

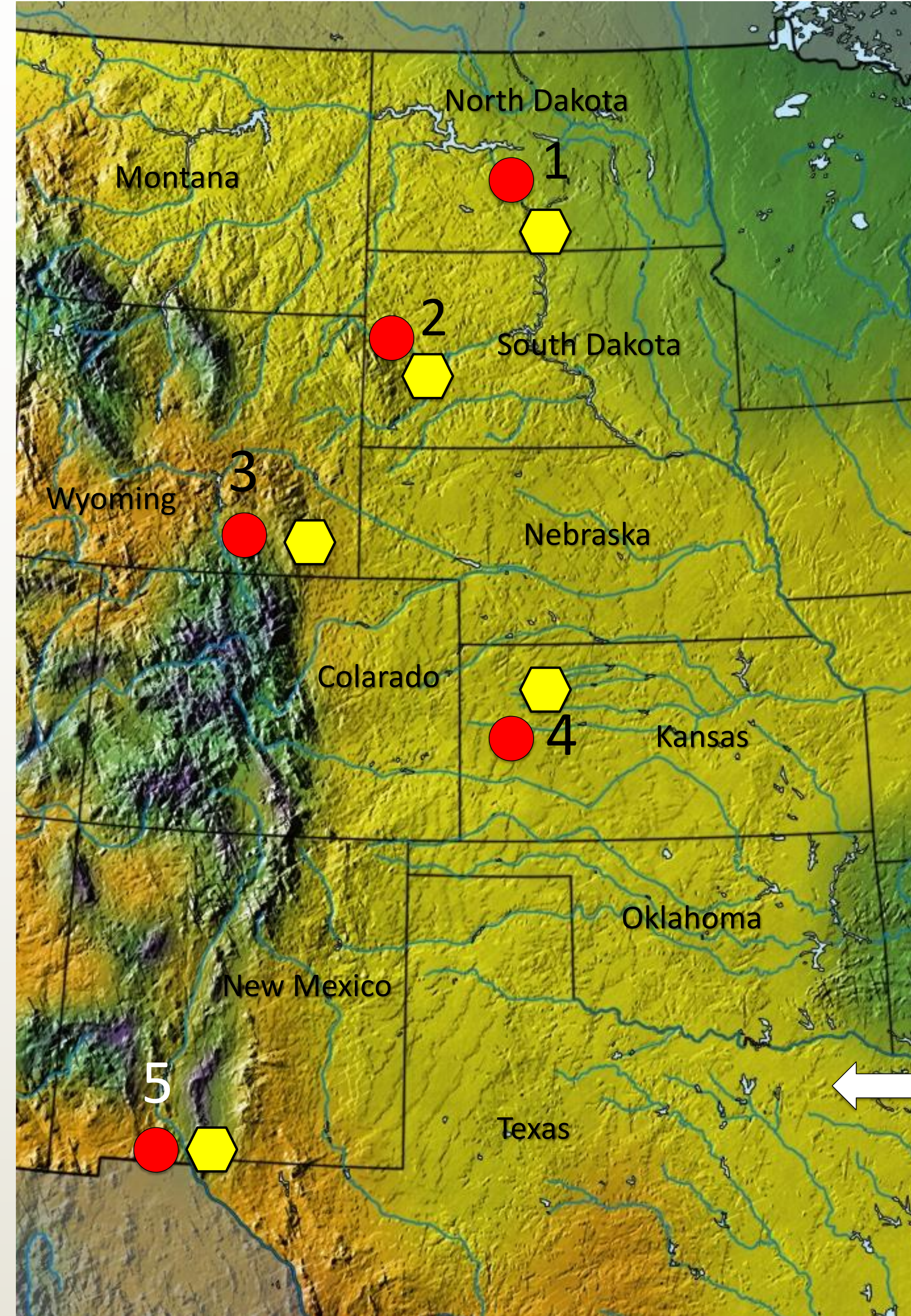
Cretaceous bryozoans and the Old West

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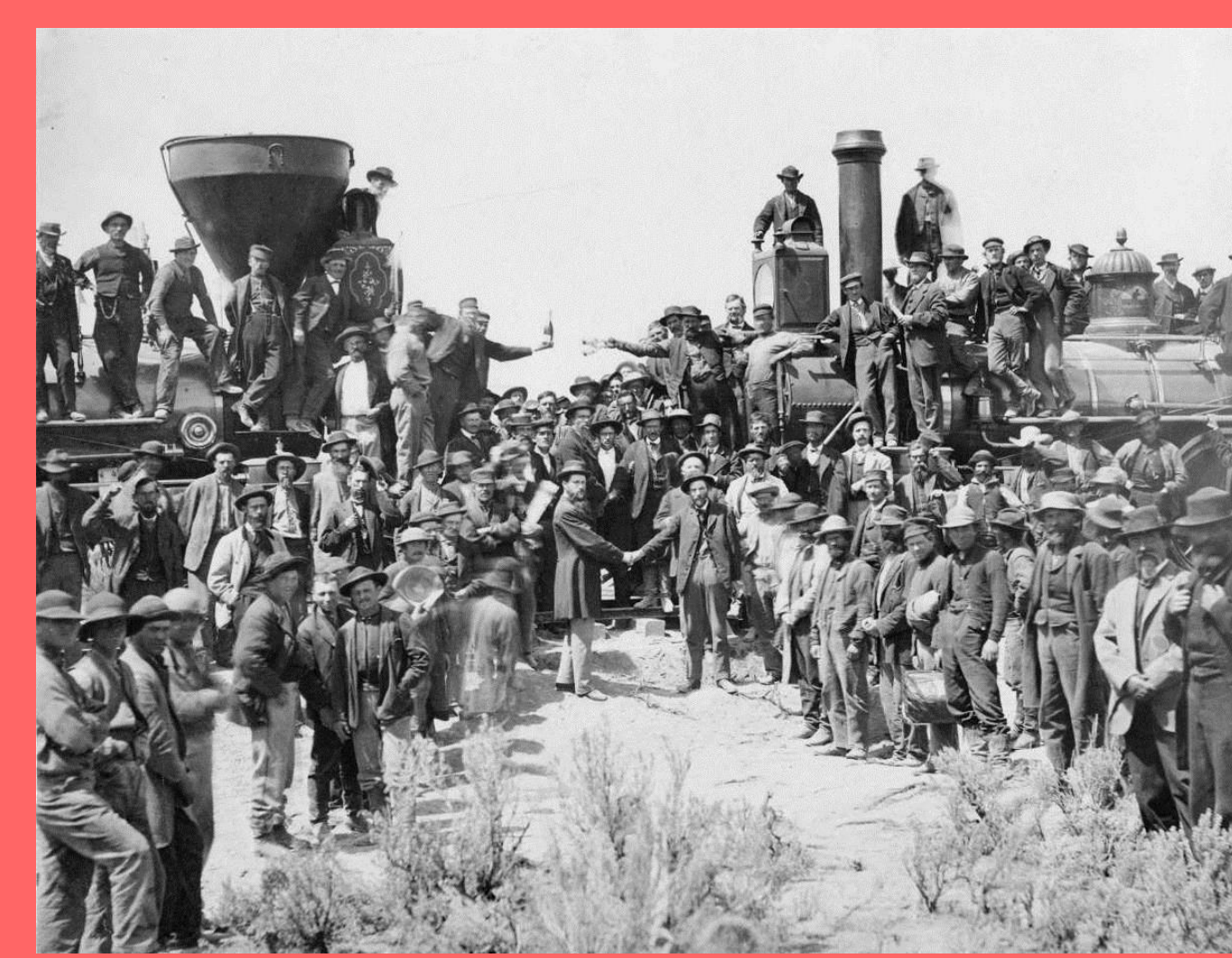
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Cretaceous faunas, perhaps best known in North America for dinosaurs and mosasaurs, include inconspicuous bryozoans equally important for understanding ancient ecosystems. But, bryozoans are rare and depauperate in deposits of the Western Interior Seaway compared with Europe. To understand this distributional contrast better, we have compiled a list of Cretaceous bryozoan occurrences throughout the Western Interior of the U.S. and Canada. Coincidentally, a surprisingly high proportion of these are close to iconic Old West historical sites.

While it would be romantic to view the Cretaceous bryozoans as psychic cryptic bystanders awaiting future events, reality is much more prosaic. The Old West developed in a vast landscape traversed by few transportation routes, which concentrated much of the early activity there into relatively few locations. Geologists initially exploring the West followed these arteries too, and so made many of their observations and collections near what were to become historic locations.

