

35. DATA REPORT: CRETACEOUS OSTRACODES FROM HOLES 865A AND 866A (MID-PACIFIC MOUNTAINS)¹

Renée Damotte²

ABSTRACT

Cretaceous ostracode species recognized during Leg 143, Holes 865A and 866A, are scarce and poorly preserved. The genera *Cytherella*, *Bairdia*, *Cythereis*(?), *Asciocythere*(?), and *Conchoecia*(?) are present, but specific assignments were rare. Thus, no precise stratigraphic correlations were possible. The fauna from Hole 865A (Cores 143-865A-85R, -87R, -92R, and -94R) tentatively suggest an Albian age.

INTRODUCTION

Forty-four small samples were processed for ostracodes. Of these, only nine samples in Hole 865A and six samples in Hole 866A contain ostracodes (see Table 1 and Fig. 1). Two samples from Hole 867B and one sample from Hole 868A are barren of ostracodes.

The ostracodes recovered often are badly preserved. Well-preserved specimens belong to two cosmopolitan genera, *Bairdia* and *Cytherella*.

STRATIGRAPHIC INTERPRETATION

The scarcity of ostracode fauna does not allow for precise stratigraphic interpretations. The occurrences of *Cytherella* aff. *posterodorsodirecta*, *Cytherelloidea* sp. 87R, *Bairdia* sp. 865, *Cythereis* sp., *Spinoleberis* sp. in Hole 865A, and Cores 143-865A-85R, -87R, -92R, and -94R tentatively indicate an Albian age, based on comparisons with the fauna from Morocco (Andreu, 1991).

In Hole 866A, the ostracode association appears to be a Cretaceous association, probably Lower Cretaceous, but with no more precise stratigraphic attribution.

SYSTEMATIC PALEONTOLOGY

Previous reports of Cretaceous marine ostracodes from the Pacific regions include only general studies by Swain (1973, 1982) and Thiede (1981). Taxonomic comparisons are made with Damotte (1988), Swain (1978), Swain and Brown (1964) from the Eastern United States, and with Andreu (1991), from Morocco.

Genus *CYTHERELLA* Jones, 1849

Cytherella aff. *posterodorsodirecta* Andreu, 1991
(Pl. 1, Figs. 1-9)

aff. *Cytherella posterodorsodirecta* Andreu, 1991, p. 445, pl. 3, figs. 6-13.

Length. 0.70-1 mm.

Remarks. In Andreu's description, the posterodorsal part of the dorsal margin is longer than that in Leg 143 specimens. *Cytherella* aff. *posterodorsodirecta* can also be compared with *Cytherella* sp. 16 Andreu, 1991, pl. 5, figs. 1-4, but this species exhibits a more pointed posterodorsal angle in the right valve.

Occurrences. *Cytherella posterodorsodirecta* is described from the Albian of Essaouira basin, Morocco.

Occurrences during Leg 143. See Table 1.

Cytherella sp.
(Pl. 1, Figs. 10 and 11)

Remarks. Some specimens, belonging to the genus *Cytherella*, are also present in Samples 143-866A-70R-1, 47-50 cm, -74R-3, 53-54 cm, and -122R-1, 61-63 cm. Specific assignment is not possible for these specimens.

Genus *CYTHERELLOIDEA* Alexander, 1929

Cytherelloidea sp. 87R
(Pl. 2, Fig. 1)

Length. 0.51 mm.

Remarks. Small, badly preserved specimens belonging to the genus *Cytherelloidea* were identified. A fine mediodorsal ridge begins at the anterior third of the carapace, follows vertically the posterior margin and the ventral one; the posterior part of this ridge is denticulated. A fine ridge runs parallel to the dorsal, anterior, and ventral margins; the dorsal one seems to form an angle and join the mediodorsal ridge. Poor preservation obscures the lateral surface ornamentation.

This form can be compared with *Cytherelloidea sourensis* Andreu, 1991, p. 464, pl. 10, figs. 8-11, described from the Albian of Morocco. However, Andreu's species is clearly reticulated and is longer (length, 0.7-0.8 mm) than our specimen (perhaps a juvenile one).

