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Access to Resources

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Synonyms

[Resource availability](#)

Definition

Opportunity to acquire food, shelter, mates, and other necessities for survival and reproductive success.

Introduction

Natural selection is a straightforward process: Variation exists among individuals, and some of this variation is heritable. Some heritable attributes allow individuals to better cope with survival pressures such as predation or climactic changes and to enjoy greater success when competing for resources or mates. These individuals will leave more copies of their genes in the gene pool than individuals with less successful traits.

Denise D. Cummins is retired.

The genetic contribution of an individual to the next generation's gene pool (relative to the average for that population) is referred to as fitness.

From an evolutionary standpoint, therefore, the fundamental problem that an organism must solve is maximizing reproductive success which in turn reduces to maximizing access to fertile mates and resources.

An individual's access to mates and resources depends on several factors. The spatial arrangement of resources in habitats influences the distribution of individuals within the habitat and their ability to acquire resources. The space between individuals is generally greater in habitats in which resources are uniformly or randomly distributed. Many environments are characterized by "patchy" resources; the density of resources (such as forage plants and water) varies spatially (clumped resources) or temporally (e.g., abundant during the rainy season and sparse during the dry season). When resources are distributed this way, individuals tend to "clump" together around them. These "clumps" typically are more than simple aggregates. Instead, they frequently constitute social groups that are characterized by kinship and rank relationships that greatly influence access to available resources.

Sociality refers to the degree to which individuals in an animal population tend to associate and interact with each other in social groups. Social living yields a reduction in predator pressure by improved detection or repulsion of enemies, improved foraging and hunting efficiency,

improved defense of limited resources against intruders, improved access to potential mates, and improved care of offspring through communal feeding and protection. But there are also costs associated with sociality, including increased competition within the group for fertile mates and resources.

Kinship and Access to Resources

A key characteristic of social species is an inclination to behave more altruistically toward kin than toward unrelated individuals. Individuals are more likely to share resources with genetic kin, alloparent their offspring, and come to their defense during agonistic encounters. This is referred to as kin selection.

Status and Access to Resources

In most species, particular individuals have priority of access to resources in competitive situations. These individuals are referred to as high status, those who have lower priority of access are called low status, and the social structure of the groups is called a status (or dominance) hierarchy. Because of this differential access to resources, higher-status individuals are less likely to die of predation or starvation and more likely to leave living offspring (Clutton-Brock 1988). Among species in which status is unstable, the level of reproductive success achieved by any individual is directly related to the length of time during which that individual is high ranking (Altmann et al. 1996). Accordingly, there is a direct relationship between status and *inclusive fitness*, (reproductive success of individuals and their closely related kin).

Among humans, status hierarchies are apparent in the social groups of children as young as 3 years of age (Smith 1988). Human societies frequently take the form of status hierarchies, such as caste systems, feudalism, and modern socioeconomic stratification. Socioeconomic status has been reliably and repeatedly linked to several health indices, and these correlations

cannot be explained simply in terms of differential access to health care, smoking, or other objective factors (Adler et al. 1993). Put simply, status is directly tied to an individual's ability to survive, to reproduce, and to take care of oneself, one's offspring, and one's kin.

Investigations of social interactions in a variety of species (including humans) suggest that status hierarchies are supported by a collection of specific *cognitive* skills and that those who achieve high status are those who are particularly adept at them. These skills include (a) being adept at learning the implicit rules that constrain behavior in one's social group and monitoring compliance with them, (b) forecasting and influencing the behavior of others, and (c) forming powerful alliances based on reciprocal obligations (reciprocal altruism) (Cummins 2005). High-ranking individuals monitor the behavior of subordinates in order to protect their privileged access to resources. Subordinates engage in deceptive behavior that improves their access to resources. For example, they conceal objects or behaviors from others by hiding them from view, acting quietly so as not to attract attention, avoiding looking at a desirable object themselves, or distracting attention away from the desired object or forbidden behaviors. Subordinates also garner a larger share of resources by forming alliances with forbidden individuals through surreptitious food sharing or grooming, alliances that can be called upon during contests of rank.

