Study in bats and rodents offers insights on how viruses spread across species

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Bats are natural reservoirs of several important emerging viruses, and because cross-species transmission appears to be quite common among bats, it's important to study bats in a community context rather than concentrating on individual species.

Researchers have now used such an approach to identify characteristics of cross-species virus transmission in bats and rodents, another important viral host. The investigators uncovered evidence to suggest that viruses pass more easily between bat species than between rodent species, and they found that characteristics unique to bats, such as gregariousness and migration, may facilitate this increased transmission.

The findings may help guide future surveillance efforts to prevent spillover of viruses between bats and humans to benefit human health while conserving bats' important roles in pest management, plant pollination, and seed dispersal.

"One thing that struck me early-on in this study is just how many times viruses have jumped between species in both bats and rodents," said Dr. Angela Luis, lead author of the *Ecology Letters* study. "The opportunity for contact between two species appears more important than how closely related those species are, at least within taxonomic order. Perhaps the 'species barrier' is less of a barrier than we think."

More information: Luis, A. D., O'Shea, T. J., Hayman, D. T. S., Wood, J. L. N., Cunningham, A. A., Gilbert, A. T., Mills, J. N., Webb,

C. T. (2015), Network analysis of host-virus communities in bats and rodents reveals determinants of cross-species transmission. *Ecology Letters*. DOI: 10.1111/ele.12491