Biology of deserts

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This book offers a concise but comprehensive introduction to desert ecology and adopts a strong evolutionary and applied focus. Deserts are defined by their arid conditions. Deserts are widespread and represent surprisingly diverse environments, although it is their relative simplicity that makes them more tractable for study than more mesic environments. In these resource-poor environments, natural selection is working at its most extreme and provides some of the best-known examples of natural selection. This book covers a wide range of ecological and evolutionary issues including morphological and physiological adaptations of desert plants and animals, species interactions, the importance of competition, facilitation, predation and parasitism, food webs, biodiversity, and conservation. This book features a balance of plant and animal examples, and also addresses topical applied issues such as desertification and invasive species. In this edition, considerable attention is also focused on the effects of climate change and some of its likely effects on deserts. Too much emphasis has been placed on global warming and not global changes per se. While ultimately the world will continue to heat up as fossil fuels are burned, many people struggle to understand that it is human-induced changes in the world rather than a simple case of warming that is likely to occur. Thus, greater variations in temperature and rainfall are also consequences of the ways that we are altering our world. Among these varied effects, desertification is often among the most egregious, leading ultimately to the increasing size of arid and semi-arid regions.