

Genetic and taxonomic relations of the short-tailed snakes, genus *Stilosoma*¹

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(Accepted 27 June 1989)

(With 2 figures in the text)

Both morphological and immunological investigations show that *Stilosoma* is related to the American kingsnakes (*Lampropeltis*) and their allies. Immunological tests show an unexpectedly close relationship, indicating its derivation in the Pliocene.

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Introduction

The addition of biochemical data to standard morphological techniques has provided new—and sometimes very different—insights into snake phylogeny (Dowling *et al.*, 1983; Dessauer, Cadle & Lawson, 1987). In particular, the immunological technique of micro-complement fixation (MCF) is highly sensitive to sequence changes in proteins and provides a quantitative scale for evaluating molecular evolutionary change (Maxson & Maxson, 1986). Because of the time-related (stochastic) differentiation of macromolecules within phyletic lines, this method also allows the depiction of a phylogenetic tree with both cladistic and temporal information (Wilson, Carlson & White, 1977).

Immunological distance data allow us to compare the rates of morphological and molecular evolution in related groups of animals, and thus are especially valuable in identifying members of a phyletic line that have experienced rapid morphological change. Such taxa are characterized by a

¹ This paper is Number VI in Dowling's 'Classification of the Serpentes' series