

## LIFE.

## 1. Triassic of the Atlantic Border.

**PLANTS.**—The vegetation of the Triassic was characterized not by *Sigillarids* and *Lepidodendrids*, like that of the Carbonic era, but by Cycads, Conifers, Ferns, and Equiseta.

As the Cycads were a prominent feature of the forests in both the Triassic and Jurassic periods, a figure of a common East India species, *Cycas circinalis* ( $\times \frac{1}{120}$ ) is given on page 434. Its relation to Conifers, both groups being Gymnosperms, notwithstanding its palm-like foliage, has already been explained. Portions of leaves of two species related somewhat to the modern *Zamia* are represented in Figs. 1156 and 1157.

Conifers existed of the genera *Voltzia* (differing little from *Walchia* of the Permian, page 705), *Baiera*, and *Araucarites*. Stems, leaves, cones, and trunks of such trees are not uncommon. Ferns were numerous, of the genera *Pecopteris* (Fig. 1159), *Tæniopteris* (Fig. 1160), *Clathropteris* (Fig. 1158), and others related. Some of the Equiseta (Calamites) had a breadth of stem of four inches or more.

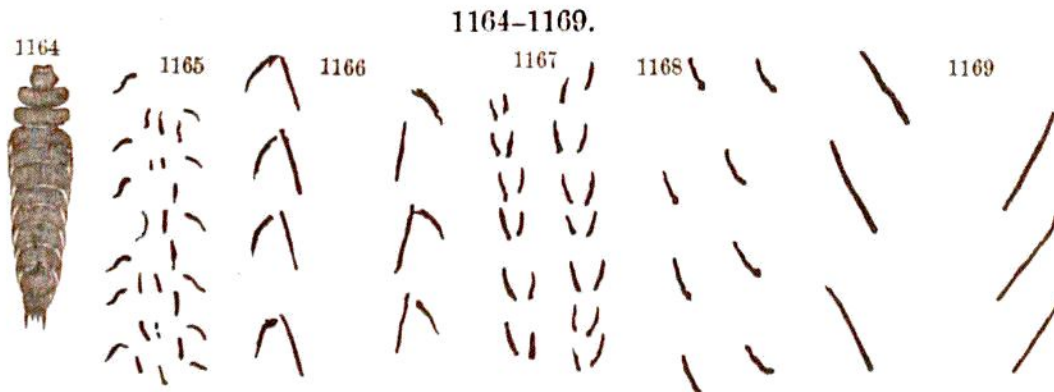
**ANIMALS.**—The Triassic beds of the Atlantic border have afforded no marine species of any kind; all are either of fresh or brackish waters, or else terrestrial.



Figs. 1161-1163, *Estheria ovata*. Fig. 1161, Lyell; 1162, E. Emmons; 1163, L. Sanford.

**1. Crustaceans and Insects.**—The Crustaceans observed are mostly Ostracoids. The little shells (Figs. 1161-1163) are abundant in some beds of shale.

The presence of Insects is known from their tracks and from the discovery of the larves of one species. These larves (Fig. 1164) were found by E. Hitchcock rather abundantly in shales at Turner's Falls, and have since



**INSECTS.**—Fig. 1164, Insect larve, *Mormolucoides articulatus*; 1165-1167, tracks of Insects; 1168, 1169, tracks of Crustaceans (?). Fig. 1164, from Scudder; 1165-1169, E. Hitchcock.

been obtained at Montague, and at Horse Race in Gill, Mass. The Insect was a Neuropter. Figs. 1165 to 1167 are of tracks from the Connecticut