

The Second All-Russia Conference on the Jurassic System of Russia: Problems of Stratigraphy and Paleogeography

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On September 26–30, 2007, the Ushinskii State Pedagogical University of Yaroslavl (SPUY) hosted the Second All-Russia Conference on the Jurassic System of Russia: Problems of Stratigraphy and Paleogeography. The conference was sponsored by the Russian Foundation for Basic Research, project no. 07-05-06082, and the OOO Mineral, Tyumen. Participants were greeted by Prof. M. V. Novikov, pro-rector of the SPUY, and by Prof. V. A. Zakharov, chairman of the Jurassic Commission of the Interdepartmental Stratigraphic Committee (ISC).

A volume including 80 papers (273 pages) has been published by the beginning of the conference.¹ Participants of the conference (43 scientists) represented 23 research, educational, and production institutions: Institute of Oil and Gas Geology and Geophysics of the Siberian Branch of RAS (IOGGG SB RAS), Saratov State University (SSU), Geological Institute of the Russian Academy of Sciences (GIN RAS), Paleontological Institute (PIN RAS), Vernadsky State Geological Museum (SGM RAS), Moscow State University (MSU), St. Petersburg State University (StPSU), the SPUY, All-Russia Research Institute of Geology (VSEGEI), Institute of Geology and Mining of Combustible Resources (IGMCR), Belarusian Research Geological Exploration Institute (BelNIGRI), IGiP DD RAS, AK Alrosa, TsDYuTiE Rybinsk, Geophysical Observatory Borok (GO Borok) of the Shmidt Institute of the Earth Physics RAS, GOU VPO Shuya State Pedagogical University, Shpil'man GP NATS RN, Kosygin Institute of Tectonics and Geophysics (ITiG) FED RAS, Moscow Society of Naturalists (MOIP), NIIPS of St. Petersburg, Gubkin State Petroleum University of

Russia (RGUNG), FGUP TsNIIGeolnerud, FGUP Research Center Nedra, and Karazin National University of Khar'kov (KhNU)—photo.

Thirty four oral and eleven poster communications were submitted to seven sessions of the conference, all aimed at solving different problems of the Jurassic System: stratigraphy, paleogeography, sedimentology, paleontology, paleobiogeography, paleoecology, petroleum geology, etc.

A series of papers was devoted to reference sections studied previously or anew and proposed for candidates of the Global Stratotype Sections and Points (GSSP) of Jurassic stages. V.A. Zakharov (GIN RAS) reviewed state of the art of the Jurassic stage and zonal scales. He considered the readiness extent of the Jurassic stage GSSPs and assessed contribution to the issue of Russian specialists who submitted competitive sections of the Volga River region as candidates for the Callovian, Oxfordian, and Tithonian GSSPs. He also presented brief information on the Boreal standard (with emphasis on the Volgian Stage position) and outlined ways of studying the Jurassic deposits in Russia, in particular, the necessity of realization of the GSSP Program for the Boreal Jurassic stages. Two reports were devoted to the Prosek Section (Nizhnii Novgorod oblast) recommended by the International Stratigraphic Commission as an alternative for the GSSP of the Callovian Stage. D.N. Kiselev (SPUY) and M.A. Rogov (GIN RAS) discussed the succession of ammonite zones and horizons in the Bathonian–Callovian boundary interval of this and other sections of the Central Volga region. They suggested defining the Callovian lower boundary at the base of the *Cadoceras frearsi* Zone (i.e., at the base of the *C. breve* Horizon) above the *Bodylevskii* Horizon. A group of specialists (A.G. Manikin and his colleagues from the SSU and GIN RAS) presented the results of integrated paleomagnetic, lithologic and mineralogical study used to subdivide the Bathonian–Callovian

¹ Materials of the Second All-Russia Conference “The Jurassic System of Russia: Problems of Stratigraphy and Paleogeography”, Ed. by V.A. Zakharov, D.N. Kiselev, M.A. Rogov, and O.S. Dzyuba, SPUY, Yaroslavl, 2007, 273 p., available online through <http://jurassic.ru>



Participants of the Second All-Russia Conference.

