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THE GENERALIZATED STRATIGRAPHIC SCHEME OF THE JURASSIC OF WESTERN UKRAINE

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In Western Ukraine the Jurassic deposits are known in the Carpathians, Transcarpathian Deep, Carpathian Foredeep and Western part of the East European platform. The Generalized stratigraphic scheme of the Lower, Middle and Upper Jurassic of these regions is represented. The current stratigraphic scheme is supplemented and detalized according to modern data, analisys and re-interpretation of many-years investigations these deposits by different specialists. The characteristics of stratigraphic units: distribution, lithological and paleontological composition, position in section, thicknesses and criteria for dating are given. The most complete and precise sequence of the Jurassic stages is determined on the territory of Carpathian Foredeep and adjacent part of the platform. In other regions these deposits are present fragmentarily. The stratigraphic units are mainly dated by the complexes of macro- and microfossils. In Precarpathians predominantly there are palynocomplexes for dating the Lower Jurassic deposits, mollusks, foraminifers and palynocomplexes for Middle Jurassic, and foraminifers, mollusks and tintinnids for Upper Jurassic. In Carpathians there are ammonites and belemnites for dating the Lower and Middle Jurassic deposits, and ammonites, tintinnids, dinocysts for Upper Jurassic. Correlation of the Jurassic stratigraphic units of the Western Ukraine is done.

Key words: sratigraphy, Jurassic, Ukrainian Carpathians, Transcarpathian deep, Carpathian foredeep, East European Platform.

ЗВЕДЕНА СТРАТИГРАФІЧНА СХЕМА ЮРИ ЗАХОДУ УКРАЇНИ

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На Заході України юрські відклади поширені у Карпатах, фундаменті Закарпатського та Передкарпатського прогинів та на західній окраїні Східно-Європейської платформи. Представлено зведену схему стратиграфії нижньо-, середньо- та верхньоюрських відкладів Західного регіону України. Чинну стратиграфічну схему доповнено і деталізовано на основі аналізу новітніх даних, узагальнення та переінтерпретації результатів багаторічних досліджень цих відкладів різними спеціалістами. Наведено характеристику стратиграфічних підрозділів: поширення, літологічний та палеонтологічний склад, потужності, стратиграфічне положення та обґрунтування віку. Найбільш повну і чітку послідовність ярусів юрської системи встановлено на території Передкарпатського прогину та прилеглого краю платформи, в інших регіонах ці відклади присутні фрагментарно. Стратиграфічні підрозділи датовані переважно за комплексами макро- та мікрофосилій. У Передкарпатті стратиграфічні підрозділи нижньої юри датовані за палінокомплексами, середньої юри – за молюсками, форамініферами та палінокомплексами, верхньої юри – за форамініферами, молюсками, тинтинідами. В Карпатах відклади нижньої та середньої юри датовано переважно за амонітами і белемнітами, верхньої юри – за амонітами, тинтинідами, диноцистами. У фундаменті Закарпатського прогину ярусний поділ на теперішній час не встановлено, виділені товщі датуються на підставі віку молюсків, радіолярій та тинтинід. Здійснено кореляцію стратиграфічних підрозділів юри в межах Західного регіону України.

Ключові слова: стратиграфія, юра, Українські Карпати, Закарпатський прогин, Передкарпатський прогин, Східно-Європейська платформа.

СВОДНАЯ СТРАТИГРАФИЧЕСКАЯ СХЕМА ЮРЫ ЗАПАДА УКРАИНЫ

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На Западе Украины юрские отложения распространены в Карпатах, фундаменте Закарпатского и Предкарпатского прогибов, на западной окраине Восточно-Европейской платформы. Представлена сводная схема стратиграфии нижне-, средне- и верхнеюрских отложений Западного региона Украины. Действующая стратиграфическая схема дополнена и детализирована на основании анализа новейших данных, обобщения и переинтерпретации результатов многолетних исследований этих отложений многими специалистами. Приведена характеристика стратиграфических подразделений: распространение, литологический и палеонтологический состав, мощности, стратиграфическое положение и обоснование возраста. Наиболее полная и четкая последовательность ярусов юрской системы установлена на территории Предкарпатского прогиба и прилегающей окраины платформы, в других регионах эти отложения присутствуют фрагментарно. Стратиграфические подразделения датированы преимущественно по комплексам макро- и микрофоссилий. В Передкарпатье стратиграфические подразделения нижней юры датированы по палинокомплексам, средней юры – по моллюскам, фораминиферам и палинокомплексам, верхней юры – по фораминиферам, моллюскам, тинтиннидам. В Карпатах отложения нижней и средней юры датированы преимущественно по аммонитам и белемнитам, верхней юры – по аммонитам, тинтиннидам, диноцистам. В фундаменте Закарпатского прогиба ярусное деление в настоящее время не установлено, выделенные толщи датируются на основании возраста моллюсков и тинтиннид. Проведена корреляция стратиграфических подразделений юры в пределах Западного региона Украины.

Ключевые слова: стратиграфия, юра, Украинские Карпаты, Закарпатский прогиб, Предкарпатский прогиб, Восточно-Европейская платформа.

Introduction

In the West of Ukraine the Jurassic deposits are known in Folded Carpathians Area, basements of Carpathian Foredeep and Transcarpathian Depression and in Western part of the East-European platform. In Carpathians these deposits outcrop in Pieniny Zone, in Marmarosh Massif (Bielopotik Subnapper), in Kamyanopotik and Porkulets Nappers. In Transcarpathian Depression basement, the Jurassic rocks were opened by the wells in the Uzhgorod-Solotvino and Pripannonian zones (Fig. 1) [Жабина и др., 2015]. In the territory of Carpathian Foredeep and adjacent part of the East-European platform (Stryi Jurassic depression) Jurassic deposits outcrop locally in Dniester Valley and were opened by numerous wells.

