

beds I have at various times extracted twenty-six trees, besides studying the remains of others which have fallen naturally.

These singular receptacles naturally contain only remains of land animals, along with debris of wood and bark, and occasional fragments of leaves, fruits, and other vegetable substances. In the memoir above referred to, I have described twelve species of amphibians, of the groups *Microsauria* and *Labyrinthodontia*, and three species of land snails, besides the arthropod remains. Of the amphibians specimens representing fifty-three individuals have been found, and a great number of land snails, especially of the species *Pupa retusa*, as well as numerous remains mostly fragmental of millipedes. Fragments of scorpions and of insects are comparatively rare. Details respecting the reptilian remains will be found in my memoir in the transactions of the Royal Society of London, part ii., 1882, and respecting the land snails in the *American Journal of Science*, for November, 1880, while some later discoveries of amphibian remains are noticed in papers in the *Geological Magazine*, April, 1891, and June, 1891.

Much credit is due to Mr. Scudder for the care and skill with which he has worked up the fragmentary remains from the contents of the erect sigillariae of the Joggins coal measures. With reference to the condition of the specimens it is to be observed that these remains are found in the matter filling the bases of hollow trees originally open to the air, into which small amphibians have fallen and have possibly lived in these singular prisons for some time. Hence no doubt in part the fragmentary condition of the myriapodal and arachnidan remains. Indeed segments of millipedes and remains of insects have been found in the coprolitic matter associated with the reptilian bones, so that it is quite likely that the arthropods have been pulled to pieces and partially devoured by their amphibian companions in misfortune. In addition to this the loose and unequal character of the material filling the lower part of the hollow trees has caused much crushing and distortion of the flexible crusts of these creatures, and has rendered it difficult to obtain from the mass even such fragments as those I was able to submit to Mr. Scudder's inspection. On the other hand it is a rare chance to find even such fragments preserved at all, and but for the accident of the mode of decay and entombment of these trees, we might have known nothing of these curious and ancient air-breathers of the coal-formation of Nova Scotia.

The identification of remains of scorpions is further of interest from the light which it casts on one at least of the uses of the scaly armour of the smaller amphibians of the coal measures. They may, as Mr. Scudder has already suggested, have required protection from the active and venomous arachnidans with which they had to compete, or on which they may in some cases have fed.