

# Phanerozoic Zonations of Russian Basins

Based on Chart series by T. Koren' et al., 2006

Russian names have been transliterated or translated; and the period-by-period chart sets merged into Cenoz., Mesoz., Lt. Paleoz., and E. Paleoz. Super-directories

REFERENCES on Columns (see Koren' et al. 2006 for full reference)

## Russian Cenozoic

### International and Russian Standards (Cenozoic)

#### Cenozoic Microfossil Standards (as shown on Russian chart)

- Planktonic Foraminifers (Tethyan; Cenoz.)
  - Planktonic Foram zone (Tethyan; Cenoz.)
  - Planktonic Foram subzone
  - Planktonic Foram zone name (Tethyan; Cenoz.)
  - Planktonic Foram subzone name (Tethyan; Cenoz.)
- Calcareous Nannofossils (Cenozoic)
  - Martini nanno zone
  - Martini nanno zone name
  - Bukry nanno zone (Paleogene)
  - Bukry nanno subzone
  - Bukry nanno zone name
  - Bukry nanno subzone name

Mainly from Gradstein et al., eds., 2004

Bolli, Sanders, 1985; Krashennnikov et al., 1999; Berggren, Miller, 1988; Berggren et al., 1995  
 Bolli, Sanders, 1985; Krashennnikov et al., 1999; Berggren, Miller, 1988; Berggren et al., 1995  
 Bolli, Sanders, 1985; Krashennnikov et al., 1999; Berggren, Miller, 1988; Berggren et al., 1995  
 Bolli, Sanders, 1985; Krashennnikov et al., 1999; Berggren, Miller, 1988; Berggren et al., 1995  
 Bolli, Sanders, 1985; Krashennnikov et al., 1999; Berggren, Miller, 1988; Berggren et al., 1995

Martini, 1971; Berggren et al., 1995

Martini, 1971; Berggren et al., 1995

Bukry, 1973, 1975

Bukry, 1973, 1975

Bukry, 1973, 1975

Bukry, 1973, 1975

#### Diatoms (Neogene) -- North Pacific

- Diatom zone (N.Pacific)
- Diatom subzone (N.Pacific)
- Diatom datum

Barron, Gladenkov, 1995; Gladenkov, Barron, 1995; Gladenkov, 1998  
 Barron, Gladenkov, 1995; Gladenkov, Barron, 1995; Gladenkov, 1998  
 Barron, Gladenkov, 1995; Gladenkov, Barron, 1995; Gladenkov, 1998  
 Barron, Gladenkov, 1995; Gladenkov, Barron, 1995; Gladenkov, 1998

#### Russian Paleogene -- Standard Biostratigraphic Zones

- Planktonic Foraminifers (Russian Paleogene)
  - Planktonic Foram zones (Russian Paleogene)
  - Planktonic Foram subzones (Russian Paleogene)
- Benthic Foraminifers (Russian Paleogene)
  - Benthic Foram zones (Russian Paleogene)
  - Benthic Foram subzones (Russian Paleogene)
- Calcareous Nannofossils (Russian Paleogene)
  - Nanno zones (Russian Paleogene)
  - Nanno subzones (Russian Paleogene)
- Dinocysts (Russian Paleogene)
  - Dino zones (Russian Paleogene)
  - Dino subzones (Russian Paleogene)
- Radiolarians (Russian Paleogene)
  - Radiolarian zones (Russian Paleogene)
- Diatoms (Russian Paleogene)
  - Diatom zones (Russian Paleogene)
  - Diatom subzones (Russian Paleogene)
- Silicoflagellates (Russian Paleogene)
  - Silicoflagellate zones (Russian Paleogene)
- Spores and Pollen (Russian Paleogene)

Resolutions MCK ... 1989, 2002 (with modifications)

Resolutions MCK ... 1989, 2002 (with modifications)

Resolutions MCK ... 1989, 2002 (with modifications)

E. M. Bugrova, 2005

E. M. Bugrova, 2005

E. M. Bugrova, 2005

Resolutions MCK ... 1989, 2002 (with modifications)

Resolutions MCK ... 1989, 2002 (with modifications)

Resolutions MCK ... 1989, 2002 (with modifications)

Andreyeva - Grigorovich, 1991; Zaporozhete, 1999; Alexandrova, 2001

Andreyeva - Grigorovich, 1991; Zaporozhete, 1999; Alexandrova, 2001

Andreyeva - Grigorovich, 1991; Zaporozhete, 1999; Alexandrova, 2001

Kozlova, 1999, 2003\*, 2004\*\*

Kozlova, 1999, 2003\*, 2004\*\*

Z. I. Glezer, 2005

Z. I. Glezer, 2005

Z. I. Glezer, 2005

Z. I. Glezer, 2005

Z. I. Glezer, 2005

Panova, Zaporozhets, 2003\*

Spore-Pollen zones (Russian Paleogene)	<i>Panova, Zaporozhets, 2003*</i>
Spore-Pollen subzones (Russian Paleogene)	<i>Panova, Zaporozhets, 2003*</i>
<b>Central Russia -- Biostratigraphic zones (Paleogene)</b>	<i>Decisions MCK ..., 1989, 2002</i>
Planktonic Foraminifers (Central Russia; Paleogene)	<i>Decisions MCK ..., 1989, 2002</i>
Planktonic Foram zone (Central Russia; Paleog.)	<i>Decisions MCK ..., 1989, 2002</i>
Planktonic Foram subzone (Central Russia; Paleog.)	<i>Decisions MCK ..., 1989, 2002</i>
Calcareous Nannofossils (Central Russia; Paleogene)	<i>Decisions MCK ..., 1989, 2002</i>
Nanno zone (Central Russia; Paleog.)	<i>Decisions MCK ..., 1989, 2002</i>
Nanno subzone (Central Russia; Paleog.)	<i>Decisions MCK ..., 1989, 2002</i>
<b>European and SW Russia (Cenoz.)</b>	
<b>North Caucasus and Precaucasus (Cenozoic)</b>	
N. Caucasus stages	<i>Layer (N. Caucasus)</i>
Suite (N. Caucasus)	
Superstage (N. Caucasus)	
Regional stage (N. Caucasus)	
Substage (N. Caucasus)	
Layer (N. Caucasus)	
Mollusks (N. Caucasus; Neogene)	<i>S.V. popv, L.A. nevenskian, I. A. Goncharova, 2005</i>
Mollusks in West part (N. Caucasus)	<i>S.V. popv, L.A. nevenskian, I. A. Goncharova, 2005</i>
Mollusks in Central part (N. Caucasus)	<i>S.V. popv, L.A. nevenskian, I. A. Goncharova, 2005</i>
Mollusks in East part (N. Caucasus)	<i>S.V. popv, L.A. nevenskian, I. A. Goncharova, 2005</i>
Planktonic Foraminifers (N. Caucasus; Paleogene)	<i>Shchutskian, 1970; Krasheninnikov, 1975; E. M. Bugrova, 2005</i>
Planktonic Foram zone (N. Caucasus)	<i>Shchutskian, 1970; Krasheninnikov, 1975; E. M. Bugrova, 2005</i>
Planktonic Foram subzone (N. Caucasus)	<i>Shchutskian, 1970; Krasheninnikov, 1975; E. M. Bugrova, 2005</i>
Benthic foraminifers (N. Caucasus)	<i>NEOGENE = Pinchuk, 1998; Practical guidance..., 2005; PALEOGENE = Ter - Grigoryants, 1977; E. M. Bugrova, 2005</i>
Benthic foraminifer zones (N. Caucasus)	<i>NEOGENE = Pinchuk, 1998; Practical guidance..., 2005; PALEOGENE = Ter - Grigoryants, 1977; E. M. Bugrova, 2005</i>
Benthic Foram subzone (N. Caucasus; Paleogene)	<i>Ter - Grigoryants, 1977; E. M. Bugrova, 2005</i>
Large Foraminifers (N. Caucasus; Paleogene)	<i>E. U. Zakrevskian, 2005</i>
Large foram zone (Caucasus)	<i>E. U. Zakrevskian, 2005</i>
Calcareous Nannofossils (N. Caucasus; Paleogene)	<i>Muzylev, 1980; Shcherbinina, 2003*; I. P. Tabachnikova, 2005</i>
Nanno zone (Caucasus)	<i>Muzylev, 1980; Shcherbinina, 2003*; I. P. Tabachnikova, 2005</i>
Nanno subzone (Caucasus)	<i>Muzylev, 1980; Shcherbinina, 2003*; I. P. Tabachnikova, 2005</i>
Ostracods (N. Caucasus)	<i>NEOGENE = L. V. Buryndina, E.A. Bondar, 2005; PALEOGENE = I. A. Nikolayeva, 2005</i>
Black sea basin (Neogene)	<i>L. V. Buryndina, E.A. Bondar, 2005</i>
Caspian sea basin (Neogene)	<i>L. V. Buryndina, E.A. Bondar, 2005</i>
Ostracod zone (N. Caucasus; Paleogene)	<i>I. A. Nikolayeva, 2005</i>
Ostracod subzone (N. Caucasus; Paleogene)	<i>I. A. Nikolayeva, 2005</i>
Dinocysts (N. Caucasus; Paleogene)	<i>Andreyeva - Grigorovich, 1991; Zaporozheth, 1999</i>
Dinocyst zone (Caucasus)	<i>Andreyeva - Grigorovich, 1991; Zaporozheth, 1999</i>
Dinocyst subzone (Caucasus)	<i>Andreyeva - Grigorovich, 1991; Zaporozheth, 1999</i>
Spores and Pollen (N. Caucasus; Paleogene)	<i>Panova, 1991; Panova, Zaporozheth, 2003*</i>
Spore-Pollen zone (Caucasus)	<i>Panova, 1991; Panova, Zaporozheth, 2003*</i>
Spore-Pollen subzone (Caucasus)	<i>Panova, 1991; Panova, Zaporozheth, 2003*</i>
<b>Don basin (SE part; Paleogene)</b>	
Don Basin Stage [Horizon]	

