

## The Namanereidinae (Polychaeta: Nereididae). Part 2, Cladistic Biogeography

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**ABSTRACT.** A cladistic biogeographic study of the Namanereidinae was undertaken to test whether the biogeographic patterns shown by the species can be explained by vicariance, and whether they support the conventional view of Pangaeian break-up and a hypothetical Tethys Sea. The Namanereidinae consists of two monophyletic clades, *Namalycastis* and *Namanereis*, members of which exhibit similar distribution patterns. If species of *Namalycastis* and *Namanereis* share a common history of fragmentation and diversification then their area cladograms should be congruent and congruent with the postulated sequence of geological fragmentation. Congruence between area cladograms and between taxon and area cladograms was assessed using the COMPONENT program (Page, 1993). Results indicate that the biogeographic patterns shown by species of both genera may be explained largely by vicariance. Rather than supporting the conventional view of Pangaeian break-up and a hypothetical Tethys Sea, the results are better explained by the expanding earth model (sensu Shields, 1976, 1979) which predicts that during the Jurassic Period the earth was substantially smaller, the Tethys Sea was much reduced (or absent) and the Pacific was essentially closed. The minimum age of the subfamily is thought to be about 200 My.

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The Namanereidinae are a rarely encountered group of polychaetes known for their remarkable adaptation to freshwater and semi-terrestrial environments. They are found in coastal regions of the tropics and subtropics (mainly) in a variety of habitats ranging from littoral areas (mangrove forests, amongst flotsam and jetsam etc.), riparian habitats, subterranean waters, even in leaf litter and phytotelmata (plant container habitats) (Glasby, this volume; Glasby *et al.*, 1990). The group was divided into five or six genera: the speciose *Lycastopsis* Augener and *Namalycastis* Hartman, and four monospecific genera, *Namanereis*

Chamberlin, *Cryptonereis* Gibbs, *Lycastilla* Solís-Weiss & Espinasa, and the poorly known *Lycastoides* Johnson. Some authors consider *Lycastopsis* to be a junior synonym of *Namanereis* (e.g., Hartman, 1959; Hartmann-Schröder, 1980). However, a taxonomic and phylogenetic revision of the group presented in this volume indicates that the 33 valid species in the subfamily should be divided between two monophyletic groups—*Namalycastis* and *Namanereis* (includes *Cryptonereis*, *Lycastilla*, *Lycastopsis* species), with the placement of *Lycastoides alticola* uncertain (Glasby, this volume).