

and Bohemia. On the south side of the Harz it is grouped into the following subdivisions:

Zechstein Group	{	Upper	}	Anhydrite, gypsum, rock-salt, marl, dolomite, fetid shale, and limestone. The amorphous gypsum is the chief member of this group; the limestone is sometimes full of bitumen.	
		Mid-		}	Crystalline granular (<i>Rauchwacke</i>) and fine powdery (<i>Asche</i>) dolomite (sometimes 150 feet thick, with gypsum at the bottom).
		Lower			Zechstein-limestone, an argillaceous thin-bedded compact limestone 15 to 30 (sometimes even 90) feet thick. Kupferschiefer—a black bituminous shale not more than about 2 feet thick.
Rothliegende Group	{	Upper	}	Zechstein-conglomerate, and calcareous sandstone. Red sandstone (<i>Kreuznach</i>), red shales (<i>Monzig</i>), with sheets of melaphyre and masses of quartz-porphry conglomerate (<i>Sötern</i>).	
		Lower		}	Sandstones and conglomerates lying on black shales with poor coal-seams (<i>Lebach</i>).
					Sandstones and shales, with some seams of coal resting on red and gray sandstones with bands of impure limestone (<i>Cusel</i>).

The name "Rothliegende," or rather "Rothtodtliegende" (red-layer or red-dead-layer), was given by the miners because their ores disappeared in the red rocks below the copper-bearing Kupferschiefer. The coarse conglomerates have been referred by Ramsay to a glacial origin, like those of the Abberley Hills. They attain the enormous thickness of 6000 feet or more in Bavaria. One of the most interesting features of the formation is the evidence of the contemporaneous outpouring of great sheets of quartz-porphry, granite-porphry, porphyrite, and melaphyre, with abundant interstratifications of various tuffs, not infrequently inclosing organic remains. From the very nature of its component materials, the Rothliegende is comparatively barren of fossils; a few ferns, calamites, and remains of coniferous trees are found in it, particularly in the lower part of the group, where they form thin seams of coal.

The plants, all of terrestrial growth, on the whole resemble generically the Carboniferous flora, but seem to be nearly all specifically distinct. They include forms of Calamites (*C. gigas*), Asterophyllites, and ferns of the genera Callipteris (*C. conferta*), Sphenopteris, Alethopteris, Neuropteris, Odontopteris, with well-preserved silicified stems of tree-ferns (*Psaronius*, *Tubicaulis*). The conifer *Walchia* (*W. piniformis*) is specially characteristic. Fish remains occur sparingly (*Amblypterus*, *Palæoniscus*, *Acanthodes*), while labyrinthodonts have been met with in the Dresden district in considerable number and variety.

The Zechstein group is characterized by a suite of fossils