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**Faunal dynamics across the Silurian-Devonian positive isotope excursions ($\delta^{13}\text{C}$, $\delta^{18}\text{O}$)
in Podolia, Ukraine: Comparative analysis of the Ireviken and Klonk events**

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SOM 1

Carbon and oxygen isotope and total organic carbon (TOC) data from the Silurian succession at Kytayhorod (see Text Fig. 6; in case of repeated analyses of the same sample, more positive values are selected only as being less diagenetically altered; see e.g., Małkowski et al. 2009).

Sample	Distance from the bottom, m	$\delta^{13}\text{C}_{\text{carb}}$ ‰	$\delta^{18}\text{O}_{\text{carb}}$ ‰	$\delta^{13}\text{C}_{\text{org}}$ ‰	$\Delta^{13}\text{C}$ (*approximated)	TOC %
Kz 1	0.1	1.27	-5.76			
Kz 5	0.5	1.3	-5.94			
Kz 10	0.9	1.66	-5.58			
SD-42 (Kt2 08/10)	1.3			-26.63	27.9*	0.14
Kz 20	1.8	2.06	-5.28			
SD-47 (Kt2 08/11)	2.1			-27.31	29.3*	0.16
Kz 30	2.7	1.67	-6.23			
Kz 40	3.6	2.27	-5.23			
Kz 45	4.1	2.99	-4.82			
SD-35 (Kt2 08/14)	4.4			-26.48	29.3*	0.25
SD-31 (Kt2 08/16)	5.0			-26.15	28.8*	
K 100	5.4	2.65	-5.28			
SD-38 (Kt2 06/2)	5.9	3.45	-4.29			0.27
K 200	6.3	3.38	-4.27			
Kitaj 12	6.5	3.48	-4.17	-25.99	29.4	0.22
K 200bis	6.8	3.16	-4.68			
Ki 2	7.2	3.17	-4.85			
K 450	9.0	3.31	-5.03			
K 530	10.2	3.54	-4.4			
SD-44 (Kt2 06/8)	10.3					0.06
K 550	10.4	3.97	-4.25			
K 1400	10.5	3.54	-3.88			
K 6000	10.8	3.96	-4.85			
K 700	11.7	3.37	-4.18			

K 1050	12.2	3.42	-5.48			
K 850	13.1	3.77	-3.99			
K 900	13.5	3.69	-4.18			
SD-39 (Kt2 06/11)	14.2			-26.97	30.2*	0.14
Ki 14	14.4	3.24	-4.45			
Ki 13	14.4	3.35	-4.6			
K 1800	15.3	2.94	-4.2			
Ki 15	15.8	2.76	-4.31			0.27
K 2000	16.2	2.42	-4.88			
K 2300	17.1	2.08	-4.29			
Ki 17	17.2	1.82	-5.48			
K 2400	17.3	1.6	-5.39			
K 2200	17.6	1.69	-4.29			
K 2600	18.0	1.72	-5.3			
SD-49 (Kt2 06/12)	18.8			-26.26	27.8*	
K 2700	19.8	0.89	-4.78			
Ki 19	20.7	-0.45	-5.56			
SD-46 (Kt2 06/18)	20.9					0.26
Ki 20	21.6	-0.39	-5.1			
Kitaj 24/2	22.5	-0.88	-5.41			
Kitaj 24/4	23.0	-0.95	-4.83			
Ki 22	23.4	-0.78	-6.32			
SD-50 (Kt2 06/30)	24.4			-27.79	27.2*	
SD-41 (Kt2 06/21)	25.6					0.38
K 3600	28.8	-0.42	-5.58			
SD-29 (Kt2 06/24)	31.5					0.36
K 3600	32.9	-1.01	-5.54			
K 5100	36.0	-0.99	-5.38			
K 4400bis	37.8	0.77	-5.01			
SD-45 (Kt2 08/7)	38.1			-28.92	28.0*	0.32
K 5300	38.3	-0.97	-5.45			
K 6000	38.7	-1.03	-5.58			

*Approximated $\Delta^{13}\text{C}$ levels are calculated for $\delta^{13}\text{C}_{\text{carb}}$ values averaged for two stratigraphically adjacent samples.

