

Summary of Selected Disease Events January–March 2008

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Ruminants (bovine, caprine, ovine)

Foot-and-Mouth Disease (FMD), Global

Egypt

On March 16, 2008, Egypt reported two FMD Type O outbreaks in cattle to the OIE. The outbreaks began in September 2007 and are the first documented cases of FMD Type O PanAsia strain in Egypt. No information was given regarding how the new virus strain entered Egypt.

Sources :

1. OIE: <http://www.oie.int/wahid-prod/public.php?page=single_report&pop=1&reportid=6901> Accessed April 2, 2008.
2. FAO: Animal Production and Health Division. 75th Session of the Executive Committee. Executive Summary and Recommendations. http://www.fao.org/ag/againfo/commissions/en/eufmd/75report_txt.html Accessed April 2, 2008.

Colombia

Colombia has intercepted smuggled FMD-infected cattle from Venezuela in the border area of Arauca. FMD is considered endemic in Venezuela and the country continues to experience FMD outbreaks. While Colombia is striving to attain FMD-free status, exchange rate disparities between the Venezuelan and Colombian currencies are resulting in increased cattle smuggling from Venezuela to Colombia. However, Colombia has not reported an FMD outbreak since March of 2005 when a laboratory strain infected cattle at a university research station in Bogota.

Sources :

1. ProMED: <http://www.promedmail.org/pls/askus/www_flow.accept>. Archive number 20050311.0726. Accessed April 2, 2008.
2. Federacion Nacional de Comerciantes (Fenalco). <http://translate.google.com/translate?hl=en&sl=es&u=http://www.fenalco.com.co/fenalco_v1/Noticia1.asp%3FIdnoticia%3D442%26menu%3D12&sa=X&oi=translate&resnum=1&ct=result&prev=/search%3Fq%3D%252BFedeg%25C3%25A1n%2B%252BBarauca%2B%252BT%25C3%25A1chira%2B%252BBarinas%2B%26hl%3Den%26sa%3Dg>. Accessed April 2, 2008.

Cyprus and the United Kingdom

During February 2008, the OIE Scientific Commission for Animal Diseases recommended to the OIE International Committee that Cyprus and the United Kingdom be reinstated with FMD-free status following the successful eradication of limited outbreaks in both countries.

Source:

- CyprusMail. <http://www.cyprus-mail.com/news/main.php?id=37862&cat_id=1>. Accessed April 1, 2008.

Bluetongue Virus, Europe

During the period in 2007 when most European countries affected by bluetongue virus serotype 8 (BTV-8) were in self-declared vector-free periods, Spain and Italy reported their first BTV-8 cases to the OIE. During the first three months of 2008, BTV-8 outbreaks were also reported by the United Kingdom and Czech Republic. In southeast England, new cases of BTV-8 were discovered during routine testing, causing an expansion of existing protection and surveillance zones. It is not clear whether these cases were a continuation of last year's outbreaks or caused by new infections.

Since the beginning of 2008, thousands of livestock (mostly sheep), have been imported by the United Kingdom from bluetongue-affected areas of Europe. Some of these animals were found to have antibodies to BTV-8, but were presumed free of infection. However, a dairy heifer imported by Northern Ireland that previously tested negative for BTV-8 was, upon re-testing, found to be viremic. Subsequently, several newborn calves were also found to be infected with BTV-8 virus. In light of these events, a temporary ban on the importation of breeding animals was announced by officials in both Northern Ireland and the Republic of Ireland.

According to European law, vaccination for bluetongue virus is allowed in BTV-8 protection zones. A commercial BTV-8 vaccine was not available during last year's vector season; however, development of a suitable vaccine is underway. Most countries affected by BTV-8 have already placed BTV-8 vaccine orders and are formulating vaccination strategies for the coming midge vector season. Vaccine manufacturers expect to be able to supply sufficient doses of BTV-8 vaccine by the time virus circulation begins again.

