



Slime mold fact sheet

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Physarum polycephalum on one page

Physarum polycephalum

Common names: many-headed slime, "the blob" in France. **Described by** Schweinitz in 1822.

What its name means: roughly "many-headed bladder", for its swollen plasmodium and its many fronts advancing in different directions.

What it is: not an animal, not a plant, not a fungus. A single giant cell holding thousands to billions of nuclei, with no walls between them.

Where it sits in the tree of life

Domain	Eukaryotes
Group	Amoebozoa
Class	Myxomycetes (Myxogastria)
Order	Physarales
Family	Physaraceae
Genus	Physarum

Numbers worth knowing

1 to 4 cm/h

Speed. Up to 4 cm/h in the lab, closer to 1 cm/h at home

22 to 25 °C

Ideal temperature. It survives from 5 to 30 °C, slowing down

720

Mating types, from combinations of three genes, not a head count

100 to 120 s

Time for one back-and-forth pulse of cytoplasm in the veins

Several years

Survival as a sclerotium, with revivals after two years well documented

0 neurons

No brain, no eyes, and yet it learns and makes choices

Its three states

- **Plasmodium:** bright yellow, a moving, feeding network.
- **Sclerotium:** dry, hard, orange-brown. It waits for water to return.
- **Sporangia:** tiny dark heads on stalks that release spores.

What it eats

- In the wild: bacteria, fungal spores, decaying matter.
- At home: uncooked rolled oats.
- It avoids salt, bright light and citrus.

Where it lives

- Damp woodland, under dead leaves, on rotting wood and under bark.
- Every continent except Antarctica.
- In temperate regions, from late spring to fall, after rain.

What we still do not know

How long a wild slime mold lives, since nobody has ever followed one for a lifetime. How its memory is stored: habituation is proven, the mechanism is not. And the exact number of its mating types in the wild.

Sources: Nakagaki et al., Nature (2000); Boisseau, Vogel and Dussutour, Proceedings of the Royal Society B (2016); Physarum polycephalum entry, Wikipedia.