SOM 2

Inorganic geochemical data from the Silurian succession at Kytayhorod (see text: Table 1 and Fig. 7).

- Major elements

Sample	Distance from the bottom, m	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	K ₂ O	TiO ₂	P ₂ O ₅	MnO	Cr ₂ O ₃
		%	%	%	%	%	%	%	%	%	%	%
		0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
SD-42 (Kt2 08/10)	1.3	47.07	13	5.17	3.53	11.64	0.44	3.58	0.67	0.04	0.14	0.011
SD-47 (Kt2 08/11)	2.1	17.6	4.52	2.16	1.62	38.39	0.12	1.27	0.24	0.09	0.18	0.004
SD-35 (Kt2 08/14)	4.4	17.45	4.41	1.81	1.49	38.98	0.12	1.27	0.23	0.2	0.17	0.004
SD-31 (Kt2 08/16)	5.0	11.05	2.57	1.29	0.99	44.78	0.08	0.74	0.14	0.03	0.12	0.002
SD-38 (Kt2 06/2)	5.9	15.07	3.94	1.71	1.86	40.5	0.12	1.11	0.2	0.1	0.16	0.003
SD-30 (Kt2 06/6)	6.6	42.99	12.08	4.7	3.57	14.49	0.5	3.32	0.62	0.03	0.15	0.009
SD-44 (Kt2 06/8)	7.8	13.88	3.43	1.74	1.72	41.39	0.1	0.96	0.18	0.1	0.15	0.003
SD-39 (Kt2 06/11)	10.3	13.31	3.24	1.53	1.46	42.55	0.11	0.93	0.17	0.2	0.18	0.003
SD-36 (Kt2 06/13)	14.2	10.72	2.64	1.16	1.2	45.01	0.09	0.74	0.14	0.16	0.15	0.003
SD-49 (Kt2 06/12)	15.9	9.67	2.25	1	1.13	46.22	0.08	0.65	0.12	0.14	0.14	<0.002
SD-46 (Kt2 06/18)	18.8	11.05	2.7	1.3	1.05	44.88	0.09	0.79	0.15	0.05	0.13	0.002
SD-41 (Kt2 06/21)	20.9	11.98	2.84	1.38	1.32	44.14	0.12	0.82	0.16	0.09	0.11	0.003
SD-50 (Kt2 06/30)	24.4	16.99	4.3	1.85	1.84	39.13	0.17	1.26	0.23	0.29	0.11	0.004
SD-29 (Kt2 06/24)	25.6	11.63	2.85	1.48	1.32	43.99	0.12	0.82	0.15	0.08	0.13	0.003
SD-45 (Kt2 08/7)	31.5	8.9	2	1.32	1.45	46.15	0.11	0.62	0.11	0.19	0.13	0.002
SD-42 (Kt2 08/10)	38.1	9.91	1.93	1.1	1.37	46.09	0.08	0.67	0.11	0.07	0.07	0.003

