

PLATES

ALL SPECIMENS FROM THE COON CREEK FORMATION

AT ITS TYPE LOCALITY:

COON CREEK SCIENCE CENTER - MCNAIRY COUNTY, TENNESSEE

Plate 1

Pachydiscus arkansanus (Stephenson, 1941)

[Figures 1, 2; all figures natural size]

Figure 1. MPPM 1972. 46 .431., measuring 11.5 (length) x 8.5 cm (partial flank width) x 7 cm (whorl thickness).

Figure 2. A partial phragmocone of MPPM 1972. 46 .431.

Lewyites oronensis (Lewy, 1969)

[Figures 3-4b; all figures natural size]

Figure 3. BHI 2016, a partial fragment near the aperture.

Figure 4a. Shaft and partial whorl of BHI 2009.

Figure 4b. Ventral view of BHI 2009.

Parasolenoceras pulcher Cobban and Kennedy, 1985a

[Figures 5-9; all figures natural size]

Figure 5. Nearly complete body chamber and partial phragmocone, MPPM 1972. 46 .430.

Figure 6. Nearly complete body chamber and partial phragmocone, BHI 2032.

Figure 7. BHI 5295, nearly complete body chamber and partial phragmocone with partial twisting of the two shafts.

Figure 8. Partial phragmocone and body chamber negative, MPPM 1972. 46 .429.

Figure 9. Nearly complete body chamber and partial phragmocone, BHI 1986 (left), with juvenile *Solenoceras texanum* (right).

Plate 1 *Pachydiscus*, *Lewyites*, *Parasolenoceras*



Plate 2

Baculites claviformis Stephenson, 1941

[Figures 1-3b 1/2 full size; Figures 4-6 natural size]

Figure 1. BHI 5298 x 0.5, a large macroconch, with partial body chamber and phragmocone, 7 cm x 39 cm.

Figure 2. MPPM 1972. 46 .403 x 0.5, large phragmocone of a macroconch, 7.5 cm x 28 cm.

Figure 3a. MPPM 1972. 46 .404 x 0.5, large macroconch phragmocone, 7 cm x 26 cm.

Figure 3b. Cross section of MPPM 1972. 46 .404 x 0.5.

Figure 4. Microconch, MPPM 1972. 46 .405, with partial body chamber and phragmocone.

Figure 5a. A partial body chamber and phragmocone, BHI 2022.

Figure 5b. Cross section of BHI 2022.

Figure 6. Two juvenile specimens on matrix, both with partial body chambers and phragmocones, BHI 2028.

Plate 2 *Baculites claviformis*



Plate 3

Baculites undatus Stephenson, 1941

[Figure 1a, 1b one-half size; Figures 2-9 natural size]

Figure 1a. Ventral view of large macroconch, MPPM 1977. 223 x 0.5, entirely phragmocone 4.3 cm x 34 cm.

Figure 1b. Flank view of same specimen, MPPM 1972. 223 x 0.5.

Figure 2. BHI 202, partial body chamber and phragmocone of a microconch.

Figure 3a. Side view of BHI 2023.

Figure 3b. Cross section of same specimen, BHI 2023.

Figure 4. Juvenile and nearly complete specimen of BHI 2017.

Figure 5. Body chamber of BHI 5310.

Figure 6. Partial macroconch phragmocone, MPPM 1972. 46 .398.

Figure 7b. Cross section of MPPM 1972. 46 .401.

Figure 7a. Side view of same specimen, MPPM 1972. 46 .401, a probable microconch.

Figure 8. MPPM 1972. 46 .406, a small phragmocone.

Figure 9. Nearly complete body chamber of a microconch, BHI 2018.

Plate 3 *Baculites undatus*



Plate 4

Solenoceras reesidei Stephenson, 1941

[Figures 1-7, 13; all figures natural size]

Figure 1. A pair of juvenile macroconchs, BHI 1987.

Figure 2. A partial microconch, BHI 1989.

Figure 3. A partial microconch, MPPM 1972. 46 .424.

Figure 4. A partial macroconch, BHI 1991.

Figure 5. A fairly complete macroconch, BHI 1990.

Figure 6. A nearly complete microconch, BHI 1988.

Figure 7. A nearly complete juvenile macroconch, BHI 1993.

Solenoceras texanum (Shumard, 1861)

[Figures 8-12; all figures natural size]

Figure 8. A nearly complete microconch, BHI 1996.

Figure 9. A large portion from a macroconch, BHI 1995.

Figure 10. A microconch, MPPM 1972. 46 .423.

Figure 11. A fairly complete specimen of a macroconch, BHI 1992.

Figure 12. A nearly complete macroconch, BHI 1994.

