

## FATAL *Leucocytozoon* INFECTION IN A CAPTIVE GREY-HEADED PARROT (*Poicephalus robustus suahelicus* Reichenow, 1898)

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Haemoparasites infect all species of birds and are transmitted by arthropod vectors. Asymptomatic infections are common, but protozoal parasites can also cause the death of infected birds. A fatal infection by *Leucocytozoon* in a 1 year old captive female Grey-Headed Parrot (*Poicephalus robustus suahelicus*) is described. Necropsy was performed and tissues were collected for light and transmission electron microscopy, biomolecular examination and for evaluating iron accumulation in tissues. At necropsy severe spleen and liver enlargement were observed. Viscera appeared pale. Pulmonary oedema and some multifocal areas of necrosis in the liver and myocardium were also observed. Histologically, the presence of few schizonts were observed in hepatocytes and endothelial cells. A very large number of macrophages filled by characteristically shaped and basophilic merozoites suggestive of *Leucocytozoon* spp. was observed in the liver, spleen, and the lung parenchyma. Perls's stain showed that iron was present at a very high concentration in liver, both in macrophages and in hepatocytes. Spleen and kidney contained also scattered deposits of stainable iron. Ultrastructurally, numerous early or mature schizonts containing 1.5 to 3 µm in size, round to elongate merozoites were present within hepatocytes. All organs tested by nested-PCR resulted positive for *Leucocytozoon* spp. An iron level of 74.40 mg/kg was recorded in liver. *Leucocytozoon* frequently shows a higher pathogenicity compared to *Haemoproteus*, as the gametocyte phase can occur within either erythrocytes or leucocytes depending on the host and the species, frequently leading to megaloschizonts occurring in many organs and muscle tissues, and causing severe damage and necrosis. Fatal *Leucocytozoon* infections are rarely reported in parrots in Europe [1, 6] and haemoproteozoa are rarely reported in African parrots. To the authors' knowledge there is only a single report of *Plasmodium* infection in *Poicephalus meyeri* [3]. Nevertheless, *Haemoproteus* has been recorded in *Poicephalus robustus* [4,5], in captive birds in London Zoo. The clinical history and post mortem examination of the individual bird suggest that death caused by *Leucocytozoon* in this aviary may be due to a range of predisposing factors influencing susceptibility to infection. Blood parasite infections and concurrent diseases can be associated with breakdown of tissues and blood cells resulting in excess iron accumulation in the liver and spleen [2]. Anamnesis associated with gross, histological, transmission electron microscopy, molecular and chemical findings, clearly indicates a fatal haemoproteozoa infection in a captive Grey-Headed parrot. This case is the first description of fatal *Leucocytozoon* infection in an African Parrot and the first report of *Leucocytozoon* in psittacine birds in which morphological identification is confirmed by PCR analysis.

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