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*Inhibitory Bacteria of the Chytrid Fungus Batrachochytrium dendrobatidis*

Amphibians are declining rapidly, in part due to the prevalence of the lethal chytrid fungus *Batrachochytrium dendrobatidis* (Bd). Bd is a fungus restricted to the superficial epidermis of amphibians and it is unknown how it is fatal to these animals. However, studies have shown the effectiveness of anti-Bd microbes in combatting Bd on amphibian skin which increases survival rates. The boreal toad (*Bufo boreas*) is an amphibian species with populations in Colorado and is experiencing declines due to Bd. The boreal toad shares habitat with the American bullfrog (*Rana catesbeiana*), an asymptomatic carrier species of Bd. Asymptomatic Bd carriers are more likely to possess strongly inhibitory bacteria. Thus, I cultured American bullfrog skin bacteria and assayed the resulting colonies against Bd to determine their inhibitory properties. I found an inhibitory bacterium in the genus *Pseudomonas* in my assays and several other possibly or weakly inhibitory bacteria in various other genera. In the future I will pursue the following investigations: (1) the success of *Pseudomonas* in growing on the skin of the boreal toad (2) the ability of *Pseudomonas* to increase the boreal toad's chances of survival and (3) if both of the previous are possible, the effectiveness of *Pseudomonas* in inoculating wild frogs by distributing it to mountain lake ecosystems. This form of distribution is the reason why bacteria from the American bullfrog, a species that already lives here in Colorado, must be used instead of previously found inhibitory bacteria from other environments.