rect answers) workers. Most correct answers about knowledge of human infection by the HPAI virus also came from urban/periurban respondents. Forty percent of respondents who would not eat AI-infected chicken cited religious prohibition to eating dead animals. Seven respondents did not believe AI exists at all and viewed the outbreak situation as a diversionary tactics from the 2007 presidential election.

Our findings are similar to trends reported among poultry workers in previous studies (*3*,*4*) (Table). Our study showed that knowledge of food safety and risk factors and differentiation between HPAI and other poultry diseases is poor among the poultry farming communities of Nigeria. The belief by 90% of respondents that AI is lethal only in poultry further increases risk for human infection. The study also showed that farmers believe the news media (broadcast and print) are important in increasing public understanding of AI. Nearly all respondents agreed that poultry enterprise is profitable, albeit risky, and were not willing to abandon the business even in the event of an AI outbreak. Because the knowledge gap between the rural and urban communities further heightens the risk for human AI infection in Nigeria, public health messages about AI should target rural communities.

Previously, workers have indicated that socioeconomic factors prevent the rural and urban poor from accessing healthcare facilities (*8*). Lack of access to healthcare was evident in the response of workers who stated they would want to have themselves and their flocks tested if healthcare services were available and if government agencies would bear the cost of tests that may be unaffordable to most.

Since this survey, progress in disseminating knowledge of AI in Nigeria has been substantial. The country has established desk offices (state centers for coordination of surveillance activities in animals) to carry out regular surveillance for HPAI virus (H5N1), and farmers have tremendously improved their knowledge (*9*).

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Mycobacterium avium subsp. *hominissuis* Infection in a Pet Parrot

To the Editor: Tuberculosis is a chronic wasting disease in domestic birds (especially hens) and free-ranging birds worldwide (*1*). Most mycobacterial infections in birds are caused by *Mycobacterium avium* subsp. *avium* (mainly domestic birds) or by *M. genavense* (especially pet birds). Nontuberculous (potentially pathogenic) mycobacteria (i.e., *M. fortuitum*, *M. gordonae*, and *M. nonchromogenicum*) occasionally have been isolated from necropsied pet birds (*2*). Because potentially pathogenic mycobacteria also are increasingly problematic in immunocompromised human patients, they merit special attention. *M. avium* subsp. *hominissuis* can infect humans, especially immunocompromised per-

sons. *M. avium* subsp. *hominissuis* infections have been documented in pigs and cattle (*3*) and rarely in dogs (*4*), birds (*5*), and other animals.

We report a case of *Mycobacterium* infection in a female blue-fronted Amazon parrot (*Amazona aestiva*; pet bird) ≈6 months of age that was brought to a clinic because of inappetence over a 3-day period and polydipsia and yellow coloration of urine. Clinical examination showed slight emaciation, heavy biliverdinuria, ascites, and melena. By coprologic examination, 3 eggs of *Ascaridia* sp. worms were found in 1 field of view using 40× magnification. A Gram stain of fecal material showed sporadic gram-positive rods. On the basis of these signs, chlamydiosis was suspected. Differential diagnosis suggested liver cirrhosis, neoplasia, and Pacheco disease. Enrofloxacin (Baytril 2.5% injectable; Bayer AG, Frankfurt am Main, Germany) was administered subcutaneously (0.15 mL injected subcutaneously) and albendazole (Aldifal 2.5% suspension; Mevak a.s., Nitra, Slovakia) were administered orally (0.2 mL injected subcutaneously). The bird died 1 day later.

Necropsy showed ascites (clear yellowish fluid), hepatomegaly (stiff liver consistency, yellow-pink), mild splenomegaly, and hemorrhagic enteritis with thickening of the intestinal wall; the finding of hemorrhagic enteritis was unclear because the intestinal mucosa was hyperemic and covered with a thick layer of viscous mucus that contained blood. Twenty worms (*Ascaridia* sp.) were observed in the intestinal lumen.

Histopathologic examination showed diffused liver fibrosis with cystic dilatation of the bile ducts and focal extramedullary hematopoiesis. The hepatic parenchyma was nearly completely atrophic. Only some clusters of atrophic hepatocytes were observed. The other organs (kidneys, spleen, lungs, brain, and intestines) were free of histopathologic lesions. Hypertrophic cirrhosis (chronic active hepatitis) was diagnosed. Neither granulomatous nor other lesions were observed.

After Ziehl-Neelsen stain of tissue impressions, acid-fast rods were microscopically detected in the liver and intestine. Cultivation according to Matlova et al. (*6*) grew 6 acid-fast rod–positive isolates from 9 examined tissue specimens. A PCR assay confirmed *M. avium* spp., and a subsequent PCR assay for *M. avium* differentiation indicated *M. avium* subsp. *hominissuis* (IS*1245*+ and IS*901*–); both PCR assays were performed as described (*7*). The *M. avium* subsp. *hominissuis* isolate was classified as serotype 9. Typing of all isolates by IS*1245* restriction fragment length polymorphism (RFLP) analysis according to Van Soolingen et al. (*8*) showed 2 different multibanded IS*1245* RFLP types, which varied in only 1 band position (Table).