Don Stage [Horizon]	
Planktonic Foraminifers (Don)	<i>E.M. Bugrova, 2005</i>
Planktonic Foram zone (Don)	<i>E.M. Bugrova, 2005</i>
Benthic Foraminifers (Don)	<i>Nikitina, 1972; E.M. Bugrova, 2005</i>
Benthic Foram zone (Don)	<i>Nikitina, 1972; E.M. Bugrova, 2005</i>
Benthic Foram subzone (Don)	<i>Nikitina, 1972; E.M. Bugrova, 2005</i>
Calcareous Nannofossils (Don)	<i>I.P. Tabachnikova, 2005</i>
Nanno zone (Don)	<i>I.P. Tabachnikova, 2005</i>
Radiolarians (Don)	<i>Kozlova, 2003; OSTRACOD -- I.A. Nikolayeva, 2005</i>
Radiolarian zone (Don)	<i>Kozlova, 2003; OSTRACOD -- I.A. Nikolayeva, 2005</i>
Diatoms (Don)	<i>Radionova, 2003</i>
Diatom zone (Don)	<i>Radionova, 2003</i>
Dinocysts (Don)	<i>Zaporozhets, 2001, 2003*</i>
Dinocyst zone (Don)	<i>Zaporozhets, 2001, 2003*</i>
Spores and Pollen (Don)	<i>Zaporozhets, 2003*</i>
Spore-Pollen zone (Don)	<i>Zaporozhets, 2003*</i>
<b>North Caspian basin (Paleogene) -- (I) Northwest of Pre-Caspian lowland, (II) Lower Volga, (III) Upper Volga (III) [NEED TRANSLATION]</b>	
Caspian-Volga Stages [Horizon]	
Caspian Stage [Horizon]	
Lower Volga Stage [Horizon]	
Upper Volga Stage [Horizon]	
Planktonic Foraminifers (Caspian-Volga)	<i>Shutskian, 1960; E.M. Bugrova, 2005</i>
Planktonic foram zones (Caspian-Volga)	<i>Shutskian, 1960; E.M. Bugrova, 2005</i>
Benthic Foraminifers (Caspian-Volga)	<i>E.M. Bugrova, 2005</i>
Benthic foram zones (Caspian-Volga)	<i>E.M. Bugrova, 2005</i>
Benthic foram subzones (Caspian-Volga)	<i>E.M. Bugrova, 2005</i>
Large Foraminifers (Caspian-Volga)	<i>E. Yu. Zakrevskian, 2005; OSTRACODS: Nicolayeva, 2005</i>
Large Foraminifer zones (Caspian-Volga)	<i>E. Yu. Zakrevskian, 2005; OSTRACODS: Nicolayeva, 2005</i>
Calcareous Nannoplankton (Caspian-Volga)	<i>I.P. Tabachnikova, 2005</i>
Nanno zones (Caspian-Volga)	<i>I.P. Tabachnikova, 2005</i>
Dinocysts (Caspian-Volga)	<i>Zaporozhets, 1998b; Alexandrova, 2001</i>
Dinocyst zones (Caspian-Volga)	<i>Zaporozhets, 1998b; Alexandrova, 2001</i>
Dinocyst additional zones (Caspian-Volga)	<i>Zaporozhets, 1998b; Alexandrova, 2001</i>
Radiolarians (Caspian-Volga)	<i>Kozlova, 1999, 2003*, 2004**</i>
Radiolarian zones (Caspian-Volga)	<i>Kozlova, 1999, 2003*, 2004**</i>
Diatoms (Caspian-Volga)	<i>Z.I. Glezer, 2005</i>
Diatom zones (Caspian-Volga)	<i>Z.I. Glezer, 2005</i>
Diatom subzones (Caspian-Volga)	<i>Z.I. Glezer, 2005</i>
Silicoflagellates (Caspian-Volga)	<i>Z.I. Glezer, 2005</i>
Silicoflagellate zones (Caspian-Volga)	<i>Z.I. Glezer, 2005</i>
Spores and Pollen (Caspian-Volga)	<i>Zaporozhets, 2003*</i>
Spore-Pollen zones (Caspian-Volga)	<i>Zaporozhets, 2003*</i>
<b>East-European Platform (EEP; Central part -- Voronezh anticline) (Paleogene)</b>	
EEP Regional units (Paleogene)	
EEP Series (Paleogene)	
EEP Stage [Horizon] (Paleogene)	

EEP Substage [SubHorizon] (Paleogene)	
Planktonic Foraminifers (EEP; Paleogene)	<i>E.M. Bugrova, 2005</i>
Planktonic foram zones (EEP; Paleogene)	<i>E.M. Bugrova, 2005</i>
Benthic Foraminifers (EEP; Paleogene)	<i>E.M. Bugrova, 2005</i>
Benthic foram zones (EEP; Paleogene)	<i>E.M. Bugrova, 2005</i>
Calcareous Nannofossils (EEP; Paleogene)	<i>I.P. Tabachnikova, 2005</i>
Nanno zones (EEP; Paleogene)	<i>I.P. Tabachnikova, 2005</i>
Dinocysts (EEP; Paleogene)	<i>Zaporozhets, 2001</i>
Dinocyst zones (EEP; Paleogene)	<i>Zaporozhets, 2001</i>
Radiolarians (EEP; Paleogene)	<i>Kozlova, 1999, 2003*, 2004**</i>
Radiolarian (EEP; Paleogene)	<i>Kozlova, 1999, 2003*, 2004**</i>
Diatoms (EEP; Paleogene)	<i>Z.I. Glezer, 2005</i>
Diatom zones (EEP; Paleogene)	<i>Z.I. Glezer, 2005</i>
Diatom subzones (EEP; Paleogene)	<i>Z.I. Glezer, 2005</i>
Silicoflagelates (EEP; Paleogene)	<i>Z.I. Glezer, 2005</i>
Silicoflagellate zones (EEP; Paleogene)	<i>Z.I. Glezer, 2005</i>
Spores and Pollen (EEP; Paleogene)	<i>Saporozhets, 2003*</i>
Spore-Pollen zones (EEP; Paleogene)	<i>Saporozhets, 2003*</i>
Spore-Pollen subzones (EEP; Paleogene)	<i>Saporozhets, 2003*</i>
<b>Siberian Basin and Platform (Paleogene)</b>	
<b>West Siberian Plain (Paleogene)</b>	
Siberian Regional units (Paleogene)	
Siberian Stage [Horizon] (Paleogene)	
Siberian Substage [Subhorizon] (Paleogene)	
Dinocysts (Siberia; Paleogene)	<i>Kulkova, Vasilieva, Iakovleva et al. 2001; Iakovleva, Kulkova, 2003</i>
Dinocyst zones (Siberia; Paleogene)	<i>Kulkova, Vasilieva, Iakovleva et al. 2001; Iakovleva, Kulkova, 2003</i>
Radiolarians (Siberia; Paleogene)	<i>Kozlova, 1999, 2001***</i>
Radiolarian zones (Siberia; Paleogene)	<i>Kozlova, 1999, 2001***</i>
Radiolarian subzones (Siberia; Paleogene)	<i>Kozlova, 1999, 2001***</i>
Diatoms (Siberia; Paleogene)	<i>Z.I. Glezer, 2005</i>
Diatom zones (Siberia; Paleogene)	<i>Z.I. Glezer, 2005</i>
Diatom subzones (Siberia; Paleogene)	<i>Z.I. Glezer, 2005</i>
Silicoflagellates (Siberia; Paleogene)	<i>Z.I. Glezer, 2005</i>
Silicoflagellate zones (Siberia; Paleogene)	<i>Z.I. Glezer, 2005</i>
Spores and Pollen (Siberia; Paleogene)	<i>Panova, 1991, 2001***</i>
Spores-Pollen zones (Siberia; Paleogene)	<i>Panova, 1991, 2001***</i>
Shark's teeth (Siberia; Paleogene)	
Shark's teeth zones (Siberia; Paleogene)	<i>Zhelezko, 1999</i>
<b>Far Southeast Russia (Neogene)</b>	
<b>Primorye (Neogene)</b>	<i>Primorie (Continental slope of Japan sea). Stratigraphic columns by Tsoy, Shastina, 1999</i>
Primorye Suite [Horizon] (Neogene)	<i>Tsoy, Shastina, 1999</i>
Diatoms (Primorye; Neogene)	<i>Tsoy, Shastina, 1999</i>
Radiolarians (Primorye; Neogene)	<i>Tsoy, Shastina, 1999</i>
<b>Sakhalin (Neogene)</b>	<i>Resolution..., 1998</i>
Sakhalin Stage [Horizon] (Neogene)	
Sakhalin Substage [Sub-Horizon] (Neogene)	

Diatoms (Sakhalin; Neogene)  
 Diatom subzone (Sakhalin; Neogene)  
**Far Northeast Russia (Cenozoic)**  
**Koryak region (Paleogene)**  
 Koryak regional stage [Horizon] (Neogene)  
 Diatoms (Koryak; Neogene)  
**Kamchatka - western part (Neogene)**  
 W. Kamchatka Stage [Horizon]  
 Diatoms (W.Kamchatka)  
 Benthic Foraminifers (W.Kamchatka)  
 Benthic Foraminifer subzone (W.Kamchatka)  
**Kamchatka - eastern part (Cenozoic)**  
 E. Kamchatka Stage [Horizon]  
 Diatoms (E.Kamchatka; Neogene)  
 Planktonic foraminifers (E.Kamchatka; Cenozoic)  
 Benthic foraminifers (E.Kamchatka; Cenozoic)

*Resolution...*, 1998  
*Resolution...*, 1998  
*Koryakian ridge is where Kamchatka connects to Siberia; Neogene stratigraphic summary by Reshenia ....*, 1998  
*Reshenia ....*, 1998  
*Reshenia ....*, 1998  
*Resolutions...*, 1998  
*Resolutions...*, 1998  
*Resolutions...*, 1998  
*T.V. Dmitriyeva*, 2005  
*T.V. Dmitriyeva*, 2005  
*Resolutions...*, 1998  
*Resolutions...*, 1998  
*Resolutions...*, 1998  
*Beniamovskian in Beniamovskian, Fregatova*, 1992  
*Fregatova in Foraminifers of Cainozae*, 2005

## Russian Mesozoic

### International and Russian Standards (Mesozoic)

#### Cretaceous Biostrat Standards (Russian version)

Cretaceous Ammonite Standard  
 Ammonites -- Russian standard zones  
 Ammonites -- Russian standard subzones  
 Cretaceous Microfossil Standards  
 Planktonic Foraminifers (Tethyan; Cret.)  
 Calcareous Nannofossils (Tethyan; Cret.)  
 CC subzone (Cret.)  
 Calcareous Nannofossils (Oceanic; Cret.)

*Cretaceous Microfossil Standards*  
*Zones are from Russian chart (2006) which referenced: Olferev, Aleksev, 2002; Hoedemaeker et al., 2003*  
*Zones are from Russian chart (2006) which referenced: Olferev, Aleksev, 2002; Hoedemaeker et al., 2003*  
*Leymeriella tardefurcata*  
*Caron, 1985; Robaszynski, Caron, 1995*  
*Perch-Nielsen, 1985*  
*Perch-Nielsen, 1985*  
*Roth, 1995*

#### Boreal microfossil standard (mixed groups; Cret.)

Boreal microfossil zones (Cret.)  
 Boreal microfossil alternate zones (Cret.)

*Zakharov et al., 1997; Baraboshkin, 2004*  
*Zakharov et al., 1997; Baraboshkin, 2004*  
*Zakharov et al., 1997; Baraboshkin, 2004*  
*Biostratigraphie du Jurassique Ouest-Europeen et Mediterraneeen, 1997; The Jurassic of Denmark and Greenland, 2003*  
*Biostratigraphie du Jurassique Ouest-Europeen et Mediterraneeen, 1997; The Jurassic of Denmark and Greenland, 2003*  
*I.I. Sey, E.D. Kalacheva, Yu.S. Repin, 2005*  
*I.I. Sey, E.D. Kalacheva, Yu.S. Repin, 2005*  
*Krystyn in Zapfe, 1983; Krystyn, 1987; ETC ETC*

#### Standard Ammonite Zone (Jur.)

Stand. Ammon. Zones (Jur.)

#### Ammonites [Boreal standard; Jur.]

Boreal Standard Zones

#### Russian Tethyan Ammonoids (Tri.)

Standard Ammonoid Zone (Tethyan; Tri.)  
 Standard Ammonoid Subzone (Tethyan; Tri.)

#### Standard Ammonoid Zone (Boreal; Tri.)

Standard Zone (Boreal; Tri.)  
 Standard Ammonoid Subzone (Boreal; Tri.)  
 Standard Ammonoid Sub-subzone (Boreal; Tri.)

