

or burrows of worms, crustacea, etc.⁵⁴ Among the most abundant genera are *Buthotrephis*, *Arthrophyucus*, *Palæophycus*, and *Nematophycus* (Carruth.). But in the Upper Silurian rocks beautifully preserved sea-weeds like the living *Gelidium* or *Plocamium* occur, such as the *Chondrites verisimilis* (Salt.) of the Ludlow rocks of Edinburghshire. Traces, however, of a higher vegetation have been discovered, which are of special interest as being the earliest known remains of a land-flora. Many years ago certain minute bodies (*Pachytheca*) in the Ludlow bone-bed were regarded as lycopodiaceous spore-cases, but some doubt has been cast on their organic grade. More recently, Dr. Hicks obtained from the Denbighshire grits of N. Wales other spores and likewise dichotomous stems, probably lycopodiaceous.⁵⁵ True lycopods (*Sagenaria*) have been met with in the Upper Silurian rocks of Bohemia. From the Clinton limestone of Ohio portion of a lepidodendroid tree (*Glyptodendron eatonense*) has been obtained. The Cincinnati group of strata, at the top of the Lower, and the Lower Helderberg at the top of the Upper Silurian formations of eastern North America, have yielded a microcosmical representation of the Carboniferous flora. The genera noted include *Psilophyton*, *Calamophycus*, *Annularia*, *Protostigma*, *Sigillaria*, and *Sphenophyllum*.⁵⁶ From the meagre evidence as yet collected, it would appear that the land of

⁵⁴ Nathorst, *Kongl. Sensk. Vet. Akad. Handl.* xviii. 1881, has imitated some of these markings by causing crustacea, annelids and mollusks to move over wet mud and gypsum, and has thus shown the high probability that they are not plants. (See *Geol. Mag.* 1882, pp. 22, 485; 1883, pp. 33, 192, 286.) Nathorst's opinion, adverse to the plant nature of the markings, is strongly opposed by Saporta in his "*À propos des Algues Fossiles*," 1882.

⁵⁵ *Q. J. Geol. Soc.* 1881, p. 482; 1882, pp. 97, 103.

⁵⁶ L. Lesquereux, *Amer. Journ. Sci.* (3) vii. p. 31; *Proc. Amer. Phil. Soc.* xvii. p. 63.