

The country of Mansfeld, in Thuringia, may be called the classic ground of the Lower New Red, or Magnesian Limestone, or Permian formation, on the Continent. It consists there principally of, first, the Zechstein, corresponding to the upper portion of our English series; and, secondly, the marl-slate, with fish of species identical with those of the bed so called in Durham. This slaty marlstone is richly impregnated with copper-pyrites, for which it is extensively worked. Magnesian limestone, gypsum, and rock-salt occur among the superior strata of this group. At its base lies the Rothliegende, supposed to correspond with the Inferior or Lower New Red Sandstone above mentioned, which occupies a similar place in England between the marl-slate and coal. Its local name of "Rothliegende," *red-lyer*, or "Roth-todt-liegendes," *red-dead-lyer*, was given by the workmen in the German mines from its red color, and because the copper has *died out* when they reach this rock, which is not metalliferous. It is, in fact, a great deposit of red sandstone and conglomerate, with associated porphyry, basaltic trap, and amygdaloid.

*Permian Flora.*—We learn from the recent investigation of Colonel von Gutbier, that in the Permian rocks of Saxony no less than sixty species of fossil plants have been met with, forty of which have not yet

Fig. 461.



*Walchia piniformis*, Sternb. Permian, Saxony. (Gutbier, pl. x.)  
a. Branch. b. Twig of the same. c. Leaf magnified.

been found elsewhere. Two or three of these, as *Calamites gigas*, *Sphenopteris erosa*, and *S. lobata*, are also met with in the government of Perm in Russia. Seven others, and among them *Neuropteris Loshii*, *Pecopteris arborescens*, and *P. similis*, with several species of *Walchia* (see fig. 461), a genus of Conifers, called *Lycopodites* by some authors, are common to the coal-measures.

Fig. 462.



Among the genera also enumerated by Colonel Gutbier are the fruit called *Cardiocarpon* (see fig. 462), *Asterophyllites*, *Cardiocarpon Ottonis*, Gutbier, and *Annularia*, so characteristic of the carboniferous period; Permian, Saxony.  $\frac{1}{4}$  diam. also *Lepidodendron*, which is common to the Permian of Saxony, Thuringia, and Russia, although not abundant. *Noeggerathia*