

TABLE 41-3
Definitions of energetic efficiencies.

| | | | |
|-----|------------------------------|---------------------|---|
| (1) | Exploitation efficiency | = | $\frac{\text{Ingestion of food}}{\text{Prey production}}$ |
| (2) | Assimilation efficiency | = | $\frac{\text{Assimilation}}{\text{Ingestion}}$ |
| (3) | Net production efficiency | = | $\frac{\text{Production (growth and reproduction)}}{\text{Assimilation}}$ |
| (4) | Gross production efficiency* | = (2) × (3) = | $\frac{\text{Production}}{\text{Ingestion}}$ |
| (5) | Ecological efficiency | = (1) × (2) × (3) = | $\frac{\text{Consumer production}}{\text{Prey production}}$ |

* Slobodkin (1960) referred to the gross production efficiency as the "ecological efficiency."

706 Ecology of Communities

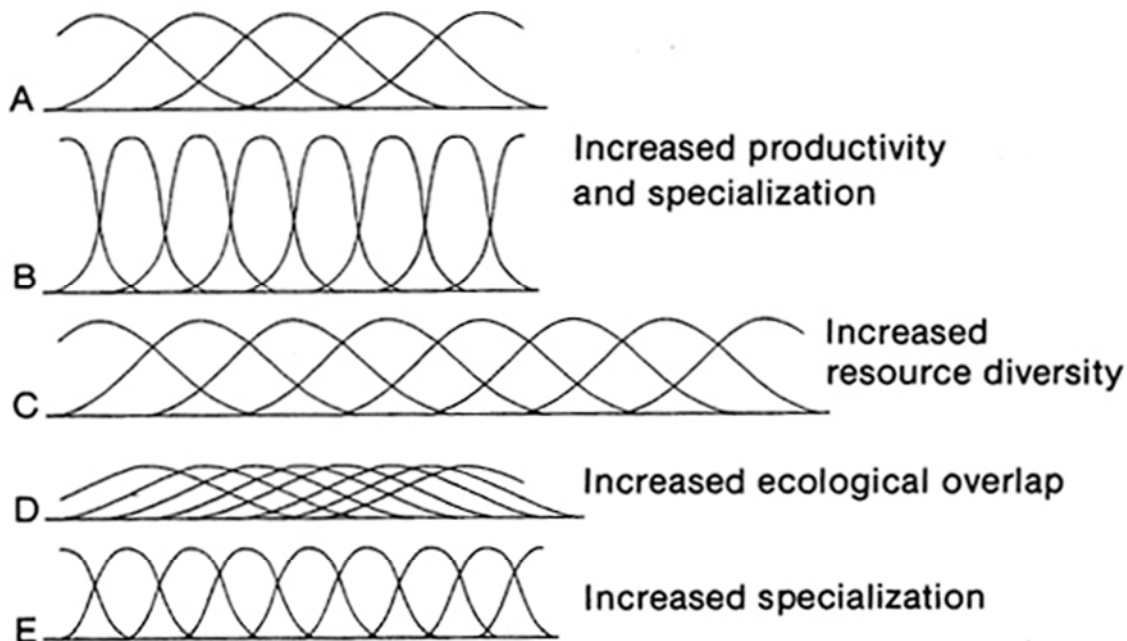


Figure 43-2. Schematic diagram showing how resource utilization along a continuum can be altered to accommodate more species. Alternatives B and C require increased community productivity, but D and E do not.