Occurrences during Leg 143. See Table 1.

Genus *BAIRDIA* M'Coy, 1844

Bairdia sp. 865
(Pl. 2, Figs. 2-5)

Length. 0.82-0.80 mm.

Remarks. The genus *Bairdia* is present in three samples from Hole 865A; all the specimens seem to belong to the same species. *Bairdia* sp. 865 has a long dorsal margin in the right valve and a reduced overlap of the left valve at this dorsal margin. The general outline is rounded, especially the posterior angle. In a well-preserved valve, some punctuations are present, especially in the anterior and posterior parts of the valve.

This form can be compared to *Bairdia* sp. 7 Andreu, 1991, p. 477, pl. 12, figs. 9-10 (Cenomanian from Morocco), but the dorsal margin is shorter in Andreu's species.

Occurrences during Leg 143. See Table 1.

Genus *CYTHEREIS* Jones, 1849

Cythereis(?) sp.
(Pl. 2, Figs. 6-8)

Length. 0.6 mm.

Remarks. Two questionable, perhaps juvenile, specimens of *Cythereis* occur in Sample 143-865A-86R-3, 73-74 cm. Internal features are not visible. Carapace is subrectangular, with broadly rounded margin and slightly sharp posterior margin. Carapace is reticulate, the dorsal and ventral ridges are

¹Winterer, E.L., Sager, W.W., Firth, J.V., and Sinton, J.M. (Eds.), 1995. *Proc. ODP, Sci. Results*, 143: College Station, TX (Ocean Drilling Program).

²Unité Associée au Centre National de la Recherche Scientifique: Paléontologie et Stratigraphie, Laboratoire de Micropaléontologie, Université Pierre et Marie Curie, 4 Place Jussieu, 75252 Paris cedex 05, France.

