



UC DAVIS

VETERINARY MEDICINE
California Animal Health and
Food Safety Laboratory System

CAHFS CONNECTION

March 2013

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Holiday Schedule

CAHFS will be open, but will have limited services available on **Friday, March 29, 2013** in observance of Cesar Chavez Day.

Please contact your laboratory to plan your testing needs accordingly.

Bovine

Foot lesions in cows at all stages of lactation in one dairy caused **chronic lameness** that was unresponsive to treatment and led to increased culling. The feet submitted from one euthanized cow had prominent interdigital ulcers with skin flaps. Lesion tissue was tested for Infectious bovine rhinotracheitis virus, Bovine herpes virus – 2 (mammillitis), Bluetongue virus, Bovine viral diarrhea virus, Epizootic hemorrhagic disease virus, **Malignant catarrhal fever (MCF)**, Vesicular stomatitis virus and Foot and mouth disease virus. PCR was **positive for MCF** due to ovine herpesvirus-2 (OvHV-2). A herpesvirus was isolated from the ulcer by NVSL but was probably not OvHV-2 as the latter does not grow in cell culture. The clinical expression of MCF solely as lameness is unusual; cattle often demonstrate severe corneal opacity, rhinitis and oral ulcers.

Arsenic toxicosis was diagnosed in a 10-month-old beef heifer that died suddenly from a group of six on pasture. Necropsy performed at CAHFS revealed severe **watery diarrhea** and dehydration. Toxic arsenic levels were detected in the liver (45ppm), kidney (36ppm) and rumen contents (530ppm). Since arsenic has a short half-life in tissue, the high levels indicate recent ingestion. The arsenic in the tissue matched the type found in arsenical herbicides that were used in the past. A source of arsenical herbicides was not found.

Equine

Equine serum hepatitis, also known as **Theiler's disease**, post-vaccinal hepatitis, acute liver atrophy, or idiopathic acute hepatic disease, was diagnosed in a 9-year-old horse at CAHFS. The horse had a 14 hour history of anorexia, incoordination, ataxia, running into walls, and icterus. At necropsy the liver was flabby (Figure 1) and had a diffuse enhanced reticular pattern. Centrilobular to panlobular hepatocellular degeneration, necrosis, and loss with associated non-suppurative hepatitis was diagnosed histologically. Theiler's disease is a common cause of acute hepatic failure in horses. It was first described in the early 20th century, however the etiology remains unknown to date. It is primarily a disease of adult horses characterized clinically by sudden onset of neurological signs (hyperexcitability, mania, continuous walking, circling, apparent blindness, ataxia) and jaundice, with death generally occurring in 6-24 hrs, although some horses recover after transient illness with jaundice. It is thought to be associated with injection of biologic products of equine origin (*Clostridium* spp. toxoids or tetanus antitoxin, herpesviral vaccines, horse plasma, equine chorionic gonadotropin, etc.), but has also been reported in horses that have not received such injections.



Figure 1. A flabby liver is a typical necropsy finding in cases of equine serum hepatitis.

Taylorella equigenitalis, the cause of **contagious equine metritis** – a foreign animal disease, was isolated from a routine uterine culture submitted from an infertile mare. The organism was barely visible at 48 hours and can take up to seven days to grow and requires incubation in 5-10 percent CO₂. The isolate was confirmed by NVSL.

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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 shein@ucdavis.edu.

We're on the Web
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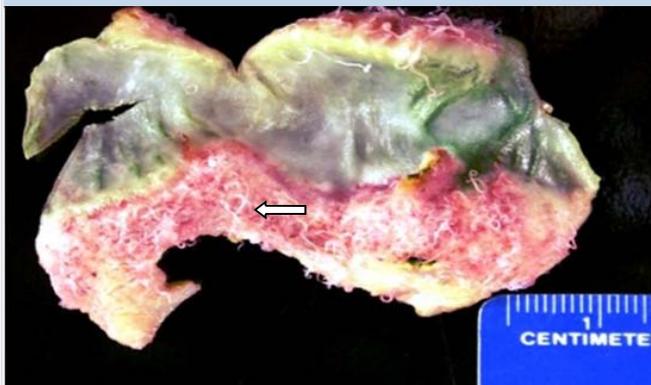
Porcine

Glasser's disease due to *Haemophilus parasuis* was diagnosed in an 80-pound Berkshire gilt on pasture that died after several days of illness and was submitted for necropsy. Gross findings included dehydration with severe fibrinous pleuritis, pericarditis, polyarthritis and pneumonia. There were hundreds of adult roundworms (*Ascaris suum*) packed in the distended small intestine. Histopathology revealed meningitis, pleuritis, pericarditis, synovitis and pneumonia. *Haemophilus parasuis* was isolated from the pleura. *Haemophilus parasuis* infection, also referred to as Glasser's disease, is an acute infectious disease usually presenting as sudden death. The characteristic lesions are polyserositis, polyarthritis and meningitis but it can also be a component in swine respiratory disease. There are numerous serovars with variable pathogenicity, and it is widespread, being found even in asymptomatic swine. The occurrence of Glasser's disease is often associated with stress and in this case the severe roundworm parasitism may have been a contributing stressor.

Other Avian

Systemic trichomoniasis was diagnosed in two young pigeons. Clinical signs seen in the flock included increased mortality, greenish diarrhea, and emaciation. At necropsy the birds exhibited large masses of a solid, yellowish caseous material at the base of the heart and in the liver. Histologically, extensive areas of necrosis associated with large numbers of trichomonads were seen in the heart and liver. Trichomoniasis was confirmed by immunohistochemistry.

Gizzard worms (*Hadjelia truncata*) were diagnosed in a squab operation's breeder pigeons. The adult birds were "going light" and mortality in the loft was one death per day. The affected group of birds had been recently purchased. The submitted birds were thin with greatly enlarged ventriculi. The koilin layer of the ventriculus had small erosions at both the oral and aboral portion. Removal of the koilin layer revealed numerous tiny, hair-like worms directly below the areas of erosions.



Goiter (enlarged thyroid) was diagnosed in five adult English budgerigars. Thirty out of 400 adult birds had died in the previous two to three months with a suspected crop problem. Diet consisted of a commercial mixture with whole oats, carrot and broccoli or other greens added. The birds examined had markedly enlarged thyroid glands. Histologically thyroid follicular hyperplasia and granulomatous thyroiditis were observed. Budgerigars are susceptible to developing goiter when fed an iodine-deficient diet or when consuming large quantities of goitrogenic agents including cabbage, broccoli, kale, turnips, rapeseed and soybean. The presence of broccoli in the diet of these birds was thought to be the cause of the goiter. Following supplementation of water with iodine and removal of broccoli from the diet, the owner reported weight gain and reduced deaths among birds with goiter.

Systemic salmonellosis was diagnosed as the cause of death in pine siskins [Finch family] from three counties between November and February. Nine wild pine siskins (*Carduelis pinus*) from Santa Clara, San Mateo and Marin counties were submitted to CAHFS for necropsy. In six of the nine birds *Salmonella typhimurium* was isolated from various sites; these birds presented with esophagitis, head/neck cellulitis and systemic lesions suggestive of septicemia. Pine siskins are particularly susceptible to *Salmonella* spp. infection, and it is a significant cause of morbidity and mortality in this species. Salmonellosis outbreaks are occasionally reported in pine siskins particularly when a large number of birds come in close contact at a crowded feeder. This case highlights the role of wild birds as hosts and reservoirs of *Salmonella* spp. that can eventually affect other wild and domestic birds and mammals.