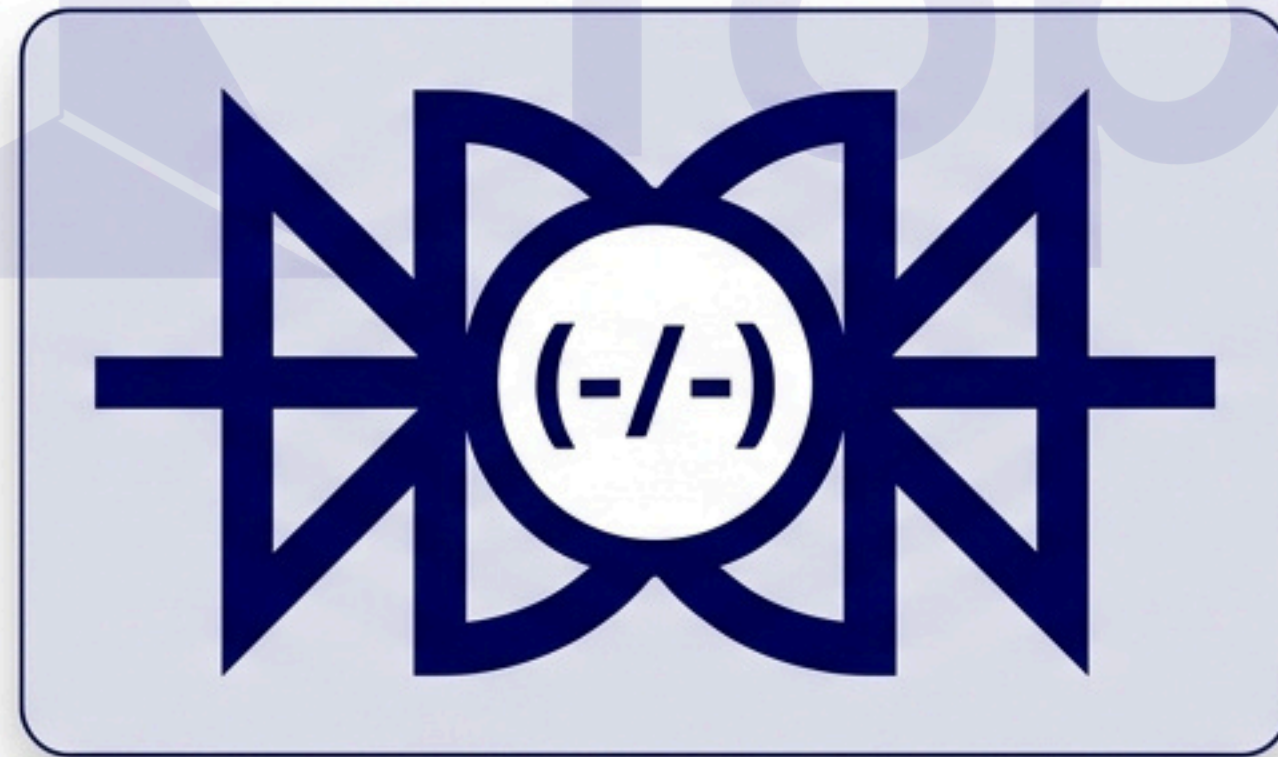


Competition

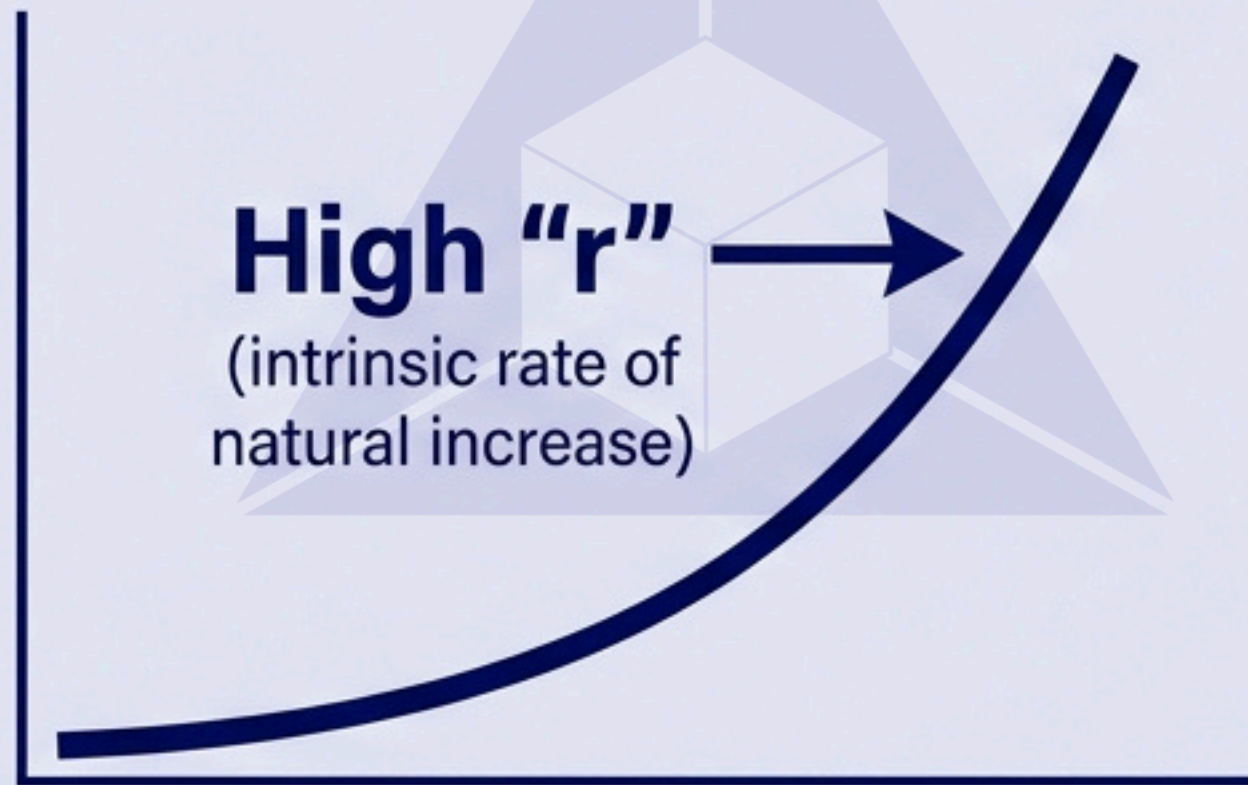
The Ecological Blueprint of Survival, Exclusion, and Co-existence.



