Cheatography

AP Biology Unit 6: Ecology and Animal Behavior Cheat Sheet by hlewsey via cheatography.com/36676/cs/11641/

Population Ecology

biotic/abiotic factors → response: acclimate, regulate, conform, migrate, torpor, etc.

fundamental niche=range of factors/resources a species could use

realized niche=actual use of potential environment

uniform dispersion=evenly spaced

random dispersion=unpredictable spacing

clumped dispersion=aggregate in patches

Logistic Growth



K-selection=sensitive to population density r-selection=maximizes r (reproductive rate) density independent= pop. density does not affect birth/death rate

density dependent= \uparrow pop. density \rightarrow \downarrow birth rate/ \uparrow death rate

Species Richness and Diversity

species richness	# of different species in a community
species diversity	# & size of each population in a community
relative abundance	proportion of different species in a community
dominant species	most abundant species w/ highest biomass
keystone species	has pivotal ecological role/niche

Interspecific Interactions

Competitive Exclusion Principle

2 species can't survive in the same ecological niche; fundamental≠realized

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Interspecific Interactions (cont)

Predation

+/-; adaptions: cryptic/aposematic	
coloration, Batesian/Müllerian mimicry	

Symbiosis

-parasitism: +/-, endo & ecto -mutualism: +/+, obligate vs facultative -commensalism: +/0 interaction

Community Disturbance

primary succession	colonization by pioneer organisms (bacteria/algae/lichens/moss) in a virtually lifeless area to form soil
secondary succession	colonization of an area where the existing community was cleared but soil is intact
Learning	
habituatio n	loss of responsiveness to stimuli w/no new info
imprinting	formation of permanent long- lasting response to an individual during sensitive period
spatial	landmarks, cognitive maps
associativ e	classical/operant conditioning
cognitive	awareness, reasoning, judgment →problem solving

Social Behavior		
cooperation	behavior done as a group	
agonistic	aggressive behavior	
dominance hierarchies	dictate social position of an an animal in a culture	
territoriality	behavior to defend an area from others	
altruism	↓ individual's reproductive fitness, ↑ fitness of colony	

Chemical Cycles

Water	evaporation, condensation, precipitation, runoff/transpiration
Carbon	photosynthesis & respiration, burning fossil fuels
Nitrogen	fixation: free nitrogen \rightarrow NH ₄ + nitrification: NH ₄ + \rightarrow nitrites/ates denitrification: nitrates \rightarrow N ₂ decomposition: organic matter \rightarrow ammonia

Animal Behavior

Proximate Cause	how a behavior occurs/is modified
Ultimate Cause	why behavior occurs in context of natural selection
Fixed Action Pattern	highly stereotypic behavior that is unchangeable and carried to completion
Sign Stimulus	external cue that triggers FAP exchanged within a species=releaser
Communi cation	visual (waggle dance), chemical (pheromones), tactile, & auditory (birdsong)
Kinesis & Taxis	change in activity in response to stimulus; oriented movement toward/away from stimulus

Ecosystem Energy Flow



bottom-up model: influence from low→high top-down (trophic cascade) model: influence from high→low biological magnification: ↑ trophic level= ↑ accumulated toxin concentration

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