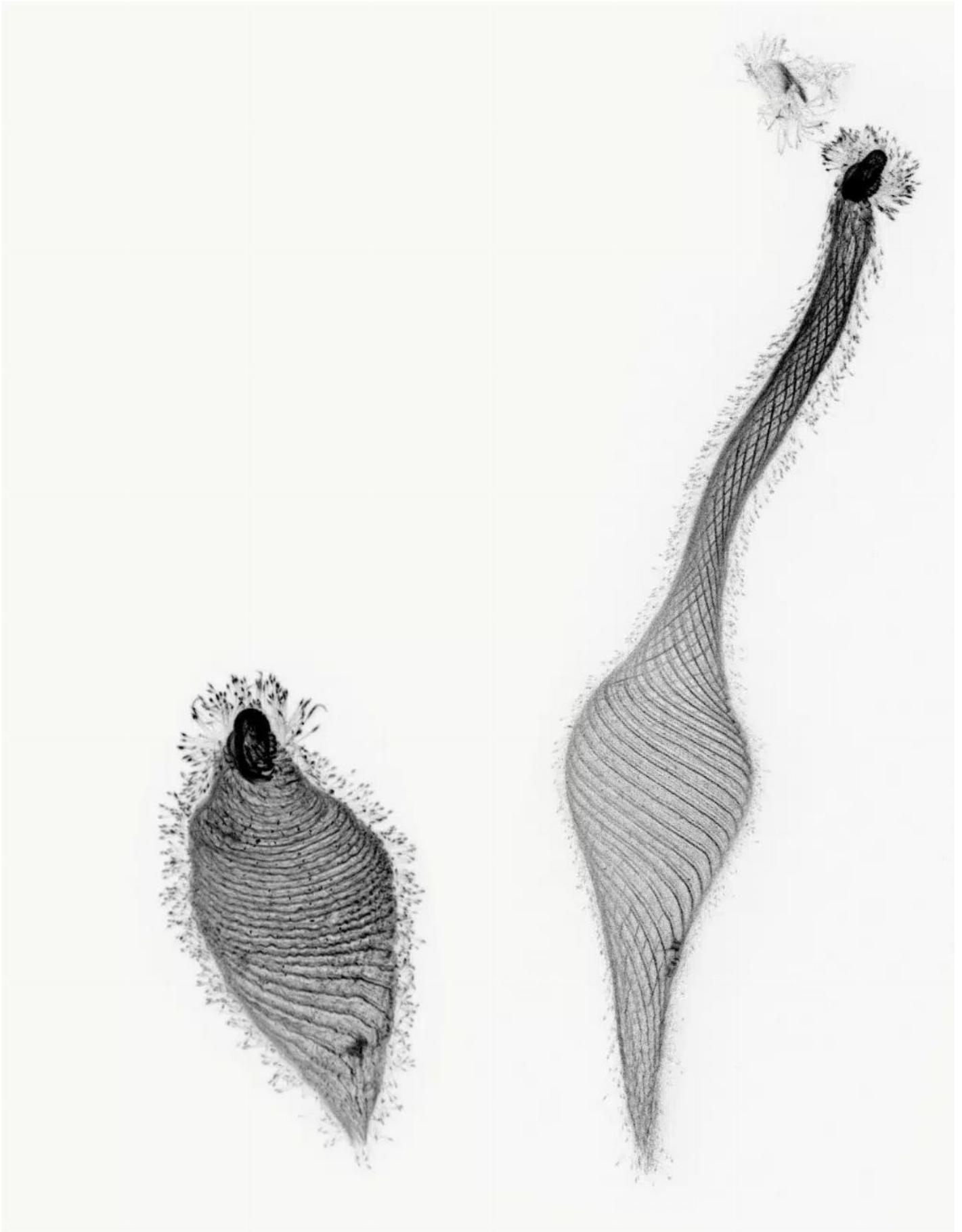


What is origami in biology?

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About Origami

- Origami in biology refers to the **folding of biological molecules**, such as **DNA**, into specific shapes or structures.
- This process is inspired by the traditional **Japanese art of paper origami**, where a flat sheet of paper is folded into a three-dimensional object without cutting or gluing.
- Similarly, origami techniques are used in biology **to create complex structures from DNA, proteins**, or other biological molecules.

Applications of Origami in Biology

- **Synthetic Biology:** Researchers use principles of origami to design and construct new proteins and **RNA** molecules with desired functions. This includes creating novel enzymes, therapeutic proteins, and RNA-based sensors.
- **Drug Design:** Understanding how proteins fold and the structures they form helps in designing drugs that can interact with specific protein targets. Misfolded proteins can be targeted to correct folding errors.

Nanotechnology: DNA origami is a technique where DNA is folded into precise shapes at the nanoscale. This has applications in creating nanoscale devices and materials for medical and technological purposes.

Q1. What is Nano-Technology?

Nanotechnology is the manipulation of matter at the nanoscale, typically between 1 to 100 nanometers (nm), where unique phenomena enable novel applications. It involves designing, characterising, producing, and applying structures, devices, and systems by controlling their shape and size at the nanometer scale. Nanotechnology has diverse applications in fields like electronics, medicine, energy, and materials science

Source: The first example of cellular origami discovered in protist

Source: <https://vajiramandravi.com/current-affairs/origami-in-biology/>

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