

## MYCOLOGICAL NOMENCLATURE<sup>1</sup>

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What is it we are trying to find out by a discussion of nomenclature, whether applied to fungi or to other plants? In seeking for an answer to one phase of this question, I find myself coming to the conclusion that in the minds of many taxonomists, it seems to consist of ideas to be obtained by looking backwards. May I therefore offer some remarks from the point of view of looking into the future; of facing the situation that has developed in the past and that is beginning to spell chaos in our nomenclatorial practices of the present. Does the situation lead us into the halls of legislation? Must we have new rules or can we revise the old?

Just what do we assume when we make laws to direct the *naming of plants*, and, what seems to be a much more important issue, *the re-naming of plants*? Whether a group of mycologists of the past have agreed what should be law, or whether we, today, were to agree on legislation, or even if, at some future time, all those concerned shall agree unanimously to a set of so-called laws, we or they would indeed be careless of the lessons to be learned from all history if we made ourselves believe that such laws will be permanent.

In another generation a new group of mycologists and pathologists will have appeared. New scientific facts beyond our present comprehension will have been discovered; new problems of nomenclature will have to be met, and it is not at all impossible to conceive of a state of knowledge about fungi, as well as about other plants, which will require an entirely new classification and therefore new nomenclatorial regulations. In such a future system even such uniformity as exists at present may be entirely wiped out and with it will go the carefully cherished rules of today. If for example, we act today on assumptions that are set up merely to safeguard our personal connections with the naming or re-naming of plants, we may be sure to wake up in the long hereafter, during our next reincarnation, say, and find our simple egoism swept away with the years.

It has always seemed to me that certain men, who have loved to sneer at the use of the authority names after plant binomials, even if their conclusions seemed impracticable and their arguments not always consistent,—that these critics, nevertheless, have pointed out a very present factor in the egotistical makeup of human beings, botanists not excepted. This form of trying to become immortal is only one of several forms in which the botanist has shown a narrowness of viewpoint and a lack of understanding of the problems of the present as they bear

<sup>1</sup> Presented before the International Congress of Plant Sciences, Section of Mycology, Ithaca, New York, August 18, 1926.

on those of the future. We pride ourselves on the enormous and magnificent advances which have been made in the knowledge of fungi, especially in this immense American area within the life time of some of us; and I think we are justified in that pride. Yet any successful effort of ours, to bring this vast amount of knowledge under lock and key, in even the smallest part, so that the generations to come will either be hampered in making the same rapid advance, or will be compelled, in self defense, to overthrow it completely, would be a sad commentary on the stupidity of our generation of mycologists.

The *unqualified* application of the *idea of priority* is an example of what I mean, when I say that whatever legislation is enacted should have due regard for the mycologists of the future. Paper after paper could be quoted to confirm the statement that even in these days when the synonyms of a species are relatively few as compared with what they will be one hundred years from now, investigators are compelled to spend as much, or more, of their valuable time in following up the oldest names for their fungi than was required in the search after new biological truth. And this is not all. At the present rate of increase of publications and the accompanying rise of the price of paper, the continued output of such historical data is bound to reduce the general opportunity for publication of more important researches. To my mind, taxonomy is the foundation for most other botanical scientific research, and names should be as stable as possible in order that it may serve the other phases of plant study efficiently. Complete stability, it must be obvious to any one, can not be attained. Such a hope is merely the will-o-the-wisp calling us to the swamp of unattainment. Furthermore, stability of that sort would mean a stand-still, and therefore a failure of taxonomy to meet the progress of its sister studies like genetics, ecology, physiology, and so forth, of utter failure to play its part in the solution of future problems in the whole science of botany and its ramifications.

The cry has gone forth that the younger generation of botanists are no longer interested in taxonomy, and a remedy is sought. It has occurred to me frequently, that one, if not the chief reason, for this attitude among prospective professional botanical students, has been due to the general expressions of dissatisfaction with the instability of plant names, expressions more often coming from those botanists who do no work in the taxonomic field. In searching for the cause of such instability, which has become more and more irksome during my botanical lifetime, I can not find a cause I consider more serious than the now widespread application, without qualification, of this idea of priority.

Let me correct, at this point, any misconception as to the intent of my attitude. To those who think my statements too strong, and to those who are so constituted that research in the dusty remnants of ancient collections seems an attractive study and contains possibilities of valuable knowledge needed by the human race in its thirst for hidden or forgotten things, I would say I am not implying that these men are not as truly investigators in their chosen field as are any other historians; but I can not conceive that it is essential to modern taxonomy that their findings should be incorporated into the live machinery

of the modern world. The practical social worker in our cities is not compelled to follow as his daily schedule an obedience to regulations which the ethnologist has unearthed in his study of ancient peoples.

