MEDICAL RESEARCH COUNCIL

Memorandum No. 23 (fourth edition)

Nomenclature of fungi pathogenic to man and animals

ON: HER MAJESTY'S STATIONERY OFFICE

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Nomenclature of fungi pathogenic to man and animals

LONDON: HER MAJESTY'S STATIONERY OFFICE

Compilers

(*a subcommittee of the British Society for Mycopathology on behalf of the Medical Research Council*)

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Foreword

The invitation to write a few words about this revised edition of Memorandum No. 23 of the British Medical Research Council gives me much pleasure.

The authors are all original members of the British Society for Mycopathology. Most of them were formerly members of the Medical Research Council's Medical Mycology Committee responsible for revising the 1958 edition, under the guidance of Dr G. C. Ainsworth. The revised edition was published in 1967 and is now out of print.

Although the primary purpose of the memorandum was to provide specialised information for the use of medical practitioners and medical microbiologists working mainly in Britain, it has become apparent over the years (since the first publication in 1950) that there is an ever increasing world-wide demand for it. Thus it has become a reference work of international repute on its own merits, quite apart from the fact that its present authors are all prominent members of the International Society for Human and Animal Mycology (ISHAM).

Since the third edition was published a great deal of new information regarding the aetiology of the mycoses and the life cycles of the pathogens causing them has accumulated. Inevitably therefore the need for an up-to-date revision of the memorandum has arisen. This has now been effectively and skilfully accomplished in this fourth edition by its highly experienced authors, who can rest assured that it will be welcomed with enthusiasm in all parts of the world wherever mycoses are studied.

C. J. La Touche
President, British Society for Mycopathology

April 1977

Contents

Introduction

The primary object of this memorandum has always been to provide a list of internationally acceptable names for the commoner fungi and actinomycetes pathogenic to man and higher animals.

The first three editions, published in 1950, 1958, and 1967, respectively, were compiled by the Medical Research Council's Medical Mycology Committee. This Committee was disbanded in 1969 and the present revision has been undertaken by a Committee of the British Society for Mycopathology under the sponsorship of the Medical Research Council.

Although taxonomic developments or other considerations (which are frequently elucidated by annotations) have necessitated many nomenclatural changes, the pattern of the fourth edition closely resembles that of the third. In addition to lists of names of both pathogens and diseases, there are sections devoted to poisonous and toxin-producing fungi, allergenic fungi and actinomycetes, and the diseases they produce.

As in previous editions, the Committee has been conservative in introducing new names and in modifying existing ones.

FUNGUS NAMES

Medical mycology is hampered by the multiplicity of names that have been given to fungi of medical importance. To attain uniformity in the nomenclature of any group of organisms it is necessary that the names chosen should be internationally acceptable. Guidance on the choice of acceptable names is given in the International Codes of Nomenclature, which provide arbitrary rules for the regulation of names; fungi, being traditionally associated with plants, are covered by the International Code of Botanical Nomenclature (1972). This Code is long and rather complex, dealing as it does with the form and choice of names and criteria for their valid publication for diverse groups of plants. One of the best known and most invoked rules is probably the 'law of priority', by which the legitimate name for an organism when classified in any particular group is the earliest name assigned to it. For example, of the three names *Microsporum canis, M. felineum* and *M. lanosum* which have been applied to the fungus causing ringworm in cats and dogs, *M. canis* must be used because it is the earliest (though it antedates *M. felineum* by only a few months). The Code does not take into account the appropriateness of names, and although the cat may be more frequently infected than is the dog, *M. felineum* may be used for the fungus found in the cat only by an author who believes that different species of *Microsporum* infect cats and dogs.

