

**INTRODUCTION: COPING WITH RESOURCE SCARCITY**

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Non-human primates constitute a diverse mammalian Order with broad geographic distributions throughout the tropics, sub-tropics and several temperate regions, from wet lowlands and dry, seasonal forests to grasslands and mountainous areas. Despite this wide range of environmental variation, one unifying theme among all free-ranging non-human primates is that they face periods of resource scarcity including but not limited to reduced food availability and limited access to mating partners. In some habitats, periods of resource scarcity are seasonal whereas, in other cases, the patterns of resource distribution and abundance may be quite unpredictable. However, regardless of the temporal and spatial scale of resource scarcity, natural selection should favor behavioral flexibility in response to such ecological and social challenges as a means to enhance survivorship and fitness. We aim to describe the diversity of primate adaptations associated with different types of resource scarcity and give an overview of the important features that may constrain the range of possible strategies among different primate taxa. We find that factors such as body size, feeding adaptations, locomotor patterns, and social structure may be important determinants of species-typical strategies, and individual responses to reduced food availability may include dietary, ranging, and physiological changes. Describing and explaining the observed variation in primate adaptations as potential mechanisms for coping with resource scarcity is important for understanding the relationship between evolutionary pressures and primate biology.

Keywords: scarcity, adaptation, flexibility, primates