



Isolation of *Aeromonas salmonicida* from Paddlefishes

Paddlefish, *Polyodon spathula*, are endemic to river systems of the Mississippi River basin. The species was once abundant throughout the basin, but during the last century its range and population diminished. Paddlefish populations have been adversely affected by anthropogenic alterations that destroy or prevent access to spawning sites, by exploitation, and by pollution. Recently, the culture of paddlefish has become important for the enhancement of wild populations and for meeting the commercial demand for roe (caviar) and meat. Fingerlings raised in hatcheries can be overcrowded and sometimes suffer from poor water quality and from disease.

Diseases of Paddlefish

Most published literature on diseases of paddlefish is about parasitic infestations. A parasitic coelenterate, *Polypodium hydriforme*, and a microsporidian, *Pleistophora* sp., have been reported in paddlefish eggs. Nematodes, *Thynnascaris dollfusi*, *Contracaecum spiculigerum*, *Cammallnus* sp., and *Hysterothylacium dollfusi*, commonly infest the intestinal tracts of paddlefish. The most commonly reported pathology consists of scars (some of which are healed) from attempts by anglers to snag a fish or from propellers of power boats and bent rostrums from colliding with dam structures. Bacterial and viral infections of paddlefish have not

been previously reported, but as culture of paddlefish becomes more common, bacterial problems are likely to increase.

Isolation of *Aeromonas salmonicida*

Aeromonas salmonicida, the causative agent of furunculosis in fish, was isolated during a period of acute mortality in paddlefish fingerlings (12–13 cm) reared in spring and summer 1992 at the Spring River State Fish Hatchery, Arkansas. The Spring River, which is the main water supply for the hatchery, flooded several times during April, May, and June. Water turbidity increased during these flood stages. By June, fungal growth was on the rostrums of fish and was attributed to overcrowding. The fish were separated to reduce stocking densities and were treated with formalin. Although the fungus was controlled, mortality of the fish continued to rise. On 12 June 1992, two fish were necropsied and cultured for bacteria. *Aeromonas salmonicida* was presumptively identified from kidney samples. The bacterial isolates and additional dead paddlefish were shipped to the National Fisheries Research Center in Leetown, West Virginia, for confirmation. Gill tissues, kidneys, spleens, and livers were sampled from four fish and plated onto Coomassie Brilliant Blue agar. *Aeromonas salmonicida* was isolated from gill tissue or from the kidneys of three of

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four paddlefish. Identification was confirmed on the basis of standard biochemical tests. The isolates were also sensitive to oxytetracycline (30 µg) as determined by standard disc-diffusion tests.

Upon confirmation of *A. salmonicida*, the paddlefish were treated with double-strength terramycin for 10 days under an emergency Investigational New Animal Drug Permit issued by the Food and Drug Administration. Treatment reduced mortality; after a 50-day withdrawal period, most fish were used for stocking. Hatchery and management personnel should be aware of the susceptibility of wild and hatchery-reared stocks of paddlefish to *A. salmonicida*. The potential for paddlefish to become carriers of the pathogen should be examined.

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