This leads to the second consideration in the choice of names. An author using a name in line with the appropriate International Code is in a strong position for persuading workers both in his own and in other countries to accept his choice of name — provided that they accept his views on classification, on which the Code gives little help. Taxonomic questions cannot be decided by the mechanical application of a set of rules because they are matters of judgement. Moreover, the state of knowledge may be such that a final decision cannot be made. The causal agent of favus, for example, is known as *Trichophyton schoenleinii* and *Achorion schoenleinii,* and both are valid names according to the International Code. The choice between these two names is a question of taxonomy and, in the opinion of modern students of the dermatophytes, classification in the genus *Trichophyton* is to be preferred.

For the purposes of this memorandum the classification to be adopted for different groups has been carefully considered, and for some species a decision has been made only after consultation with specialists in the United Kingdom or other countries.

PERFECT AND IMPERFECT STATES OF FUNGI

A major nomenclatural complication arises because many fungi exist in two states: a perfect state characterised by sexual spores (e.g. ascospores) and an imperfect state characterised by asexual spores (e.g. conidia). Frequently the two states of one fungus are classified in different genera and, as is permissible under the International Code of Botanical Nomenclature, are thus designated by different Latin binomials. The reasons for this practice are that many fungi are found most frequently in the imperfect state or that the relationship of the perfect and the imperfect states has not yet been recognised. According to the Code, when both states have been named the name of the perfect state takes precedence — that is, if the species is to have one name, the name of the perfect state must be used. The Code does nevertheless allow the names of the imperfect states to be used when appropriate. In this list, in order to bring together related perfect and imperfect forms such as species of *Aspergillus, Microsporum,* and *Trichophyton,* the names of the perfect states are usually cited in full under the entries for the imperfect states and cross-indexed, for example *Nannizzia persicolor* (perfect state) is listed under *Microsporum persicolor* (imperfect state) and supplemented by an entry '*Nannizzia persicolor,* see *Microsporum persicolor*'. Occasionally the reverse procedure is adopted — that is, for cases where it is customary to use the name of the perfect state. (For further details on the choice of names of fungi the reviews by Ainsworth (1973) and Hawksworth (1974) may be consulted.)

NAMES OF ACTINOMYCETES

Actinomycetes pathogenic to man and animals are included in the list because they are frequently referred to the mycologist for identification even though they are properly classified as bacteria. As bacteria, the actinomycetes are subject to the rules of bacteriological nomenclature; but the general principles underlying the International Code of Nomenclature of Bacteria do not differ materially from those of the Botanical Code. The latest edition of the

International Code of Nomenclature of Bacteria (1975) does, however, include one major new provision. At present the nomenclature of bacteria, like that of flowering plants, begins in 1753 but it has been decreed that this date shall be replaced by 1980. Any names not on an approved list by this date will have no standing and will have to be validated by publication in line with the provisions of the current Code.

AUTHOR CITATIONS

The author citations which accompany Latin binomials are also subject to the International Codes. The function of these citations is to indicate the author who proposed the name for the species, and the author who transferred it to a particular genus. For example '*Aspergillus fumigatus* Fresenius' indicates that Fresenius proposed this name for the species, and '*Candida albicans* (Robin) Berkhout' indicates that the species to which Robin gave the specific epithet *albicans* was transferred to the genus *Candida* by Berkhout.

The particular importance of the author citations is to guide an inquirer to the origin of a name, so that he can determine the sense in which it was first used; for once a name has been validly proposed it must always be used to include the original sense. The author citations have therefore been carefully checked and are given in full (although it is customary in all but the most formal contexts to cite authorities in abbreviated form).

DISEASE NAMES

There is no international agreement on the selection of disease names, which are usually in the vernacular. In the choice of such names common usage is the best guide, and international uniformity is very difficult to attain. This is not a matter of great significance where a disease can be linked with one pathogen bearing an internationally acceptable name. Unfortunately this is not always possible, since a number of diseases or disease complexes are caused by several fungi; but with increased precision of diagnosis the number of such diseases should diminish. The disease names recommended in this memorandum have been made in the light of the disease nomenclature adopted in such authoritative accounts of the human mycoses as those by Hildick-Smith, Blank and Sarkany (1964), Emmons, Binford and Utz (1970), Conant, Smith, Baker and Callaway (1971) and Rippon (1974) and of fungal diseases of animals by Ainsworth and Austwick (1973). It is hoped that they will prove an acceptable guide.

