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EDITORIAL ANNOUNCEMENT

In beginning a new volume of RHODORA it is important to emphasize that the articles present the views and usages of their authors and that they are not to be taken as always agreeing with the interpretations of the EDITORS. This policy, enunciated at the beginning of publication of the journal, seems the right one to follow in a field where many differences of judgement are found.

OFFICIAL PLANT NAMES?

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As has happened before several previous botanical congresses, there seems to be at the present time a rather active movement to substitute legislative procedures for research in solving nomenclatural problems. Although botanical congresses have always decisively rejected the idea of a list of conserved specific names, several proposals have been made to create such a list at the 1950 congress. This involves a change in the basis of our system of determining the names of plants serious enough that it should be discussed so thoroughly that all of its implications are brought out. Those who vote on the matter at the congress then may know exactly to what they are opening the way should they adopt this principle.

The task of providing separate and distinctive names for a quarter of a million species of plants would, under the best of conditions, be a difficult one. Even if all the species were well-known and clear-cut, if the task were undertaken with an opportunity to survey the field and plan the whole job, if there were

neither history nor literature to deal with, it is still only too obvious that the job would not be accomplished without a considerable amount of confusion appearing in the result. The most careful of minds grow tired and the best of clerical help make errors.

How much further from ideal were the circumstances under which the members of the plant kingdom actually received their names only the person who has studied the history of systematic botany can fully realize. One need not go back into the nebulous pre-Linnaean period. Beginning with Linnaeus, who made a brilliant start by bringing together the botanical knowledge of his time into a classification that was understandable to all, by providing a simple botanical nomenclature from which homonymy (i. e., the use of the same name for two or more species) and to a certain extent synonymy (i. e., different names for the same species), were eliminated, and by providing a philosophy or set of principles (Critica Botanica: Philosophia Botanica) for the guidance of his successors, even here we find the seeds of confusion. These lie in the simple fact that even the knowledge of plants possessed by the great master was woefully incomplete.

The Linnaean system came into a rapidly expanding world. Early systematists worked during a period when plants were being discovered faster than any person could learn even their names, let alone know how they were distinguished.

These men worked also in a period when communication was infinitely more difficult than at present. They worked with scanty and fragmentary material, with little knowledge of the variability and behavior of plants, with none of the benefits of modern genetics, and with no rules or authority to follow in the naming of their plants except the principles suggested by Linnaeus. Add to this the fact that anyone who cared to could describe and name plants. Those who did included druggists, medical doctors, explorers, zoologists, compilers of dictionaries and other reference works, dealers in specimens, and horticulturists, to mention only a few of the categories other than botanists. Many of these men made valuable observations and contributions to the understanding of plants, but often they wrote in ignorance of what their botanical colleagues had already written. Too often, also, the botanists wrote in ignorance of

what these miscellaneous other workers had already published. The late eighteenth century and the early nineteenth century saw numerous attempts to bring together all plant names in the form of nomenclators or brief treatments of all known plants. These were inevitably out of date before they were published, and they were compiled, not according to any recognized set of nomenclatural principles, but according to their author's personal views on the subject or those of his institution. The last and greatest of these attempts was the Index Kewensis, which started as a nomenclator but in its later supplements acknowledged the impossibility of the task and simply listed published names. The enormous flood of plant names had finally submerged even the most optimistic of those who thought that an end must be in sight.

Meanwhile it was finally realized that in an expanding field of knowledge order could only be achieved by establishing a set of principles and rules for determining that each plant species would have only one name and that a given name would only designate one species. In 1867 an international congress of botanists adopted a code of rules for the naming of plants which, though it has been revised several times, is still in effect. From the first the basic principle in these rules has been that priority of publication is the basis for selection of one from among several names applied to the same plant. More recently has been recognized the obvious principle of determining the application of names by reference to the original (or type) material on which they were based.

These principles, despite occasional difficulty in application, are the only fundamentally objective features in the rules of nomenclature and are the bulwarks standing between an orderly and understandable system and nomenclatural anarchy. In spite of occasional wailing and gnashing of teeth at the consequences of the application of these principles, there has never, since they were made the bases of the rules, been, among botanists, any serious, widespread deliberate disregard of them. The great American Code rebellion was against looseness in the application of these principles rather than against them. It is not an overstatement to say that the functioning of the principle of priority and the type method are the main reason that botanists

can communicate with each other about plants with no serious ambiguity.

Let us examine, then, these recurrent pleas for the conservation of specific names—in other words, for the violation or abandonment of the principle of priority. What is their origin, and have their originators given sufficient thought to their consequences?

Almost invariably such proposals come from foresters, horticulturists, and other practical users of plant names, or from botanists who are in one way or another subject to pressure from these groups. Historically, it is interesting to note that much of the present-day activity in changes of plant names stems from the publications of earlier horticulturists, druggists, and other practical men. Their publications have frequently been in obscure or unlikely places and their descriptions often inaccurate or insufficient for positive identification. And these faults are by no means entirely a thing of the past.