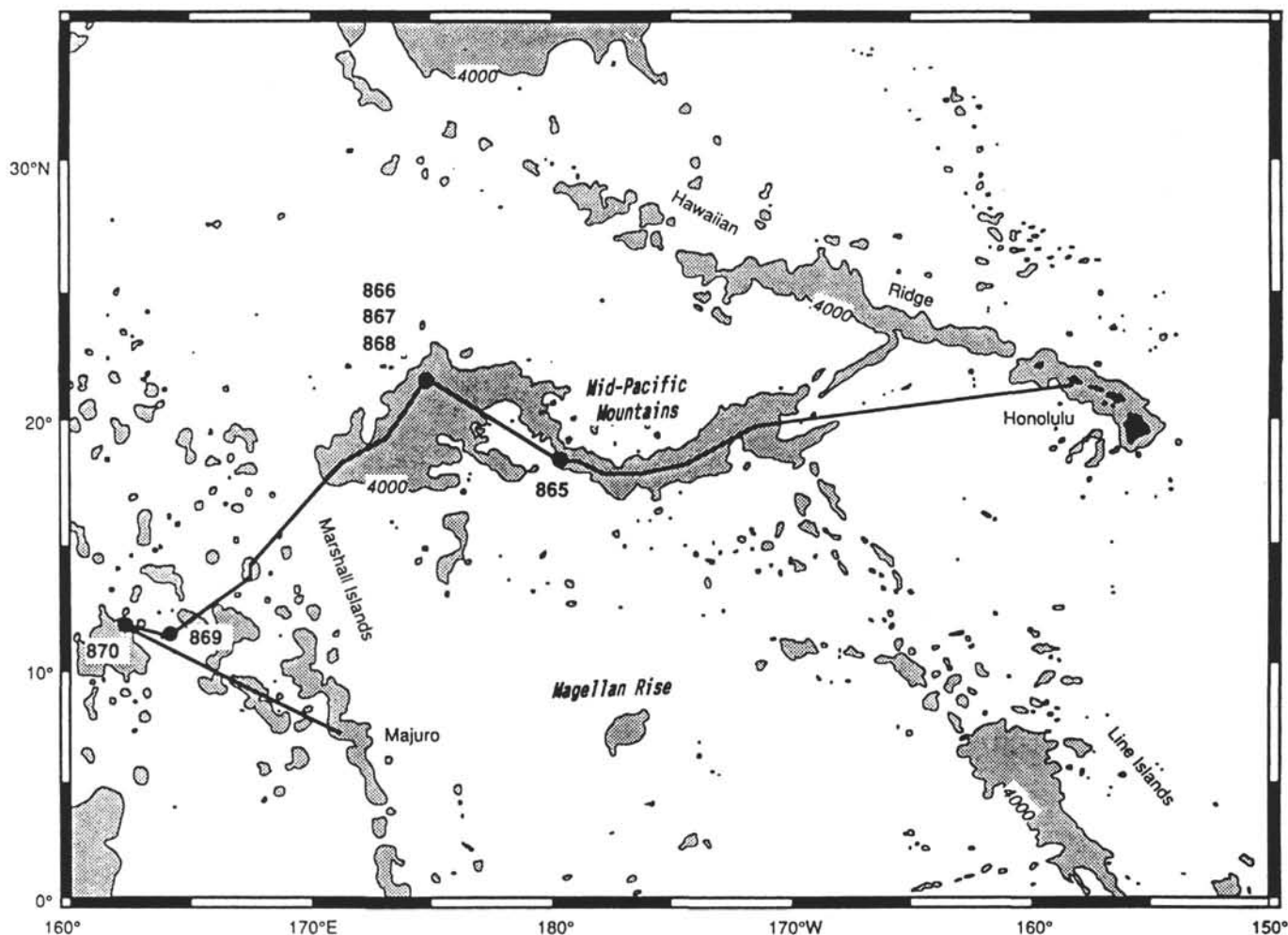


Figure 1. Map of western Pacific Ocean showing Leg 143 drill sites.

reduced, especially the median one, but the subcentral tubercle is present. The ocular tubercle is also present. In dorsal view, carapace has a compressed anterior zone, widest point at the subcentral tubercle.

This form can be compared to juvenile forms belonging to *Cythereis bigrandis* Majoran, 1989 (Albian–Cenomanian from North Africa), especially those figured by Andreu, 1991, pl. 58, figs. 9–10; however, Andreu's specimens show a more pointed posterior angle.

Occurrences during Leg 143. See Table 1.

Genus *SPINOLEBERIS* Deroo, 1966

Spinoleberis(?) sp.
(Pl. 2, Figs. 9–11)

Length. 0.6–0.5 mm.

Remarks. Rare, very small specimens (four) occur in Sample 143-865A-92R-2, 40–43 cm; these have been questionably attributed to *Spinoleberis*, although they may also be questionably related to *Cythereis*(?).

Carapace is subrectangular with a pointed posterior angle situated at the same level as the ventral margin, and with broadly rounded anterior margin. Ocular tubercle present. Dorsal ridge ends in a well-pronounced and rounded spine; ventral ridge present; rounded subcentral tubercle, but very slight median ridge in the right valve, not seen on the left one. The carapace is reticulate, especially in the depressed anterior part, the large mesh shows a secondary reticulation. In dorsal view, carapace has compressed anterior and posterior zones; widest point at the subcentral tubercle and also at the ending part of ventral and dorsal ridges. Internal characteristics are not visible.

The dorsal view is characteristic of the genus *Spinoleberis*, so I tentatively attribute these specimens to this genus. *Spinoleberis* sp. Andreu, 1991, pl. 66, figs. 1–4 (Albian, Morocco) is more pointed posteriorly, but shows the same secondary reticulation in the anterior part of the carapace.

Occurrences during Leg 143. See Table 1.

Genus indeter. 1
(Pl. 3, Fig. 1)

Length. 0.9 mm.

Remarks. One badly preserved carapace is present in Sample 143-865A-87R-1, 56–58 cm. Carapace is subrectangular, with no prominent frontal lobe. Dorsal and ventral ridges seem to be present, but no subcentral tubercle is seen.

