

Suborder: Haemosporina

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The development of Haemosporina is similar with the Coccidia. Difference is that Haemosporina life-cycle is shared by 2 hosts, schizogony occurs in vertebrate host and gametogony and sporogony occurs in blood sucking invertebrates. This suborder contain a family of medical and veterinary importance i.e. Plasmodiidae. There are 3 genera of importance in this family.....

They are-*Plasmodium*, *Haemoproteus* and *Leucocytozoon*.

Genus: *Leucocytozoon*

Parasites of this genus undergo schizogony in the endothelial and parenchymatous cells of the liver, heart, kidney and other organs of avian hosts. Large schizonts are produced. Gametogonous stage occurs in circulatory blood and the infected host cells become grossly distorted and assume a spindle shaped. No pigment produced. The vector are black flies of the genus *Simulium* . The common species are

-*Leucocytozoon simondi*: wild duck and geese. Sporozoite after injection by *Simulium* fly, they are carried to different cells of the body by blood. Two type of scizonts develop. 1st generation schizont develop in Kupffer cells of the liver. These are small. The merozoites from these either enter erythrocytes to become gametocytes or enter parenchyma cells of the liver and form hepatic schizonts. Marked pathogenic for young duck and gees. Clinical signs are sudden in onset, and death may occur within a day or so. Ducklings are –

- listless
- anorexia
- showing rapid breathing
- nervous derangement prior to death.

Disease in older bird is less acute and develop more slowly. Birds become emaciated and listless, but seldom die in less than 4 days from onset of the disease.

Diagnosis: Demonstration of gamont in blood smear.

-*L. smithi*: domestic and wild turkey. This species is markedly pathogenic for young turkey. *Simulium* fly is the vector. Clinical signs includes

- emaciation
- anorexia
- debility
- leg weakness
- incoordination occur in the later stage of disease. Bird dies within 2-3days after the onset of clinical sign. In chronic infection, there is persistent cough and moist bronchitis. Other may appear complete recovery. In all cases recovered bird may remain as carrier.

Treatment: Sulfaquinoxaline 1 g/lit of drinking water.

-*L. caulleryi*: domestic chicken, transmitted by *Culicoides arakawe*. Host cell is not distorted as other spp. Megalochizont was found in kidney, heart, lung. Anaemia, haemorrhage in lung, liver and kidney, enlarge of spleen with white spot in heart muscle