Prevalence of salmonella in captive reptiles from Croatia

Salmonellosis transmitted by pet reptiles is an increasing public health issue worldwide. The aim of this study was to investigate the prevalence of Salmonella strains from captive reptiles in Croatia. From November 2009 to November 2011 a total of 292 skin, pharyngeal, cloacal, and fecal samples from 200 apparently healthy reptiles were tested for Salmonella excretions by bacteriologic culture and serotyping. These 200 individual reptiles included 31 lizards, 79 chelonians, and 90 snakes belonging to private owners or housed at the Zagreb Zoo, Croatia. Salmonella was detected in a total of 13% of the animals, among them 48.4% lizards, 8.9% snakes, and 3.8% turtles. Representatives of five of the six Salmonella enterica subspecies were identified with the following proportions in the total number of isolates: Salmonella enterica enterica 34.6%, Salmonella enterica houtenae 23.1%, Salmonella enterica arizonae 23.1%, Salmonella enterica diarizonae 15.4%, and Salmonella enterica salamae 3.8%. The 14 different serovars isolated included several rarely occurring serovars such as Salmonella Apapa, Salmonella Halle, Salmonella Kisarawe, and Salmonella Potengi. These findings confirm that the prevalence of Salmonella is considerable in captive reptiles in Croatia, indicating that these animals may harbor serovars not commonly seen in veterinary or human microbiologic practice. This should be addressed in the prevention and diagnostics of human reptile-transmitted infections.