

## Australia's subantarctic Tropics – a contradiction?

Martin Baehr

Baehr, M. (2003): Australia's subantarctic Tropics – a contradiction? – *Spixiana* 26/3: 206

Dr. Martin Baehr, Zoologische Staatssammlung München, Münchhausenstr. 21, D-81247 München, Germany; e-mail: [Martin.Baehr@zsm.mwn.de](mailto:Martin.Baehr@zsm.mwn.de)

The tropical rain forests of northeastern Australia harbour a multitude of carabid beetles that divide into a group of old, indigenous faunal elements with close relationships to the cool-adapted southern, circumantarctic ("Bassian") fauna, and a second group of warm-adapted species of oriental ("Torresian") origin which immigrated into Australia since about 10 Mio years ago (late Miocene). Recent surveys reveal that the majority of "oriental" carabids occur in the warm lowland rain forests, whereas the indigenous species almost exclusively range in the cooler montane rain forests above c. 700 m. Although the number of genera is almost the same, the number of species in the "Bassian" group is about three times as great. This disproportion probably is caused by plate tectonics and subsequently also by the ef-

fects of Ice Age, because the immigrating Torresian faunal elements were not able to colonize the uplands, where – during repeated periods of expansion and retreat of the cool montane rain forests during Ice Age – the Bassian faunal elements not only had survived, but also experienced a period of rapid evolution and speciation.

Hence, at least as the faunal boundary between the Bassian and Torresian subregions is concerned, the classical concept of well confined faunal subregions in Australia cannot be maintained, because the Australian tropical rain forest carabid fauna to a large extent is subantarctic. It is this old, indigenous element that mainly was responsible for the northern Australian rain forests to become a "Hot Spot" of evolution.

## Phylogenetic significance of skeleton-muscular anatomy of the genitalia in Geometridae

Evgeny A. Beljaev

Beljaev, E. A. (2003): Phylogenetic significance of skeleton-muscular anatomy of the genitalia in Geometridae. – *Spixiana* 26/3: 206-207

Dr. Evgeny A. Beljaev, Institute of Biology and Soil Sciences, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, RF-690022, Russia; e-mail: [beljaev@ibss.dvo.ru](mailto:beljaev@ibss.dvo.ru)

Examination of the male genital musculature in Geometridae could provide important information for clarification of phylogenetic relationships at the tribe and genus group level. Genera *Petrophora*, *Scionomia* and *Ocoelophora* from Lithinini have strongly different structure of the genital skeleton, but their arrangement of phallic muscles is quite similar and shows clearly a synapomorphic state. A similar situation is between the genera *Angerona* and *Diapre-*

*pesilla*, which have rather different appearance and male genitalia but their genital musculature is similar. Combining characters of the genital musculature and skeleton supports the synonymy of Angeronini and Diaprepesillini well. On the other hand, the clustering of Angeronini with the *Ennomos*-like series of tribes is not supported by the characters of genitalic musculature. The shape of the genital segment, and the dorsal attachment of the adductor of

# ZOBODAT - [www.zobodat.at](http://www.zobodat.at)

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Spixiana, Zeitschrift für Zoologie](#)

Jahr/Year: 2003

Band/Volume: [026](#)

Autor(en)/Author(s): Baehr Martin

Artikel/Article: [Australia's subantarctic Tropics - a contradiction? 206](#)