Occurrences during Leg 143. See Table 1.

Genus *AMPHICYTHERURA* Butler and Jones, 1957

Amphicytherura(?) sp.
(Pl. 3, Fig. 2)

Length. 0.3 mm.

Remarks. Carapace is small, poorly preserved, subrectangular, broadly rounded anteriorly, and more pointed posteriorly. Two anterior, fine, longitudinal ridges are present, one median and one dorsal; both end against the anterior margin. A fine, dorsal ridge begins under the anterodorsal angle, after which it follows the dorsal margin. No other external or internal elements can be observed.

Occurrences during Leg 143. See Table 1.

Genus *ASCIOCYTHERE* Swain, 1952

Asciocythere(?) sp. 89R
(Pl. 3, Figs. 3–6)

Length. 0.5–0.6 mm.

Table 1. Range chart of occurrences of ostracodes from Holes 865A and 866A.

Core, section, interval (cm)	Species	<i>C. aff. posterodorodirecta</i>	<i>Cytherelloidea</i> sp. 87R	<i>Bairdia</i> sp. 865	<i>Cythereis</i> sp.	<i>Spinoleberis</i> (?) sp.	Genus indeter. 1	<i>Amphicytherura</i> (?) sp.	<i>Cytherella</i> sp.	<i>Asciocythere</i> (?) sp. 89R	Genus indeter. 2	<i>Conchoecia</i> (?) sp.
143S-865A-												
75R-1, 31-32		x										
85R-2, 44-45		x	x					x				
86R-3, 73-74		x	x	x	x							
87R-1, 56-58			x				x					
92R-2, 40-43		x				x						
94R-3, 93-94												
143S-866A-												
70R-1, 47-50										x		
74R-3, 53-54										x		
75R-1, 33-35												x
89R-1, 2-3										x	x	
122R-1, 61-63									x			

Remarks. Carapace is small and smooth, with a left valve subtriangular; dorsal margin has been reduced to a rounded dorsal angle situated at the anterior third of the carapace. The anterior margin is broadly rounded, the ventral margin straight, and the rounded posterior angle is situated near the ventral level. The right valve has a longer dorsal margin; a dorsal angle is situated at the posterior third of the carapace. The anterior margin is straighter and the posterior angle more rounded. Internal characteristics are not visible.

Occurrence during Leg 143. See Table 1.

Asciocythere sp.
(Pl. 3, Fig. 7-9)

Remarks. Some other rare specimens, probably belonging to the genus *Asciocythere*, occur in Sample 143-866A-85R-4, 58-60 cm; they have a more pronounced left dorsal mid-length angle than does *Asciocythere* sp. 89R.

Genus indeter. 2
(Pl. 3, Fig. 10)

Length. 0.6-0.8 mm.

Remarks. The carapace is smooth and subrectangular, with a rounded anterior margin, a straight dorsal margin, and a smoothly pointed margin with

a posterior angle situated near the level of the ventral margin and a straight ventral margin. The anterodorsal angle has been underlined by a depressed zone. Inner characteristics are not observed.

Occurrence during Leg 143. See Table 1.

Genus *CONCHOECIA* Dana, 1849

Conchoecia (?) sp.
(Pl. 3, Figs. 11-12)

Length. 0.5 mm.

Remarks. Carapace is rounded, smooth; with short dorsal margin, anterior and posterior rounded margins; straight ventral margin. Characteristic features not visible. The two collected specimens are badly preserved; perhaps inner molds. *Conchoecia* is a planktonic genus having a thin carapace.

Conchoecia sp. 2 Andreu, 1991, described in Aptian sediments from Morocco, shows a more rounded dorsal margin.

Occurrence during Leg 143. See Table 1.

