

Nova Scotia it would seem that a few snails, gally-worms, and insects were the sole links of connection between the plant creation and air-breathing vertebrates. Is this due to the paucity of the fauna, or the imperfection of the record? The fact that a few erect stumps have revealed nearly all the air-breathers yet found, argues strongly for the latter cause; but there are some facts bearing on the other side.

A gally-worm, if, like its modern relatives, hiding in crevices of wood in forests, was one of the least likely animals to be found in aqueous deposits. The erect trees gave it its almost sole chance of preservation. *Pupa vetusta* is a small species, and its shell very thin and fragile, while it probably lived among thick vegetation. Further, the measures 2,000 feet thick, separating the lowest and highest beds in which it occurs, include twenty-one coal seams, having an aggregate thickness of about twenty feet, three beds of bituminous limestone of animal origin, and perhaps twenty beds holding *Stigmaria in situ*, or erect *Sigillariæ* and *Calamites*. The lapse of time implied by this succession of beds, many of them necessarily of very slow deposition, must be very great, though it would be mere guess work to attempt to resolve it into years. Yet long though this interval must have been, *Pupa vetusta* lasted without one iota of change through it all; and, more remarkable still, was not accompanied by more than two other species of its family. Where so many specimens occur, and in situations so diverse, without any additional species, the inference is strong that no other of similar habits existed. If in any of those subtropical islands, whose climate and productions somewhat resemble those of the coal period, after searching in and about decaying trees, and also on the bars upon which rivers and lakes drifted their burdens of shells, we should find only three species, but one of these in very great numbers, we would surely conclude that other species, if present, were very rare.

Again, footprints referable to *Dendrerpeton*, or similar animals,