

Diagnostic Aids in Avian Medicine

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Aviculturists know the best way to maintain healthy birds is through preventative measures. These measures include balanced nutrition, proper housing, and isolation of new acquisitions and sick birds. Medical problems can and do occur in birds which are properly cared for. Due to the stresses of captivity, lowering a bird's resistance to disease, infectious diseases are common. Birds are also subject to the gamut of disorders found in mammals, including, but not limited to, reproductive disorders, organic disorders, developmental disorders, trauma, and cancer. In a pet bird practice, one sees a high incidence of problems related to inadequate husbandry. This article will explore the means for an aviculturist to recognize signs of disease and what can be done once these signs are uncovered.

Recognizing Signs of Disease

Exotic birds are wild animals, which, in nature and in captivity, make every effort to mask signs of illness. Survival advantage in the wild relies on this trait to allow birds to be less subject to predators. Due to the lack of many early signs and the high metabolic rate of birds, diseases can rapidly progress to serious proportions. For these reasons, the aviculturist should take heed whenever any "abnormality" is detected.

What should one look for? Become familiar with the daily routine of the bird. Changes in quality or quantity of vocalization can be significant. Abrupt cessation or reduction in feeding is manifested by weight loss and reduced fecal output. Discharge from the eyes or nostrils, as well as sneezing, open-mouthed breathing, and tail-pumping, can be a sign of a respiratory or related disorders.

Droppings should be examined daily. There are three components to a dropping. The tubular fecal component varies in color, depending on diet; usually green or brown. A dark, black stool can indicate gastrointestinal hemorrhage. The white component is a protein waste product from the kidney called "urates". Any change in color from white, such as yellow, is an indication of internal disease. The third component is the watery urine. Free water can also come from the bowel.

Increased urine output can be due to certain drugs, excitement, fruits, and increased water consumption. This increased output can result in a watery dropping, often confused with diarrhea.

Once you have identified a sick bird, it should be isolated and presented for examination. Some of the following diagnostic procedures can be helpful in determining the bird's disorder.

Blood Testing

Recent advances in medical laboratory procedures have allowed avian practitioners to perform a battery of diagnostic tests using minute amounts of blood. The sample is usually obtained by clipping a toenail.

The blood tests have proven to be very valuable for early diagnosis of many avian disorders. A post-purchase exam of a valuable psittacine bird will often indicate an apparently healthy bird. Many of these birds have recently been in quarantine, highly stressed, and exposed to numerous diseases. While the tetracyclines, when properly used, are effective in eliminating the psittacosis organism, their antibacterial spectrum for many other infections is poor. These other infections, due to government policy, are left untreated. Blood testing will often detect many of these problems, before they reach crisis proportions.

Birds are subject to a number of blood-borne parasites, which can be identified by blood testing. Many species are parasitized in nature, with no apparent ill-effects. The stresses of captivity can change the picture resulting in active disease. A common group detected are malarial-type organisms.

Radiology

The avian patient is well suited for x-ray studies, due to its anatomy. The system of air sacs surrounding the internal organs aids the veterinary radiologist in recognizing changes to a greater degree than possible in mammals. My preference is to administer a short-acting gas anesthetic agent, which will allow relaxation for a few moments. This reduces the stress of handling and self-trauma. A set of x-rays can complement a blood test to give a more complete picture.

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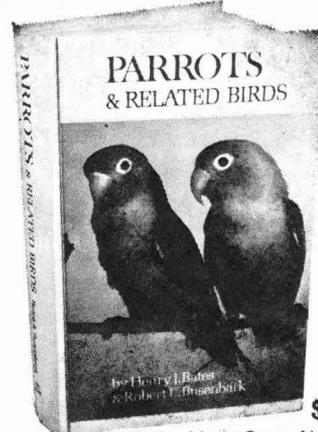
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Biopsy

A biopsy is surgically removed tissue submitted to a pathology lab for diagnosis. Biopsies are used to aid in the diagnosis of skin and feather disorders, tumors, and many conditions where visual inspection doesn't provide specific answers.

Microbiology

By taking a sample from an infected area, the laboratory can often identify the causative organism and what antibiotics are best suited for treatment. Sites commonly sampled include eyes, mouth, nostrils, skin, feather follicles, and stool. Asymptomatic carriers can be identified in an aviary by taking cloacal (vent) swabs of each bird. A test can be run to screen the bird for psittacosis. Due to the inappropriate use of antibiotics, the number of bacterial strains becoming resistant to these drugs is increasing. Microbiological testing eliminates the guesswork in choosing from a wide variety of antibiotic drugs.