- Selected trace elements

Sample	Distance from the bottom, m	Ba	Co	Sr	Th	U	V	Zr	TOT/C	TOT/S	Mo	Cu	Pb	Zn	Ni	As	Cd	
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		1	0.2	0.5	0.2	0.1	8	0.1	0.02	0.02	0.1	0.1	0.1	1	0.1	0.5	0.1	
SD-42	1.3	335	18.2	171.8	10.9	2.9	96	159.5	3.01	<0.02	0.2	3.9	41	40	34.6	10.9	0.1	
SD-47	2.1	116	4.5	257	4.4	4.9	40	62.1	8.89	<0.02	<0.1*	2.2	4.2	15	10.9	3	<0.1	
SD-35	4.4	230	3.9	284.7	3.5	1.1	24	62.6	8.64	<0.02	0.1	23.2	4.3	14	10.8	1.5	<0.1	
SD-31	5.0	67	2.4	421.4	2.2	0.7	14	38.8	9.93	<0.02	0.2	1.6	7.4	19	5.6	2.8	<0.1	
SD-38	5.9	126	3.5	301	3.9	1.3	20	57.5	9.28	0.02	0.1	1.9	6.1	28	11.7	1.5	<0.1	
SD-32	6.6	282	15.1	235.8	9.9	2	72	157.2	3.74	0.02	0.2	6.2	13.1	37	31.2	5.4	<0.1	
SD-30	7.8	126	3.8	319.2	3	0.9	17	65.8	9.45	0.1	0.1	2.1	8.8	31	8.7	2.3	<0.1	
SD-44	10.3	105	3.6	325	3.1	0.8	23	46.2	9.96	0.05	0.1	16.8	5.9	22	6.9	2.6	0.1	
SD-39	14.2	94	2.7	366.9	2.3	0.7	13	41.4	9.88	0.02	<0.1*	3.7	3.8	17	6	1.9	<0.1	
SD-36	15.9	355	2	398.9	1.9	0.9	9	34.3	10.14	0.04	<0.1*	1.7	6.9	23	5.2	1.5	0.1	
SD-49	18.8	95	3	394.7	2.4	0.7	21	37.4	10.08	<0.02	0.1	3.7	6.9	36	6	1.7	0.3	
SD-46	20.9	82	2.8	427.1	2.8	0.9	20	44.1	9.55	0.22	0.4	4.5	13	251	7.7	3.9	1	
SD-50	24.4	265	4	325.7	4.9	1.2	33	61.8	9.18	0.02	<0.1*	6.2	6.4	13	10.9	3.9	<0.1	
SD-41	25.6	126	2.1	416.7	2.6	0.8	13	48.9	10.41	0.24	0.4	3.3	19.8	88	7.9	3.4	0.3	
SD-29	31.5	200	2.6	371.4	2.6	1.3	12	33.7	10.48	0.12	1.1	2.2	8.4	7	9.5	6.3	<0.1	
SD-45	38.1	59	1.9	303.8	2.1	2.1	17	30.6	10.69	<0.02	1.8	3.5	6.6	32	7.3	6.5	0.4	

**Taken as 0.09 ppm in calculated ratios for redox proxies (see Text Fig. 7).

SOM 3

Carbon isotope (in organic matter) and total organic carbon (TOC) data from the Silurian–Devonian boundary succession at Dnistrove (see Text Fig. 8).

Sample	Distance from the bottom. m	$\delta^{13}\text{C}_{\text{org}}$ ‰	$\Delta^{13}\text{C}$ (*approximated)	TOC %
SD-21 (V1/7)	0.80			0.11
SD-1 (V1/9)	1.15	-28.13	28.9*	0.30
SD-12 (V1/16)	2.25			0.31
SD-14 (V2/-29)	5.00	-27.73	29.3*	0.26
SD-25 (V2/-19)	6.00	-26.24	27.9*	
SD-27 (V2/-16)	6.30			0.34
SD-16 (V2/-12)	6.75	-26.81	28.5*	
SD-11 (V2/-9)	7.10			0.30
SD-17 (V2/-8)	7.25	-26.45	28.2	
SD-13 (V2/-2)	8.40	-26.02	29.1*	
SD-15 (V2/0)	8.80	-25.71	29.0	
SD-18 (V2/1.5)	9.00			0.20
SD-4 (V2/3)	9.20	-25.63	29.6*	0.29
SD-7 (V2/10)	9.90			0.26
SD-26 (V2/24)	11.35			0.40
SD-3 (V2/36)	12.50	-26.71	30.8*	0.24
SD-2 (V2/49)	13.90	-27.36	31.2*	0.25
SD-8 (V2/75)	16.55	-26.90	29.9	0.46
SD-6 (V2/92)	18.10			0.27
SD-24 (V2/115)	20.00			0.15
SD-20 (V2/150)	23.90	-24.60	28.4*	
SD-19 (V2/170)	25.80	-26.82	30.2*	0.22

*Approximated $\Delta^{13}\text{C}$ levels are calculated for $\delta^{13}\text{C}_{\text{carb}}$ values averaged for two stratigraphically adjacent samples.

SOM 4

Inorganic geochemical data from the Silurian–Devonian boundary succession at Dnistrove (see Text: Table 1 and Fig. 9), and from Lower Devonian (Ivanie Beds) section at Zalischyki and Ivanye Zolote (localities 58 and 76 in Nikiforova et al. 1972).

