

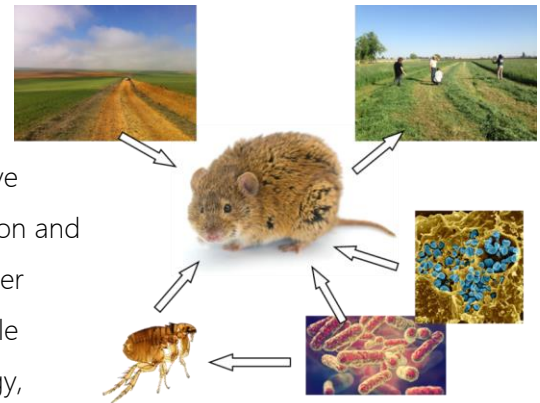
Ecology of rodent outbreaks and zoonotic diseases: common voles in the farmland of northwest Spain

Dr. Ruth Rodríguez Pastor

Mitrani Department of Desert Ecology, Ben-Gurion University

19/11/2019, 12:00, Institute seminar room, Sede Boqer Campus

The temporal overabundance of some rodent populations with multi-annual “boom-bust” dynamics favours the spreading of individuals in humanized landscapes, which causes damage to agriculture and/or forestry producing significant economic losses. Noteworthy, such irruptive spatial-temporal spreading of rodents also contributes to the amplification and spill-over of zoonotic pathogens of risk to humans, pets, livestock or other wildlife. Identifying the causative mechanisms and factors behind unstable rodent populations remains an enduring challenge to population ecology, largely motivated by rodent-borne socio-economical and public health impacts. Otherwise, studying the dynamics of rodent-borne zoonotic diseases, identifying the key hosts, reservoirs and vectors involved in their transmission routes, is thus crucial for a better understanding of epidemiological cycles of zoonoses in nature. I studied wild populations of common vole (*Microtus arvalis*) from northwest Spain that have recently invaded (<30 years) irrigated agricultural areas where large boom-bust periodic outbreaks are now endemic. To better understand the impacts of such temporal alternating density scenarios, I studied: (i) the “contraction–expansion” dynamics of habitat use by voles in farmlands analysing space use patterns, (ii) the role of these unstable vole populations in the processes of amplification and spill-over of zoonotic diseases of risk to humans in the environment, and (iii) the dynamics and nature of ecological interactions between key irruptive hosts and their parasitic arthropod-vectors, and their relative role in the transmission cycles of zoonotic micro-parasites (pathogens).



ruth.r.pastor@gmail.com

https://www.researchgate.net/profile/Ruth_Rodriguez-Pastor