Sources:

1. OIE: <http://www.oie.int/wahid-prod/public.php?page=weekly_report_index&admin=0>. Accessed April 7, 2008.
2. ProMED: <http://www.promedmail.org/pls/askus/www_flow.accept>. Archive numbers 20080328.1168, 20080308.0948, 20080119.0233, 20080220.0696, 20080217.0637. Accessed April 4, 2007.
3. Farmers Guardian: Vaccination gets underway as Europe takes its first deliveries'. <<http://www.farmersguardian.com/story.asp?sectioncode=1&storycode=17463>>. Accessed April 4, 2008.

Rift Valley Fever (RVF), South Africa

On February 8, the OIE received a report from South Africa regarding an outbreak of RVF in buffaloes on a game farm. This was the first outbreak of RVF reported by South Africa since January 1999. Subsequently, two follow-up reports were submitted documenting RVF outbreaks on six additional premises housing both buffaloes and cattle. All three RVF outbreaks occurred in Mpumalanga Province in an area north and east of Swaziland, close to the borders with Mozambique and Botswana.

Sources:

1. OIE: 'Rift Valley Fever, South Africa Immediate notification report'. <http://www.oie.int/wahid-prod/public.php?page=single_report&pop=1&reportid=6780>. Accessed March 28, 2008.
2. OIE: 'Rift Valley Fever, South Africa Follow-up report No. 1'. <http://www.oie.int/wahid-prod/public.php?page=single_report&pop=1&reportid=6857>. Accessed March 28, 2008.
3. OIE: 'Rift Valley Fever, South Africa Follow-up report No. 2'. <http://www.oie.int/wahid-prod/public.php?page=single_report&pop=1&reportid=6900>. Accessed March 28, 2008.



Respiratory Disease in Cattle, Russia

Beginning in December 2007 and continuing into the first calendar quarter of 2008, a farm belonging to the Irkutsk Agricultural Research Institute in Pivovarikha experienced a significant number of cattle deaths due to a highly contagious respiratory virus. At the beginning of the outbreak, about one-half of the 1,050 cattle became sick and 300 died within two weeks. By the end of the outbreak 174 cows and 406 calves had died from the disease. Upon testing it was determined that the outbreak was caused by a bovine respiratory syncytial infection (BRSI) and pasteurellosis. The specific BRSI etiologic agent was not identified. Often, viruses causing BRSI result in secondary pasteurellosis infections; however, such co-infections rarely cause the extreme mortality seen in this case. According to national media, the monetary loss from the outbreak, including lost milk sales, amounted to over \$1 million and caused an 80% reduction in profits from the previous year. Initially, 102 imported Canadian cows were implicated in the outbreak; however, upon testing, these cows were determined to be disease-free.

Source:

- CattleNetwork.
<<http://www.cattlenetwork.com/content.asp?contentid=192685>>. Accessed April 7, 2008.

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Bovine Babesiosis, New Caledonia

On March 31, the Chief Veterinary Officer of New Caledonia reported four outbreaks of bovine babesiosis (BB) to the OIE. This is New Caledonia's first report of BB since 1990, and the outbreak was, upon investigation, found to originate in imported Australian cattle. Prior to export, the cattle had been vaccinated with live vaccine which resulted in BB transmission to native New Caledonian tick populations. New Caledonian import rules require that cattle be treated for tick vectors; however, vaccination for BB is not mandatory. The Australian Quarantine Inspection Service is assisting New Caledonian veterinary officials with disease mitigation.

Sources:

1. OIE: <http://www.oie.int/wahid-prod/public.php?page=single_report&pop=1&reportid=6896>. Accessed April 7, 2008.
2. ProMED: <http://www.promedmail.org/pls/askus/www_flow.accept>. Archive number 20080313.1006. Accessed April 7, 2008.

Screwworm Myiasis, Yemen

In the first quarter of 2008, Yemen's Ministry of Agriculture reported that more than 8,500 animals in three provinces have been affected by myiasis caused by Old World screwworm. The outbreaks began in December 2007 near the border with Saudi Arabia. Yemen's General Department for Animal Resources has mobilized spraying teams in infested areas to counter the fly larvae causing the outbreak. These are the first documented screwworm myiasis outbreaks in Yemen.

Source:

- ProMED: <http://www.promedmail.org/pls/askus/www_flow.accept>. Archive number 20080304.0881>. Accessed April 7, 2008.