- Major elements

Sample	Distance from the bottom. m	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	K ₂ O	TiO ₂	P ₂ O ₅	MnO	Cr ₂ O ₃
		%	%	%	%	%	%	%	%	%	%	%
		0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Dnistrove												
SD-21 (V1/7)	0.80	33.93	9.25	3.33	2.98	23.64	0.54	2.77	0.47	0.11	0.09	0.009
SD-1 (V1/9)	1.15	14.64	3.51	1.35	1.74	41.23	0.28	1.09	0.17	0.08	0.11	0.003
SD-12 (V1/16)	2.25	20.26	4.86	2.02	2.32	35.49	0.38	1.53	0.25	0.08	0.04	0.006
SD-14 (V2/-29)	5.00	14.04	3.57	1.45	1.89	40.96	0.22	1.07	0.17	0.11	0.09	0.003
SD-23 (V2/-25)	5.40	16.47	4.75	2.06	2.21	38.36	0.23	1.41	0.21	0.07	0.05	0.004
SD-25 (V2/-19)	6.00	16.54	3.88	1.34	2.04	39.78	0.24	1.23	0.19	0.17	0.06	0.003
SD-27 (V2/-16)	6.30	12.4	3.05	1.7	1.4	43.55	0.16	0.96	0.15	0.07	0.05	0.003
SD-16 (V2/-12)	6.75	27.2	7.98	2.96	2.79	28.05	0.38	2.58	0.38	0.23	0.05	0.006
SD-11 (V2/-9)	7.10	13	3.34	1.41	1.95	41.55	0.18	1.08	0.15	0.15	0.07	0.002
SD-17 (V2/-8)	7.25	45.48	12.65	4.72	3.28	12.46	0.66	3.99	0.66	0.14	0.04	0.009
SD-13 (V2/-2)	8.40	26.37	7.28	2.61	2.92	29.48	0.35	2.33	0.34	0.09	0.05	0.005
SD-15 (V2/0)	8.80	39.18	11.2	3.92	5.27	15.42	0.5	3.62	0.56	0.08	0.05	0.009
SD-18 (V2/1.5)	9.00	15.52	3.6	1.23	1.89	40.41	0.23	1.13	0.18	0.18	0.07	0.003
SD-4 (V2/3)	9.20	17.51	4.17	1.61	2.13	38.59	0.26	1.31	0.21	0.09	0.05	0.004
SD-7 (V2/10)	9.90	17.69	5.2	2.04	2.82	36.12	0.19	1.71	0.23	0.05	0.04	0.004
SD-26 (V2/24)	11.35	16.73	4.69	1.77	1.87	38.6	0.2	1.53	0.21	0.06	0.05	0.003
SD-3 (V2/36)	12.50	14.37	3.79	1.74	1.93	40.13	0.16	1.25	0.18	0.04	0.04	0.003
SD-5 (V2/46)	13.55	20.67	5.42	2.48	3.39	33.84	0.25	1.78	0.28	0.06	0.05	0.005
SD-2 (V2/49)	13.90	18.45	4.86	1.78	2.1	37.37	0.25	1.55	0.24	0.07	0.04	0.004
SD-10 (V2/67)	15.70	13.08	3.24	1.51	1.72	42.59	0.15	1.05	0.15	0.03	0.04	<0.002*
SD-8 (V2/75)	16.55	15.38	4.78	2.04	1.88	38.12	0.15	1.58	0.22	0.07	0.04	0.003
SD-22 (V2/80)	16.95	16	5.36	2.1	2.04	36.7	0.14	1.8	0.24	0.07	0.03	0.003
SD-6 (V2/92)	18.10	11.96	3.14	1.28	1.69	43.48	0.14	1.02	0.15	0.05	0.04	0.002
SD-9 (V2/102)	19.05	10.8	2.33	1.1	1.66	44.42	0.13	0.72	0.12	0.04	0.04	<0.002*
SD-24 (V2/115)	20.00	6.23	1.27	0.75	1.31	49.22	0.08	0.38	0.06	0.02	0.04	<0.002*
SD-20 (V2/150)	23.90	8.13	1.39	0.91	1.75	46.9	0.11	0.42	0.07	0.03	0.04	<0.002*
SD-19 (V2/170)	25.80	25.7	4.66	1.89	1.23	34.03	0.19	1.57	0.23	0.08	0.03	0.004
Zalischyki (Za) and Ivanye Zolote (Iz)												
SD-37 (Za 10)		57.78	18.15	7.16	3.44	0.91	0.82	4.2	0.91	0.15	0.04	0.018