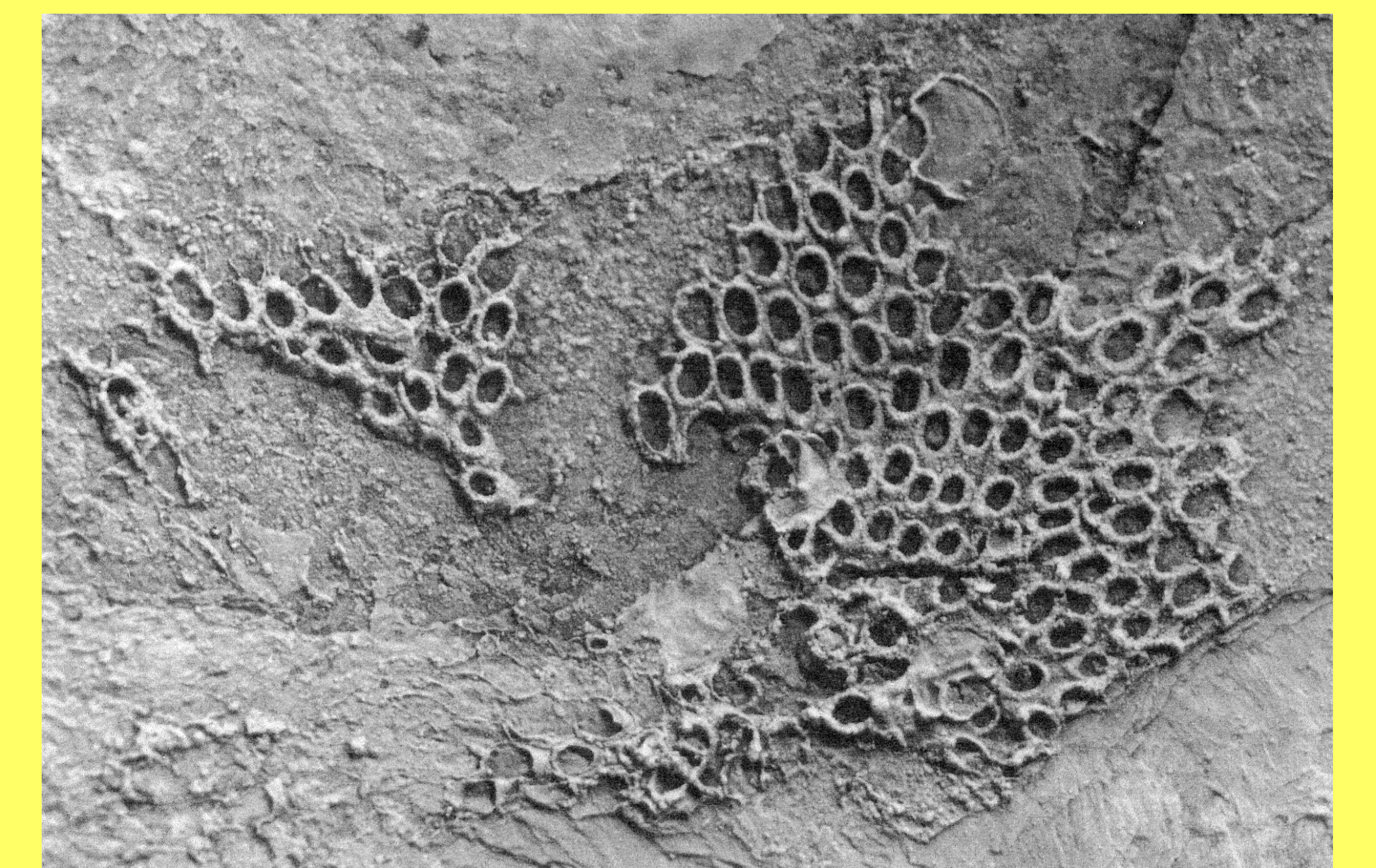


Heteroconopeum ramosum (Toots & Cutler), an erect malacostegine cheilostome originally described as *Conopeum ramosum* from the Mesaverde