*Tozer, 1994*  
*Tozer, 1994*  
*Tozer, 1994*  
*Tozer, 1994*

**European and SW Russia (Mesoz.)**

**N. Caucasus (Mesoz.)**

- N. Caucasus Stage [Horizon] (Mesoz.)
  - N. Caucasus Series (Tri.)
  - N. Caucasus regional [Horizon] (Mesoz)
- Ammonite-Belemnite scheme of Cret. (N. Caucasus)
  - Ammonite-Belemnite zones (N. Caucasus; Cret.)
  - Ammonite subzone (N. Caucasus; Cret.)
- Ammonoids (N. Caucasus; Jur-Tri)
- Echinoderms (N. Caucasus; Cret.)
  - Echinoderm zones (N. Caucasus)
- Pelecypods (N. Caucasus; Meso.)
  - Pelecypod zones (N. Caucasus; Mesoz.)
- Brachiopods (N. Caucasus; E.Cret.)
  - Brachiopod zones (N. Caucasus) -- E.Cret.
  - Brachiopod subzones (N. Caucasus) -- E.Cret.
- Planktonic Foraminifers (N. Caucasus; Cret.)
  - Planktonic Foram zone (N. Caucasus; Cret.)
  - Planktonic Foram subzone (N. Caucasus; Cret.)
- Benthic Foraminifers (N. Caucasus; Meso.)
  - Benthic Foram zone (N. Caucasus; Mesoz.)
  - Benthic Foram subzone (N. Caucasus; Mesoz.)

*Regional biostratigraphic subdivisions of the Tethys region (zones, layers with faunas)*

*JUR = The Jurassic Ammonite Zones of the Soviet Union, 1998 (edited by G. Ya. Krymholts, M.S. Mesezhnikov, and G.E.G. Westermann). GSA V Series: Spec. Paper, 116 pp.; AND Jurassic of the Caucasus, 1992.; TRI = Shevyrev, 1995, 1996*

*TRI = Atlas of Important ..., 2004  
TRI = Atlas of Important ..., 2004*

*JUR = Makar'eva, Matsieva, 1985; Practical Manual ..., 1991; TRI = Yefimova, 1991; V.Ya. Vuks, 2005*

*JUR = Makar'eva, Matsieva, 1985; Practical Manual ..., 1991; TRI = Yefimova, 1991; V.Ya. Vuks, 2005*

**Precaucasus (Tri.)**

- Precaucasus Suite (Trias.)
- Ammonoids (Precaucasus; Tri.)
- Pelecypods (Bivalves) (Precaucasus; Tri.)
- Benthic Foraminifers (Precaucasus; Tri.)
- Conodonts (Precaucasus; Tri.)

*Atlas of importanta..., 2004  
I.I. Sey, E.D. Kalacheva, Yu.S. Repin, 2005  
Yetimova, 1991; Vuks, 2000  
Pyatakova et al., 1983; Gavnilova 1994*

*Unified Stratigraphic Scheme ..., 1993; Resolutions of MSK ..., 1997, 2001.*

**East-European Platform (Mesoz.)**

- EEP Stage [Horizon] (Jur-Cret.)
  - EEP Series (Super-Horizon)
  - EEP regional [Horizon]
- Ammonites (EEP; Jur-Cret.)
  - Ammonite zones (EEP; Jur-Cret.)
  - Ammonite subzones (EEP; Jur-Cret.)
- Belemnites, Molluscs and Echinoderms (EEP; Cret..)
  - Belemnite, Mollusc and Echinoderm zones (EEP)
  - Belemnite superzones (EEP)
  - Belemnites (EEP; Jur..)
  - Pelecypods (Bivalves) (EEP; Jur..)
- Planktonic Foraminifers (EEP; Cret.)
  - Planktonic Foram zone (EEP)
  - Benthic Foraminifers (EEP; Jur.)

*Olferev, Aleksev, 2003*

*CRET = Olferev, Aleksev, 2003; JUR = Unified Stratigraphic Scheme ..., 1993; Resolutions of MSK ..., 1997, 2001.  
Olferev, Aleksev, 2003*

*Unified Stratigraphic Scheme ..., 1993; Resolutions of MSK ..., 1997, 2001.*

*Unified Stratigraphic Scheme ..., 1993; Resolutions of MSK ..., 1997, 2001.*

*Unified Stratigraphic Scheme ..., 1993; Resolutions of MSK ..., 1997, 2001.*

Calcareous Nannoplankton (EEP; Cret.)	<i>M.N. Ovechkina, 2005</i>
Nannoplankton zone (EEP)	<i>M.N. Ovechkina, 2005</i>
Dinoflagellate cysts (EEP; Jur.)	<i>Unified Stratigraphic Scheme ..., 1993; Resolutions of MSK ..., 1997, 2001.</i>
<b>West Urals and West Arctic (Mesoz.)</b>	
<b>Timan-Pechora basin (Jur.)</b>	
Timan-Pechora basin Stage (Suite) (Jur.)	
Ammonites (Timan-Pechora; Jur.)	<i>Mesezhnikov, 1984; Mesezhnikov et al, 1989; Meledina, 1994; Repin, 2002</i>
Benthic Foraminifers (Timan-Pechora; Jur.)	<i>Unified Stratigraphic Scheme ..., 1993.</i>
Benthic Forams (Timan-Pechora) -- parallel zones (U.Jur.)	<i>Unified Stratigraphic Scheme ..., 1993.</i>
<b>Eastern Barents Sea -- Franz-Joseph Land (Jur-Tri)</b>	
Franz-Joseph Stage (Horizon)	
Ammonites (Franz-Joseph)	<i>Chulgina, Brudikina, 1992; Repin, 1999a</i>
Benthic Foraminifers (Franz-Joseph)	<i>JUR = Barents Sea Shelf Plate, 1988; TRI = Kasatkina, 1989</i>
<b>Kotelniy Island (Arctic; Tri.)</b>	
Benthic Forams (Kotelnian)	<i>Kasatkina, 1989</i>
<b>Siberian Basin and Platform (Mesoz.)</b>	
<b>West Siberia (Mesoz.)</b>	
W. Siberia †:	
West Siberia regional [Horizon]	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Ammonites (W. Siberia; Jur-Cret)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Ammonite zones (West Siberia)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Ammonite subzones (West Siberia)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Ammonite -- Other zones (W. Siberia; Jur.)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Belemnites (W. Siberia; Jur-Cret)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Belemnite zones (West Siberia)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Pelecypods (W. Siberia; Jur-Cret)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Pelecypod zones (West Siberia)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Pelecypod alternate zones (West Siberia)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Ostracods (W. Siberia; Jur.)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
W. Siberia ostracodes	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Benthic Foraminifers (W. Siberia; Jur-Cret)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Benthic Foraminifer zones (West Siberia)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Benthic Foraminifer alternate zones (West Siberia)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Benthic Foraminifer alternate zone 2 (West Siberia)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Dinoflagellates (W. Siberia; Jur.)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
W. Siberia dinocysts	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Radiolarians (W. Siberia; Cret.)	
Radiolarian zones (West Siberia)	
<b>East Siberia (NE Russia) (Mesoz.)</b>	
E. Siberia Stage [Horizon] (Tri)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Siberia Series (Super-Horizon) (Tri.)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Siberia Stage (Horizon) (Tri)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Siberia Substage (Sub-Horizon) (Tri.)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Conodonts (E. Siberia; Tri.)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Conodont zone (Siberia; Tri.)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Conodont subzone (Siberia; Tri.)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>

Ammonoids (E. Siberia; Mesoz.)	<i>CRET = Yazykova, 2004; JUR = Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000; TRI = Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Ammonite zones (NE Russia; Mesoz.)	<i>CRET = Yazykova, 2004; JUR = Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000; TRI = Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Ammonite super- or subzone (NE Russia)	<i>CRET = Yazykova, 2004; JUR = Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000; TRI = Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Ammonite alternate zones (NE Russia)	<i>Yazykova, 2004</i>
Turrilites zone (NE Russia)	<i>Yazykova, 2004</i>
Nautiloid Zone (Siberia)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Nautiloid Subzone (Siberia)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Belemnites (E. Siberia; Jur-Cret)	
Belemnite zones (East Siberia)	
Pelecypods (Bivalves, Inoceramids) (W. Siberia; Mesoz.)	<i>CRET = Zonova, 2005; JUR = Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Inoceramid zones (NE Russia)	<i>Zonova, 2005</i>
Inoceramid alternate zones (NE Russia)	<i>Zonova, 2005</i>
Pelecypod zones (East Siberia)	<i>CRET = Zonova, 2005; JUR = Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000; TRI = Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Pelecypod Subzone (Siberia; Tri.)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Pelecypod Sub-subzone (Siberia; Tri.)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Pelecypod superzone (East Siberia)	
Bivalves (E. Siberia) - parallel zones (M.Jur.)	
Brachiopods (E. Siberia; Tri)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Brachiopod zone (Siberia; Tri.)	<i>Regional Stratigraphic Scheme ..., 2002; Resolutions MCK ..., 2003</i>
Ostracods (E. Siberia; E. Jur.)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
E. Siberia Ostracod zones (E. Jur.)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Benthic Foraminifers (E. Siberia; Mesoz.)	<i>JUR = Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000; TRI = Stratigraphy of Gas- and Oil-Bearing ..., 2002</i>
Benthic Foram zones (E. Siberia; Mesoz.)	<i>JUR = Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000; TRI = Stratigraphy of Gas- and Oil-Bearing ..., 2002</i>
Benthic Forams (E. Siberia) -- Trochammina zones	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Benthic Forams E. Siberia -- other zone	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Radiolarians (W. Siberia; Cret.)	<i>Vishnevskian, 2001</i>
Radiolarian zones (NE Russia)	<i>Vishnevskian, 2001</i>
Dinoflagellates (W. Siberia; Jur.)	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
E. Siberia DinocystZones	<i>Regional stratigraphic schemes ..., 2004; Stratigraphy of Oil-Bearing ..., 2000</i>
Dinocysts (E. Siberia) -- parallel zones (E.Jur.)	
<b>Northeast Russia (Jur.)</b>	<i>Regional stratigraphic scheme ..., 2003; Resolutions of MSK ..., 2003</i>
NE Russia Stages (Horizons) (Jur.)	<i>Regional stratigraphic scheme ..., 2003; Resolutions of MSK ..., 2003</i>
Ammonites (NE Russia; Jur.)	<i>Regional stratigraphic scheme ..., 2003; Resolutions of MSK ..., 2003</i>
Belemnites (NE Russia; Jur.)	<i>Regional stratigraphic scheme ..., 2003; Resolutions of MSK ..., 2003</i>
Pelecypods (Bivalves) (NE Russia; Jur.)	<i>Regional stratigraphic scheme ..., 2003; Resolutions of MSK ..., 2003</i>
Brachiopods (NE Russia; Jur.)	<i>Regional stratigraphic scheme ..., 2003; Resolutions of MSK ..., 2003</i>
Radiolarians (NE Russia; Jur.)	<i>Regional stratigraphic scheme ..., 2003; Resolutions of MSK ..., 2003</i>
<b>South-central Russia (SW Siberia; Mesoz.)</b>	
<b>Transbaikal (Tri-Jur)</b>	<i>Atlas of Mesozoic ..., 2004</i>
Eastern Russia stages [Horizons] (Tri.)	
Eastern Russia stages (Tri.)	<i>Atlas of Mesozoic ..., 2004</i>
Eastern Russia substages (Tri.)	<i>Atlas of Mesozoic ..., 2004</i>