SD-43 (Za 3)	10.28	2.89	1.75	1.29	44.85	0.17	0.68	0.14	0.19	0.27	0.003
SD-33 (Za 6)	55.99	18.87	8.05	3.35	0.35	0.65	4.54	0.93	0.06	0.04	0.018
SD-34 (Za 7)	56.14	14.83	6.02	2.78	5.91	0.96	3.38	0.77	0.32	0.09	0.015
SD-28 (Za 8)	42.88	8.72	3.55	1.85	20.43	0.92	1.83	0.49	0.11	0.26	0.008
SD-40 (Za 9)	9.76	1.95	1.14	1.02	46.04	0.25	0.42	0.11	0.16	0.31	<0.002*
SD-48 (IZ 06)	11.55	2.16	1.24	1.06	45.19	0.25	0.46	0.11	0.13	0.31	0.002

*Taken as 0.019% (Cr), in calculated ratios for redox proxies (see Text Fig. 9); **Calculated values include the approximated concentrations in samples below the detection level.

- Selected trace elements

Sample	Distance from the bottom. m	Ba	Co	Sr	Th	U	V	Zr	TOT/C	TOT/S	Mo	Cu	Pb	Zn	Ni	As	Cd
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		1	0.2	0.2	0.1	8	0.1	0.02	0.02	0.1	0.1	0.1	1	0.1	0.5	1	0.1
Dnistrove																	
SD-21	0.80	259	11.4	260.5	8.9	4.3	74	128.6	5.46	<0.02	<0.1*	21.9	3	36	31.6	3.1	<0.1
SD-1	1.15	88	3.6	368.1	4.3	6	33	55.2	10.01	<0.02	<0.1*	17.8	2.2	15	11.1	<0.5	<0.1
SD-12	2.25	138	6.8	376.9	6.1	1.6	33	93.8	8.15	0.02	0.1	6	3.3	15	17.5	2.5	<0.1
SD-14	5.00	86	3.1	314	3.5	3.2	31	52.9	9.36	<0.02	<0.1*	17.3	2.1	17	9.7	1.2	<0.1
SD-23	5.40	114	7.2	270.9	3.7	2.5	33	49.7	8.78	0.04	<0.1*	17.9	2.9	14	14.4	2.5	<0.1
SD-25	6.00	87	3.6	274	3.5	1.4	25	50.5	9.1	0.04	<0.1*	27.2	2.5	15	8.9	1.6	<0.1
SD-27	6.30	90	3.2	315.6	2.8	1.8	23	38.6	9.7	0.38	0.9	20.2	48.9	6543	8.7	3.7	20
SD-16	6.75	160	9.8	185	7	2.9	67	92.9	6.77	0.03	1.2	25.1	18.4	40	25.4	5.6	0.2
SD-11	7.10	67	3.9	263.7	2.8	1.6	30	38.2	9.7	0.03	0.4	8.4	6.2	18	9.9	2.9	<0.1
SD-17	7.25	288	15.3	160.4	11.9	3.4	91	188.4	3.18	0.03	0.6	41.1	18.8	40	34.3	10.4	<0.1
SD-13	8.40	153	7.5	234.8	5.7	1.9	54	84.1	6.92	0.04	0.2	20.7	4.5	24	18.8	2	<0.1
SD-15	8.80	276	11.4	221.1	8.9	2.5	85	139.3	4.54	0.03	0.2	19.1	6.7	31	30.2	2.9	<0.1
SD-18	9.00	88	3.2	283.3	3.3	1.7	29	46.5	9.21	0.03	<0.1*	21.3	2.8	17	7.2	0.8	<0.1
SD-4	9.20	99	4.2	275.3	3.7	1.5	34	62.3	8.97	0.03	<0.1*	11	2.5	12	10.3	0.5	<0.1
SD-7	9.90	106	4.7	271.4	4.1	1.4	50	54.2	8.18	0.03	<0.1*	12.6	4	19	11.4	1.5	<0.1
SD-26	11.35	92	5.3	263.3	3.7	1	30	52.8	8.5	0.02	<0.1*	7.3	3.3	12	11	1.7	<0.1
SD-3	12.50	73	4.9	317.6	3.1	0.9	29	39.9	9.81	0.04	0.1	8.1	7	9	12.3	1.6	<0.1
SD-5	13.55	128	7	327.8	4.5	1.6	41	75.1	8.23	0.04	0.3	9.6	6.4	16	18.2	1.9	<0.1
SD-2	13.90	103	3.7	337	4.2	1.4	39	71	9.1	0.02	<0.1*	13	2.9	13	9.4	<0.5	<0.1
SD-10	15.70	64	2.3	307.7	2.5	0.7	30	33.3	9.53	0.03	<0.1*	5.2	6.3	9	4.5	<0.5	<0.1
SD-8	16.55	89	5.1	312.5	3.7	0.9	44	42.9	8.85	0.02	0.1	8	7.7	12	12	1.5	<0.1
SD-22	16.95	93	3.2	307.2	3.9	1	38	45.7	8.47	<0.02	0.1	7.2	5.9	14	10.6	1.3	<0.1
SD-6	18.10	74	2.7	320	2.5	1	38	32.9	9.63	0.02	<0.1*	5.6	3.1	12	6.3	<0.5	<0.1
SD-9	19.05	103	2.4	356.9	2.1	0.8	26	28.3	10.06	0.02	<0.1*	4.7	2.3	9	6.7	0.9	<0.1