COMMON NAMES OF FUNGI AND ACTINOMYCETES

There is frequently inconsistency and uncertainty among medical writers in the use of scientific names of fungi and actinomycetes as common names and it is perhaps helpful to draw attention to certain widely accepted conventions. One general rule is that common names are printed in roman type without initial capitals, while class names are given initial capitals, for example the class Ascomycetes is composed of ascomycetes ('dermatophytes', however, are no longer considered to constitute a distinct class). Generic names have initial

capitals and are usually italicised; common names are also frequently derived from these, for example 'an aspergillus', in the sense of 'a species of *Aspergillus*', 'mucor', 'a *Mucor* species', 'nocardia', 'a species of *Nocardia*'. Such common names are most useful in the plural and the plurals may be in either the latinised or the English form, for example 'trichophyta', 'trichophytons'; usually considerations of euphony determine which form is used; for example 'aspergilli' not 'aspergilluses', 'mucors' not 'mucores', 'nocardias' not 'nocardiae'.

ARRANGEMENT OF THE TEXT

For ease of reference the material has been arranged in alphabetical lists. The lists of names of pathogenic fungi and actinomycetes and of diseases are followed by separate lists of fungi and actinomycetes causing allergies and of poisonous and toxin-producing fungi. Common synonyms for fungi, actinomycetes and diseases are given in a separate list as well as in the main lists.

Recommended names are printed in **bold** type for fungi and in SMALL CAPITALS for diseases.

The commoner pathogenic fungi and actinomycetes and the principal associated diseases

Names of fungi and actinomycetes

Absidia corymbifera (Cohn) Saccardo et Trotter — PHYCOMYCOSIS (see p. 15)
syn. *Lichtheimia corymbifera* (Cohn) Vuillemin
Absidia lichtheimii (Lucet et Costantin) Lendner
Absidia ramosa (Lindt) Lendner
A. ramosa was reduced to synonymy with *A. corymbifera* by Nottebrock, Scholer and Wall (1974).

Acremonium falciforme (Carrión) W. Gams
syn. *Cephalosporium falciforme* Carrión
Acremonium kiliense Grütz
syn. *Cephalosporium acremonium* auct. med.
Acremonium recifei (Leão et Lôbo) W. Gams
syn. *Cephalosporium recifei* Leão et Lôbo
see Gams (1971) p. 233 for a brief discussion of pathogenic *Acremonium* spp.
Actinomadura madurae (Vincent) Lechevalier et Lechevalier
syn. *Actinomyces madurae* (Vincent) Lehmann et Neumann
Nocardia madurae (Vincent) Blanchard
Streptomyces madurae (Vincent) González-Ochoa et Sandoval
Actinomadura pelletieri (Laveran) Lechevalier et Lechevalier
syn. *Nocardia pelletieri* (Laveran) Pinoy
Streptomyces pelletieri (Laveran) Waksman et Henrici
— MYCETOMA

In the current edition of *Bergey's Manual of Determinative Bacteriology* (Buchanan and Gibbons, 1974), *Actinomadura* is listed under *genera incertae sedis*.

Actinomyces bovis Harz
see also *Actinomyces israelii*
Actinomyces israelii (Kruse) Lachner-Sandoval
— ACTINOMYCOSIS

