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New data on the Kimmeridgian ammonite succession of the Boyarka section (north of Central Siberia) and the Arctic perspectives of the tracing Oxfordian – Kimmeridgian boundary

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The Levaya Boyarka section has been chosen as a reference for the Siberian Kimmeridgian and served for substantiation of ammonite, belemnite, bivalve and foraminiferal zonal successions (Sachs et al., 1969), which are later became a part of the Boreal Zonal Standard (BZS - Zakharov et al., 1997; Shurygin et al., 2011). However after 60th this section was not re-studied in details and published data about ranges of fossils (especially ammonites) are controversial (Wierzbowski, Rogov, 2013). It should be noted that since the early studies by Mesezhnikov (1967, 1968) the Ox/Km boundary applied for the Siberia (and as a part of BZS for the whole Panboreal Superrealm) has been drawn at the base of the Kitchini Zone, which considered as coincided with the base of the Involuta Zone. Such a position of this boundary differ from those used in other Boreal Regions, which is lies one zone lower, at the base of the Bauhini (or Baylei) zone. Moreover, ammonite zonal succession used by Mesezhnikov (1969, 1984) for the Boyarka is partially based on eudemic and poorly known aulacostephanid taxa, and generally could not be used even in relatively nearby sections (coastal sections at the Laptev Sea and Western Siberia core sections). Figured ammonites providing possibilities for establishing of the cardioceratid succession of the Boyarka section, which is well corresponding to those of other Arctic areas (Wierzbowski, Rogov, 2013), but some details of cardioceratid succession remains unclear due to imprecise information about stratigraphic position of taxa and absence of any figured cardioceratids from the topmost part of the section. Here new results received from field works held in the year 2014 are summarized. Lowermost part of the section 22 including Oxf/Km boundary is inaccessible due to intensive covering of lower part of the section by glacial boulders, but some interesting ammonites were found in loose concretions, including *?Amoeboceras schulginae* and *Plasmatites* aff. *bauhini*. Upper half of the bed III (bed numbers are given after Sachs et al., 1969 if possible) is characterized by *Pictonia* (*Mesezhnikovia*) *ronkinae* and *Amoebites subkitchini*, the latter are also co-occurred with *P. (M.) involuta* and *P. (M.)* sp. nov. in the bed IV. Bed V and overlying Kimmeridgian strata are represented here by nearly homogenous member of dark-green sandstone. Lower portion of the bed V is characterized by succession *Amoebites* cf. *mesezhnikovi* - *A. cf. pingieforme*, which is well corresponding with known ranges of these species in Western Arctic; aulacostephanid ammonites co-occurred

with these *Amoebites* belonging to endemic Siberian species which could not be used for direct correlation with other areas. Upper Kimmeridgian succession was studied in the section 23. If its lowermost part is rich in ammonites (*Amoebites kitchini* – *Zenostephanus sachsi* assemblage), upwards concretions are mainly crowded by bivalves and/or fossil wood and devoid of ammonites, and aulacostephanids are entirely missing above the Mutabilis Zone. Uppermost part of the Kimmeridgian (Eudoxus and partially Taimyrensis Zone of Mesezhnikov) is characterized by cardioceratid assemblage including *Nannocardioceras anglicum* and, *Hoplocardioceras decipiens*, which could be easily compared with topmost cardioceratid assemblage of the Subboreal Eudoxus Zone of England, Polish Lowland and the Volga area. Unfortunately Km/Vlg transitional beds were covered by numerous landslides and boulders, and top of the “Taimyrensis Zone” was not sampled. New results derived from the Levaya Boyarka section have revealed two possibilities for the Ox/Km boundary: the first, appearance of *Plasmatites* which is used for this boundary in Western Arctic and Subboreal areas, could be easily traced eastwards to Western and Northern Siberia and should be preferred as easy traceable. Second widely correlated level, which is usually used as Ox/Km boundary by Siberian colleagues (Nikitenko et al., 2015), the base of the Kitchini / *Involuta* Zone, is also well-traced throughout the Arctic (including such areas as NE Russia, Russian Far East, and Alaska) by occurrence of small-sized semi-evolute *Amoebites bayi*, but in Subboreal succession this boundary falls within upper part of the Baylei Zone. This study has been supported by RFBR grants 15-05-03149 and 15-05-06183 as well as by the Program of the Presidium of RAS no.II.3.