

## INTRODUCTION

The Myxomycetes are a well defined and relatively homogeneous group of eukaryotic organisms, formerly considered as fungi, that are common inhabitants of terrestrial ecosystems throughout the world.

Since the publication of the monograph of MARTIN & ALEXOPOULOS (1969), an obligatory reference source for all who are interested in the taxonomy and nomenclature of Myxomycetes, many changes have occurred, more than 500 new taxa have been published, and the nomenclatural status of some others has changed (*Index of Fungi*, 1969-1999). For these reasons, a new updated version of the names of Myxomycetes and their nomenclatural relationships is needed.

Since the 1 May 1753, the starting point for the nomenclature used for Myxomycetes, according to the *International Code of Botanical Nomenclature*, *ICBN* (GREUTER et al., 2000), almost 4000 names have been applied to various taxa, but only 900 are legitimate names for accepted species, 2100 are obligate or facultative synonyms, and about 1000 are of unknown application. Many species have been combined under several genus names; in a number of cases, incorrect authors' names and erroneous citations have been used. For further taxonomic studies, and for correct naming, a nomenclatural database was compiled by the author, with the help of the database structure created by F. Pando (PANDO et al., 1999).

NOMENMYX, is an inventory of names used in the literature. It is linked to a major project INFOMYX (LADO, 1996) that is designed to facilitate, by means of databases, the job of the taxonomist, of the herbarium keeper and authors of taxonomic and floristic manuscripts, including checklists (LADO, 1994), inventories, catalogues, mycobiotas (LADO & PANDO, 1997), and maps. It is hoped that this list will be of some use to myxomycetologists as well as mycologists, parataxonomists, curators, biogeographers, ecologists, environment specialists, and other scientists, to facilitate their work with these organisms and for the

interpretation of their names. Although not the primary focus of the inventory, the author thinks that this list also will serve, as a draft or starting point for the development of a list of "*Names in Current Use (NCU)*" to be employed for Myxomycetes, in the manner defined by GREUTER (1993) and GREUTER et al. (1993).

In the near future, we plan to supplement this information with additional information about the type specimen of each taxon, such as reference to the herbarium where it is deposited, the transcription of the original description or another good description, its distribution, its substratum, synoptic keys, etc., which we believe will establish the basis for a more rational and precise understanding of the Myxomycetes. Expert myxomycetologists from different parts of the world are already working along these lines, which were aired as ideas at ICSEM2 and ICSEM3 (LADO, 1996; MITCHELL, 1996, 1999, PANDO, 1999, Schnittler, pers. comm.). This effort is dedicated to them.

## CRITERIA FOLLOWED

The impressive monograph of MARTIN & ALEXOPOULOS (1969) has been chosen as the starting point for the elaboration of NOMENMYX. Their comments provide a synthesis of nomenclatural and taxonomic knowledge to date, and they are so enlightening that, by choice, portions have been transcribed or extracted to preserve their valuable contribution. In these cases, a reference (simplified as "M. & A., 1969:") is included. Other pre-1969 books or papers such as those produced by ROSTAFINSKY (1874, 1875, 1876), LISTER (1894, 1911, 1925), MACBRIDE (1899), G. LISTER (1913), KRZEMIENIEWSKA (1960) or MARTIN (1966), and others later books such as NANNENGA-BREMEKAMP (1974, 1991), FARR (1976), NEUBERT et al. (1993, 1995, 2000), LADO & PANDO (1997), YAMAMOTO (1998), ING (1999) or KELLER & BRAUN (1999), are considered and checked. To the list obtained, all the names proposed since 1968 to the present have been added, as well as several old names not recorded in

MARTIN & ALEXOPOULOS (1969) and which had not been included in recent monographs and taxonomic papers. A complementary revision of the names listed in previous compilations such as Saccardo, *Sylloge Fungorum* (1882-1931, 1972), *Index to Saccardo's Sylloge Fungorum* (REED & FARR, 1993), *Petrak's Lists* (ANON., 1950-), or *Index of Fungi* (ANON., 1940-), has also been made, and some of the comments herein have their origin in these sources.

All the data have been compiled in a standard format in a database structure formulated so that one record was equivalent to one name. Each record has the following fields or blocks of information:

1.–Name of taxon (including the genus name, species epithet, infraspecific rank (if applicable), infraspecific epithet (if applicable), author(s) name(s), reference to the protologue and year of publication. This name could be an accepted name, a basionym, a synonym or an invalid, excluded or doubtful name.

