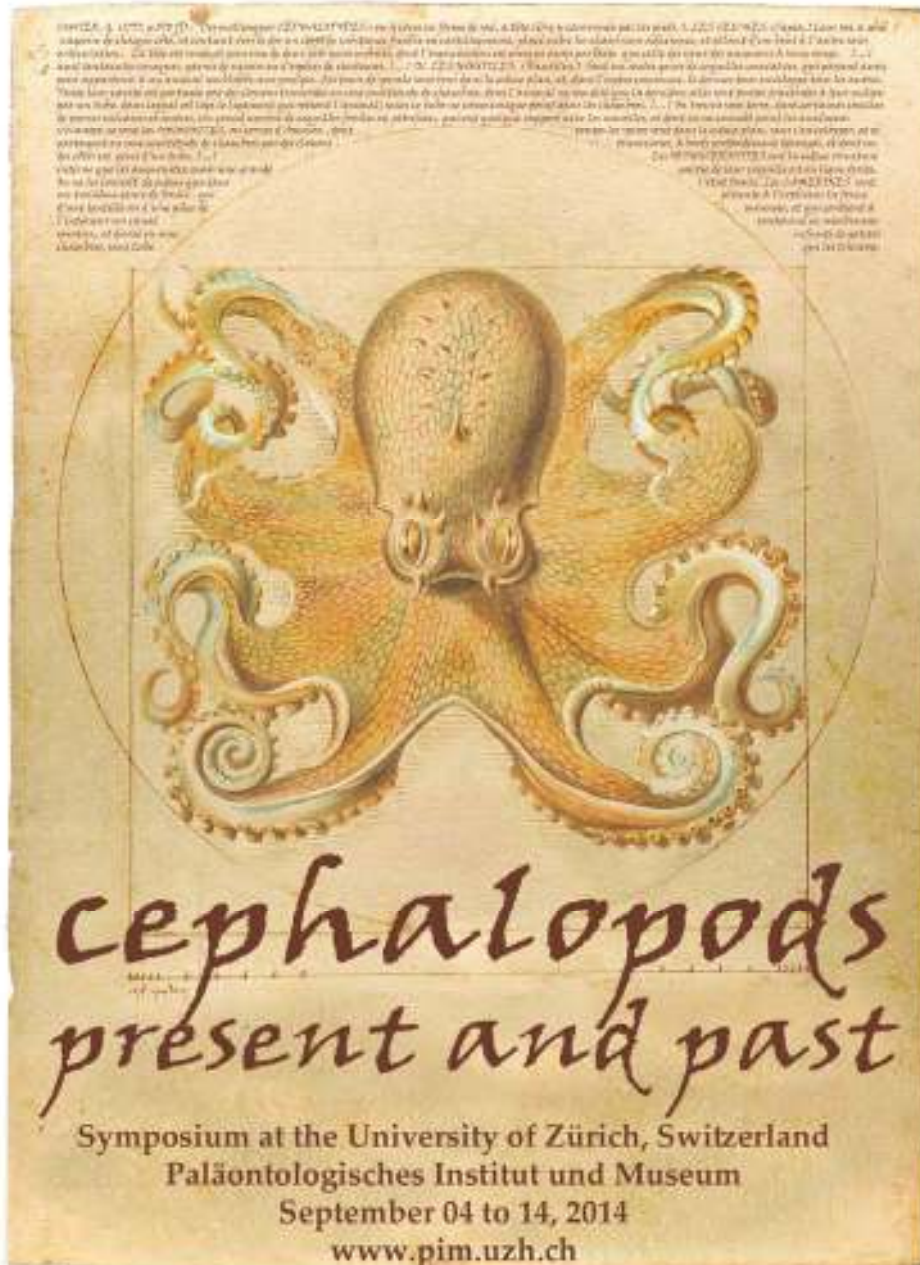




University of
Zurich ^{UZH}

Paläontologisches Institut und Museum



in combination with the

5th International Symposium Coleoid Cephalopods through Time

Abstracts and program

Edited by Christian Klug (Zürich) & Dirk Fuchs (Sapporo)

