

Annotated catalogue of “type material” of ciliates (Ciliophora) and some further protists at the Upper Austrian Museum in Linz, including a guideline for “typification” of species*

Erna AESCHT

Abstract: Methods for preparing soft-bodied protists permanently to be deposited as adequate “types” allowing a three-dimensional re-examination of specimens have only been available for the past four decades. Photographs of differently prepared and labelled “type” slides document the history of “typification” since 1974. The species- and genus-group names (as in the paper referring to the slide deposited) appear in alphabetical order for an easier location due to the various combinations of protist taxa. Information on the original denomination (protonym), authorship, (micro)habitat and “type” location, the category and kind of deposition (original or subsequent) of “types” including the inventory numbers of our institution – with LI as official acronym – as well as the recent taxonomic status is given. Literature references are provided for the original name, recent recombinations, those related to deposition or if the species has been relegated to synonymy. Specimens labelled as “types”, which they are not according to the International Code of Zoological Nomenclature, shortly ICZN, are also treated.

Currently at least 2000 “type” slides (not specimens!) of 779 species, classified in 343 genera and 138 families were deposited. 47 states with “type” localities are represented: 15 from Europe, 8 from America, 12 from Africa, 7 from Asia and 5 from the Pacific Region. 34.2 % of the species have their “type” locality in Austria, 14 % in Namibia, each about 6 % in Antarctica, Germany, France and Australia. 58.5 % of the species deposited are terrestrial, 26.6 % limnetic, 13.4 % marine and 1.5 % parasitic. These specimens have been obtained from various sources (15 persons), main contributors are Wilhelm FOISSNER (and his co-authors) and Jean DRAGESCO. More than 200 publications have been located referring to the “type” collection at Linz. Taking into account the about 4000 voucher slides including those of Bruno Maria KLEIN and Josef DIECKMANN, the big library on protistological journals and reprints, this collection is the most comprehensive one worldwide and thus a unique training possibility for beginners to become familiar with microscopic organisms. This evaluation clearly shows the problems in “typification” of protists, which should be reflected in future editions of the ICZN and aims to make accessible important information for future taxonomic studies in protistology. Due to the misleading connotations of the term “type”, some more precise technical terms are introduced to protistologists following the french herpetologist and curator Alain DUBOIS.

Key words: Collection, flagellates, fungi, microsporidians, nomenclature, protozoa, repository, taxonomy, testate amoebae.

* This compilation is dedicated to Wilhelm FOISSNER on the occasion of his 60th birthday. “Willi” continuously motivates with his enthusiasm for the microscopic world and enduring aspiration to clear faults.

Contents

1 Introduction	127
2 Background and terminology	128
2.1 Nomenclatural steps	128
2.1.1 Availability of a name	129
2.1.2 Allocation of a name to a taxon	130
2.1.3 Validity	130
2.2 Curatorial practice	130
2.2.1 Registration	132
2.2.1.1 Puzzle: name on label versus in paper	133
2.2.1.2 Puzzle: date	134
2.2.1.3 Puzzle: "type" locality	134
2.2.2 Verification	135
2.2.2.1 Puzzle: "type" designation – original versus subsequent	135
2.2.2.2 Puzzle: category of "type" – single versus multiple specimens	136
2.2.2.3 Puzzle: "type" deposition – fact versus fiction	138
2.2.3 Validation	138
2.3 Presentation of items	138
3 Material	140
3.1 Ciliophora	140
3.2 Further protists	187
4 Survey of the revised collection and further "type" material	188
4.1 Involved persons and coverage of "typified" and untypified taxa	188
4.2 Vouchers	188
4.3 Onomatophores	189
4.4 "Type" localities	190
5 Discussion	219
5.1 Ambiguities of the ICZN and how many codes are needed?	219
5.1.1 Published versus unpublished evidence	219
5.1.2 Immaterial versus material evidence	219
5.1.3 Single specimen versus multiple specimens (slides)	220
5.1.4 Further notes	222
5.2 Evaluation of "typification" in protistology	223
5.2.1 Problems of dimension, diversity and transient nature of populations	223
5.2.2 Problems of the lack and adequacy of "type" material	224
5.2.3 The underestimated role of repositories and documentation	224
5.2.4 Two sides of a coin: taxonomy (science) and nomenclature (tool)	225
5.2.4.1 Confusing taxonomy and nomenclature	225
5.2.4.2 "Types" are not necessarily typical	225
5.3 Guideline for "typification" of species	226
6 Acknowledgements	227
7 References	227
8 Abbreviations	233
9 Glossary	233

1 Introduction

More than 90 % of all described ciliates and likely 99 % of other protists (with a lowercase p) without shells lack “type” series, or the material hardly shows the species-specific features (e.g. CORLISS 1965; BANDONI & DUSZYNSKI 1988; FOISSNER & PFISTER 1997, FOISSNER 2002, FOISSNER et al. 2002). This causes taxonomic and nomenclatural problems and increases the degree of subjectivity in the identification of these evolutionarily and ecologically important organisms.

A first reason for this situation was and is a conservation problem, since usual fixatives for animals such as ethanol or formalin are unsuited for their fragile cells. Particularly soft-bodied heterotrophic protists have been difficult to preserve until the beginning of the twentieth century, when in 1926 Bruno Maria KLEIN discovered a dry silver nitrate method showing the silverline system of diverse protists, particularly ciliates. Further steps revolutionising preservation and taxonomy were wet silver nitrate, protargol and silver carbonate methods (Tab. 1) showing the arrangement of somatic and oral cilia (known as infraciliature or the silverline system), which are among the most important features in ciliate and partially flagellate alpha-taxonomy (for review see FOISSNER 1991). Silver impregnation, morphogenetic studies and since the 1960s and 1970s transmission and scanning electron microscopy, respectively roughly doubled the number of described species, indicating that at least 50 % of the global free-living ciliate diversity is undescribed (cp. PATTERSON 1999; CORLISS 2002; FOISSNER 1991, 2006, 2007, 2008). Most of these stainings yield permanent slides with a quality that provides adequate “types” – necessary for a three-dimensional re-examination of specimens – to be deposited.

A second reason for the still poorly explored alpha-taxonomy is the rather bad reputation of nomenclature among protistologists (CORLISS 1962a, b, 1972b; FOISSNER 1987c; PATTERSON & LARSEN 1992, PATTERSON 1999). To a minor extent there have been “objective reasons” for this longstanding unawareness (Tab. 1): First nomenclatural rules under the title “Règles Internationales” were published in 1905, while an official “International Code of Zoological Nomenclature” – hereafter referred to as the ICZN – only appeared in 1961 and amendments were incorporated in a second edition in 1964 (ICZN 1961, 1964). Since 1943 additional rulings were mainly treated in the journal “Bulletin of Zoological Nomenclature” and as “Opinions and Declarations of the International Commission of Zoological Nomenclature” (HEMMING 1958). Thus, it was not easy to become familiar with all the dispersed rules. The third and fourth edition (ICZN 1985, 1999) revealed

more acceptance, although some problems of understanding still prevail, viz. the differences between nomenclature and taxonomy as well as the underestimated role of vouchers (detailed in chapters 2.2 and 5). Among them, the very special function of name-bearing “types” being an objective connexion between the world of specimens (and, through them, of natural populations of organisms) and the world of language (e.g. ICZN 1999; DASTON 2004; DUBOIS & OHLER 1997a, b). Moreover, the nomenclature of protists is more complicated than that of plants and animals, because more than one nomenclatural code may apply due to their photo- and/or heterotrophic members (a problem not discussed in detail here; for literature see TAYLOR et al. 1986; PATTERSON & LARSEN 1992; CORLISS 1990, 1992, 1995; HAWKSWORTH et al. 1994).

John CORLISS has been the most active promoter of the importance of the ICZN and the principle of “typification” therein, because “type” specimens, which constitute an objective and reference material in the creation of new taxa, play a central role in taxonomy and other fields of biology (CORLISS 1962b, 1963a, b, 1965, 1972, 1982, 1990, 1992, 1995; WEISER 1963). The relatively short preparation tradition in protistology compared to that of invertebrates and even more vertebrates is imposed by very rare catalogues, in fact only lists, existing on “type” material (CORLISS 1972a; SALLEY et al. 1978; COLE 1994; WIKTOR & RYDZEWSKI 1991; BAKKEN 1999; AESCHT 2003b). Numerous curatorial and designation problems became evident during my first compilation of the collection on occasion of the tenth anniversary of the Biology Centre (AESCHT 2003b), which are commented here in more detail. To date, the particular “typification” problems in protists have been largely ignored by the scientists concerned, including myself, and by the scientific community in general (cp. CORLISS 1963b; HAWKSWORTH 1992; FOISSNER & PFISTER 1997, FOISSNER 2002).

