

Inventorizing hyperdiverse marine molluscs: is there an alternative to focusing on species?

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Over the past decades biodiversity expeditions have demonstrated living marine tropical molluscs to be much more taxonomically diverse than ever previously suspected. Predominantly this new diversity is located at the tree tips, often as 'semi-cryptic' species that appear to be scattered widely across the molluscan tree. A similar relationship of taxonomic and morphological diversity very likely applied during the Neogene. Integrative studies of the hyperdiverse (>120 living spp., 85% new) neotropical snail *Polystira* (Oligocene-Recent) show that it may be possible to delimit extinct species conceptually equivalent to living DNA-delimited ones. The flipside is that most traditional fossil 'species' are likely to represent supraspecific groupings. I discuss whether 'true-species' level precision is obtainable or necessary for tropical palaeodiversity and biogeographic studies, and if not, what might take its place. How then could we discover these analysable units? One way would be to build a community-wide on-line database using a tool such as *Scratchpads* (<http://scratchpads.eu/>) to tie taxonomic expertise, morphological data and ontologies, with molecular trees, literature, museum types and other vouchers. This work would help train a generation of workers committed to a truly integrative systematics (extinct + extant) based on character and taxon discovery rather than name usage. Using such tools as data aggregators will help build a pantropical molluscan dataset for uncovering systematic, palaeobiogeographic and macroecological patterns.