M. avium subsp. *hominissuis* is not considered an avian pathogen and rarely has been isolated from tuberculous lesions (*5*). However, our case study reports the isolation of *M. avium* subsp. *hominissuis* from multiple organs of 1 exotic bird that had developmental anomaly and liver fibrosis (Table). In addition to a few nonspecific gross lesions, nontuberculous lesions were observed in the liver, spleen, and intestinal organs.

The etiology of mycobacteriosis, especially in pet birds, is rarely identified. This may be because intravitam and postmortem findings are nonspecific. Infection with *M. avium* subsp. *hominissuis* may not lead to tuberculous lesions in birds, particularly when the infection occurs without complications. Susceptibility to mycobacterial infection, including *M. avium* subsp. *hominissuis*, depends on the host's immune and nutritional status, environmental conditions unfavorable for the host, and genetic factors (*1*,*9*). Consistent with these reports, in this case, the histologic findings such as fibrosis of the liver associated with cystic dilatation and intestinal ascaris infestation may have aggravated the intensity of the mycobacterial infection.

IS*1245* RFLP analysis showed isolates with 2 profiles that differ in the presence of only 1 band. The additional band in the rest of the isolates probably represents the transpositional event. The variability in 1 or 2 bands of 1 strain was also observed previously (*10*); therefore, we presume the bird was infected by only 1 strain of *M. avium* subsp. *hominissuis*. Unfortunately, the source of infection for this bird was not identified.

A multibanded IS*1245* RFLP profile was described in a *M. avium* isolate from a parrot (*4*), but no details about this case were given. Our findings suggest that owners of pet birds and their family members may be at risk from this pathogenic causal agent.

Table. Detection of *Mycobacterium avium* subsp. *hominissuis* in a female blue-fronted Amazon parrot (*Amazona aestiva*)*

Origin of examined tissue samples	Mycobacteria detection		PCR†		IS*1245* RFLP§
	ZN	Culture‡	IS*1245*	IS*901*	
Lung	–	+ (3)	+	–	a
Kidney	–	–			
Heart	–	–			
Liver	+	+ (15)	+	–	a
Intestine	+	+ (2)	+	–	b
Stomach	–	+ (8)	+	–	a
Bone marrow	–	+ (1)	+	–	a
Brain	–	–			
Musculus pectoralis	–	+ (34)	+	–	a

*ZN, Ziehl-Neelsen microscopy of homogenate for acid-fast rods; RFLP, restriction fragment length polymorphism; –, not detected/negative; +, detected/positive.
†PCR for IS*1245* and IS*901* was carried out according to the method described in (*7*).
‡Culture examination performed as described by Matlova et al. (*6*); colony-forming units per isolation are shown in parentheses.
§Standardized IS*1245* RFLP method was performed according to Van Soolingen et al. (*8*).

Hence, immunocompromised persons, children, and others involved in the breeding of exotic birds should avoid contact with birds with clinically suspected *M. avium* subsp. *hominissuis*.

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Mycobacterium colombiense and Pseudotuberculous Lymphadenopathy

To the Editor: *Mycobacterium colombiense* is a new species belonging to the *M. avium* complex (MAC). It is characterized by a unique internal transcribed spacer sequence and causing respiratory tract and disseminated infection in HIV-infected patients in Colombia (*1*). We report clinical and histologic features of lymphadenopathy resulting from *M. colombiense* infection.

A 25-month-old girl with an unremarkable medical history was hospitalized in the pediatric department of Timone Hospital, Marseille, France, due to development of swelling in a right subclavicular lymph node over a 1-month period. A 5-day course of oxacillin, which was administered orally, had been unsuccessful in alleviating the symptoms. The patient's general condition was excellent, and results of a physical examination were normal, with the exception of a 2-cm hard, immobile, yet painless, noninflammatory, enlarged lymph node. Due to the presence of the enlarged lymph node, a chest radiograph was performed, and results were normal. A hemogram indicated a hemoglobin concentration of 113 g/L, a leukocyte count 8.3×10^9/L consisting of 31% polynuclear neutrophils and 62% lymphocytes, and a normal blood smear. A platelet count indicated a concentration of 389×10^9/L, and the serum lactic dehydrogenase level was 440 UI/L. In addition, no biologic inflammatory syndrome was observed based on the concentration of C-reactive protein (<1 mg/L) and an erythrocyte sedimentation rate of 18 mm/h.

Fine-needle aspiration of the lymph node showed necrosis and mature, activated lymphocytes. These results suggested a possible diagnosis of lymphoma, and a surgical excision