There has long been controversy regarding the specific status of the agents causing human and bovine actinomycosis. According to Erikson (1940) and Thompson (1950), actinomycosis in cattle is caused by a distinct species, and this is borne out by results of studies based on serological procedures (King and Meyer, 1963; Slack and Gerencser, 1966; Slack, Landfried and Gerencser, 1969; Brock and Georg, 1969) and cell wall analyses (Pine and Boone, 1967). Erikson used the binomial *A. israelii* for the organism causing actinomycosis in man, and designated isolates from cattle as *A. bovis* Harz, a name which is sometimes applied to the actinomycete of human actinomycosis. MacFadyean (1932) and Erikson both concluded that *A. bovis* is a *nomen confusum* because it can never be determined if the name was first applied

to the organism of actinobacillosis or to that of actinomycosis. Although the legitimacy of the name *A. bovis* is still open to question, it is recommended at present that strains found in man should be regarded as *A. israelii* and those from cattle and other animals as *A. bovis*. This is in accordance with the classification proposed in the current edition of Bergey's Manual (Buchanan and Gibbons, 1974).

Ajellomyces dermatitidis: see *Blastomyces dermatitidis*
Allescheria boydii: see *Petriellidium boydii*
Arthroderma benhamiae: see *Trichophyton mentagrophytes*
Arthroderma olahii: see *Trichophyton mentagrophytes*
Arthroderma simii: see *Trichophyton simii*
Arthroderma vanbreuseghemii: see *Trichophyton mentagrophytes*

Aspergillus flavus Link
Aspergillus fumigatus Fresenius
Aspergillus nidulans (Eidam) Winter
Perfect state: *Emericella nidulans* Vuillemin
Aspergillus niger Van Tieghem
Aspergillus terreus Thom
see Austwick (1965) for an account of species causing aspergillosis
} ASPERGILLOSIS (see p. 12)

Basidiobolus haptosporus Dreschler
Basidiobolus meristosporus Dreschler
} BASIDIOBOLOMYCOSIS

Emmons *et al.* (1970) note that *B. meristosporus* is possibly a synonym of *B. haptosporus*, but Coremans-Pelseneer (1974) accepts *B. meristosporus*, with *B. lacertae* Eidam as a questionable synonym. If it is subsequently shown that these three names refer to one taxon, *B. lacertae* has priority.

Blastomyces dermatitidis Gilchrist et Stokes — BLASTOMYCOSIS
syn. *Chrysosporium dermatitidis* (Gilchrist et Stokes) Carmichael
Perfect state: *Ajellomyces dermatitidis* McDonough et Lewis

Although so consistently used during recent years, the status of the name *Blastomyces dermatitidis* is considered to be uncertain (see Carmichael, 1962; Emmons *et al.*, 1970).

Candida albicans (Robin) Berkhout
syn. *Oidium albicans* Robin
Monilia albicans (Robin) Zopf
see Lodder (1970) for a detailed synonymy
The past predilection of medical authors for the generic name *Monilia* is reflected in the disease name moniliasis. It has frequently been pointed out that *Monilia* is not available for these yeast-like fungi (see Donk, 1963). The use of *Candida* was legalised in 1954 by its designation as a *nomen conservandum* under the International Code of Botanical Nomenclature.

Candida krusei (Castellani) Berkhout
Candida guilliermondii (Castellani) Langeron et Guerra
} CANDIDIASIS (see p. 13)

Candida parapsilosis (Ashford) Langeron et Talice
C. parakrusei, although often used in place of *C. parapsilosis*, is synonymous with *C. krusei* (Lodder, 1970)
Candida stellatoidea (Jones et Martin) Langeron et Guerra
The pathogenic status of this species is uncertain
Candida tropicalis (Castellani) Berkhout
} CANDIDIASIS (see p. 13)

