Queen Charlotte Islands he has announced *Dioönites Columbianus* Dawson. From the Kootanie beds of Montana at Great Falls, Newberry has described (1891) 25 species of plants, and among them, *Zamites Montana*, *Z. acutipennis*, *Z. borealis* Heer, *Z. apertus* Newberry, *Podozamites nervosus* Newb., *Sequoia Smittiana* Heer, *S. gracilis* Heer, *S. Reichenbachi* Heer, and *Sphenolepidium Virginicum* Fontaine. The last two are also found in the Potomac group. From the Trinity group of Texas, Fontaine has identified some Neocomian species: as *Dioönites Buchianus*, *D. Dunkerianus*, *Abietites Linkii*, and a species very near *Sphenopteris Valdensis*, besides several other species that occur in the Potomac group.

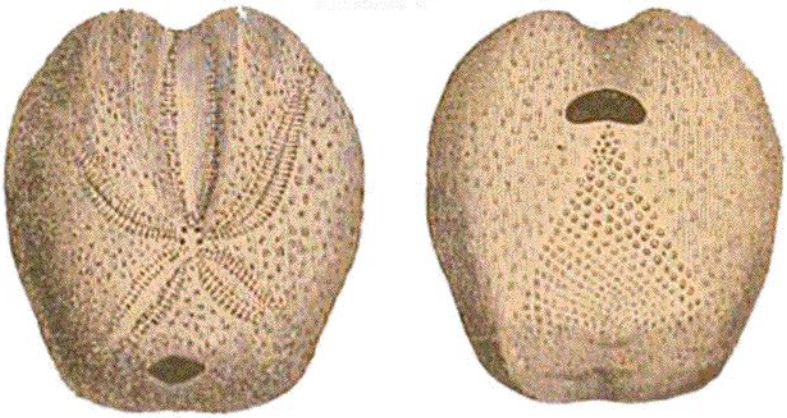
ANIMALS. — Marine fossils are confined almost solely to the beds of Texas and Mexico, and the Pacific Coast region; and these two regions widely differ in fauna. The former was apparently tropical, while the latter bears evidence of cooler waters, just as the Mexican Gulf and California seas now differ. At present this difference (as shown on the isocrymal chart, page 47) is about 16° F., owing to the cold currents that descend the Pacific coast from the north; and it was probably 10° or 12° in Cretaceous times, when like species occurred on that coast from California to Alaska.

1357.

RHIZOPOD. — Patellina Texana. Rœmer.

Texas. — The Comanche beds are largely made of the minute shells of Rhizopods, and also contain the larger Nummulite-like fossil, the *Patellina* (*Orbitulites*) *Texana* (Fig. 1357). Echinoderms are represented by species of *Enallaster* (Fig. 1358), *Pseudodiadema*, *Hemiaster*, *Cidaris*, etc.; Brachiopods, by species of *Terebratula*.

1358.



ECHINODERM. — Enallaster Texanus, upper and under surface. Rœmer.

Lamellibranchs occur of the genera *Gryphœa* (Fig. 1359), *Exogyra* (Fig. 1360), *Lima*, *Inoceramus*, which are very common. Some specimens of *Exogyra ponderosa* in Texas are nine inches long, and the shell four inches thick at middle. Two species of genera related to the modern *Chama*, peculiar to the Cretaceous, are *Radiolites Texanus* (Fig. 1361, 1361 *a*), reduced from a length of 4½ inches, and *Requienia* (*Caprina*) *Texana* (Fig. 1362). The genus *Nerinea* (Fig. 1363) is also characteristic of the Cretaceous.

Of the fossils of the Shasta group, California, the *Aucella* are especially characteristic. The forms vary much, but all are referred to one species named by Gabb, *A. Piochii*. Fig. 1364 represents a common form of the shell, and Fig. 1365, the smaller valve of a specimen. Another specimen figured has a height of more than two inches, while but little wider than