

Douglas Trent, President of the Focus Conservation Fund, lived in Brazil for nearly 11 years and has been operating and guiding natural history tours in South America for over 20 years. By using tourism to raise money for conservation work, he has earned the respect of the international scientific and conservation communities including political entities in Brazil and other South American countries. He speaks fluent Portuguese and thoroughly understands what it takes to get things done in Brazil.

Many large conservation organizations have been trying to save rainforests around the world, yet we continue to see the destruction of vast tracts each year. The problem with many projects is they do not



take into account the people who live on the land.

The Jaguar Ecological Reserve

Brazil's Pantanal, the world's largest wetland, also

contains vast rainforests. It is the easiest place in the Neotropics to see a variety of mammals and rare birds. A number of endangered species are doing well there,



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including jaguars and hyacinth macaws. Still, vast areas are about to change hands. The poor Pantaneiro landowners are rapidly being forced to sell their land due to debt or old age. The majority of them want to preserve their land and continue living their traditional non-invasive lifestyle.

With the assistance of Black Diamond Paving in San Jose, California, the Focus Conservation Fund has been able to

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You Can Save the Rainforest
continued from page 1

**“The cost of saving
the forest is a
fraction of the cost
of losing it.”**

pay one Pantaneiro family to preserve their land. The Jaguar Ecological Reserve is currently a 341-acre federally registered, privately held reserve. The land still belongs to the traditional owners while being preserved. This has caught the attention of 12 other landowners with holdings of 1.729 million acres. Each is interested in receiving money for adding their land

to the Jaguar Ecological Reserve.

Ecotourism and Biodiversity Preservation

Ecotourism can be used to both employ Pantaneiros and raise money to convert more land to reserve status. If ecotourism is going to play a significant role in biodiversity protection, the local people need to own comfortable lodges and vehicles, speak fluent English, and be trained as guides capable of guiding the most demanding naturalists and bird watchers.

The Focus Conservation Fund, together with Focus Tours, Inc., has financed a simple lodge at the Jaguar Ecological Reserve. Our goal is to raise enough money to

build a comfortable 20-room lodge staffed by well-trained Pantaneiros. The result will be Pantaneiros continuing to live in the Pantanal, earning a fair living and protecting their habitat.

There are no short cuts to preserving the Amazon rainforest. We need to work with those living there and change the economic landscape. The Focus Conservation Fund can play a leading role in these communities, if funding is made available. The alternative seems to be the loss of the world's largest forest, global warming, loss of biodiversity, health problems, etc. The cost of saving the forest is a fraction of the cost of losing it.

What Can I Do?

Even with small amounts of money, you can help create permanent reserves that will be added to the Jaguar Ecological Reserve. You can also participate in ecotourism and let others know about these opportunities. Your donation may be sent to:

The Focus Conservation Fund
103 Moya Road
Santa Fe, NM 87508
Tel (505) 466-4688
Fax (505) 466-4689
FCFund@aol.com
www.focusconservation.org

The Focus Conservation Fund is a 501(c)(3), tax-exempt non-profit organization, to which Greg and Linda Harrison donate.



Clinical CASE NOTES

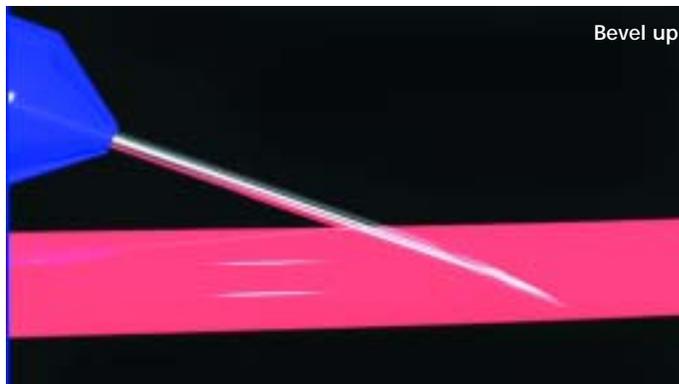
Bevel Orientation for Jugular Venipuncture

Marc H. Kramer, DVM

Jugular venipuncture in birds is a routine procedure for most avian practitioners. One question that has arisen in teaching this technique to students is whether to insert the bevel of

the needle facing up or facing down.

