Toxoplasma and infectious diseases in the tropical regions

Authors: Amanda Diaz Joshua Barrera Carrie Diaz Michele Lamb Joseph Hobbs

Published Date: 01-27-2017

University of California-Davis

School of Cognitive Science

The infectious disease from natural sources (NTI) in the tropics is becoming bigger in our region. Intense weather events can trigger diseases and this is one of the causes that has caused an increase in Toxoplasma as well as pneumocystis pneumonia. Whatâ€™s different is the direct impact these diseases have on the human population: More than one million die every year.

ANS-F. An aras de horrores en los tropas de las AmÃ©ricas

Un soap produced by De Beers is one of the numerous commodities with high concentrations of microorganisms infecting people. There are at least 25 types of bacteria in this treatment.

Our Hidden Source of Disease

During an encounter with a researcher at CDC in Romania, I learnt that there are more than 22,000 species of microorganisms in the seawater in our tropical regions. This is the only place in the world where this biological abundance of microbes is as high. The percentage of harmful bacteria in this water is high in most places.

Fig. 2 The percentage of harmful bacteria in water

They have a lot of uses and around 25 percent of the invertebrates live there. This creates a very favorable environment for certain animals and the parasite is part of this. Microorganisms are found in fish, marine and terrestrial animal species, wildlife, surfers, sea cucumbers, jetties and beaches and in zebras, hyenas, ground squirrels, raccoons, birds, frogs, to name a few.

Moreover, for some species of mammal there is no safe place: In Central America and the western Caribbean 22 species of infectious diseases exist among the 50 percent of mammals. C. bovis is one of them and this microorganism provides the Toxoplasma as well as the tuberculosis caused by Rift Valley fever bacteria.

The World Health Organization defines the Toxoplasma as a bacterial parasite found in every amphibian, but the tropical climate predisposes the animal to the organism. This parasite reduces the bodyâ€™s body temperature to protect itself from infection.

Ana Mena

The Human element

Apart from the microorganisms with their own toxins, the human beings have also a lot of microbes to be concerned with. The human colon is full of bacteria, fungi, viruses and other organisms. All these microorganisms contribute to the increasing of the average temperature in the region. This means the nutrients coming from the sea to the human colonies decreases; however, the viruses and fungi can reach the rats from the sea. To avoid contamination of the rodent population, it is necessary to make actions that block the entry of toxic bacteria.

A Cat That Is Laying Down On A Table