that of the Calciferous Sandstones of Scotland. True Coal-measures, however, also occur in these regions, though to a smaller extent than the lower parts of the system. One of the most extensive coal-fields is that of Silesia,[227] where the seams of coal are both numerous and valuable, one of them attaining a thickness of 50 feet. It is noteworthy that in the Coal-measures of eastern and southern Germany horizons of marine fossils occur like those so marked in the corresponding strata of Britain.

The coal-field of Pilsen in Bohemia occupies about 300 square miles. It consists mainly of sandstone, passing sometimes into conglomerate, and interstratified with shales and a few seams of coal which do not exceed a total thickness of 20 feet of coal. In its upper part is an important seam of shaly gas-coal (Plattel, or Brettelkohle), which, besides being valuable for economic purposes, has a high palæontological interest from Dr. Fritsch's discovery in it of a rich fauna of amphibians and fishes. The plants above and below this seam are ordinary typical Coal-measure forms,[228] but these animal remains present such close affinities to Permian types, that the strata containing them may belong to the Permian system (pp. 1400, 1408). What are believed to be true Permian rocks in the Pilsen district seem to overlie the coals unconformably.

Alps, Italy.—The Carboniferous strata of the Alps have been already (p. 1032) referred to in connection with the metamorphism of that region. In the western part of the chain they occur imbedded in or associated with a great series of reddish sandstones, conglomerates and red-greenish shales or slates, which occasionally become quite crystalline, and cannot indeed be satisfactorily separated from what have been regarded as the primitive schists of the mountains. To these strata the name of "Verrucano" has been given. That they are partly, at least, of Carboniferous age is shown by the characteristic flora, amounting to upward of 60 species, which the dark carbonaceous bands have yielded.[229]

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[227] D. Stur, Abhandl. k. k. Geol. Reichsanst. 1877.

[228] From the coal-field of central Bohemia C. Feistmantel enumerated 278 species of plants, of which 137 were ferns: Sphenopteris, Neuropteris, Odontopteris, Cyatheites, Alethopteris, Megaphyton, etc. Archiv. Naturw. Landes durchforsch. Böhmen, v. No. 3, 1883. For the amphibian remains, see Fritsch's "Fauna der Gaskohle."

[229] For an essay on these rocks, see L. Milch's "Beiträge zur Kenntniss der