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 jatropharia puta*, and *Cyllopoda postica*; and the designation of paralectotypes for *Cyllopoda angusta*, *Cyllopoda claudicula*, *Cyllopoda jatropharia 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 α and β-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

cloud forest zone from 1950-3750 m along the West and East Cordillera of Ecuador. Only one site was situated at the elevation of 1150 m in the western premontane forest.

In all sites moths were attracted to 160W UV-light and collected manually and afterwards subjected to standard preparation procedures to enable their identification. Identification to the species level was made when possible, by comparing them with specimens stored in the British national research collection at the Natural History Museum, London. Genital dissections were made for more than 490 specimens to cross-check their status. Species number, α- and β-diversity indices (Fisher's alpha α, Shannon H, and Whittaker β_W), extrapolated species number (Chao1, ACE, bootstrap) were calculated. Sørensen and CNESS indices were used to describe faunal differences between particular collection sites, as well as a cluster analysis, and CCA techniques were used to group and ordinate samples. Spearmann correlation coefficient was computed to evaluate altitudinal changes in examined moth assemblages.

A total of 24911 specimens representing 2468 species were analysed. Extrapolated number of species ranged from 2806-3052 species. Geometridae were represented by 15516 specimens and 1701 species, whereas Noctuidae by 9395 specimens and 767 species, respectively. At a single site (Golondrinas, 2000 m, West Cordillera) up to 550 species were observed and more than 750 were expected. Values for Fisher's alpha appeared to be the highest ever measured in the tropics, reaching 148 and 85 for Geometridae and Noctuidae respectively, at the most species rich site. Other indices were also very high. Both, diversity and proportional contribution of families and subfamilies were changing with altitude. Diversity of Ennominae and Geometrinae appeared to decrease, while that of Larentiinae to increase with altitude. Similar tendency was observed in Noctuidae, where diversity of Amphipyrinae, Ophiderinae and Hypeninae decreased with altitude and in Hadeninae and Noctuinae increased. The increase in diversity was also observed at generic level, in *Eupithecia* and *Eriopyga*. Canonical correspondence analysis (CCA) confirmed faunal differences between moth assemblages recorded on sites located in West and East Cordilleras at comparable latitudes as well as between the upper most section of the cloud forest and semi-opened and opened type of vegetation of the ecotone and páramo.

The results obtained indicate that the changes of species diversity related with the change of altitude may likely correspond to the decrease of vegetation diversity, the changes of larval host plants distribution and to the climatic changes. The overall pattern of species geographical distribution appeared to be strongly influenced by the presence of the dry environment of the Central Valley that separates the West and East Cordillera, although the effect of other factors, such as the isolation by the deep river valleys constituting significant geographical barriers, cannot be excluded. Further investigations may add more information and complement our data, and may help to identify areas of the highest species diversity for the purpose agricultural planning and for efficient wildlife protection.

Diversity of Geometridae of Chile with presentation of some particular cases and examples

Luis E. Parra

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Diversity of Geometridae in the sclerophyllous and temperate forests of Chile. South America presents its biota of hybrid origin, which reflects a history that clearly separates it into a northern and southern zone (Crisci 1991a and 1991b). The fauna of the southern region shows clear relationships and shares a common history with New Zealand, Australia and Tasmania (Craw 1989, Crisci 1991a, Jerez 1996).

In the late Tertiary period, the conjugation of a series of events such as the glaciations of Western Antarctica and Patagonia, the formation of the cold Humboldt Current, and the final lifting of the Andes, caused the development of the "Arid Diagonal" of South America. In turns, the diagonal was the cause of: a) the fragmentation of Tertiary subtropical forests in the southern cone of America and its restriction to the Pacific and Atlantic margins of the