2.–Basionym (if different).

3.–Accepted name (if different).

4.–Reference to the source of information.

5.–Comments.

Whenever possible, the data have been confirmed by consulting the original publication.

The basionym is the binomial and the place where the name was originally published. It is the name upon which a new combination or replacement name (i.e., *nom. nov.*) is based.

Two types of synonyms have been recognized. Those based upon the same type specimen (called obligate synonyms, homotypic synonyms or nomenclatural synonyms, with the symbol  $\equiv$ ) are typically the result of transfers of a species epithet from one genus to another; those synonyms based upon different type specimens (facultative synonyms, heterotypic synonyms or taxonomic synonyms, with the symbol  $=$ ) are so considered when a taxonomist concluded that the types for different epithets are different specimens of the same myxomycete. Because the facultative synonyms recognized by one author may not be accepted by other authors, a reference is given to the paper where the synonymy was proposed so that users can evaluate the basis for the synonymy. Unless otherwise stated, the facultative synonyms are from MARTIN & ALEXOPOULOS (1969).

Following the recommendations of the *International Code of Botanical Nomenclature* (ICBN), and pursuing a universal standard, authors' names have been abbreviated according to BRUMMIT & POWELL (1992), and when not included therein, similar criteria have been used. In the case of more than two authors, the ICBN recommends use of the first author followed by "et al." or "& al." except in the original publication, nevertheless, for a better interpretation of the references to the protologues, all the names have been included. Titles of journals have been abbreviated according to the B-P-H (*Botanico-Periodicum-Huntianum*. Pittsburg, 1969) and its supplement [B-P-H/S (*Botanico-Periodicum-Huntianum/Supplementum*. Pittsburg, 1991)]. Book titles have been abbreviated as in STAFLEU & COWAN, TL-2, Taxonomic Literature, edition 2 (*Regnum Veg.* 94, 98, 105, 110, 112, 115, 116, 125, 130, 132, 134, 135). As a general criterion, the standards proposed by the International Working Group on Plant Taxonomic Databases for Plant Sciences (TDWG) have been followed. Three appendices with listings of authors, periodicals and abbreviations of books, have also been included.

For the paper presentation of NOMENMYX, the taxa are arranged alphabetically by genera and currently accepted species. For the most part, the generic treatment follows MARTIN et al. (1983), with some modifications proposed by NANNENGA-BREMEKAMP (1967) for members of the order Stemonitales. Orthographic variants and transcriptional errors have been corrected. The accepted names of the species appear in bold characters, followed by the basionym (if different) and homotypic synonyms (obligate synonyms) in italics. Heterotypic synonyms (facultative synonyms) and their associated combinations have been listed, also in italics and in separate lines. Infraspecific taxa, due to the inconsistency of distinctive characters in many of the cases, have been considered under the respective species.

Invalid names according to ICBN, names which are difficult to interpret or those attributed to taxa of dubious identity come under "*Invalid, excluded or doubtful names*".

Editorial comments on the status of names, bibliographic, orthographic or typographic corrections, citations in previous compilations, reference to homonyms and to relevant articles in the *St. Louis Code* have been indicated by the use of [ ].

For ease in locating the taxa, two indexes, one arranged by genera and species and other arranged by epithets, have been included.

#### TAXONOMICALLY CORRECT NAMES

NOMENMYX is a nomenclatural and not a taxonomic database. Nevertheless, it was decided to give one *correct name* (from a taxonomic point of view) for every species, whenever possible; otherwise, the database would be of little use. Unfortunately, few recent monographs have been published on the genera of Myxomycetes; in most cases, the 'accepted name' is a name used in the newest surveys of Myxomycetes by MARTIN & ALEXOPOULOS (1969) or FARR (1976) (the classification used by them is characterized by the tendency to put together some genera and species, a unionist tendency) and NANNENGA-BREMEKAMP (1991) and NEUBERT et al. (1993, 1995) (characterized by more of a splitting tendency).

