

# Exotic Avian Special Edition

# CAHFS

# CONNECTION

July 2012

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## HOLIDAY SCHEDULE

CAHFS will be closed on **Monday, September 3** in observance of Labor Day.

### Osteodystrophy fibrosa in adult Merlin falcons

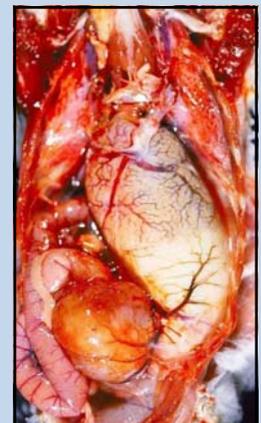
Two female adult Merlins had a history of a few days duration of laying soft shelled or broken eggs and one bird had terminal seizures before death. Necropsy of the birds revealed thin shelled and broken egg in the oviduct of each bird. The long bones were pliable and the parathyroid glands were enlarged. Microscopic examination of the long bones revealed severe osteoclastic bone resorption and fibrosis in the medullary cavity. Parathyroid glands had severe hyperplasia and vacuolation in the cytoplasm of chief cells consistent with nutritional secondary hyperparathyroidism. History revealed that these birds were being fed breast meat of sparrows and starlings. The calcium to phosphorus ratio in these meats range from 1:17 to 1:44 whereas the correct Ca: P ratio of avian diets in egg layers should be 5:1.

### Chlamydiosis in psittacines

Chlamydiosis caused by *Chlamydomphila psittaci* is a naturally occurring contagious and zoonotic disease of various species of birds including psittacines. Psittacines constitute about 25 percent of the reported host species. Other species of birds include pigeons, passerines, wild feral birds, rheas, raptors, etc. Transmission of chlamydiosis is primarily through inhalation, but it can also occur through ocular, oral and other routes. Clinical signs in psittacines can range from greenish-yellow diarrhea to respiratory signs, ocular discharge, and rarely neurological signs to inapparent carriers. Most common lesions due to chlamydiosis are hepatitis and splenitis and other lesions include polyserositis, pneumonia, conjunctivitis, enteritis and rarely meningitis, nephritis, and bursitis (bursa of Fabricius) associated with elementary bodies. Diagnosis of *Chlamydomphila psittaci* can be readily made by serology, cytology, fluorescent antibody testing, demonstration of elementary bodies by histopathology and immunohistochemistry; PCR is available as a send-out test.

### Proventricular Dilatation Disease in psittacines

Proventricular Dilatation Disease (PDD) is one of the most common and fatal diseases of more than 80 species of psittacines caused by Avian Bornavirus. PDD has also been reported in other species of birds such as raptors including a Golden Eagle, toucans, Canada geese, canaries, etc. PDD in psittacines is characterized by regurgitation of food, passing of undigested seeds in feces, neurological signs, anorexia, weakness, loss of weight, and death. The pathology of PDD includes dilation of the proventriculus and distention of the duodenum with lymphoplasmacytic inflammation in the central, peripheral and autonomic nervous systems, as well as, adrenalitis and myocarditis. Diagnosis of PDD can be made by microscopic examination of tissues. RT-PCR testing on the feces and tissues such as brain and gastrointestinal tract can be sent to an outside laboratory, if requested.



Dilated proventriculus from an African Grey Parrot

## CAHFS Lab Locations

### CAHFS - Davis

University of California  
West Health Sciences Drive  
Davis, CA 95616  
Phone: 530-752-8700  
Fax: 530-752-6253

[cahfsdavis@cahfs.ucdavis.edu](mailto:cahfsdavis@cahfs.ucdavis.edu)

### CAHFS - San Bernardino

105 W. Central Avenue  
San Bernardino, CA 92408  
Phone: (909) 383-4287  
Fax: (909) 884-5980

[cahfsanbernardino@cahfs.ucdavis.edu](mailto:cahfsanbernardino@cahfs.ucdavis.edu)

### CAHFS - Tulare

18830 Road 112  
Tulare, CA 93274  
Phone: (559) 688-7543  
Fax: (559) 686-4231

[cahfstulare@cahfs.ucdavis.edu](mailto:cahfstulare@cahfs.ucdavis.edu)

### CAHFS—Turlock

1550 Soderquist Road  
Turlock, CA 95381  
Phone: (209) 634-5837  
Fax: (209) 667-4261

[cahfsturlock@cahfs.ucdavis.edu](mailto:cahfsturlock@cahfs.ucdavis.edu)

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Your feedback is always welcome. To provide comments or to get additional information on any of the covered topics or services, please contact Sharon Hein at [slhein@ucdavis.edu](mailto:slhein@ucdavis.edu).

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We're on the Web  
[www.cahfs.ucdavis.edu](http://www.cahfs.ucdavis.edu)

## Worms in the brains of birds; an outbreak of Cerebrospinal nematodiasis in cockatiels

Cerebrospinal nematodiasis (CSN) is caused by migration of nematode larvae of *Baylisascaris* sp. through the brain and spinal cord of various species of mammals and birds often resulting in their death. Larvae of *Baylisascaris procyonis*, an intestinal ascarid of raccoons, are responsible for the majority of cases of CSN in mammals and birds. An outbreak of CSN occurred in an outdoor



A cockatiel with a head tilt due to migration of nematode larvae in the brain

aviary housing 37 cockatiels in Southern California. Thirty five of these birds died over a period of five months with neurological signs. Thirteen birds were submitted to the laboratory and histopathology revealed malacia and inflammation in the mid brain. In the brain of five birds larvae of *Baylisascaris* sp. were present, usually away from the lesions which often required extensive sectioning of the brains in order to find them. The most likely source of the outbreak was raccoons which were noticed in the vicinity of the aviary.

## Poxvirus infection in canaries

Poxvirus infection in canaries is one of the most common and often lethal infections caused by *Canary poxvirus*. Mortality can reach as high as 90 percent in an aviary. The disease is most common in the fall season due to increase in mosquitos which can transmit the disease. Clinical signs include ruffled feathers, ocular and nasal discharge, dyspnea and crusty or small nodular lesions on the beak, face, eyelids, feet and other areas and death in three to 15 days. The characteristic lesions are bronchopneumonia with intracytoplasmic inclusions in the epithelial cells. Other lesions include epidermitis, folliculitis, conjunctivitis, sinusitis, esophagitis, tracheitis, pleuritis, airsacculitis, etc. Diagnoses of poxvirus can be made based on characteristic clinical signs and confirmation by histopathology and virus isolation. The disease can be controlled by vaccination of canaries in the wing web.

## Psittacine Beak and Feather Disease (PBFD)



A Moluccan Cockatoo with beak and feather dystrophy compared to the normal Umbrella Cockatoo.

PBFD is a viral disease affecting many species of psittacines characterized by chronic beak and feather dystrophy. Acute deaths can also occur in young birds especially in African Grey parrots secondary to immunosuppression. PBFD is caused by circovirus and it is transmitted by contact, respiratory and oral routes. The lesions are characterized by pteryilitis and pulpitis of the feathers associated with characteristic botryoid inclusions in the macrophages and also in the bursa of Fabricius, bone marrow, etc., and intranuclear inclusions in the feather follicle epithelium, mucosa of esophagus, etc. Diagnosis of PBFD at CAHFS is made by histopathology with PCR sent to an outside laboratory if requested.