Fm. of Laramie, Wyoming (see Toots & Cutler. 1962, *Journal of Paleontology*, **36**, 81–86).

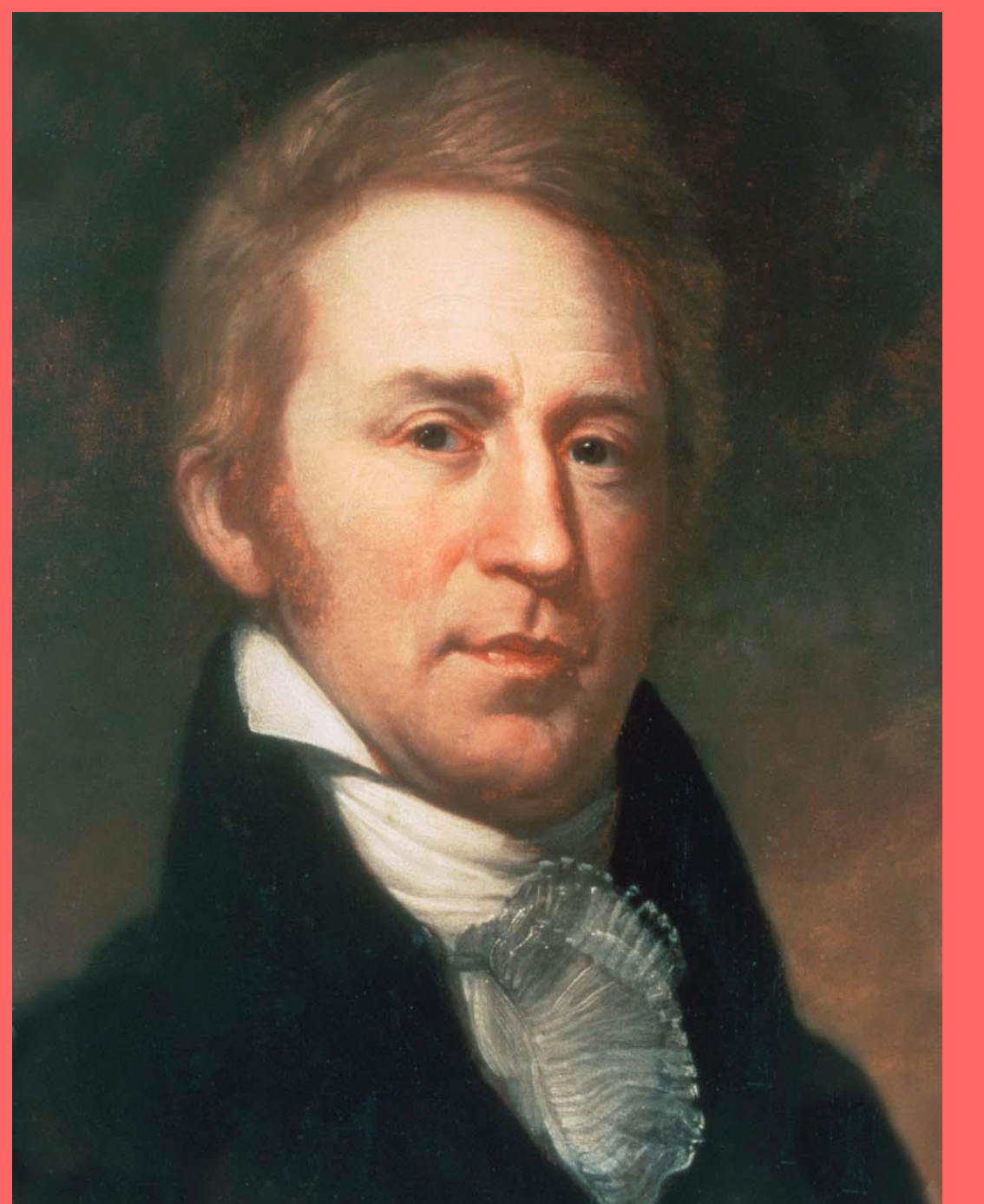
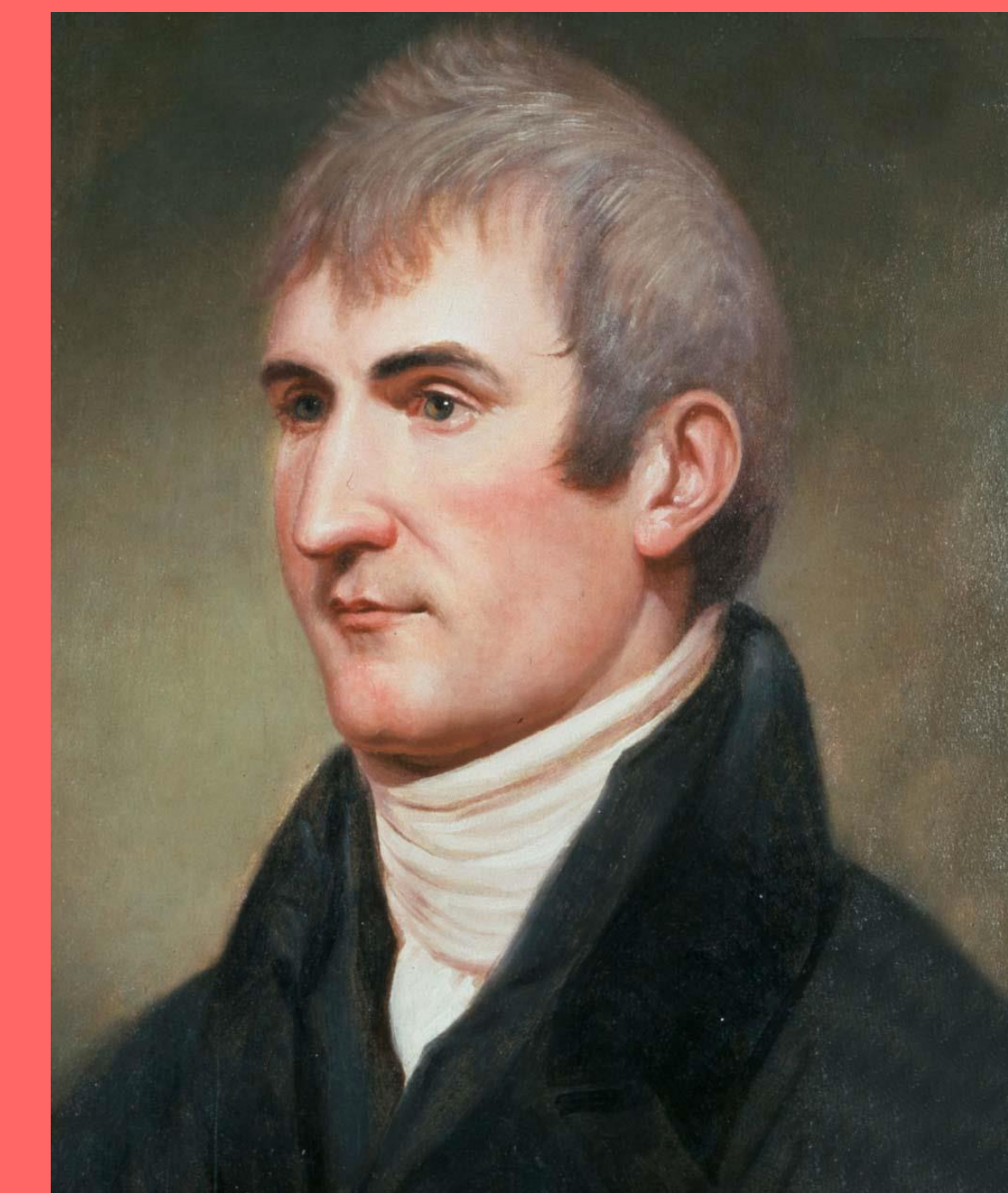