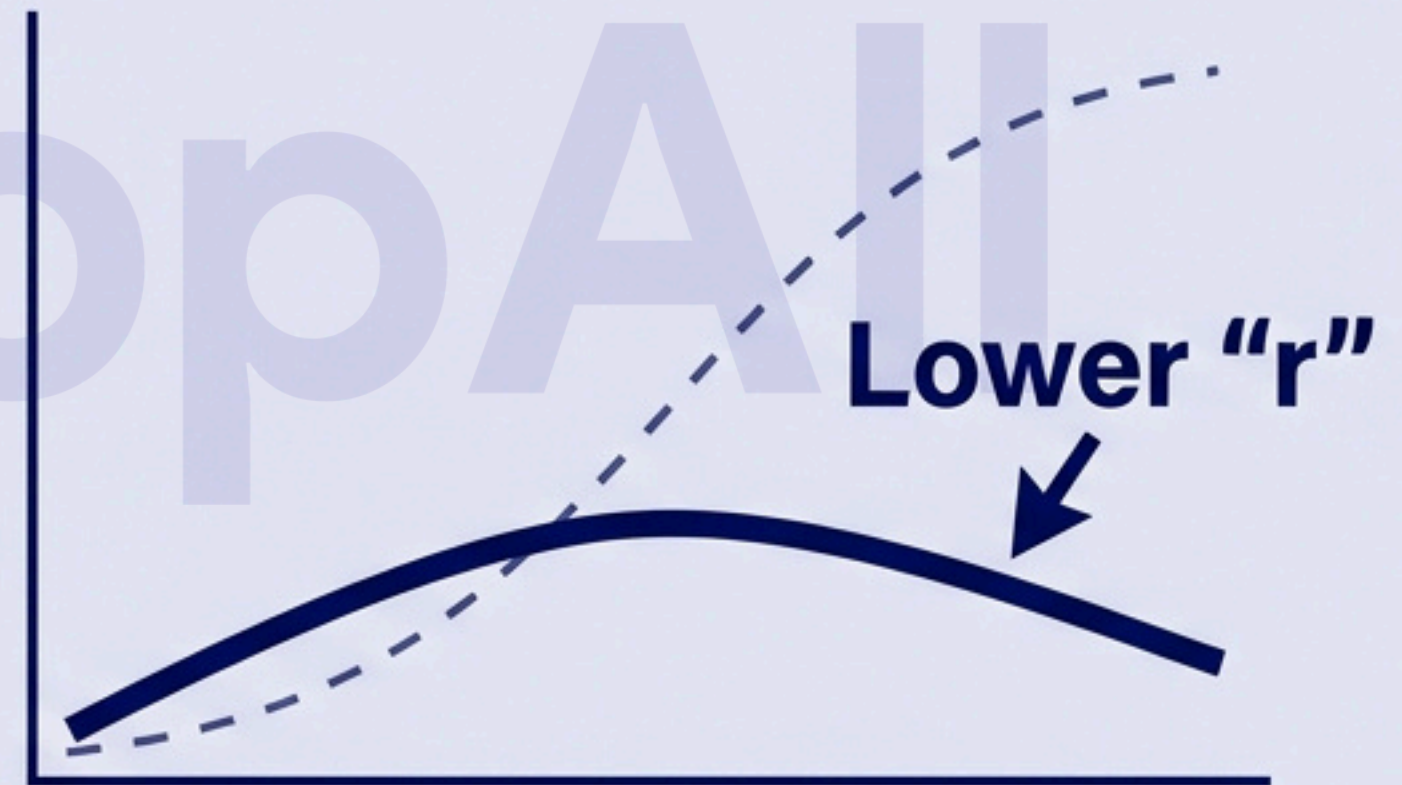
Competition Lowers Fitness

Competition is best defined mathematically: the fitness of one species is significantly lower in the presence of another species.

Species Alone



Species + Competitor



Presence of Competitor = Decrease in 'r'

Myth: Only Related Species Compete

Totally unrelated species can compete fiercely if they share the same habitat and target the exact same resource.





