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# Body size and diversity exemplified by three trilobite clades

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Cope's rule concerns only the radiation phase of a clade, overlooking the phase of the clade decline; thus it is incomplete. Changes of body size during the entire evolutionary history of a clade are exemplified here by three trilobite groups - Ptychopariina, Asaphina and Phacopida. Increasing diversity of the clade is associated with increase in maximum body size during the radiation phase, and decreasing diversity is generally associated with a decrease in maximum body size. Two basic patterns of the maximum body size changes are observed during the decline of the clade. The first one is characterized by a high correlation between diversity and the maximum body size, and indicative of species attrition that is nonselective with respect to the body size. The second one is characterized by a weak correlation between diversity and maximum body size, and typical of selective species attrition in relation to size.

**Key words:** body size, evolution, trends, trilobites

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