The Pathogenic Chytrid Fungus in Montana Amphibians

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The chytrid fungus (*Batrachochytrium dendrobatidis*; Bd) is pathogenic to many amphibians and has been linked to declines and extinctions in a number of species around the globe. We collected 484 tissue samples and swabs of ventral surfaces of nine species at 161 locations across Montana in the course of fieldwork between 1998 and 2005. We detected Bd in 161 samples taken at 64 sites between 1998 and 2005 for six species; *A. tigrinum*, *B. boreas*, *B. woodhousii*, *P. maculata*, *R. luteiventris*, and *R. pipiens*. Overall, 40 percent of sites had at least one species test positive and, across all species, 33 percent of samples tested positive. We detected Bd in samples taken throughout the active season of these species across Montana at a variety of elevations, in a variety of habitats, and up to 17.5 km from the nearest road. However, a higher percentage of samples and sites (37 to 41 and 47 to 66 percent, respectively) tested positive for Bd within 1 km of roads. While this effort provides no definitive evidence, Bd, acting alone or synergistically with other stressors, appears to be the most likely cause of declines observed in *B. boreas* and *R. pipiens* populations in western Montana in light of its widespread distribution and association with declines in other regions. Further evaluation of the status of Bd and other amphibian pathogens in Montana is warranted and strict adherence to protocols preventing the spread of these pathogens is needed.