This annotated catalogue of “type” material was not established as a “routine work”, not merely for curatorial convenience, but resulted from the need to ensure that “types” are documented, clearly marked, and safely preserved. The compilation follows a careful examination of all published and unpublished evidence, viz. labels and the appropriate literature, particularly the original denomination and modern taxonomic revisions, to elucidate the correct and valid names of the taxa. The catalogue also facilitates the databasing of the “type” material. Although it is intended to present the specimen data for the “types” online via internet, they are published in a printed version, as recommended in the ICZN (1999 Rec. 72F). This paper aims to stimulate discussion about the absence or inadequate quality of

Table 1: Basic dates concerning the “International Code of Zoological Nomenclature” (ICZN) related to activities of protistologists promoting nomenclature in their field. Preparation methods are compiled by FOISSNER (1991).

Date	ICZN	Protistology
Jan. 1, 1758	Starting point of zoological nomenclature	
1767		First ciliate generic name (cp. AESCHT 2001)
1905	“Règles Internationales de la Nomenclature Zoologique”	
1926		Dry silver nitrate method of KLEIN
1930/31	Requirements for availability (Art. 12, 13)	
1930/53		Wet silver nitrate methods of CHATTON & LWOFF and CORLISS, respectively
1961	First edition of ICZN; variety or form excluded after 1960 (Art. 15.2); status of neotypes designated before 1961 (Art. 75.7)	
1962/64/75/82		Protargol methods of DRAGESCO, TUFFRAU, WILBERT and FOISSNER
1963		Establishment of an international type-slide collection for the ciliate protozoa (CORLISS 1963)
1964	Second edition of the ICZN	
1965		First neotypifications (CORLISS et al. 1965)
1972		31 lectotypified and 10 neotypified taxa listed in CORLISS (1972)
1976/84		Silver carbonate methods of FERNANDEZ-GALIANO and AUGUSTIN, FOISSNER & ADAM, respectively
1977		Committee on types of protists with complex life cycles
1985	Third edition of the ICZN; invention of a new class of holotype (hapantotype) for use in modern microbiology when an individual specimen alone cannot serve the requirement for a name-bearing type	First neohapantotypes (MEHLHORN et al. 1985)
1987		16 approved and 10 rejected ciliate species on the official list of names in zoology (cp. AESCHT 2001)
1994		Catalog of type specimens in the International Protozoan Type Collection (COLE 1994): for 159 ciliate species 15 syn-, 30 lecto- and 24 neotypes are included
1999	Fourth edition of the ICZN; name-bearing types must be fixed (designated) originally for nominal species-group taxa and deposited in a permanent collection (Art. 16.4, 72.3)	
2001		Catalogue of the generic names of ciliates (AESCHT 2001): 13 approved and 20 rejected ciliate genera (of 2701 generic names treated in this paper) on the official list of names in zoology
2002		General article on neotypification of protists (FOISSNER 2002) and inclusion of its rationale (e.g. FOISSNER et al. 2002; BERGER 2006)

“type” material for protists, especially ciliates (see chapter 5.2.2). Apart from the “Catalogue of the Generic Names of Ciliates” (AESCHT 2001) – it is a further step to evaluate the nomenclature of this important group of organisms from bottom-up and to contribute to the dissemination of their biodiversity data. In future years, hopefully protistologists will become increasingly interested in such a “storing” activity and (re-)examining “type” and voucher material as part of their research.

2 Background and terminology

2.1 Nomenclatural steps

In zoology, more than in protistology, since the beginning of the 20th century a vast majority of taxonomists has followed the rules of the ICZN (1999). Its object is not to deal with the theory and practice of classification of organisms (taxonomy; see also chapter 5.2.4), but to provide rules for the automatic and universal establishment of the unique valid nomen of a given taxon (nomenclature) in any given taxonomic frame. According to DUBOIS (2005a, 2006b, c) this establishment is a three-step process that includes rules first for the nomenclatural **availability** of nomina (through publication and respect of precise criteria; first floor of the “nomenclatural house”), then for their **allocation** to taxa (through “typification”; second floor) and

finally for their **validity** (through priority; third floor): once made nomenclaturally available through publication following certain conditions, a given nomen is unambiguously allocated to a given taxon in any given taxonomy through the use of a “name-bearing type” (cp. also DUBOIS & OHLER 1997a, b, DUBOIS 2007, DUBOIS & NEMÉSIO 2007).

The rules and arcane intricacies of the ICZN (1999) are not easy to understand and often ambiguous (chapter 5.1), of course taxonomy is more interesting than nomenclature. For strengthening the distinctiveness of these two sides of a coin (chapter 5.2.4), DUBOIS (2000 and references therein) proposed the term **onymology** (from the Greek onymos, “name” and logos, “speech”) and several further terms, some of them are followed here and thus introduced for the protistological community in parallel with ICZN terminology, simply because they are short and more precise (see below and Glossary at the end of the paper). Misinterpretations most often repeated are that “types” allow to define taxa and represent a survival of typological ideas in evolutionary biology (cp. discussion in DUBOIS 2005a). However, the function of the name-bearers (“types”) is not to provide taxonomic information on characters (although it may “incidentally” do so), but to tie the nomen to a living (or once living) population of organisms and so establishing an objective and permanent connection between the real world of organisms and the world of language (DUBOIS & OHLER 1997a, b, DUBOIS 2006b; DASTON 2004). This makes the ICZN a theory-free nomenclatural (onymological) system allowing the unambiguous nomination of taxa within any taxonomic system. To definitely avoid such basic confusions, it is better to abandon the use of the term “type”, and its derivatives, in biological nomenclature, and to replace it by SIMPSON’S (1940) special technical term **onomatophore** and other new terms, e.g. onomatophoront moreover perfectly parallels the taxonomic term semaphoront of HENNIG, which do not have this misleading connotation (cp. DUBOIS 2000, 2005a, 2007). Interestingly, according to the “Oxford Dictionary of English Etymology” (ONIONS 1966) the word specimen means “characteristic example”, thus it is tautologous to “type”. Furthermore, as DASTON (2004) noted the very term “type specimen” is an oxymoron, which is only accidentally, not essentially, a representative sample of the species.

I am convinced that adoption of such precise technical terms and standardisation of the presentation of name and material lists would greatly enhance communication between taxonomists and with other members of the scientific community, especially within the frame of the development of international electronic connections which encourage the creation and world-wide diffusion of large computerized databases dealing with the nomina of organisms (cp. DUBOIS 2000).

2.1.1 Availability of a name

The availability of a name is an objective matter that can be verified by an examination of the conditions under which it was first published. It is important to realise that the rules for nomen availability have changed through time, and these rules nowadays are much more stringent than in the past (DUBOIS & NEMÉSIO 2007). All the preceding articles existed, in similar or slightly different forms, in the past editions of the ICZN until the so-called third one (ICZN 1985), and none of them mentioned the need, for availability of nomina, of the existence of an onomatophoront (“holotype, syntypes, lectotype or neotype”). However, an important change was brought in the fourth edition of the ICZN (1999 Art. 16), which added several requirements for availability of nomina published after 1999 (Art. 72.3). Criteria of availability are mostly described in chapter 4 (Art. 10 to 20) of the ICZN, but also in chapter 1 (Art. 1 to 3). These new requirements include the need of an explicit statement of the intention to establish a new nominal taxon, and, above all, the need of fixation of the name-bearers (“types”; see below) for any new specific or subspecific nomen.

Regarding the first floor of the “nomenclatural house”, DUBOIS (2000) recognized two categories of nomina: **hoplonyms** (from the Greek hoplon, “arm, weapon”) are nomina published through respect of all ICZN’s criteria of nomen availability, whereas **anoplonyms** (from the Greek anoplos, “unarmed”) are nomina published but not respecting all these criteria, and therefore nomenclaturally unavailable (i.e., “non-existent” in zoological nomenclature).

The botanical practice of citing basionyms is informative, because it refers to the correct original and still available name (MCNEILL et al. [ICBN] 2006); however, it is inconsistently applied in zoology, particularly protistology (except the revisions of the FOISSNER group since the 1990s; BERGER 1999, 2006). Thus for zoological concerns DUBOIS (2000) suggested the new, slightly different term **protonym**, which is followed herein. The concept of protonym is distinct from that of basionym used in the botanical code (MCNEILL et al. [ICBN] 2006). The basionym is the correct spelling (in the precise onymological sense of this term) of the original hoplonym (see Glossary), while the protonym is the original spelling, rank and onymorph (see Glossary) of the latter. In many cases, the original spelling is correct, so that the basionym is also the protonym, but in the cases where the nomen as published in the original publication is incorrect under the current ICZN (1999), the basionym will correspond to one of the aponyms of the hoplonym. Thus, for example, the familial nomen *Colepina* published by EHRENBURG (1838; reference in

Tab. 7) is incorrect under the current rules, but it remains nevertheless the protonym of the family Colepidae currently in use. As understood here, the concept of aponym applies to all changes in spelling, even very slight, e.g. bearing on a single letter or considered by the current ICZN (1999 Art. 58) as “variant spellings deemed to be identical”.

