Physicists Uncover Slime Mold Decision-Making Without a Brain

Description

Slime molds are interesting creatures. They are not true molds or fungi. For most of their lives, they exist as shapes called plasmodia or amoebae, and they do not follow the rules that other life forms must follow.

Slime molds are famous because they can act in ways that look smart, even though they do not have brains or nervous systems. A recent study has looked into how they move together as a group. The most well-known slime mold is called *Physarum polycephalum*, which means "the small bubble with many heads." This slime mold can crawl around to find food if it runs out.

Scientists in Germany and the United States found that slime molds can "decide" where to go, even if they do not make decisions like animals do. They escape traps made of blue light when searching for food. Under this light, the slime mold puffs up and then escapes.

The study showed that the mold expands its body in certain ways to create pressure, helping it move. The research helps us understand how non-neuronal systems, or those without brains, adapt their behaviour to survive.

Comprehension Questions

Multiple Choice

1. What shapes do slime molds exist as for most of their lives?
   Option: Fungi
   Option: Plasmodia or amoebae
   Option: True molds
   Option: Cells

2. What is the scientific name of the most well-known slime mold?
   Option: Amoeba proteus
   Option: Physarum polycephalum
   Option: Rhizopus stolonifer
   Option: Sordaria fimicola

3. Which country conducted research alongside scientists from the United States?

Option: Canada
Option: France
Option: Germany
Option: Japan

4. How do slime molds react to blue light when searching for food?

Option: They are attracted to it
Option: They puff up and escape
Option: They freeze in place
Option: They multiply

5. What do slime molds lack that distinguishes them from animals?

Option: Nervous systems
Option: Proteins
Option: Cells
Option: DNA

6. What does the behavior of slime molds help scientists understand?

Option: Cognitive evolution
Option: Ecosystem dynamics
Option: Non-neuronal systems
Option: Genetic mutation

True-False

7. Slime molds are classified as true fungi.

8. Slime molds can make decisions like animals do.

9. The study mentioned is focused on how slime molds move as individuals.

10. Physarum polycephalum translates to 'the small bubble with many heads.'

11. Slime molds have brains similar to those of animals.

12. Slime molds can create pressure to help them move.

Gap-Fill

13. Slime molds are not true molds or _____.

14. The most famous slime mold is called _____ polycephalum.

15. Slime molds can escape traps made of blue light when searching for _____.

16. The study on slime molds helps in understanding non-neuronal _____.

17. Slime molds exist as shapes called plasmodia or _____.

18. Researchers found that slime molds can decide where to go even without a _____.

Answer

Multiple Choice: 1. Plasmodia or amoebae 2. Physarum polycephalum 3. Germany 4. They puff up and escape 5. Nervous systems 6. Non-neuronal systems
True-False: 7. False 8. False 9. False 10. True 11. False 12. True
Gap-Fill: 13. fungi 14. Physarum 15. food 16. systems 17. amoebae 18. brain

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