Trans-continental railroad

By the mid-19th century California was prospering but remained widely separated from the rest of the US. The solution was the trans-continental railroad which passed through Wyoming before completion in Utah on May 10th 1869 (above).

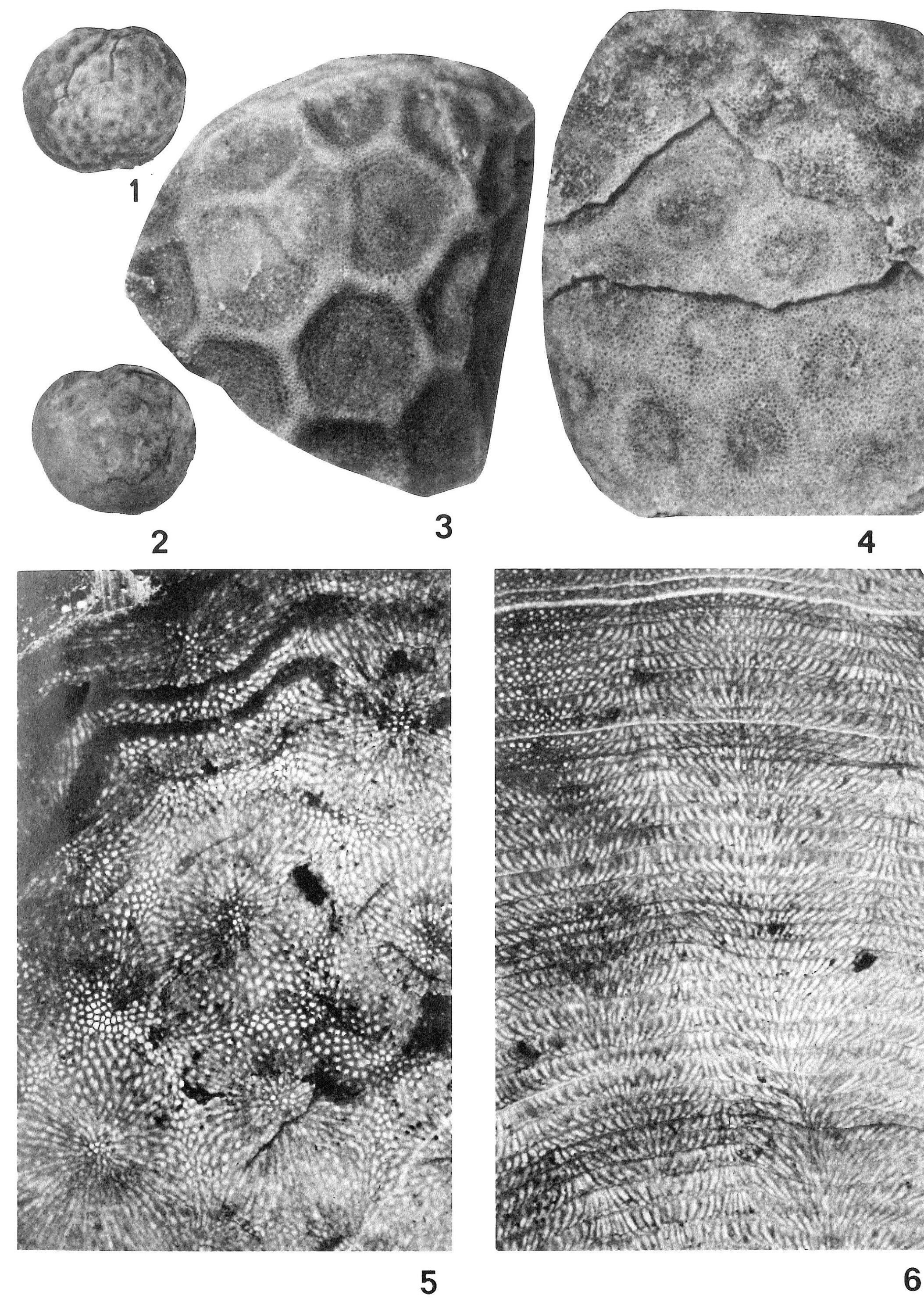


Villicharixa lintonensis (Cuffey *et al.*, 1981). Holotype colony from the Maastrichtian Fox Hills Sandstone