2.1.2 Allocation of a name to a taxon

Under the ICZN, allocation of a nomen to a taxon is distinct from its availability. It does not rely on the conditions used for availability of the nomen on the first floor, but it is made through the use of a special tool, the so-called “type” or name-bearer (ICZN 1999 Art. 61-76), replaced here by onomatophores. Some 24 pages of the ICZN are devoted to the “type-concept” in zoology; one-third of these deal specifically with the problem of “type” specimens. Fixation or designation means that, to be available, a new nomen must have been created associated with the fixation of a holophoront (“holotype”) or symphoront (“syntype”). By itself, this statement simply requires this designation, but not clearly that the onomatophoront be preserved after designation and description, as discussed in detail by DUBOIS & NEMÉSIO (2007; see also chapter 5.1.2).

Onomatophores are of different kinds in the three nominal-series recognized by the ICZN: they are specimens (onomatophoronts) for nomina of the species-series, but taxonomic concepts above this level, viz. species-series nominal taxa (nucleospecies) for nomina of the genus-series and genus-series nominal taxa (nucleogenera) for nomina of the family-series. However, ultimately, through this chain of onomatophores, each nomen refers to one or several organisms. Thus an onomatophore-based nomen is **not defined**, either by **intension** (characters or relationships) or by **extension** (list of included or excluded organisms or taxa), but **attached** to some members of the taxon (individuals or taxa) by **ostension** (e.g. DASTON 2004; DUBOIS 2005a, 2006c). This is not a “definition” of the nomen, as it does not provide limits for the taxon designated by the nomen; such limits are given by the taxonomic arrangement adopted, i.e., by the other taxa recognized within the same nominal-series (DUBOIS 2006a).

2.1.3 Validity

Validity differs from allocation and availability in that the latter refers to the acceptability of the name for use in nomenclature, whereas validity involves taxonomic decisions on limits of taxa. Validity refers to the “rights” of a name in relation to homonyms and synonyms. “Invalidity” may also concern unjustified emendations or unjustified replacement names. Concerning

the present catalogue it has to be emphasised that it is important to distinguish objective and subjective synonyms: The first have the same onomatophoront, thus are homotypic, while the latter have different ones, i.e. are heterotypic. In the second case two correct (available) names may remain in use along side one another, since the ICZN (1999) only determines the correctness of a name, not whether the taxonomic interpretation is correct. It is at the discretion of the authors (or other scientists) to decide which correct name they choose to use, provided it is consistent with the circumscription they are using.

‘Validating’ taxa is part of taxonomic decision-making which, at the species level for example, comes from the examination of series of specimens and is justified by the resulting analyses and comparisons with related taxa. After that, the justifications are open to acceptance or rejection by human interpretation, thus subjectivity is unavoidable on this step. There is nothing ‘valid’ about them anyway, in the sense of physical laws are valid (cp. DUBOIS 2005a).

2.2 Curatorial practice

The actual techniques or procedures for handling “types” in repositories are quite often not clearly understood and have been a factor in the apparent lack of interest in this important activity (cp. CORLISS 1972a). As until now there exists no training for curators, at least in Austria, and I started quite naive in 1992, the situation found and the curatorial activities undertaken are shortly described below.

The three curatorial steps, something different from the nomenclatural steps (see above), may be summarised as follows:

- Stage 1. Registration of deposited material, i.e. creation of the initial file with basic information of the label, viz. unpublished evidence, such as genus and species name, original “type” designation, sampling site, preparation method and addition of an inventory and storage number.
- Stage 2. Verification: Editing the file against primary sources, viz. published evidence, in the light of the accumulated data, which involves linking and basic standardisation of binomen, reference and geographic locality via codes, i.e. unique identifiers.
- Stage 3. Validation: Shaping the register as an authoritative tool on “typification”, fully in accordance with the ICZN (1999), by getting input from specialists and by incorporating information on further neotypification and possible

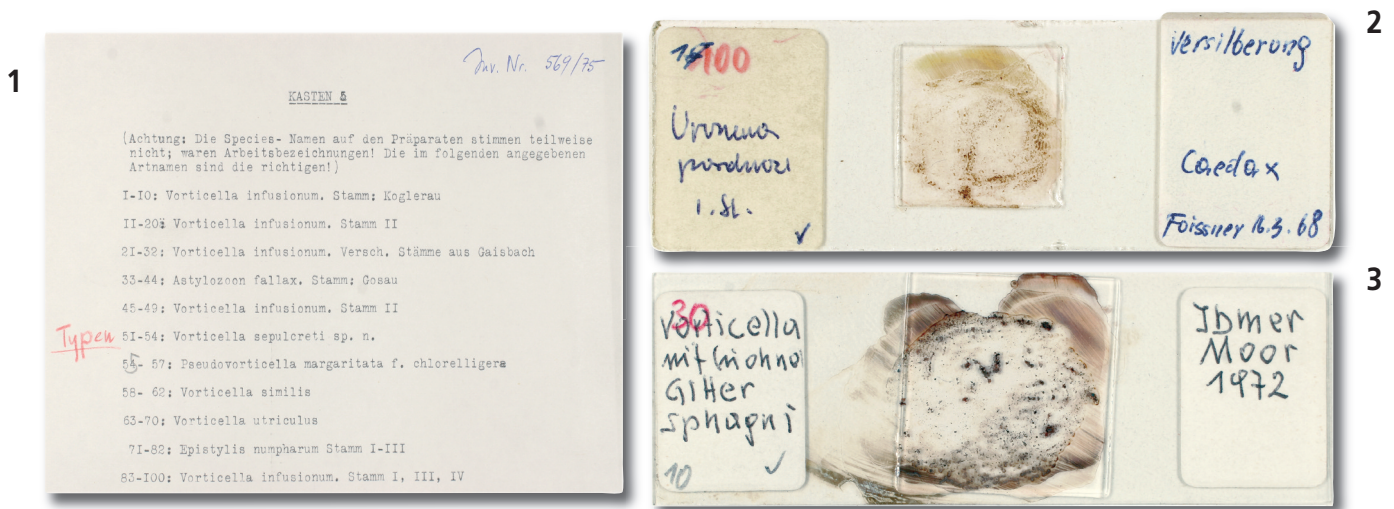


Fig. 1-3: In the 1970s, here 1974, “types” were only mentioned on an external sheet of paper (1) and the slides were sparsely labelled, viz. “untyped”, without location and detailed preparation method (“Versilberung” means dry silver nitrate in 2), e.g. slide of *Uronema parduzi*, collected in 1968 (inv. no. 1974/101; 2) and slide of *Pseudovorticella sphagni* (inv. no. 1974/230; 3).



Fig. 4-7: Since 1981 a list was fixed in the box (4) enlighting the status and preparation method of the slides (Fernandez-Galiano-Meth.” means silver carbonate). Slide of *Colpoda aspera* (inv. no. 1981/30; 5) labelled incorrectly as “paratyp”, viz. a component of the original “type” series, instead of “neotyp”, viz. newly designated “type” when the original “type” specimen is lost. Two slides of *Thylakidium pituitosum* (inv. no. 1981/72, 73; 6, 7) each labelled as “holotyp”, because of different preparation methods, viz. opal blue of BRESSLAU and dry silver nitrate (“Trockene Meth.”). Note that usually more than one cell is marked.



Fig. 8: Original storage box of FOISSNER (inv. no. 1988/101-200) including a descriptive list fixed on the left side, compared to 7 the preparation method was omitted likely because the protargol one prevails.

lectotypification, as well as other critical annotations. This step is at its very beginning of course. In practice, registration, verification, and validation – as partially the nomenclatural steps (see above) – certainly are not sharply delimited phases and often merge into each other as a single process.

2.2.1 Registration

For an overview of the history of protistology in Austria and the protist collection in Linz, including short biographies of the main contributors, and the curatorial staff before 1992 (the beginning of my job) see AESCHT (1994, 2003a).