Ammonoids (Transbaikal; Tri-Jur)	
Ammonoid zones (Transbaikal; Tri-Jur)	<i>Atlas of Mesozoic ..., 2004</i>
Pelecypods (Bivalves) (Transbaikal; Tri-Jur)	
Pelecypods (Bivalves) (Transbaikal; Tri-Jur)	<i>Atlas of Mesozoic ..., 2004</i>
Pelecypod subzones (Transbaikal; Tri-Jur)	<i>Atlas of Mesozoic ..., 2004</i>
<b>Far Southeast Russia (Mesoz.)</b>	
<b>Sikhote - Alin (E. Cret.) - Sakhalin (Lt. Cret.)</b>	
Sikhote-Alin regional stage (Cret.)	
Sikhote-Alin Stage [Horizon] (Cret.)	
Ammonites (Sikhote-Sakhalin; Cret.)	<i>Yazkyova, 2004</i>
Ammonite zones (Sikhote-Sakhalin; Cret.)	<i>Yazkyova, 2004</i>
Ammonite subzones (Sikhote-Sakhalin; Cret.)	<i>Yazkyova, 2004</i>
Inoceramids an Pelecypods (Sikhote-Sakhalin; Cret.)	<i>Zonova, 2004</i>
Inoceramid zones (Sakhalin)	<i>Zonova, 2004</i>
Inoceramid alternate zones (Sakhalin)	<i>Zonova, 2004</i>
Pelecypods (Sikhote-Alin)	
Pelecypod alternate zones (Sikhote-Alin)	
Radiolarians (Sakhalin; Lt. Cret.)	<i>Kazincova, 2000</i>
Radiolarian zones (Sakhalin)	<i>Kazincova, 2000</i>
<b>Far-East Russia (Tri-Jur)</b>	
NE Asia Triassic stages	
NE Asia stage (Tri.)	
NE Asia substage (Tri.)	
Conodonts (S. Primorie; Tri.)	<i>Bragin, 1991</i>
Ammonites (Far-East Russia; Tri-Jur)	<i>JUR ("Far-East Asia") = Atlas of Mesozoic ..., 2004; TRI ("NE Asia") = Resolutions of MSK ..., 2003.</i>
Ammonite zones (Far-East Russia; Tri-Jur)	<i>Atlas of Mesozoic ..., 2004</i>
Ammonite subzones (NE Asia; Tri)	<i>Resolutions of MSK ..., 2003.</i>
Pelecypods (Bivalves) (Far-East Russia; Jur.	<i>Atlas of Mesozoic ..., 2004</i>
Radiolarians (S. Primorie; Tri.)	<i>Bragin, 2000</i>
<b>Far Northeast Russia (Mesoz.)</b>	
<b>Koryak region (N of Kamchatka; Cret; Tri.)</b>	
<b>Far-Northeast Russia Stage (Cret; Tri.)</b>	
Far-NE Russia stage (Mesoz.)	<i>TRI = Regional Stratigraphic ..., 2002; Resolutions MSK ..., 2003</i>
<b>Ammonoids (Koryak; Cret; Tri.)</b>	<i>TRI = Regional Stratigraphic ..., 2002; Resolutions MSK ..., 2003</i>
Ammonoid zones (Koryak; Cret; Tri.)	<i>TRI = Regional Stratigraphic ..., 2002; Resolutions MSK ..., 2003</i>
<b>Pelecypods (Koryak; Cret; Tri.)</b>	<i>TRI = Regional Stratigraphic ..., 2002; Resolutions MSK ..., 2003</i>
Pelecypod zone (Koryak; Cret; Tri.)	<i>TRI = Regional Stratigraphic ..., 2002; Resolutions MSK ..., 2003</i>
Pelecypod -- Aucellina zone (NE Russia)	<i>TRI = Regional Stratigraphic ..., 2002; Resolutions MSK ..., 2003</i>
<b>Radiolarians (Koryak; Tri.)</b>	
Radiolarian zone (Koryak; Tri.)	<i>Bragin, 2000; Resolutions MSK ..., 2003</i>
Radiolarian subzone (Koryak; Tri.)	<i>Bragin, 2000; Resolutions MSK ..., 2003</i>

## Russian Late Paleozoic

### International and Russian Standards (Lt. Paleozoic)

#### Standard Biostratigraphic Zones (Permian)

Russian Permian Series [Otdel]	
Russian Permian Stage [Yaris]	
Russian Permian Substage [Super-Horizon]	
Conodonts -- Russian Permian standard zones	
<b>Russian Tethyan Permian Chronostratigraphy</b>	
Series (Russian Tethyan)	
Stage (Russian Tethyan)	
Fusulinid Standard (Russian Tethyan)	
<b>Standard Chronostratigraphy and Zones (Carboniferous; Russian version)</b>	
Stage (Yaris) - Russia version	
Substage (Pod-yaris) - Russia version	
Standard Benthic Foraminifer Zone	
Ammonoid standard zones (Carb.)	
Conodont standard zones (Carb.)	
<b>Standard Biostratigraphic Zones (Devonian)</b>	
<b>Devonian standard stages and substages (Russian version)</b>	
Devonian Stage (Yaris) - Russia version	
Devonian Substage (Pod-yaris) - Russia version	
<b>Conodonts (Devonian)</b>	
Devonian Conodont Zone (TS-Creator)	
Devonian Conodont Subzone (TS-Creator)	
Standard Devonian Conodont Zone (Russian)	
Standard Devonian Conodont Subzone (Russian)	
<b>Graptolite Standard (Devonian)</b>	
Graptolite Zone (Devonian)	
<b>Ammonoid Standard (Devonian)</b>	
Ammonite zone number (Dev.)	
Ammonite subzone letter (Dev..)	
Ammonite zone name (Dev.)	
Ammonite subzone name (Dev.)	
<b>Other Major Biostratigraphic Zonations (Devonian)</b>	
<b>Ostracods (Devonian)</b>	
Main Ostracod zones (Dev.)	
Additional Ostracod zone	
<b>Vertebrates (Devonian)</b>	
Vertebrate zones (Dev.)	
<b>Dacryoconarids (Devonian)</b>	
Dacryoconarid zone	
Dacryoconarid subzone	
<b>European and SW Russia (Lt. Paleoz.)</b>	
<b>East European Platform (EEP; Lt. Paleoz.)</b>	
EEP regional stage (Horizon; Lt. Paleoz.)	
EEP Series (Super-Horizon) (Dev.)	
EEP regional stage (Horizon)	
EEP Substage (Sub-Horizon) (Dev.)	
	<i>Zones are from Russian chart (2006) which referenced: Chernik and Chuvashov et al., 2002; Jin et al., 1997</i>
	<i>Resolutions, MCK ..., 1981</i>
	<i>Resolutions, MCK ..., 1981</i>
	<i>Resolutions, MCK ..., 1981</i>
	<i>Leven, 1980, 1998; Jin et al., 2003b</i>
	<i>Zones are from Russian chart (2006) which referenced: Postanovlenia MSK ..., 2003</i>
	<i>Zones are from Russian chart (2006) which referenced: Postanovlenia MSK ..., 2003</i>
	<i>Zones are from Russian chart (2006) which referenced: Postanovlenia MSK ..., 2003</i>
	<i>Ziegler, Sandberg, 1990</i>
	<i>Ziegler, Sandberg, 1990</i>
	<i>Ziegler, Sandberg, 1990</i>
	<i>Alberti, Maletz in Weddige, 1996</i>
	<i>Alberti, Maletz in Weddige, 1996</i>
	<i>Becker in Weddige, 1996; Becker, House, 2000</i>
	<i>Becker in Weddige, 1996; Becker, House, 2000</i>
	<i>Becker in Weddige, 1996; Becker, House, 2000</i>
	<i>Becker in Weddige, 1996; Becker, House, 2000</i>
	<i>Ammonite subzone name (Dev.)</i>
	<i>Groos-Uffenorde, Wang, 1989; Groos-Uffenorde, Lethiers, Blumenstengel, 2000</i>
	<i>Groos-Uffenorde, Wang, 1989; Groos-Uffenorde, Lethiers, Blumenstengel, 2000</i>
	<i>Groos-Uffenorde, Wang, 1989; Groos-Uffenorde, Lethiers, Blumenstengel, 2000</i>
	<i>Ginter, Ivanov, 2000</i>
	<i>Ginter, Ivanov, 2000</i>
	<i>Dacryoconarid are within the Class Cricoconarida of molluscs, relative of tentaculitids</i>
	<i>Koren, Klishevich, 1982; Alberti in: Weddige, 1996; Becker, House, 2000</i>
	<i>Koren, Klishevich, 1982; Alberti in: Weddige, 1996; Becker, House, 2000</i>