Equids

Equine Herpesvirus-1 (EHV-1), Canada

Two riding stables in Saskatchewan were affected by an outbreak of EHV-1 in mid-March. The first incident was noted when some horses were observed stumbling and running fevers. Several horses exhibited neurological signs, and fifteen horses at the stable are recovering. The stable has been quarantined since the beginning of the outbreak to prevent the spread of EHV-1 to other premises. Subsequently, one animal was euthanized at a second premises and three exhibited milder signs of the disease. After two horses with the neurological form of EHV-1 were taken to the Western College of Veterinary Medicine in Saskatoon, the teaching hospital temporarily suspended all nonemergency equine admissions as a precautionary measure to control spread of EHV-1.

Sources:

1. The Horse. <<http://www.thehorse.com/ViewArticle.aspx?ID=11539&kw=saskatchewan>>. Accessed April 10, 2008.
2. Western College of Veterinary Medicine News. <http://blogs.usask.ca/wcvm_news/>. Accessed 04/09/2008.

African Horse Sickness, South Africa

Although African horse sickness (AHS) is endemic in South Africa, the caseload has been higher than normal during the current outbreak season, particularly in the eastern and northern regions of the country. This is partially due to an extremely wet season. As of the first quarter of 2008, 497 cases had been reported with 280 resulting in death. This is a significant increase from the 2006/2007 outbreak season when 163 cases were reported with 89 deaths. The case fatality rates for the two outbreak seasons were similar at 56% and 55%, respectively. As of March 28, all horse movements into, within, and out of the Eastern Cape Province required an official permit. The strains detected in the current outbreaks are AHS virus strains 6, 7 and 9, which have all previously been reported in South Africa. In South Africa, the Western Cape Province is considered to be an AHS-free zone.

Sources:

1. African Horse Sickness Trust. <<http://www.africanhorsesickness.co.za/>>. Accessed 4-09-2008
2. ProMED: <http://www.promedmail.org/pls/askus/www_flow.accept>. Archive numbers 20080326.1135 and 20080320.1067. Accessed 04/09/2008.

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Poultry

Low Pathogenic Avian Influenza (LPAI)

Dominican Republic

LPAI H5N2 was first detected in December 2007 in the eastern part of the Dominican Republic. The virus has since spread to the western part of the country, and five new outbreaks were reported to the OIE on March 7. From December 10, 2007 to February 28, 2008, 14,876 surveillance samples from backyard birds were tested, and positive birds and in-contact birds were depopulated.

Source:

- OIE Disease Information Database. <http://www.oie.int/wahid-prod/public.php?page=single_report&pop=1&reportid=6616>. Accessed on 3/10/2008.

Iraq

LPAI H9 was detected in Al Faw district, Basrah governorate during the first week of March. Seven of 50 chickens died in one house on February 18th and another nearby flock was affected on February 29th. Initial tests in Baghdad detected H5 virus; however, confirmatory testing at a reference laboratory in Egypt identified the virus as H9 avian influenza. Disease

control measures undertaken included culling and disposal of the affected birds and all flocks within 3 km of the outbreaks. In addition, surveillance was conducted for poultry within a 10-km surveillance zone. Authorities have prohibited the sale of all poultry and live birds in the vicinity of the outbreaks and restricted movement of birds to other provinces.

Source:

FAO EMPRESS HPAI Situation Update, March 5, 2008.

Highly Pathogenic Avian Influenza H5N1 (HPAI H5N1), Global

First Quarter 2008 Summary

Outbreaks of HPAI H5N1 in poultry continued to occur during the first quarter of 2008 in Africa, Asia, Europe, and the Near East. The source of virus spread is through legal and illegal movement of poultry as well as wild migratory birds. Areas of concern where the virus is currently endemic include Bangladesh, Egypt, and Indonesia. Also of concern is the continued sporadic spread of the virus into Europe from migratory birds. Testing of wild birds in the United States has not revealed any cases of HPAI H5N1. Countries reporting human cases of HPAI H5N1 during the first quarter of 2008 were China, Egypt, Indonesia, and Viet Nam.