Between 1974 and 1991 12 boxes with about 100 slides each (e.g. Fig. 8) received accession (convolute) numbers of the invertebrate collection curated by my colleague, Mag. Fritz GUSENLEITNER, an entomologist. Since 1992, 26 boxes were added. In 1993, when a computer for each curator became available, I started a database with an inventory of individual slides (not specimens) and the basic fields (genus, species, original des-

ignation on label, inventory and storage number, preparation method, sampling site and collection date). Later entries were cross-checked and linked via unique identifiers with the relevant publications (see above).

The previous and incoming slides largely remain in their original boxes (Fig. 8), because a systematic storage by taxonomic classification is impossible since numerous different species are usually included on one slide (Fig. 13-16, 25, 26, 35, 36) and in any case a storage number is necessary for retrieval. Moreover, lists have been fixed in the boxes mainly between 1975 and 1988 or were supplemented freely (Fig. 1, 4, 8), enlightening the status of the slides sometimes not exactly stated on the labels (Fig. 2, 3). Single or few incoming slides are collected in boxes per year registered. Thus, the collection including "type" and voucher material is arranged in chronological order and stored in a lockable metallic cabinet. Solely historical voucher material is stored in another system and room.

Labelling was successively refined, which is documented her for the first time by photographs of differently prepared, marked and labelled "type" slides (Fig. 2,



Fig. 9-12: Variants of designating terms: “genotype” slide, viz. “neotype” omitted (inv. no. 1984/76; **9**); “hologenotype” (“Hologenustyp”) slide (inv. no. 1998/56; **10**); “neoholotype” slide (inv. no. 1999/15; **11**); “syntype” to “neotype” slide (inv. no. 1988/126; **12**).

3, 5-7, 9-36): Early “types” were mentioned on an external sheet of paper (Fig. 1), since 1975 directly on the label (e.g. Fig. 5-7). About ten years later, “If appropriate, the type slides are accompanied by an equally – sized sheet of paper, which states the species and the kind of types contained (H – holotype specimen, N – neo (holo) type specimen, P – paratype specimen, V – voucher). The specimens which served as a basis for the illustrations are marked by the letter “D”, for instance, PD = paratype used for illustration. The holotype specimen (H), of course, has been drawn. Note that some slides contain types of several species, which are distinguished by different colours or letters” (Fig. 31-36; FOISSNER et al. 2002).

The usual curatorial practice to store name-bearers preferably separately from general collections (vouchers) is at present not followed exactly, because of the uncertain status of numerous “types” and now coherent populations can be retrieved for checking with minimum fuss and maximum efficiency. As, yet no remounting – in case of air intrusion – was performed, because this may destroy the black ink or felt tip pen circle(s) of relevant specimens on the cover glass or on the back of the slide. This problem has to be solved in future, a first step will be photographic digitalisation of the slides. Moreover, it requires that fixation and preparation methods are described in more detail by the depositor if differing from standard procedures.

Due to the restricted space on a label, many data have still to be reconstructed, e.g. the collector (legator) usually can only be found in the publication; the depositor of the slide(s) may be different from the collector or publishing author (cp. Tab. 2 and chapter 3); the determinant unfortunately remains usually unknown, likely the senior author of a publication can be assumed.

2.2.1.1 Puzzle: name on label versus in paper

Of course numerous changes in names of taxa have been recorded, viz. discrepancies between label and (further) papers as a result of provisional names, misidentifications, change in rank (e.g. species to subspecies) or as a result of transfer to another genus. “Type” specimens of invalid species (as junior synonyms, junior homonyms, unjustified emendations, unnecessary substitute names) are also listed. In that case, the current status is specified, as far as known. No other synonyms are provided. Misapplied (i.e. misidentified) and synonymised names are only indicated in this paper, but original labels remain unchanged and are supplemented by further printed information on a sheet of paper in the size of a slide.

In 38 instances names on the labels do not correspond to those published, partially due to provisional, never published denominations (e.g. “*Pelagothrix asymmetrica*” and “*P. minuta*” instead of *P. plancticola*, “*Calvobakuella terricola*” instead of *Eschaneustyla brachytoma*, “*Fuscheria flatscheri*” instead of *F. terricola*, “*Drepanomonas bispinifera*” instead of *D. exigua bidentata*, “*Enchelydium terricola*” instead of *E. terrenum*, “*Urotricha parafurcata*” instead of *U. pseudofurcata*; these unavailable names between quotation marks are disclaimed here for nomenclatural purposes according to ICZN 1999 Art. 8.3), partially due to a slip in genus (e.g. *Podophrya terricola* instead of *Sphaerophrya t.*) or slightly changed endings. Such inconsistencies are quite time-consuming and should be avoided before depositing slides. Some depositors seemingly assume that labelling is performed in a standardised form by the curator (Fig. 29, 30), which is not the case since according to Rec. 73C, D of the ICZN (1999) the label has to be original. Since original labels have to be preserved in any case during curatorial practice, quite a lot of additional



Fig. 13-16: Frequently more than one species is important in one sample, thus the respective marks and designations became different to distinguish: five species (inv. no. 1984/8; **13**); two species, two categories of “types” and three marks (inv. no. 1989/18; **14**); invitation to look at the specimens (inv. no. 1988/168; **15**); 6 marks of “paratype(?)” and ontogenetic stages (inv. no. 1993/35; **16**).

sheet of papers may accumulate and cross-referencing in databases becomes more and more complex.

2.2.1.2 Puzzle: date

If any, usually only a year is given on a slide label, which may refer to the sampling date, the year of preparation or of publication (Fig. 17-19, 21, 28). The deposition is often performed only years after preparation and investigation and the date of collection have to be reconstructed, which may be difficult, because it is quite often not detailed in the published original description. Concerning the category of “types”, the dates can be of crucial importance: if they are unspecific or inconsistent the question of original material arises. Conflicting dates have quite often been recognized particularly in neotypification, e.g. *Geleia decolor*. In most cases, the evaluation and acceptance of a “type” depends on rigid assessment of information on identities of collectors,

“type” localities and dates of collection (a number of supposed “types”, previously accepted, have had to be rejected because there were patently collected after the date of publication of the description or because there was no certain date of collection). Thus it is recommended to give the complete collection date, viz. including day and month (Fig. 16, 27), on the slide label and the preparation method as well as prospective publication year on an accompanying protocol, i.e. a sheet of paper equally sized to the slide (Fig. 31-36; see chapter 5.3).

2.2.1.3 Puzzle: “type” locality

Traditionally, geographic locality was not thought to be a significant factor since many protists are cosmopolitan in their distribution, which is severely discussed today (see chapter 5.2.1). Unfortunately, the site is often missing on the label (Fig. 2, 13, 14, 16, 19, 22, 23, 28-



Fig. 17-20: Four slides of DRAGESCO referring to the year describing the new species; note the multiple marks for *Trachelolophos setensis* (inv. no. 1997/1, 2; **17**, **18**) and *T. binucleatus* (inv. no. 2002/853; **19**), where the location was omitted; the original label to the left was supplemented by a designating one (inv. no. 2002/853; **20**).



Fig. 21-24: Label modifications of co-workers of FOISSNER: partial introduction of computer print (inv. no. 1989/37; **21**); arrows instead of circles (inv. no. 1993/31; **22**); square marks likely refer to dividing specimens (inv. no. 1993/45; **23**); unspecific “types” (inv. no. 2000/147; **24**).

30), or only the country is given (Fig. 12, 21) and moreover often hidden in the publication, viz. ignored in neotypification. Although the “neotype” locality replaces the original one (ICZN 1999 Art. 76.3), for comparative and historical reasons both should be included separately in a revision. “Type” locality seems even be underestimated in the Zoological Record, since only states are given, e.g. for *Tracheloraphis exilis* “France”. Inclusion of the (micro)habitat is strongly suggested concerning protists, viz. at least if a species occurs limnetic, marine, terrestrial, symbiotic or parasitic. Geographical coordinates – as recommended in the ICZN (1999 Rec. 73C.2) – have only recently been included in the papers and are thus usually lacking on label; now numerous databases in the internet may help including them (see cp. chapter 7, Internet base information).

2.2.2 Verification

Verification is not a simple procedure that can be accomplished once for all time but a virtually never-ending process, which seems to expand in direct proportion to the number of specimens and publications examined. Comparison of the original description with data from one or more specimens rarely can be made without uncovering at least minor discrepancies that must be reconciled.

There are several complicating factors. Some of the early labels are nearly unreadable (e.g. Fig. 3), some of the authors did not provide sufficient information on the labels (Fig. 29), and sometimes there are mismatches between putative “types” and original descriptions, because in many cases the descriptions as well as labels do not provide unambiguous information regarding the number of slides or specimens (see below). A question mark is added when, for one reason or another, I am un-

certain about the status of the specimens and/or an involvement of the Commission seems to be necessary.