The author has a different opinion with reference to the status of several taxa, but it would be inappropriate to make any taxonomic rearrangements in this database. Some genera such as *Collaria* Nann.-Bremek, *Paradiacheopsis* Hertel, *Paradiachea* Hertel, *Stemonitopsis* Nann.-Bremek. or *Symphytocarpus* Ing & Nann.-Bremek., are not recognized as autonomous by MARTIN & ALEXOPOULOS (1969) and most other North American myxomycetologists, but they are by the majority of European and Asian authors. On the other hand, the genus *Dictydium* Schrad., an autonomous genus in the concept of MARTIN & ALEXOPOULOS (1969), is actually synonymized to *Cribraria* Pers. by almost all workers. The author agrees with these criteria, but a myxomycetologist who does not agree with the arrangement indicated above, will find alternative names all listed together. The indexes also will facilitate the search for a particular epithet and its related taxa.

The data compiled in this volume comprises all the nomenclatural proposals made up to the end of the year 2000. Genera of recent creation, such *Kelleromyxa* Eliasson, *Arcyriatella* Hochg. & Gottsb., or *Stemonaria* Nann.-Bremek., R. Sharma & Y. Yamam., have also been included.

The ICBN has not sanctioned the names of Myxomycetes, and the starting point for the

nomenclature of the group is fixed with Linnaeus' *Species Plantarum* of 1753. To avoid name changes, tolerance has been shown towards combinations based on indirect references in the older literature (before 1 January 1953), but with new combinations, the art. 33.3 of the ICBN (GREUTER et al., 2000) have been applied.

The author has not yet been able to find nomenclaturally correct names for all of the species included herein, and possibly there are errors. The present manuscript should be considered open-ended, that is, amenable to possible alterations, and the author thanks, in advance, any users who may point out errors, additions, omissions or lack of precision.

Recently, several programs on discs or web sites (PARMASTO, 1997; STALPERS & STEGEHUIS, 1997) have been created for other groups of fungi, and the presentation of the information in all these cases is very similar, for an easier, more rapid and up to date retrieval and consultation of the information. We are working to make this nomenclatural database available through the Internet. For future reference to this nomenclatural database, visit the web page of the Royal Botanic Gardens: <http://www.rjb.csic.es>

When using these data for preparing a publication, please cite this volume in the list of literature.

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#### ABBREVIATIONS

This list contains abbreviations (except authors of names, book titles and periodicals) used frequently in the text.

- art. *articulum* (article, of the ICBN)  
 cf. *confer* (compare)  
 comb. *combinatio* (combination)  
 comb. nov. *combinatio nova* (new combination)  
 comb. superfl. *combinatio superflua* (superfluous combination)  
 ed. *editio* (edition)  
 eds. *editores* (editors)  
 emend. *emendavit* (emended)  
 et al. *et alii* (and others)  
 f. *filius* (son) or form  
 fig(s). figure(s)  
 fl. *floruit* (of a person, he lived at this period)  
 IAPT International Association for Plant Taxonomy  
 ICBN International Code of Botanical Nomenclature  
 i.e. *id est* (that is)  
 in herb. *in herbarium* (in a herbarium)  
 in litt. *in litteris* (in correspondence)  
 in sched. *in schedula* (on a herbarium label)  
 ined. *ineditus* (unpublished)  
 l.c. *loco citato* (at the place cited)  
 M. & A. Martin & Alexopoulos (in reference to their book)  
 msc. *manuscriptum* (manuscript)  
 n.v. *non vidi* (I have not seen)  
 nom. conf. *nomen confusum* (confused name)  
 nom. cons. *nomen conservandum* (name conserved in ICBN)  
 nom. dub. *nomen dubium* (doubtful name)  
 nom. illeg. *nomen illegitimum* (illegitimate name)  
 nom. inval. *nomen invalidum* (invalid name)  
 nom. nov. *nomen novum* (new name)  
 nom. nud. *nomen nudum* (name unaccompanied by a description or reference to a published description)  
 nov. *novus, -a, -um* (new)  
 orth. *varietas orthographia* (spelling variation)  
 p. *pagina* (page)  
 pers. comm. personal communication  
 pl. *plate* (plate, meaning full-page illustration)  
 p.p. *pro parte* (partly, in part)  
 prop. *propositus* (proposed)  
 q.v. *quod vide* (which see)  
 ser. *series* (serie)  
 sp. *species* (species)  
 stat. *status* (rank)  
 stat. nov. *status novus* (new rank)  
 subgen. *subgenus* (subgenus)  
 subsp. *subspecies* (subspecies)  
 superfl. *superfluous* (superfluous)  
 tab. *tabula* (plate, meaning full-page illustration)  
 var. *varietas* (variety)  
 vol. volume  
 & *et* (and)  
 = heterotypic synonym  
 ≡ homotypic synonym