Cladosporium carrionii Trejos — CHROMOMYCOSIS
Cladosporium trichoides Emmons — CLADOSPORIOSIS, CEREBRAL
In the 3rd edition of this Memorandum, *C. trichoides* was treated in error as a synonym of *C. bantianum* (Saccardo) Borelli (syn. *Torula bantiana* Saccardo), which is probably a distinct and unrelated species (see Emmons *et al.* (1970)).
Coccidioides immitis Rixford et Gilchrist — COCCIDIOIDOMYCOSIS
Conidiobolus coronatus (Costantin) Batko — PHYCOMYCOSIS (RHINO-ENTOMOPHTHOROMYCOSIS)
syn. *Entomophthora coronata* (Costantin) Kevorkian
Cryptococcus neoformans (Sanfelice) Vuillemin — CRYPTOCOCCOSIS
Perfect states: *Filobasidiella bacillispora* Kwon-Chung
F. neoformans Kwon-Chung
Dermatophilus congolensis Van Saceghem — DERMATOPHILOSIS
syn. *Actinomyces dermatonomus* Bull
Dermatophilus dermatonomus (Bull) Austwick
Dermatophilus pedis (Thompson et Bissett) Austwick
Emericella nidulans: see *Aspergillus nidulans*
Emmonsia crescens Emmons et Jellison
syn. *Chrysosporium parvum* (Emmons et Ashburn) Carmichael var. *crescens* (Emmons et Jellison) Carmichael
Emmonsia parva (Emmons et Ashburn) Ciferri et Montemartini
syn. *Haplosporangium parvum* Emmons et Ashburn
Chrysosporium parvum (Emmons et Ashburn) Carmichael
} ADIASPIROMYCOSIS
Emmonsiella capsulata: see *Histoplasma capsulatum*
Endomyces geotrichum: see *Geotrichum candidum*
Epidermophyton floccosum (Harz) Langeron et Milochevitch — RINGWORM
syn. *Epidermophyton cruris* (Castellani) Castellani et Chalmers
Epidermophyton inguinale Sabouraud
Exophiala werneckii (Horta) von Arx — 'TINEA NIGRA'
syn. *Cladosporium werneckii* Horta
Filobasidiella bacillispora: see *Cryptococcus neoformans*

Filobasidiella neoformans: see *Cryptococcus neoformans*

Fonsecaea: see *Phialophora*

Fusarium solani (Martius) Saccardo — OCULOMYCOSIS

Geotrichum candidum Link ex Persoon — GEOTRICHOSIS
syn. *Oospora lactis* (Fresenius) Saccardo
For a list of 90 additional synonyms see Morenz (1963)
Perfect state: *Endomyces geotrichum* E.E. Butler et L.J. Petersen
see also von Arx (1972)

Hendersonula toruloidea Natrass — DERMATOMYCOSIS

Histoplasma capsulatum Darling — HISTOPLASMOSIS
Perfect state: *Emmonsiella capsulata* Kwon-Chung

Histoplasma duboisii Vanbreuseghem — HISTOPLASMOSIS, AFRICAN
syn. *Histoplasma capsulatum* Darling var. *duboisii* (Vanbreuseghem) Ciferri
The validity of *H. duboisii* as a separate species is uncertain. Kwon-Chung (1975) reported mating between isolates assigned to *H. duboisii* and *Emmonsiella capsulata* but the ascospores did not germinate.

Histoplasma farciminosum (Rivolta) Ciferri et Redaelli — EPIZOOTIC LYMPHANGITIS
syn. *Cryptococcus farciminosus* Rivolta apud Rivolta et Micellone

Leptosphaeria senegalensis Baylet, Camain et Segretain — MYCETOMA

Loboa loboi (O. Fonseca et Leão) Ciferri, Azevedo, Campos et Siqueira Carneiro — LOBOMYCOSIS
The taxonomy and nomenclature of this organism is uncertain. See Conant *et al.* (1971)

Madurella grisea Mackinnon, Ferrada et Montemayor — MYCETOMA
Madurella mycetomatis (Laveran) Brumpt — MYCETOMA
This specific epithet has to be in the genitive case (the *Madurella* of *mycetoma*). As *mycetoma* is a Greek neuter noun, the correct citation is *myçetomatis.*

Malassezia furfur (Robin) Baillon — PITYRIASIS VERSICOLOR
syn. *Pityrosporum orbiculare* Gordon
P. furfur (Robin) Emmons, Binford et Utz
Malassezia Baillon 1889 antedates *Pityrosporum* Sabouraud 1904

