

Cephalopod Limestone Biofacies: Tajmyr (Eastern Siberia) - the Carnic Alps

O.K. Bogolepova¹

Cephalopod biofacies were formed during the Silurian period at regular intervals that was in most cases of global character. Within the platforms such as Siberian and Chinese ones these are only known from the Early Silurian, that is related to stable tectonic regime of the platforms, whereas in more mobile regions such as Tajmyr and the Carnic Alps cephalopod limestones were more frequently deposited and they occur both the Wenlockian and Ludlowian.

In deep-seated deposits occurring in the north-western part of the Tajmyr (Mittendorf Caves section), cephalopod biofacies are confined to thin intercalations of black limestones within thick sequence of black graptolite shales of the Middendorf Formation. The depth of sediments deposition is also evidenced by the fact that the cephalopods virtually have no preferred orientation. Fauna: cephalopods *Hemicosmorthoceras semiannulatum*, *Geisonoceras* sp., *Kionoceras* aff. *doricum*, *Akrosphaerorthoceras* aff. *gregale*, *Michelinoceras* sp., *Anaspyroceras pseudocalamiteum*, *Parakionoceras originale*, bivalves *Cardiola signata*, *Cardiola* aff. *consangius*, *Dualina* ? *faba*, *Mila gyrans*, *Maminka* cf. *comata*, *Butovicella migrans*, ostracodes "*Entomis*" (*R.*) *migrans*, conodonts *Ozarkodina iclinata inclinata*, *Ozarkodina inclinata posthamata*, rare trilobites (Kriz, Bogolepova, in press). In the Carnic Alps (Rauchkofel Boden section) cephalopod biofacies are confined to rather shallow dark-grey and black limestones of the Kok and *Cardiola* Formations and are comparatively thick. The cephalopods are oriented and their orientation is applicable to the description of water dynamics. Fauna (the upper part of Kok Formation): cephalopods *Merocycloceras declevis*, *Parasphaerorthoceras* sp., *Sphaerorthoceras* sp, *Hemicosmorthoceras laterculum* (Ristedt, 1968), bivalves *Cardiola signata*, *Cardiola consanguis*, *Mila complexa* (Kriz, 1979), conodonts of the interval of the *crassa-ploeckensis* Zones (Schönlaub, 1980), trilobites, crinoids, rare gastropods.

The cephalopod fauna from Eastern Siberia suggests a close affinity with those from Bohemia and the Carnic Alps although in the latter region a revision is needed. Additional studies must be carried out to prove whether or not any further regions like the Montagne Noire, Morocco, Spain, Sardinia, Turkey, Caucasus, the South Urals, Tien Shan and Novaya Zemlya are comparably close related to the above mentioned areas. In any way, our preliminary data suggest the operation of an equatorial current system which facilitated the exchange of faunas between the "upside-down" Siberian plate and Central Europe during the Silurian.

¹ United Institute of Geology, Geophysics & Mineralogy, Novosibirsk, 630090, Russia