

## Creating a Taxonomic E-Science (CATE)

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Fixed-publication (whether on paper, CD-ROM or in PDF) as the medium for descriptive taxonomy is being challenged almost by default and is unlikely to survive as the sole means of publication of taxonomic acts in the long-term. The future is being anticipated already in a number of online approaches to revisionary (descriptive, monographic) taxonomy that involve continuous addition and correction of data. Such information ranges from single source web pages to databases linked in distributed networks. The ubiquity of the Internet for promoting the work of taxonomists is likely to be too strong to resist, however persuasive the arguments for control by the codes of nomenclature. This prediction is strengthened by the diminishing workforce of professional taxonomists (who are largely responsible for shaping the Codes) involved in describing life on the planet. While taxonomists may be unable to control taxonomic content in the new and more anarchic medium (other than within their own diminishing community), they do have the opportunity to shape the field to the benefit of their own close community and the much wider (and largely undefined) user base.

An Internet-based approach to revisionary taxonomy is being taken in the CATE project ([www.cate-project.org](http://www.cate-project.org)). The CATE workflow is designed to allow new taxonomic proposals to be made incrementally, without readers having to wait for a complete revision. Proposals will be subjected to an open peer-review process and an editorial system. The system also provides the opportunity for high quality products to be maintained through the incorporation of well-tested taxonomic standards. CATE is being developed using two demonstrator taxa: Sphingidae (hawkmoths) as the demonstrator for animals and Araceae (aroids) for plants. There seems much merit in treating taxonomy overtly as an information science, while still regarding the subject as an intellectual endeavour in its own right. This shift in emphasis is explored by examining the growing influence of e-projects in the changing taxonomy landscape.

What messages from Web-based taxonomy projects are there for our geometrid community? This question might be a suitable starting point for our discussion.

## Hunting for Gondwanaland relicts: the Geometridae of the *Nothofagus* forests of Tasmania and Chile

Axel Hausmann

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Comparable with the outstanding biogeographic importance of their hosts, also the herbivorous fauna on *Nothofagus* offers promising opportunities to explore the palaeobiogeography of the southern hemisphere and the importance of long-term isolation and vicariance versus long-distance disper-

sal and colonization/extinction scenarios for the extant distribution patterns and intercontinental relationships. A pilot study (DFG HA 1806/7-1) on geometrid moths of *Nothofagus*-forests in Chile and Tasmania revealed a list of candidates for possible Gondwanan relationships, e.g. in the tribes

Trichopterygini, and Nacophorini. Biodiversity assessments were performed in Tasmania (January 2006) and Chile (January 2008) with a collecting success of approx. 130 geometrid species for both countries. COI barcode profiles were generated for the geometrids of both countries. 85 specimens belonging to 75 target species were analysed with the additional nuclear markers EF1alpha and 28S for an integrative morphological-molecular analysis and for building a more robust phylogenetic tree. Assessment of geometrid larvae was tested through traditional collecting and canopy fogging on Chilean

*Nothofagus* with molecular re-identification of the larvae from the COI profile. Gut content of the larvae was analysed with various chloroplast markers for verification of feeding on the host-plant. The pilot study revealed to be most successful with the psbA-trnH marker, at a success of 8/13 larvae. In the main project the number of investigated taxa and markers shall be increased, the larval assessment intensified and a molecular clock approach performed by using various calibration models for the dating of the divergences in the phylogenetic tree.

### Revision of the genus *Cyllopoda*

Delano Lewis

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In this revision, some of the synonymy that exists in the genus *Cyllopoda* is resolved and a contribution to a better understanding of the relationships within this genus is accomplished. Morphological taxonomic techniques were used, leading to: four new synonymies, *Cyllopoda versicolor*, *Cyllopoda claudicula catabathmus*, *Cyllopoda ovata* and *Cyllopoda protmeta eurychoma*; the re-elevation to species level of *Cyllopoda osiris*; the use of new combinations

*Cyllopoda osiris osiris* and *Cyllopoda osiris protmeta*; the designation of a neotype for *Cyllopoda osiris*; the designation of lectotypes for *Cyllopoda angusta*, *Cyllopoda claudicula*, *Cyllopoda claudicula catabathmus*, *Cyllopoda jatrophia puta*, and *Cyllopoda postica*; and the designation of paralectotypes for *Cyllopoda angusta*, *Cyllopoda claudicula*, *Cyllopoda jatrophia puta*, and *Cyllopoda postica*.

### Diversity of Lepidoptera in the Andean cloud forest of Ecuador with special reference to the family Geometridae and Noctuidae – a research project of the Zoological Museum Jagiellonian University, Krakow in 2002-2005

Rafał Garlacz & Janusz Wojtusiak

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The research project conducted in the years of 2002-2005 was aimed to undertake a comparative study on species richness, faunal composition and  $\alpha$  and  $\beta$ -diversity patterns, of the two large moth families,

Geometridae and Noctuidae, in the cloud forest of the West and East Cordilleras in Ecuador.

The material for the study was collected at 30 selected sites which were distributed within the