Widespread presence of human-pathogenic *Enterocytozoon bieneusi* genotypes in chickens

Maria Júlia Rodrigues da Cunha a,b,c, Natália de Melo Nasser Fava b, Leticia Pereira Úngari b, Márcia Cristina Cury b, Monica Santín a

a Departamento de Agricultura dos Estados Unidos (USDA), Beltsville, MD, USA  
b Universidade Federal de Uberlândia, Uberlândia, Minas Gerais, Brasil  
c Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Brasília, DF, Brasil

*Enterocytozoon bieneusi* is an human pathogen that has also been found in a broad range of domestic and wild animals raising the question on the importance of animal reservoirs in the epidemiology of this parasite. The objective of the present study was to investigate the presence of *E. bieneusi* in chickens in Brazil and to determine its genetic diversity using molecular methods. A total of 151 fecal samples from chickens were obtained from October 2013 to September 2014 at 17 local markets in Uberlândia and Belo Horizonte in the state of Minas Gerais, Brazil. The DNA extracted directly from feces was submitted to nested-PCR analysis for amplification of fragments of the ITS gene of *E. bieneusi*. The parasite was identified in 24 fecal samples (15.9%). This represents the first report of *E. bieneusi* in chickens in Brazil. All PCR-positive specimens were sequenced and 4 genotypes were identified, Peru 6, Peru 11, Type IV, and D. All four genotypes have previously been reported as human pathogens and are potentially zoonotic. Our results demonstrate that human-pathogenic *E. bieneusi* genotypes are present in chickens in Brazil, corroborating their potential role as a source of human infection and environmental contamination.