Conodonts (EEP; Lt. Paleoz.)	<i>PERM = Chernikh, Silantyev, 2004; CARB = Goreva, Alekseev in: Makhlina et al., 2001; Alekseev et al., 2004; Sugatullina, 2002; Makhlina et al., 1993; Alekseev et al., 2004; DEVON = PERM = Chernikh, Silantyev, 2004; CARB = Goreva, Alekseev in: Makhlina et al., 2001; Alekseev et al., 2004; Sugatullina, 2002; Makhlina et al., 1993; Alekseev et al., 2004; DEVON = Aristov, 1994; Ovantanova, Kononova, 2001; Aristov, Ovantanova, 1985; Khalmalsha, 1981</i>
Conodont zones (EEP)	<i>Ovantanova, Kononova, Menner, 2005</i>
Shallow-water sediments (Dev.) (central region of EEP)	
Deep-water sediments (Dev.) (eastern regions of EEP)	
Benthic Foraminifers (EEP; Lt. Paleoz.)	<i>PERM = Pronina, 1999; Klevcov, 2004; CARB = Zaitzeva 2003; Isakova in: Makhlina et al., 2001; Achmetshina, Gibshman, 2002; Alekseev et al., 2004; Kulagina et al., 2001 Makhlina et al., 1993; Alekseev et al., 2004; Gibshman, 2001; Zaytzeva, 2002; DEVON = Chizhova, 2005</i>
Benthic Foraminifer zones (EEP)	<i>PERM = Pronina, 1999; Klevcov, 2004; CARB = Zaitzeva 2003; Isakova in: Makhlina et al., 2001; Achmetshina, Gibshman, 2002; Alekseev et al., 2004; Kulagina et al., 2001 Makhlina et al., 1993; Alekseev et al., 2004; Gibshman, 2001; Zaytzeva, 2002; DEVON = Chizhova, 2005</i>
Benthic Foraminifer subzones (Carb.; EEP)	<i>Zaitzeva 2003; Isakova in: Makhlina et al., 2001; Achmetshina, Gibshman, 2002; Alekseev et al., 2004; Kulagina et al., 2001 Makhlina et al., 1993; Alekseev et al., 2004; Gibshman, 2001; Zaytzeva, 2002</i>
Ammonoids (EEP; Lt. Paleoz.)	<i>Leonova, Shilovskian, 2004</i>
Ammonoid zones (Perm.; EEP)	<i>Leonova, Shilovskian, 2004</i>
Brachiopods (EEP; Lt. Paleoz.)	<i>PERM = Kotlyar et al., 2004; CARB = Lazarev, 2001, 2002; DEVON = Rzhonsnitskaya, 2000; Solution..., 1990a</i>
Brachiopod zones (EEP)	<i>PERM = Kotlyar et al., 2004; CARB = Lazarev, 2001, 2002; DEVON = Rzhonsnitskaya, 2000; Solution..., 1990a</i>
Brachiopod subzone (EEP)	<i>Cyrtospirifer zadonicus - Ripidiorhynchus huotinus</i>
Pelecypods (EEP; Lt. Paleoz.)	<i>Gusev, 1996; Silantyev, 2004</i>
Pelecypod zones (EEP)	<i>Gusev, 1996; Silantyev, 2004</i>
Ostracods (EEP; Lt. Paleoz.)	<i>PERM = Molostovskaya, 1999; CARB = Resheuiya, 1990b; Chizhova et al., 1997; DEVON = Solution..., 1990a; Chizhova, 2002, 2005</i>
Ostracod zones (EEP)	<i>PERM = Molostovskaya, 1999; CARB = Resheuiya, 1990b; Chizhova et al., 1997; DEVON = Solution..., 1990a; Chizhova, 2002, 2005</i>
Charophytes (EEP; Lt. Paleoz.)	<i>Yesaulova, 1998</i>
Charophyte zones (EEP)	<i>Yesaulova, 1998</i>
Rugose Corals (EEP; Lt. Paleoz.)	<i>Kossovaya, 1997, 2002; Kossovaya in: Makhlina et al., 2001</i>
Vertebrates (Fish) (EEP; Lt. Paleoz.)	
Ichthy-fauna zones (Permian; EEP)	<i>Minikh, A. Minikh, 1999; Yesin, Mashin, 1996</i>
Ichthy-fauna subzones (EEP)	<i>Minikh, A. Minikh, 1999; Yesin, Mashin, 1996</i>
Main Fish zones (EEP, Devon.)	<i>Ivanov, Luksevics, 1996; Talimma, 2000; Blicek, Cloutier, 2000; Mark-Kurik, 2000</i>
Phyllolepidae	
Tetrapods (EEP; Lt. Paleoz.)	<i>Golubev, 2004</i>
Tetrapod super-zones (EEP)	<i>Golubev, 2004</i>
Tetrapod zones (EEP)	<i>Golubev, 2004</i>
Tetrapod subzones (EEP)	<i>Golubev, 2004</i>
Pollen-Miospores (EEP; Lt. Paleoz.)	
Pollen zones (EEP)	<i>Resolution ..., 1990b</i>
Miospores (EEP)	<i>CARB = Podgainaya, Loboziak, Owens, 1996; Bivsheva, Umnova in: Makhlina et al., 1993; Podgainaya, Loboziak, Owens, 1996; DEVON = Avkhimovitch et al., 1993; Solutions ..., 1990a.</i>
Miospore subzone (EEP)	<i>Avkhimovitch et al., 1993; Solutions ..., 1990a.</i>
Flora (EEP; Lt. Paleoz.)	<i>Yesaulova, 1998</i>
Flora zones (EEP)	<i>Yesaulova, 1998</i>
<b>Northeast subregion of EEP (Devon.)</b>	
Northeast European Regional	
NEEP Stage (Horizon) (Dev.)	
NEEP Sub-Horizon (Dev.)	

Conodonts (NEEP)	<i>Solutions, 1900a; Ovnatanova, Kuzmin, Menner, 1999</i>
TP zone	<i>Solutions, 1900a; Ovnatanova, Kuzmin, Menner, 1999</i>
Conodont zone (NEEP)	<i>Solutions, 1900a; Ovnatanova, Kuzmin, Menner, 1999</i>
Brachiopods (NEEP)	
Brachiopod zone (NEEP)	<i>Yudina, Moskalenko, 1997; Solution ..., 1990a</i>
Ostracods (NEEP)	<i>Chizhova, 2005; Yudina, Moskalenko, 1997; Moskalenko, 2001; Abushek, Shamsyutdinova, 2000</i>
Ostracod zone (NEEP)	<i>Chizhova, 2005; Yudina, Moskalenko, 1997; Moskalenko, 2001; Abushek, Shamsyutdinova, 2000</i>
Ostracod subzone (NEEP)	<i>Chizhova, 2005; Yudina, Moskalenko, 1997; Moskalenko, 2001; Abushek, Shamsyutdinova, 2000</i>
Ammonoids (NEEP)	<i>Bogslovian 1991; Kuzmin, Yatskov 1997; House et al., 2000</i>
Ammonoid zone (NEEP)	<i>Bogslovian 1991; Kuzmin, Yatskov 1997; House et al., 2000</i>
Vertebrates (Fish) (NEEP)	<i>Ivanov, Luksevics. 1996</i>
Main Fish zones (NEEP)	<i>Ivanov, Luksevics. 1996</i>
Fish subzone (NEEP)	<i>Ivanov, Luksevics. 1996</i>
Miospores (NEEP)	<i>Nekryata, 1999; Obukhovaya, 2000; Solution ..., 1990a; Lareiova et al., 199a; Telnova, 2002</i>
Miospore zone (NEEP)	<i>Nekryata, 1999; Obukhovaya, 2000; Solution ..., 1990a; Lareiova et al., 199a; Telnova, 2002</i>
Miospore subzone (NEEP)	<i>Nekryata, 1999; Obukhovaya, 2000; Solution ..., 1990a; Lareiova et al., 199a; Telnova, 2002</i>
<b>West Urals and West Arctic (Lt. Paleoz.)</b>	
<b>South Urals (Lt. Paleoz.)</b>	
S. Urals regional stage (Lt. Paleoz.) (Horizon)	
Conodonts (S. Urals, Lt. Paleoz.)	<i>PERM = Chuvashov et al., 2002; CARB = Chernikh, 2002; Pazukhin in: kulagina et al., 2001; Alekseev et al., 2002; Pazukhin in: Guide..., 1995; Kulagina et al., 1992; Kulagina et al., 2003; Nikolaeva et al., 2002</i>
Conodont zone (S. Urals)	<i>PERM = Chuvashov et al., 2002; CARB = Chernikh, 2002; Pazukhin in: kulagina et al., 2001; Alekseev et al., 2002; Pazukhin in: Guide..., 1995; Kulagina et al., 1992; Kulagina et al., 2003; Nikolaeva et al., 2002</i>
Conodont subzones (S. Urals)	<i>Chernikh, 2002; Pazukhin in: kulagina et al., 2001; Alekseev et al., 2002; Pazukhin in: Guide..., 1995; Kulagina et al., 1992; Kulagina et al., 2003; Nikolaeva et al., 2002</i>
Conodont Mesogondolella zone (S. Urals)	<i>Chuvashov et al., 2002</i>
Benthic Foraminifers (S. Urals, Lt. Paleoz.)	<i>PERM = Chuvashov et al., 2002; CARB = Davidov, 1986; Kulagina et al., 2000; Ivanova, 2002; Kulagina et al., 2003</i>
Benthic Foram zone (S. Urals)	<i>PERM = Chuvashov et al., 2002; CARB = Davidov, 1986; Kulagina et al., 2000; Ivanova, 2002; Kulagina et al., 2003</i>
Benthic Foraminifer subzones (S. Urals)	<i>Davidov, 1986; Kulagina et al., 2000; Ivanova, 2002; Kulagina et al., 2003</i>
Ammonoids (S. Urals, Lt. Paleoz.)	<i>PERM = Chuvashov et al., 2002; Boyko, 2003; CARB = Popov, 1985; Borisenkov, 2003; Stepanov et al., 1977; Nikolaeva Kullmann, 2001; Nikolaeva et al., 2001</i>
Ammonoid genera-zones (S. Urals)	<i>Chuvashov et al., 2002; Boyko, 2003</i>
Ammonoid zones (S. Urals)	<i>PERM = Chuvashov et al., 2002; Boyko, 2003; CARB = Popov, 1985; Borisenkov, 2003; Stepanov et al., 1977; Nikolaeva Kullmann, 2001; Nikolaeva et al., 2001</i>
Ammonoid subzones (S. Urals)	<i>Popov, 1985; Borisenkov, 2003; Stepanov et al., 1977; Nikolaeva Kullmann, 2001; Nikolaeva et al., 2001</i>
Brachiopods (S. Urals, Lt. Paleoz.)	<i>Stratigraphic ..., 1993; Kucheva, Stepanova 2000</i>
Brachiopod zones (S. Urals)	<i>Stratigraphic ..., 1993; Kucheva, Stepanova 2000</i>
Ostracods (S. Urals, Lt. Paleoz.)	<i>Kochetova in: Kulagina et al., 2001; Kochetkova in: Guide..., 1995</i>
Ostracod zones (S. Urals)	<i>Kochetova in: Kulagina et al., 2001; Kochetkova in: Guide..., 1995</i>
Ostracod subzones (S. Urals)	<i>Kochetova in: Kulagina et al., 2001; Kochetkova in: Guide..., 1995</i>
Rugose Corals (S. Urals, Lt. Paleoz.)	<i>Ogar, 1985, 1990; Kossovaya, 2000, 2002</i>
Rugose Coral zones (S. Urals)	<i>Ogar, 1985, 1990; Kossovaya, 2000, 2002</i>
Radiolarians (S. Urals, Lt. Paleoz.)	<i>Amon, 1999; Amon, Chuvashov, 2004</i>
Radiolarian zones (S. Urals)	<i>Amon, 1999; Amon, Chuvashov, 2004</i>
Radiolarian alternate zones (S. Urals)	<i>Amon, 1999; Amon, Chuvashov, 2004</i>

**N. Timan (Lt. Paleoz.)**

N. Timan regional stage (Lt. Paleoz.) (Horizon)  
 Conodonts (N. Timan, Lt. Paleoz.)  
 Benthic Foraminifers (N. Timan, Lt. Paleoz.)  
 Benthic Foram subzones (N. Timan, Lt. Paleoz.)  
 Rugose Corals (N. Timan, Lt. Paleoz.)

*Goreva et al., 1997*  
*PERM = Barhatova, 1970; Grozdilova et al., 1980; Remizova, 2004; CARB = Grozdilova, Simakova, 1983; Remizova, 2004;*  
*Barhatova, 1970; Grozdilova et al., 1980; Remizova, 2004*  
*PERM = Kossovaya, 1997; Goreva et al., 1997; CARB = Kossovaya in: Goreva et al., 1997; Kossovaya, 1997, 1998*

**Timan-Pechora basin (Lt. Paleoz.)**

Timan-Pechora regional stage (Lt. Paleoz.) (Horizon)  
 Conodonts (Timan-Pechora, Lt. Paleoz.)  
 Benthic Foraminifers (Timan-Pechoran, Lt. Paleoz.)  
 Benthic Foraminifer subzones (Timan-Pechoran, Lt. Paleoz.)  
 Ostracods (Timan-Pechora, Lt. Paleoz.)

*Zhuravlev, 2003*  
*PERM = Konovalova, 1991, 2005; Proonina, 1999; CARB = Kovovalova, 1991, 2000, 2002; Musafirova, 2000; Durkina, 1995, 1997, 2002; Kostigova, 2004;*  
*Konovalova, 1991, 2005; Proonina, 1999*  
*Sobolev, 2000; Sovolev in: Zhuravlev, 2003*

**North Urals [or general Urals] (Lt. Paleoz.)**

N. Urals regional stage (Lt. Paleoz.) (Horizon)  
     Urals Regional Series (Super-Horizon) (Dev.)  
         N. Urals stage (Lt. Paleoz.) (Horizon)  
         Urals Other Horizons (Dev.)