FAO's latest cumulative H5N1 maps by species can be found at: <http://www.fao.org/avianflu/en/maps.html>.

The following are country-specific HPAI H5N1 outbreak summaries for January through March 2008:

Africa

Egypt: During January and February, Egyptian officials reported 70 outbreaks of H5N1 to the OIE. The outbreaks occurred in backyard and commercial farms in 16 governorates and affected a variety of poultry including chickens, ducks, geese, and turkeys, some of which were vaccinated animals. A total of 40 million birds were immunized during January and February.

Asia

Bangladesh: During January and February, Bangladeshi officials reported 65 outbreaks of H5N1 to the OIE. The outbreaks occurred in backyard and commercial farms in five districts and affected chickens, ducks, and pigeons.

China: During January through March, China experienced five outbreaks of H5N1 in four different provinces, including Guangdong, northwestern Xinjiang Uygur Autonomous Region, southwestern Tibet Autonomous Region, and Guizhou. The most recent outbreak occurred among chickens in a live bird market in Guangdong.

China (Hong Kong SAR): During January through March, Hong Kong officials reported the detection of 7 wild birds positive for H5N1. The affected species included a black-crowned night heron, two great egrets, a grey heron, two oriental magpie robins, and a peregrine falcon.

India: After 5 months of no reported outbreaks, India experienced its largest outbreak of H5N1 in January 2008 in the newly affected state of West Bengal. At the end of March, outbreaks were continuing and had occurred in 14 districts of West Bengal, but had not spread to other states. The neighboring states of Assam, Bihar, Jharkhand and Orissa created a 5-kilometer-wide poultry depopulation zone along the border to prevent spread of H5N1.

Indonesia: Globally, Indonesia continues to have the highest number of outbreaks. From January 19 to March 15, 2008, the Participatory Disease Surveillance (PDS) program, which focuses on backyard village-type poultry production environments, conducted 9,653 interviews with detection of 306 (3.2%) positive HPAI cases in Java, Sumatra and Bali. FAO's avian influenza program team conducted a study in traditional markets of western Java with results indicating that about half the markets tested were positive for HPAI H5N1.

Lao PDR: After no reported outbreaks of HPAI H5N1 since March 2007, Lao PDR reported 8 outbreaks of H5N1 to the OIE in early February 2008. The outbreaks occurred in four geographically dispersed provinces, and the species infected included backyard chickens, pigeons, geese, and also backyard and free-roaming ducks. In mid-March, outbreaks were detected among chickens in a fifth province.

Pakistan: From January through March 10, 2008, Pakistan reported 7 HPAI H5N1 outbreaks to the OIE. Four outbreaks occurred in North-West Frontier Province and three occurred in Sindh province. All outbreaks affected broiler flocks.

Thailand: After no reported outbreaks of HPAI H5N1 since June 2007, Thailand reported two outbreaks to the OIE in January 2008. One outbreak occurred among native chickens in Phichit province, and one at a commercial broiler farm in Nakhon Sawan province. Phichit and Nakhon Sawan are neighboring provinces.

Vietnam: From January through March 12, 2008, Vietnam reported 26 outbreaks to the OIE. The outbreaks occurred in 13 provinces and affected primarily unvaccinated ducks and chickens in village flocks.

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Europe

Switzerland: After two years with no reported outbreaks, Switzerland reported to the OIE a case of HPAI H5N1 in a wild, asymptomatic, common pochard (diving duck) at a lake near Lucerne. The duck was sampled as part of a routine wild bird surveillance program, and genetic analysis of the virus showed strong similarities to recent European cases in 2007.

Turkey: With no reported outbreaks of HPAI H5N1 since April 2007, Turkey reported 6 outbreaks to the OIE in January and February 2008. The outbreaks occurred in four provinces, all situated in northern Turkey on the Black Sea coast. The outbreaks involved backyard poultry, and the source was identified as contact with wild birds. In March 2008, a new outbreak of HPAI H5N1 occurred in backyard chickens in western Turkey, near the border with Greece, and the suspected source of this outbreak was fomites (humans, vehicles, feed, etc.).