SD-24	20.00	109	1.5	346.6	1	0.8	<8*	11.9	10.98	<0.02	<0.1*	10.3	3.3	11	4.1	1.1	<0.1
SD-20	23.90	38	2	329.7	1.4	0.8	8	59.4	10.71	0.03	0.2	7.7	5.6	14	4.2	0.6	<0.1
SD-19	25.80	110	4.2	234.4	3.6	1.5	36	53.6	7.63	<0.02	0.1	12.6	3.5	12	12.4	2.2	<0.1
Zalishyki (Za) and Ivanye Zolote (Iz)																	
SD-37 (Za 10)		342	21.5	133.9	13.3	3	124	172.6	0.22	0.04	<0.1*	28.9	4.7	75	65.9	10.8	<0.1
SD-43 (Za 3)		56	4.7	1299.2	3.3	0.5	25	28.5	10.07	0.04	0.2	20.9	42.9	14	12	6.6	<0.1
SD-33 (Za 6)		346	21	127.5	12.8	3.1	139	157.7	0.19	0.02	0.2	34.1	40.4	69	62.6	16.8	<0.1
SD-34 (Za 7)		263	17.9	246.3	11.9	3.7	100	212.4	1.26	0.04	0.6	9.8	9.2	54	52.3	19.1	<0.1
SD-28 (Za 8)		168	8.2	399.2	7.7	2.3	55	145.1	4.52	<0.02	<0.1*	16.2	11.6	31	31.1	<0.5	<0.1
SD-40 (Za 9)		53	3.6	891.4	1.9	0.6	17	31.8	10.01	0.02	0.3	5.9	8.4	13	8.2	4.6	<0.1
SD-48 (IZ 06)		45	3.3	899.6	2.2	0.8	9	31.1	10.31	<0.02	0.8	4	4.2	8	7	5.5	<0.1
Averaged 7 samples		182	11.4	571	7.6	2	67	111.3	5.2	0.03**	0.3**	17.1	17.3	37.7	34.2	9.1	<0.1

*Taken as 0.09 ppm (Mo) and 7 ppm (V) in calculated ratios for redox proxies (see Text Fig. 9); **Calculated values include the maximal concentrations in samples below the detection level.

SOM 5

Organic geochemical data from the Silurian to Lower Devonian localities of Podolia.

