

Dr. Reiter acknowledges the sensitivity of malaria to climatic influences, and I am sure that he agrees that change in climate will affect risk for transmission—he may be skeptical as to whether global warming will ever become a fact, but that is another question. While Reiter's paper offers an interesting perspective on the history of malaria in Europe, it provides no illuminating information on the influence of climate change on human health.

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### References

1. Reiter P. From Shakespeare to Defoe: malaria in England in the Little Ice Age. *Emerg Infect Dis* 2000;6:1-11.
2. Intergovernmental Panel on Climate Change. The regional impacts of climate change: an assessment of vulnerability. Working Group II. Intergovernmental Panel on Climate Change. New York: Cambridge University Press; 1998. Chapters 5, 8.
3. Intergovernmental Panel on Climate Change. Climate change 1995: impacts, adaptations and mitigation of climate change: scientific-technical analyses. Working Group II, Intergovernmental Panel on Climate Change. New York: Cambridge University Press; 1996. Chapter 18.
4. Martens P. Health and climate change: modelling the impacts of global warming and ozone depletion. London: Earthscan Publications Ltd.; 1998.

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For P. Reiter's response, please see  
<http://www.cdc.gov/ncidod/EID/vol6no4/reiter.htm>

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### Serologic Evidence of Human Monocytic and Granulocytic Ehrlichiosis in Israel

**To the Editor:** We read with great attention the article by Dr. Keysary et al., who reported the first evidence of human monocytic and granulocytic ehrlichiosis in Israel (1); however, we disagree with their conclusions.

Ehrlichiae comprise a large group of intracellular organisms pathogenic for animals and occasionally for humans. Because these organisms are closely related, serologic cross-reactions occur within and between groups, leading to mistakes in identification. For example, *Ehrlichia chaffeensis* was misdiagnosed as *E. canis* in humans (2) and human granulocytic ehrlichiosis as human monocytic

ehrlichiosis in areas where the vector was not present (3). Because of such cross-reactions, serology alone is not sufficient to establish the existence of a new ehrlichial disease.

With the exception of *Rhipicephalus sanguineus*, the brown dog tick, which is distributed worldwide, tick species of medical importance are very geographically specific. For example, the *Ixodes* and *Dermacentor* spp. found in Europe are not those found in the United States. Consequently, tick-transmitted organisms and diseases are also very specific geographically. For example, *Borrelia* spp. found in the Old World are not found in America (except for *B. burgdorferi stricto sensu*, which is found in both Europe and America). *R. rickettsii*, transmitted by *Dermacentor andersoni* and *D. variabilis*, is reported in the United States but not in Europe, where the vectors are not present.

American monocytic ehrlichiosis is caused by *E. chaffeensis*, which is transmitted by the tick *Amblyomma americanum*, found only in America. The main reservoir is the deer *Odocoileus virginianus* (4).

It is very unlikely that a tick-borne disease occurred in a country where neither the vector nor the reservoir of the bacterium exists. All attempts to demonstrate the presence of *E. chaffeensis* in the Old World, including Africa, have failed. Indeed, there is no convincing evidence of the existence of *E. chaffeensis* outside America.

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### References

1. Keysary A, Amram L, Keren G, Stoeber Z, Potasman I, Jacob A, et al. Serologic evidence of human monocytic and granulocytic ehrlichiosis in Israel. *Emerg Infect Dis* 1999;5:775-8.
2. Maeda K, Markowitz N, Hawley RC, Ristic M, Cox D, McDade JE. Human infection with *Ehrlichia canis*, a leukocytic rickettsia. *N Engl J Med* 1987;316:853-6.
3. Brouqui P, Raoult D. Human ehrlichiosis. *N Engl J Med* 1994;330:1760-1.
4. Dumler JS, Bakken JS. Ehrlichial diseases of humans: emerging tick-borne infections. *Clin Infect Dis* 1995;20:1102-10.