References


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ON NOMINA ANAMORPHOSIUM III*

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It often occurs that a type packet contains more than one fungus species. In such a case it may be desirable to consult the original description to decide which of the fungi present the author had in mind. If there are no indications that more than one species was described the presence of other species in the type packet cannot influence the correct application of the name in question. One would deem it absurd if it were argued that although only one fungus was described, the name ought to be considered to be based on more than one species because the type packet was not free from admixtures. Art. 8 (Code 1961) makes it quite clear that in matters of typification the original description or protologue must be the principal guide.

Example 1. — Some years ago Nannfeldt (1959: 152) discussed the name Ustilago macrospora Desm. It had been applied in two different interpretations, both being based on 'authentic' material (the type was distributed in a work of exsiccatae). "In spite of the contradictory testimo-


**) Rijksherbarium, Leiden.
nies from 'authentic' specimens, nobody seems to have taken the trouble to read the original description carefully. The acceptance of the type method certainly does not mean that the descriptions should be totally neglected!” Nannfeldt concluded that he had not the slightest doubt that the smut described by Desmazieres was a third species, viz. one now known as *Ustilago olida* (Riess) Ciferri, and that the name *Ustilago macrospora* ought to be interpreted accordingly.

It also occurs that the material from which a description was drawn up consists of more than one state of the same fungus species. It is not easy to offer a definition of a 'state'; in fact it will be practically impossible to do so and it is better to evade the incorporation of such a definition in the Code, remembering that the Code (Art. 2) also refuses to define what a 'plant' is. Sometimes a 'state' is nothing but 'the' mycelium; sometimes it is a particular mycelial condition (e.g., a selerotium); more often it is mycelium bearing or representing a particular organ of reproduction which is to be considered characteristic of the 'state'. In this connection it is of importance to remember the existence of Note 5 to Art. 7 which is the Article introducing the type-method into the Code (1961). It says: "The typification of names of genera based on plant megafossils and plant microfossils (form- and organ-genera), genera of imperfect fungi, and any other analogous genera or lower taxa does not differ from that indicated above [in Art. 7]", viz. from the usual procedure. Therefore, it must be possible to describe one particular state, and that one state only, even if other states of the same species occur in the type material. It also follows that a name based on one particular state must not automatically be conceived inclusive of another state of the same species that happens to be present in the type material. This type material may have been collected in nature, or may be the fugal growth from a single culture. They also may be fruitbodies bearing more than one kind of organs producing spores.

Recently Deighton (1960: 236-239) has carefully analysed the question of the degree of correlation that ought to exist between a protologue and the tracing out of the correct type from a mixed collection. There are two views on this matter. One is that only that portion of the material covered by the original description is to be taken as type, as was concluded above. The other view is that, if in the type material of a single species two or more states (inclusive of the perfect one) are present, the application of the name is determined by the perfect state even if the original description does not include it. Deighton options for the first view, with the provision, "that if the possibility cannot be excluded that the original author of the name of a taxon ... did actually see and attempt to describe the [perfect state], his type must be accepted as the type of the [perfect state]". I wholeheartedly concur with this, the first, opinion.

**Example 2.**—The name *Milesia* F. B. White (1877: 162) was originally applied to only the uredial state of a single species of rusts: this follows from the protologue of both the generic and the specific name. The fact that some of the type material includes the telial state, as has been found by Faull (1932: 23, 84), is immaterial and Faull's contention that (although the description of *Milesia* covers only the uredial state) it has to be upheld against the later name *Milesina* Magnus. (1909), based on the telial (= perfect) state, is incorrect. Since the telia of *Milesina* are intercellular in the epidermal cells they easily escape detection by an observer who is not especially on the look-out for them. For further details see Deighton (1960: 237-238).

Rogers (1948: 251) (and other authors) sided with Faull as regards the above case, and concluded that the doctrine "that an inaccurate description rather than a good specimen determines the character of a species" is untenable. If not, this “would mean”, he continued, "that most early names of fungi would have to be abandoned—e.g., *Agaricus* Fr., described as 'ascigerous' (Fries 1821: 8)." This argument, in my opinion, mixes up to completely different and unrelated principles, viz. (i) whether or not in general the original description must be consulted if a type specimen exists and more
particularly when it appears to be a mixture of species or states (The answer is, Yes!), and (ii) whether or not an error in an original description may invalidate a name (The answer is, No!). In the Milesia case it is clear from the description that the name was based on an imperfect state only. It is difficult to understand why White's omission to observe the telial state should be regarded as an error which must be corrected. That White's description is based solely on the uredial state was unambiguously admitted by Faull, and for that state it must stand—as a nomen anamorphosis.

In certain cases the situation becomes wholly different if the original description is so vague and inadequate that, if two or more states are present, it is impossible to decide which state or states the author intended to describe. This situation may be rarely encountered in connection with older descriptions that do not contain any or insufficiently microscopical details. It is for cases of this kind that Deighton made the provision (quoted above), that the nomenclatural type must be the perfect state if the possibility cannot be excluded that the original author included it in his description—without wanting particularly to describe another state.