Fecal Analysis

The value of inspecting the daily droppings has been mentioned. In addition, every caged bird should have its droppings tested for worm parasites. The test consists of separating out and looking for worm eggs under a microscope.

Many imported birds have tested positive for worm parasites, requiring treatment. Worm infections can be a problem once they are established in an aviary. Control depends on individual treatment of affected birds and appropriate sanitation measures. Birds are wormed by crop tube or by dissolving the appropriate drug in the drinking water.

Laparoscopy

A laparoscope is a precision optical device of small diameter, which can be inserted into a body cavity to directly visualize living tissues. These instruments have been widely used in human medicine for several years. Their main use in birds has been for sex determination. Other diagnostic techniques have not been fully developed, but many possibilities for use exist.

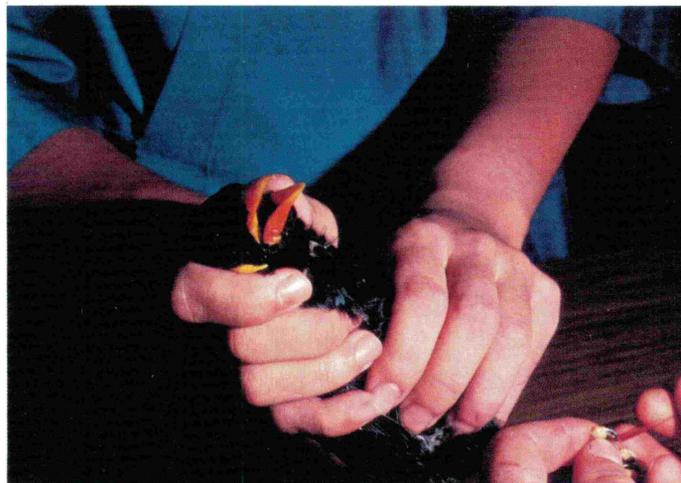
Post-Mortem Examination

Unfortunately, some disease processes are irreversible or not recognized in due time, resulting in the loss of birds. Sometimes sudden death is the only feature noticed. The most exacting information can be obtained from a properly performed post mortem exam. Tissues are submitted to laboratory for microbiological cultures and microscope examination by a pathologist. Birds requiring a post mortem should be promptly refrigerated (not frozen) and submitted to an appropriate veterinarian ●



Photos by Alan M. Fudge, D.V.M.

A gram scale used to weigh birds.



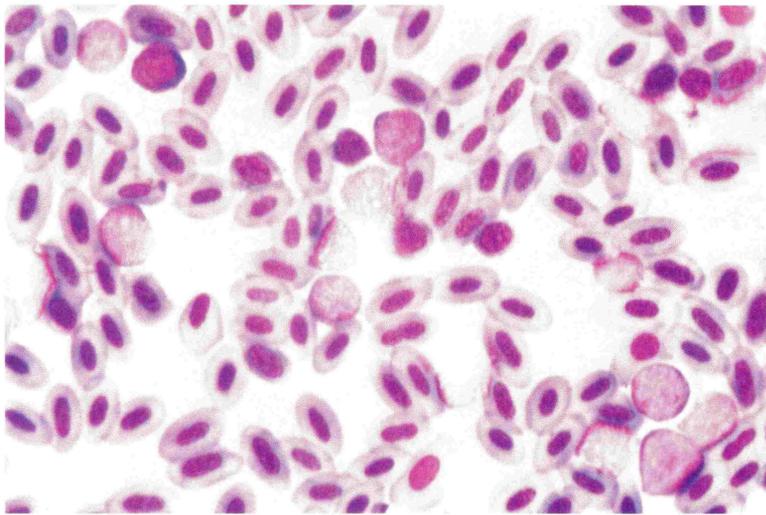
Collecting blood sample from a mynah.



Dropping with yellow urates (suggestive of liver or blood cell disease.)