of Linton, North Dakota (Cuffey, Feldmann & Pohlable 1981. *Journal of Paleontology*, **55**, 401–409).



Missouri River

Meriwether Lewis (left) and William Clark (right) led a famous exploratory and scientific expedition up the Missouri River in 1804–1806, which eventually led to extensive settlement across the west .

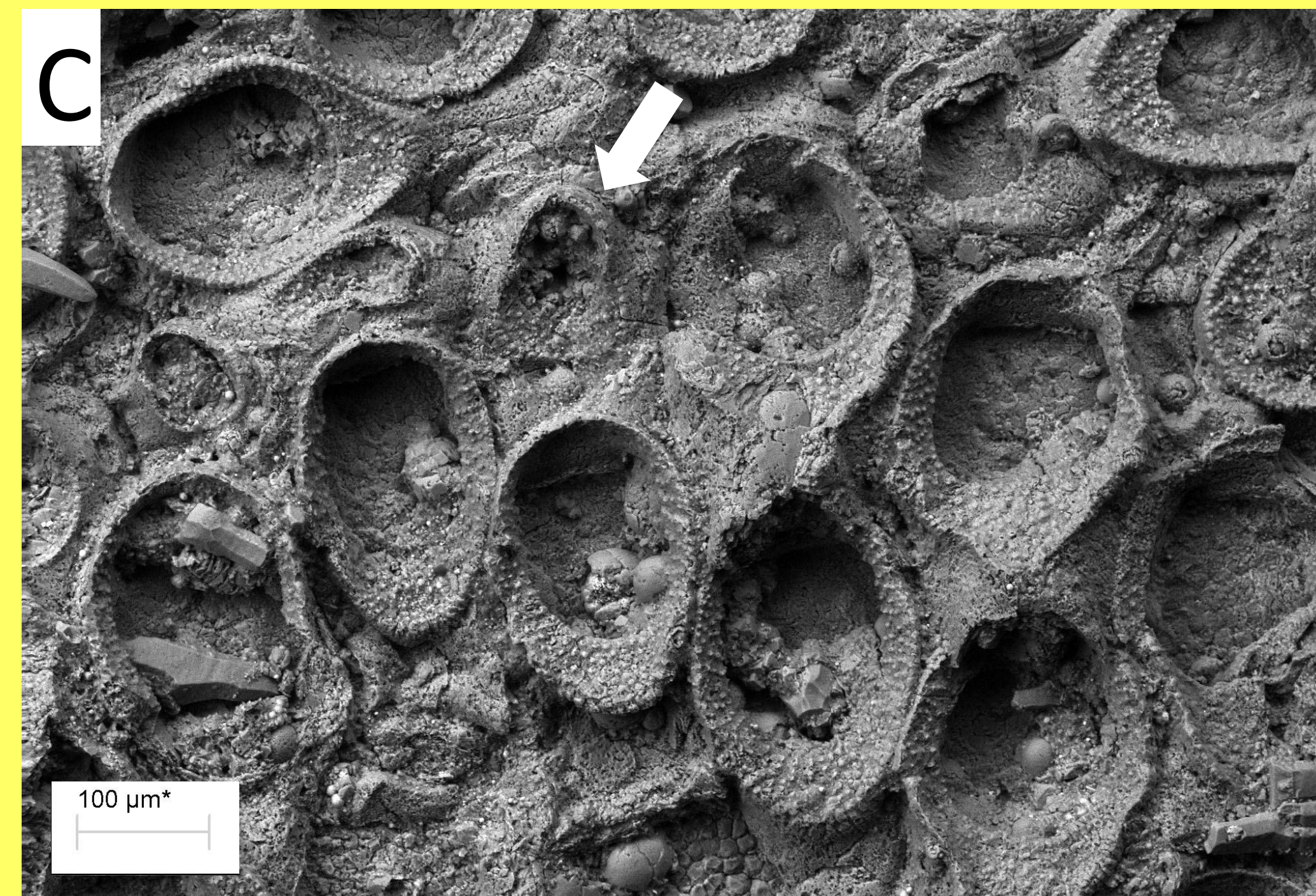
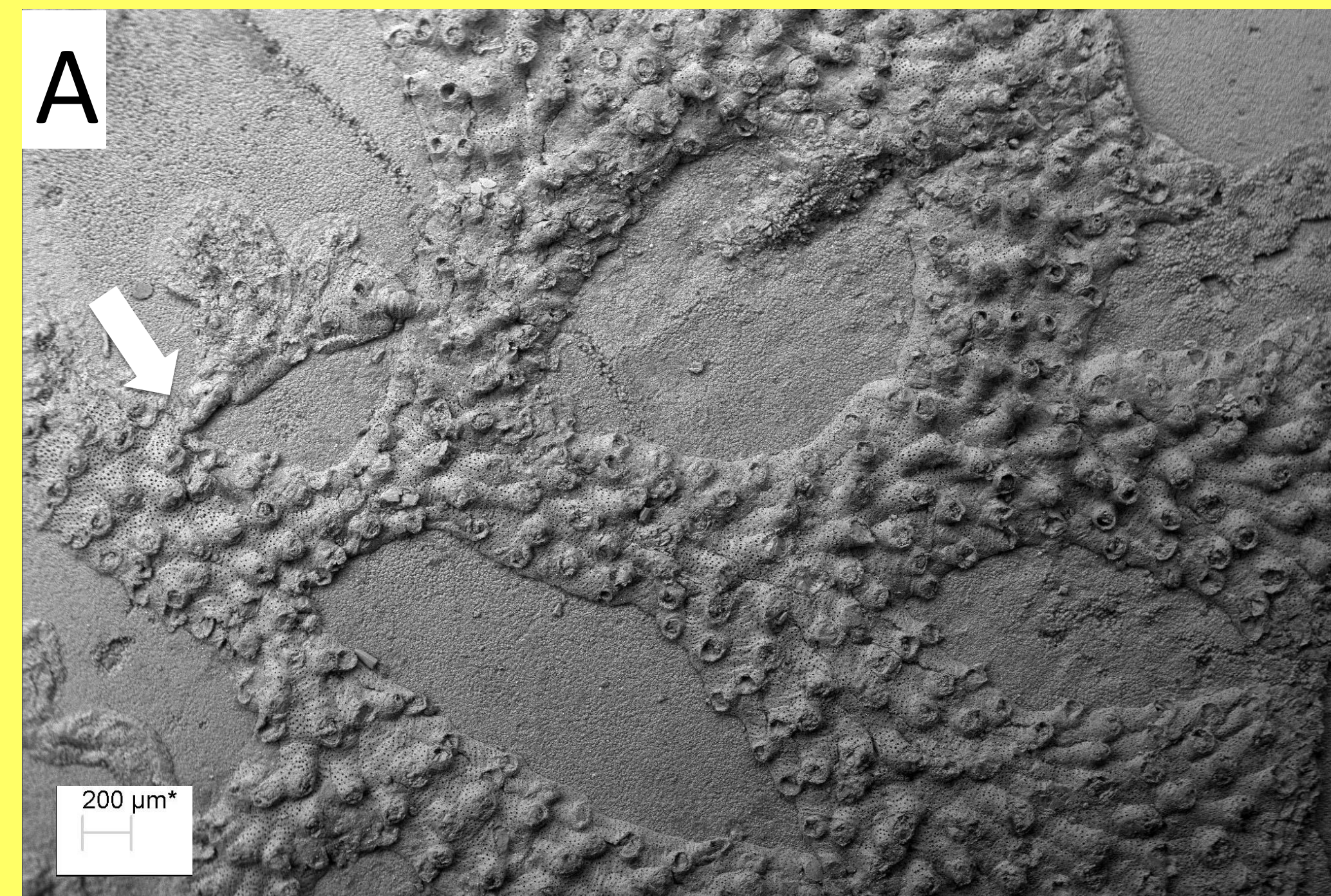


