

tion and the general aspect of their organic contents with the Carboniferous system of Europe are said to cover an area of more than 200,000 square miles in the United States and British North America. The following table shows the subdivisions which have been established among them:

Carboniferous.	<p>Coal-measures—a series of sandstones, shales, ironstones, coals, etc., varying from 100 feet in the interior continental area to 4000 feet in Pennsylvania, and more than 8000 feet in Nova Scotia. The plant remains include forms of <i>Lepidodendron</i>, <i>Sigillaria</i>, <i>Stigmaria</i>, <i>Calamites</i>, ferns and coniferous leaves and fruits. The animal forms embrace in the marine bands species of <i>Spirifer</i>, <i>Productus</i>, <i>Bellerophon</i>, <i>Nautilus</i>, etc. Among the shales and carbonaceous beds numerous traces of insect life have been obtained, comprising species related to the may-fly and cockroach. Spiders, scorpions, centipeds, limuloid crabs and land-snails like the modern <i>Pupa</i> have also been met with. The fish remains comprise teeth and ichthyodorulites of selachian genera, and a number of ganoids (<i>Eurylepis</i>, <i>Coelacanthus</i>, <i>Megalichthys</i>, <i>Rhizodus</i>, etc.) Several labyrinthodonts occur, and true reptiles are represented by one saurian genus found in Nova Scotia, the <i>Eosaurus</i>.</p> <p>In the Western Territories the Upper Carboniferous rocks consist of a massive group of limestone 2000 feet thick, resting on Lower Carboniferous ("Weber Quartzite" of King), estimated at 6000 to 10,000 feet, but with no coals.</p> <p>Millstone Grit—a group of arenaceous and sometimes conglomeratic strata, with occasional coal-seams, only 25 feet thick in some parts of New York, but swelling out to 1500 feet in Pennsylvania.</p>
Sub-Carboniferous.	<p>In the Mississippi basin, where the sub-Carboniferous groups are best developed, they present the following subdivisions in descending order:—</p> <p>Chester group.—Limestones, shales and sandstones, sometimes 600 feet.</p> <p>St. Louis group.—Limestones with shale, in places 250 feet.</p> <p>Keokuk group.—Limestone with chert layers and nodules.</p> <p>Burlington group.—Limestone, in places with chert and hornstone, 25 to 200 feet.</p> <p>Kinderhook group.—Sandstones, shales and thin limestones, 100 to 200 feet, resting on the Devonian black shale.</p> <p>The sub-Carboniferous groups are mainly limestones, but contain here and there remains of the characteristic Carboniferous land vegetation. Crinoids of many forms abound in the limestones. A remarkable polyzoon, <i>Archimedes</i>, occurs in some of the bands. The brachiopods are chiefly represented by species of <i>Spirifer</i> and <i>Productus</i>; the lamellibranchs by <i>Myalina</i>, <i>Schizodus</i>, <i>Aviculopecten</i>, <i>Nucula</i>, <i>Pinna</i> and others; the cephalopods by <i>Orthoceras</i>, <i>Nautilus</i>, <i>Goniates</i>, <i>Gyroceras</i>, etc. The European genus of trilobite, <i>Phillipsia</i>, occurs. Numerous teeth and fin-spines of selachian fishes give a further point of resemblance to the European Carboniferous Limestone. Some of the rippled rain-pitted beds contain amphibian footprints—the earliest American forms yet known. Large deposits of gypsum occur in this stage in Nova Scotia.</p>