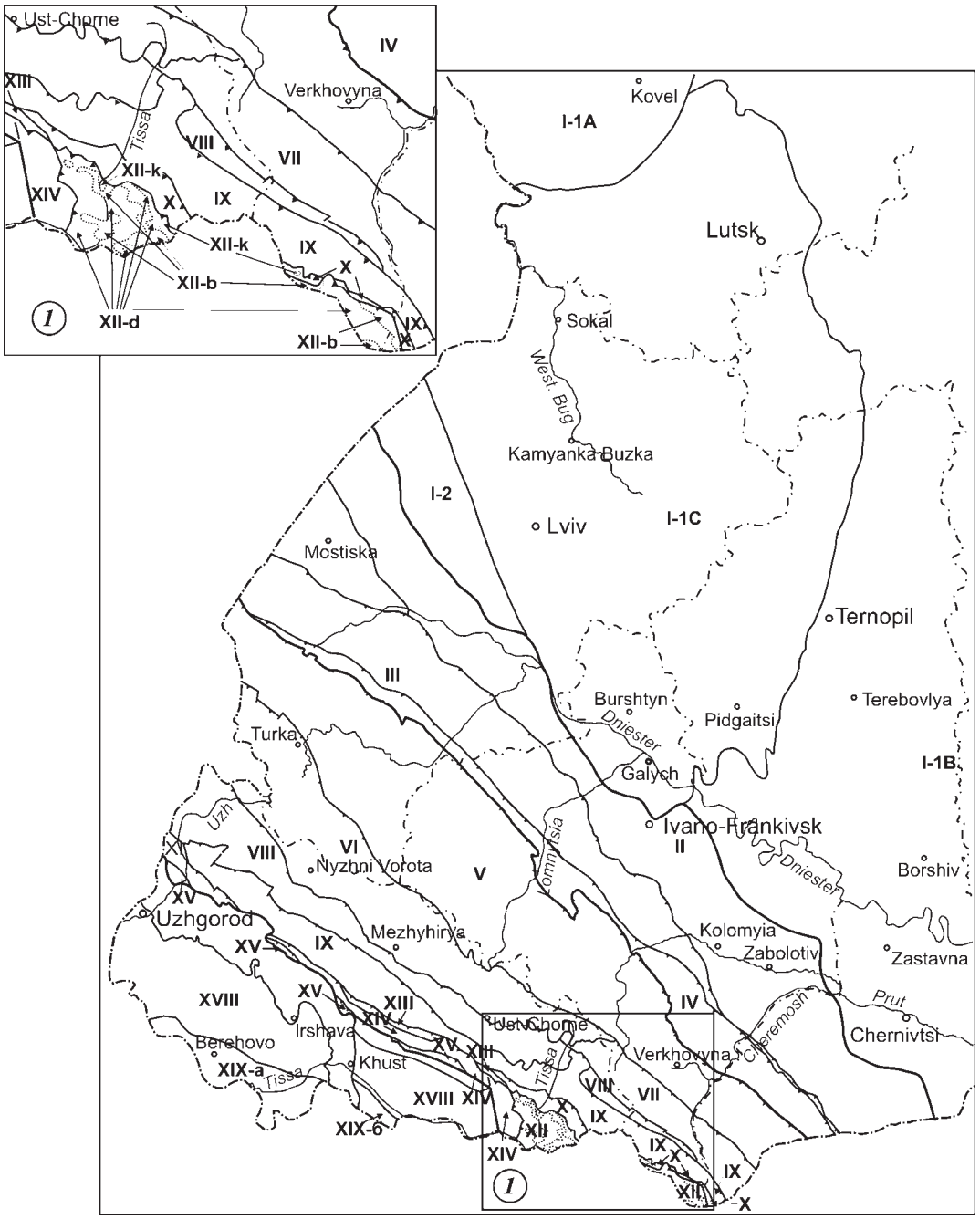

Fig. 1. Tectonic zonation of the Western Ukraine (after data of Lviv Branch UkrDGRI and DP Zahidukrgeologia) Legend:

East-European platform: I–1A – Kovel Ledge, I–1B – Volyno-Podolian Monocline, I–1C – Lviv Paleozoic Deep, I–2 – West-European platform; Carpathian Foredeep: II – Bilche-Volitsa zone, III – Sambir Napper, IV – Borislav-Pokutian; Outer (Flish) Carpathians (nappers): V – Skiby, VI – Krosno, VII – Chornogory, VIII – Dukla, IX – Porculets (Burkut), X – Rakhiv, XI – Magura, XII – Kamyanopotik; Median Carpathians: XIII – Marmarosh Massif (subnappers: b – Bilopotik, d – Delovets), XIV – Vezhany Napper, XV – Monastyrets Napper; XVI – Pieniny Zone; Inner Carpathians (Transcarpathian Deep): XVII – Uzhgorod-Solitvino Zone, XVIII – Pripannonian Zone (subzones: a – Berehovo, b – Vyshkiv)

Many eminent geologists were studied geology and stratigraphy of Jurassic deposits in the Western Ukraine – A. Alth, O.S. Vyalov, V.V Glushko, V.I. Slavin, V.J. Dobrynina, S.S. Kruglov, S.E. Smirnov, P.Yu. Lozyniak, etc. Geology of Carpathians and Transcarpathian Depression was the subject of research of F. Hauer, F. Herbich, L. Szajnocha, L. Loczy, A. Hezell, H. Zapalowicz, V. Uhlig, Z. Sujkowski, V. Spacek, D. Andrusov, A. Matejka, Z. Pazdro, M.G. Lomize, M.R. Ladyzhensky, E.K. Lazarenko, V.Ye. Khain, J.O. Kulchytsky, O.V. Maksimov, M.A. Beyer, A.G. Zhurakovsky, A.A. Voloshin, Z.F. Zhigunova, A.K. Boyko, S.L. Byzova, V.G. Chernov, B.D. Pukach, E.M. Titov, A.V. Zobkov, M.J. Petrashkevich, A.A. Matveyeva, V.A. Danilenko, N.F. Udich, and many others. Geology of Ukrainian Precarpathians were studied by Fr. Bieniasz, K. Glazewski, O.O. Leszczynsky, J.M. Sandler, O.M. Anastasieva, V.M. Utrobin, A.P. Sen, M. Palkin, V.S. Burov, I.B. Vishnyakov, V.M. Markovsky, Yu.K. Ovcharenko, Yu.R. Karpenchuk, R.T. Trushkevich, O.V. Samarska, T.S. Izotova, and many others. As a result of many-years investigations, the various regional stratigraphic schemes were created [Бирюлев и др., 1974; Дулуб и др., 1986; Гаврилишин, 1993; Стратиграфические…, 1993; Дулуб и др., 2003; Жабина, Аникеева, 2007]. Modernized stratigraphic schemes of the Lower-Middle Jurassic and of the Upper Jurassic of Ukrainian Carpathians [Стратиграфія..., 2014] are the synthesis of mentioned schemes.

This work represents a Generalized correlative scheme of stratigraphy of the Jurassic deposits of Western Ukraine, detailed and supplemented with biostratigraphic and lithostratigraphic data.

Materials and methods

The proposed generalized stratigraphic scheme of the Jurassic of the Western Ukraine is based on the correlation of Jurassic deposits in the regions of Carpathian belt and the western edge of the East European platform. The current stratigraphic scheme [Стратиграфія..., 2014] is supplemented by data about the Jurassic deposits in Kamennopotik and Porkulets Nappers of Outer (Flish) Carpathians and in the Marmarosh Massif according to results of investigations, which were done by V.V. Kuzovenko, V.E. Shlapinsky, M.G. Prykhodko, B.M. Matskiv in Carpathians. The stratigraphy of the Pieniny Zone is detalized on the basis of analysis, comparison and re-interpretation of published data of V.I. Slavin, S.S. Kruglov, V.I. Havrylyshyn, G.J. Krymgolts, T.D. Kalenichenko, L.V. Linetska, M.A. Beer, A. Wierzbowski, M. Krobicki, B. Matyja, D. Rehakova, J. Schlogl, M. Barski. The age of the stratigraphy units is justified by their detailed paleontological characteristic with the analysis of data of study of various group of fossils by many researchers. There are **ammonites** (V.I. Slavin, N.T. Sazonov, T.D. Kalenichenko, S.S. Kruglov, R.J. Leschukh, G.I. Gotsanyuk, A. Wierzbowski et al., D. Rehakova et al.); **belemnites** (G.J.Krymgolts, V.I. Havrylyshyn); **bivalves** and **brachiopods** (G.T. Pchelintcev; P.A. Gerasimov, R.S. Dmitrieva, B.S. Kokoshinska, O.I.Nikiferova, O.M. Schmidt, V.I. Hawrylyshyn, I.M. Yamnichenko, S.I. Pasternak, R.J. Leschukh, I.V. Shaynoga); **foraminifers** (O.A. Hoffman, L.G. Dain, V.G. Dulub, A.S. Terestchuk, M.T. Chip, V.P. Maslov, N.M. Zhabina); **tintinnids** (L.V. Linetska, N.M. Zhabina, D. Rehakova); **radiolarians** (P.Yu. Lozyniak); **dinocysts** (L.V. Linetska, D. Rehakova); **palynocomplexes** (M.I. Burova, M.E. Ohorodnik); **floristic remnants** (E.M. Migacheva, A.I. Turutanova-Ketova, F.A. Stanislavsky, V.A. Vakhrameev, Yu.V. Teslenko) [Славин, 1963; Калениченко и др., 1965; Геология…, 1966; Круглов и др., 1968; Калениченко, Круглов, 1969; Лінецька, 1972; Лещух, Гоцанюк, 2002, 2003; Гоцанюк, 2004; Rehakova et al., 2011, Wierzbowski et al., 2012; Стратиграфія..., 2014, etc.].