Microsporum audouinii Gruby — RINGWORM
Microsporum canis Bodin — RINGWORM
Perfect state: *Nannizzia otae* Hasegawa et Usui
Microsporum distortum Marples — RINGWORM
Microsporum equinum (Delacroix et Bodin) Guéguen — RINGWORM
Microsporum ferrugineum Ota — RINGWORM
syn. *Trichophyton ferrugineum* (Ota) Talice
Microsporum fulvum Uriburu — RINGWORM
Perfect state: *Nannizzia fulva* Stockdale
Microsporum gypseum group — RINGWORM
Perfect states: *Nannizzia gypsea* (Nannizzi) Stockdale
N. incurvata Stockdale

Microsporum nanum Fuentes
Perfect state: *Nannizzia obtusa* Dawson et Gentles
Microsporum persicolor (Sabouraud) Guiart et Grigorakis
syn. *Trichophyton persicolor* Sabouraud
Perfect state: *Nannizzia persicolor* Stockdale
} RINGWORM

Monosporium apiospermum: see *Petriellidium boydii*

Mortierella wolfii B. Mehrotra et Baijal
Mucor pusillus Lindt
} PHYCOMYCOSIS (see p. 15)

Nannizzia fulva: see *Microsporum fulvum*
Nannizzia gypsea: see *Microsporum gypseum* group
Nannizzia incurvata: see *Microsporum gypseum* group
Nannizzia obtusa: see *Microsporum nanum*
Nannizzia otae: see *Microsporum canis*
Nannizzia persicolor: see *Microsporum persicolor*

Nocardia asteroides (Eppinger) Blanchard — NOCARDIOSIS; ABORTION; MASTITIS; MYCETOMA

Nocardia brasiliensis (Lindenberg) Castellani et Chalmers — MYCETOMA; NOCARDIOSIS

Nocardia farcinica Trevisan — FARCY, BOVINE

Paracoccidioides brasiliensis (Splendore) Almeida — PARACOCCIDIOIDOMYCOSIS
syn. *Blastomyces brasiliensis* (Splendore) Conant et Howell

Penicillium commune Thom
Penicillium marneffei Segretain, Capponi et Sureau
} PENICILLOSIS

Petriellidium boydii (Shear) Malloch — MONOSPORIOSIS; MYCETOMA; ABORTION, MYCOTIC; MASTITIS
syn. *Allescheria boydii* Shear
stat. conid. *Monosporium apiospermum* Saccardo, *nomen illegitimum*

Phialophora compacta (Carrión) Binford, Hess et Emmons — CHROMOMYCOSIS
syn. *Hormodendrum compactum* Carrión
Fonsecaea compacta (Carrión) Carrión
Rhinocladiella compacta (Carrión) Schol-Schwarz

Although the nomenclature proposed by Emmons *et al.* (1971) for the fungi causing chromomycosis is widely used, there is also considerable support for *Fonsecaea* (see Silva-Hutner and Carrión, 1975) as the correct generic name for the polymorphic species *i.e. F. pedrosoi* and *F. compacta.* These species are placed in *Rhinocladiella* by Schol-Schwarz (1968). Until the taxonomy of this group is clarified, these species are being retained in *Phialophora.*

Phialophora dermatitidis (Kano) Emmons — CHROMOMYCOSIS
syn. *Hormiscium dermatitidis* Kano
Fonsecaea dermatitidis (Kano) Carrión
see also *P. compacta*

Phialophora gougerotii (Matruchot) Borelli — PHAEOSPOROTRICHOSIS
syn. *Sporotrichum gougerotii* Matruchot

Phialophora jeanselmei (Langeron) Emmons — MYCETOMA

Phialophora pedrosoi (Brumpt) Redaelli et Ciferri — CHROMOMYCOSIS
syn. *Hormodendrum pedrosoi* Brumpt
Fonsecaea pedrosoi (Brumpt) Negroni
Rhinocladiella pedrosoi (Brumpt) Schol-Schwarz
see also *P. compacta*

