

Worthen found it to consist principally of gray limestone, partly oölitic, partly cherty, with some shaly beds, in all about 900'. The larger portion of the series yields Chester fossils; but characteristic forms of the St. Louis group mark the age of the lowest 250' to 300'.

In Nova Scotia and New Brunswick, the Subcarboniferous rocks are: (1) the *Horton* series, consisting of red sandstones, conglomerates, red and green marlytes; and, above these, (2) the *Windsor* series, consisting of thick beds of limestone, full of fossils, with some red marlytes, and beds of gypsum, affording the gypsum exported from Nova Scotia and New Brunswick. Thus the upper part is calcareous, as in Ohio, Tennessee, and West Virginia. The estimated thickness is 6000'. To the north, toward the Archæan, the limestones fail; and, instead, the rocks are to a greater extent a coarse conglomerate. To the south, limestones prevail. The best exposures of the lower or Horton series are at Horton Bluff, Hillsborough, and other places in southern New Brunswick.

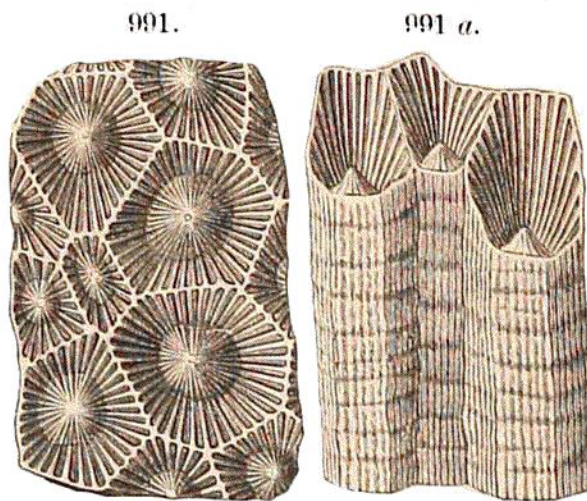
In the lower part of these Subcarboniferous beds, as in those of Virginia, there are, on a small scale, "false" *Coal-measures*, and, in one instance, a bed of *erect trees*, underclays, and thin coal seams; and the same beds contain numerous remains of fishes. The fish-bearing shales of Albert Mine, New Brunswick, are of this period (Dawson).

**Rocky-Mountain and Pacific-border regions.** — Over large portions of these regions, the limestones of the Subcarboniferous have not been distinguished from those of the following period. In most cases their recognition only waits for the more careful study of the fossils; but, at many points, these appear to be wanting. They have been identified in the Elk Mountains, and other ranges of the crest chain of the mountains in western Colorado; on the eastern slopes of the Wind River Mountains, in Wyoming. In Montana, at "Old Baldy," near Virginia City, there are fossils of the Chester group, and probably the Lower Subcarboniferous beds are also present (Meek). In Idaho, near Fort Hall, Bradley found masses of limestone filled with minute shells, many species of which Meek has identified with forms characteristic of the oölitic beds of the St. Louis group, at Spergen Hill, Ind.

## LIFE.

**PLANTS.** — The vegetation of the period included species of Lycopods of the genera *Lepidodendron*, *Sigillaria*, *Knorria*; Ferns of the Devonian genera, *Archæopteris*, *Neuropteris*, *Sphenopteris*, *Odontopteris*, with species also of the new genera *Alethopteris*, *Lesleya*; Equiseta of the genera *Calamites*, *Sphenophyllum*, and *Asterophyllites*; and Cycads, under Gymnosperms, of the genus *Cordaite*s; and among the fossil fruits, those of *Cordaite*s, and probably some of *Conifers* of the Yew family.

**ANIMALS. 1. Spongiozoans.** — Several sponges have been described of the genera *Palæacis* (which has deep cup-like cavities), *Physospongia*, etc. Hexactinellid sponges are common in the beds at Crawfordsville, Ind. The chert, which occurs in many beds, abounds in sponge spicules.



**POLYP-CORAL.** — Fig. 991, portion of the Coral, *Lithostrotion Canadense*; 991 a, vertical view of the same. Meek and Worthen.