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Questions of Species Diversity

- *How* can so many species exist in the same place? (Ecological)
- *Why* are there so many species? (Evolutionary)

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Courtesy of J. Bronstein

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  - Environment (e.g. rainfall, temperature, soil nutrients)
  - Interactions between species (e.g. competitors, predators, pathogens, mutualists)

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- We can then see what aspects of the way species compete and respond to the environment allow many species to exist together.
- Also understand how species attributes may evolve in response to environmental change and competition to affect diversity.

$$N(t+1) = G(E,C)N(t)$$

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- Use findings to ***understand why*** some places are more diverse than others.
- Can understand how to preserve diversity
- Can ***predict*** outcomes for diversity in the face of global change.
- Understand many types of ***species interactions*** of human interest: crops, pests, human pathogens, fisheries, etc.