2.2.2.1 Puzzle: “type” designation – original versus subsequent

Two categories of “typification” (“type” designation) may be discriminated, viz. original or subsequent. If a notice of the designation and deposition of the “type” specimens is included in the first publication on the new species (termed **symphory** by DUBOIS 2000) it is considered as **originally** “typified”, sometimes termed primary “types” (an expression not included however, in the ICZN 1999). Different steps of refinement can be recognized:

(i) Since 1984 often unspecific designations of “type” material were performed, later holo- and paratypes, sometimes “holo- and syntypes, depending on the variety of methods used” are announced (e.g. FOISSNER 1997, FOISSNER & PFISTER 1997).

(ii) Specific and detailed “typification”, although sometimes inconsistently in paper and on slide, including syn- and hapantotypes.

However, sometimes “typification” has – probably par lapsus – not been mentioned in the paper (e.g. FOISSNER 1987, FOISSNER et al. 1999, FOISSNER 2003a, FOISSNER & XU 2007), but slide(s) are labelled as different sorts of “types” (Fig. 1-5, 8, 10, 12, 15), thus they are treated as subsequently designated herein by the original author.

Until 1999, the ICZN allows a **subsequent** fixation of onomatophores for nominal taxa first created, i.e. published, without onomatophores. This category is applied if a designation is not mentioned in the paper of the relevant species (termed **aphory** by DUBOIS 2000),



Fig. 25-30: Label modifications of various depositors: species names may change (inv. no. 1992/11, 1992/4; **25, 26**); “syntyp” with five marks, unfortunately location and preparation method are omitted (inv. no. 1997/40; **27**); apart from the arrow further marks may indicate “paratypes”, which remained however unmentioned in the reference cited (inv. no. 1998/94; **28**); almost invisible informations (inv. no. 2000/155, 2003/45; **29, 30**).

but slides were rediscovered, sometimes termed secondary “types” (not included however, in the ICZN 1999). Two possibilities of a subsequent fixation may be distinguished:

(i) deposited (usually later), though unlabelled as “type”, but accompanied by a respective, viz. “typifying” sheet of paper (1974-1983) or original material is indicated by “n. sp.”, sampling locality, date, and/or reference to the respective paper of (re)description (Fig. 1, 17-20).

(ii) labelled as “type”; often yet incorrectly as “paratype”, viz. components of the original “type” series, instead of “neotype”, i.e. newly designated “types” when the original “type” specimen is lost (from 1981 to 1986) or genotype, i.e. formerly used for “type” species, but now not recognized by the ICZN (1999), instead of “holotype” (Fig. 5, 9, 24, 30; e.g. FOISSNER from 1984 to 1987; DRAGESCO & DRAGESCO-KERNEIS 1991; SONG & WILBERT 2002). Several slides were designated as “type”, viz. labelled, but no published (re)description could be located, thus they are no “type” material according to the ICZN (1999) and in fact vouchers (see chapter 4.2). Neotypification remained unmentioned mainly in the 1980s (e.g. WIRNSBERGER et al. 1985a, b; AUGUSTIN & FOISSNER 1989), thus symphony of new taxa and aphory of neotypification occur simultaneously (FOISSNER 1984, 1985, 1987a, b, 1988a, b; BLATTERER & FOISSNER

1988; BERGER et al. 1984, BERGER & FOISSNER 1987; SONG & WILBERT 2002). Thus, numerous slides were found only neotypified on the label.

2.2.2.2 Puzzle: category of “type” – single versus multiple specimens

Type terminology can be confusing, and people have differed in their interpretation of what constitutes which category of “type”, for instance combinations of “holo- and syntyp” or extensions of parahapantotype or “holo- and paraneotype” occur (cp. e.g. BERGER & FOISSNER 1989; for further examples see chapters 3 and 5.1.3; Fig. 9-12). Such constellations are however, not mentioned in the ICZN (1999).

Very often no indication can be found in the original description about the number of slides and even more rarely on specimens which were at the authors’ disposal. Due to the fixation and preparation processes it is almost (except the dry silver and silver carbonate impregnation) impossible to single out one specimen on one slide; on the contrary, usually a series of eight slides is prepared per population and site (cp. FOISSNER 1991, FOISSNER et al. 2002). In such cases relevant cells should be marked according to Rec. 92C of the ICZN (1999). Moreover, FOISSNER explicitly states that “since only rarely a single individual reveals all necessary diagnostic characters, several specimens are marked on one holotype slide” and/or several differently stained prepara-

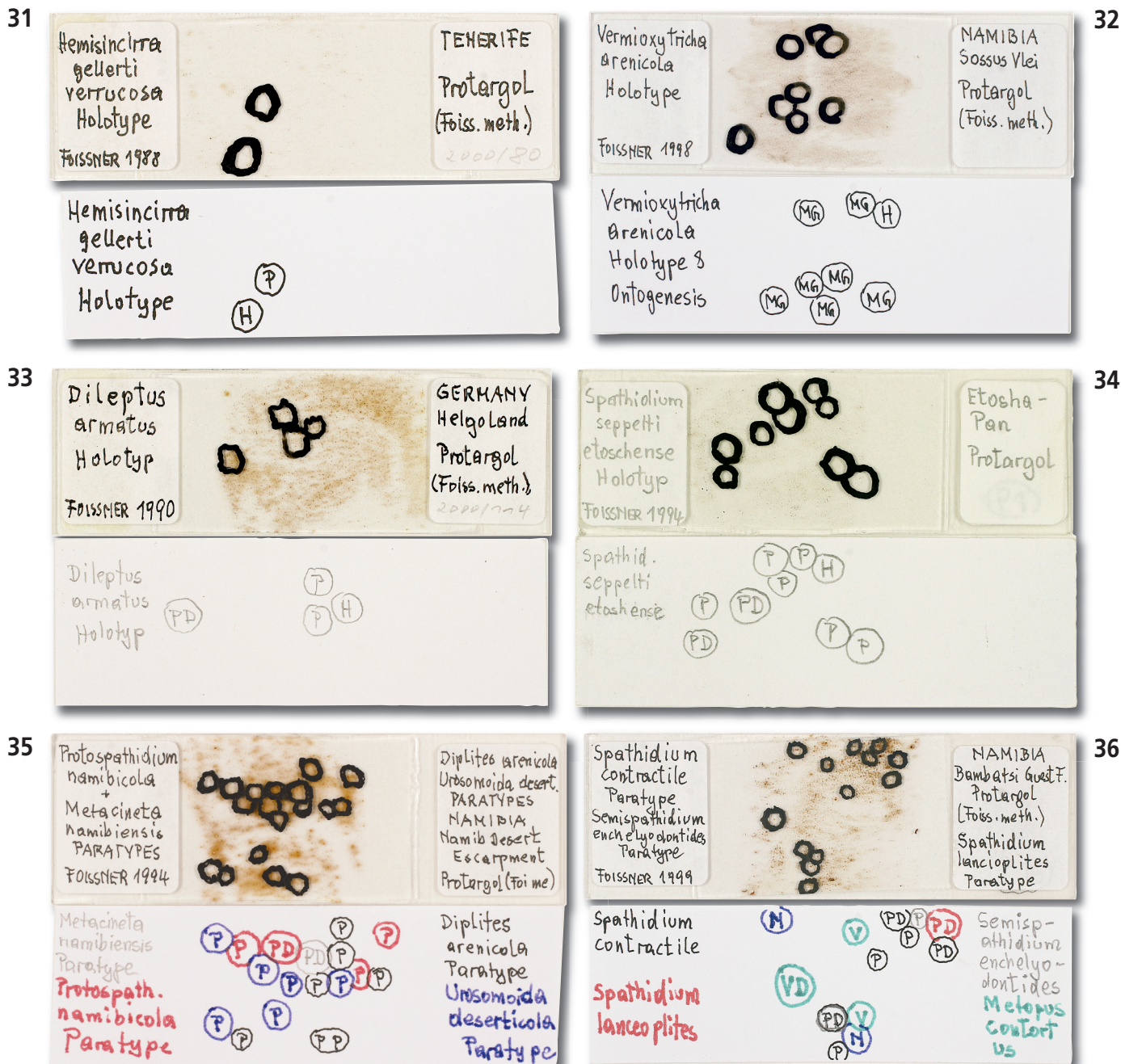


Fig. 31-36: Labelling was successively refined, thus supplementary "protocols" became crucial to recognise further designations: two marks, but different designations (inv. no. 2000/80; **31**); eight marks, except one referring to dividing cells (inv. no. 2000/80; **32**); specimens which served as basis for illustrations are marked by the letter "D" (inv. no. 2000/114, 2002/1; **33, 34**); colours are used to differentiate the species and even vouchers became marked (inv. no. 2002/258, 2002/342; **35, 36**).

tions are declared as "holotype" in many cases. Seldom, a ventral and dorsal view are designated as "holotype" (e.g. for *Australocirrus zechmeisterae*). This conflicts with the definition given in the ICZN (1999) stating that "A holotype is the single specimen upon which a new nominal species-group taxon is based" (Art. 73.1; cp. chapter 5.1.3, 5.2.4.2, 5.3.1). Generally, symphoront status is assigned if the description is explicitly based on several specimens (Fig. 2, 3, 6, 17, 18) without specification, i.e. one mark, of a "holotype" (Fig. 7, 9, 11, 17, 19, 21-

24). If more slides refer to a species, the existence of symphoronts is assumed in accordance with Rec. 73F (ICZN 1999; "Avoidance of assumption of holotype").