Conodonts (N. Urals; Lt. Paleoz.)  
     Conodonts (N. Urals)  
     Conodont subzones (N. Urals; Carb.)  
 Benthic Foraminifers (N. Urals; Lt. Paleoz.)  
     Benthic Foraminifer zones (N. Urals)  
 Graptolites (N. Urals; Lt. Paleoz.)  
     Graptolite zone (Urals, Dev.)

*PERM = Chuvashov et al., 1999; CARB = Sobolev, Nakrem 1996; Zhuravlev, 2003; DEVON = Khalimbadzhal, 1981; Guide..., 1995*  
*PERM = Chuvashov et al., 1999; CARB = Sobolev, Nakrem 1996; Zhuravlev, 2003; DEVON = Khalimbadzhal, 1981; Guide..., 1995*  
*Sobolev, Nakrem 1996; Zhuravlev, 2003*  
*Remizova, 2000; Guide..., 1995*  
*PERM = Remizova, 2000; Guide..., 1995; CARB = Mikhaylova, Chermnikh, 1997; Ivanova, 2002; Konovalova, 2002; Chermnikh, 1976; Vevel et al., 2000; Zhuravlev et al., 1999; DEVON = Koren, 1973*  
*Koren, 1973*

Ammonoids (N. Urals; Lt. Paleoz.)  
     Ammonoid zones (N. Urals)  
 Brachiopods (N. Urals; Lt. Paleoz.)  
     Brachiopod zones (N. Urals)  
     Brachiopod alternative zones (N. Urals)  
     Brachiopod subzone (Urals, Dev.)

*PERM = Chuvashov, Bogoslovskaya, 1981; [No CARB]; DEVON = Stratigraph. Scheme of Ural, 1993*  
*PERM = Chuvashov, Bogoslovskaya, 1981; [No CARB]; DEVON = Stratigraph. Scheme of Ural, 1993*  
*PERM = Biota..., 1998; Kotlyar et al., 2004; CARB = Unifitzirovannie..., 1993; Stepanov et al., 1977; DEVON = Stratigraph. Scheme of Ural, 1993*  
*PERM = Biota..., 1998; Kotlyar et al., 2004; CARB = Unifitzirovannie..., 1993; Stepanov et al., 1977; DEVON = Stratigraph. Scheme of Ural, 1993*  
*PERM = Biota..., 1998; Kotlyar et al., 2004; CARB = Unifitzirovannie..., 1993; Stepanov et al., 1977; DEVON = Stratigraph. Scheme of Ural, 1993*  
*Stratigraph. Scheme of Ural, 1993*

Ostracods (N. Urals; Lt. Paleoz.)  
     Ostracod zone (N. Urals; Lt. Paleoz.)  
 Rugose Corals (N. Urals; Lt. Paleoz.)  
     Rugose Coral zones (N. Urals)  
 Dacryoconarids (N. Urals; Devon.)  
     Dacryoconarid zone (Urals, Dev.)  
 Miospores (N. Urals; Devon.)  
     Miospore zone (Urals, Dev.)

*[No PERM]; CARB = Tkacheva in: Zhuravlev, 2003; Sovolev, 2005; PERM = Stratigraph. Scheme of Ural, 1993*  
*[No PERM]; CARB = Tkacheva in: Zhuravlev, 2003; Sovolev, 2005; PERM = Stratigraph. Scheme of Ural, 1993*  
*Kossovaya, 1997, Kossovaya et al., 2001*  
*PERM = Kossovaya, 1997, Kossovaya et al., 2001; CARB = Kossovaya, 2002; Kossovaya, 2006 (in print); DEVON =*  
*Klishevich, 1985; Stratigraph. Scheme of Ural, 1993*  
*Klishevich, 1985; Stratigraph. Scheme of Ural, 1993*  
*Stratigraph. Scheme of Ural, 1993*  
*Stratigraph. Scheme of Ural, 1993*

Flora (N. Urals; Carbon.)	<i>Pukhonto, 1998</i>
Permian -- other zones in N.Urals to Timan-Pechora region	
Benthic Foraminifers (N. Urals; other Permian)	<i>Pronina, 1999; Kotlyar, 2002</i>
Brachiopods (N. Urals; other Permian)	<i>Malisheva et al., 2002</i>
Pelecypods (N. Urals; other Permian)	<i>Malisheva et al., 2002</i>
Pelecypods (N. Urals -2; other Permian)	<i>Kanev, 1994</i>
<b>Novaya Zemlya (Lt. Paleoz.)</b>	
Novaya Zemlya regional stage (Lt. Paleoz.) (Horizon)	
Novaya Zemlya stage (Lt. Paleoz.) (Horizon)	
Novaya Zemlya Sub-horizon (Dev.)	
Conodonts (Novaya Zemlya; Lt. Paleoz.)	<i>PERM = Sovolev, Nakrem, 1996; [No CARB]; DEVON = N. N. Sobolev, 2006</i>
Conodont zone (Nov. Zem.; Lt. Paleoz.)	<i>PERM = Sovolev, Nakrem, 1996; [No CARB]; DEVON = N. N. Sobolev, 2006</i>
Conodont subzone (Nov. Zem.; Lt. Paleoz.)	<i>Sovolev, Nakrem, 1996</i>
P. exigua lineage	<i>N. N. Sobolev, 2006</i>
Benthic Foraminifers (Novaya Zemlya; Lt. Paleoz.)	<i>PERM = Resolution..., 1990b; Pronina, 1999; CARB = Matveev, 1998</i>
Benthic Foram zone (Nov. Zem.; Lt. Paleoz.)	<i>PERM = Resolution..., 1990b; Pronina, 1999; CARB = Matveev, 1998</i>
Benthic Foram other complexes (W. Novaya Zemlya)	<i>Resolution..., 1990b; Pronina, 1999</i>
Ammonoids (Novaya Zemlya; Lt. Paleoz.)	<i>Matveev, 1998; Kuzina, Yatzkov, 1999</i>
Brachiopods (Novaya Zemlya; Lt. Paleoz.)	<i>PERM = Ganelin, 1994; Kotlyar, 2002; [No CARB]; DEVON = S.V. Cherksova, 2006</i>
Brachiopod zone (Nov. Zem.; Lt. Paleoz.)	<i>PERM = Ganelin, 1994; Kotlyar, 2002; [No CARB]; DEVON = S.V. Cherksova, 2006</i>
Brachiopod subzone (Nov. Zem.; Lt. Paleoz.)	<i>S.V. Cherksova, 2006</i>
Pelecypods (Novaya Zemlya; Lt. Paleoz.)	<i>Byakov, 2000</i>
East Novaya Zemlya zones (Permian)	
E. Novaya Zemlya regional Suite	
Ammonoids (E. Novaya Zemlya)	<i>Bogoslovskaya et. al. 1982</i>
Brachiopods (E. Novaya Zemlya)	<i>Ganeliu, 1994</i>
Pelecypods (E. Novaya Zemlya)	<i>Byakov, 2000</i>
Benthic Foraminifers (E. Novaya Zemlya)	<i>Sosipatrova, 1981; Pronina, 1999; Kotlya, 2002</i>
<b>East Taimyr (Lt. Paleoz.)</b>	
East Taimyr regional stage (Lt. Paleoz.) (Horizon)	
East Taimyr regional stage (Lt. Paleoz.) (Horizon)	
Benthic Foraminifers (East Taimyr; Lt. Paleoz.)	<i>Sosipatrova, 1981; Pronina, 1999</i>
Brachiopods (East Taimyr; Lt. Paleoz.)	<i>Ganelin, 1994</i>
Pelecypods (East Taimyr; Lt. Paleoz.)	<i>Byakov, 2000</i>
Nordvik region [NEEDS TRANSLATIONS] (Permian)	<i>Gerke, 1961; Pronina, 1999</i>
Benthic Foraminifers (Nordvik)	<i>Gerke, 1961; Pronina, 1999</i>
<b>Siberian Basin and Platform (Lt. Paleoz.)</b>	
<b>East slope of Urals (Carbon.)</b>	
E. Urals regional stage (Horizon) [Carbon.]	
Benthic Foraminifers (E. Urals; Carbon.)	<i>Subregionalnaga..., 1993; Kuchera, Slepanova 2000</i>
Brachiopods (E. Urals; Carbon.)	<i>Kuchera, Slepanova 2000</i>
<b>Tunguska basin (Permian)</b>	
Tunguska regional stage (Horizon; Perm.)	
Tunguska regional substage (Sub-horizon; Perm.)	
Pelecypods -- non-marine (Tunguska; Perm.)	<i>Late paleozoic of Angarida, 1988</i>
Flora (Tunguska; Perm.)	<i>Late paleozoic of Angarida, 1988</i>

**South-central Russia (SW Siberia; Lt. Paleoz.)****Altay Mountain region (Devon.)**

- Altay-Sayan Regional Stages (Dev.)
  - Altay-Sayan Super-horizon (Dev.)
  - Altay-Sayan Stage (Horizon) (Dev.)
  - Altay-Sayan Sub-horizon (Dev.)
- Conodonts (Altay-Sayan, Dev.)
  - Conodont zone (Altay-Sayan, Dev.)
- Brachiopods (Altay-Sayan, Dev.)
  - Brachiopod zone (Altay-Sayan, Dev.)
- Trilobites (Altay-Sayan, Dev.)
  - Trilobite zone (Altay-Sayan, Dev.)
  - Trilobite subzone (Altay-Sayan, Dev.)
- Dacryoconarids (Altay-Sayan, Dev.)
  - Dacryoconarid zone
- Cephalopods (Altay-Sayan, Dev.)
  - Cephalopod assemblage (Altay-Sayan, Dev.)

*Yolkin et al., 2000; Bakharev et al., 2004*  
*Yolkin et al., 2000; Bakharev et al., 2004*  
*Yolkin et al., 2000; Bakharev et al., 2004*  
*Yolkin et al., 2000; Bakharev et al., 2004*  
*Talent, Gratsianova, Yolkin, 2001*  
*Talent, Gratsianova, Yolkin, 2001*  
*Talent, Gratsianova, Yolkin, 2001*  
*Solutions..., 1982*  
  
*Solutions..., 1982*  
*Solutions..., 1982*

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**Kuznetsk basin (Perm-Carb.)**

- Kuznetsk regional stage (Horizon)
- Benthic Foraminifers (Kuznetsk)
- Pelecypods -- non-marine (Kuznetsk)
- Miospores (Kuznetsk)
- Pollen zones (Kuznetsk)
- Flora (Kuznetsk; Perm.)