Cyclostome bryozoan *Reptomulticava texana* Nye & Lemone, 1978 from the Albian Smeltertown Fm. near El Paso, Texas. The compound, multilamellar colonies are shown in external view (1–4) and thin section (5–6) in this figure taken from Nye & Lemone (1978. *Journal of Paleontology*, **52**, 830–845).

Columbus, New Mexico

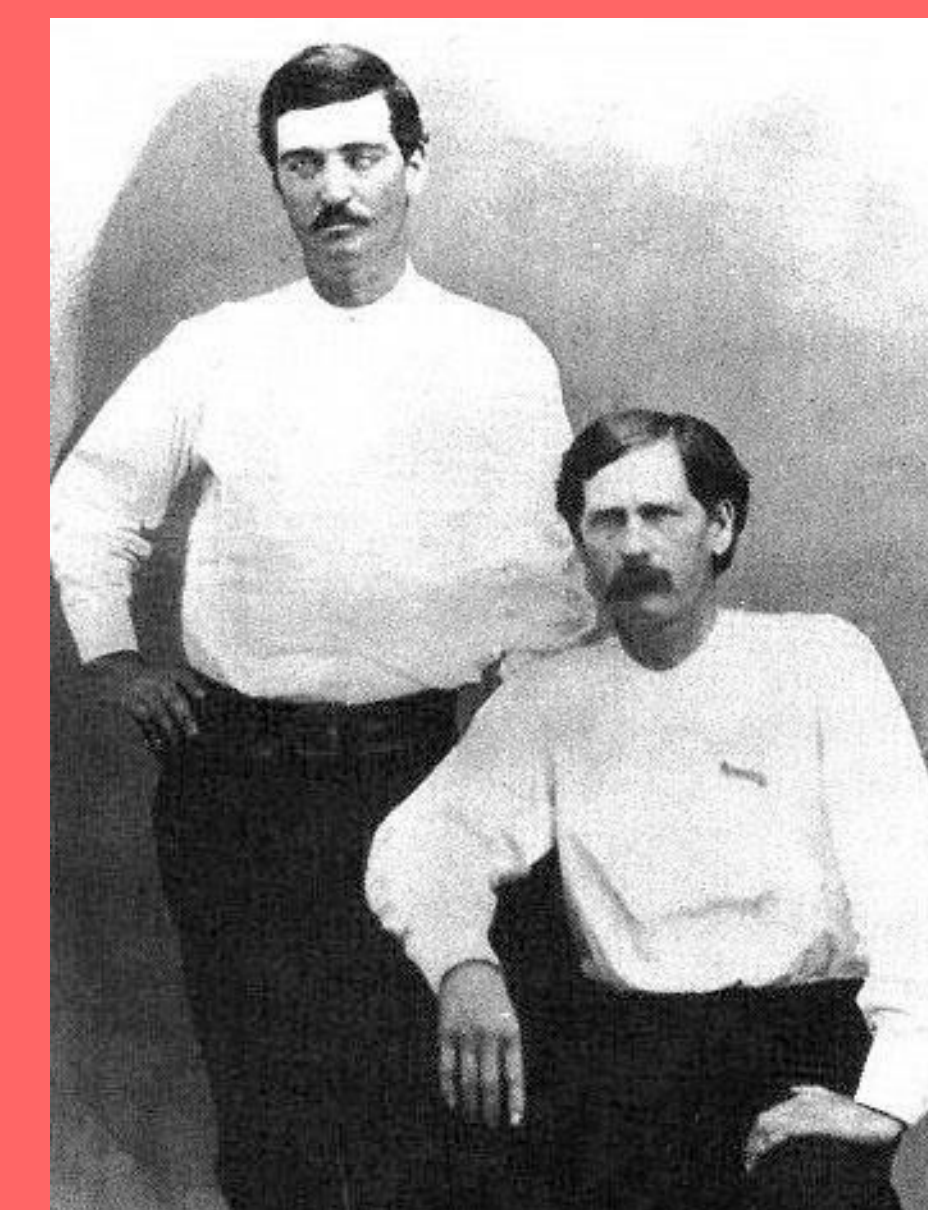
Relations with Mexico became tense in 1915 with the revelation of a German plot for Mexico to annex the entire southwestern US, aggravated by political unrest and revolutions within Mexico. One of the Mexican revolutionary forces, led by Pancho Villa, attacked and burned the border town of Columbus just west of El Paso in early 1916.

Bryozoans from the Carlile Shale (Middle Turonian) of Ellis County, Kansas. A, cyclostome *Oncousoecia* sp., showing pauciserial, bifurcating branches and a lateral branch (arrowed) ; B, malacostegine cheilostome ‘*Conopeum*’ sp.; C, flustrine cheilostome *Marginaria* sp. (an avicularium is arrowed). All colonies encrust inoceramid bivalves and were collected by D. E. Hattin.