Parasolenoceras pulcher Cobban and Kennedy, 1985a;

Solenoceras reesidei Stephenson, 1941; and *Cirroceras conradi* Morton, 1841

[Figure 13; natural size]

Figure 13. Multiple specimen BHI 5294, which contains the early whorls of *Cirroceras conradi* (center), three specimens of *Parasolenoceras pulcher* (one to the left, and one above *C. conradi*, and one on the right side of the specimen), and four specimens of *Solenoceras reesidei* (located on the bottom, the top, to the left of *C. conradi* and above the *P. pulcher*, and on the right side of the specimen directly above a *P. pulcher*).

Plate 4 *Solenoceras*, *Parasolenoceras*, *Cirroceras*

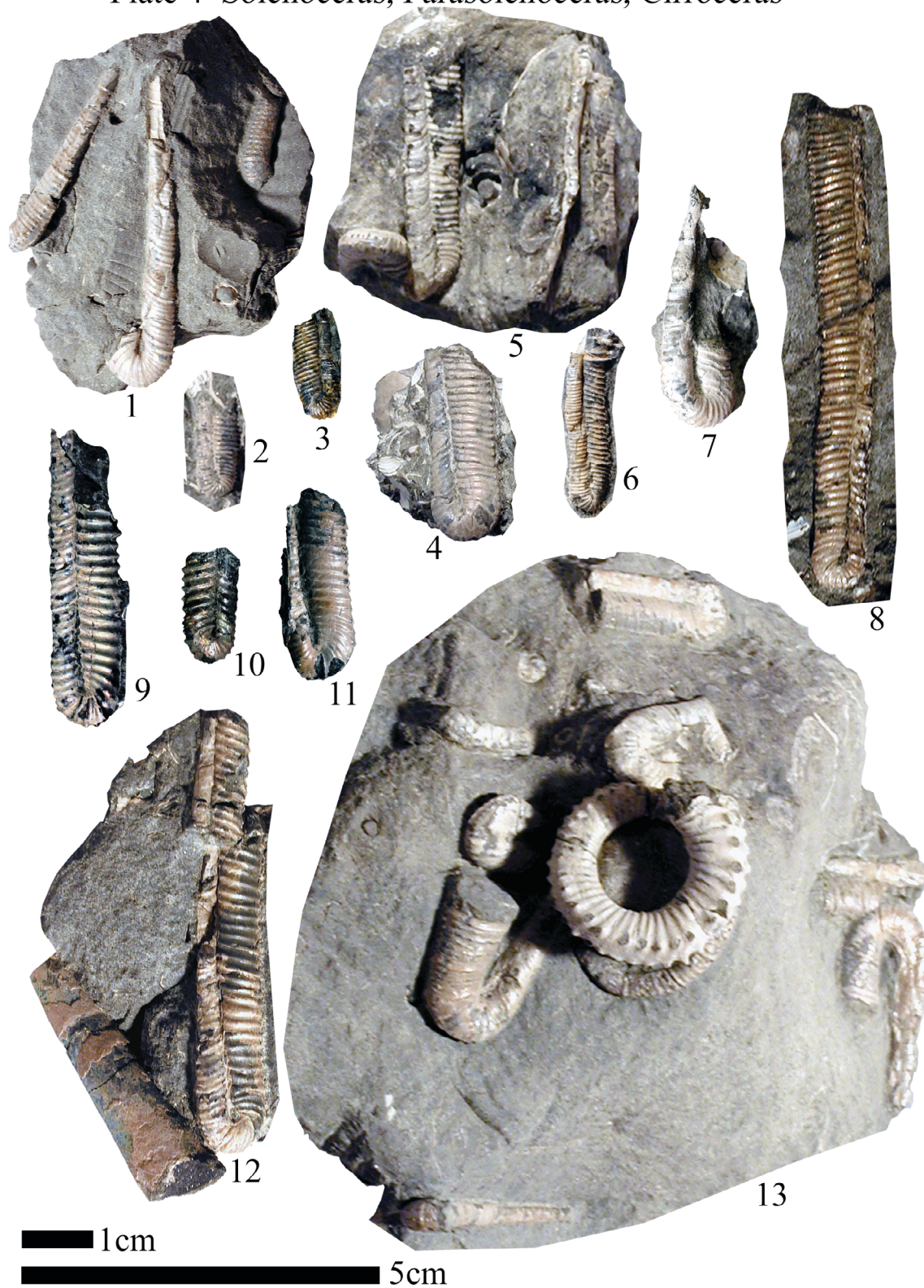


Plate 5

Cirroceras conradi (Morton, 1841)

[Figures 1-8b; all figures natural size]

Figure 1. Partial phragmocone whorl, MPPM 1972. 46 .410.

Figure 2. A partial whorl with sutures, MPPM 1972. 46 .409.

Figure 3. Part of a small phragmocone whorl, MPPM 1972. 46 .411.

Figure 4. Partial body chamber whorl, MPPM 1972. 46 .412.

