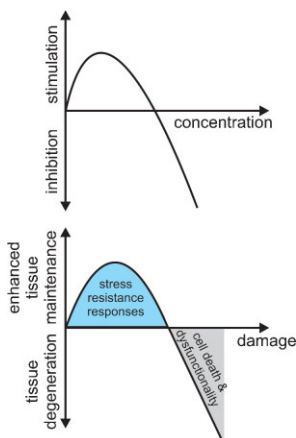


Highlights from this Issue

What doesn't kill me...



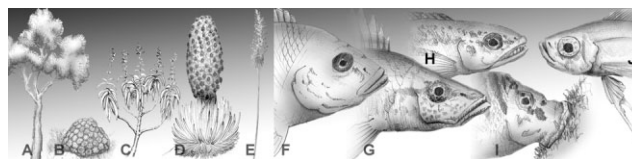
Does limited stress and low level toxic insults exert beneficial effects on an organism? The concept of hormesis holds that anti-aging and tumor suppression may be induced by adaptive responses to what would conventionally be considered negative influences. Obviously, the idea of using

toxins as therapy is problematic because of the inherent danger involved. It is thus essential to understand the mechanisms of actions involved in the beneficial adaptive responses. In this issue, Björn Schumacher provides an up to date and intriguing look at the evidence so far on hormesis, and the likely molecular mechanisms of the DNA damage-induced repair pathways involved.-*pc*

Transcription-blocking DNA Damage in Aging: A Mechanism for Hormesis. By Björn Schumacher
DOI: 10.1002/bies.200900107

Time for adaptive radiation to move on?

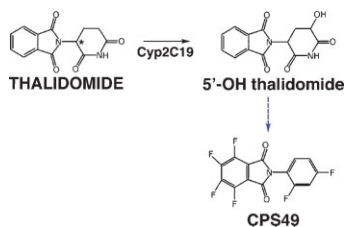
The term adaptive radiation may need to be reevaluated for its usefulness in conveying meaningful scientific content. In this issue, Olson and Arroyo-Santos maintain that while initially very helpful in the study of evolutionary biology, the term “adaptive radiation” no longer suits its usage. Current technologies available to quantify phylogenetic data, speciation rate, and morphological disparity, *e.g.*, have rendered it inadequate and vague to the point where the term is no longer helpful for conveying information and framing hypotheses. A broader approach is proposed, allowing for an appreciation of biological continua. This would provide the framework for evaluating the multiple variables involved in evolution of species, hence replacing an ill-defined metaphor (adaptive



radiation) with true biological phenomena on a case-by-case basis.-*pc*

Thinking in continua: beyond the “adaptive radiation” metaphor. By Mark Olson and Alfonso Arroyo-Santos
DOI:10.1002/bies.200900102

Looking again (carefully) at thalidomide



Thalidomide. The word invokes a fearful feeling, and for good reason. In recent years, however, thalidomide has proven useful in treating leprosy, some cancers, AIDS, and Crohn's disease. The complicated

chemistry of the drug which exists in two isomeric forms under physiological conditions, has made it difficult to uncover its

mechanisms of action. It has recently been discovered that thalidomide exerts its tragic limb deforming effect by anti-angiogenic action. Renewed interest to further examine the molecular events involved in the tissue specific effects of the drug may lead to the development of a clinically effective alternative for serious diseases without the dangerous effects.-*pc*

Thalidomide-induced limb defects: resolving a 50 year old puzzle. By Neil Vargesson DOI: 10.1002/bies.200900103