In 1985 the concept of a hapantotype (ICZN 1985 Art. 72c, iv; ICZN 1999 Art. 73.3) has been established for the sake of a particular group of specialists, viz. parasitologists working with protists (CORLISS 1972c; GARNHAM et al. 1979; MELVILLE 1979, 1980; WILLIAMS 1980). A hapantotype (from the Greek *apas*, *apantos*, "together" according to MELVILLE 1980) consisting of

one or more preparations or cultures may be designated when a nominal species-group taxon of extant protists is established. Further it is explained that directly related individuals representing differing stages in the life cycle are concerned. This strictly not only refers to polymorphic parasites, for which hapantotype is much more commonly used than for ciliates (see chapter 5.1.3). For the latter, ontogenetic stages, i.e. morphogenetic series (Fig. 24), and “one or more preparations” (Art. 73.3) would be excellent candidates for hapantotypes. Since polymorphism is common in many protistan life cycles (CORLISS 2002), this category would be the most appropriate for this group of organisms. The main difference to a “syntype” (Fig. 27) is that no lectotype can be singled out in a hapantotype, because it is deemed to be indivisible (cp. ICZN 1999 Art. 73.3.1).

Since 1986 “neotypes”, although inconsistently mentioned in the respective paper, increasingly “typify” the many redescribed ciliate species lacking “type” material. In addition to problems with some conditions of the ICZN (cp. chapter 5.1.3), e.g. the recommended rationale was first included in 2002 (FOISSNER et al. 2002: 36), usually more than one specimen is marked (Fig. 5, 10, 12) on one or many more “neotype” slide(s), thus quite a lot of cases will need an application to the Commission (see chapter 5.1.4).

At present, it has not been possible to identify figured specimens individually in the collection; this will at best be performed during specific revisions. Usually the “holotype” specimen has been drawn (cp. FOISSNER et al. 2002: 36), only recently further specimens used for illustration are indicated (see Fig. 33-36). Likewise, it was not checked if only one specimen is marked, thus a single mark is acknowledged as holophoront, but no or more than one mark on one or more slides are considered as symphoronts herein. But note, that concerning refined labelling, additional “protocols” may be crucial (see Fig. 31-36). Moreover, specimens lacking locality specifications are considered as symphoronts herein, since they may come from more than one “type” locality (cp. ICZN 1999 Art. 73.2.3). Likewise, the adequacy and permanency of particularly silver carbonate and dry silver nitrate slides have not been checked.

2.2.2.3 Puzzle: “type” deposition – fact versus fiction

There exist many discrepancies between deposition and repositories mentioned in a publication and actually deposited slides. The following possibilities can be distinguished:

- (i) Paper in accordance with slides present.
- (ii) Deposited, but sometimes less or more slides as indicated in the paper, thus they are perhaps missing in further repositories if mentioned.

- (iii) Said to be deposited at Linz in the original publication, but not yet presented to the museum corresponding to a false symphory (Tab. 3 in chapter 4.3). Completeness of this table is unlikely, because some papers were only traced by chance, viz. author(s) did not contact the museum concerning the deposition.
- (iv) Unmentioned in the original publication, but deposited, sometimes years later, thus corresponding to a false aphory.
- (v) “Type” material supposedly mentioned in a revision, but deposition not verified, e.g. *Gastrostyla steinii* in BERGER (1999: 791); voucher of *Oxytricha siseris* in BERGER (1999: 187).

2.2.3 Validation

Validation involves if “typification”, specifically the designation of kind or status of “type”, is in accordance with the ICZN (1999) and such matters as rank, priority, synonymy and homonymy, authorship, and orthography (misspellings or misspelled, i.e. unavailable names; necessary corrections of endings). This is at the very beginning as evident from chapter 3. Correct names and further data are taken from a combination of labels and published information and are edited into a more-or-less consistent format. Discrepancies between the two sources are common but it is usually clear as to which is the more reliable. It is not the purpose of this paper to resolve all these problems where they arise; rather, subsequent specialists and revisers should judge for themselves. Thus, **under no circumstances is this catalogue being intended to be used as a place to designate “neotypes” and “lectotypes” and thereby to set nomenclatural precedents.**

2.3 Presentation of items

For the presentation of the “type” catalogue, no particular “protistan” style could be adopted (cp. chapter 1). Due to the restricted space on the one or two labels on a slide, the information are usually quite sparsely, thus the label text is not quoted in this paper. Moreover, slides are intended to be photographically digitalised in future. Several examples of varying slide and label appearance are documented here for the first time (Fig. 2, 3, 5-7, 9-36).

The specimen information necessarily is organised by taxonomic name. All items are arranged alphabetically according to species name for an easier location due to the frequent recombinations of protist taxa. Subspecies are listed under the species name. The names of all “types” listed in this catalogue have been checked against the original descriptions and spellings are taken as they were published. In case of discrepancies with the labels or attached sheet of papers, this has been ex-

plained under the heading ‚Remarks‘. If not stated otherwise, the taxon name is valid as originally published; if single species have been synonymised or placed in different genera, the at present valid name and a detailed reference is given under “Remarks”. Thus the register is not purely a slide and even less a specimen register; the data are organized for storing and retrieving all information related to the slide collection. A full entry (record) in the catalogue is, therefore, a synthesis of data from the slide and the library (note chapters 8 Abbreviations and 9 Glossary). The “type” catalogue presented here reflects the state of the **LI**, i.e. official acronym of our institution according to the Biological Repositories Organisation (www.biorepositories.org), protist collection on 31 December 2007; at present deposited, but yet unpublished material has been excluded.

The information on the collection details follows the format:

- (1) **Bionomen** applied to the specimen as given in the respective publication, if a misleading name occurs on the label this denomination is noticed in pt. 5. Italics for scientific name of genus- or species-group taxa are used as recommended in appendix B6 of the ICZN (1999). Unavailable nomina (anoplonyms) are presented between quotation marks following for instance DUBOIS (2000) and AESCHT (2001).
- (2) **Original author(s) and date of publication**, usually lacking on label, are given in brackets if recombined followed by the combining author(s) and/or after the sign [–] the redescribing author(s) and year of publication. If the combining author(s) correspond(s) to the redescribing and designating one(s) the authorship is **not** repeated.
- (3) **Reference** including journal, volume (boldface) and page number referring to relevant (re-)description of “type” material. This somewhat longer style and the inclusion of **all** authors was preferred to avoid mistakes in citation if referring only to a, b, c and et al., respectively.
- (4) **Onymotope (“type” location)**, is given quite detailed, moreover supplemented by the (micro)habitat or niches (separated by a semicolon), because of the following reasons:
 - (i) It was necessary for checking the consistency of material and publication.
 - (ii) Information is often incomplete and dispersed, i.e. only country noted on label or particularly concerning “neotypes” locality is hidden in the chapter material and methods of the relevant paper.
 - (iii) Numerous geographical coordinates had to be detailed for a prospective inclusion in our biogeographical database ZOBODAT.
 - (iv) Moreover, the names of large geographic areas or countries are translated into English, but other names are printed in their local spelling, mostly German or French.
- (5) **Category of “type” material**, if uncertain flagged by a quotation mark (?), category of **designation** (original or subsequent) and accession (i.e. inventory) number(s), composed of the year of entrance to the Upper Austrian Museum and running number – separated by a slash (/) – in the collection of microscopic slides at Linz, Austria. Although “paratypes” are no name-bearers, they belong to the “type” series and thus are included to indicated the afford for comparison. The mode of preparation is only given if different from the overwhelmingly used modifications of protargol staining. A semicolon (;) is used between different preparations.
- (6) **Remarks** may include
 - (i) Designation and/or deposition details (if omitted in the original paper) or further “type” material in other repositories as stated in the original description.
 - (ii) Inconsistent sampling places and/or dates (only discrepant collection years are noted).
 - (iii) Protonym (see Glossary) including reference, although a specific page is often not given in the revision and/or was not available in all cases and/or current taxonomic status (if different from the original material classification); literature references are provided where the species has been relegated to synonymy. Note that not all possible generic combinations and synonyms of a binomen are included, because this would be the taxonomic side of the coin.
 - (iv) Reference to further “typified” ranks, i.e. “type” species of a genus (nucleospecies) or “type” genus of a family (nucleogenus, see Glossary) including literature if different from the original publication.
 - (v) Nomenclatural correction of species name endings due to agreement in gender of the genus (ICZN 1999 Art. 31.2).

