestine.

Cross-transmission studies: none.

Prevalence: This species was found in two out of four *C. pilorides* captured in the area of Guanahacabibes, province Pinar del Rio, Cuba.

This species was named in honour of Mr. Orlando H. Garrido, ornithologist of the Institute of Biology, Cuban Academy of Sciences, Havana.

4. *Eimeria capromydis* n. sp. (Fig. 2, c, d)

Description: Oocyst broadly ellipsoidal, yellow-brown, smooth, composed of a single layer of about 0.8μ in thickness. Micropyle absent. 50 oocysts from 3 *Capromys* measured; $21-27$ by $19-21 \mu$. Their length-width ratios ranged from $1.08-1.28$ with a mean of 1.16 . Polar granules absent. Oocyst residuum a spherical body $4-6 \mu$ in diameter. Sporocysts ellipsoidal $10-12 \times 6-7 \mu$. Sporocyst residuum and Stieda body absent. Sporozoites measured $9 \times 3 \mu$, comma-shaped.

Sporulation time: 120 hrs at a temperature of $28-30^{\circ}\text{C}$ in a 2% potassium dichromate solution.

Schizogony and gametogony: unknown.

Prepatent period: unknown.

Type host: *C. pilorides* Say, 1822.

Geographic distribution: Cuba.

Location: intestine.

Cross-transmission studies: none.

Prevalence: this species was found in 3 out of 4 *C. pilorides*, captured in the area of Guanahacabibes, province Pinar del Rio, Cuba.

DISCUSSION

All described coccidia species were collected from a single host species — *Capromys pilorides* Say, 1822. The distribution of the genus *Capromys* is limited to Cuba

including the island Isla de Pinos, whereby on this, two of the three known island representatives of the genus *Capromys* form a special subspecies (*Capromys pilorides* and *Capromys/Mysateles/prehensilis*). The third species — *Capromys/Mysateles/nana* — is limited in its distribution only to the peninsula Ciénaga de Zapata; on the island Isla de Pinos, this species was recorded only as a subfossil form (MOHR 1939).

In view of the general conception on the specificity of coccidia of the genus *Eimeria*, the species of this genus can parasitize only hosts of one genus or, at the utmost, hosts of closely related genera. Quoting LEVINE and IVENS (1965) on this subject "The host range of *Eimeria* is relatively narrow. A single species rarely infects more than one host genus unless the latter are closely related". With regard to the geographical distribution of hosts of the genus *Capromys* and their geographical isolation, our first finding of species of the genus *Eimeria* in hosts of this genus may, in the light of the present views, be considered species new for science.

REFERENCES

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