Phialophora verrucosa Thaxter apud Medlar — CHROMOMYCOSIS

Piedraia hortae (Brumpt) O. Fonseca et Leão — PIEDRA, BLACK

Pityrosporum: see Malassezia

Pythium sp. — HYPHOMYCOSIS
syn. *Hyphomyces destruens* Witkamp
see Austwick and Copland (1974)

Rhinosporidium seeberi (Wernicke) Seeber — RHINOSPORIDIOSIS
The classification of this organism is uncertain. Some of its characteristics are algal rather than fungal (Vanbreuseghem, 1973)

Rhizopus arrhizus Fischer — PHYCOMYCOSIS
Rhizopus microsporus Van Tieghem
Rhizopus oryzae Went et Prinsen Geerligs
possibly conspecific with *R. arrhizus*
Rhizopus rhizopodiformis (Cohn) Zopf
syn. *R. cohnii* Berlese et de Toni

Scopulariopsis brevicaulis (Saccardo) Bainier — ONYCHOMYCOSIS

Sporothrix schenckii Hektoen et Perkins — SPOROTRICHOSIS
syn. *Sporotrichum schenckii* (Hektoen et Perkins) Matruchot
Sporotrichum beurmannii Matruchot et Ramond
The casual agent of sporotrichosis cannot be classified in the genus *Sporotrichum* Link (see Carmichael, 1962), but the name originally proposed by Hektoen and Perkins (1900) is both legitimate and convenient. The conidial states of *Ophiostoma stenoceras* (Robak) Mellin et Nannfeldt and *O. tetropii* Mathieson are indistinguishable from *S. schenckii* (Hoog, 1974). See also Nicot and Mariat (1973)

Streptomyces somaliensis (Brumpt) Waksman et Henrici — MYCETOMA
syn. *Nocardia somaliensis* (Brumpt) Chalmers et Christopherson

Trichophyton concentricum Blanchard — TINEA IMBRICATA

Trichophyton equinum Gedoelst var. *equinum* — RINGWORM
Isolates not requiring nicotinic acid have been designated *T. equinum* Gedoelst var. *autotrophicum* J. M. B. Smith, Jolly, Georg et Connole.

Trichophyton erinacei (J. M. B. Smith et Marples) Padhye et Carmichael — RINGWORM
syn. *T. mentagrophytes* (Robin) Blanchard var. *erinacei* J. M. B. Smith et Marples
see also *T. mentagrophytes* group

Trichophyton gallinae (Megnin) Silva et Benham — FAVUS, FOWL; RINGWORM
syn. *Microsporum gallinae* (Megnin) Grigorakis

Trichophyton gourvilii Catanei — RINGWORM
Trichophyton interdigitale Priestley
see *T. mentagrophytes* group
Trichophyton megninii Blanchard

Trichophyton mentagrophytes group — RINGWORM
Perfect states: *Arthroderma benhamiae* Ajello et Cheng
Arthroderma olahii Balogh, Liptowsky et Nagy-Peti
Arthroderma vanbreuseghemii Takashio
The relationships of these species to each other and to various imperfect states which have been considered conspecific with *T. mentagrophytes* (*T. erinacei, T. interdigitale, T. quinckeanum* etc.) are uncertain. Until the status of *T. mentagrophytes* (Robin) Blanchard *sensu strictu* is clarified it is considered advisable to retain the names of these imperfect states.

Trichophyton quinckeanum (Zopf) MacLeod et Muende — RINGWORM; FAVUS, MOUSE
syn. *Achorion quinckeanum* (Zopf) Blanchard
see *T. mentagrophytes* group

Trichophyton rubrum (Castellani) Sabouraud — RINGWORM
syn. *Epidermophyton rubrum* Castellani
Trichophyton purpureum Bang

Trichophyton schoenleinii (Lebert) Langeron et Milochevitch — FAVUS
syn. *Achorion schoenleinii* (Lebert) Remak

Trichophyton simii (Pinoy) Stockdale, Mackenzie et Austwick
Perfect state: *Arthroderma simii* Stockdale, Mackenzie et Austwick

Trichophyton soudanense Joyeux

Trichophyton tonsurans Malmsten var. *tonsurans*
syn. *Trichophyton crateriforme* Bodin and many others
T. tonsurans Malmsten var. *sulphureum* (Colcott Fox) Mackenzie is retained as a distinct variety.