Ukraine: After no reported outbreaks of HPAI H5N1 since June 2006, the Ukraine reported 3 new outbreaks to the OIE in January and February 2008. The outbreaks occurred on the Crimean peninsula; two of the outbreaks were in poultry and a third involved several species of wild birds including coots, cormorants, and a sea gull.

United Kingdom: During January and early February 2008, the carcasses of 10 wild mute swans were found in the same general area of the Dorset coast in southwest England. The carcasses tested positive for HPAI H5N1 and were examined as part of Great Britain's avian influenza wild bird surveillance program. Genetic analysis of the virus showed it to be most closely related to isolates recovered in 2007 from wild and domestic birds in the Czech Republic, Romania and Poland.

Near East

Israel: With no reported outbreaks of HPAI H5N1 since March 2006, Israel reported a new outbreak to the OIE on January 7, 2008. The affected birds were caged backyard pet chickens and ducks at a kindergarten school.

Saudi Arabia: From January through March, 2008, Saudi Arabia reported one new HPAI H5N1 outbreak to the OIE. The outbreak started on January 29 and affected layer chickens at a farm in Ar Riyad province.

Sources:

1. OIE WAHID: <<http://www.oie.int/wahid-prod/public.php?page=disease>>. Accessed March 28, 2008.
2. ProMED: <http://www.promedmail.org/pls/askus/www_flow.accept>. Archive numbers 20080304.0891; 20080314.1013; 20080317.1042. Accessed March 28, 2008.
3. Hong Kong government website: <<http://www.info.gov.hk/info/flu/eng/news.htm>>. Accessed March 28, 2008.
4. FAO EMPRESS HPAI Situation Updates, January-March, 2008.

5. Avian Flu: FAO in Action February 2008.

<http://www.fao.org/docs/eims/upload/239871/news_faoinaction_feb08_en.pdf>. Accessed March 28, 2008.

6. FAO AIDEnews Situation Update #50 February 11, 2008.

<http://www.fao.org/docs/eims/upload/239862/AIDEnews_feb08_no50.pdf>. Accessed March 28, 2008.

7. Epidemiology Report: Highly Pathogenic Avian Influenza H5N1 in Wild Swans in Dorset, January.

<<http://www.defra.gov.uk/animalh/diseases/notifiable/disease/ai/pdf/epi-report-hpaiswan080212.pdf>>. Accessed March 28, 2008.

8. Highly Pathogenic Avian Influenza Early Detection Data System <<http://wildlifedisease.nh.gov/ai/>>. Accessed April 4, 2008.

Porcine

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African Swine Fever (ASF) Update

Azerbaijan

Azerbaijan reported ASF to the OIE for the first time on January 29. Media stories attributing pig die-offs to ASF had been circulating for some time prior to the report, and the neighboring countries of Georgia, Russia and Armenia all reported ASF outbreaks in 2007. According to an official report from Azerbaijan, the outbreak was resolved by the end of March.

Source:

OIE. <http://www.oie.int/wahid-prod/public.php?page=event_summary&reportid=6730>. Accessed April 3, 2008.



Tanzania

Tanzania reported ASF to the OIE on March 5. This was the first reported occurrence in Tanzania in three years. The outbreak was considered unresolved at the end of March 2008.

Source:

OIE. <http://www.oie.int/wahid-prod/public.php?page=single_report&pop=1&reportid=6871>. Accessed April 3, 2008.

Classical Swine Fever (CSF), El Salvador

On February 26, El Salvador reported CSF to the OIE for the first time since 2001. The outbreak affected two

farms near the city of San Miguel in the south-eastern part of the country. Neighboring Nicaragua and Honduras both reported CSF as recently as 2007, and CSF is currently considered endemic in both countries.

Source: OIE. <http://www.oie.int/wahid-prod/public.php?page=event_summary&reportid=6849>. Accessed April 3, 2008.