*Flora Gorelova, 1988; Unifitzirovannie..., 1988*  
*Late paleozoic of Angarida, 1988*  
*Dryagina, 1988*  
*Late paleozoic of Angarida, 1988*  
*Late paleozoic of Angarida, 1988*

**Transbaikal (Perm.)**

- Transbaikal regional stage (Horizon)
- Brachiopods (Transbaikal)
- Pelecypods (Transbaikal)
- Bryozoans (Transbaikal)

*Atlas..., 2002*  
*Atlas..., 2002*  
*Atlas..., 2002*

**Far Southeast Russia (Lt. Paleoz.)****Mongolia-Verkhoyano-Okhotsk (Perm-Carb.)**

- Verkhoyano-Okhotsk regional stage (Horizon) (Perm-Carb)
- Ammonoids (Verkhoyano-Okhotsk; Perm-Carb)
  - Ammonoid zone (Verkhoyano-Okhotsk; Perm-Carb)
  - Ammonoid subzone (Verkhoyano-Okhotsk; Perm-Carb)
- Brachiopods (Verkhoyano-Okhotsk; Perm-Carb)
  - Brachiopod zone (Verkhoyano-Okhotsk; Perm-Carb)
- Pelecypods (Verkhoyano-Okhotsk; Perm.)
  - Pelecypod zone (Verkhoyano-Okhotsk; Perm.)
  - Pelecypod subzone (Verkhoyano-Okhotsk; Perm.)

*PERM = Kutigin et al., 2002; CARB = Resolutions..., 2003; Kletz, 2004*  
*PERM = Kutigin et al., 2002; CARB = Resolutions..., 2003; Kletz, 2004*  
*Resolutions..., 2003; Kletz, 2004*  
*PERM = Kletz, 2004; CARB = Resolutions..., 2003; Kletz, 2004; Kletz, 2003*  
*PERM = Kletz, 2004; CARB = Resolutions..., 2003; Kletz, 2004; Kletz, 2003*  
*Kurushin et al., 1996; Byakov, 2000*  
*Kurushin et al., 1996; Byakov, 2000*  
*Kurushin et al., 1996; Byakov, 2000*

**Sikhote - Alin (Perm.)**

- Benthic Foraminifers (Sikhote-Alin; Perm.)
- Radiolarians (Sikhote-Alin; Perm.)

*Resolution..., 1991*  
*Rudenko, Panasenko, 1990, 1995*

**South Primorye (Perm.)**

- South Primorye regional stage (Horizon) (Perm.)
- Benthic Foraminifers (S. Primorye; Perm.)

*Resolution ..., 1991*  
*Resolution ..., 1991*  
*Resolution..., 1991*

Ammonoids (S. Primorye; Perm.) *Resolution...*, 1991  
 Conodonts (S. Primorye; Perm.) *Resolution...*, 1991  
 Brachiopods (S. Primorye; Perm.) *Resolution...*, 1991  
 Bryozoans (S. Primorye; Perm.) *Resolution...*, 1991  
 Corals (S. Primorye; Perm.) *Kossovaya, 2005; Resolution...*, 1991

**Far Northeast Russia (Lt. Paleoz.)**

**Kolimo - Omolonsk region (Perm-Carb.)**

Kolimo - Omolonsk regional stage (Horizon) (Perm-Carb)  
     Kolimo-Omolonsk regional series (Super-horizon) (Perm.)  
     Kolimo - Omolonsk stage (Horizon) (Perm-Carb)  
     Kolimo-Omolonsk regional substage (Sub-horizon)  
 Conodonts (Kolimo - Omolonsk; Carb.)  
     Conodont zones (Kolimo - Omolonsk; Carb.) *Gagiev, 1995*  
     Conodont subzones (Kolimo-Omolonsk) *Gagiev, 1995*  
 Ammonoids (Kolimo - Omolonsk; Perm-Carb) *PERM = Ganelin et al., 2001, 2003; CARB = Resolutions..., 2003*  
     Ammonoids (Kolimo-Omolonsk; Perm.) *PERM = Ganelin et al., 2001, 2003; CARB = Resolutions..., 2003*  
 Benthic Foraminifers (Kolimo - Omolonsk; Perm-Carb) *PERM = Karavaeva B. Ganelin et al., 2001, 2003; CARB = Resolutions..., 2003; Gagiev, 1995*  
     Benthic Foraminifer zones (Kolimo-Omolonsk) *PERM = Karavaeva B. Ganelin et al., 2001, 2003; CARB = Resolutions..., 2003; Gagiev, 1995*  
 Brachiopods (Kolimo - Omolonsk; Perm-Carb) *PERM = Ganeliu et al., 2001; 2003; CARB = Ganelin, 1996; Resolutions..., 2003*  
     Brachiopod zones (Kolimo-Omolonsk) *PERM = Ganeliu et al., 2001; 2003; CARB = Ganelin, 1996; Resolutions..., 2003*  
     Brachiopod genus-zone (Kolimo-Omolonsk) *Ganeliu et al., 2001; 2003*  
 Pelecypods (Kolimo - Omolonsk; Perm-Carb) *PERM = Ganeliu et al., 2001; 2003; CARB = Ganelin, 1996; Resolutions..., 2003*  
     Pelecypod zones (Kolimo-Omolonsk; Perm) *Byakov, 2000*  
     Pelecypod subzones (Kolimo-Omolonsk) *Maitaia bella*  
     Tabulate (Kolimo - Omolonsk; Carb.) *Gagiev, 1995*  
     Rugose Corals (Kolimo - Omolonsk; Carb.) *Kropacheva, Onoprienko in: Gagiev, 1995*

**NE Russia (Devon.)**

NE Russia Stage (Horizon) (Dev.)  
 NE Russia Sub-Horizon (Dev.)  
 Conodonts (NE Russia, Dev.) *Gagiev, 1995, 1996; Resolutious MSK..., 2003*  
 Brachiopods (NE Russia, Dev.) *Baranov, 1991; Resolutious MSK..., 2003*  
 Tabulate Corals (NE Russia, Dev.) *Alkhovik, 1986; Alkhovik, Baranov, 2001*  
 Rugose Corals (NE Russia, Dev.) *Alkhovik, Baranov, 2001*

**Russian Early Paleozoic**

**International and Russian Standards (E. Paleozoic)**

**Standard Biostratigraphic Zones (Silurian)**

Graptolite MASTER (Silurian) *Silurian Times, 1995; Verniers et al., 1995*  
 Conodont standard (Silurian) *Melchin et al., 1996; Melchin et al. in: Gradstein et al., 2004; Koren', Suyarkova, 2004*  
 Chitinozoan standard (Silurian) *Silurian Times, 1995; Verniers et al., 1995*  
 Vertebrate standard (Silurian) *Silurian Times, 1995; Verniers et al., 1995*

**Ordovician Zonal Standards**

Master Scale (age control)  
     Ordovician International Stage *ICS/IUGS ratified decisions -- www.stratigraphy.org*  
     Graptolite MASTER (Ordovician) -- Australasia *Gradstein et al., eds, 2004*



Graptolites of North-Atlantic province (Ordovician)	
British Ordovician Stage (Russian version)	<i>General Stratigraphy Scale, 2004; Decree MCK ..., 2006</i>
Graptolite zone (Great Britain, Ordov.)	<i>Gradstein et al., eds, 2004</i>
Graptolite subzone (GB, Ordov.)	<i>Gradstein et al., eds, 2004</i>
Graptolites (Baltoscandia, Ordov.)	<i>Cooper et al. in Webby et al., eds, 2004</i>
Conodont standards (Ordovician)	
Conodonts (Midcontinent, Ordov.)	<i>Gradstein et al., eds, 2004</i>
Conodonts (North Atlantic, Ordov.)	<i>Gradstein et al., eds, 2004</i>
<b>Cambrian standards (ICS and Russia)</b>	<i>Russian standards for Cambrian regional stages and biostratigraphic zones</i>
Global and TimeScale Creator reference standards for Cambrian	<i>Chen and Babcock, 2007; Concise GTS</i>
International Chronostrat and Age control (Camb.)	<i>Chen and Babcock, 2007; Concise GTS</i>
Cambrian Series	<i>Chen and Babcock, 2007; Concise GTS</i>
Cambrian Stage	<i>Chen and Babcock, 2007; Concise GTS</i>
Primary Zone for age scaling (S.China trilobite; SSF)	<i>Chen and Babcock, 2007; Concise GTS</i>
TimeScale Creator Russian region reference columns (Camb.)	<i>Chen and Babcock, 2007; Concise GTS</i>
TSC Regional (Siberia, Camb.)	<i>Chen and Babcock, 2007; Concise GTS</i>
TSC Regional (Kazakhstan, Camb.)	<i>Chen and Babcock, 2007; Concise GTS</i>
TSC Zone (Siberia conodonts, etc.; Camb.)	<i>Chen and Babcock, 2007; Concise GTS</i>
Russian standards for Cambrian regional stages and biostratigraphic zones	<i>Resolutions MCK (1983, 1997)</i>
Russian Cambrian Series [Otdel]	<i>Resolutions MCK (1983, 1997)</i>
Russian Cambrian Stage [Yaris]	<i>Resolutions MCK (1983, 1997)</i>
Trilobites and Small Shelly Fossils (SSF) standard (Russia; Camb.)	<i>Resolutions MCK (1983, 1997)</i>
Conodont standard (Russia; Camb.)	<i>Resolutions MCK (1983, 1997)</i>
Archeocyathid standard (Russia; Camb.)	<i>Resolutions MCK (1983, 1997)</i>
<b>European and SW Russia (E. Paleoz.)</b>	
<b>North Caucasus (Silurian)</b>	<i>Regional stratigraphic scheme, 2001 Decree MSK..., 2002</i>
N. Caucasus Regional Stage (Horizon)	<i>Regional stratigraphic scheme, 2001 Decree MSK..., 2002</i>
Graptolites (N. Caucasus; Silur.)	<i>Regional stratigraphic scheme, 2001 Decree MSK..., 2002</i>
Conodonts (N. Caucasus)	<i>Regional stratigraphic scheme, 2001 Decree MSK..., 2002</i>
<b>Kaliningrad (Silurian)</b>	<i>Koren', Suyarkova, Zagorodnykh, 2005</i>
Kaliningrad Regional Stage (Horizon)	<i>Koren', Suyarkova, Zagorodnykh, 2005</i>
Graptolites (Kaliningrad)	<i>Koren', Suyarkova, Zagorodnykh, 2005</i>
<b>East-European Platform (E. Paleoz.)</b>	
East-European Platform regional stages (E. Paleoz.)	
EEP Regional Series (Super-Horizon)	<i>Stratig. Scheme of Ural, 1993</i>
EEP Regional Stage (Horizon)	<i>SILUR = Stratig. Scheme of Ural, 1993; CAMB = Resolutions ..., 1986; Volkova, 1990; Volkova, Kiryanov, 1995; Mens, Bergstrom, Landzen, 1987</i>
Trilobites and SSFs (EEP; Camb.)	
Trilobite and SSF zone (EEP)	<i>Resolutions ..., 1986; Volkova, 1990; Volkova, Kiryanov, 1995; Mens, Bergstrom, Landzen, 1987</i>
Trilobite subzone (EEP)	<i>Resolutions ..., 1986; Volkova, 1990; Volkova, Kiryanov, 1995; Mens, Bergstrom, Landzen, 1987</i>
Graptolites (EEP; E. Paleoz.)	
Graptolite zones (central or general EEP)	<i>SILUR = Stratig. Scheme of Ural, 1993; Sakmarsko-Lemvin. Zones; ORDOV (Moscow region) = Sennikov, Obut, 2002</i>
Graptolites (EEP; Leningrad; Ordov.)	<i>Karen, Talmacheva, 2002</i>
Conodonts (EEP; E. Paleoz.)	<i>T.Yu. Tolmacheva, 2005</i>

