

Isolation of Salmonellae from a Neotropical Bat

P. D. KLITE¹ AND MIGUEL KOURANY

*U.S. Army Medical Research Unit Component of the Middle America Research Unit,
Balboa Heights, Canal Zone, and Gorgas Memorial Laboratory,
Panama City, Panama*

Received for publication 21 May 1965

The purpose of this report is to record the recovery of two *Salmonella* species from the feces of neotropical bats. To our knowledge, bats have not been previously shown to harbor bacterial enteric pathogens.

Six normal-appearing *Glossophaga soricina*, a common nectar-feeding bat, were captured in a culvert near Albrook Air Force Base, Canal Zone. One bat yielded *S. typhimurium* var. Copenhagen, and one yielded *S. saintpaul*. The culture technique and method for removal of feces were previously described (Klite, J. Bacteriol. **90**:375, 1965). Serial dilutions of a saline suspension of feces plated on McConkey and Eosin Methylene Blue Agar (BBL) yielded the salmonellae in concentrations of 10^8 organisms per intestinal contents. Preliminary identification was made by the procedure recommended by Edwards and Ewing (*Identification of Enterobacteriaceae*, Burgess Publishing Co., Minneapolis, 1955). Final species identification was determined serologically by W. H. Ewing of the Communicable Disease Center, Atlanta, Ga.

Twenty *Carollia perspicillata*, a common

frugivorous bat, were captured in the same culvert at the same date but did not yield salmonellae. Fifty other *Glossophaga* bats were subsequently trapped at other sites and cultured for salmonellae with negative results.

Glossophaga bats are found throughout Central America and tropical South America. They roost by themselves, or in association with other bat species, in culverts, caves, trees, abandoned buildings, and, on occasion, within and under buildings inhabited by man. Bats defecate up to 60 times a day, usually around their harborages and feeding sites. They are, therefore, a potential source of food contamination, especially when they are frugivorous or when they roost in proximity to man, or both.

S. typhimurium var. Copenhagen has not been previously reported from Panama. It is a variant of *S. typhimurium* that lacks antigen 5, and has been closely associated in the past with pigeons (Edwards, Bruner, and Moran, Kentucky Agr. Expt. Sta. Bull. **525**:10, 1948). *S. saintpaul* has been found to be the etiological agent in 5 of 18 cases of human salmonellosis in Panama (Kourany, unpublished data). The epidemiological importance of the occurrence of this species in bats remains to be determined.

¹ International Research Associate, U.S. Public Health Service.