Stratigraphical units

Median and Outer Carpathians. The complex tectonic structure of Carpathians complicates the stratification of Jurassic deposits and creation of stratigraphic scheme. In the Median Carpathians the stratigraphical units were distinguished in Pieniny Zone and Belopotik Subnapper of Marmarosh Massif, and in the Outer Carpathians – in Kamyanopotik and Porkulets Nappers (Fig. 2). Jurassic volcanic and sedimentary rocks are also present in the composition of the olistoliths in Lower Cretaceous olistostrome in Vezhany Napper.

Pieniny Zone. There were distinguished Perechyn, Priborzhava, Zhubrakiv, Svalyava suites and four strata – Variegated brecciated limestone, Siliceous limestone, Light-coloured limestone and Red-coloured limestone. There are the tectonic blocks or olistolites of Jurassic rocks lying as detached bodies in Cretaseous thiknesses.

Perechyn suite (V.I. Slavin, V.Ya. Dobrynina, N.A. Yefimova, 1967) [Славин и др., 1967] – Hettangian–Lower Pliensbachian. Pieniny Zone. Tectonic blocks, sometimes olistoliths in Upper Cretaceous matrix. Two subsuites: lower (thickness

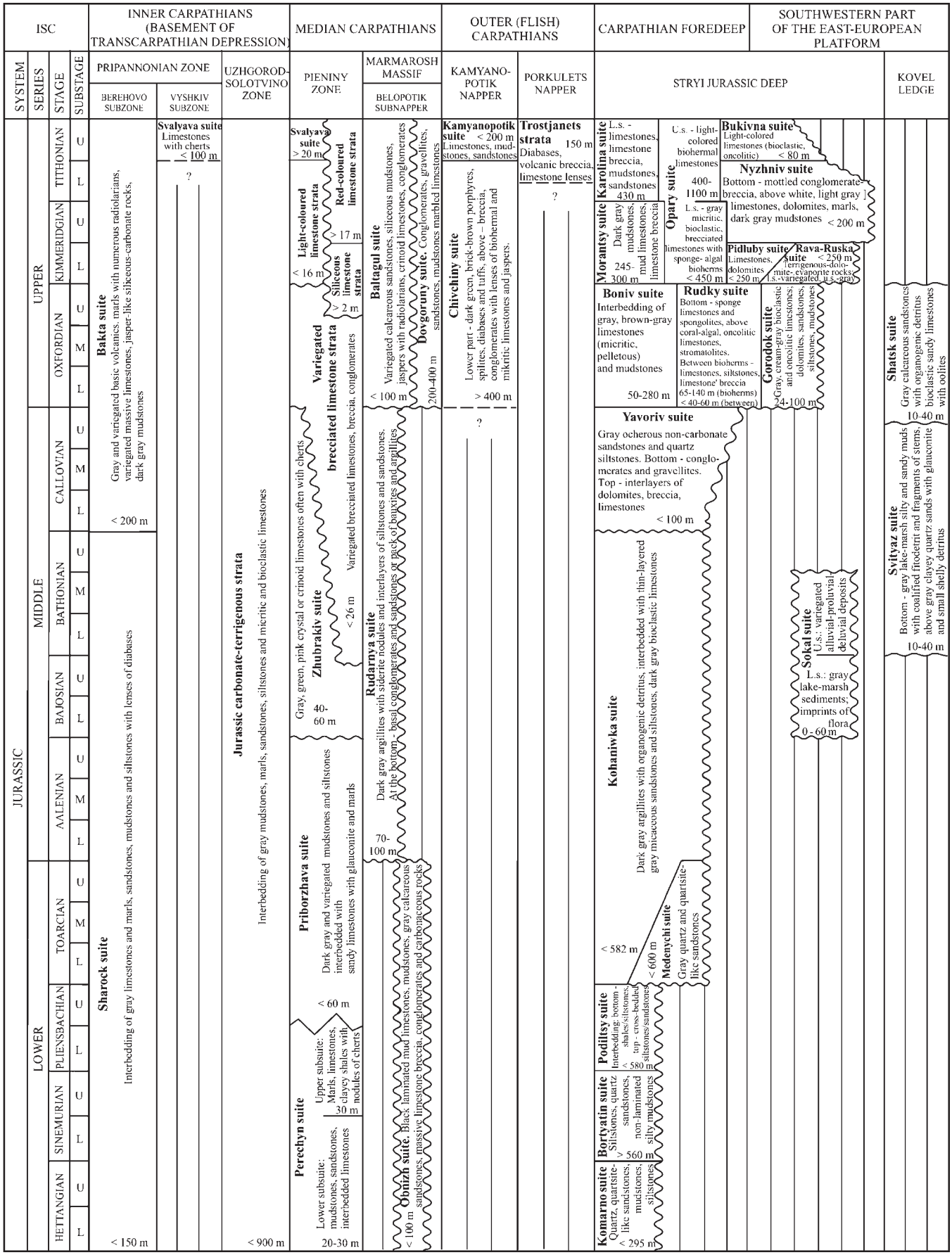

Fig. 2. The Generalized stratigraphic scheme of the Jurassic of the Western Ukraine

20-30 m) – mudstones and sandstones with interbedded limestones (Lower Hettangian–Sinemurian) and upper (30 m) – interbedding of marls, limestones and clayey shales with large nodules of cherts (Upper Sinemurian–Lower Pliensbachian). The lower and upper boundaries are unknown. Suite is dated by ammonites *Arietites bucklandi* Sow., *Paltechioceras nodotianum* (Orb.), *Vermiceras nodotianum* Orb., *Schlotheimia charmassei* Orb., *Echioceras pohioides* Fuc., *E. declivis* Truen., *E. raricostatum* Bayeux, belemnites *Salpingoteuthis tubularis* Young et Bird., *Passalotheuthis apicicurvata* Bl., *P. paxillosus* Schloth., *Nannobelus acutus* Miller, bivalves *Gryphaea arculata* Linne, *G. orbiculata* Sow., *G. incurva* Sow., *Cardinia hybrida* Stutch., *C. listeri* Sow., brachiopods *Spiriferina alpina* Opp., etc.

Priborzhava suite (V.I. Slavin, V.Ya. Dobrynina, N.A. Yefimova, 1967) [Славин и др., 1967] – Upper Pliensbachian–Aalenian. Pieniny Zone. Tectonic blocks, somewhere olistoliths in Upper Cretaceous matrix. Dark gray and variegated mudstones and siltstones interbedded with sandy limestones with glauconite and marls. The base is not found; suite is overlapped unconformably by Zhubrakiv suite. Thickness is to 60 m. Suite is dated by ammonites *Uptonia jamesoni* (Sow.), *Androgynoceras capricornus* Schlot., *Harpoceras falcifer* Sow., *Grammoceras thouarsense* d`Orb., *G. saemanni* Dumor., *Dactylioceras commune* Sow, *Leioceras opalinum* Reinecke, *L. acutum* Quenst., *Ludwigia murchisonae* Sow., *L. literata* Buck., *L. carinata* Buck., *Lytoceras ophioneum* Benes., *Lioceras costosum* Quenst. and belemnites *Passaloteuthis ima* Long., *P. bruguieri* Orb., *P. aplicicurvata* Bl., *Hastites chormonthensis* May., *Mesoteuthis triscissa* Gon., *M. tripartita* Schlot., *M. oxycona* Hell., *M. conoidea* Opp., *M. pyramidalis* Liet., *M. banzensis* Kolb, *M. stimula* Dun., *M. qenstedti* Oppel, *M. inornata* Philips, *Rhabdobelus exilis* Orb., etc.

