

Species Profiling of *Misgurnus anguillicaudatus*: Ecological Characteristics of a Little Known but Proliferating Invader

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Successful invasive species share several characteristics which aid their establishment and propagation within introduced habitats. Among these are high fecundity, dietary diversity, and wide tolerance of environmental conditions. Native to Eastern Asia, the Oriental weatherfish (*Misgurnus anguillicaudatus*) is a cryptic, yet internationally invasive species which may pose a threat to native fish populations within its introduced range. Described as a tropical aquarium pet species, *M. anguillicaudatus* has successfully become established in 7 countries across 3 continents, including 10 of the United States. Under commonly cited species account descriptions, the environmental conditions experienced by the fish within its invaded range should serve to decrease its invasive success. However, in the face of apparently expanding population sizes and newly documented occurrences we undertook this study to determine the life history traits which facilitate the fish's survival in these seemingly inhospitable environments. We collected weatherfish from an invasive population in and around the Boise River near Boise, Idaho, throughout 2008-2009. In a series of experiments, weatherfish showed high tolerance and survivorship under freezing temperatures and substrate desiccation similar to local seasonal habitat conditions. Rapid growth, early maturation and high fecundity may also aid survival and expansion of new introductions. Opportunistic omnivorous diet and preference for habitat highly modified through anthropogenic disturbance may facilitate survival through unique habitat use and escape from potential native predators. Together, these traits characterize a successful invasive fish capable of expanding its range far beyond the environmental limitations that previously published accounts would suggest.