Sample	CPI	CPI(25-31)	Pr/Ph	Pr/n-C17	Ph/n-C18	SCh/LCh
SD-31/ Kytayhorod	1.40	1.48	1.10	1.35	0.76	13.11
SD-30/ Kytayhorod	1.46	1.44	2.41	1.55	0.60	9.88
SD-16/ Dnistrove	1.48	2.01	1.25	1.19	0.81	10.94
SD-33 Za6/ Zalischyki	1.68	1.54	1.57	0.92	0.69	16.16

CPI = Carbon Preference Index: $0.5 [\Sigma(C_{25}-C_{33}) \text{ odd} + \Sigma(C_{23}-C_{31}) \text{ odd}] / \Sigma(C_{24}-C_{32}) \text{ even}$.

CPI(25-31) = Carbon Preference Index for n-alkanes from 25 to 31 carbon atoms in the molecule: $(C_{25} + C_{27} + C_{29}) + (C_{27} + C_{29} + C_{31}) / 2(C_{26} + C_{28} + C_{30})$.

Pr = Pristane; Ph = Phytane; Pr/n-C17 — pristane/n-heptadecane ratio, Ph/n-C18 — phytane/n-octadecane ratio.

SCh/LCh = short chain to long chain n-alkanes ratio: $(nC_{17} + nC_{18} + nC_{19}) / (nC_{27} + nC_{28} + nC_{29})$.

SOM 6

Chitinozoan

- Taxa distribution and frequency in the Silurian succession at Kytayhorod data (see Text Fig. 16).

Sample number	LLANDOVERY							WENLOCK										
	RESTIV BEDS							DEM SHYN BEDS				MARYANIVKA BEDS						
	Kt-01	Kt-02	Kt-03	Kt-04	Kt-05	Kt-06	Kt-07	Kt-08	Kt-09	Kt-10	Kt-11	Kt-12	Kt-13	Kt-14	Kt-15	Kt-16	Kt-17	Kt-18
<i>Ancyrochitina ancyrea</i>		5	8	3					10									
<i>Ancyrochitina ansarviensis</i>							8											
<i>Ancyrochitina primitiva</i>								11	9									
<i>Ancyrochitina</i> sp.		4	5	2	12	18	12	8	12	11	12		22	15	13	12	11	12
<i>Angochitina longicollis</i>		8	13	10														
<i>Angochitina</i> sp.		12	10	1	10	14	10	4	4	1	10		8	6	8			
<i>Cingulochitina cingulata</i>														4	7			
<i>Cingulochitina crassa</i>													11					
<i>Cingulochitina odiosa</i>																6		
<i>Cingulochitina</i> sp.								9										
<i>Conochitina proboscifera</i>			30	18	9	5	9			10	9		7	8	6		9	24
<i>Conochitina pachycephala</i>																	10	64
<i>Conochitina</i> aff. <i>proboscifera</i>		22																
<i>Conochitina tuba</i>																4		
<i>Conochitina</i> cf. <i>mamilla</i>					3	1	3				3		5	3				
<i>Conochitina</i> cf. <i>tuba</i>										3					5			
<i>Conochitina</i> sp.					12	8	7	11		14	4		2	8			5	12
<i>Calpichitina densa</i>				7							7				14			
<i>Eisenackitina lagena</i>			3													16	11	6
<i>Eisenackitina</i> cf. <i>dolioliformis</i>					11		6											
<i>Eisenackitina</i> cf. <i>lagena</i>													11		10			
<i>Eisenackitina</i> sp.								3		16	15			1				
<i>Margachitina margaritana</i>					31	26	13		43	11	33		20	13	23	40		
<i>Pterochitina</i> cf. <i>macroptera</i>																4		
Undetermined Chitinozoa	13											15						
Number of chitinozoans in sample	13	51	69	41	88	72	68	46	78	66	93		86	58	86	82	46	118
Number of chitinozoans/gram rock	1	5	5	4	8	7	7	5	7	6	8	1	6	5	5	5	3	4

- Ecological indices for the Silurian succession at Kytayhorod data (see Text Fig. 18).