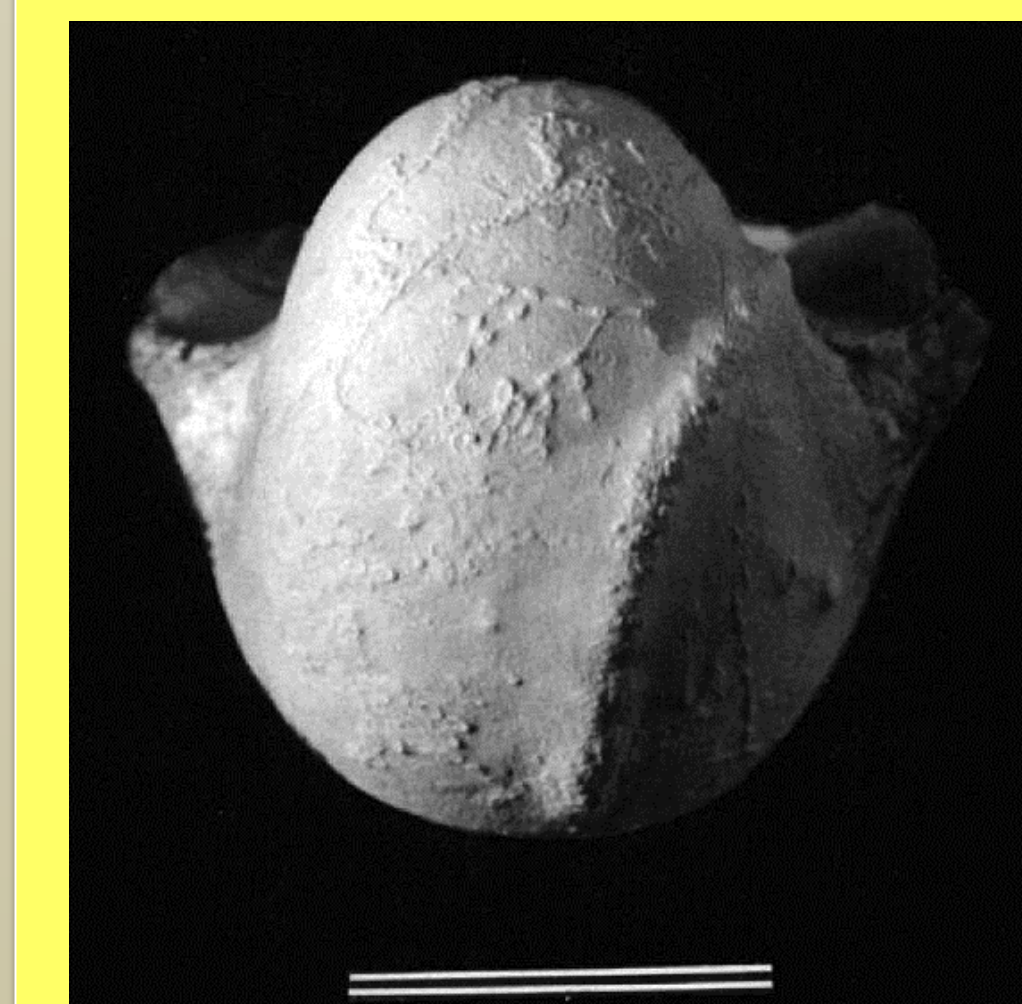
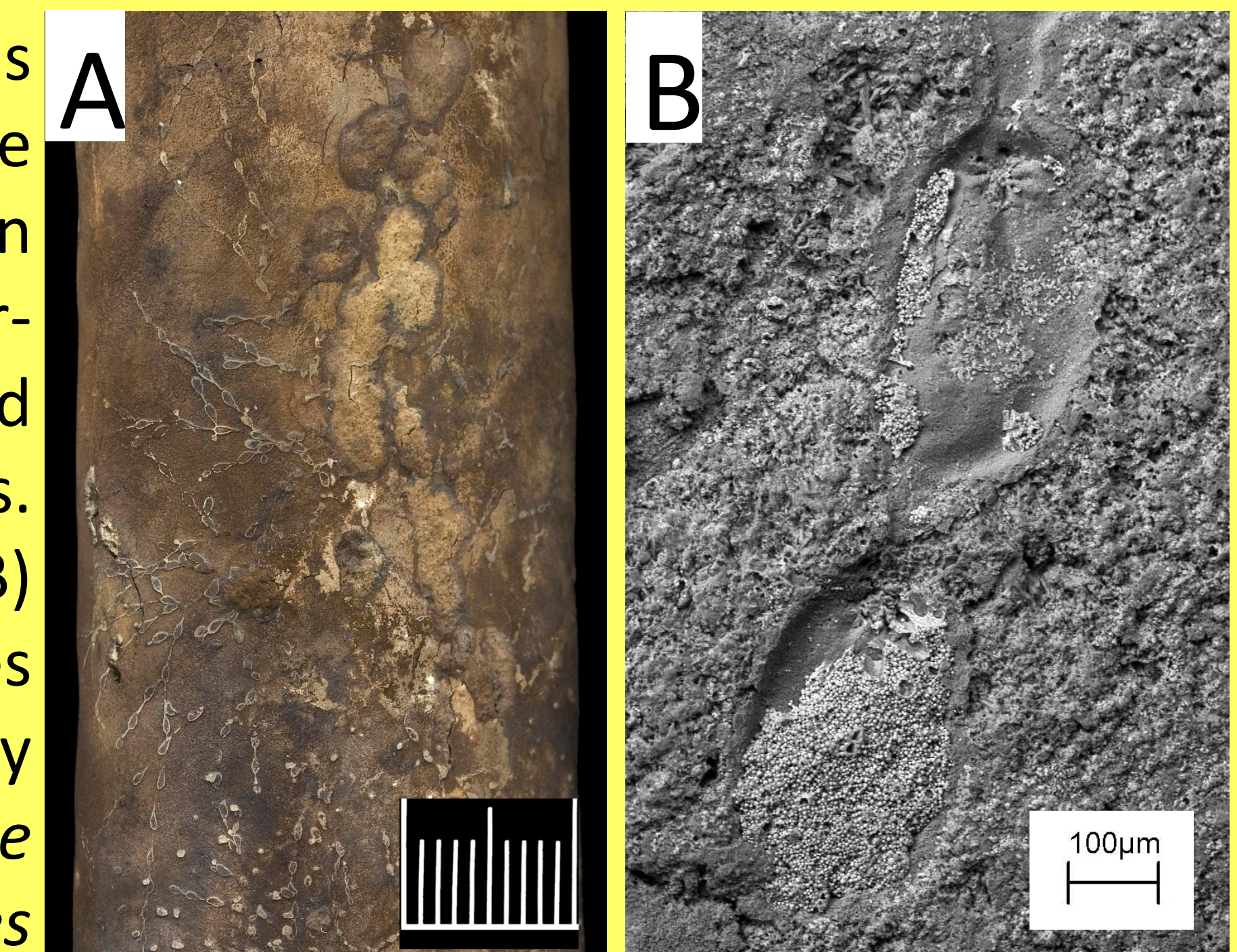


Dodge City, Kansas

Wyatt Earp (sitting) was an assistant marshall in Dodge City from 1876–1879 where he met fellow gunman Bat Masterson who was elected county sheriff 1877–1879. They were involved in local gunfights intended to keep order in the city, and then moved elsewhere (Arizona, Colorado). Both returned briefly in 1883 and participated in the bloodless gunfighter stand-off known melodramatically as the Dodge City War.



Baculite ammonite steinkerns (A) from the Campanian Pierre Shale of South Dakota often reveal undersides of runner-like bryozoans that encrusted the interiors of body chambers. Some of these bryozoans (B) were soft-bodied ctenostomes named *Pierreella larsoni* by Wilson & Taylor (2013. *Lecture Notes in Earth System Sciences* **143**, 419–433).



Runner-like (pyriporid?) bryozoan encrusting juvenile shell of the nautiloid *Eutrephoceras dekayi* and revealed by peeling back adult whorls. Deadwood, Dakota Territory (*sic*), Pierre Shale (Campanian); probably collected by Custer’s Black Hills expedition. Scale = 1 cm. From Saunders & Landman 1987. *Nautilus*; Plenum, N.Y., 163-177.

Black Hills

The impetus for the founding of Deadwood in the ‘Dakota Territory’ was George Custer’s 1874 expedition to the Black Hills, then the off-limits sacred home of the gods and spirits of the Sioux. Custer’s expedition discovered gold, the gold rush began, outraging the Sioux and leading to Custer’s famous ‘last stand’ at Little Bighorn further north.