Zhubrakiv suite (V.I. Slavin, 1956) [Славин, 1956] – Bajosian–Callovian. Pieniny Zone. Tectonic blocks, sometimes olistoliths in Upper Cretaceous matrix. Gray, green, pink crystal or sometimes crinoid limestones often with cherts. Suite overlies unconformably Priborzhava suite, and is overlain by Svalyava suite with a break. Thickness is 40-60 m. Suite is dated by ammonites *Stephanoceras humphriesianum* Sow., *S.* (*Cadomites*) *deslongchampsi* Defrance, *Parkinsonia parkinsoni* Sow., *Oppelia* cf. *subradiata* Sow., *Leptosphinctes leptus* Buck., *Phylloceras asisbekovi* Kakh., *Eurystomiceras polyhelictum* Bockh, *Pseudophylloceras kudernatschi* Hauer, *Calliphylloceras heterophylloides* Opp., *C. disputabile* Zitt., *Thysanolytoceras eudesianum* Orb., *Dinolytoceras crimea* Strem., *Holcophylloceras zignodianum* Orb., *Perisphinctes defrancei* Orb., *Peltoceras athleta* Phill. and belemnites *Holcobelus blainvillei* Voltz., *Cylindroteuthis puzosiana* Orbigny, *C. spicularis* Phillips.

Variegated brecciated limestone strata – Uppermost Bajosian – Oxfordian. Represented locally in Pieniny Zone. Red, dark-cherry, brown-greenish, yellowish brecciated limestones, limestone breccia and conglomerates. Sometimes there are layers of marls and silicites at the top. Strata lies transgressive on Lower and Middle Jurassic deposits and is overlain by strata of light-coloured limestones. Thickness up to 26 m. Strata is dated by ammonites *Bullatimorphites* ex gr. *bullatimorphus* (Buckm.), *B. ymir* (Opp.), *B. eszterensis* (Bockh), *B.* cf. *polypleurus* (Buckm.), *B. costatus* Arkel., *Procerites* ex gr. *imitator* (Buckm.), *Dimorphinites cf. dimorphus* (Orb.), *Parkinsonia (Durotrigensia) bomfordi* Arkell, *Nannolytoceras cf. tripartitum* (Rasp.), *Perisphinctes (Dichotomoceras) bifurcatus* (Quenst.), *Wagnericeras cf. kudernatschi* (Liss.), *Liosphinctes plicatilis* (Sow.), *Euaspidoceras paucituberculatum* (Arkell), *Gregoryceras, Perisphinctes*, *Lytoceras*, *Phylloceras*, *Holcophylloceras, Ptychophylloceras*, *Partschiceras, Spiroceras, Parachoffatia*, *Homoeplanulites, Epistrenoceras,* mollusks, dinocists *Colomisphaera fibrata* (Nagy), *Cadosina parvula* Nagy, foraminifers *Globuligerina,* etc. [Славин, 1963; Rehakova et al., 2011].

Siliceous limestone strata – Upper Oxfordian–Lower Kimmerigian. Represented locally in the Northeast part of Pieniny Zone. Red laminate siliceous limestones, marls, bioclastic limestones. Strata lies on variegated brecciated limestones and is overlain by Red-coloured limestone strata. Thickness is more than 2 m. Strata is dated by dinocists *Colomisphaera fibrata*, *Cadosina parvula* [Rehakova et al., 2011].

Light-coloured limestone strata – Kimmerigian– Lowermost Tithonian. Represented locally in Pieniny Zone. Whitish and light grey laminate massive micritic and biomicritic limestones. Sometimes at the top, there are eroded horizon with phosforite nodules and belemnites. Strata lies on variegated brecciated limestones and is overlain by Svalyava suite. Thickness up to 16 m. Strata is dated by ammonites *Orthaspidoceras uhlandi*, *Calliphylloceras ptychoicum* Quenst., *Lytoceras quadrisulcatum* Opp., *Haploceras tithonium* Opp., *Neolissoceras gzasi* Orb. *Nebrodites, Phylloceras, Lytoceras, Taramelliceras* mollusks, etc. [Славин, 1963; Wierzbowski et al., 2012].

Red-coloured limestone strata – Upper Kimmerigian–Lower Berriassian. Represented locally in the Northeast part of Pieniny Zone. There are red spotted limestones in lower part, and pink micritic limestones with numerous planknonic organisms above. Strata lies on siliceous limestones and is sharply overlain by basaltic rocks of Early Cretaceous. Thickness up to 17 m. Strata is dated by tintinnida *Praetintinnopsella andrusovi* Borza, *Calpionella alpina* Lor., *C. grandalpina* Nagy, *Crassicollaria massutiniana* (Colom), *C. parvula* Remane, *C. brevis* Remane, *Tintinnopsella carpathica* Murg. et Fil., *T. doliphormis* (Colom), *Remaniella ferasini* (Catalano), *R. catalanoi* Pop, *R. durandelgai* Pop, etc. [Rehakova et al., 2011].

Svalyava suite [Славин, 1963] – Upper Tithonian–Lower Barremian. Pieniny zone of Median Carpathians and Vyshkiv Subzone of Pripannonian Zone (Inner Carpathians). Olistoliths and tectonic blocks (xenoliths) in Upper Cretaceous matrix. Isolated blocks of different sizes (0,2 to 2 km), configuration and orientation (before inverted). Their constituent units of different age are oriented irregularly and are bounded by curved faults. Light-colored sometimes porcelaneous limestones, with layers and lenses of black cherts, black or green mudstones and marls. Lower and upper boundaries are unknown. Thickness in the Carpathians is more than 20 m. Suite is dated by ammonites *Beriasella* sp., *Crioceras duvali* Lev., *C.* cf. *nolani* Kil., *Phyllopachyceras infundibulum* Orb., *Spitidiscus* cf. *andrusovi* Karak., *Barremites* sp., *Lamellaptychus* cf. *didaji* Coq., tintinnids *Calpionella alpina* Lor., *C. undelloides* Colom, *Tintinnopsella carpathica* Murg. et Fil., etc.

Marmarosh Massif. There were distinguished Obnizh, Rudarnya, Baltagul and Dovgoruny suites in Belopotik Subnapper.

Obnizh suite (V.I. Slavin, 1963) [Славин, 1963] – Hettangian–Toarcian. Belopotik Subnapper of Marmarosh Massif. Black laminated mud limestones, mudstones, gray calcareous sandstones, massive limestone breccia, conglomerates and carbonaceous rocks. Suite lies transgressive on the Lower Triassic, Upper Carboniferous or Upper Proterozoic sediments; the upper contact is unknown. Thickness is to 100 m. Suite is dated by ammonites *Arietites* (*Coroniceras)* ex gr. *herbichi* Uhl., bivalves *Cardinia* sp.

Rudarnya suite [Славин, 1956] – Aalenian–Callovian. Belopotik Subnapper of Marmarosh Massif. Dark gray argillites with siderite nodules and interlayers of siltstones and sandstones. At the bottom there are the basal conglomerates and sandstones with interlayers of calcareous mudstones, siltstones and lenses of sandy limestones (up to 40-45 m), or a pack of cinnamon-brown bauxites and argillites (1,5-2 m). Thickness up to 70-100 m. Suite lies unconformably on Triassic and Palaeozoic and is overlain unconformably by Upper Jurassic Baltagul suite. Age is determined according to ammonites *Leioceras opalinum* Rein., belemnites *Nannobelus brevis* Blainv., brachiopods *Leilleria monbizotensis* Roll., etc.

Baltagul suite (V.I. Slavin, 1963) [Славин, 1963] – Oxfordian–Lower Tithonian. Belopotik Subnapper of Marmarosh Massif. Variegated calcareous sandstones, siliceous mudstones, jaspers with radiolarians, crinoid limestones, conglomerates. At the bottom there are conglomerates (2-3 m), at the top the thin-bedded sandstones and mudstones. Suite lies on the Upper Triassic and Middle Jurassic rocks. The upper boundary is not determined. Thickness is to 100 m. Suite is dated by radiolarians *Saturnalis amissus* Squin, brachiopods *Rhynchonella cf. alemanica* Roll., *Zelleria montbizotensis* Roll., etc.

