

The Maze-Solving and Memory Capabilities of *Physarum polycephalum*

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ORAL Discovery

The slime mold *Physarum polycephalum* may seem insignificant at first, but under closer scrutiny the unicellular multinucleate slime mold possesses abilities that scientists struggle to understand. In fact, the astounding maze-solving ability of *P. polycephalum* may be connected to a basal level of intelligence and creativity. The slime mold colonies are grown on agar plates and their ecology is studied as they navigate small mazes. Due to differences between strains and variability in growth rates, it cannot be determined whether or not the slime molds solve the mazes more efficiently over repeated trials. However, there are still implications for the ability of the slime mold to navigate the maze to the food source. Questions are raised on the nature of intelligence and creativity as slime molds demonstrate problem-solving abilities, creating potential for memory and learning. Problem-solving, intelligence and creativity are not linked to the presence of a nervous system or central processing unit, but seem to be more deeply ingrained in the ecology of *P. polycephalum*.