REFERENCES*

- Andreu, B., 1991. Les ostracodes du Crétacé moyen (Barrémien à Turonien), le long d'une transversale Agadir-Nador (Maroc). *Strata, Ser. 2*, 14.
- Damotte, R., 1988. Ostracodes crétacés du forage 95, Campagne JOIDES 10, Golfe du Mexique. *Cretaceous Res.*, 9:159-170.
- Swain, F.M., 1973. Upper Cretaceous Ostracoda from the northwestern Pacific Ocean. *J. Paleontol.*, 47:711-714.
- , 1978. Notes on Cretaceous ostracoda from DSDP Leg 44, Sites 390 and 392. In Benson, W.E., Sheridan, R.E., et al., *Init. Repts. DSDP, 44*: Washington (U.S. Govt. Printing Office), 921-937.
- , 1982. Upper Cretaceous Ostracoda from the northwestern Pacific ocean. In Maddocks, R.F. (Ed.), *Applications of Ostracoda to Economic and Scientific Problems: Program and Abstracts*, 8:82.
- Swain, F.M., and Brown, P.M., 1964. Cretaceous Ostracoda from wells in the southeastern United States. *Bull.—N.C., Div. Miner. Resour., Dep. Cons. Dev.*, 78:1-55.
- Thiede, J., 1981. Reworked neritic fossils in upper Mesozoic and Cenozoic central Pacific deep-sea sediments monitor sea-level changes. *Science*, 211:1422-1424.

* Abbreviations for names of organizations and publication titles in ODP reference lists follow the style given in *Chemical Abstracts Service Source Index* (published by American Chemical Society).

