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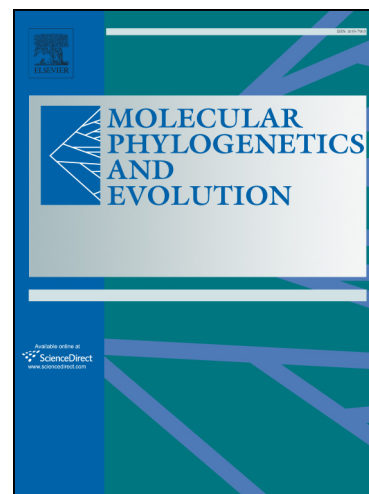
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# Phylogenetic analyses of gazelles reveal repeated transitions of key ecological traits and provide novel insights into the origin of the genus *Gazella*

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## Abstract

African bovids are a famous example of a taxonomic group in which the correlated evolution of body size, feeding mode, gregariousness, and social organization in relation to the preferred habitat type has been investigated. A continuum has been described ranging from small-bodied, sedentary, solitary or socially monogamous, forest- or bush-dwelling, browsing species that seek shelter from predation in dense vegetation, to large-bodied, migratory, highly gregarious, grazing taxa inhabiting open savannahs and relying on flight or group-defense behaviors when facing predators. Here, we examined a geographically widespread clade within the Bovidae (the genus *Gazella*) that shows minimal interspecific variation in body size and asked if we could still uncover correlated changes of key ecological and behavioral traits during repeated transitions from open-land to mountain-dwelling. Our study used a multi-locus phylogeny (based on sequence variation of *Cytb* and six nuclear intron markers) of all extant members of the genus *Gazella* to infer evolutionary patterns of key ecological and behavioral traits and to estimate

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