Dovgoruny suite (V.I. Slavin, 1956) [Славин, 1956] – Oxfordian –Tithonian. Belopotik Subnapper of Marmarosh Massif. At the bottom (up to 5 m) there are conglomerates, breccias, gravellites from the wreckage of metamorphic rocks (gneisses, muscovite and two-mica schists, etc.); higher – sandstones, limestones, mudstones. In upper part there are gray and green-gray laminated often marbled limestones, with lenses of gray-green quartz-carbonate-chlorite shales (1-1,5 m). Suite lies with a sharp angular unconformity on the Upper Proterozoic, Upper Carboniferous, Lower Triassic, Lower Jurassic formations. The upper limit is not determined. Thickness is 200-400 m. Age is determined according by ammonites *Perisphinctes stenocucloides* Siem., *Progeronia breviceps* (Quenst.).

Kamyanopotik Napper. There were distinguished Chivchiny and Kamyanopotik suites.

Chivchiny suite (V.I. Slavin, 1956) [Славин, 1956] – Oxfordian–Tithonian. Kamyanopotik Napper. In the lower part there are dark green, brick-brown porphyres, spilites, diabases and tuffs, above – breccia, conglomerates with lenses of biohermal and mikritic platy limestones and jaspers. Thikness of flows is 15-300 m, tuffs – 12-180 m, limestones – 5-10 m, jaspers – 1-1,5 m. The lower boundary is not found. Suite is overlapped conformly by Kamyanopotik suite. Thikness is more than 1000 m. Suite is dated by corals *Calamophylliopsis etalloni* (Koby), *Thecosmilia irregularis* Etall., *Th. koniakensis* Ogil.,

Montivaltia elongata E. et H., *Actinaraea granulata* (Munst.), etc. [Лозиняк, Марушкін, 1991].

Kamyanopotik suite (J.O. Kulchytsky, O.V. Maksimov, 1961) [Кульчицький, Максимов, 1961] – Tithonian–Hauterivian. Kamyanopotik Napper. Gray and dark gray layered or massive limestones (80% of the suites), mudstones, sandstones (generally calcareous with volcanic rocks in the clastic material) and gravelites. Suite lies conformly on Chivchiny suite and it is overlapped with erosion by the Lower Cretaceous sandstone strata [Лозиняк, Марушкін, 1991]. Thickness is to 200 m. Suite is dated by ammonites – *Costidiscus recticostatus* Orb., *Speetoniceras auerbachi* Eichwald, *Berriasella subchaperi* Retowski, bivalves *Camptonectes cottaldinus* Orb., *Syncyclonema germanica* Woll., brachiopods – *Suiaella weberi* Moisseev, radiolarians – *Cenosphaera*, *Xiphosphaera*, *Cenodiscaella*, *Dicolocapsa*, *Dictyomitra*, tintinnids – *Calpionella alpina* Lor., *C. elliptica* Cad., nannoplankton – *Bipodorhabdus roeglii* (Thier.), *Cretarhabdus crenulatus* Braml. et Mart., *Watznaueria barnesae* (Black), *W. britannica* (Str.), *Polycostella beckmanni* Thier., etc.

Porkulets Napper. There is only distinguished the Trostjanets strata.

Trostjanets strata [Ломізе, 1975] – Tithonian – Lower Cretaceous. Porkulets Napper. Olistoliths and olistoplakes in Albian-Upper Cretaceous olistostrome [Slavin, 1956] or tectonic blocks. Diabases and volcanic breccia with lenses of cream, pink and gray limestones. Streams of lava (5-32 m thickness) are divided by klastolavas. Underlying and overlying rocks are not reliably determined. Thikness is 150 m. Strata is dated by ammonites *Caliphilloceras ptichoicum* Quenst., *C. callipso* Orb. var. *zacarpatiensis* Slavin, *Lythoceras quadrisulcatum* Orb., *L. montanum* Opp., *Streblites loliensis* Slavin, tintinnids *Calpionella alpina* (Lor.), etc.

Basement of Transcarpathian Depression. In the Jurassic deposits of before-molassa basement of Transcarpathian Depression were distinguished the Jurassic carbonate-terrigenous strata, Svalyava, Sharock and Bakta suites.

Jurassic carbonate-terrigenous strata (M.G. Prykhodko, 2012) [Стратиграфія…, 2014]. Uzhgorod-Solotvino zone. Interbedding of gray mudstones, marls, sandstones, siltstones, and micritic and bioclastic limestones. This strata conformly or tectonically overlies the Triassic rocks; it is conformly overlapped by Dulov suite of Lower Cretaceous and is often significantly eroded. Thickness is to 900 m. Age as a whole Jurassic is determined by bivalves *Bositra (Posidonia) buchi* (Roemer), *B. dagestanica* (Uhlig), tintinnids *Crassicollaria intermedia* (Delga), *C. brevis* Remane, *C. parvula* Remane, *Calpionella alpina* Lorenz, *C. alpina grandis* Doben, *Tintinnopsella carpathica* (Murg. et Fil.), *Calpionellites darderi* (Colom), *Lorenziella hungarica* Knaver et Nagy, and by the position in the section and the analogy with deposits of eastern Slovakia also.

Sharock suite (P.Yu. Lozynyak, M.J. Petrashkevich, 1993) [Лозиняк, Петрашкевич, 1993] – Lower–Middle Jurassic. Berehovo Subzone of Pripannonian Zone. Interbedding of gray limestones and marls, sandstones, mudstones and siltstones with lenses of diabases. Sharock suite lies conformly on the Triassic rocks and is overlain by Bakta suite. Thickness is to 150 m. Suite is dated by belemnites *Passoloteuthis, Holcobelus* and position in the section also.

Bakta suite (P.Yu. Lozynyak, M.J. Petrashkevich, 1993) [Лозиняк, Петрашкевич, 1993] – Middle–Upper Jurassic. Berehovo Subzone of Pripannonian Zone. Gray and variegated basic volcanics with interbedded gray sometimes variegated marls with numerous radiolarians, variegated massive limestones, jasper-like siliceous-carbonate rocks and dark gray mudstones. Suite lies conformly on sharock suite, and it is overlapped with a break (?) by the Cretaceous deposits. Thickness is to 200 m. Suite is dated by radiolarians *Cenodiscus rachovensis* Loz., *Tricolocaspa plicarum* Yao, *Hemicrycaspa vialovi* Tichom., *H. a* (Zham.), *Dictyomitra venusta* Hinde etc., belemnites *Megateuthis,* as well as by the position in the section.

Svalyava suite (V.I. Slavin, 1963) [Славин, 1963] – Tithonian–Lower Barremian. Vyshkiv Subzone of Pripannonian Zone. Gray and light gray silicified micritic sometimes brecciated or clastic limestones with inclusions of black cherts and thin interlayers of dark gray siliceous mudstones. Suite is overlapped by Cretaceous Tissale suite; the lower boundary is not determined. Suite is dated by radiolarians *Xiphosphaera umbilicata* Rust, *Cenosphaera sphaeroconus* Rust, *Cenodiscaela nummulitica* Kh. Aliev, *Cornotella conica* Kh. Aliev, *Dictyomitra carpatica* Lozyniak and by the analogy with the deposits of Pieniny Zone.

