


TARDIGRADA

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- 
- What is it?
 - The appearance.
 - Feature of Targidrada.

TARDIGRADA WHAT IS IT?

- **Tardigrades** (also known as **water bears**) are water-dwelling, eight-legged, segmented micro-animals. They were first discovered by the German zoologist Johann August Ephraim Goeze in 1773. The name ***Tardigrada*** (meaning "slow stepper") was given three years later by the Italian biologist Lazzaro Spallanzani. They have been found everywhere from mountaintops to the deep sea, from tropical rain forests to the Antarctic.

THE APPEARANCE OF TARGIDRADA.

- Tardigrades are about 0.5 mm long, when they are fully grown. They are short and plump with four pairs of legs, each with four to eight claws. The first three pairs of legs are directed ventrolaterally and are the primary means of locomotion (moving), while the fourth pair is directed posteriorly on the terminal segment of the trunk and is used primarily for grasping the substrate. Tardigrades are prevalent in mosses and lichens and feed on plant cells, algae, and small invertebrates. When collected, they may be viewed under a very low-power microscope, making them accessible to students and amateur scientists

IT IS THE APPEARANCE OF TARGIDRADA.



Hello!

FEATURE OF TARGIDRADA:

- Tardigrades are notable for being the most resilient animal: they can survive extreme conditions that would be rapidly fatal to nearly all other known life forms. They can withstand extreme temperature, pressures about six times greater than those found in the deepest ocean trenches, ionizing radiation at doses hundreds of times higher than the lethal dose for a human, and the vacuum of outer space. They can go without food or water for more than 30 years, drying out to the point where they are 3% or less water, only to rehydrate, forage, and reproduce.

- *Tardigrades* imaged with a scanning electron microscope.
- Tardigrades are one of the few groups of species that are capable of reversibly suspending their metabolism and going into a state of cryptobiosis. Many species of tardigrade can survive in a dehydrated state up to five years, or in exceptional cases longer. Depending on the environment, they may enter this state via anhydrobiosis, cryobiosis, osmobiosis, or anoxybiosis. While in this state, their metabolism lowers to less than 0.01% of normal and their water content can drop to 1% of normal.[8] Their ability to remain desiccated for such long periods is largely dependent on the high levels of the nonreducing sugar trehalose, which protects their membranes. Their DNA is further protected from radiation by a protein called "Dsup" (short for *damage suppressor*). In this cryptobiotic state, the tardigrade is known as a tun.
- Tardigrades are able to survive in extreme environments that would kill almost any other animal.



EXTREMES AT WHICH TARDIGRADES CAN SURVIVE INCLUDE THOSE OF:

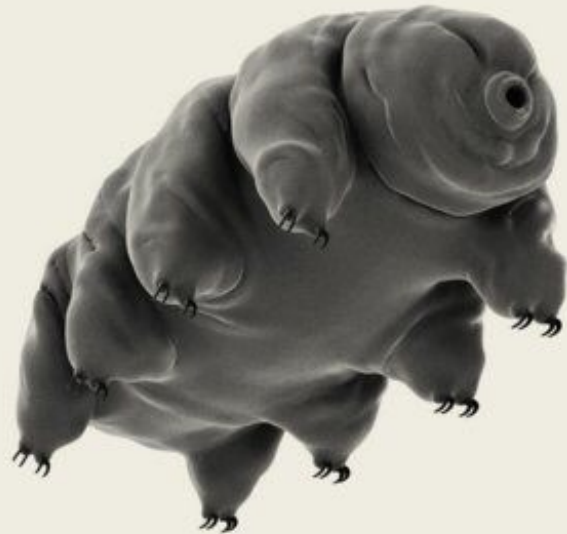
- Pressure
- Dehydration
- Radiation
- Environmental toxins
- Outer space

BUT!

- They are not considered extremophilic because they are not adapted to exploit these conditions. This means that their chances of dying increase the longer they are exposed to the extreme environments, whereas true extremophiles thrive in a physically or geochemically extreme environment that would harm most other organisms.
- They are organisms with a high survival rate!

THANK YOU!

IF I END UP **ALONE**, I'LL BE A
WATER BEAR



WATER BEARS LOVE **SPACE TRAVEL** AND CAN **LIVE FOR 100 YEARS** WITHOUT FOOD OR WATER. BUT EVEN WITH THIS SUPERPOWER, SOMETIMES THEY CAN'T HELP FEELING VERY, VERY, **VERY SMALL**.

#THELOBSTER