

Ground Truth: Amoeba

Pathogen Type: The amoeba in this scenario is a member of the genus *Entamoeba*. It is most similar to *E. histolytica*, the amoeba that causes amoebic dysentery.

Origin & Emergence Details: This new amoeba is significantly more of a generalist than its older cousin, infecting mammals indiscriminately. It is most effective in primates, but the primary contact in the scenario was via poorly-kept livestock, whose feces contaminated the water supply. This contamination was not noted until the water became unsafe during a freeze.

This notable jump to humans occurred during a mass exposure, wherein several cities of significant sizes had compromised water supplies along the route of the same shared river. This occurred during a freeze- unusual, considering the fact that Mystery Amoeba is an amoeba, and should only be tolerant of warm water.

Pathogen Characteristics: Mystery Amoeba is fairly similar to amoebic dysentery, though it is far more aggressive and reproduces much more- rather than two weeks for symptoms to begin to appear, it's closer to one week. Mystery Amoeba can be spread via fecal-oral routes and as a sexually transmitted disease. It is characterized by bloody diarrhea, abdominal cramping, and abscesses on organs such as the liver. Moderate to severe symptoms are present in roughly 40% of all patients, as opposed to the 10 to 20% of *E. histolytica* patients. Extremely severe symptoms are also more common than with traditional amoebic dysentery, at closer to 10% of patients developing abscesses on organs such as the liver.

The most important characteristic of Mystery Amoeba's is its resistance. It is *extremely* cold tolerant, tolerating temperatures below freezing, in addition to being relatively warmth-tolerant as well, being able to tolerate up to forty degrees celsius. It is also very resistant to filtering and sterilization. However, it can be handled via rigorous boiling treatments applied to water at home.

Other Impacting Factors: Climate is the most significant impacting factor here. Mystery Amoeba's adaptations are a response to creeping ever north during warmer weather and sticking it out over cold winters.

Climate is also a significant impacting factor in the major exposure.

The rural nature of Lavender makes it much more difficult to adequately assess the amount of suffering infected.

In addition, general reluctance to go to the hospital due to economic issues across Lavender means that patients present with more severe symptoms later in the course of their disease, overwhelming hospitals.