The preferred method of this author is bevel down. This approach has the following two advantages: 1) it allows one to “tent” up the blood vessel, allowing expansion of the jugular vein and engagement of the vessel; and 2) there is less risk of puncturing the medial wall of



Bevel up



Bevel down

the jugular, as the distance the needle must be inserted

is comparatively less when the bevel is face down.

Illustrations by Don J. Harris, DVM

Resolution of Severe Chronic Dermatitis in a Domestic Duck

Marc H. Kramer, DVM

The health of the avian integument is dependent on a multitude of factors, including the bird's nutritional plane, environment and immunocompetence.

A geriatric duck, of at least 7-8 years of age, was presented with a severe disfiguring integumentary problem. It lived on a golf course where it had contact with grass fer-

tilizers and other chemicals that leached into the ponds, causing disturbances in the water's microflora, fauna and chemical composition. The duck was regularly fed an overabundance of bread and corn from well-intentioned visitors.

At presentation, the duck had lost most of its normal plumage, began to grow dystrophic feathers and had a malodorous crusting of the skin. After a significant medical workup, a diagnosis was made: severe chronic suppurative and necrotizing

folliculitis and pulpitis with crusting dermatitis, bacterial colonization of the skin, and severe feather loss (Fig 1).

Multiple antibiotic regimens were utilized over the next 8-month period. Microbiologically, pathogens isolated over that time span included *Staphylococcus aureus*, *Escherichia coli* and *Enterococcus* sp. While feather re-growth and skin improvement was initially encouraging on a course of enrofloxacin, feathers started dropping out once treatment was discontinued. A long course of amoxicillin/clavulanic acid was later employed and was again promising with good initial clinical improvement, but after several weeks of therapy, feather loss and skin lesions recurred (Fig 2).

A highly resistant *E. coli* was then identified, with sensitivity to only amikacin and imipenem of a multitude of antibiotics tested in vitro. The duck's immunological

competence and nutritional plane were then carefully scrutinized.

A new approach to recovery focused not only on antibiotic therapy, but also on a balanced diet and immunostimulants. The duck was converted from a primarily game bird seed diet to a diet composed of 1/3 Harrison's Lifetime Fine formula, 1/3 fresh greens and 1/3 seed mix.

Additionally, antioxidant vitamin pills and echinacea were employed for their positive immunological effects. Amikacin was chosen to combat the resistant *E. coli* and was used in combination with amoxicillin/clavulanic acid.

After several months on this regimen, the duck filled out with thick strong plumage and healthy skin! Clearly, multiple aspects of health care, including nutrition, must be taken into consideration when treating a severe chronic dermatitis of this nature (Fig 3).