Date of initial receipt: 29 November 1993

Date of acceptance: 15 February 1994

Ms 143SR-209

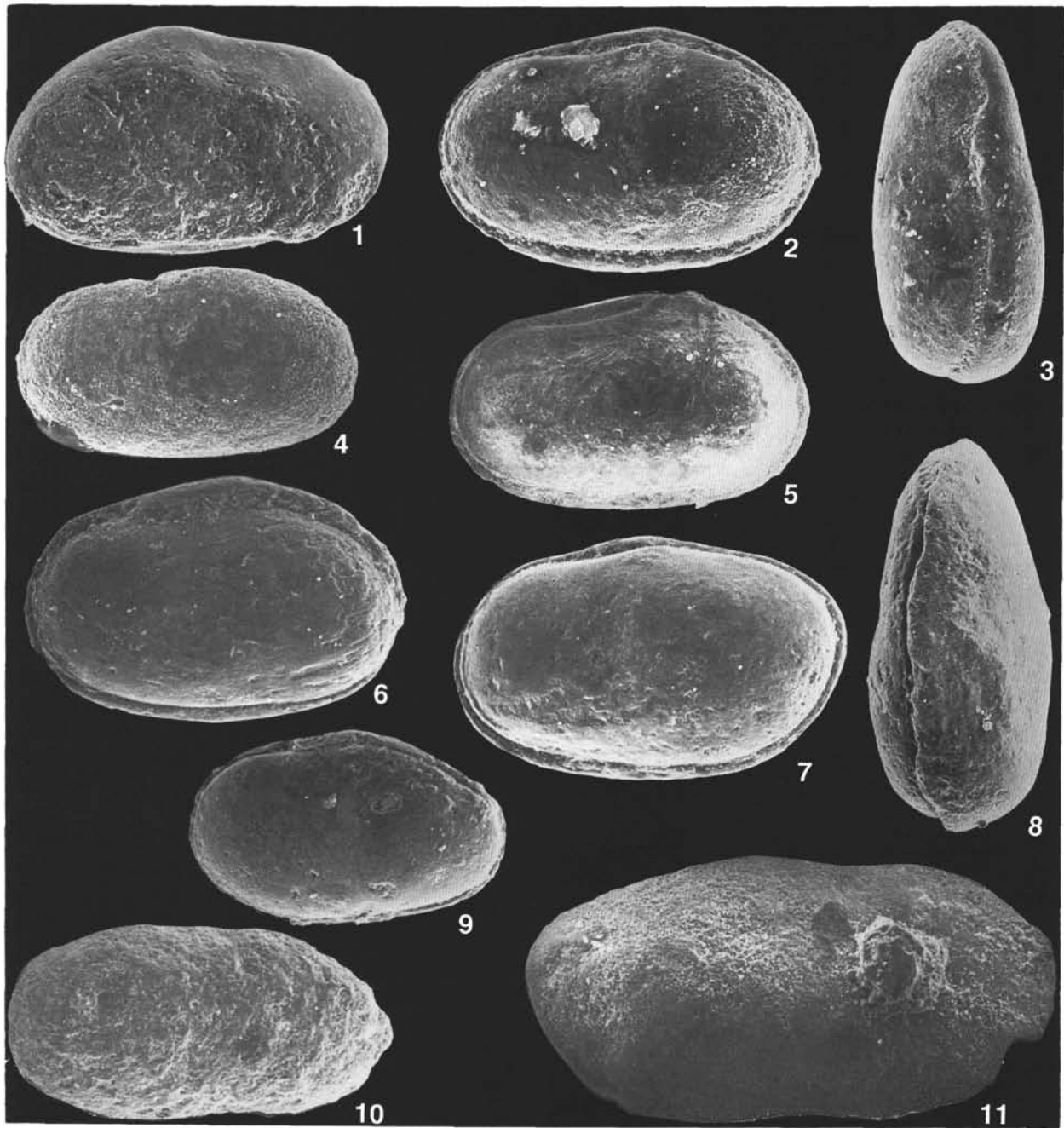


Plate 1. Cretaceous ostracodes, Leg 143. **1–9.** *Cytherella* aff. *posterodorsodirecta* Andreu, 1991; 75 \times , (1) left valve, (2) carapace from left, (3) carapace, ventral view; (1,2,3) Sample 143-865A-85R-2, 20–21 cm; (4) left valve, (5) carapace from left; (4,5) Sample 143-865A-85R-2, 44–45 cm; (6) carapace from left, Sample 143-865A-92R-2, 40–43 cm; (7) carapace from left; (8) carapace dorsal view; (7,8) Sample 143-865A-94R-3, 93–94 cm; (9) carapace from left, juvenile, Sample 143-865A-86R-3, 73–74 cm. **10, 11.** *Cytherella* sp.; 75 \times ; Sample 143-866A-122R-1, 61–63 cm; (11) right valve; (12) right valve.