Carpathian Foredeep and adjacent part of East-European Platform (Stryi Jurassic Deep). The Jurassic deposits form there a submeridional strip up to 100 km width. Thicknesses, as well as the completeness of sections, are increasing to the west from the few meters in Volyno-Podillya up to 2500 m near the Krakovets Fault. Jurassic deposits

transgressive overlie the eroded Paleozoic basement and are overlapped with erosion by the Cretaceous and Neogene formations. Lower and Middle Jutassic are extended in the northwestern part of Bilche-Volitsa zone of Carpathian Foredeep and locally on the platform and represented by mainly clastic sediments. The Upper Jurassic spread in a whole Stryi Jurassic Deep and together with Berriasian-Valanginian forms complex of carbonate rocks. In terrigenous deposits of Lower and Middle Jurassic were distinguished Komarno, Bortyatin, Podiltsy, Medenychi, Kochaniwka, Sokal and Yavoriv suites. Carbonate complex of Upper Jurassic–Lower Cretaceous consist of Boniv, Gorodok, Rudky, Morantsy, Karolino, Opary, Rava-Ruska, Podluby, Nizhniv, Bukivna suites [Жабина, Анікеєва, 2007].

Komarno suite (V.G. Dulub et al., 2003) – Hettangian. Northwest of Bilche-Volitsa zone of Carpathian Foredeep. Interbedding of gray fine-grained quartz and quartsite-like sandstones, mudstones, siltstones. Suite is overlapped by Bortyatin suite; the lower boundary is not determined. Thickness is more than 560 m. Age is determined conditionally according by the presence of Mesozoic spores – *Densoisporites* sp.*, Lycopodiumsporites sp., Granulatisporites minutus* Pot. et Kremp. as well as by the position in section.

Bortyatin suite (Yu.R. Karpenchuk, 1985; V.G. Dulub et al., 1986) – Sinemurian. Northwest of Bilche-Volitsa zone. Greenish-gray siltstones interbedded with gray fine-grained quartz sandstones and dark gray non-laminated silty mudstones and siltstones. It lies conformly on the Komarno suite and is overlain by Podiltsy suite. Thickness is to 295 m. Suite is dated by the palynocomplex *Limbosporites lůndbladii* Nilsson, *Platyptera trilinqua* (Horst) Schulz, *Stereisporites* sp., *Camptotriletes* sp., *Densoisporites* sp., *Dictyophyllidites harrisii* Couper, *Cyachidites junctus* (K.-M.) Alimov., as well as by the position in section.

Podiltsy suite (Yu.R. Karpenchuk, 1985; V.G. Dulub et al., 1986) – Pliensbachian. Northwest of Bilche-Volitsa zone. The rhythmic interbedding: at the lower part there are dark gray shales and siltstones, above gray and light gray cross-bedded siltstones and sandstones with interlayers of limestones in the upper part, and with streaks and nests of anhydrite at the top. It lies according on the Bortyatin suite and is unconformably(?) overlapped by Medenychi or Kohaniwka suites. Thickness is to 580 m. Suite is dated by the palynocomplex *Lycospora salebrosacea* (Mal.) Schulz, *L. gracilis* Sem., *Limbosporites lundbladii* Nilsson, *Platyptera trilinqua* (Horst) Schulz, *Foraminisporites jurassicus* Schulz, *Converrucosisporites luebbenensis* Schulz, *Uvaesporites verrucatus* Schulz., etc.

Medenychi suite (V.N. Utrobin, 1962) [Утробин, 1962] – Toarcian. Northwest of Bilche-Volitsa zone. Gray quartz and quartsite-like sandstones (somewhere cross-bedded, porous, with lenses and interlayers of coal) with streaks of gray non-carbonate siltstones, silty sometimes siliceous mudstones, creamy-gray limestones. Rocks contain coalified fitodetrit and somewhere imprints of plants. Suite lies with erosion on Podiltsy suite and is overlapped by Kohaniwka suite. Thickness is to 600 m. Suite is dated by microflora *Cycadopites dilucidus* (Bolch.) Iljina, *C. orbicularis* (Sachon et Iljina), *Ginkgocycadophytus caperatus* Samoil., *Chasmatosporites apertus* (Rogalska) Nilsson, *Stereisporites congregatus* (Bolch.) Schulz, *S. bujargiensis* (Bolch.) Schulz, *S. incertus* (Bolch.) Sem., *Selaginella simplex* Krasn., *S.ensis* Chlon. et Krasn., *Osmundacidites jurassicus* (K.–M.) Kuzit., *O. versiformis* Sem. *sp. nov*., *O. cingulatus* Sem., *Marattisporites scabratus* Couper, *Tripartina variabila* Mal., *Klukisporites variegatus* Couper.

Kohaniwka suite (J.M. Sandler, 1962) [Сандлер, 1962] – Toarcian–Bathonian. Northwest of Bilche-Volitsa zone. Dark gray argillites with organogenic detritus, interbedded with thin-layered gray micaceous sandstones and siltstones, dark gray bioclastic limestones. It lies on Medenychi or Podiltsi suites, and is transgressive overlapped by Yavoriv suite. Thickness is to 582 m. Suite is dated by mollusks *Meleagrinella ptchelincevae* Polub., *Paleoneilo galata* (Orb.), *Dacryomya zieteni* (Brauns.), *Nucula amydgaloides* Som., *Inoceramus ambiquus* Eichw., *Ozytoma startense* Polub., *Posidonia dagestanica* Uhlig., *Parkinsonia parkinsoni* Sowerby, *Partschiceras abichi* (Uhlig), *Pholadomya solitaria* Morris et Lycett., *Goniomya baysunensis* Borissjak, *Pleuromya decurtata* Phillips, *Cucullaea subdecussata* Gold., *Leda mucronata* Sow., *L. lacryma* Sow., *Phaenodesmia arzisiensis* Romanov, *Nucula subovalis* Goldf., *Parallelodon elongatum* Sow., *Oxytoma scarburgense* Rollier, *Pinna buchi* Koch et Dunker, *Lima (Plagiostoma) subrigidula* Schlippe, *Entolium demissum* Goldf., *Pleuromya balkhanensis* Pčel., *Reinholdella dreheri* (Bart.), *R. epistominoides* (Kapt.), *Camptotriletes cerebriformis* Naum., *C. triangulus* Larosch., foraminifers *Trochammina chodzica* Ant., *Quinqueloculina rawensis* (Pazdro), *Lenticulina erecta* Ant., *L. volubilis* Dain, palynocomplex *Duplexisporites anagrammensis* (K.–M.) Schug., *Marattisporites*

scabratus Couper, *Klukisporites variegatus* Couper., *Tripartina variabila* Mal., *Trilites minutus* (Bolch.) Mal. emend. Sem., etc.

Sokal suite (V.I. Slavin, V.Ya. Dobrynina, 1958) [Славин, Добрынина, 1958] – Bajosian–Bathonian. Volyno-Podillya. Continental non-carbonate clays, siltstones, sandstones, gravelites, conglomerates. Suite consists of two subsuites: lower – gray lake-marsh sediments with imprints of flora and upper – variegated alluvial-proluvial-deluvial deposits. Suite lies on the Paleozoic and is overlapped by Rava-Russka suite. Thickness is to 60 m. Age is determined according to floristic remnants *Hylomites zamites* Goepp*, Coniopteris lymenophylloides* Brongn., *Phoenicopsis speciosa* Heer*., Ptilophyllum cutchense* Old et Mor., *Pt. acutifolium* Teist., *Nilssonia orientalis* Heer., *Abietites densifolia* Thomas, *P. tyophyllum nordenskioldi* (Heer.) Nath., *P. lindestromii* Nath., *Leplophyllum subcirculara* Pryn., *Taeniopteris tenuinervis* Brans., *Eboracia labifloria* (Pill.) Tom., etc, and also by the sedimentary criterias and position in section.