Sex Differences in Access to Resources

There is a significant initial difference between potential reproductive success of males and female mammals. The ceiling for reproduction is much higher for males than females because sperm are plentiful and continually replenish, while eggs decline in number during a female's lifetime. Females also necessarily invest more energy in reproduction than do males (e.g., pregnancy and lactation) and are typically more involved in the care of very young offspring.

Female reproduction, therefore, is limited primarily by access to resources. Once a pregnancy

has occurred, females cannot increase their reproductive success by engaging in further matings. Because of the greater cost to females in producing young, they increase their lifelong reproductive success by investing in their offspring to ensure their survival.

In contrast, males can increase their reproductive success by maximizing the number of fertile females with whom they mate. If the number of males in a population is approximately equal to that of females, then there exists enormous pressure for competition among males for access to fertile females, and there will exist greater variability in male reproductive success: For every male who gains reproductive access to a disproportionate share of females, other males lose opportunities to reproduce. For this reason, male reproduction is limited primarily by access to fertile mates.

These differential reproductive pressures manifest as different mating strategies (or implicit biases) for men and women (Schmitt et al. 2003). Men seek mating opportunities with as many fertile females as possible, while females are choosy, preferring fertile mates with ample resources. Men tend to seek and acquire resources as markers of success, which in turn provides access to a wider pool of potential mates. In contrast, women primarily seek resources to support and maintain themselves and their children (World Bank Development Report 2012). Income considerations are secondary to family issues, and women will delay childbearing in order to acquire resources.

These sex differences are not obligate human traits but are instead facultative traits – they are deployed or modified to suit current environmental exigencies. For example, in polygynous societies that restrict the avenues women may pursue to obtain resources, women typically prefer to be one of many co-wives of a prosperous man than the only wife of a poor one (Betzig 1986). But when men do not constitute reliable avenues to greater resources relative to what women themselves can acquire directly, female mating strategies shift. Kasser and Sharma (1999) analyzed mate preference data across 37 cultures and found that females strongly prefer resource-acquisition

characteristics in mates when their cultures limit their reproductive freedom and their educational opportunities. Zentner and Mitura (2012) examined the desirability of mate attributes among nearly 12,000 individuals across 31 nations and found that sex differences in mate preferences declined proportionally to increases in nations' gender parity.

Conclusion

An individual's access to resources depends not simply on the availability of resources in the environment but also upon the individual's place within the social group. Individuals are more likely to share resources with kin than non-kin. They are also more likely to share resources with non-related individuals if those individuals have shared resources with them in the past (reciprocal altruism). In competitive situations, some individuals achieve priority of access to resources, and are referred to as high-status or high-ranking individuals. Lower-ranking individuals improve access to resources by forming alliances with high-ranking individuals. In some species, lower-ranking individuals also increase their access to resources by engaging in deception.

Cross-References

- ▶ [Competition for Females](#)
- ▶ [Competition for Resources Desired by Females](#)
- ▶ [Cooperative Alliances](#)
- ▶ [Dominance and Health](#)
- ▶ [Dominance in Humans](#)
- ▶ [Female Mate Choice](#)
- ▶ [Higher Status in Group](#)
- ▶ [In Nonhuman Primates](#)
- ▶ [Increase Status](#)
- ▶ [Kin Selection](#)
- ▶ [Mate Selection Strategy](#)
- ▶ [Mate Value](#)
- ▶ [Negotiate Status Hierarchies](#)
- ▶ [Nonhuman Primates](#)
- ▶ [Primate Dominance Hierarchies](#)
- ▶ [Reciprocal Altruism](#)

- ▶ Reproductive Strategy
- ▶ Resource Competition
- ▶ Resource Control Theoretic Approach to Dominance
- ▶ Resources for Reproduction
- ▶ Sex Differences
- ▶ Sexual Strategies Theory
- ▶ Shared Resource Defense
- ▶ Social Status and Economic Resources
- ▶ Status and Dominance Hierarchies
- ▶ Status and Redistribution of Resources
- ▶ Status and Reproductive Success
- ▶ Status and Resources for Survival
- ▶ Status and Sexual Access
- ▶ Status and Sexual Opportunity
- ▶ Ultimate Resource Control Hypothesis

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