3 Material

3.1 Ciliophora

A

- abbrevescens Deviata* EIGNER, 1995 – Europ. J. Protistol. **31**: 343. **OT**: Bottom of a small frozen pond; village of Schröten near Deutsch Goritz, Styria, Austria (46°47'N, 15°49'E). **HP (od)**: 1994/85 (one mark). **Remarks**: According to this paper the slide (inv. no. stated as “94/3”) includes several “paratypes”, which are unmarked, and specimens in divisional morphogenesis. Nucleospecies.
- abdita Lamtostyla* FOISSNER, 1997 – Biol. Fertil. Soils **25**: 330. **OT**: Soil of a rain forest; near Cairns, Queensland, Australia (about 17°S, 145°E). **HP** (unspecific **od** on page 319): 1998/114; **PP**: 1998/115. **Remarks**: Currently *Afroamphisiella a.* according to FOISSNER, AGATHA & BERGER (2002, Denisia **5**: 698).
- acanthodus Euplotes* PETZ, SONG & WILBERT, 1995 – Stapfia **40**: 183. **OT**: Sea ice; Weddell Sea, Antarctica (69°58'S, 07°27'W). **HP (od)**: 2001/131 (one mark); **PP**: 2001/149.
- aciculare Spathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 258. **OT**: Grassland soil from the Botanical Garden; Darwin, Northern Territory, Australia (12°28'S, 130°50'E). **HP (od)**: 2002/711; 4 **PP**: 2002/712, 2002/713, 2002/714, 2002/715.
- acrostoma Semiplatyophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 1019. **OT**: Highly saline crust soil; “Moon Landscape” near the river oasis Goanikontes, about 25 km east of the town of Swakopmund, Central Namib Desert, Namibia (22°40'S, 14°45'E). **HP (od)**: 2002/300; 2 **PP**: 2002/301, 2002/302 (all wet silver nitrate method).
- acrostomia Askenasia* KRÄINER & FOISSNER, 1990 – J. Protozool. **37**: 422. **OT**: Excavated groundwater ponds; near Graz, Styria, Austria (47°04'N, 15°25'E). **HP** (unspecific **od** on page 415): 1992/3; **PP**: 1992/2.
- acuta Amphisiella* FOISSNER, 1982 – Arch. Protistenk. **126**: 35. **OT**: Soil of an alpine pasture; Schlossalm near Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). **HP (sd)**: 1981/85. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Currently *Paramphisiella a.* and nucleospecies of the latter genus (Tab. 6) according to FOISSNER (1988, Stapfia **17**: 121).
- acuta Cyrtolophosis* KAHL, 1926 [Arch. Protistenk. **55**: 379] – FOISSNER (1980) Zool. Jb. Syst. **107**: 409. **OT**: Soil; Großglockner area, Salzburg, Austria (about 47°N, 13°E). **NP? (sd)**: 1981/19 (silver carbonate method). **Remarks**: Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”. No precise site given, neither in the original paper nor the reference given. Likewise KAHL did not indicate a locus classicus. FOISSNER (1993, Protozoenfauna **4/1**: 547) proposed Bad Gastein to be fixed as locus classicus. Two slides from Greece/Peloponnes (inv. no. 1988/59, 60) also labelled as “neotype” are thus considered as vouchers.
- acuta Grossglockneria* FOISSNER, 1980 – Zool. Jb. Syst. **107**: 399. **OT**: Soil of a small valley; near the Wallack-Haus; Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (47°04'N, 12°49'E). 2 **SP (sd)**: 1981/13; 1981/14 (wet silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper, but two slides are labelled as “holotype”, because of different preparation methods, and “genotype” violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies and subsequently nucleogenus (Tab. 6, 7).
- adami Holosticha* FOISSNER, 1982 – Arch. Protistenk. **126**: 46. **OT**: Soil of a snow pocket; near the Wallack-Haus, Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (47°04'N, 12°49'E). **HP (sd)**: 1981/89. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Currently *Anteholosticha a.* according to BERGER (2003, Europ. J. Protistol. **39**: 377).
- aediculatus Euplotes* PIERSON, 1943 [J. Morph. **72**: 138] – AUGUSTIN & FOISSNER (1989) Lauterbornia **1**: 42. **OT**: Activated sludge plant Zellhof, Salzburg, Austria (47°59'N, 13°6'E). **NP? (sd)**: 1993/66 (dry silver nitrate method). **Remarks**: Neotypification not mentioned in the original paper, but slide designated and species redescribed.
- affine Gonostomum* (STEIN, 1859) STERKI, 1878 – FOISSNER (1982) Arch. Protistenk. **126**: 77. **OT**: Soil of a beech forest; village of Baumgarten, Lower Austria (48°22'N, 15°34'E). **NP? (sd)**: 1981/86. **Remarks**: “Typification” not mentioned in the original paper; but slide designated, although mislabelled as “paratype”. A further slide (inv. no. 1982/79) deposited was collected later in Salzburg, thus voucher. Protonym: *Oxytricha affinis* STEIN, 1859 – Org. Infusionsthier. **186**. Nucleospecies of *Gonostomum* STERKI, 1878 (Tab. 6).
- africana etoschensis Rostrophryides* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 1000. **OT**: Highly saline soil; Etosha National Park, lookout “Etosha”, Namibia (18°50'S, 16°30'E). **HP (od)**: 2002/166; 2 **PP**: 2002/167, 2002/168 (all wet silver nitrate method).
- africana Oxytricha* FOISSNER, 1999 – Biodiversity and Conservation **8**: 381. **OT**: Grass sward soil from a public park; urban area of Nairobi, Kenya (1°20'S, 36°50'E). **HP (od)**: 1999/37; **PP**: 1999/38.
- africana Rostrophryides* FOISSNER, 1987 – Zool. Beitr. N. F. **31**: 236. **OT**: Highly saline soil on the shore of Lake Nakuru, Kenya (0°22'S, 36°5'E). **HP** (unspecific **od** on page 190): 1988/68 (incorrectly labelled as “genotype”); **PP**: 1988/69. **Remarks**: Nucleospecies. Currently subspecies rank according to FOISSNER, AGATHA & BERGER (2002, Denisia **5**: 1000).
- africanum Paramecium* DRAGESCO, 1970 – Annl. Fac. Sci. Univ. féd. Cameroun (Numéro hors-série): **40**. **OT**: Not given; Yaounde, Cameroun (3°52'N, 11°31'E). 2 **SP (sd)**: 2003/54 (wet silver nitrate method); 2003/69. **Remarks**: “Typification” not mentioned in the original paper, but slides are labelled as “holotype”, because of different preparation methods, thus symphoronts. Slides from different years, viz. 1968 and 1969.
- africanum Trachelophyllum* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 151. **OT**: Soil from margin of Sirkelsvlei, a small lake in the centre of the Cape of Good Hope Nature Reserve, Republic of South Africa (34°15'S, 18°25'E). **HP (od)**: 2002/570; 2 **PP**: 2002/571, 2002/572.

