

of Trilobites, the weathered Laurentian rocks, the wind ripples in the Potsdam sandstone, the rich fossils of the limestones, testify to these things. The existence of such conditions would lead us to hope that land animals may yet be found in these older formations. On the other hand, the gradual failure of one form of life after another, as we descend in the geological series, and the rarity of fishes and land plants in the Silurian rocks and their absence from the Cambrian, might induce us to believe that we have here reached the beginning of animal life, and have left far behind us those forms that inhabit the land.

Even in the Carboniferous period, though land plants abound, air-breathers are not numerous, and most of them have only been recently recognised. We know, however, with certainty that the dark and luxuriant forests of the coal period were not destitute of animal life. Reptiles¹ crept under their shade, land snails and millipedes fed on the rank leaves and decaying vegetable matter, and insects flitted through the air of the sunnier spots. Great interest attaches to these creatures; perhaps the first-born species in some of their respective types, and certainly belonging to one of the oldest land faunas, and presenting prototypes of future forms equally interesting to the geologist and the zoologist.

It has happened to the writer of these pages to have had some share in the finding of several of these ancient animals. The coal formation of Nova Scotia, so full in its development, so rich in fossil remains, and so well exposed in coast cliffs, has afforded admirable opportunities for such discoveries, which have been so far improved that at least twenty-five out of the not very large number of known Carboniferous land animals have been obtained from it.² The descriptions of

¹ I shall use the term reptile here in its broad, popular sense, as including Batrachians as well as reptiles proper.

² It appears that about a hundred species of Carboniferous reptiles