Reference Brief description Main result Details

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| McCann et al. 1998 | Used food web data and models to see what kind of consumer-resource interactions promote stability. | One weak interaction for each strong should be stabilizing as the weak dampens the oscillations brought about by the strong. | Models and actual food web data |
| McCann 2000 | Review on ecological stability. Importance of preserving ecosystem to prevent the destabilizing result of losing a species | Communities are dominated by weak tropic interactions—stabilizing | Based on empirical evidence |
| Snyder 2010 |  | communities with more species can have the capacity to be more reactive if interaction strength doesn’t decrease with richness. Reactivity is mostly determined by mean interaction strength. | Theoretical Using upper and lower bounds |
| Neutel et al. 2002 | Uses trophic loops to find that long loops contain many weak links—reduces “loop weight” | Most communities have mostly weak and a few strong interactions. A particular combination of weak and strong—not just at random | Real food web data  Matrices generated from feeding and population data  Trophic loops |
| Ruiter et al. 1995 | A community matrix representing 7 real food webs was compared with matrices of similar structure but w/o patterns | Lifelike matrices were more likely to be stable than their theoretical, disturbed, or test counterparts due to the ‘patterns of interaction strength’ and that there is not consistent effect of strong or weak interactions being more or less important for stability (determined by sensitivity analyses).  Strong top down effects at lower trophic positions and strong bottom up effects at higher trophic positions.  Patter | Matrices generated from feeding and population data.  Theoretical (matrices generated from randomly refiguring lifelike matrices, and by generating theoretical distributions of interaction strengths) and then comparing the stability of random/theoretical matrices with empirical and finding empirical were more stable.  Top down and Bottom Up |
| Allesina and Tang 2012 | Extending May’s work, giving more realistic pattern within the matrices | Weak interactions are destabilizing for predatory-prey interactions, but stabilizing for mutualistic and competition networks.  Predator-prey= weak interactions are destabilizing, but for natural food webs weak interactions are stabilizing? | Matrices |
| Rooney and McCann 2012 | Using food webs to understand the distribution of species diversity and its relationship with food web stability. | Weak interactions can be stabilizing, and the patterning of interaction strengths are important. Weak chains in food webs compete with strong, muting some of energy flow that would normally go up strong channel. | Energy channels in food webs. They review the literature on interaction strength, and present data from marine plankton communities to support their synthesis. |
| Wootton and Emmerson 2005 | Review on measuring interaction strengths. | Many weak, few strong is most common, surveyed data from real communities. Discuss how challenging it is to measure interaction strengths in nature. | Matrices - Jacobian elements and looked at avg strength.  Lab and observational approaches on real systems. |
| Wootton and Stouffer 2016 | Looked at model generated predator prey communities | Confirmed that there is a particular combination  of network structure and interaction strength required for weak interactions to be stabilizing | Matrices, Basically supports the work of Allesina and Tang in that weak interactions are stabilizing only when patterned in specific ways. |
| Kadoya and McCann 2015 | Added weak interactions on the weak interactor | Found that this is less stable but still more stable than w/o the weak interactor. | Used food web models |
| Kondoh and Mougi 2015 | Wanted to look at interaction strengths and the interaction-type  diversity hypothesis | Found support for interaction-type diversity hypothesis. Community stability is affected by interaction strength and its distribution throughout the community | Modeled species interactions, We would want to cite this if we get into the differences between weak interactions for different types of interactions. |
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