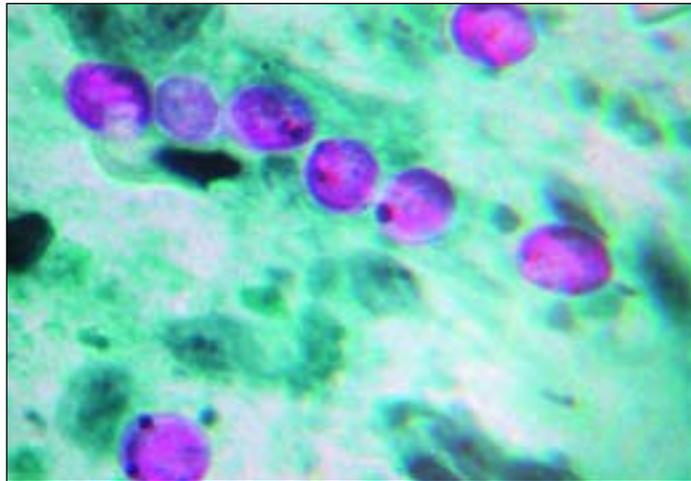


Diagnosing Avian *Cryptosporidium*

Marc H. Kramer, DVM

Cryptosporidium spp. are spheroid-to-ovoid 4–6 µm coccidian protozoans that infect and may cause severe disease in birds. While cryptosporidia may be considered primary pathogens in some cases, they are often considered opportunists in immuno-compromised hosts.

Cryptosporidium may infect mucosal epithelial cells lining the gastrointestinal, respiratory and urinary tracts. Gastrointestinal disease is the most common clinical sign. *Cryptosporidium* should be considered in any bird showing gastrointestinal signs including but not limited to regurgitation, passing undigested food in the droppings, diarrhea, weight loss,



Cryptosporidium in a fecal sample stained with acid fast stain (AFS).

depression and failure to thrive.

This parasite is transmitted through the ingestion or inhalation of sporulated oocysts. The fecal-oral route and water-associated contamination are thought to be most likely. The life cycle is direct, and autoinfection is common. Its relative resistance to many disinfectants and rapid sporulation

make it difficult to eliminate even with frequent cleaning. Antemortem diagnosis is challenging due to the need for specialized testing and a low shedding rate.

One practical in-house technique that may demonstrate oocysts is the fecal acid-fast stain (AFS), which stains the oocysts pink against a blue background. While not overly sensitive, this

technique will occasionally reveal a positive result in suspect cases.

Alternatively, detection of oocysts in the feces by immunofluorescent antibody (IFA) can be performed, which is more sensitive than AFS. A serum ELISA test may also be useful. While there is no consistently effective treatment protocol, the use of paramomycin may help to reduce the number of voided oocysts. A dose of 100 mg/kg PO q12h has been used by the author. Using an easily digestible and balanced diet such as Harrison's Bird Foods may also serve as an adjunct therapy for infected birds.

Cryptosporidium spp. that infect birds are different from those that infect mammals and are not considered zoonotic.

Quick Steps for Treating Birds with Gastrointestinal Stasis

Greg J. Harrison, DVM, Dipl ABVP-Avian Practice

- Administer warm lactated Ringer's solution orally after appropriate therapeutic measures, such as crop flushing, have been instituted.
- If the lactated Ringer's solution empties, add an easily assimilated source of carbohydrates (Ultra-Clear® or Carbo-Fuel® available through health food stores) for one feeding.
- If that solution clears, add diluted Harrison's Recovery Formula (see page 6 in this issue) mixed at twice-normal dilution.
- If that clears, use normal Recovery Formula dilution instructions.
- (For psittacines) Once the bird has started recovery but still lacks a strong appetite, switch to HBD's Juvenile Hand-feeding Formula® while adding High Potency Formula to the food dish. Some fruits and vegetables may be used to enhance the appetite, but because they are low in protein and fat, they need to be strictly limited in sick birds.

Microchipping Pet Birds

Marc H. Kramer, DVM

A microchip identification system is a valuable tool for a practitioner to offer to clients with birds. The microchip is a permanent means of identification that has proven to be safe and effective. Microchips are delivered through a hypodermic needle under the skin and into the breast muscle of the bird. The procedure is rapidly performed. Brief anesthesia is preferred in



some birds depending on their size and demeanor. The author prefers to avoid implanting microchips in birds weighing less than 200 grams.



A Closer Look

Some Research Notes on the Adverse Effects of Rancidity

When a foodstuff is rancid, its effects are more than an objectionable taste or smell. Rancidity can cause serious health problems. Here are some interesting studies about rancidity, including the fact that refrigeration prolongs shelf-life, particularly with light-proof packaging. What this means to you as an HBD distributor is that, although the opaque, triple-layer packaging protects the viability of the nutrients in Harrison's Bird Foods, refrigeration will further extend the freshness. Also, in general, it would be a good idea to "sniff before you taste" any fat-containing products that have been stored.