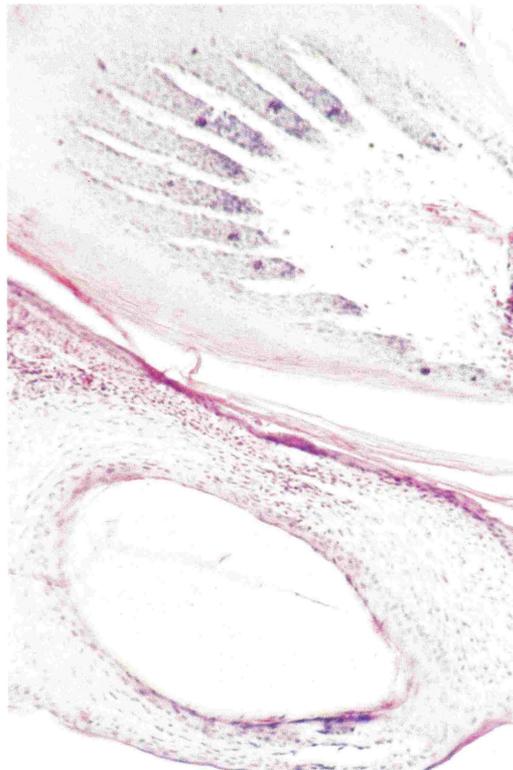


Laparoscopy of a cockatoo.

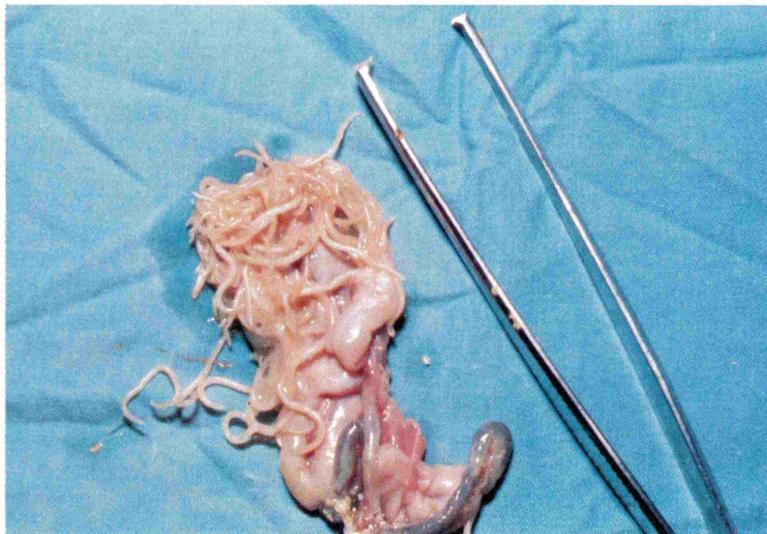


Bloodsmear from canary with leukemia (large elliptical cells are red cells; dark staining semicircular cells are leukemic lymphocytes).

Barium x-ray study of mynah—
diagnosis: tumor of pancreas.



Normal feather follicle biopsy.



Roundworms
recovered from
a cockatiel.

Announcement of new Ornithological Service

NON-INVASIVE SEXING OF PSITTACINE TYPE BIRDS

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CENTER FOR REPRODUCTIVE STUDIES is a San Diego based reference laboratory offering this unique service. Prior to this time, this alternative to surgical sexing was offered only by the research divisions of the London and San Diego Zoos as a courtesy to other zoos. Now, for the first time, this service is available commercially to veterinarians, bird breeders and individual bird owners.

Further information on methodology and documentation, pricing and discounts is available on request to CRS.

Michael M. Multer, Ph.D., Director

Wildlife

Importer Sentenced

Bert R. Slocum, owner and operator of one of the largest bird import operations in the U.S., was sentenced to serve 1 year in prison and fined \$18,000 by Judge James W. Kehoe in U.S. District Court in Miami, Florida, on June 5. He was one of five persons found guilty recently on multiple violations involving the importation and quarantine of birds. Louise V. Slocum, his wife, was fined \$1,000 and placed on 2 years probation. The other three included his son, Ray B. Slocum, and two employees, Francille Miller and Doris Fuller who were placed on probation for 2 years.

Slocum, his son, and the two employees were found guilty of conspiring to enter and maliciously breaking into a U.S. Department of Agriculture (USDA) quarantine facility; removing birds, mainly parrots, from U.S. Customs custody which had been exposed to exotic Newcastle disease; and mixing them with healthy birds at Slocum's warehouse. Louise V. Slocum was found guilty along with the others of conspiring to violate quarantine regulations. Bert R. Slocum who owns the Quality Bird Company in Miami, Florida, was also found guilty of presenting the USDA with a fraudulent claim for \$290,383 for diseased birds that had to be destroyed by USDA after he was responsible for exposing the birds to the disease.

The transmittal of exotic Newcastle disease is a constant threat to the multi-million dollar poultry and pet industries. Imported birds can transmit the highly contagious viral disease to poultry and other fowl ●