Figure 5. A broken, in situ, body chamber and phragmocone, BHI 2010, approximately two and one-half whorls in three pieces.

Figure 6. A partial early whorl of phragmocone, BHI 5296.

Figure 7. A nearly complete broken, in situ, whorl, BHI 2012.

Figure 8a. One and one-half whorls of phragmocone, BHI 2013.

Figure 8b. The back side of the same specimen, BHI 2013.

Plate 5 *Cirroceras conradi*



Plate 6

Didymoceras cf. *D. aurarium*

[Figures 1a-3, 5-6; all figures natural size]

Figure 1a. One half whorl, BHI 2014.

Figure 1b. A ventral view of the same specimen, BHI 2014.

Figure 2a. One and one-half coils, MPPM 1972. 46 .412.

Figure 2b. A second view of MPPM 1972. 46 .412.

Figure 3. A partial whorl, MPPM 1972. 46 .413.

Figure 5. A partial coil, BHI 5289.

Figure 6. BHI 5290.

Cirroceras conradi (Morton, 1841)

[Figures 4; natural size]

Figure 4. A multiple specimen, BHI 5293, with two whorls of *Cirroceras conradi*, and a second heteromorph, *Didymoceras* sp. on the bottom of the rock.

Plate 6 *Didymoceras* sp., *Cirroceras*



Plate 7

Nostoceras approximans (Conrad, 1855)

[Figures 1-7; all figures natural size]

Figure 1. The ornate, short body chamber of MPPM 1972. 46 .419.

Figure 2. BHI 5301a, a nearly complete microconch, found with 5301b on Plate 8, Figure 6.

Figure 3a. The fat whorls and tall spire of BHI 5311.

Figure 3b. Top view of BHI 5311.

Figure 4. Hypotype BHI 2003 (Cobban and Kennedy, 1994).

Figure 5. The tall spire and robust whorls of BHI 5312.

Figure 6. Top view of MPPM 1972. 46 .417.

Figure 7. Hypotype BHI 2008 (Cobban and Kennedy, 1994).

Nostoceras hyatti Stephenson, 1941

[Figures 8-9; both figures natural size]

Figure 8. Body chamber, MPPM 1972.46.415.

Figure 9. Partial body chamber, MPPM 1972.46.416.

Nostoceras helicinum (Shumard, 1861)

[Figure 10; natural size]

Figure 10. The finely ribbed large body chamber, MPPM 1958.37.21.