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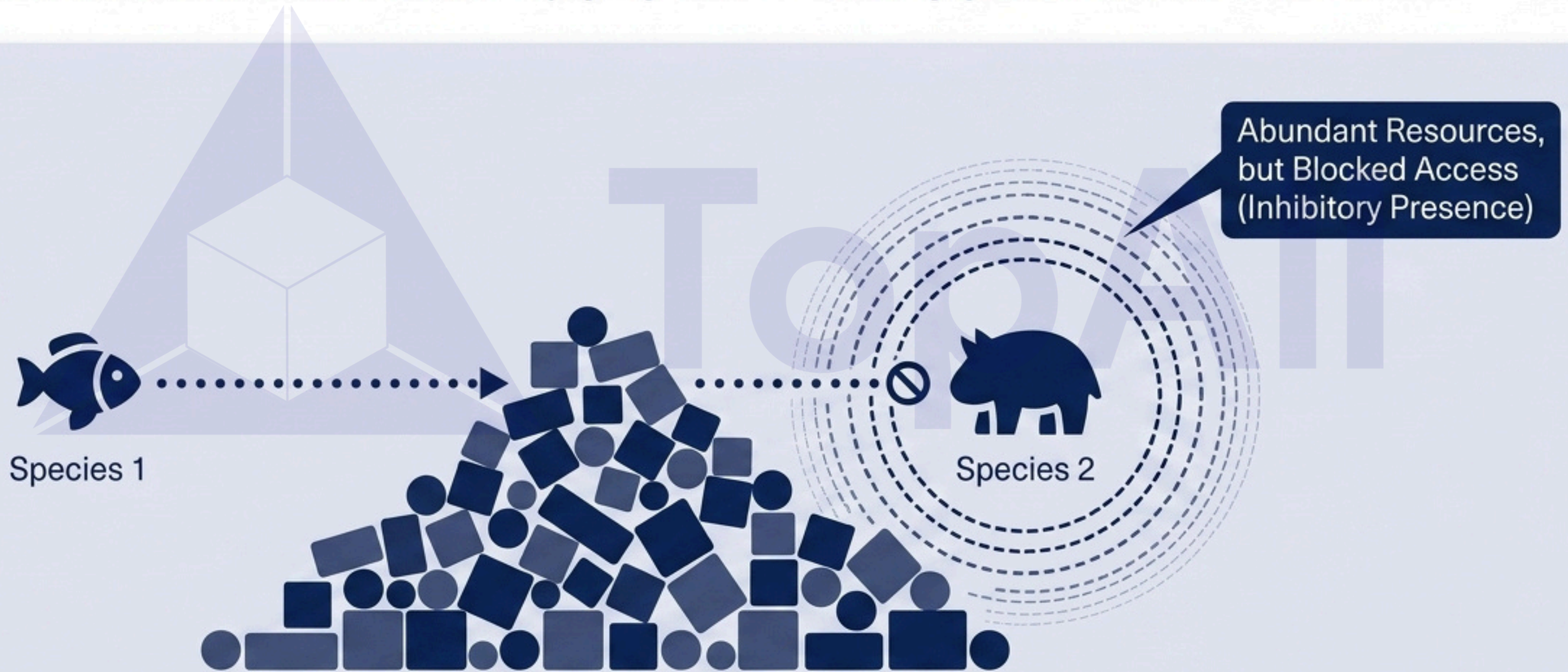
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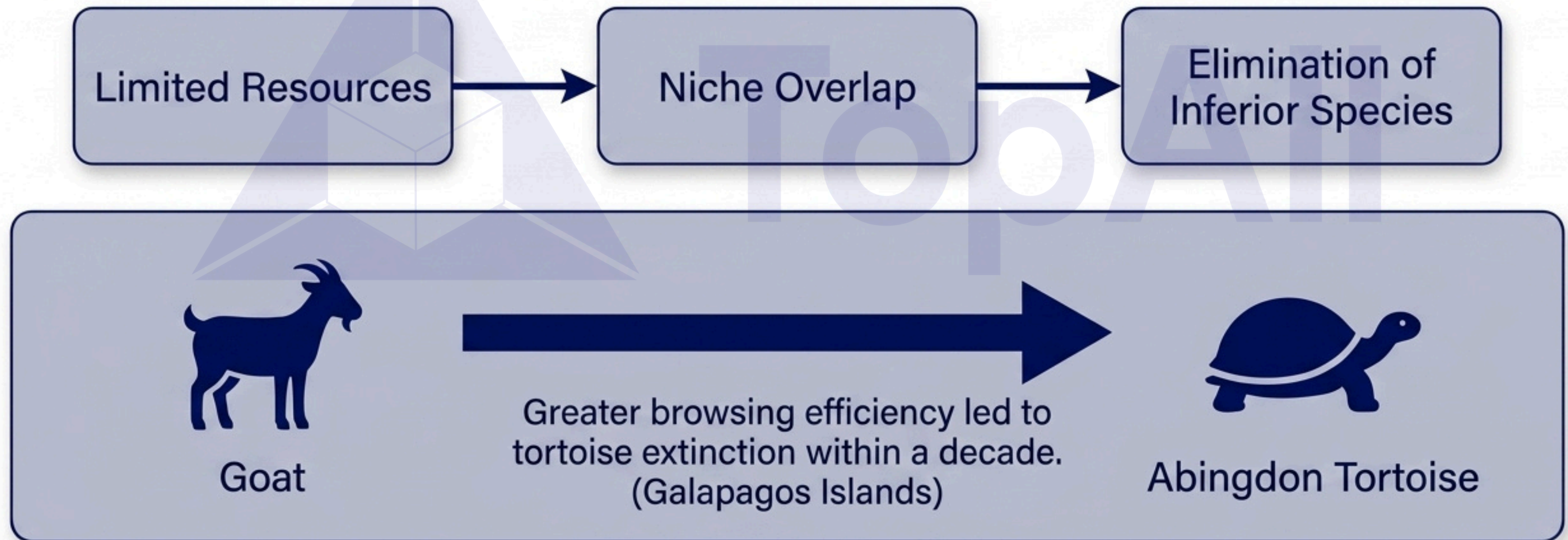
Interference Competition

Resources do not need to be limited for competition to occur. The feeding efficiency of one species can be reduced simply by the inhibitory presence of another.