Effect of Rancid Corn Oil

Perjesi P, Pinter Z, Gyongyi Z, Ember I: Effect of rancid corn oil on some onco/suppressor gene expressions in vivo. A short-term study. *Anticancer Res* 22(1A):225-30, Jan-Feb, 2002.

Autooxidation of polyunsaturated fatty acids (PUFAs) of edible oils results in the formation of fatty acid hydroperoxides that can undergo further chemical transformations to yield a variety of rearranged and chain-cleavage products. Since the oxidation products of PUFAs have been reported to have cytotoxic and mutagenic effects, the consumption of rancid oils and fats represents a possible health hazard for the population. Storage of corn oil at room temperature and in the

refrigerator for a forty-eight month period resulted in two different qualities of oil samples, which were characterized by UV, titrimetric (peroxide value, acid value) and GC-MS methods. The results suggest that rancid oils, rich in omega-6 unsaturated fatty acids, could be involved not only in tumor promotion but in initiation as well.

Myopathy in Brown Pelicans

Shivaprasad HL, Crespo R, Puschner B, et al: Myopathy in brown pelicans (*Pelicanus occidentalis*) associated with rancid feed. *Vet Rec* 150(10):307-311, 2002.

Three adult brown pelicans (*Pelicanus occidentalis*) were observed to be weak, anorexic and unresponsive to antibiotics, anti-inflammatory drugs, vitamins including vitamin E, and steroids. Blood chemistry revealed high activities of aspartate aminotransferase, creatinine kinase and lactate dehydrogenase. Radiographs of the birds' leg muscles revealed multiple opacities suggestive of calcification; the gross lesions included white streaks in the leg, wing, and heart muscles, and the microscopical lesions consisted of various degrees of degeneration and necrosis characterized by eosinophilia, variations in fiber size, loss of striations, myolysis, mineralization, and proliferation of mononuclear cells in the skeletal muscles and the myocardium. The levels of heavy metals, selenium and vitamin E in the birds' livers were not abnormal. The level of peroxide in their diet of capelin fish was high, 69 meq/kg, (normal < 20 meq/kg) consistent with rancid feed, and the level of vitamin E was very low, 0.5 IU/kg (normal 20 to 30 IU/kg). It was concluded that the myopathy was probably caused by vitamin E deficiency due to feeding the pelicans a rancid diet.

Quality Changes in Walnut Kernels

Jensen PN, Sorensen G, Engelsen SB, Bertelsen G: Evaluation of quality changes in walnut kernels (*Juglans regia* L.) by Vis/NIR spectroscopy. *J Agric Food Chem* 49(12):5790-6, 2001.

Storage of walnut kernels in light and at room temperature, as is common practice, is detrimental to their sensory quality and shelf life. The study establishes that

storage in light results in pronounced oxidative changes, especially in walnuts stored at 21°C, whereas dark storage at 5°C results in walnuts without any trace of rancid taste during 25 weeks of storage at accelerated storage conditions (50% oxygen).

Fatty Liver Syndrome in Laying Hens

Dimitrov A, Antonov S, Stoianov P, et al: Fatty liver syndrome in laying hens. *Vet Med Nauki* 7(1):81-9, 1980.

Pathomorphological and biochemical investigations on the liver and blood serum from laying hens affected by the liver obesity syndrome were carried out. It was established that the mortality due to the liver obesity syndrome varied from 3.1 to 3.7%. A rise in mortality was observed in cases fed fodder mixtures with higher peroxide and aldehyde values. The chemical investigation of various lots of fodder mixtures established cases of rancid fats, which were manifested by the high peroxide and aldehyde values. The amino acid composition of fodder also varied too much. It is assumed that besides the genetic control of liver obesity, rancid fats and insufficient content of essential amino acids in the fodder mixtures also lead to an increased mortality percentage in the affected birds.