Plate 7 *Nostoceras approximans*, *N. hyatti*, *N. helicinum*

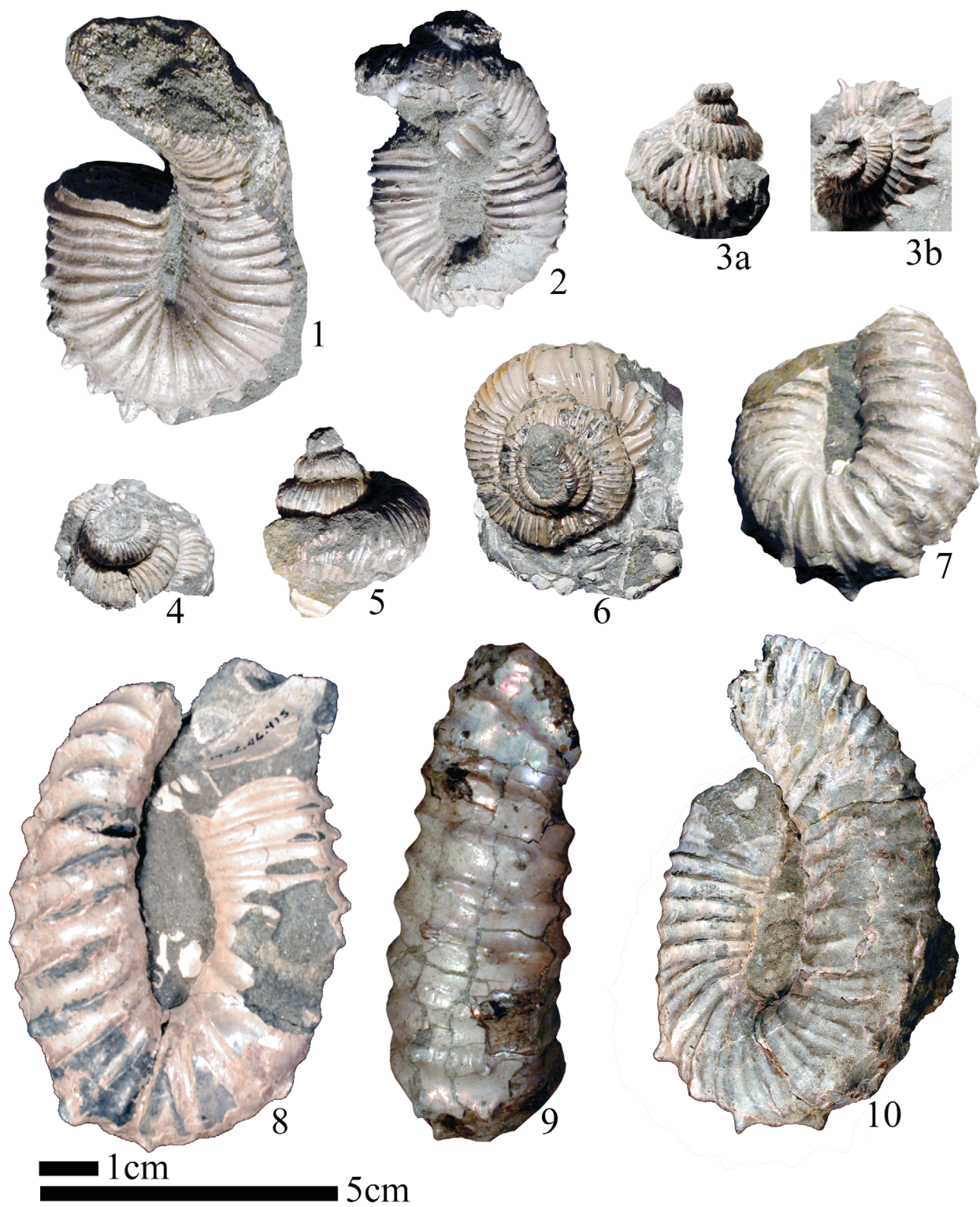


Plate 8

Nostoceras helicinum (Shumard, 1861)

[Figures 1a-6; all figures natural size]

Figure 1a. The back side of the macroconch on BHI 2141.

Figure 1b. BHI 2141, a double with a macroconch (left), and a microconch (right).

Figure 2. Whorls on Hypotype BHI 2002 (Cobban and Kennedy, 1994).

Figure 3. A double specimen, BHI 5314.

Figure 4. MPPM 1972. 46 .418 showing the long spines on the early whorls.

Figure 5. Partial low spired whorls of BHI 1999.

Figure 6. BHI 5301b, two with a partial *Nostoceras helicinum*, found with 5301a on Plate 7, Figure 2.