Yavoriv suite (V.M. Utrobin, 1962) [Утробин, 1962] – Callovian. Northwest of Bilche-Volitsa zone and adjacent part of the platform. Gray ocherous non-carbonate sandstones and quartz siltstones, sometimes dolomitic or clayey, with glauconite. At the bottom there are conglomerates and gravellites and at the top – interlayers of gray sandy dolomites and breccia, dolomitic micritic or bioclastic limestones. Somewhere there are interlayers of gray, brown or mottled clays. The rocks contain coalified fitodetrit and ferruginous oolites. Suite lies transgressive on Kochaniwka suite and overlain conformly by Rudky suite. Thickness is to 100 m. Suite is dated by mollusks *Macrocephalites* sp., *Keppleriteѕ* sp., *Kosmoceras s*p*., Camptonectes* cf*. lens* (Sow.), *Dinolytoceras* cf. *crimea* Stremooukhoff, *Melegrinella* sp., *Phylloceras* sp., *Posidonia (Bositra) buchi* Roemer, *Pholadomya* cf*. murchisoni* Sowerby, *Cucullaea subdecussata* Gold., *Leda mucronata* Sowerby, *Planularia folium* (Wisn.), *P. polyra* (Guemb.) and palynomorphs *Classopollis classoides* Pflug.

Rudky suite (V.M. Utrobin, 1962) [Утробин, 1962] – Oxfordian. Northwest of Bilche-Volitsa zone and adjacent part of the platform. Biohermal limestones. At the bottom there are sponge limestones with chert nodules and interlayers of spongolites, above coral-algae limestones, and at the top oncolitic limestones and sometimes stromatolites. Between the bioherms there are bioclastic and biomicritic limestones interbedded with siltstones and limestone breccia. Suite lies on Yavoriv suite and is overlapped by Opary, Pidluby or Rava-Russka suites. Thicknesses of bioherms are up to 65-140 m; between the bioherms – 40-60 m. Suite is dated by ammonites *Subkossmatia* cf. *opis* (Sow.), brachiopods *Septaliphora badensis* (Opp.), *Cheirothyris aculeata* Leit., *Rhynchonella varians* Schloth*, R. badensis Opp.* and foraminifers *Globuligerina oxfordiana* Grig., *Trocholina transversarii* Paalz*., T. conica* (Schlumb.)*, T. belorussica* Mitjan*., Bulbobaculites maynci* Mohl*., Alveosepta sequana* (Merian)*, A. sequana* (Merian) *minor* Mohl., *Haplophragmium coprolitithiformis* Mohl, *Marssonella doneziana* Dain, etc.

Boniv suite (V.G. Dulub, 1995) [Дулуб, 1995] – Oxfordian. Northwest of Bilche-Volitsa zone. Interbedding of gray, brown-gray micritic and pellete limestones and mudstones. It conformly lies on Yavoriv suite and is overlain by Morantsy suite. Thickness is 50-280 m. Suite is dated by foraminifers *Globuligerina oxfordiana, Alveosepta jaccardi* Schrodt*, Alveosepta sequana var. minor, Bulbobaculites maynci, Marssonella doneziana, Trocholina conica, Paalzowella turbinella* (Gumb.), *Discorbis speciosus* Dain, *H. coprolithiformis sequanum, Trocholina transversarii, Quinqueloculina semisphaeroidalis* Danitch. and tintinnids *Foliacella propartula* Makar*., Scalpratella angustioris* Makar*., Rosiella tintinnubulum* Makar*., Borzaiella terekensis* Makar., etc.

Gorodok suite (N.M. Zhabina, O.V. Anikeyeva, 2007) [Жабіна, Аникеєва, 2007] – Oxfordian. Northwest of Bilche-Volitsa zone and adjacent part of the platform. Gray, cream-gray bioclastic and oncolitic limestones with interlayers of dolomites, sandstones, siltstones, mudstones. It lies on Yavoriv suite or eroded Paleozoic basement and is overlapped by Rava-Ruska suite or Neogene. Thickness is 24-100 m. Suite is dated by foraminifers *Haplophragmium suprajurassicum* (Schwag.), *Bulbobaculites maynci, Alveosepta jaccardi, A. sequana, Marssonella doneziana, Discorbis speciosus, Paalzowella scalariformis* Dain, *Torinosuella peneropliformis* (Yabe et Hanzlik.)*, Trocholina transversarii, Paalzowella turbinella, Spirothalmidium dilatatum* (Paalz.), etc.

Opary suite (I.B. Vishnyakov, 1978) [Вишняков, 1978] – Kimmeridgian–Lower Berriassian. Northwest of Bilche-Volitsa zone. Suite is composed of two subsuites: lower (up to 450 m) – gray micritic, bioclastic, brecciated limestones with a sponge-algal bioherms (Kimmeridgian); and upper (400-1100 m) – light-colored biohermal limestones (coral, algal, etc), bioclastic, onkolitic, brecciated

(Tithonian–Lower Berriasian). Suite lies on Rudky or Boniv suites and is overlapped with erosion by Neogene. Age is determined by foraminifers *Mesoendothyra izjumiana* Dain*, Everticyclammina virguliana* (Henson), *Charentia compressa* (Cushm. et Glaz.), *Orbignyoides podolicus* (Cushm. et Glaz.)*, Alveosepta powersi* (Redm.)*, A. personata* (Tobler)*, Pseudocyclammina bukowiensis* Cushm. et Glaz., *P. sphaeroidalis* Hotting., *Rectocyclammina arrabidensis* Remalho*, Feurtillia frequens* Maync*, Anchispirocyclina lusitanica* (Egger)*, Melathrokerion spirialis* Gorb.*, Freixialina planispiralis* Remalho*, Quinqueloculina mitchurini* Dain*, Neotrocholina friburgensis* (Guill. et Reich.), *Palaeotextularia crimica* Gorb.*, Belorussiella taurica* Gorb., etc.

Morantsy suite (V.G. Dulub, 1995) [Дулуб, 1995] – Kimmeridgian. Northwest of Bilche-Volitsa zone. Interbedding of dark gray mudstones, mud limestones (micritic, pelletous) and limestone breccia. Suite conformly lies on Boniv suite and is overlain by Karolino suite or upper subsuite of Opary suite. Thickness is to 245-300 m. Suite is dated by foraminifers *Mesoendothyra izjumiana, Pseudocyclammina powersi* Redm.*, Conicospirillina basiliensis* Mohl.*, Spirillina polygyrata* Gumb.*, Alveosepta jaccardi, Haplophragmium coprolithiformis*, etc.

Pidluby suite (J.M. Sandler, 1962) [Сандлер, 1962] – Lower Kimmeridgian. Northwest of Bilche-Volitsa zone. Gray, cream, lime green pelletous, onkolitic limestones and dolomites with interlayers of gray mudstones at the bottom. It conformly lies on Rava-Russka or Rudky suites and is overlapped by Nyzhniv suite. Thickness is to 250 m. Suite is dated by foraminifers *Choffatella tingitana* Hott.*, Alveosepta personata, A. powersi, Torinosuella peneropliformis*, etc.

Rava-Ruska suite (V.I. Slavin, 1956) [Славин, 1956] – Lower Kimmeridgian. East periphery of Carpathian Foredeep and adjacent part of the platform. Suite consists of two subsuites. Lower subsuite (20-45 m) are represented by variegated mudstones, clays, siltstones, sandstones, gravellites, conglomerates, breccias, limestones, dolomites with interlayers and inclusions of gypsum and anhydrite; upper subsuite (200 m) – by gray dolomites, limestones, mudstones, anhydrites, gypsum, breccia. Suite lies on Gorodok or Rudky suites or eroded Paleozoic basement and is overlapped by Nyzhniv suite or the Cretaceous formations. Thickness is to 250 m. Suite is dated by foraminifers *Mesoendothyra izjumiana, Pseudocyclammina ukrainica* Dain*, P. parvula, Alveosepta powersi, A. personata, Choffatella tingitana, Torinosuella peneropliformis, Discorbis subspeciosus, Conicospirillina basiliensis, Labyrintina mirabilis* Weynch.*, Choffatella tingitana*, etc.