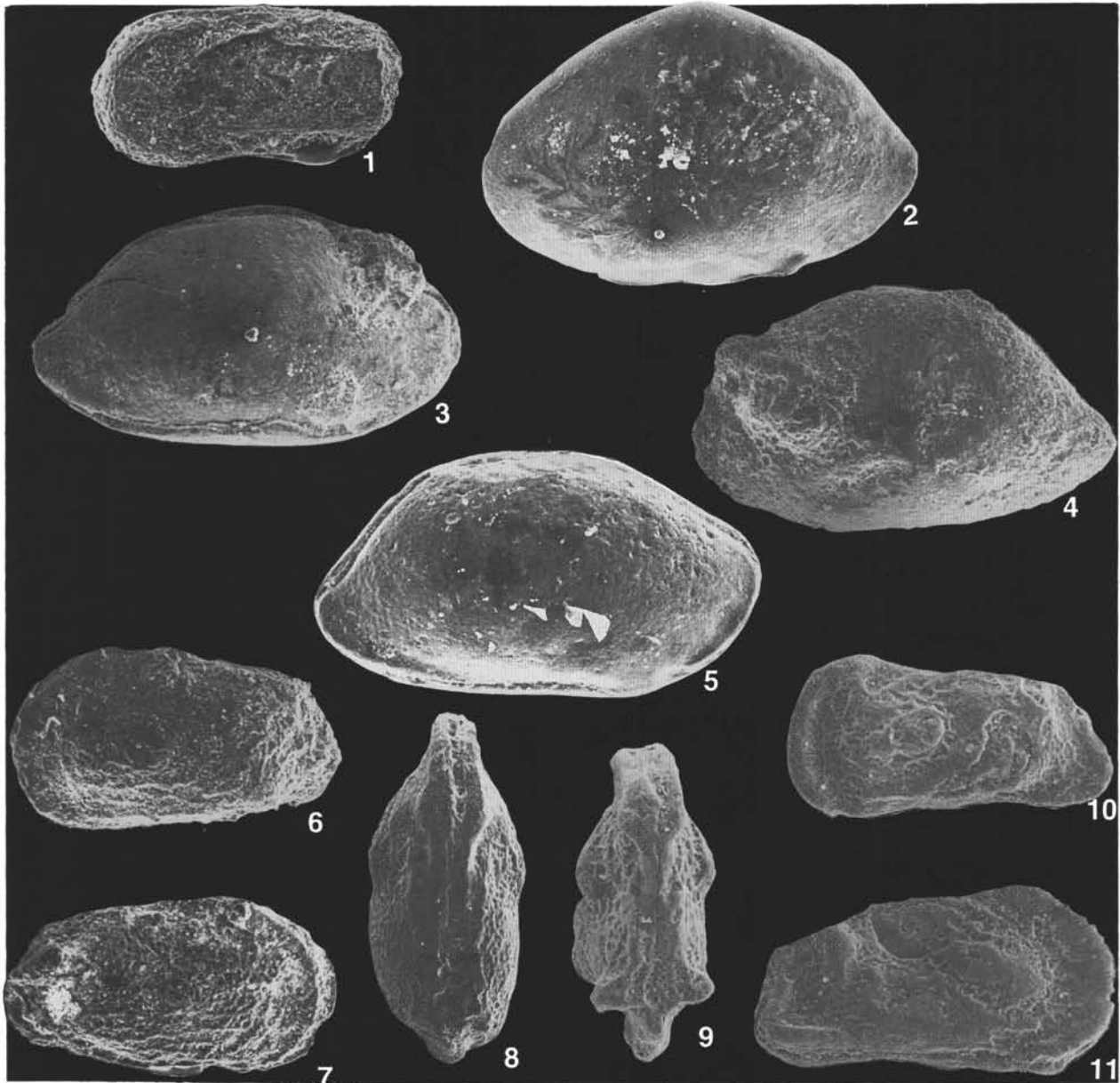


Plate 2. Cretaceous ostracodes, Leg 143. 1. *Cytherelloidea* sp. 87R, 90 \times ; Sample 143-865A-87R-1, 56–58 cm; carapace from left. 2–5. *Bairdia* sp. 865; 75 \times ; (2) carapace from left; Sample 143-865A-85R-2, 44–45 cm; (3) carapace from right; (4) carapace from left; (4,5) Sample 143-865A-86R-3, 73–75 cm; (5) carapace from right, Sample 143-865A-94R-3, 93–95 cm. 6–8. *Cythereis*(?) sp.; 75 \times ; Sample 143-865A-86R-3, 73–75 cm; (6) carapace from left; (7) carapace from right; (8) carapace, dorsal view. 9–11. *Spinoleberis*(?) sp.; 75 \times ; Sample 143-865A-92R-2, 40–43 cm; (9) carapace, dorsal view; (10) carapace from left; (11) carapace from right.

