

Important Zoonotic Diseases of Wild Animals in North America

Zoonosis	Agent	Reservoir	Route of Transmission
Viral Diseases			
Arboviral infections (esp. encephalitis)	Arboviruses	Wild animals	Transmitted by mosquitoes, ticks, midges, sandflies
Hantavirus Infection	Hantavirus	Wild rodents	Aerosols
Lymphocytic Choriomeningitis (LCM)	LCM Virus	Wild rodents	Aerosols, contamination of mucous membranes or broken skin with infectious tissues or fluids.
Newcastle Disease	Newcastle virus	Birds	Aerosols, fomites
Rabies	Rabies virus	Any biting animal, incl. bats	Saliva of the rabid animal
Rickettsial Diseases			
Cat Scratch Fever	Bartonella henselae Bartonella quintana Afipia spp.	Cat, porcupine	Bite or scratch, maybe fleas
Q Fever	Coxiella burnetii	Various wild animal spp.	Inhalation of infected aerosols from urine, feces, milk, birth products
Rickettsial pox Murine typhus	Rickettsia akari Rickettsia typhi	Wild rodents	Bites of infected ticks and fleas, aerosols
Bacterial Diseases			
Bubonic or respiratory plaque	Yersinia pestis	Wild rodents	Bites by infected fleas, inhalation
Colibacteriosis	Escherichia coli spp.	Animals, humans	Fecal-oral transmission, contaminated food
Erysipeloid	Erysipelothrix rhusiopathiae	Swine, birds, fish	Contact with infected animals, contamination of wound while handling infected tissues
Leprosy	Mycobacterium leprae	Armadillo	Man is the principal reservoir, armadillos are used as a model for human infection. Aerosol, contact with infected material
Leptospirosis (Weil's disease, hemorrh. jaundice)	Leptospira spp.	Mammals, amphibians, reptiles	Contact with urine or tissue of infected animals, aerosols
Listeriosis (Circling disease)	Listeria monocytogenes	Fish, birds, mammals	Food-borne transmission, unpasteurized milk
Lyme Disease	Borrelia burgdorferi	Deer tick	Bite of the deer tick (Ixodes scapularis)
Ornithosis (Psittacosis Parrot Fever)	Chlamydia psittaci	Birds, mammals, frogs	Aerosols, contact with infectious material in exudates, secretions, fecal material
Pasteurellosis	Pasteurella multocida	Mammals	Wound infection
Rat bite fever	Streptobacillus moniliformis or Spirillum minor	Rodents, espec. rat	Bite by an animal
Salmonellosis	Salmonella spp.	Mammals, birds, amphibians	Fecal-oral route
Tuberculosis (Consumption)	Mycobacterium spp.	Many wild animal spp. espec. birds	Aerosols
Tularemia (Rabbit fever)	Francisella tularensis	Rabbit, squirrel, deer, sheep, rodents, snakes	Handling infected tissue. Bites of ticks, fleas etc.

Zoonosis	Agent	Reservoir	Route of Transmission
Yersiniosis	<i>Yersinia enterocolitica</i> and <i>Y. pseudotuberculosis</i>	Wild and domestic animals, incl. birds	Direct contact, fecal-oral route
Protozoal Diseases			
Cryptosporidiosis	<i>Cryptosporidium</i> spp.	Mammals, birds, reptiles, fishes, espec. young animals	Fecal-oral route; contaminated water
Giardiasis	<i>Giardia</i> spp.	Wild animals	Fecal-oral route
Toxoplasmosis	<i>Toxoplasma gondii</i>	Wild and domestic cats; warm-blooded animals and humans are intermediate hosts	Ingestion of infectious oocysts in material contaminated with feline feces, contaminated food
Fungal Diseases			
Dermatomycosis (Ringworm)	Dermatophytes	Humans and mammals	Direct skin-to-skin contact
Histoplasmosis	<i>Histoplasma capsulatum</i>	Birds, bats	Inhalation of microconidia from contaminated soil
Helminth Parasitic Diseases			
Anisakiasis	<i>Anisakis</i> spp.	Marine fish	Larva in undercooked fish
Larval migrans (visceral)	<i>Baylisascaris</i> spp.	Raccoon	Fecal-oral route
Tapeworm infect.	<i>Echinococcus</i> spp.	Reindeer, caribou, wolves	Fecal-oral route, ingestion of ova
Trichinosis	<i>Trichinella spiralis</i>	Wild mammals	Ingestion of larval cysts in meat
Arthropod Parasitic Infestations			
Parasite species	Disease in Humans	Host	Comments
Fleas <i>Xenopsylla cheopsis</i> <i>Nasopsyllus fasciatus</i>	Dermatitis Dermatitis	Mouse, rat, wild rodents Mouse, rat, wild rodents	Vector of <i>Hymenolepis nana</i> , <i>H. diminuta</i> , <i>Y. pestis</i> Vector of <i>H. nana</i> , <i>H. diminuta</i> , <i>R. mooseri</i>
Mites Obligate skin mites <i>Sarcoptes scabiei</i> subsp. Nest-inhabiting parasites	Scabies Mange Dermatitis	Mammals Cat, dog, rabbit Rodents, and other vertebrates, incl. birds	 Vector for encephalitis viruses and <i>Rickettsia</i> spp.
Ticks <i>Rhipicephalus sanguineus</i> <i>Dermacentor variabilis</i> <i>Dermacentor andersoni</i> <i>Dermacentor occidentalis</i> <i>Amblyomma americanum</i> <i>Ixodes scapularis</i> <i>Ixodes dammini</i>	Irritations Irritation Irritation Irritation Irritation Irritation	Dog Wild rodents, cottontail rabbit Small mammals Small mammals Wild rodents, dog Dog, wild rodents, deer	Vector of <i>Rickettsia rickettsia</i> , <i>Francisella tularensis</i> , <i>Ehrlichia canis</i> Vector of <i>R. rickettsia</i> , <i>F. tularensis</i> , <i>E. canis</i> Vector of <i>R. rickettsia</i> , <i>F. tularensis</i> , <i>E. canis</i> Vector of <i>R. rickettsia</i> , <i>F. tularensis</i> , <i>E. canis</i> Vector of <i>Borrelia burgdorferi</i> (Lyme Disease), <i>Borrelia recurrentis</i> (Relapsing Fever), <i>Babesia microti</i>

B. Tober-Meyer, DVM, K-J Mayberry, Ph.D., W. Mayberry, Ph.D., East Tennessee State University, Johnson City, TN.
 Adapted from: Occupational Health and Safety in the Care and Use of Research Animals. 1997. NRC, ILAR, 65-105
 For more information check out the CDC web site: Health Topics A - Z: <http://www.cdc.gov/health/default.htm#B>