Nor do I feel so intensely on this matter of priority that it hurts my personal pride to publish names of fungi according to the established rules of any particular publication. But I am, nevertheless, always hoping that as time goes by more taxonomists will arise who can think in terms of the present and of the future, and who will help build our taxonomic house with modern timbers, rather than seek to employ the worm-eaten relics of ancient days.

Any other rules and regulations, past and present, are, it seems to me, of secondary importance. Qualification for each group of plants, according as the situation requires for each group, seems to me the only method that will bring approximate concordance in the future.

Of the other regulations, I will refer only to a few. There is the rule requiring a Latin description of new species. Although I had excellent collegiate training in Latin and Greek, nevertheless, since this is becoming more and more unusual in the education of American scientific students, especially those turning to the plant sciences, I consider that this rule is unwise and uncalled for when applied to our present and future American conditions. A central bureau of expert translators would be an easy solution. Local Latin scholars, and it is hoped that we shall always have them with us, can furnish central publications like Saccardo's "Sylloge," with translations on request from an author; in this way the ludicrous repetition of a description on the same page, such as appear in our American publications, will be done away with, and the space be made available for more essential matters.

Another regulation has to do with the matter of types, especially the type-specimen. A type-specimen is admittedly most desirable. It is a pity that there are those who think laws will solve all difficulties in this life, scientific and human. It is a pity that a committee of such persons is unable to proceed—let us say—in a retroactive manner, calling the old mycologists from their graves and making them provide a good type-specimen before recrossing the Styx. In the large group of fungi, the Agaricaceae, we rarely find types of any consequence in connection with the classic works of Persoon, Fries, Quelét, and others before them. Figures occur in abundance. These are collected in volumes and called "Icones," and to the moderns there is a thrill in that word. One of the intellectual pastimes of some mycologists during the last hundred years, has been to pass judgment on the identity of these figures.

Unfortunately one can obtain very little accurate knowledge of certain structures from these illustrations. All one can get is a conception! Here again the future demands consideration. Are we to pass on to other generations the unending task of passing judgment on pictures until they crumble into dust? Meanwhile, in Europe, where the types have been lacking, eminent students of the Agarics have attacked the thankless job of trying to put such species on a more clear-cut footing. They have patiently compared the illustrations and the descriptions of the old masters, like Fries, Persoon, and Quelét; they

have sought for and found such fungi in the fields and forests today, and have then passed judgment on their identity. Common sense, it seems to me, bids us to accept this judgment. But, says the doubting Thomas, how do we know that they had the correct species? The good Lord deliver us! How are the rest of us to know, except through our own conceit that these men are in error? My attitude is that of the highest regard for those European mycologists who have done us, far away in America, these invaluable services. A proper recognition of their efforts to establish a new starting point for the European members of the Agaricaceae, would, it seems to me, require recognition of it. Hence it has been my practice to write the name of the older author, say Fries or Persoon or Quelét, followed by the name of the man who gave us a dependable set of microscopic, as well as macroscopic data.<sup>2</sup> What do nomenclatorial rules do in such a case? Frequently they bind us hand and foot.

These and other considerations lead to the conclusion that in the Agaricaceae the unqualified law of priority is a dismal failure. That we can not even apply the rule to enforce reference to the "type specimen." For there is no type specimen in existence. Decidedly, all we can possibly have is a *type conception*, which lends itself to stability in the manner I have indicated, if we follow the dictum of common sense. This situation occurs also in numerous cases in many other groups of fungi.

I have only touched on a few of the problems troubling the mycologist, since others will be better qualified than I to tell us what has brought on the present impasse and to suggest a remedy.

For the present I prefer the middle road, the main trunk highway, which I believe is traveled by the most botanists. I believe in the proposition that when there are thousands of many-sized and many-shaped pegs, they can not possibly all fit snugly into the same hole. I would apply the historic doctrine of common sense, and leave out of account the personal and mercenary, and finally I would fit my nomenclature, first and last, with or without favor, as each case demands, to the everlasting truth in so far as I can discover it in the plant world about me.

<sup>2</sup> An example of this idea will appear as follows: *Cortinarius uraceus* Fr.—Ricken.