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SUPPLEMENTARY ONLINE MATERIAL FOR

**Revision of the family haploceratid ammonoids from the Štramberk
Limestone, Tithonian–lower Berriasian (uppermost Jurassic–lowermost
Cretaceous) of the Outer Western Carpathians**

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Supplementary Online Material

Measured values:

SOM 1. *Haploceras elimatum* – microconchs.

SOM 2. *Haploceras elimatum* – macroconchs.

SOM 3. *Haploceras staszyci*.

SOM 4. *Haploceras tithonium*.

SOM 5. *Hypolissoceras carachthei*.

SOM 6. *Hypolissoceras woehleri*.

SOM 7. *Volanites verruciferus*

Abbreviations: B, whorl breadth; D, diameter; H, whorl height; U, umbilicus width

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SOM 1. *Haploceras elimatum* – microconchs. Red, own measurement; black (Zei), measurements taken from Zeiss (2001); Sar, Sarti (2020). Measurements in mm.

specimen	D	H	H/D	U	U/D	B	B/D
Zei 42/94-95	49.5	24.8	0.500	10.2	0.210	17.0	0.34
PL4860	43.2	20.7	0.480	10.4	0.240	15.3	0.35
PL5112	41.3	19.3	0.470	9.6	0.230	14.4	0.35
AS1870	39.6	18.4	0.460	9.3	0.230	13.2	0.33
PL5110	39.0	18.8	0.480	9.0	0.230	14.8	0.38
PL5056	39.0	19.2	0.490	7.4	0.190	14.6	0.37
PL5111	37.4	18.3	0.490	8.2	0.220	13.5	0.36
B12690	37.0	18.0	0.490	8.6	0.220	12.0	0.31
AS1868	34.8	16.8	0.480	7.1	0.200	12.3	0.35
B13831	34.3	15.4	0.450	7.2	0.210	12.0	0.35
PL5056	32.2	16.1	0.500	7.0	0.220	11.8	0.37
Ro – 116	31.8	14.8	0.465	7.4	0.230	12.1	0.38
Z4217	30.7	14.6	0.475	7.6	0.250	11.4	0.37
Z4224	28.5	13.9	0.490	6.3	0.220	10.2	0.36
PL 5058	26.5	13.0	0.490	6.3	0.240	10.0	0.38
PL5057	25.6	12.1	0.470	6.0	0.230	9.0	0.35
PL8964/3	20.8	9.5	0.460	4.9	0.235	7.4	0.35

SOM 2. *Haploceras elimatum* – macroconchs. Red, own measurement; black (Zei), measurements taken from Zeiss (2001); Sar, Sarti (2020). Measurements in mm.

specimen	D	H	H/D	U	U/D	B	B/D
Zei 42/98	164.0	76.0	0.46	30.4	0.20	58.0	0.340
Z1824	157.0	78.0	0.50	29.0	0.19	60.0	0.350
PL5109	148.5	68.6	0.46	34.0	0.23	54.0	0.360
Zei 42/88	141.5	71.2	0.50	29.5	0.21	53.0	0.380
AS III 802	123.6	57.4	0.46	26.3	0.21	44.3	0.360
B13569	105.0	52.5	0.50	19.9	0.19	37.9	0.360
Z4177	87.5	42.4	0.48	17.5	0.20	33.3	0.380
MM Ge 30334	86.8	42.0	0.48	20.0	0.23	31.0	0.360
PL5108	84.8	41.3	0.49	17.0	0.20	29.1	0.340
Sar P272A	84.0	41.5	0.49	21.0	0.25	30.7	0.365
PL2520	73.6	35.8	0.49	15.6	0.21	28.0	0.380
PL5107	69.3	34.6	0.50	14.7	0.21	25.8	0.370
SarMR280	62.2	29.0	0.465	14.0	0.225	23.0	0.37
AS III 800 - lectotype	61.3	30.0	0.49	13.4	0.22	20.7	0.340
SarBPV442	60.0	27.7	0.460	12.5	0.210	22.0	0.37
SarG271	52.5	23.7	0.450	13.0	0.250	17.0	0.32

SOM 3. *Haploceras staszyci*. Red, own measurement; black (Zei), measurements taken from Zeiss (2001); Sar, Sarti (2020). Measurements in mm.

specimen	D	H	H/D	U	U/D	B	B/D
B13570	82.5	42.8	0.52	13.6	0.17	32.2	0.39
AS III 805 - neotype	73.6	37.6	0.51	14.3	0.19	26.3	0.36
AS III 803	69.2	35.7	0.51	12.7	0.18	27.0	0.39
ZeiVIII/3	68.0	32.0	0.47	14.0	0.21	26.0	0.38
SarM344-204	63.0	30.0	0.48	13.5	0.21	23.0	0.365
Zei, p. 38	60.0	30.0	0.50	10.5	0.21	24.0	0.40
Z1585	51.7	27.0	0.52	8.8	0.17	20.5	0.40
MM Ge 2608	48.3	23.6	0.49	10.5	0.22	19.5	0.40
Z1585	47.6	24.2	0.51	8.2	0.17	18.1	0.38
MM 010	47.5	25.0	0.52	8.4	0.18	19.5	0.41
Z1484	44.0	21.3	0.48	8.8	0.20	16.2	0.37
Z1484	43.8	21.4	0.49	8.8	0.20	16.5	0.38
PL5059	38.5	19.3	0.50	7.2	0.20	14.4	0.37
PL2431	30.8	15.6	0.51	6.3	0.20	11.2	0.36
PL5056	29.4	15.6	0.53	4.9	0.17	11.7	0.40
PL2477	29.1	14.9	0.51	5.4	0.185	10.7	0.37
PL2477	29.1	14.9	0.51	5.4	0.185	10.7	0.37