boundary interval of the Prosek Section into four members. The Bathonian–Callovian boundary is at the base of Member 2 in their opinion. D.B. Gulyaev (FGUP NPTs Nedra) suggested as a possible alternative for the Callovian GSSP the Churkino Section in Komi Republic, where facies are favorable for good preservation of calcareous macro- and microfossils. The Dubki (Saratov oblast) and Savournon (SE France) sections, the candidates for the Oxfordian GSSP, were discussed in three reports. According to data of A.V. Matveev (KhNU), who studied the calcareous nannoplankton assemblages from the respective stratigraphic interval, the first occurrence of subspecies *Stephanolithion bigotii maximum* is established at the base of the Oxfordian. In the opinion of M.V. Pimenov and his colleagues (SSU), changes in ostracod assemblages from the Dubki section are concurrent to changes in paleomagnetic characteristics, being well correlative with the sea-level fluctuations and/or variations of the bottom water temperature. E.M. Tesakova and her colleagues (MSU) showed that variations in abundance and diversity of ostracodes within the Callovian–Oxfordian boundary interval are of the same character in the Dubki and Savournon sections. They managed to identify about 50 new ostracode taxa in the lower Callovian deposits of the Kursk oblast, discovered these fossils for the first time in the *subpatruus* Zone, and presented new data on the Bathonian ostracodes from Poland. Based on the ammonite succession in the Oxfordian–Kimmeridgian boundary interval of the Mikhalenino

section (Kostroma oblast), M.A. Rogov (GIN RAS) and D.N. Kiselev (SPUY) confirmed a high correlative potential of the *flodigariensis* faunal horizon known in the Isle of Skye (Scotland), the suggested type area of the Kimmeridgian GSSP.

Referring to ammonite stratigraphic ranges in the Jurassic–Cretaceous boundary beds of the Crimean Mountains, V.V. Arkad'ev (StPSU) substantiated the necessity to this boundary at the base of the *Jacobi* Zone. V.A. Zakharov and M.A. Rogov (GIN RAS) showed that distribution trends of ammonites and bivalves were quite irregular in the same paleolatitudes of the Arctic region, and that radiation of thermophilic mollusks in high latitudes was under influence of warm water mass moving into the Arctic from the Central Russian sea rather than from the Norwegian–Greenland Sea as was believed previously. A.N. Solov'ev and A.V. Markov (PIN RAS), who analyzed diversification of echinoid orders and the taxonomic diversity dynamics of their generic taxa after the Permian–Triassic biotic crisis, demonstrated the evolution outburst of this group of sea invertebrates in the Jurassic. Analyzing distribution of belemnites at the Kimmeridgian top and in the Volgian Stage of the Gorodishche section (Ul'yanovsk oblast), O.S. Dzyuba (IOGGG SB RAS) established two episodes of limited faunal interchange between the Central Russian and Arctic basins: (1) during the *neoburgense* hemera of the early Volgian *Pseudoscythica* Chron, and (2) in the *Panderi* (second half)—*Virgatus* Chron of the middle Volgian.

V.B. Sel'tser (SSU) distinguished four types of life-time injuries typical of the Middle Jurassic–Early Cretaceous ammonites from the Lower Volga region, which were not lethal as a rule however. V.A. Basov from the VNIIOkeangeologiya and his colleagues from the IOGGG SB RAS established zonations of different fossil groups in the Jurassic and Lower Cretaceous deposits of the Barents Sea shelf, which practically coincide with the Siberian zonation that is considered in the project of the Boreal zonal standard of 2005. S.O. Zorina (TsNII Geolnerud) analyzed eustatic and geodynamic conditions during the Middle and Late Jurassic in eastern part of the Russian plate.

The other series of reports was devoted to lithology of Jurassic deposits in the Russian Plate and sedimentation conditions at that time. S.Yu. Malenkina and her colleagues (GIN RAS) presented new structural data on the Jurassic succession recovered by excavations during the recent construction activity in Moscow. A.G. Manikin (SSU) and O.P. Goncharenko (SSU) with their coauthors established different sedimentation trends of the middle Volgian time south- and northward of the Zhiguli swell and concluded that this was likely related to the swell uplifting at the end of the Jurassic. A.Yu. Guzhikov (SSU) and M.V. Pimenov (SSU) with their coauthors showed that the Jurassic magnetostratigraphy of the East European platform is inadequately studied because of extremely weak natural magnetization of Jurassic sediments, while magnetic zonation of the Middle–Late Jurassic is of complicated irregular character. Reliable paleomagnetic data are available only for the upper Bajocian–lower Oxfordian interval of the Jurassic succession. A.Yu. Kurazhkovskii and his colleagues (GO Borok IFZ RAS) explained perspectives of studying the geomagnetic paleointensity, one of the important paleomagnetic characteristics.