The Effect of Vitamin E and Rancid Fish Liver Oil

Teplyi DL, Savin VF: The effect of vitamin E and rancid fish liver oil on the spinal cord motor neurons of white rats. *Tsitologija* 18(3):296-300, 1976.

Using the "August" white rats, the influence of alpha-tocopherol (5mg/day/animal) and of its antagonist, rancid fish oil (5% ratio in the food), on the cytophysiologic properties of motor neurons was studied. Tocopherol caused a functional exhaustion of motor neurons. The rancid fish liver oil caused abnormalities in the specific function of motor neurons. Vitamin E administered after castration brought about further removal of changes, evoked by castration, whereas the rancid fish liver oil introduced after castration was seen to enhance dystrophic lesions.



HBD NEWS



Tanya Harrison Coffinberry

Seeking Input

You are probably already familiar with the AVMA survey reporting that of the 11 million pet birds in this country, only 11.7% of these had been seen by a veterinarian. (On the other hand, 83.6% of dogs and 65.3% of cats regularly visit a veterinarian.) A Pet Business survey showed that 62% of bird

owners own a dog and 49% a cat. So these same owners must take their dogs and cats to the vet but not their birds? Why? HBD is interested in developing a program to help support avian veterinarians in attracting more bird clients to their practice. If you have any ideas or input please contact Tanya at <Tanya@HarrisonsBirdFoods.com>.



"I thought it wasn't supposed to snow in Nashville!"

New Products

Harrison's Bird Foods has introduced some new products to support your avian clinical practice.

Recovery Formula for Avian Nutritional Support

HBD's Recovery is an oral, easily assimilated source of nutrients that has been scientifically formulated, field tested since 1986, and enhanced to support debilitated avian patients. Recovery is recommended for sick birds after they are able to clear liquids from the crop. Because sick birds have higher nutritional needs, Recovery Formula supplies those critical levels of fat and protein, which are restricted in some other avian therapeutic formulas.

Indications

- For birds with slowed gastrointestinal emptying time
- As a dietary transition for malnourished patients until an improved diet can be instituted
- For recuperation of medical and surgical patients
- To support convalescence of birds with pansystemic failure

Contraindications

- Do not use in cases of ileus or stasis

Neonate Formula for Hand-feeding Newly Hatched Chicks

HBD's Neonate Formula is a new, easily digestible formula for early hand-feeding of psittacine and passerine chicks. With minor modifications of a formula originally developed for rehabilitation of delicate free-ranging passerine chicks, Neonate Formula has been field tested on thousands of newly hatched psittacine chicks at a large facility in the Philippines for three breeding seasons.

Indications

- For incubator-raised or parent-abandoned parrot chicks from hatching to three weeks of age
- For intensive care of very young passerine chicks

Contraindications

- Not recommended for chicks over three weeks of age. HBD Juvenile Formula should be used after this age.

Invitation to HBD Chat at ICE

You are invited to join us for snacks and good conversation at a Special HBD Chat held in conjunction with the International Conference on Exotics (ICE).

**Friday
June 6, 2003
6:00 p.m.**

The Breakers, Palm Beach, Florida
(room to be announced)

Led by Greg Harrison, the featured speaker of the chat will be Michael Stanford of the United Kingdom, who will report on-going results of his research with a flock of African grey parrots. Topics include circovirus, anesthesia, measurement of ionized calcium and vitamin D levels, and use of fecal Gram's stains, ultraviolet lights, and F10. All ICE registrants are invited to attend. For further information access www.exoticdvm.com.



Using Harrison's

Amazon Conversion

Susan Kelleher, DVM
Pompano Beach, FL

An Amazon had been suffering from severe white plaques on the roof of the mouth since 1999. I finally convinced the owner to commit to a diet change. That, along with antibiotics, anti-

fungals, vitamin A injections and monthly rechecks to clean off any new plaques, has made a huge difference.

