



On the unit of adaptation in spatially structured host-parasite systems

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In well-mixed populations, it is not so difficult to disentangle the private interests from the common good in host-pathogen interactions. Hosts and parasites 'agree' that hosts should survive, but they have no interests in each other's reproduction (transmission). In spatially extended systems, however, the evolutionary interests of hosts and parasites can get tied up in complicated ways with unexpected results, for instance, with parasites benefitting from increased death rates of uninfected hosts. Here I will try to apply new ideas on how units of adaptation form in spatial host-parasite interactions that favour greater functional integration and might eventually lead to evolutionary transitions in individuality.