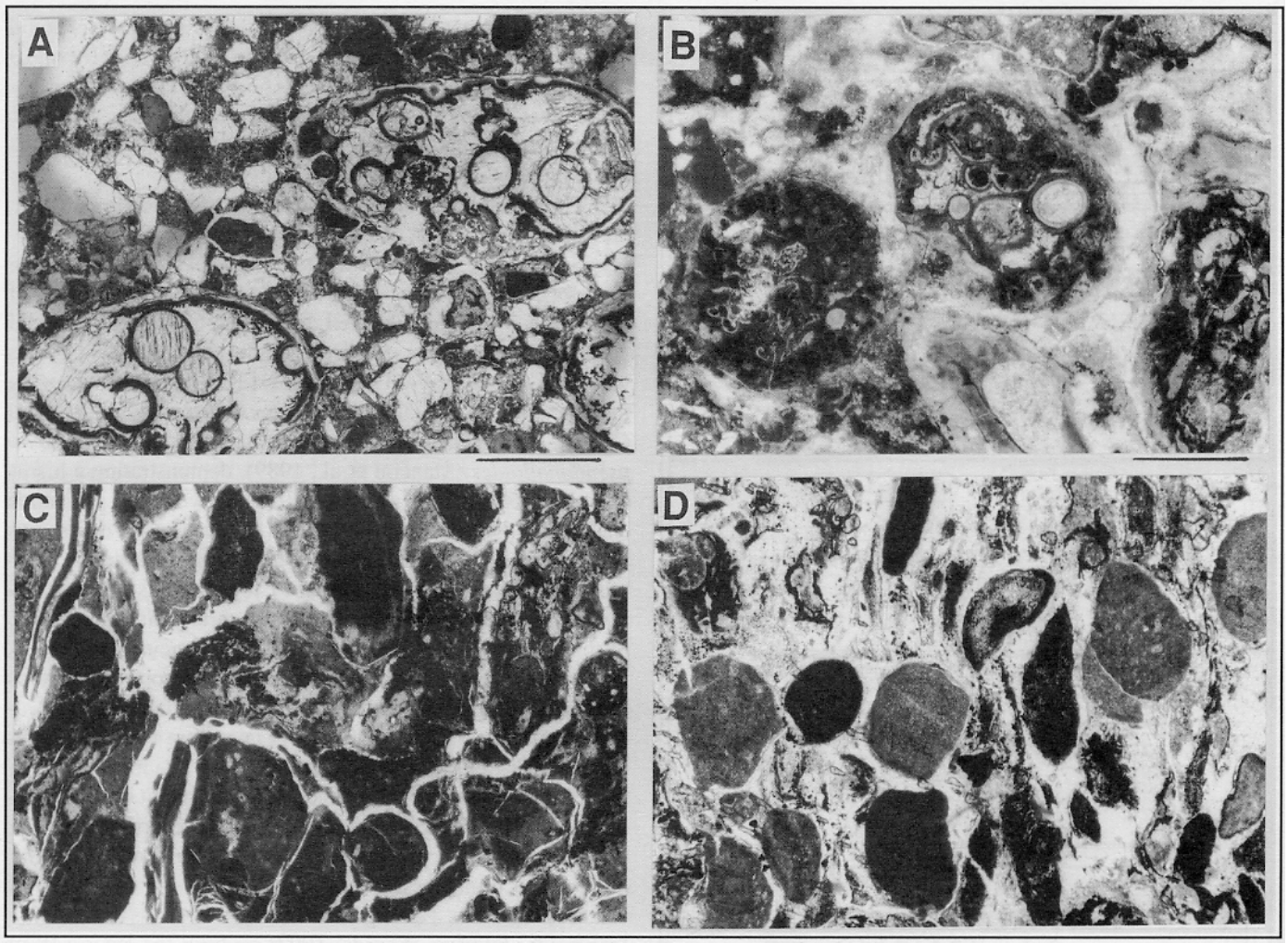

Figure 5 (on this and facing page). Micrographs of thin sections of the bubbly spherules and limestone fragments, interpreted as ejecta. A, Bubbly calcitic spherule (Moscow Landing). B, Bubbly spherule (Darting Minnows Creek, near Brazos River, Texas). C, Remnant of a bubbly spherule from Brazos 1 section. D, Limestone fragment (Darting Minnows Creek). E, F, Bubbly spherules (Mimbral, Mexico). G, H, Concentric banded limestone fragment, with some bubble? cavities (Mimbral, Mexico). (Bar = 0.5 mm.)

(1989), Mancini and Tew (1993), and Savrda (1993) that most of the sequence at Moscow Landing and all of the sequences found at Mussel Creek and Braggs can be explained in a sequence stratigraphic scheme. However, we interpret the Moscow Landing basal Clayton sands as two different types of deposits: a basal sequence consisting of several nonburrowed, rapidly deposited, partially mass-flow–type deposits (K/T sandstone Units I and II), followed by low-stand ravinement valleys filled with Danian low-stand deposits. The interpretion of the Moscow Landing K/T sequence is best illustrated with the cartoon of Figure 4. We assume that faulting and associated slumping of the Prairie Bluff Chalk started just before and remained active during deposition of the Clayton basal sands. Because the thickness and texture of the Prairie Bluff Chalk layers are not influenced by these faults, the faults were presumably not active in the Upper Cretaceous. The major faults were later rejuvenated, because the major tilting phase—offsetting the K/T boundary as described above—took place after formation of the Danian transgressive surface and deposition of the Clayton Formation. During and immediately following the initial phase of faulting and slumping the mass-flow conglomerates with green bubbly spheroids and the laminated pebbly sandstone layers were rapidly deposited. Some sandy material (without bubbly spheroids) is even injected into open faults. The above-mentioned faulting phase and subsequent slumping and deposition of these mass-flow units may be explained by seismic shaking resulting from the Chicxulub impact event, followed by deposition of the spheroid-rich ejecta. The ejecta are mixed with rip-up chalk clast (K/T sandstone Unit I) and redeposited by strong currents, believed to be induced by passage of large tsunami