Now, every time the owner comes in for her checkup, she says, "Dr. Kelleher, would you just look at these beautiful new feathers she is growing in? She looks so good." It only took me three years to convince her to change the diet. She is now nearly 100% on HBD. You can actually see brand new, sharp baby papilla growing around her choana. She still gets small plaques that sprout up, but I debride them and cauterize the area with silver nitrate.

30-year-old Birds in Excellent Health

Don Zantop, DVM
Dipl ABVP-Avian

Just a bit of anecdotal info. I have two 30+ -year-old birds that have been on HBD as long as any because I was given some early samples of the diet and they easily converted. One is a white

cockatoo and the other is a timneh African grey. Prior to HBD they had been fed a version of Kray's Diet for many years (so they were fed some dog food) and then, just prior to being switched to HBD, they had been on another pelleted product. A 7-8-year-old daughter of the timneh has been on HBD exclusively. All 3 eat 90%+ pelleted food. All are in good feather and excellent health with consistently normal lab work.

Educating Your Clients

Ron Rees Davies, BVSc,
CertZooMed, MRCVS
Romford, Essex, UK

In an ideal world, we should feed a good quality natural fresh food that results in a food intake that meets (but does not detrimentally exceed) all of their nutritional requirements. Unfortunately, the only way this is in reality possible is to release the birds into the wild habitat they evolved to live in! We don't know precisely the nutritional requirements of most / any psittacine species. Although this means that pellets are always going to be a "best guess" approach, it is still going to be better in many situations, especially single household pets, to feed pellets with a known nutritional analysis and a proven track record than it is to feed a mixture of seeds, fruits and vegetables without

constant nutritional analysis and without controls over which bits of the diet the bird actually eats.

Why is it that people worry about the long term effects of "artificial" pellets but are happy to feed cheap moldy sunflower seeds that have been grown using fertilizers and insecticides in parts of the world where no one cares about the concerns over DDT/organophosphates, etc?

It would be useful to discuss with clients the implications of using organic foods — organic seeds, fresh fruit and vegetables or Harrison's organic, human grade pelleted food that is widely available for birds in the US and UK.

Organic is the Way to Go

Kisha White-Farrar, RVT
Fort Worth, TX

I have been using (another brand) parrot pellet for my birds for about 9-10 years. I have a mitred conure, a timneh African grey and double yellow-headed Amazons. I have had good results: great plumage, good blood work over the years. I am, however, fixing to make the change to Harrison's because I think organic is the way to go. I have stayed away from some of the other pellet brands that use lots of artificial colors in them; I don't see any reason to feed my guys those extra chemicals.



Susan Kelleher, DVM

Susan Kelleher, DVM



HBD's Avian Examiner is brought to you as a service of HBD International, Inc., manufacturer and distributor of Harrison's Bird Foods. This publication is part of HBD's commitment to building avian practice through education and nutritionally sound diets. Although every effort has been made to ensure the accuracy of the information presented herein (particularly drug doses), it is the responsibility of the clinician to critically evaluate the contents, to stay informed of pharmacokinetic information and to observe recommendations provided in the manufacturers' inserts. Reader responses, comments and suggestions are encouraged. Please mail to Avian Examiner, 7108 Crossroads Blvd., Suite 325, Brentwood, TN 37027 or fax to 800-279-5984.



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The Results Speak for Themselves



Submitted by Friedrich Janeczek, Avifoods, Munich, Germany

Mrs. Mundt of Munich, Germany took this photo of her budgies. The birds are successfully breeding in nest boxes set up in a large aviary in her pet shop. The droppings fall into a pond below the perches where they are consumed by koi fish. We didn't see the budgies "before" they were converted to Harrison's Bird Foods, but look at them now!