Plate 8 *Nostoceras helicinum*

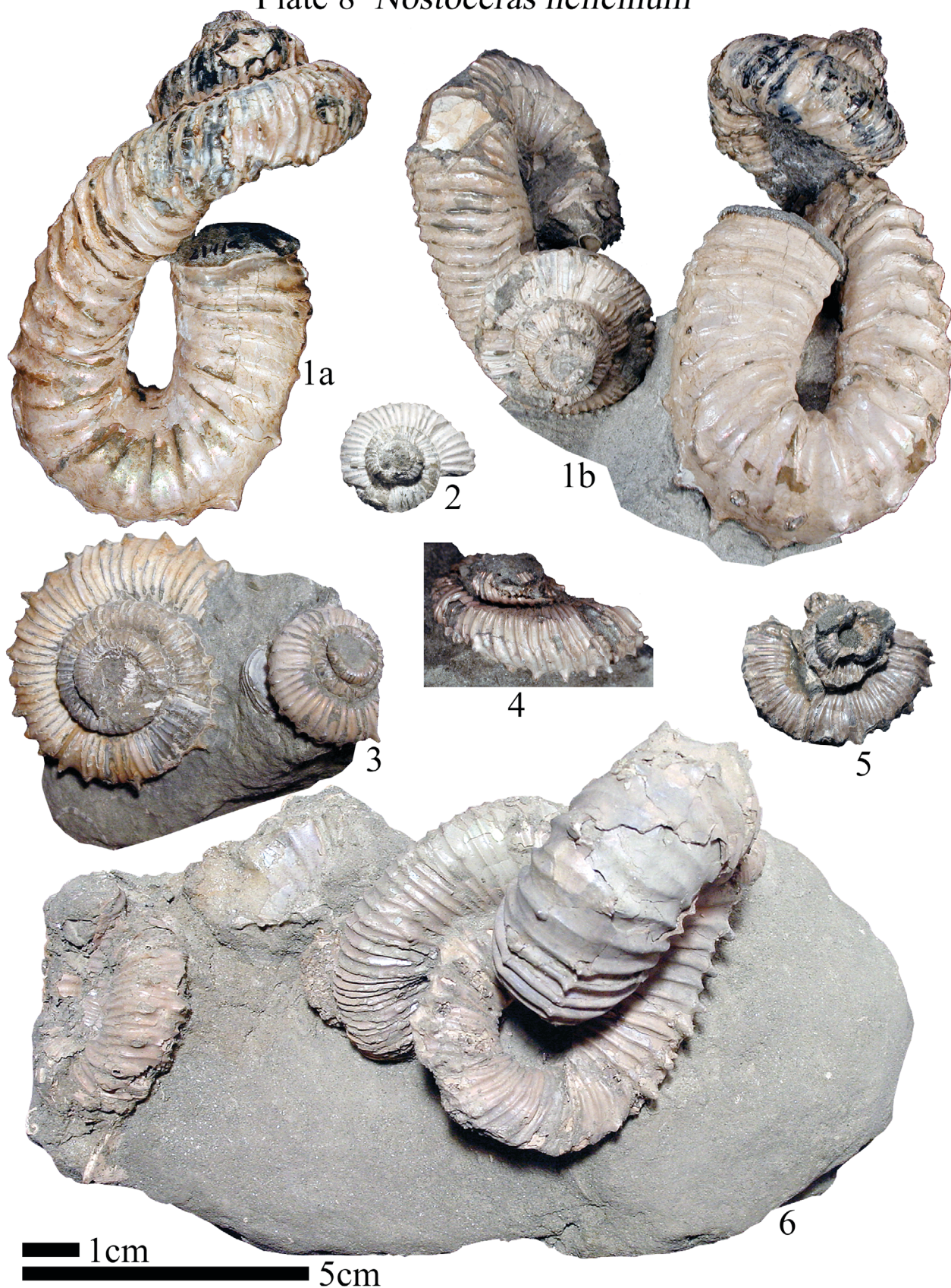


Plate 9

Nostoceras hyatti Stephenson, 1941

[Figure 1-8; all figures natural size]

Figure 1. BHI 2000.

Figure 2a. One side of the complete *Nostoceras hyatti* MPPM 1972. 46 .414.

Figure 2b. The other side of *Nostoceras hyatti* MPPM 1972. 46 .414.

Figure 3a. Top view of whorls on Hypotype BHI 2002 (Cobban and Kennedy, 1994).

Figure 3b. Side view of whorls on Hypotype BHI 2002 (Cobban and Kennedy, 1994).

Figure 4. Microconch body chamber, Hypotype BHI 2002 (Cobban and Kennedy, 1994).

Figure 5a. Side view of whorls on BHI 5313.

Figure 5b. Top view of whorls on BHI 5313.

Figure 6. Complete specimen, BHI 5300.

Figure 7. MPPM 1972. 46 .420, a beautiful ornate macroconch.