Nyzhniv suite (J.M. Sandler, 1962) [Сандлер, 1962] – Upper Kimmeridgian–Lower Tithonian. East periphery of Carpathian Foredeep and adjacent part of the platform. In lower part there are mottled conglomerate-breccia, above the light gray micritic and onkolitic limestones and dolomites interbedded with marls and dark gray mudstones. Suite lies on Pidluby or Rava-Russka suites, or on the eroded Paleozoic basement. It is overlapped by Bukivna suite or with erosion by deposits of Albian, Cenomanian or Neogene. Thickness up to 200 m. Suite is dated by mollusks *Corbula inflexa* Roem., *Exogyra virgula* Defr., *Pteroceras oceani* Brogn., algae – *Petrascula bursiformis* Gium. and foraminifers *Mesoendothyra izjumiana, Pseudospirocyclina maynci* Hott.*, P. mauretanica* Hott.*, Alveosepta personata, A. powersi, Haplophragmium coprolithiformis, Conicospirillina basiliensis, Anchispirocyclina lusitanica* (Egger)*, Pseudolamarkcina obliquicamerata* Dulub, etc.

Bukivna suite (V.I. Slavin, 1956) [Славин, 1956] – Upper Tithonian – Lower Berriasian. East periphery of Carpathian Foredeep and adjacent part of the platform. Light-colored bioclastic and oncolitic limestones, sometimes interbedded with limestone breccia. Suite lies on Nyzhniv suite and is overlapped by the Upper Berriasian or Cenomanian. Thickness is to 80 m. Suite is dated by mollusks *Corbula inflexa* Roem.*, Purpurina subnodosa* Roem., *Cerithium septemplicatum* Roem.*, Pleuromya jurassica* Brg.*, Anisocardia pulchella* Lor.*, A. parvula* Roem.*, A. legayi* Lor.*, Lucina substriata* Roem.*, Mytilus longaevis* Ctj.*, Avicula gessneri* Th.*, Hinnites velatus* Gdf.*, Exogyra virgula* Defr., *Nautilus geinitzi* Opp.*, Trochus betancourti* Lor.*, Turbo durki* Lor.*, Bulla cylindrella* Buv.*, Sphaenia saemanni* Lor.*, Anisocardia intermedia* Lor.*, Lucina verneri* Etal.*, Astarte saemanni* Lor.*, Opis portlandicus* Lor.*, Amonia suprajurensis* Roem.*, Nerinea constricta* Roem., *Nautilus geinitzi* Opp., brachiopods *Terebratula subsella* Leym.*, Waldheimia pentagonalis* Br.*,* serpulids *Serpula conformis* Gdlf.*, S. subflaccida* Rtal.*,* algae *Petrascula bursiformis*, foraminifers *Anchispirocyclina lusitanica, Feurtillia frequens, Freixialina planispiralis, Melathrokerion spirialis, Belorussiella taurica* Gorb.*, T. burlini* Gorb.*, T. molesta* Gorb., etc.

Karolina suite (V.G. Dulub, 1995) [Дулуб, 1995] – Tithonian – Lower Valanginian. Northwest of Bilche-Volitsa zone. Two subsuites: Lower (Tithonian–Lower Berriasian) is represented by limestones, limestone breccia, mudstones, sandstones

with glauconite (up to 430 m), Upper (Upper Berriasian–Lower Valanginian) is represented by interbedding of limestones and mudstones (up to 200 m). Suite lies on Morantsy suite, and is overlapped with erosion by Neogene formations. Suite is dated by tintinnids *Longicollaria dobeni* (Borza), *Crassicollaria brevis* Remane, *C. intermedia* Durand Delga, C. *massutiniana* (Colom), *C. parvula* Remane, *Calpionella alpina, C. grandalpina* Nagy, *C. elliptalpina* Nagy, *C. elliptica* Cadish, *Remaniella ferasini* Catalano, *R. cadishiana* (Colom), *Tintinnopsella longa* (Colom), *T. remanei* Borza, *T. doliphormis* (Colom), *Calpionellopsis oblonga* (Cadish), *C. simplex* (Colom), *Calpionellites coronata* Trejo and foraminifers – *Pseudocyclammina bukowiensis, Anchispirocyclina lusitanica, Freixialina planispiralis, Protopeneroplis striata* Weynsh., *Mesoendothyra izjumiana, Feurtillia frequens, Melathrokerion spirialis, Belorussiella taurica, Palaeotextularia crimica, Trocholina burlini, T. molesta, Neotrocholina friburgensis, N. vasserodi* Guill., *N. valdensis* Reich., *N. infragranulata* Noth, *Marsonella oxycona* (Reuss), *M. pseudocostata*, *Quinqueloculina triola* Macieva et Temirbek., *Moesiloculina danubiana* (Neagu), *Scythiloculina confusa* Neagu, *Spiroloculina speciosa* Macieva et Temirbek., etc.

Kovel Ledge of the East-European platform basement. In the Northwestern Ukraine, in the area of the Shatsk Lakes the Middle–Upper Jurassic deposits were opened by wells. There were distinguished Svityaz and Shatsk suites [Гаврилишин, 1993].

Svityaz suite (V.I. Havrylyshyn, 1993) [Гаврилишин, 1993] – Bathonian–Callovian. Northwestern part of Volyn and Southwestern Bielorussian. At the bottom there are gray lake-marsh silty and sandy muds with coalified fitodetrit and fragments of stems, above – gray clayey quartz sands with glauconite and small shelly detritus. Suite lies on the Proterozoic and is overlain by Shatsk suite. Thickness is 10-40 m and more. Suite is dated by palynomorphs *Classopollis classoides* Pflug., *Scidopityspollenites macroverrucosus* (Their.), etc. (Дулуб и др., 2003).

Shatsk suite (V.I. Havrylyshyn, 1993) [Гаврилишин, 1993] – Callovian–Oxfordian. Southwestern part of Bielorussian and northwestern part of Volyn. Gray calcareous sandstones with organogenic detritus transformed into bioclastic sandy limestones with oolites. It lies on the Svityaz suite, and with erosion are overlapped by the Cretaceous. Thickness is 15-20 m. Suite is dated by bivalves – *Trigonia recticostata* Lycet, *T. bronni* Agassis, *T. densicostata* Roeder, gastropods *Pleurotomaria thoetensis* Heb. et Desl., etc.

Conclusions. In this paper the Generalized Correlative Scheme of Stratigraphy of Jurassic of the Western Ukraine is represented. The current stratigraphic scheme [Стратиграфія ..., 2014] was supplemented and detalized according to modern data, analisys and re-interpretation of many-years investigations Jurassic deposits by different specialists. The characteristics of stratigraphic units: distribution, lithological and paleontological composition, position in section, thicknesses and criteria for dating are given.

The most complete and precise sequence of the Jurassic stages is determined on the territory of Carpathian Foredeep and adjacent part of the East European platform. In other regions these deposits are present fragmentarily. The stratigraphic units are mainly dated by the complexes of macro- and microfossils. In Precarpathians the Lower Jurassic are dated by palynocomplexes, Middle Jurassic – by mollusks, foraminifers and palynocomplexes, Upper Jurassic – by foraminifers, mollusks and tintinnids. In Carpathians the Jurassic rocks are predominantly tectonic blocks and olistoliths occurring in the thicknesses of Cretaceous age. Here the primary sequence of stratons was determined. In Carpathians the Lower and Middle Jurassic are dated by ammonites and belemnites and Upper Jurassic – by ammonites, tintinnids and dinocysts. Now the stage division of Jurassic in the basement of Transcarpathian Deep is not determined. There the distinguished strata are dated by age of mollusks, radiolarians and tintinnids. Correlation of the Jurassic stratigraphic units of the Western Ukraine is done.

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