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[Home](#)

Search Archives

[Announcements](#)

[Recalls/Alerts](#)

[Calendar of Events](#)

[Maps of Outbreaks](#)

[Submit Info](#)

[Subscribe/Unsubscribe](#)

[FAQs](#)

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[Who's Who](#)

[Awards](#)

[Citing ProMED-mail](#)

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Subject PRO/AH> Rodent die-off - Bolivia (02)

RODENT DIE-OFF - BOLIVIA (02)

A ProMED-mail post

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From: Fernando D.A. Pires <favila@matrix.com.br>

The report by Dr. Emmons describes a well-known pattern of rodent population dynamics; "population explosions" are known to occur in all biogeographical regions. In South America, the association between the flowering of certain bamboos [which does not occur every year - Mod.JW] and the multiplication of rodents is the most remarkable example (see PEREIRA, C. 1941 Sobre as "ratadas" no sul do Brasil e o ciclo vegetativo das "taquaras". Arquivos do Instituto Biologico, S. Paulo, 12:175-96, and HERSHKOVITZ, P. 1962 Evolution of neotropical cricetine rodents. (Muridae) Fieldiana: zoology, 46:1-524).

Population explosions of the species mentioned by Dr. Emmons occur usually in rural areas where seasonal crops of cereals are cultivated. Harvesting is followed by a social disruption in populations of rodents, which invade houses and campsites searching for food. The operation of natural controlling mechanisms eventually reduces their numbers, not only through epizootics but also through reduction in the number of embryos (see ELTON, C. S., 1924. Periodic fluctuations in the numbers of animals: their causes and effects. Brit Jour. Experim. Biol., 2 :119-163. ELTON, C. S., 1925. Plague and the regulation of numbers in wild animals. Journal of Hygiene, 24 :138-63. ELTON, C. S. 1931 The study of epidemic diseases among wild animals. J. Hyg, 31(4): 435-456).

Epizootics in South America such as those due to pseudo-tuberculosis, murine typhus, plague, and Argentinian and Bolivian hemorrhagic fevers, among others, are due to several causes [besides increases in the food supply]. The role of hantaviruses in rodent die-offs has not been established so far. Leishmanias have a completely different ecology, and they are not associated with the control of rodent populations.

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Ronald B. Mackenzie [19960503.0848](#)

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[Machupo virus didn't kill mice in Bolivia in the 1963 outbreak -- I was there. I'm betting it's plague - Mod.JW]

[see also:

Rodent die-off - Bolivia: RFI [20021119.5848](#)]

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