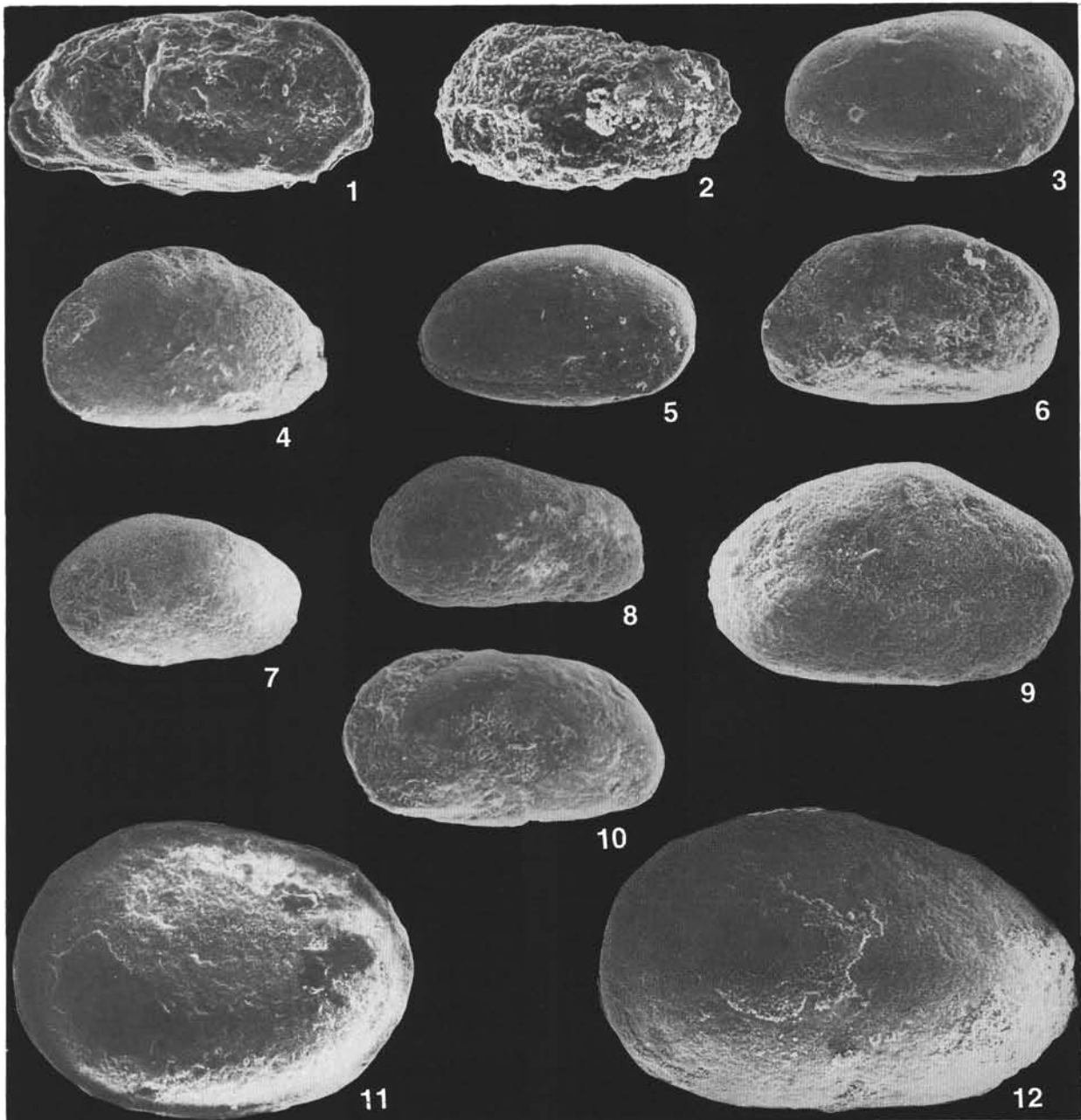


Plate 3. Cretaceous ostracodes, Leg 143. **1.** Genus indeter. 1; 75 \times ; Sample 143-865A-87R-1, 56–58 cm; carapace from right. **2.** *Amphicytherura*(?) sp.; 120 \times ; Sample 143-865A-85R-2, 44–45 cm; carapace from left. **3–6.** *Asciocythere* sp. 89R; 75 \times ; Sample 143-866A-89R-1, 1–2 cm; (3) carapace from right; (4) carapace from left; (5) carapace from right; (6) carapace from right. **7–9.** *Asciocythere* sp.; Sample 143-866A-75R-4, 56–58 cm; (7) carapace from left; (8) carapace from left; (7, 8) 75 \times ; (9) carapace from left; 100 \times . **10.** Genus indet. 2; 75 \times ; carapace from left; Sample 143-866A-89R-1, 2–3 cm. **11, 12.** *Conchoecia*(?) sp.; 75 \times ; Sample 143-866A-075R-1, 33–35 cm. (11, 12) carapaces from left (inner molds?).