Sample number	Kt-01	Kt-02	Kt-03	Kt-04	Kt-05	Kt-06	Kt-07	Kt-08	Kt-09	Kt-10	Kt-11	Kt-12	Kt-13	Kt-14	Kt-15	Kt-16	Kt-17	Kt-18
Frequency - Number of chitinozoa/gram rock	1	5	5	4	8	7	7	5	7	6	8	1	6	5	5	5	3	4
Diversity - Taxa_S	x	3	4	4	5	5	6	5	4	6	7	x	7	7	8	6	4	4
Dominance_D	x	0.37	0.34	0.31	0.26	0.26	0.2	0.28	0.39	0.22	0.2	x	0.17	0.2	0.16	0.31	0.25	0.44
Margalef's richness index	x	0.51	0.71	0.81	0.92	0.94	1.19	1.05	0.69	1.19	1.32	x	1.35	1.48	1.57	1.14	0.78	0.63
Events					+										-	+/-		

x- impoverished sample (below 10 specimens)

Diversity corresponds to minimal number of species, i.e. specimens determined in the generic term only are treated as one species or arbitrarily assigned to species identified in the sample, proportionally to their abundance

Events: + immigration, - extinction

- Taxa distribution and frequency across the Silurian-Devonian passage beds at Dnistrove data (see Text Fig. 21).

Sample number	SILURIAN										DEVONIAN																			
	Dzvenyhorod Member										Khudykivtsi Member																			
	V-01	V-02	V-03	V-04	V-05	V-06	V-07	V-08	V-09	V-10	V-11	V-12	V-13	V-14	V-15	V-16	V-17	V-18	V-19	V-20	V-21	V-22	V-23	V-24	V-25	V-26	V-27	V-28	V-29	number
<i>Ancyrochitina ancyrea</i>										6											4									10
<i>Ancyrochitina cf. aurita</i>																									12	42		20	74	
<i>Ancyrochitina desmea</i>														16										13	24	44			97	
<i>Ancyrochitina primitiva</i>						4				12									7										23	
<i>Ancyrochitina cf. lemniscata</i>	1	1					1																	11					14	
<i>Ancyrochitina sp.</i>			4			2	3		1		1		2				24	3	2		3					14	35		94	
<i>Angochitina sp.</i>			3	4	1					16		10	17	10	12				16									45	134	
<i>Anthochitina superba</i>																								7					7	

SOM 6. Conodont ecological data

- The Silurian succession at Kytayhorod (see Text Figs. 15 and 18).

Distance from the bottom, m	0.1	1.2	1.9	2.7	3.5	4.3	5.1	5.6	6.9	15	15.9	16.3	18	19.8	23.3	25.5	28.8	30.8
Frequency	35.0	36.5*	19.0	22.0	27.3	27.4	18.0	25.0*	1.9*	50.5	10.1	15.1	69.1	125.8	181.1	16.7	194.2	222.2
Taxa_S	9	6	5	3	1	2	4	3	1	2	3	3	4	6	1	1	6	4
Dominance D	0.1633	0.4903	0.438	0.44	1	0.82	x	0.5266	x	0.5463	x	0.405	0.6413	0.5445	1	x	0.6566	0.8803
Margalef's richness index	3.031	1.698	1.668	0.8686	0	0.4343	x	0.7797	x	0.3189	x	0.8341	0.8247	1.132	0	x	1.086	0.6846
Events		+	−												−	+/-		

Frequency* - approximated for an average size of sample (0.31 kg).

- The Silurian–Devonian succession at Dnistrove (see Text Figs. 20 and 23).

Distance from the bottom, m	0.1	1.2	3.7	5.8	6.6	7.2	8	8.6	9	11.1	12.2	15.6	17.5	19.7	24.3	26.9
Sample	14/1	14/1a	14/1b 14/H/4	D/41a	14/D1	33/2	14/4	14/4b	14/4a	14/5	14/5a	14/5v	14/6	14V/4	14/7	14/8, 14V/5
Frequency	490	204	50*	13*	?	?	73	?	100	26	28	643	200	?	83*	59
Taxa_S	4	4	3	3	3	3	1	3	4	2	2	5	7	3	6	4
Events				+		−										

Frequency* - approximated for an average size of sample (0.3 kg).