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TRANSMISSION ECOLOGY OF *ECHINOCOCCUS* IN CHINA: ADVANCES AND HOT QUESTIONS

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In continental China *Echinococcus multilocularis* (Em) transmission intensity is spatially heterogeneous and unstable. This instability makes transmission responsive to fox/dog dosing control campaigns and variations in host population densities. Parasite extinction may occur as a consequence of landscape/land use change (e.g. Zhang-Puma area of southern Gansu, Northern Liu Pan Shan, Ningxia). By contrast, intensive and more stable transmission occurs in some areas of the Tibetan plateau due to sustainable high densities of small mammal intermediate host populations, the existence of two species of fox definitive hosts, and the extremely high number of dogs in and around villages with easy access to small mammal colonies. Yak herd management and subsequent grazing patterns may be an important factor impacting both the composition of small mammal communities and the population dynamics of intermediate host-species. Using data collected from comprehensive surveys in China and Europe as evidence, this paper sets out four concepts of transmission addressed by the following questions:

1) Do short-term studies within localized (sub-county) areas provide sufficient information to understand the processes leading to stable transmission of Em?
2) If no, how many small mammal communities and landscape habitats may be significantly involved in transmission?
3) Thus, what is the spatial extent of areas within which meta-stability operates and which areas can subsequently be considered stable foci ?
4) To which geographical range can the parasite be spread by foxes and the dog trade, thus can the likely meta-stable foci of the Tibetan plateau be a source of infection to transitory favorable remote areas of the spurs of the plateau (e.g. Southern Gansu) or even of more remote ranges (e.g. Liu Pan Shan)?