

Reptilian all the way?

Köhler and Moyà-Solà (1) recently describe lines of arrested growth (LAGs) in bones of *Myotragus*, an extinct bovid mammal endemic to the Balearic Islands. In endotherms LAGs are known from giant insular moas, and the mainland parrot *Amazona* (2), but are unknown in insular or mainland mammals (1). The authors interpret this as evidence for a late onset of reproduction, an adaptation to lower energetic needs in islands where they claim resource levels are chronically low. They portray this as an adoption of the low energy requirements and reproductive rates of reptiles.

Accepting the fascinating existence of LAGs as evidence for slow, seasonal growth, we nevertheless question whether reduction of reproductive rates reflects adaptation at the level of individuals, rather than for the group. Furthermore, reptiles invest relatively more and absolutely similar amounts of energy in reproduction as mammals of similar size do (3), and start reproducing well before reaching asymptotic size. Similar growth in *Myotragus*, coupled with small altricial young, may represent high rather than low reproductive investment, which enhances individual fitness (4, 5). We doubt, however, whether such a growth pattern generalizes for either insular vertebrates or for phyletic dwarfs. The notion that islands, per se, are resource-poor systems has never, to our knowledge, been convincingly shown: that an island has overall few resources is trivial, but may not affect the amount of resources available to

individuals. *Myotragus* may well have evolved small size and altricial neonates to accelerate reproduction under reduced extrinsic mortality (5). Such ecological conditions are likely for *Myotragus* and other insular dwarfs, from which many old individuals are known (4). A shift toward the “slow end” of the life history continuum is unlikely to be linked to dwarfism, but a shift toward the “fast end,” with small size and small neonates, is (4). Evolving small size and producing small young is usually associated with an early age at first reproduction, and may well be adaptive where predation and interspecific competition pressures are low—as they were on the Balearic Islands.

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