Plate 9 *Nostoceras hyatti*

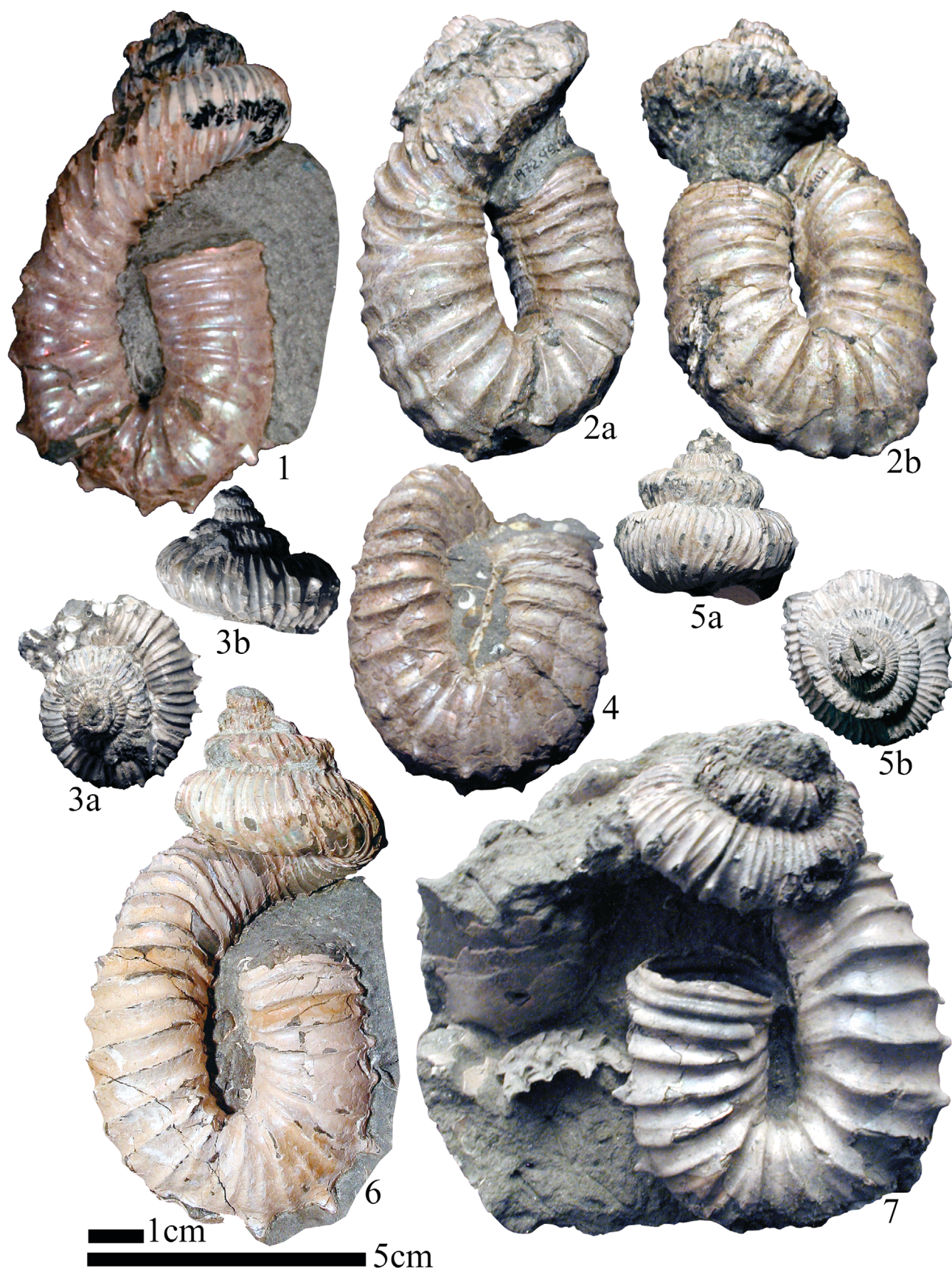


Plate 10

Discoscaphites sp.

[Figure 1a, 1b; both figures natural size]

Figure 1a. Oblique view of MPPM 1972.46.433, a macroconch.

Figure 1b. Ventral view of MPPM 1972.46.433.

Hoploscaphites cf. *H. brevis* (Meek, 1876)

[Figure 2a, 2b; both figures natural size]

Figure 2a. BHI 1982, a phragmocone of a macroconch.

Figure 2b. Ventral view of. BHI 1982.

Hoploscaphites (Jeletzkytes) reesidei (Wade, 1926)

[Figure 3a-8b; all figures natural size]

Figure 3a. BHI 1984, a microconch phragmocone.

Figure 3b. An oblique view from the other side of BHI 1984.

Figure 4a. MPPM 1972. 46 .408, a microconch phragmocone and partial body chamber.

Figure 4b. Ventral view of MPPM 1972. 46 .408.

Figure 5a. Side view of BHI 1982, a macroconch phragmocone.

Figure 5b. Ventral view of BHI 1982.

Figure 6a. MPPM 1972. 46 .407, a fairly complete macroconch.

Figure 6b. Ventral view of MPPM 1972. 46 .407.

Figure 7. The ventral view of the fragment, BHI 5291, part of a macroconch.

Figure 8a. BHI 1981, a nearly complete macroconch.

Figure 8b. Ventral view of BHI 1981.

Plate 10 *Discoscaphites*, *Hoploscaphites*



Plate 11

Eutrephoceras planoventer Stephenson, 1941

[Figures 1-8b; all figures natural size]

Figure 1. MPPM 1972. 46 .437

Figure 2a. View inside of phragmocone, showing the siphuncle on MPPM 1972. 46 .436.

Figure 2b. Side view of MPPM 1972. 46 .436.

Figure 3. Ventral view of MPPM 1972. 46 .441, showing the broad flattened venter, and the hyponomic (recessed) sinus.

Figure 4. MPPM 1972. 46 .438.

Figure 5a. Side view of BHI 5292.

Figure 5b. Ventral view of BHI 5292, showing the hyponomic (recessed) sinus.

Figure 6. MPPM 1972. 46 .440.

Figure 7. MPPM 1972. 46 .439.

Figure 8a. Side view of BHI 5299.

Figure 8b. Ventral view of BHI 5299, showing the hyponomic (recessed) sinus.