Paläontologisches Institut und Museum, Universität Zürich



University of
Zurich ^{UZH}

Mathematisch-naturwissenschaftliche Fakultät

paläontologisches
museum


der Universität Zürich

zoologisches
museum

der Universität Zürich



FONDS NATIONAL SUISSE
SCHWEIZERISCHER NATIONALFONDS
FONDO NAZIONALE SVIZZERO
SWISS NATIONAL SCIENCE FOUNDATION

sc | nat 

Swiss Academy of Sciences
Akademie der Naturwissenschaften
Accademia di scienze naturali
Académie des sciences naturelles



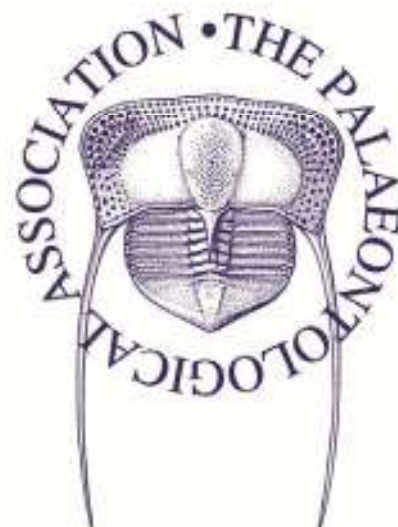
 **NATURHISTORISCHES MUSEUM
DER BÜRGERGEMEINDE BERN**



nagra  aus verantwortung



MAMMUT
Absolute alpine.



Geographic differentiation of the Late Triassic nautilids and biogeographic zoning of Late Triassic marine basins

Evgeny S. Sobolev*

*Trofimuk Institute of Petroleum Geology and Geophysics SB RAS, Koptyug av., 3, 630090, Novosibirsk, Russia (essobolev@ngs.ru)

The major patterns of paleobiogeographical distribution of the Late Triassic nautilids are discussed and a paleobiogeographic scheme for the Late Triassic seas is proposed. The zoning is based on a faunistic principle, which takes the spatial distribution of different taxa and the history of their formation into account. A systematic rank of specific (endemic) groups is adopted as the main criterion for the certain paleobiogeographic units (or biochores). Herewith, the rank of biochores relates not necessarily directly to the rank of taxa. The criteria used to distinguish the particular biochores are learned empirically as a result of successive comparisons of the taxonomic composition of fauna from different basins and specificity of the investigated groups and dynamics of their evolution. Negative features such as the absence of taxa, usually of generic and family ranks, are also significant for establishing of biochores.

For Triassic nautilids, the biochores of the first rank could be confidently distinguished. They are accepted as the realms, i.e. territorially limited water areas, which possess the unity of systematic composition of fauna and affinity of origin. The origin of realms is caused mainly by climatic factors (mainly the sea water temperature) and by the duration of isolation.

The study of Triassic nautilids revealed that biochores of the first rank are characterized by an almost complete endemism of species and appearance of peculiar taxa of generic and family ranks. Within the realms several allopatric communities were established. They are conditionally named as provinces and subprovinces. They have particular differences in the systematic composition of fauna and lower rank of endemism compared with realms. Based on nautilids, three biochores of the highest rank are recognized: Tethyan, Boreal, and Notal realms.

The low latitude Late Triassic nautilids from the Tethyan realm are characterized by a broad taxonomic diversity and a high degree of endemism. The high latitude fauna (Boreal and Notal realms) have been drastically reduced and during the Late Triassic, an endemism manifested mainly on the species level, rarely on the generic level. The degree of geographic differentiation of nautilids in the Late Triassic was not constant. It became maximal at Norian age, when the specific higher rank taxa appeared in Boreal regions.

In the Late Triassic, based on nautilid distribution (mainly endemic genera, rarely species) within realms, it is possible to allocate provinces (the Alpine-Carpathian and Himalayan-Indonesian – for the Tethyan realm; Canadian and Siberian – for the Boreal realm) and subprovinces (Novosiberian – for the Siberian province), those are clearly evident throughout the Carnian and Norian ages.