

## EDWARDSIELLOSIS

ANIMAL GROUP AFFECTED	TRANSMISSION	CLINICAL SIGNS	FATAL DISEASE?	TREATMENT	PREVENTION & CONTROL
Freshwater and marine fish, especially in warm environment	Unclear	Vary with the species: ulcerative dermatitis, fibrinous peritonitis, granulomatous lesions in multiple organs	Not necessarily	Systemic antibiotic treatment, improvement of water quality, stress reduction	Stress reduction (including good water quality), hygiene

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<b>Susceptible animal groups</b> Fresh water and marine fish. Most diseases seem to occur at higher temperatures. Examples of affected species are channel catfish, Chinook salmon, Japanese eel, striped bass, striped mullet, Japanese flounder, yellowtail, tilapia, goldfish, carp, red sea bream. Reptiles and amphibians are common carriers.	
<b>Causative organism</b> <i>Edwardsiella tarda</i> . Bacterium, member of the family Enterobacteriaceae, facultatively anaerobic Gram negative motile rod.	
<b>Zoonotic potential</b> Yes. <i>E. tarda</i> is a zoonotic problem and is a serious cause of gastroenteritis in humans. It has also been implicated in meningitis, biliary tract infections, peritonitis, liver and intra-abdominal abscesses, wound infections and septicaemia. It has been often isolated from catfish fillets in processing plants and can spread to man via the oral route or a penetrating wound. Contaminated water can also be a source of infection.	
<b>Distribution</b> Worldwide.	
<b>Transmission</b> Transmission through the water from an infected source (carrier animal faeces, water, mud). Carrion-eating birds may also be a source of infection.	
<b>Incubation period</b> Varies from some days to some weeks.	
<b>Clinical symptoms</b> Clinical signs of edwardsiellosis vary with the species affected: Channel catfish: deep malodorous skin and muscle ulcers (hydrogen-sulfide production) located dorso-laterally. Characteristically fish may continue to eat even if severely affected. Sometimes posterior paresis in late stages. Japanese eels: abscesses may ulcerate through the body musculature. Otherwise: non-specific symptoms. Striped bass: anaemia, epithelial hyperplasia, necrosis in the lateral line and on the body surface and gills. Tilapia: skin depigmentation, swollen abdomen and corneal opacity.	
<b>Post mortem findings</b> See also clinical symptoms. Generally: ulcerative dermatitis, fibrinous peritonitis, liver, kidney and muscle necrosis. Channel catfish: petechiation and malodorous liquefactive necrosis of the viscera with fibrinous peritonitis. Japanese eels: suppurative nephritis and hepatitis; micro-abscesses can spread to other organs. Tilapia: White, bacteria-filled nodules in gills, kidney, liver, spleen or intestine.	
<b>Diagnosis</b> Cultivation: On standard medium at 22-26°C; definitive diagnosis is based on standard biochemical tests and agglutination. Other diagnostic method: fluorescent antibody detection. PCR, LAMP (loop-mediated isothermal amplification method). Different serological tests (indirect ELISA, indirect blocking ELISA, competitive ELISA and serumagglutination tests can be used for seromonitoring in Indian major carp.	



<b>Material required for laboratory analysis</b> Affected tissue, especially the kidney.
<b>EU Reference Laboratory</b>
<b>State Serum Laboratory</b> Hangovej 2 8200-Aarhus Denmark
<b>Relevant diagnostic laboratories</b> Local veterinary or medical laboratories.
<b>Treatment</b> Antibiotic treatment (based on sensitivity test) accompanied by improvement of water quality. Stress reduction (housing, hiding places, population density and group composition in the tank e.g.).
<b>Prevention and control in zoos</b> Strict quarantine procedures, stress prevention.
<b>Suggested disinfectant for housing facilities</b> Ozonation and/or ultraviolet radiation.
<b>Notification</b> -
<b>Guarantees required under EU Legislation</b> -
<b>Guarantees required by EAZA Zoos</b> -
<b>Measures required under the Animal Disease Surveillance Plan</b>
<b>Measures required for introducing animals from non-approved sources</b>
<b>Measures to be taken in case of disease outbreak or positive laboratory findings</b> Systemic antibiotic treatment (based on sensitivity test), stress reduction.
<b>Conditions for restoring disease-free status after an outbreak</b> -
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