

readily to be seen that the specimen illustrates the growth of two seasons with exactly the same organs developed, and in the same succession, viz.: S. 1, corresponds with the young stolon S. 2; the large root R. 1, corresponds with the younger R. 2; the shoot corresponds with the bud (B.) and the two pairs of secondary roots (r. 1-r. 2) correspond with those of the bud, r. 3-r. 4. It is actually a very simple structure of rhizome, a typical sympodium, the stolon being developed from the axil of one of the scale-like leaves, but in respect to the real nature of the long, fleshy body, which I have marked R. 1 and R. 2, botanists do not quite agree whether it be a root, or concrescence of several roots or a swollen bud axis. The various views about these points I have discussed in a paper dealing with North American Orchids⁸). In *Plantanthera rotundifolia* Lindl., and *obtusata*, Lindl., the rhizomes are very slender, but the ramification agrees in all respects with that of *P. dilatata*, and the others. To these Orchids, described above, with slender rhizomes may be added *Pogonia ophioglossoides*, Nutt., of which a rhizome has been figured on plate 2, figure 9. However, this specimen was developed from a root (R.), and I regret to say that I can offer no description of the rhizome except at this stage. The species was collected in great abundance in a sphagnum swamp in Maryland, but all the specimens originated from roots, and the same was the case with the fresh material which Professor M. L. Fernald kindly collected for me in Maine; the dried specimens in herbaria give no information in respect to this question. We may presume, however, that the structure of the root-shoot agrees with that of the plant, developed from seed, but it would be interesting to know for sure, how the latter behaves. The shoot appears at the tip of the long, horizontal roots (R. in fig. 9), and grows out in a vertical direction to reach the light. Unlike most other rhizomes it is very hairy; it is slender, and bears green, long-petioled leaves (L. 1-L. 2), alternating with scale-like (1. 1-1. 3), or more correctly tubular, membranaceous. The internodes are stretched, very distinct, and the shoot becomes terminated by the floral stem (S.); lateral buds occur, for instance in the axil of the green leaf (L. 2), but they hardly develop any further, except if the terminal might be injured. In this way *Pogonia* is very able to

⁸) Am. Journal of Science, Vol. XVIII, 1904, p. 197.