

Possible speciation with gene flow in tropical cave snails

Abstract

In this paper, we present a newly-discovered troglobitic species of the snail genus *Georissa* from a limestone cave in Borneo. Molecular phylogenetic analysis of 16S mitochondrial DNA sequences shows that its ancestor is the local epigean population of *Georissa saulae*, living in the rainforest directly at the cave entrances. A multivariate analysis of shell characters reveals that the troglobite has diverged morphologically, but is connected to its epigean ancestor by a population of intermediate morphology in the twilight zone of the cave. The molecular data further indicate ongoing gene flow between the epigean population and the troglobite, via the intermediate population. We suggest that the troglobite may have diverged from its ancestor without prior isolation.