Plate 11 *Eutrephoceras planoventer*

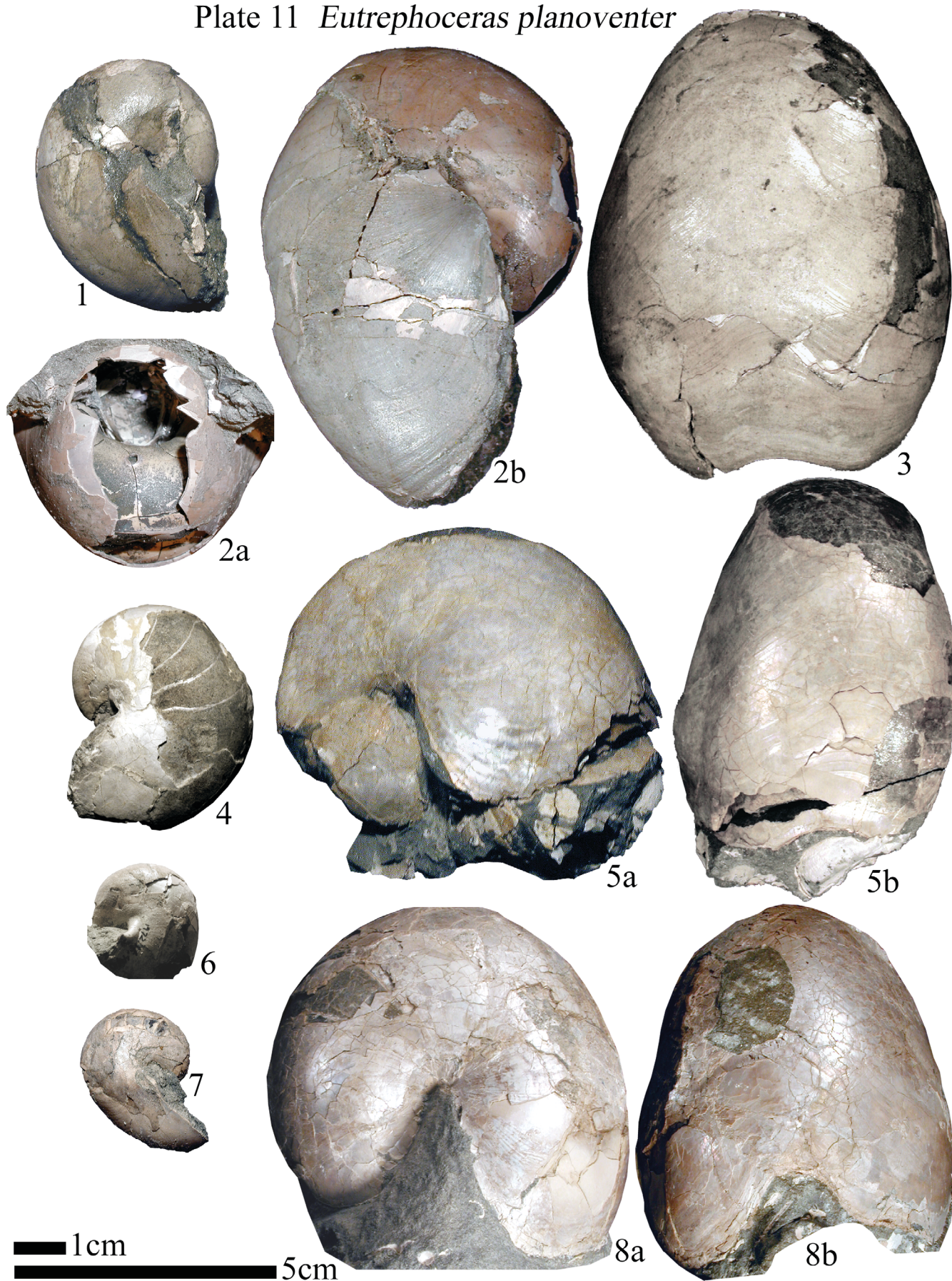


Plate 12

Eutrephoceras planoventer Stephenson, 1941

[Figures 1, 2; both figures 3/4 natural size]

Figure 1. The external shell surface on MPPM 1972.46.434 (x 0.75), a large nautiloid collected in the creek bottom near the Science Center.

Figure 2. Large portion of the phragmocone, MPPM 1972.46.435 (x 0.75), showing blister like texture from limpets or some other parasite.

Plate 12 *Eutrephoceras planoventor*



1



2



Plate 13

Cirroceras conradi (Morton, 1841)

[Figures 1a, 1b; both figures 3/4 natural size]

Figure 1a. View of the whorls looking down at the top of UMUT MM 28423 (x 0.75), the most complete known from the Coon Creek Science Center.

Figure 1b. Side view of UMUT MM 28423 (x 0.75).

Eutrephoceras planoventer Stephenson, 1941

[Figure 2; 1/2 natural size]

Figure 2. UMUT MM 28422 (x 0.5), a large body chamber, measuring 17 cm long by 16 cm wide.