Most of the proposals for conserved specific names specify that the list be kept small, that it be confined to trees and plants of economic importance. Trees are, I suppose, a special case because they are objects of study by foresters. Why the convenience of those interested in economic plants should be of more importance than that of non-taxonomists interested in certain other plants, i. e. morphologists, geneticists, etc. is never stated. I have not seen, so far, a practicable suggestion as to how the list is to be kept small. The hundreds of unimportant generic names proposed for conservation form an example of what may be expected. If those proposing to conserve specific names had really considered the difficulties and ramifications of what they are suggesting, they would probably find it much simpler to learn a few new names now and then rather than to solve all the problems that would arise. Let us consider the case of the name *Sequoia gigantea*, long in use for the big tree of California, surely a fit name to be conserved (see Dayton, W. A., Leafl. W. Bot. 3: 209–219, 1943), if this is a solution to the problems of name changes. There are several reasons why this name must be changed. In the first place, it does not belong to the big tree at all, but is a synonym of the name *Sequoia sempervirens*, having been first applied to the redwood. If it is conserved it obviously should be applied to the big tree, but its type

is the redwood. Of course a new type might be selected, but this would introduce a precedent of violation of the other basic principle of nomenclature that would have far-reaching consequences. The principle of "neotypes" is probably fully as dangerous to ultimate nomenclatural stability as that of violation of the principle of priority. But for argument's sake, suppose a new type were chosen that would attach the name *Sequoia gigantea* to the big tree. Are the difficulties over then? No, for Professor Bucholz has recently proposed that the big tree constitutes a different genus, *Sequoiadendron.* If this is accepted, *Sequoia gigantea* still must be discarded. Should we then insist that the epithet *gigantea* be conserved anyhow? If so it will, with its new typification, need transference to the new genus, but there it will be a later homonym, as the old *gigantea* has already been transferred there. Thus it will have to be conserved all over again, and since the newer binomial, *Sequoiadendron giganteum,* is not especially familiar, there will be much less reason for this. The wailing has all been about *Sequoia gigantea.* Perhaps we should conserve *Sequoia* also. But it has already been conserved for the redwood.

This brings up the question of whether the proposals call for the conservation of epithets or binomials. This is not clear. If it is epithets that are to be conserved, then they will be conserved in all combinations. If binomials only, then a great many of the changes that are objected to cannot be prevented in this way. Also, if a binomial is conserved, does this add its generic name to the list of nomina conservanda?

Another very obvious difficulty arises in the numerous cases where different binomials are in use in different regions for the same plant. The New Zealanders commonly use *Pinus insignis* for the Monterey pine, which is an important economic plant in their country. They might well wish to save this name and might propose it for conservation. The California botanists who have always used the correct name, *Pinus radiata,* would undoubtedly raise a violent protest, as probably would the U. S. foresters. Yet the tree is of economic importance in New Zealand and scarcely so in the U. S. Are the foresters of New Zealand to be sacrificed to the whims of a few impractical Californians just because the plant happens to come from there and

because they happen to have been correct in their use of its name? This seems to be contrary to the reasons for conservation of specific names.

The list of Nomina Generica Conservanda has been in the rules for over forty years and even yet all of its difficulties and inconsistencies are not ironed out. The problems involved in conserving generic names are relatively simple compared with those that would arise where species are concerned. If any of the proponents of conserved specific names think that this would simplify their problems, let them look over the history of the generic name list. They might well decide that it would be simpler to let strict priority operate and learn a new name now and then.

One of the most inevitable evils that would arise under such a scheme would be an attempt to substitute decision by authority for taxonomic research. (See A. C. Martin, Am. Midl. Nat. 34: 800, 1945.) Under even the best-informed authority this would be an intolerable infringement on the freedom of research. Actually, those in high official positions seldom have either the time, inclination, or ability to investigate complex nomenclatural problems well enough to understand them. Official decisions in these matters have an excellent chance of being unfortunate ones.

In repeated conversations with non-taxonomic users of botanical names it has become very evident that the annoyance with name changes is an indiscriminate one, not confined to such changes as are merely the result of discovery of older works or the typification of obscure or incorrectly applied names. There is sometimes a resentment even of cases resulting from increased taxonomic knowledge. This is comparable to resentment that modern theories as to the mechanics of the ascent of sap in trees are not those learned from the textbooks of thirty years ago. These are matters that cannot be settled by legislation any more than the principles of genetics can be regulated by the decisions of political commissars. To open the way to even a possibility of such regulation is too dangerous to be considered,.

The proposals to outlaw names that have not been used for a specified period of time (see Dayton, W. A., Jour. Forestry 41: 373, 1943; Little, E. L., Phytologia 2: 451–456, 1948) would be

less unsatisfactory but due to difficulty in determining when a name had been used, would give rise to much more of the same trouble that they seek to eliminate (see Fernald, M. L., Rhodora 50: 247–249, 1948).

It is appropriate to conclude with some pertinent remarks on the subject by an acute student, E. J. H. Corner, made after a difficult and involved study to determine the correct names for several economic species of *Artocarpus* (Gard. Bull. S. S. 10: 80, 1938):

"I find that it has been proposed by Indian foresters to conserve the name *A. integer*, or *A. integrifolia*, for the Jack of India. Hitherto the conservation of specific names has been discountenanced at Botanical Congresses, and the present instance shows what a dangerous precedent it may create. The confusion between Jack and Champedak can be ascribed only to the incompetence of systematists and their lack of acquaintance with the plants which they have tried to classify. Nor have any practical men, so far as I can ascertain, endeavored to assist systematists in this actual instance. The conservation of specific names can be accepted only if botanists agree to forego entirely their principles of priority and typification, in other words to throw over their system of nomenclature, and to adopt arbitrary names for every species. And supposing such, what is *A. integer* of India, the Chempedak or the Jack, because both species evidently grow there and have been mistaken for each other? Let us rather acknowledge the ignorance that still prevails concerning the systematy of tropical plants and direct our efforts to overcome this."

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