Gause's Competitive Exclusion Principle

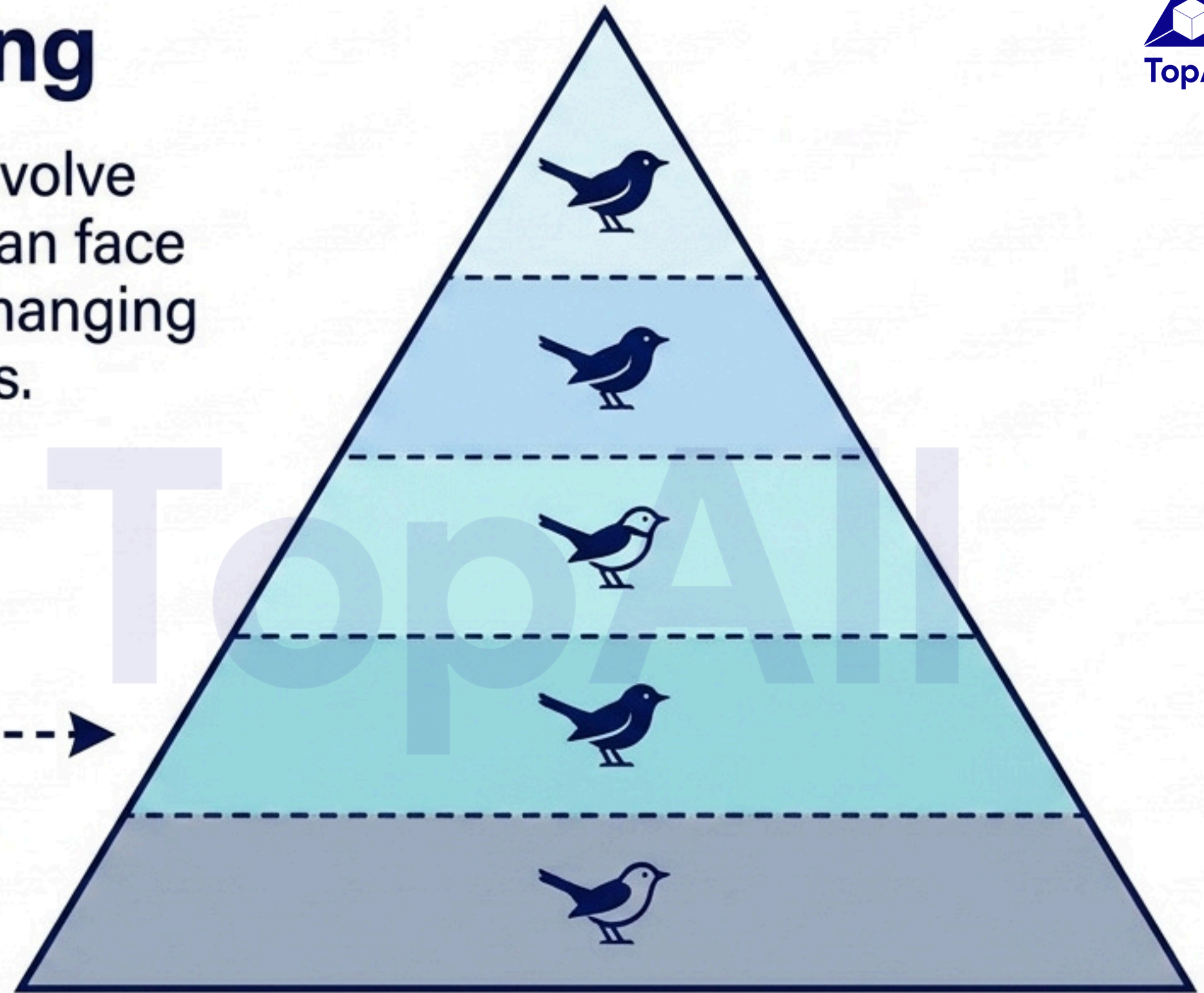
Two closely related species competing for the same limiting resources cannot co-exist indefinitely. The competitively inferior species will be eliminated.



Resource Partitioning

Species facing competition can evolve mechanisms to co-exist rather than face exclusion. They achieve this by changing foraging patterns or feeding times.

Avoidance of competition
through behavioral
differences in foraging
activities.
(MacArthur's Warblers)



Co-existence > Exclusion

NEET Key Takeaways

High-yield matching table for population interactions.

Concept	NCERT Example
Interference Competition	Unrelated Flamingoes & Fishes (Zooplankton)
Competitive Exclusion	Abingdon Tortoise eliminated by Goats
Resource Partitioning	MacArthur's 5 Warbler Species (Foraging behavior)

Remember: Fitness drop ('r') defines competition.



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