A few more examples may now be discussed. Here the states are characterized by spore-producing organs growing on the fruitbodies of the perfect state; in these instances these fruitbodies may be considered a mere (but remarkable) mycelial condition.

**Example 3.**—When Ditmar (1809: 56) first described the monotypic genus Asterophora Ditm. (type species, Agaricus lycoperdoides Pers.), he characterized it thus, “Pileus superne sporophorus; spora stellata; Lamellae steriles.” In the specific description he once more stated, “Lamellae... thecis destituta structura fere tomenti...”. When validly re-publishing Asterophora, Fries (1821: li) rejected it as a genus of Hymenomycetes and emphatically incorporated it in the Gastromycetes (“Geogastri! Nees”), and afterwards, too, when he (Fries, 1829: 205) treated the genus more extensively in the starting-point book he emphatically rejected the genus as agaric and incorporated it in his ordo Trichodermaceae, remarking, “... quod fructificationem vero Coniomycetem...”. At the same time he changed the specific epithet lycoperdoides’ into ‘agaricoides’, thus implying that it looked like an agaric but that this resemblance was merely superficial. In addition, he considered the star-shaped chlamydospores so copiously formed by this fungus as the (only) true spores and, therefore, was willing to adopt Ditmar’s name Asterophora. In the generic description it is stated, “Sporidia angulata in stratum compactum superum coacervata.” For further details, see Donk (1962: 79-80).

Although normally the species forms a hymenophore at the underside of the cap, in addition to the star-shaped chlamydospores on and in the cap, the hymenophore is often ill-developed and the formation of basidiospores on it may be completely suppressed. Yet it is characteristic enough on a whole to have induced Persoon to include the species in Agaricus L. but Fries cut the hymenophore out altogether from the generic description.

There can be no doubt that both Ditmar and Fries wanted to establish a genus characterized by the chlamydospores and that Fries, at least, was convinced that the ‘species’ was non-agaric. I would conclude that even if the type material had developed basidia (but this is not quite certain), the description directs the application of the name in such a manner that Asterophora and A. lycoperdoides = A. agaricoides are to be treated as nomina anamorphosium.

This conclusion further implies that the correct name for the ‘perfect’ genus is Nyctalis Fr., based on a different species.

**Example 4.**—A case similar to the preceding one is that of Ditangium P. Karst. Donk (1962: 83-84) concluded that the names Ditangium and D. insigne P. Karst. (the name given to the type species) were intended for the imperfect state without the author being aware of the existence of a perfect state (Tremellaceae). He wants to restrict Ditangium to the conidial state and accepts Craterocolla Bref. as the correct name of the ‘complete’ fungus, although it is of a later date.

**Example 5.**—The name Syzygospora C. W. Mart. was based on a fungus of which the fruitbody produced remarkable types of conidiophores and conidia; the former were held to be basidia. It is possible (but not proven) that the fruitbody in the type also contained the true basidia, but these were in any case overlooked. As a thesis, and inviting criticism, Donk (1962: 101, which see for details) suggested that this name was merely published as a nomen anamorphosis.
This would imply, that if the ‘complete’ fungus deserves generic isolation, it should receive another name, validated by a description comprising details on the basidia, as opposed to the conidiophores.

It is not easy and perhaps not desirable to press for a rule that would take care of the category of names exemplified by Examples 1-4, but if it were to be formulated it might run more or less as follows.

PROPOSAL 195.—Add to Art. 59 the following Note.

Note. When an author overlooks, or ignores or denies the existence of, one state when publishing the name of a new taxon for another, imperfect, state of the same species, then that name must be taken as exclusively based on the described state.

Example: The name Asterophora Ditm. ex Fr. was emphatically introduced for fruitbodies characterized by a certain type of secondary spores without taking into due consideration the part producing basidiospores, hence, it is to be regarded as a name based on that particular imperfect state.

REFERENCES


DESCRIPTION, DIAGNOSIS, DEFINITION AND VALID PUBLICATION

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Although it is not possible to make rules concerning either the length or content of the description of a taxonomic unit required to satisfy the Rules relative to the valid publication of names, such descriptions clearly ought to satisfy a number of conditions which can be more or less objectively determined. Such conditions are implicit in the Code, but since they have never been stated a situation has arisen in which competent nomenclaturists find themselves in disagreement as to how the term description ought to be applied. The result is disagreement also in regard to the date of valid publication of certain names.

Ross (Taxon 7: 262-3.1958) has already advocated the substitution of the term definition (definitio) for description (descriptio) and diagnosis wherever the two latter words occur in the code, whilst to Article 32 he has suggested the addition of the following Note, which sought to define the term itself: “A definition is a statement intended to indicate the character or characters by which a taxon is to be distinguished”. The italics are mine, but it is clear that Ross wished to stress the importance of the intention of the author to describe a taxonomic unit and to do so in such a way as to distinguish it from all other (known) units of the same rank. In other words, he was concerned that the description should be definitive and uniquely applicable to a particular taxonomic unit.

One of the main differences between the circumscription method of nomenclature, -universal until the closing years of the last century and finally abandoned in 1930, - and the now universal type method, is that the former method relied upon descriptions,