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FORUM HERBULOT 2003

Geometridae of the Indo-Pacific region and Australia: Inventories, evolution, colonisation, Gondwana distributions

13.3.-14.3.2003

Chairman Dr. A. Hausmann, ZSM

Proceedings

1. The chairman outlined once more the aims of the FORUM HERBULOT (see www.herbulot.de). The participants welcomed the research initiative and stressed the need for, and advantages of, the opportunities offered for close scientific cooperation among geometrid experts. Access to the rich Coll. Herbulot with its manifold historical assets was greatly appreciated. Following a brief address from Claude Herbulot (*in absentia* presented by Philippe Darge) the participants expressed their respect for the achievements of the founder of the collection and patron of the Forum. The use of internet-based tools with a view to linking collection data with existing or planned databases in order to improve the availability of relevant data was discussed (Henry Barlow; A. Hausmann).

2. The seminar session highlighted promising possibilities for systematic research.

The first four talks (J.D. Holloway, M. Krüger, C. Young, P. McQuillan) presented and summarised the actual stage of research concerning the phylogeny of Geometridae on subfamily and tribe level as resulting from different data sets, such as larval morphology (M. Krüger, C. Young), adult morphology (J.D. Holloway, M. Krüger), host-plant relationships (J.D. Holloway, P. McQuillan), zoogeographical patterns (M. Krüger, J.D. Holloway) and molecular analysis (C. Young, P. McQuillan). The study of skeleto-muscular anatomy of genitalia as additional information was encouraged (E. Beljaev).

The southern hemisphere Archiearinae had been revised and separated from Holarctic groups (P. McQuillan). Although some morphological characters and host-plant relationships suggest that the subfamilies Archiearinae and Oenochrominae (s.str.), and the tribes Diptychini and Nacophorini (Ennominae) are phylogenetically 'old' groups (J. D. Holloway, M. Krüger), Larentiinae and Sterrhinae appear as the most basal groups using molecular methods (sequence analysis of four nuclear and mitochondrial genes; Abraham *et al.* 2001; C. Young, P. McQuillan, A. Hausmann, S. Erlacher). Refinement of molecular methods as valuable tools for evolutionary and systematic studies had been postulated by the Forum Herbulot 2001 (Hausmann & Trusch 2001) in order to supplement the morphological and ecological data sets. Now, on the basis of the paper by Abraham *et al.* (2001), promising results have been obtained by the two 'molecular' groups actually working on Geometridae (C. Young/P. McQuillan; A. Hausmann/S. Erlacher/M. Miller). After discussion of all the findings, closer coordination and cooperation was agreed upon, and working plans were established, in order to focus future common research on a better understanding of the basic phylogeny of Geometridae.

Research on Eupitheciini constituted another theme of the meeting. Extension to research on a global scale (as recommended by Forum Herbulot 2001: Hausmann & Trusch 2001) is needed to fill existing gaps in our knowledge (e.g. Eupitheciini in Africa in relation to Asia and other regions). Cooperation was improved regarding Chinese (T. Galsworthy; V. Mironov, X. Dayong), and initiated for neotropical Eupitheciini (G. Balogh, J. Wojtusiak). New agenda for cooperation dating back to Forum Herbulot 2001 concerning the exploration of neotropical Geometridae were established (G. Balogh; A. Hausmann; J. Wojtusiak).

An interesting zoogeographical analysis of Australian carabids was presented (M. Baehr) and compared with similar findings for Lepidoptera. Gondwana distributions, drift on tectonic plates and colonisation were discussed with respect to some taxa from Africa, Australia, and the Indo-Pacific region (M. Krüger, J.D. Holloway, P. McQuillan). Speciation and variation of several taxonomically 'difficult' groups of Indo-Pacific Geometridae were presented for discussion (X. Dayong; O. Schmidt; M. Sommerer; J. Viidalepp).

3. A proposal to continue the FORUM HERBULOT in Hobart, Tasmania late 2005 or early 2006 (organisation: P. McQuillan) was welcomed.

4. Participants expressed their thanks to the organizers and sponsors of the FORUM HERBULOT 2003.

Munich, 15.3.2003

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Abraham, D., Ryrholm, N., Wittzell, H., Holloway, J.D., Scoble, M.J. & C. Löfstedt (2001): Molecular Phylogeny of the Subfamilies in Geometridae (Geometroidea: Lepidoptera). – Mol. Phylo. Evol. 20 (1): 65-77.

Hausmann, A. & R. Trusch (ed.) (2001c): Proceedings of the FORUM HERBULOT 2001. – Spixiana 24 (3): 193-202.

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