Plate 13 *Cirroceras* and *Eutrephoceras*

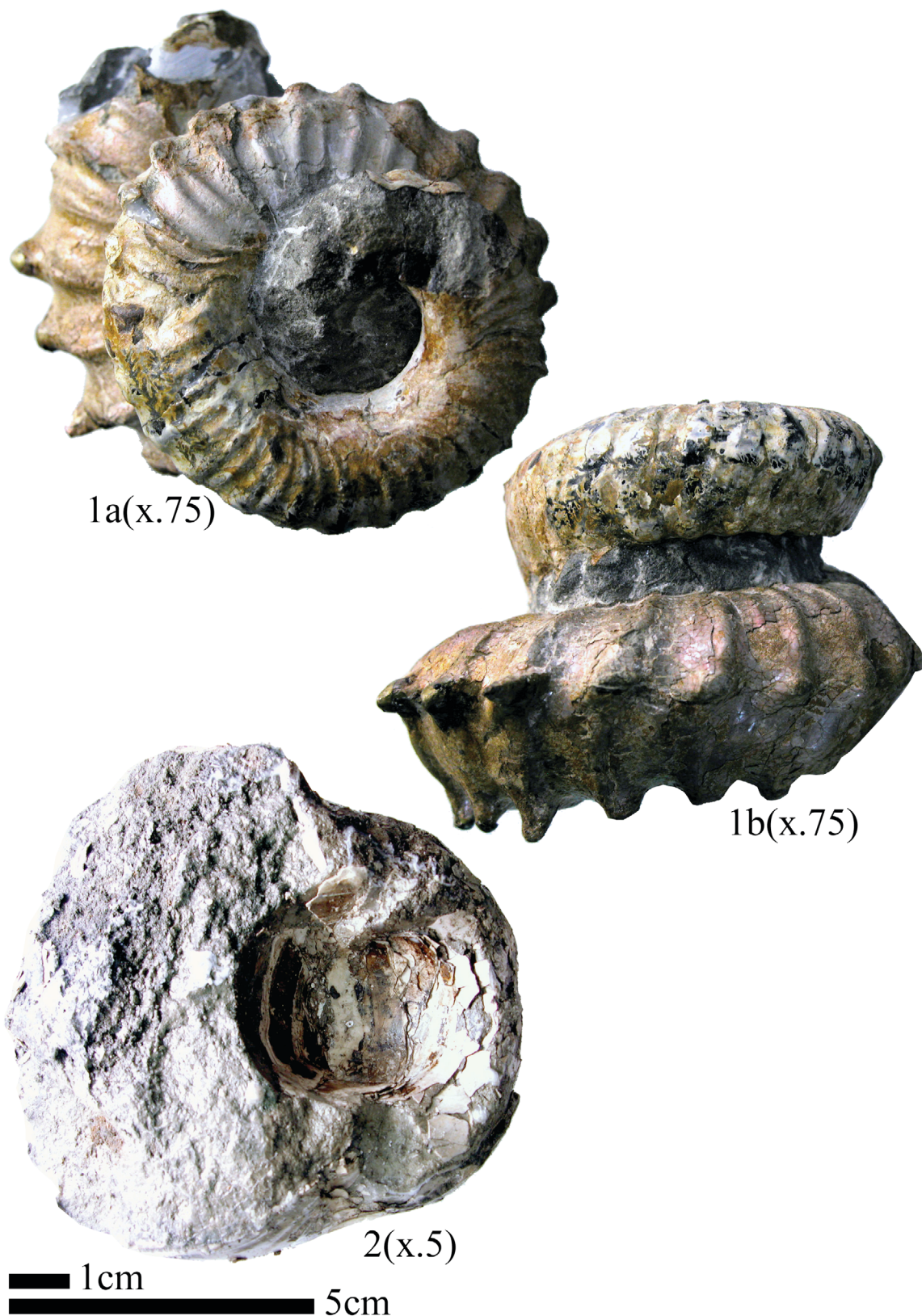


Table 1*Coexistent Ammonites of the Western Interior Cretaceous & Coon Creek*

STAGE	AMMONITES WIC Ammonite Zones	Pachydiscus arkansanus *	Baculites undatus *	Lewyites oronensis *	Parasolenoceras pulcher *	Solenoceras reesidei *	Solenoceras texanum *	Citroceras conradi *	Nostoceras approximans *	Nostoceras hyati *	Jeletzkytes reesidei *	Discoscaphites sp. *
Upper Maastrichtian	Jeletzkytes nebrascensis											X ⁶
	Hoploscaphites nicolletii											X ⁶
	Hoploscaphites birkelundae											
Lower Maastrichtian	Baculites clinolobatus											
	Baculites grandis											
	Baculites baculus											
Upper Campanian	Baculites eliasi											
	Baculites jenseni									X ¹		
	Baculites reesidei		X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹		X ^{1,2}	
	Baculites cuneatus	X ³	X ³	X ¹		X ¹	X ¹	X ¹				
	Baculites compressus	X ²	X ³			X ²						
	Didymoceras cheyennensis		X ⁴									
	Exiteloceras jenneyi	X ⁵										

Western Interior
Localities

1 Middle Park &/or Fort Collins, CO
2 Porcupine Dome, MT
3 Wasta, SD

4 Chadron, NE
5 Pueblo, CO
6 Fox Hills Formation, SD

* Endemic to Gulf Coastal Region

Range zones after Cobban, et al. 2006