

WENLOCK AND LUDLOW CEPHALOPODS IN THE PRAGUE BASIN: COMMUNITIES, PALAEOBIOGEOGRAPHY AND PALAEOECOLOGY (BOHEMIA)

Manda, Štěpán

Charles University, Faculty of Natural Sciences, Albertov 6, 128 43 Praha 2, Czech Republic

All known data collected since Barrande's time, together with a new data, have made possible a re-evaluation of the cephalopod distribution in the Prague Basin. The Wenlock and Ludlow deposits in the Prague Basin are developed as three facies: volcanic and shallow-water limestone facies, cephalopod limestone facies, and pelagic facies.

In the volcanic and shallow-water limestone facies occur communities with dominant brachiopods or corals; nektobenthic nautiloids and orthoceratids are sporadic (*Kionoceras*, *Dawsonoceras*, *Phragmoceras*). The cephalopod limestone facies is developed on several tectonic elevations. The cephalopod evolution was influenced by a total range of the Silurian cephalopod facies which were controlled by eustatic movements and surface currents. Cephalopod facies occur in the Prague Basin as well as in Perigondwana in the *T. testis*, *C. colonus*, and *M. linearis* zones. The Wenlock and Ludlow cephalopod facies was occupied by recurrent communities of the Geisonoceratid Biofacies being characterised by dominant nektobenthic orthoceratids (*Geisonoceratidae*, *Paraphragmitidae*, *Kionoceratidae*, *Proteoceratidae*), several nektobenthic nautiloids, and subdominant pelagic orthoceratids (*Michelinoceratidae*, *Arionoceratidae*). The pelagic facies (especially hemipelagites, pelagites and cephalopod wackestones) were deposited close to the submarine volcanic elevations. From the Homeric, and during the Gorstian and Ludfordian the pelagic facies characterised by anoxic and dysaerobic conditions was occupied by a typical cephalopod dominant, pelagic community (with associated graptolites). In this low diversity community occur orthoceratids (*Kopaninoceras*, *Arionoceras*, *Parakionoceras*, *Plagiostomoceras*, *Michelinoceras*, and in the Gorstian to lower Homeric also *Aptychopsis*). The community is formed by free swimming or floating nekton living in the upper part of the water column.

Analysis of cephalopod distribution in the Prague Basin shows that post-mortem drift of the cephalopod shells was insignificant. The Silurian cephalopods belong to a natural associations (communities in Boucot's concept) which were modified only by local taphonomic processes. The significance of cephalopods for bathymetric analysis (in Westermann's concept) seems to be problematic. Cephalopod larvae were transported by surface currents across the north Gondwana and Perunica basins. The Silurian cephalopod fauna of the Prague Basin contains typical Perigondwanan elements and has relationships to the Laurentia, Baltica, and Avalonia.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Berichte der Geologischen Bundesanstalt](#)

Jahr/Year: 1999

Band/Volume: [46](#)

Autor(en)/Author(s): Manda Stepan

Artikel/Article: [Wenlock and Ludlow cephalopods in the Prague Basin: Communities, palaeobiogeography and palaeoecology \(Bohemian\) 79](#)