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SOME BEGINNINGS OF SPECIFIC DIFFERENTIATION IN PLANTS1

By Dr. M. L. Fernald
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In these days, when the followers of some of our youthful and consequently aggressive branches of biology actually work with but few specific entities and often spend half a lifetime experimenting with the vagaries of a single one under highly artificial, if not pathological conditions, we are likely to gain a distorted conception of what a species really is. Some of my friends who have had little or no broad taxonomic background and whose interest in plants awoke in the laboratory, not out-of-doors, toss about the terms species and speciation with an assurance which the more thoughtful of taxonomists have learned to avoid. It should really be remembered, however, that, although never capable of rigidly exact definition, the species has been for centuries the primary concept of the taxonomist. In fact, two centuries ago, the great organizer of the accumulated knowledge in the natural sciences, Linnaeus, so far glorified the species as to write: “The tyro makes systems, the expert makes species.”

The taxonomist, who once was the only botanist, now welcomes among a host of young brothers that increasing body of modern biologists who think chiefly of genes; but it is sometimes a bit shocking to him to be assured by them that, by drastic chemical, physical or pathological manipulations within their restricted laboratory walls, they have produced something which might be termed a new species. Perhaps; but it seems improbable that their “creations,” put

1 Read by invitation at the joint session of Section G and the affiliated Botanical Societies, at the fifth Boston meeting, December 28, 1933.