The Journal of Parasitology – Malaria, parasitic worms, Ebola, HIV, even bed bugs—today's parasites and pathogens get nearly daily media coverage. As a species, humans affect the lives of everything else on our planet, ranging from the tallest trees to these smallest of organisms. In turn, these changes also affect the parasites that infect us and other animals, and it now seems that the parasites are spreading ever more widely, and sometimes rapidly and aggressively, across Earth.

An article in the current issue of *The Journal of Parasitology* looks at why parasites now appear nearly everywhere, and how people have affected their range and dominance. It reviews years of research related to parasite genetics and the ecological links between humans and pathogens.

This paper focuses on the genetic diversity of parasites within single hosts, and uses this data to illustrate the effects of human activities on parasite evolution. The authors based their model on several studies of specific parasite populations, including tapeworms, nematodes, and protozoans, infecting a wide variety of hosts. They then mined these studies for information on how parasites have changed over the centuries and how people may have played a role in those changes.

The data indicates that parasite spread is linked to human population growth. Over time, parasites have increased their distributions, drug resistance, and even changed hosts as they co-evolved with man. The ability of parasites to switch hosts is particularly important, as it has greatly boosted parasite diversity and distribution.

The authors also emphasize what they call "key tipping points in human history," starting with the spread of Homo sapiens from Africa and continuing through the growth of agriculture, exploration, and industrialization. They list modern-day tipping points as global warming, ocean acidity, changes in essential nutrients, and loss of biodiversity. Our role in creating, altering, and overcoming these issues can be significant. However, in some cases, our solutions may be more damaging than the problems. Attempts to hold on to struggling ecosystems or bring them back to health can open the door to pathogens, allowing them to spread disease into new environments and hosts.

The authors conclude that "human activities have played and continue to play a large role in

the globalization of parasite populations." Improvements in technology are making it easier for us to track pathogens, but what we do with our increased knowledge may have the greatest effects on how diseases move through the world.

Full text of the article " Anthropogenics: Human influence on global and genetic homogenization of parasite populations ," *The Journal of Parasitology*, Vol. 100, No. 6, 2014, is now available.

About *The Journal of Parasitology*

The *Journal of Parasitology* is the official journal of the American Society of Parasitologists (ASP). The journal reports on all aspects of animal and human parasites, and is widely recognized for publishing content that has a long-term impact on the field of parasitology. The journal is intended for all with interests in basic or applied aspects of parasitology as well as in systematics, medicine, molecular biology, epidemiology, immunology, physiology, ecology, biochemistry, and behavior. For more information, visit http://www.journalofparasitology.org
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