Brachiopods (EEP; E. Paleoz.)	
Brachiopod Zone (EEP; Silur.)	<i>Modzalevskaya, 1997; Beznosova, 2000</i>
Brachiopod Subzone (EEP; Silur.)	<i>Modzalevskaya, 1997; Beznosova, 2000</i>
Ostracods (EEP; Silur.)	<i>Abushik, 1997</i>
Tabulate Corals (EEP; Silur.)	
Tabulate zone (EEP; Silur.)	<i>Stratig. Schemes of Urals, 1993; Yu.v. Zaika, 2005</i>
Tabulate subzone (EEP; Silur.)	<i>Stratig. Schemes of Urals, 1993; Yu.v. Zaika, 2005</i>
Rugose Corals (EEP; Silur.)	<i>Stratig. Schemes of Urals, 1993</i>
Chitinozoans (EEP; Ordov.)	
Chitinozoan zone (EEP; Moscow; Ordov.)	<i>Sennikov, Obut, 2002</i>
Chitinozoan subzone (EEP; Ordov.)	<i>Sennikov, Obut, 2002</i>
Acritarchs (EEP; Camb.-Ordov.)	
Acritarchs (EEP; Leningrad; Ordov.)	<i>Raevskaya, 1999</i>
Acritarch complex (EEP; Camb.)	<i>Resolutions ..., 1986; Volkova, 1990; Volkova, Kiryanov, 1995; Mens, Bergstrom, Landzen, 1987</i>

**West Urals and West Arctic (E. Paleoz.)**

**Novaya Zemlya (E. Paleoz.)**

Novaya Zemlya Regional Stage (Horizon)	
Trilobites (Novaya Zemlya; Camb.)	<i>Materials and Resolutions ..., 1994</i>
Graptolites (Novaya Zemlya)	<i>Sobolevskaya, Koren', 1997</i>
Brachiopods (Novaya Zemlya; Silur.)	<i>Modzalevskaya, 1989</i>
Ostrocods (Novaya Zemlya; Silur.)	<i>Abushik, 1997</i>

**East Taimyr (E. Paleoz.)**

Tamir Regional Stage (Horizon)	
Graptolites (Taimyr)	<i>SILUR = Reg. Stratigr. Scheme. 1983; R.F. Sobolevskaya, 2005; ORDOV = R.F. Sobolevskaya, 2005</i>

**Siberian Basin and Platform (E. Paleoz.)**

Urals - east slope (E. Paleoz.)	
E. Urals Regional Stage (Horizon; Silur. & Camb.)	
Graptolites (E. Urals)	<i>Stratig. Schemes of Urals, 1993</i>
Brachiopods (E. Urals; Silur.)	<i>Stratig. Schemes of Urals, 1993</i>
Brachiopod subzone (E. Urals)	<i>Stratig. Schemes of Urals, 1993</i>
Crinoids (E. Urals)	<i>Stratig. Schemes of Urals, 1993</i>
Tabulate Corals (E. Urals)	<i>Stratig. Schemes of Urals, 1993</i>
Rugose Corals (E. Urals)	<i>Stratig. Schemes of Urals, 1993</i>
Rugose Coral subzone (E. Urals)	<i>Stratig. Schemes of Urals, 1993</i>
Trilobites and Archeocyathids (E. Urals)	<i>Materials and Resolutions ..., 1994</i>
East Siberia (Silur.)	
E. Siberia Regional Stage (Horizon)	
Graptolites (E. Siberia)	<i>T.V. Lopushinsleaya, 2005</i>
Brachiopods (E. Siberia)	<i>T.V. Lopushinsleaya, 2005</i>
Ostrocods (E. Siberia)	<i>Bazareva, 1982; Abushik, Modzalevskaya, 2000</i>
Ostrocod subzone (E. Siberia)	<i>Bazareva, 1982; Abushik, Modzalevskaya, 2000</i>
Siberian Platform (Ordov.)	
Siberia Regional Stage (Horizon; Ordov.)	<i>Resolution ..., 1983</i>
Graptolites (Siberia; Ordov.)	<i>A.V. Kanygin et. al., 2005</i>
Conodonts (Siberia; Ordov.)	<i>A.V. Kanygin et. al., 2005</i>

Brachiopods (Siberia; Ordov.)	<i>A.V. Kanygin et. al., 2005</i>
Brachiopod subzone (Siberia; Ordov.)	<i>A.V. Kanygin et. al., 2005</i>
Trilobites (Siberia; Ordov.)	<i>A.V. Kanygin et. al., 2005</i>
Ostrocods (Siberia; Ordov.)	<i>A.V. Kanygin et. al., 2005</i>
<b>Siberian Platform (Camb.)</b>	
<b>East and North Siberia (Camb.)</b>	
E. Siberia Regional Stage (Horizon)	<i>West of Verkhoian'ya = Deepwater shelf and slope facies</i>
Trilobites (E. Siberia)	<i>Resolutions ..., 1983; Cambrian of Siberia, 1992</i>
Brachiopods (E. Siberia)	<i>Resolutions ..., 1983; Cambrian of Siberia, 1992</i>
<b>North Siberian Platform (Camb.)</b>	<i>Shallow- and deep-water shelf carbonate facies in transitional-type profiles</i>
N. Siberia Regional Stage (Horizon)	<i>Varlamov et al., 2005</i>
Trilobites (N. Siberia)	<i>Varlamov et al., 2005</i>
<b>Sette-Daban, Kyllakhsian highlands (Camb.)</b>	<i>Shallow- and deep-water shelf carbonate facies in transitional-type profiles</i>
Trilobites (center Sette-Daban)	<i>Gogin, Popov, 1994</i>
Trilobites (west Sette-Daban)	<i>Gogin, Popov, 1997</i>
<b>NW Siberian Platform (Camb.)</b>	<i>(Plus part of central) = Shallow-water carbonate facies</i>
NW Siberia Regional Stage (Horizon)	<i>Resolutions ..., 1983; Yarushoe ..., 1984; Pel'man et al., 1992; Varlamov et al., 2005</i>
Trilobites (NW Siberia)	<i>Resolutions ..., 1983; Yarushoe ..., 1984; Pel'man et al., 1992; Varlamov et al., 2005</i>
Archeocyathids (NW Siberia)	<i>Resolutions ..., 1983; Yarushoe ..., 1984; Pel'man et al., 1992; Varlamov et al., 2005</i>
Brachiopods (NW Siberia)	<i>Resolutions ..., 1983; Yarushoe ..., 1984; Pel'man et al., 1992; Varlamov et al., 2005</i>
Small Shelly Fossils (NW Siberia)	<i>Resolutions ..., 1983; Yarushoe ..., 1984; Pel'man et al., 1992; Varlamov et al., 2005</i>
<b>South Siberian Platform (Camb.)</b>	<i>(Plus, part of central and north) = facies ????????</i>
S Siberia Regional Stage (Horizon)	<i>Resolutions ..., 1983; Yarushoe ..., 1984</i>
Trilobites (S. Siberia)	<i>Resolutions ..., 1983; Yarushoe ..., 1984</i>
<b>Khabarovsk Krai (north) (Camb.)</b>	<i>Resolutions ..., 1994</i>
Trilobites (K. Krai)	<i>Resolutions ..., 1994</i>
Archeocyathids (K. Krai)	<i>Resolutions ..., 1994</i>
<b>South-central Russia (SW Siberia; E. Paleoz.)</b>	
<b>Altay mountains region (E. Paleoz.)</b>	
Mt. Altay Regional Stage (Horizon)	<i>Sennikov, Obut, 2002</i>
Graptolites (Mt. Altay)	<i>Sennikov, 1996</i>
Graptolite subzones (Mt. Altay)	<i>Sennikov, 1996</i>
Conodonts (Mt. Altay; Ordov.)	<i>Sennikov, Obut, 2002</i>
Conodont subzone (Mt. Altay; Ordov.)	<i>Sennikov, Obut, 2002</i>
<b>Sayan-Altay region (Cambrian)</b>	<i>Resolutions ..., 1983; Rozanov, Zhuravlev, 1995</i>
Salair, Batenevsk ridge, Kuznetsk Alatau	<i>Resolutions ..., 1983; Romanenko, 1985; Petrunina, 2005; Rozanov, Zhuravlev, 1995</i>
Sayan-Altay Regional Stage (Horizon)	<i>Resolutions ..., 1983; Romanenko, 1985; Petrunina, 2005; Rozanov, Zhuravlev, 1995</i>
Trilobites (Salair)	<i>Resolutions ..., 1983; Romanenko, 1985; Petrunina, 2005; Rozanov, Zhuravlev, 1995</i>
Archeocyathids (Salair)	<i>Resolutions ..., 1983; Romanenko, 1985; Petrunina, 2005; Rozanov, Zhuravlev, 1995</i>
West Sayar :	<i>Resolutions ..., 1983; Rozanov, Zhuravlev, 1995</i>
Archeocyathids (W. Sayan)	<i>Resolutions ..., 1983; Rozanov, Zhuravlev, 1995</i>
<b>Sayan-Baikal region (Buryatia) (E. Paleoz.)</b>	<i>Dalmatov et al., 1975; Dalmatov, 1990</i>
Sayano-Baikal Regional Stage (Horizon)	<i>Dalmatov et al., 1975; Dalmatov, 1990</i>
Trilobites (Sayano-Baikal)	<i>Dalmatov et al., 1975; Dalmatov, 1990</i>
Archeocyathids (Sayano-Baikal)	<i>Dalmatov et al., 1975; Dalmatov, 1990</i>
<b>Far Southeast Russia (E. Paleoz.)</b>	

<b>Bureinsky massif (Cambrian)</b>	<i>Resolutions ...</i> , 1994
Archeocyathids (Bureinsky massif)	<i>Resolutions ...</i> , 1994
<b>Khanka massif (Cambrian)</b>	<i>Resolutions ...</i> , 1994
Archeocyathids (Khanka massif)	<i>Resolutions ...</i> , 1994
<b>Priargunie (Cambrian)</b>	<i>Resolutions ...</i> , 1994
Trilobites (Priargunie)	<i>Resolutions ...</i> , 1994
<b>Eastern part of Mongolia-Okhotsk (Cambrian)</b>	<i>Resolutions ...</i> , 1994
Far East Regional Stage (Horizon)	<i>Resolutions ...</i> , 1994
Archeocyathids (Mongolia-Okhotsk)	<i>Resolutions ...</i> , 1994
<b>Far Northeast Russia (E. Paleoz.)</b>	
<b>NE Russia</b> block	<i>Reginal stratigr. Scheme, 2002; Decree MCK...</i> , 2003
Graptolites (NE Russia)	<i>Reginal stratigr. Scheme, 2002; Decree MCK...</i> , 2003
Graptolites (Kolimo-Omolonskiy region)	<i>R.F. Sobolevskaya, 2005</i>
Conodonts (Verkhoyano-Chukotskiy region)	<i>Tarabukin, 2005</i>
Brachiopods (NE Russia)	<i>Reginal stratigr. Scheme, 2002; Decree MCK...</i> , 2003
Tabulate Corals (NE Russia)	<i>Reginal stratigr. Scheme, 2002; Decree MCK...</i> , 2003
Rugose Corals (NE Russia)	<i>Reginal stratigr. Scheme, 2002; Decree MCK...</i> , 2003