Trichophyton verrucosum Bodin var. *verrucosum*
Isolates not requiring vitamins have been designated *T. verrucosum* var. *autotrophicum* Scott — RINGWORM
The nomenclature of the 'faviform trichophytons' was reviewed by Ainsworth and Georg (1954), who concluded that the illegitimate group name *T. faviforme* should be replaced by *T. verrucosum* Bodin for species of which *T. album, T. discoides* and *T. ochraceum* may be considered varieties (var. *album* (Sabouraud) Georg; var. *discoides* (Sabouraud) Georg; var. *ochraceum* (Sabouraud) Georg).

Trichophyton violaceum Bodin

Trichosporon beigelii (Küchenmeister et Rabenhorst) Vuillemin — PIEDRA, WHITE
syn. *Trichosporon cutaneum* (de Beurmann, Gougerot et Vaucher) Ota
T. beigelii, based on *Pleurococcus beigelii* Küchenmeister et Rabenhorst 1867, antedates *T. cutaneum*, based on *Oidium cutaneum* de Beurmann, Gougerot et Vaucher 1909, and when these two are considered synonymous the epithet *beigelii* has priority.

Zopfia rosatii (Segretain et Destombes) D. Hawksworth et C. Booth — MYCETOMA
syn. *Neotestudina rosatii* Segretain et Destombes

Disease names

ABORTION, MYCOTIC, of cattle, horse and sheep — *Absidia corymbifera; Aspergillus flavus; A. fumigatus; A. nidulans; A. terreus; Candida* spp.; *Mortierella wolfii; Nocardia asteroides; Petriellidium boydii; Rhizopus* spp. etc.
syn. mycotic placentitis

ACTINOMYCETOMA
see MYCETOMA

ACTINOMYCOSIS — *Actinomyces bovis* (especially in animals); *Actinomyces israelii* (man)

ADIASPIROMYCOSIS — *Emmonsia crescens; E. parva*
syn. haplomycosis, adiaspirosis
This disease is widespread in wild animals and has been reported in man and domestic animals. See the monographs by Jellison (1969) and Dvorak, Otčenášek and Rosický, (1973)

ALIMENTARY ULCERATION and GRANULOMA of man, cattle, pig etc. — *Absidia corymbifera; Aspergillus fumigatus; Rhizopus* spp. etc.

ANIMAL RINGWORM
see RINGWORM and TINEA

ASPERGILLOSIS (including ASPERGILLOMA) of man and animals, especially birds — *Aspergillus flavus; A. fumigatus; A. nidulans; A. niger; A. terreus*
Infection by *Aspergillus* spp., mainly of the respiratory tract. All organs of the body may be infected.
see also ABORTION, MYCOTIC; ALIMENTARY ULCERATION; GUTTUROMYCOSIS; MASTITIS; MYCETOMA; ONYCHOMYCOSIS; OTOMYCOSIS; PARANASAL GRANULOMA

BASIDIOBOLOMYCOSIS — *Basidiobolus* spp.
syn. Subcutaneous phycomycosis

BLASTOMYCOSIS — *Blastomyces dermatitidis*
syn. North American blastomycosis
The term 'Blastomycosis' has become increasingly accepted for this disease but it is still used in a general sense to describe any mycosis caused by a budding fungus. Although the disease is not confined to the Americas there would seem to be a strong case for retention of the name 'North American blastomycosis'.
see also LOBOMYCOSIS; PARACOCCIDIOIDOMYCOSIS