

Abundance and diversity of land-snails (Mollusca : Gastropoda) on limestone hills in Borneo

Abstract

Limestone hills in Malaysia have traditionally been considered to harbour particularly rich land-snail faunas, in terms of both total number of species and relative abundance of individuals. We quantified this by measuring land-snail abundance and diversity in standard plots on limestone hills and adjacent non-limestone substrates in two localities in Sabah, Malaysian Borneo. Abundance was positively correlated with both pH and calcium carbonate availability and hence higher (two- to 10-fold) on limestone compared to non-limestone. Data on the ratios of living and dead snails show that this is not an artifact of reduced rates of shell dissolution on limestone soils. After correction for abundance, however, diversities on limestone are not much higher than on non-limestone substrate. Only two or three species per study site are classified as obligate calcicoles. Nevertheless, it is clear that limestone hills are important reservoirs for the regional malacofauna.