“High Fever Disease”, China

A United States team of veterinarians and scientists visited China in December 2007 to investigate a syndrome called “high fever disease” that has killed millions of pigs since 2006. The team consisted of scientists and veterinarians from academia and industry. During the visit, team members consulted with Chinese scientists, conducted on-farm visits and collected samples for testing. Several theories associated with high fever disease have focused on viral co-infections. The most common combination of viruses found during the investigation was porcine reproductive and respiratory syndrome virus (PRRS) in combination with porcine circovirus Type 2b (PCV2b). The second most common combination identified was PRRS and classical swine fever. The testing did not identify infections of ASF or PCV Type 2a.

Source:
American Veterinary Medical Association.
<<http://www.avma.org/onlnews/javma/apr08/080415m.asp>>. Accessed April 3, 2008.

Swine Influenza, Michigan and Ohio

Results released from the Centers for Disease Control and Prevention in January indicate that a Michigan toddler was likely infected by an influenza A (H1N2) strain of swine origin. The toddler fell ill in August 2007, about a week after visiting a county fair swine exhibit. Swine at the exhibit had displayed signs of respiratory illness. Additionally, two swine exhibitors at the Huron County Fair in Ohio were diagnosed with Type A influenza in August 2007, and swine at that fair had also displayed signs of respiratory illness. Further diagnostics indicated that both the exhibitors and the swine were positive for swine influenza A (H1N1), and genetic sequencing indicated the strain to be a triple reassortment swine H1N1 virus with avian, swine and human components.

Sources:
1. Michigan Department of Community Health.
<http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779-15213--,00.html>. Accessed April 3, 2008.
2. Morning Journal.
<http://www.morningjournal.com/site/news.cfm?newsid=18723075&BRD=1699&PAG=461&dept_id=46371&rft=6>. Accessed April 3, 2008.
3. Ohio Department of Health.
<<http://www.odh.ohio.gov/ASSETS/399EB43938724D85977B66ADBE212423/idqwr08.pdf>>. Accessed April 3, 2008.

Aquaculture/Aquatic Species

Fish Deaths, Thailand

Two separate massive fish die-offs were reported in Thailand over the past 2 months. The die-offs are not geographically close and do not appear to be linked. One occurred in a canal in Samut Praken Province in late January. Industrial factories are located nearby, but the waste from these factories is not considered the cause. The other die-off occurred in the Chao Phraya River in Ang Thong Province in late March. Low water oxygen concentration, which is often the cause of fish die-offs, has been ruled out in this case and testing is underway.

Fish die-offs are fairly common, and can be caused by a variety of diseases and environmental factors.

Source:
Thai news source: <<http://www.matichon.co.th/khaosod/>>. Accessed April 3, 2008.

Oyster Parasite, United Kingdom

The United Kingdom reported its first case of *Bonamia ostreae* to the OIE on March 13, 2008. *Bonamia ostreae* is a protistan parasite that infects the blood cells of the flat oyster. The outbreak occurred in a private bed of wild native oysters (*Ostrea edulis*) in waters off North Kent and was detected during routine surveillance. Investigations have not confirmed the source of disease introduction.

Sources:
1. OIE. <http://www.oie.int/wahid-prod/public.php?page=single_report&pop=1&reportid=6891>. Accessed April 3, 2008.
2. <<http://www.bonamia.com/>>. Accessed April 7, 2008.

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Wildlife

Avian Influenza Virus (H3N2), Dogs, South Korea

A new study published in the journal Emerging Infectious Diseases found evidence that avian influenza virus (AIV) was transmitted from poultry to dogs, and that dogs could play a role in the interspecies spread of avian influenza. Between May and September 2007, more than 50 South Korean dogs with severe respiratory disease were diagnosed with H3N2 avian influenza virus. The researchers isolated AIV from three of the sick dogs and conducted a laboratory experiment to study the progression of the disease in dogs. Virus-challenged dogs developed fevers and shed H3N2 virus in their nasal secretions, and postmortem examinations showed they had severe damage to their lungs and airways.

