

2007 Ohio Student Research Forum

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RESEARCH ABSTRACT FORM

TITLE: Survey for the Presence of *Acanthamoeba* spp. in Tap Water from Puerto Rico**AUTHOR:** Daviana López-Torres¹, Megan Shoff² and Paul Fuerst²**MENTOR(S):** Dr. Paul Fuerst**DEPARTMENT:** ¹-Universidad del Este, Puerto Rico, ²- Department of Evolution, Ecology and Organismal Biology, The Ohio State University**INSTITUTION:** Ohio State University

The genus known as *Acanthamoeba* is one of the naked free-living amoeba that inhabit a wide variety of environments, including fresh and salt water, swimming pool water, bottled water, arctic ice, ocean sediment, vegetable matter, soil, dialysis units and contact lenses. In humans, *Acanthamoeba* spp. can be found in nasal cavities, throat, intestines, lung tissue and the eye cornea. Infections caused by *Acanthamoeba* can be highly harmful to humans including the painful infection of the cornea, *Acanthamoeba* keratitis (AK), especially likely to be associated with contact lens use. Studies show a recent increase in AK in different areas of the U.S., including in Puerto Rico. *Acanthamoeba* spp. can be found in tap water, as shown by previous investigations. Many contact lens wearers wash their contact lens cases and also their contact lenses with tap water. We intend to analyze tap water samples from Puerto Rico for the presence of *Acanthamoeba* spp. in order to identify whether this is a possible source of infection for AK. Water samples were taken from toilette water storage tanks using sterile cotton swabs. Samples were analyzed using Non-Nutrient *Acanthamoeba* Saline Agar (NNAS). The swab tip was placed in the plate with drops of Amoeba Saline (AS). The plates were washed with AS and examined using light microscopy. General results showed presence of possible *Acanthamoeba* spp. in samples PR07-001, PR07-003, PR07-005, PR07-006, PR07-007, PR07-008, PR07-009, PR07-010, PR07-011, PR07-012, PR07-013, PR07-014 PR07-015 and PR07-016. Future work will be done to corroborate these observations using molecular analysis involving the Polymerase Chain Reaction (PCR) and DNA sequencing techniques, which will allow the identification of the different species of *Acanthamoeba* and other associated protist forms found in the tap water samples.