SOM 4. *Haploceras tithonium*. Red, own measurement. Measurements in mm.

specimen	D	H	H/D	U	U/D	B	B/D
AS III 797 - lectotype	61.0	34.5	0.565	8.1	0.130	23.0	0.380
Z2761	54.2	27.4	0.505	10.4	0.190	20.0	0.370
PL5113	49.0	27.4	0.560	7.0	0.140	18.4	0.375
PL5113	47.0	25.8	0.550	7.1	0.150	17.8	0.380
AS III 798	35.0	19.8	0.565	3.6	0.100	13.5	0.385
PL5061	30.2	15.1	0.500	5.6	0.185	10.5	0.350
AS III 799	21.6	12.6	0.580	4.0	0.185	8.2	0.380

SOM 5. *Hypolissoceras carachthei*. Red, own measurement; black (Sar), Sarti (2020). Measurements in mm.

specimen	D	H	H/D	U	U/D	B	B/D
AS III 47 - neotype	44.0	20.4	0.460	10.1	0.230	13.9	0.32
SarCAS6	43.7	20.0	0.460	8.0	0.180	13.7	0.31
AS III 48	43.6	19.8	0.450	10.8	0.250	14.0	0.32
Z2981a	41.0	19.8	0.480	8.9	0.220	13.5	0.33
AS III 49	40.7	17.7	0.430	6.9	0.170	13.5	0.33
PL4370	40.2	19.5	0.495	8.9	0.220	13.0	0.32
Z1503	37.2	17.7	0.475	7.8	0.210	12.0	0.32
Z1385	36.0	17.0	0.470	8.0	0.220	12.0	0.33
AS III 45	35.4	16.6	0.470	6.0	0.250	12.6	0.36
Z1385	34.1	16.4	0.480	7.0	0.205	11.6	0.34
PL2467	31.5	16.2	0.510	6.0	0.180	10.6	0.34
MM Ge30342	30.7	15.8	0.510	5.7	0.185	10.8	0.35
Z1503	29.0	14.9	0.510	5.6	0.190	10.2	0.35
PL2467	28.9	14.9	0.515	4.8	0.170	9.5	0.33
MM Ge 30344c	25.6	12.2	0.480	5.4	0.210	8.5	0.33
SarG275	17.4	8.3	0.480	3.7	0.210	6.5	0.37
SarA348V	17.0	8.0	0.470	4.0	0.235	5.6	0.33

SOM 6. *Hypolissoceras woehleri*. Red, own measurement. Measurements in mm.

specimen	D	H	H/D	U	U/D	B	B/D
AS III 811	116.0	58.5	0.500	23.0	0.200	42.5	0.370
MM05	61.0	27.0	0.440	15.0	0.250	19.4	0.320
Z4171	60.8	26.5	0.435	15.3	0.250	20.0	0.330
MM03	60.6	27.2	0.450	15.6	0.260	19.0	0.310
MM08	60.4	27.2	0.450	15.8	0.260	19.40	0.320
Z1817	59.0	25.6	0.430	14.8	0.250	19.0	0.320
MM09	58.9	26.0	0.440	13.9	0.240	19.4	0.330
MM06	56.5	25.7	0.450	14.8	0.260	18.3	0.320
Z4172	56.2	26.2	0.430	14.5	0.260	16.0	0.340
MM04	54.7	24.5	0.430	15.0	0.270	18.9	0.345
MM07	53.6	24.2	0.450	12.7	0.240	18.0	0.335
Z4206	52.8	23.8	0.450	13.2	0.250	18.9	0.360
MMGe30355	50.0	21.3	0.430	13.8	0.280	17.0	0.340
Z1817	48.6	23.0	0.470	12.4	0.225	17.7	0.360
MM02	39.6	18.9	0.450	10.2	0.260	13.5	0.340
Z2305	39.4	18.3	0.460	10.3	0.260	13.6	0.345
MM01	38.5	17.6	0.460	9.4	0.240	13.7	0.350
Z4210	37.6	17.4	0.460	9.8	0.260	12.9	0.340
B 12689	34.0	16.3	0.480	8.9	0.260	11.0	0.320
B 12689	31.8	14.6	0.460	8.0	0.250	9.8	0.310

SOM 7. *Volanites verruciferus*. Red, own measurement; black Fö, Fözy (1988); black Fö–Sch, Fözy and Scherzinger (2013); red Zi = Zittel (1870). Measurements in mm.

specimen	D	H	H/D	U	U/D	B	B/D
Fö J-8048	105.0	45.0	0.430	32.0	0.30	26.0	0.27
AS III 809 - lectotype	62.5	27.3	0.440	20.0	0.32	18.4	0.29
Z2981b	51.0	21.7	0.425	15.3	0.30	16.0	0.31
Fö–Sch	47.4	19.6	0.410	13.6	0.29		
Z2981b	43.0	18.8	0.440	11.9	0.28	13.6	0.32
AS III 807	41.6	16.3	0.390	12.4	0.30	12.6	0.30
AS III 807	40.0	15.3	0.380	13.3	0.33	12.4	0.31
Zi (without AS)	37.8	15.2	0.400	11.2	0.30	12.0	0.32