Although evidence was lacking on how dogs might have originally acquired avian influenza, the authors speculated that the virus spread from poultry to dogs through feeding of fresh duck and chicken meat, or through contact between poultry and dogs at live animal markets. Several strains of H3N2 virus have been found at live markets and in backyard flocks in Korea. Cases of highly pathogenic H5N1 avian influenza among humans and wild birds have been widely publicized in recent years. However, other reports of cross-species AIV transmission are relatively scarce in the scientific literature. Examples include H7N7 and H4N5 viruses in seals and highly pathogenic H5N1 among palm civets, zoo felines, domestic cats, marten and mink. In 2004, a non-avian equine influenza virus (H3N8), was transmitted from racehorses to dogs in Florida and spread to other dogs in many parts of the United States.

Source:

Song D, Kang B, Lee C, Jung K, Ha G, Kang D, et al. Transmission of avian influenza virus (H3N2) to dogs. *Emerg Infect Dis.* 2008 May; [Epub ahead of print]

Mystery Deaths, Gharials, India

In March, scientists announced that invasive fish laden with industrial chemicals likely triggered the recent die-off of 110 critically endangered reptiles known as gharials in central India's National Chambal Sanctuary. Since December 2007, officials have found the crocodile-like animals washed up dead along the banks of the Chambal River, near the confluence with the heavily polluted Yamuna River. An international specialist group has convened to investigate and hopefully stem the crisis. Researchers theorize that an unidentified toxic substance might be seeping into the Chambal River and affecting the gharials' food supply. Necropsies found evidence that the gharials died from gout, a painful metabolic disease affecting the kidneys and joints, after ingesting polluted fish. The gharials' tissues contained a surprising amount of fat, suggesting they were well-nourished by tilapia, an exotic fish which they consume almost exclusively. Tilapia were recently introduced into the region to boost aquaculture, and as their numbers have grown they appear to have moved from polluted rivers into the Chambal. Gharials eating the contaminated fish are thought to accumulate harmful substances in their bodies. More than 300 gharials, the largest of the world's breeding populations, live in the National Chambal Sanctuary. Fewer than 1,400 gharials are believed to be left in the wild, inhabiting parts of India and Nepal. Laboratories in India are still investigating the identity of the chemicals suspected of killing the gharials.

Source:

National Geographic News.

<<http://news.nationalgeographic.com/news/2008/03/080312-gharials.html>>. Accessed March 12, 2008.

White-Nose Syndrome, Bats, Northeastern United States

An undiagnosed illness has killed hundreds of thousands of bats in four northeastern states, and biologists are concerned that it will spread to other areas. Dubbed white-nose syndrome, the malady is characterized by a growth of white fungus on the nose and other extremities. White-nose syndrome was first discovered in a New York cave in February 2006 and has since spread to hibernating bats in Vermont, Massachusetts and Connecticut. Bat populations, including the rare Indiana bat, have been decimated in several caves. Federal and State wildlife laboratories are investigating the cause of the illness including underlying environmental factors and potential microbial pathogens or toxins; it is unclear whether the fungus is a primary pathogen or merely an opportunistic growth secondary to another condition. The fungus (genus *Fusarium*) commonly occurs on plants but has not been found on healthy bats.

Some bats have been found dead or flying outside their caves this winter when food is scarce, long before they would normally emerge from hibernation. Postmortem inspections found many of the bats to have depleted fat levels, and it is unclear whether the bats entered their hibernacula in poor condition or if the disease caused them to use up precious energy reserves. There is no evidence that white-nose syndrome is a direct threat to human health. However, since bats consume huge quantities of insects (thousands of mosquitoes per night per bat and perhaps dozens of beetles and moths), officials worry that insect pests could proliferate this summer and present a risk to public health, farm animals and crops. Officials have closed several caves to visitors to prevent unnecessary disturbance to the bats and to minimize the risk of spreading potential pathogens to unaffected caves. Bats are long-lived creatures with low reproductive rates, and population recovery could take a very long time.

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Sources:

1. ProMED: White-nose syndrome of bats – USA (Northeast). <http://www.promedmail.org/pls/otn/f?p=2400:1202:211377452655815::NO::F2400_P1202_CHECK_DISPLAY,F2400_P1202_PUB_MAIL_ID:X,71668>. Accessed March 4, 2008.
2. PBS Online News Hour. <http://www.pbs.org/newshour/updates/science/jan-june08/bats_03-07.html>. Accessed March 7, 2008.

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