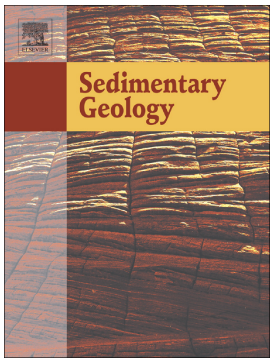

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Domal, thrombolitic, microbialite biostromes and associated lithofacies in the Upper Albian Devils River Trend along the northern, high-energy margin of the Maverick Basin

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ABSTRACT

The Lower Cretaceous Devils River Trend on the northeast margin of the Maverick Basin in southwest Texas contains unique deposits of large domal, thrombolitic, microbial biostromes that have not been identified elsewhere in the Albian of the onshore Gulf of Mexico. These microbial biostromes are overlain by microbial-dominated, moderate-energy grainstones to mud-free rudstones. Above the grainstone to rudstone section is a hiatus (the Albian-19, high-frequency-sequence maximum flooding surface), and above this hiatus are large caprinid rudist bioherms. The overall setting for these carbonate deposits is the moderate- to high-energy north rim of the intraplatform Maverick Basin that is approximately 150 mi (240 km) behind the Stuart City Reef Trend. Four levels of description are necessary to describe the biostromes: (1) megalevel (overall external form)—domal biostromes, (2) macrolevel (larger internal form or layering)—sinuous convex-up layers within domes, (3) mesolevel (basic growth morphology—clotted thrombolites [subvertical to vertical]), and (4) microlevel (microbialite basic texture)—microbial peloids and mesoclots (clots of microbial-mediated material—mainly packed clusters of dark, micritic peloids). The thrombolitic peloids and mesoclots are arranged in digitate to randomly branching