

## **Nematodes, Rotifers, Tardigrades and Diatoms as Vehicles for the Panspermic Transfer of Microbes**

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**Abstract :** Nematodes, Rotifers and Tardigrades (NRT) are extreme-tolerant invertebrates which can survive long periods of stasis brought about by extreme drying and cold. They can also resist the effects of UV radiation, and as a result could act as vehicles for the panspermic transfer of microorganisms. Here we show that NRT contain a variety of bacteria and fungi within their bodies in which environment they could be protected from the extremes of the space and released into new cosmic environments. Diatoms were also shown to contain viable alga and Escherichia coli and so could also act as panspermic vehicles for the transfer of these and perhaps other microbes through space. Although not studied here, NRT, and possibly diatoms, also carry protozoa and viruses within their bodies and could act as vehicles for the panspermic transfer of an even wider range of microbes than shown here.

**Keywords :** extremophiles, diatoms, panspermia, survival in space

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