B.N. Shurygin and B.L. Nikitenko (IOGGG SB RAS) devoted their report to principles of elaborating the Jurassic biozonations for Siberia (on the case study of macro- and microbenthos). As they showed, the high resolution of parallel scales established for different groups of benthos is an important advantage by subdivision and correlation of paleobasin sections and by global correlations. V.Ya. Vuks (VSEGEI) considered the correlation scheme based on foraminifers and substantiated for different Upper Jurassic facies of the western Caucasus. G.L. Kirillova (ItiG FED RAS) analyzed the Jurassic geological history with emphasis on paleogeography and geodynamics in the Southeast Asian part of Russia. Yu.L. Slastenov (ShGPU) argued in his report for the Late Triassic age of the Puchezh–Katun astrobleme (the Kaverinskaya depression, Nizhni Novgorod oblast).

Many reports were based on materials from West Siberia. A.S. Alifirov and A.E. Igol'nikov (IOGGG SB RAS) established a complete succession of ammonite zones within the *ilovaiskii–analogus* interval of the

Jurassic–Cretaceous boundary layers recovered by borehole Khal'merpayutinskaya-2099 (Western Siberia) and found (for the first time for the Trans-Uralian region) ammonites of the genus *Craspedites* presumably in the middle Volgian Substage. In the same borehole, B.N. Shurygin and his colleagues (IOGGG SB RAS) established assemblages of microfauna, microplankton and bivalves. Being analyzed jointly, stratigraphic ranges of different taxonomic groups were used to substantiate with a high precision the section subdivision into stages and substages. A.L. Beizel' (IOGGG SB RAS) argued for the tectono-climatic origin of clastic material pulses and relevant stages of ecosystem formation. B.N. Shurygin with coauthors presented the Jurassic regional stratigraphic scheme for Eastern Siberia as a basis for further consideration at the All-Russia conference to be held in Novosibirsk in 2008. Analyzing palynological spectra, L.V. Rovnina (IGIRGI) showed that ages of some formations in eastern regions of West Siberia were misleadingly determined by revision based on the rock coloration. A.G. Mukher (Shpil'man GP NATs RN) with coauthors from the TPP Uraineftegaz and OOO Kogalym-NIPIneft discussed structure, correlation, and distribution of the Upper Jurassic–Lower Cretaceous deposits in the southwestern Khanty–Mansi Autonomous Area. P.A. Yan and his colleagues (IOGGG SB RAS) analyzed indications of the Bathonian–Late Jurassic tectono-climatic events in the history of West Siberian sedimentation basin. L.G. Vakulenko et al. (IOGGG SB RAS) presented a model of the Lower Jurassic sedimentation in the Azharma structural–facies region of West Siberia using results of deep drilling. O.S. Urman (IOGGG SB RAS) argued against a baseless idea that the genus *Meleagrinnella* from southeastern regions consists of two species *M. lata* and *M. recta*, which should be as one taxon *M. recta*.

Two contributions concerned the investigation history of the Jurassic System in Russia. I.A. Starodubtseva (SGM RAS) considered in her report the history of Mesozoic cephalopods collected by E.V. Toll and I.P. Tolmachev, the well-known explorers of Arctic regions, and described by A.P. Pavlov (1913). The results of this collection study are basic ones for biostratigraphy of the Jurassic and Lower Cretaceous deposits in North Siberia. V.B. Sel'tser (SSU) spoke about K.I. Zhuravlev, the researcher and former director of the Pugachev museum of local lore (Pugachev, Saratov oblast), who contributed much to science popularization.

M.A. Rogov (GIN RAS), the web-site designer for the ISC Jurassic Commission, spoke about the site and its usage during the two-year period. In some aspects, the site has no analogs in the world. The reporter called upon the participants to be more active in developing the web site on the Jurassic System, since only a small stirring group uploads the new information so far. Anyone can find here information about all past confer-

ences on the Jurassic of Russia, the guidebooks for geological excursions, and photographs of participants.

At the conference end, there were organized two day-long geological excursions for participants to the Jurassic classic sections of the Yaroslavl oblast, i.e., to the Volgian hypostratotype near the Village of Glebovo and to the Ioda River outcrops exemplifying the most complete Oxfordian succession.

Participants expressed their gratitude to administration of the State Pedagogical University of Yaroslavl for irreproachable organization of the conference that was highly effective. The conference confirmed a progress attained in geology and stratigraphy of the Jurassic Sys-

tem in Russia and adjacent regions during the past two years. It was also noted that participants of the conference discussed a wide range of problems concerning the Jurassic geology in Russia.

Resolution of the conference consists of two items:

(1) To apply to rector of Saratov State University for organizing and holding the Third All-Russia Conference on the Jurassic System of Russia: Problems of Stratigraphy and Paleogeography in 2009.

(2) To publish the most successful reports in the Journal "Stratigraphy and Geological Correlation" and "Paleontological Journal".