

ON A NEW COCCIDIUM *WENYONELLA*
GALLINAE N.SP., FROM THE GUT OF
THE DOMESTIC FOWL, *GALLUS*
GALLUS DOMESTICUS LINN.

IN September 1944, a natural outbreak of coccidiosis occurred amongst four to six-week old chickens at Mukteswar. Four birds in one cage were attacked, of which three died. Another chick of about the same age died of the infection in October. The affected chickens passed blackish-green semi-solid excreta which contained numerous unsporulated oocysts. On post-mortem examination, one of the birds showed pin-point hæmorrhages in the mucosa of the terminal part of the intestine, the wall of which was thick and congested. The gut contained a greenish fluid which abounded in oocysts. In 2.5 per cent. solution of potassium bichromate, oocysts took four to six days to complete their sporulation at 28° C. The tetrazoic tetrasporocystid nature of the oocyst at once relegated this organism to the genus *Wenyonella* Hoare (1933).

Only five species of *Wenyonella* have been reported to date, viz., (1) *W. africana* Hoare (*loc. cit.*) from an African snake, *Bædon lineatus*, (2) *W. hoarei* Ray and Das Gupta (1935, 1937) from an Indian squirrel, *Sciurus* sp., (3) *W. uelensis* van den Berghe and (4) *W. parva* van den Berghe (1938) from Congolese rodents, *Funisciurus anerythrus* and *Tamiscus emini* respectively, and (5) *W. bahli* Misra (1944) from the common grey quail, *Coturnix communis*. A comparison of these species in respect of the shape and dimensions of oocysts and sporocysts and their contents with this coccidium has convinced the author that it belongs to a new species. It has, therefore, been designated as *Wenyonella gallinæ* n. sp., the specific name being given after the generic title of the host.

Three young birds were fed with sporulated oocysts of *W. gallinæ*. Concurrent with the passing of blackish-green semi-solid excreta, one showed unsegmented oocysts in its faeces on the seventh day and two others on the eighth day. Thereafter, oocyst elimination continued for three consecutive days, when the colour and consistency of the faeces returned to normal.

The life-cycle of this organism and its pathogenicity to young and old birds is being studied in detail. Since this is the first record of *Wenyonella* from chickens the author has described the oocyst only with a view to help investigators on poultry diseases to distinguish it from members of the genus *Eimeria*.

Description of the oocyst—Oocysts are oval or egg-shaped. The ectocyst is 1.34 to 1.5 μ thick. Its surface presents a punctate appearance and

in optical section, appears rugged (Figs. 1 & 2). The endocyst is thin and is interrupted at the narrow micropylar end. Size of the oocyst varies from 29.48 μ to 33.50 μ in length and



FIG. 1



FIG. 2

Wenyonella gallinæ n. sp. \times 1100

FIG. 1. Surface view of a portion of ectocyst.

FIG. 2. A mature oocyst.

19.84 μ to 22.78 μ in breadth. Sporocysts appear as short-necked round-bottomed vials. The four sporocysts occupy almost the whole space within the oocyst. There is a hyaline plug-like structure at the neck-end of each sporocyst. Each sporocyst, measuring 18.76 μ in length and 8.04 μ in breadth, contains four club-shaped sporozoites and a granular residue. Sporulation time varies from four to six days at 28° C.

Systematic position—*Wenyonella gallinæ* n.sp. (Eimeriidea, Coccidiida).

Host—The domestic fowl, *Gallus gallus domesticus* Linn.

Habitat—Epithelium of the terminal part of the intestine.

Locality—Mukteswar, Kumaun, U.P., India.

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1. Van den Berghe, L., *Parasitology*, 1938, 30, 275.
2. Hoare, C. A., *Ibid.*, 1933, 25, 359. 3. Misra, P. L., *Proc. Nat. Inst. Sci., India*, 1944, 10, 1203. 4. Ray, H. N., *Science and Culture*, 1935, 1, 112. 5. Ray, H. N., and Das Gupta, *Parasitology*, 1937, 29, 117.