**The context of co-infection changes within- and between-host dynamics in three amphibian species.**

Many important pathogens circulate within multi-host communities. Equally, many hosts can be infected with multiple pathogens at any given time. In amphibian populations, the two pathogens of greatest global conservation concern, Ranavirus and *Batrachochytrium dendrobatidis* (*Bd*), have been indicated to occur as co-infections, yet our understanding of these complex host-pathogen interactions remains limited. We empirically tested how susceptibility, infectiousness and burden of disease changed with infection scenario (single vs coinfection) across a panel of host *species (Bufo bufo, Rana temporaria and Alytes muletensis)* that range in their reported susceptibility. We measured the contributions of each host, at an individual level, to the environmental pool of infectious particles, by quantifying Bd zoospores and ranavirus virion output. We demonstrated that disease prevalence and infection burden is context dependent. We detected a significant effect of exposure sequence on ranaviral infection with, significantly higher disease preveleance in co-infection scenarios (*stat*) though the direction of these effects differed with the sequence of exposure (*stat2*) and host species (*stat3*). Host species significantly determined pathogen prevelence and infectiousness in particular, *Bufo bufo* exhibited higher rates of pathogen shedding (*stat4*). Understanding the susceptibility and infectiousness of each host at an individual level allows us to predict how host species community composition influences the establishment and persistence of both pathogens, singularly and as coinfections, at the community level. Our study provides previously lacking emperical evidence of within-host and between-host dynamics under different infection scenarios (single vs co-infection) and highlights the importance of understanding host contributions to enviromental reservoirs of disease.

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