- agiliformis* *Urosomoida* FOISSNER, 1982 – Arch. Protistenk. **126**: 117. **OT**: Soil of a beech grove; near village of Baumgarten, Lower Austria (48°22'N, 15°34'E). **PP** (sd): 1982/72. **Remarks**: “Typification” not mentioned in the original paper, but slide designated as “paratype” (four marks); no holophoront known, perhaps yet in the personal collection of FOISSNER.
- algicola* *Gonostomum* GELLERT, 1942 [Acta Sci. math.-nat. Univ. Francisco-Josephina Kolozsvar (N.F.) **8**: 23] – FOISSNER, AGATHA & BERGER (2002) *Denisia* **5**: 799. **OT**: Litter, roots, and soil; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **6 NP** (od): 2002/134, 2002/135, 2002/136, 2002/137, 2002/138, 2002/139. **Remarks**: Five slides labelled as vouchers (inv. no. 2002/135-139), including ontogenesis, but designated as “neotypes” according to their table 1. Considered as junior subjective synonym of *G. affine* by BERGER (1999, *Monogr. Biologicae* **78**: 370). However, only recently KIM & SHIN (2006, *Korean J. Syst. Zool.* **22**: 210) published a further re-description of *G. algicola*.
- algivora* *Pseudochilodonopsis* (KAHL, 1931) FOISSNER, 1979 – *Int. Revue ges. Hydrobiol.* **64**: 125. **OT**: Neuston of alpine pools; Hexenküche, Glockner, Salzburg, Austria (47°7'N, 12°49'E). **NP?** (sd): 1981/43 (dry silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “genotype”, which is however, *P. piscatoris*. Protonym: *Chilodonella a.* KAHL, 1931 – *Tierwelt Dtl.* **21**: 240.
- aloisi* *Gastronauta* OBERSCHMIDLEITNER & AESCHT, 1996 – *Beitr. Naturk. Oberösterreichs* **4**: 10. **OT**: Activated sludge plant at Asten near Linz, Upper Austria (48°13'N, 14°24'E). **HP** (unspecific od on page 7): 1997/135.
- alpestris biciliata* *Odontochlamys* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 390. **OT**: Highly saline soil; coast of Curaçao Island, north coast of Venezuela (about 12°N, 71°W). **HP** (od): 2002/773; **3 PP**: 2002/774, 2002/775, 2002/776. **Remarks**: One further slide (inv. no. 2002/777) labelled as “paratype”, represents a voucher according to table 1 in their paper.
- alpestris Chlamydonella* FOISSNER, 1979 – *Protistologica* **15**: 560. **OT**: Mosses of a streamlet; between Fuschertörl and Fuschertal, Glockner-Hochalpenstraße, Salzburg, Austria (47°7'N, 12°48'E). **HP** (sd): 1975/50 (dry silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper; slide “typified” on a sheet of paper, but not on label.
- alpestris Odontochlamys* FOISSNER, 1981 – *Zool. Jb. Syst.* **108**: 289. **OT**: Alpine grassland soil; near the Wallack-Haus, Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (47°04'N, 12°49'E). **3 SP** (sd): 1981/36, 1981/37; 1981/38 (dry silver nitrate method 1977). **Remarks**: “Typification” not mentioned in the original paper; but three slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. BLATTERER & FOISSNER (1992 *Arch. Protistenk.* **142**: 102, 106) mention two “paratypes” from the River Ager. This is an incorrect designation, moreover slides have not been deposited. Currently subspecies rank according to FOISSNER, AGATHA & BERGER (2002, *Denisia* **5**: 389).
- alpestris Pseudocyrtolephosis* FOISSNER, 1980 – *Zool. Jb. Syst.* **107**: 407. **OT**: Soil of an alpine mat; Wallack-Haus, Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (47°04'N, 12°49'E). **HP** (sd): 1981/18 (dry silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Nucleospecies (Tab. 6).
- alpinus Dileptus* KAHL, 1931 [*Tierwelt Dtl.* **21**: 209] – FOISSNER (1989) *Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt.* **196**: 184. **OT**: Moss; Schönrammer Filz near Freilassing, Bavaria, Germany (47°51'N, 12°59'E). **2 NP** (od): 1988/6, 1988/7.
- alvinae Australothrix* BLATTERER & FOISSNER, 1988 – *Stapfia* **17**: 44. **OT**: Soil of a coastal forest; Royal National Park in the south of Sidney, Australia (35°S, 151°E). **2 SP** (unspecific od on page 4): 1989/62, 1989/63, **PP**: 1989/64. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.
- ambigua Urosoma* DRAGESCO & DRAGESCO-KERNÉIS, 1986 – *Fauna tropicale* **26**: 459. **OT**: Brackish ponds; near Lake Nokoué, Cotonou, Benin (6°15'N, 2°20'E). **HP** (sd): 2003/92 (collected in 1978). **Remarks**: “Typification” not mentioned in the original paper, but label refer to this paper. Considered as junior subjective synonym of *U. macrostyla* (WRZESNIEWSKI, 1866) by BERGER (1999, *Monogr. Biologicae* **78**: 404), which has been neotypified (see below); needs clarification.
- americanum Blepharisma* SUZUKI, 1954 – FOISSNER & O'DONOGHUE (1990) *Invertebr. Taxon.* **3**: 682. **OT**: Standing waters and ponds; metropolitan area of Perth, West Australia (31°57'S, 115°58'E). **5 NP** (od): 1988/196 (silver carbonate method); 1988/197, 1988/198, 1988/199, 1988/200. **Remarks**: “Typification” only generally mentioned on page 662. Precise details of the collection sites were not recorded. Protonym: *B. undulans americanum* SUZUKI, 1954 – *J. Sci. Hiroshima Univ. Ser. B* **15**: since HIRSHFIELD, ISQUITH & BHANDARY (1965 *CI1375*: 438) only elevated the rank, they are no combining authors as cited by FOISSNER & O'DONOGHUE (1990).
- amieti Euplotes* DRAGESCO, 1970 – *AnnlsFac. Sci. Univ. féd. Cameroun (Numéro hors-série)*: 129. **OT**: Not given; Yaounde, Cameroun (3°52'N, 11°31'E). **4 SP** (sd): 2003/86 (wet silver nitrate method); 2003/120, 2003/121, 2003/127 (all dated 1968). **Remarks**: “Typification” not mentioned in the original paper, but slides are partially labelled as “holotype”, because of different preparation methods yet symphoronts. Currently *Euplotoïdes a.* according to BORROR & HILL (1995, *J. Eukaryot. Microbiol.* **42**: 460). Further slides refer to 1970 (inv. no. 2002/858, Fig. 20) or date from 1985 (inv. no. 2002/887) and 1986 (inv. no. 2003/81) and considered as vouchers.
- ammermanni Stylonychia* GUPTA, KAMRA, ARORA & SAPRA, 2001 – *Acta Protozool.* **40**: 75. **OT**: Yamuna River, Delhi, India (28°40'N, 77°13'E). **HP** (od): 2000/155 (Fig. 29).
- amphacanthus Coleps* EHRENBERG, 1833 [*Abh. Akad. Wiss. Berlin 1835*] – FOISSNER & O'DONOGHUE (1990) *Invertebr. Taxon.* **3**: 664. **OT**: Small farm dam 1 km east of the Barossa Reservoir, South Australia (34°56'S, 138°36'E). **2 NP** (od): 1988/189, 1988/190. **Remarks**: “Typification” only generally mentioned on page 662.

- amphileptoides Dimacrocaryon* (KAHL, 1931) JANKOWSKI, 1967 – FOISSNER (1984) *Stapfia* 12: 92. **OT**: Soil of an alder forest (Alnetum viridis); Stubnerkogel near Bad Gastein, Salzburg, Austria (47°7'N, 13°6'E). 2 **NP?** (sd): 1982/54 (labelled as *Dileptoides a.*), 1984/8 (labelled as *Rimaleptus a.*, Fig. 13). **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although partially mislabelled as “paratype” referring to population I. A third slide (inv. no. 1984/70) of this series was collected in Germany, thus voucher. Protonym: *Dileptus a.* KAHL, 1931 – Tierwelt Dtl. 21: 208. Nucleospecies of *Dimacrocaryon* JANKOWSKI, 1967 (Tab. 6).
- amphoriforme Epispithidium* (GREEFF, 1888) FOISSNER, 1984 – *Stapfia* 12: 82. **OT**: Soil of a mixed forest (*Asperulo-Fagetum*); near village of Baumgarten, Lower Austria (48°22'N, 15°34'E). 2 **NP?** (sd): 1981/10, 1984/64. **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes”. Slides from different sampling dates. Protonym: *Spathidium a.* GREEFF, 1888 – Sber. Ges. Beförd. ges. Naturw. Marburg 3: 131.
- anguilla Spathidium* VUXANOVICI, 1962 [Studii Cerc. Biol. (Biol. Anim.) 14: 208] – FOISSNER (1984) *Stapfia* 12: 71. **OT**: Soil of a mesoxerophytic grassland (*Mesobrometum*); Althan near Bierbaum, Lower Austria (48°19'N, 16°0'E). **NP?** (sd): 1984/52. **Remarks**: Neotypification not mentioned in paper (see page 8), but slide designated, although mislabelled as “paratype”.
- anguillula Dileptus* FOISSNER, 1984 [*Stapfia* 12: 94; unspecific symphory] – FOISSNER, AGATHA & BERGER (2002), *Denisia* 5: 367. **OT**: Floodplain soil; rain forest of an island in the Amazon River, Brazil (about 4°S, 60°W). 5 **NP** (od): 2002/781, 2002/782, 2002/783, 2002/784, 2002/785 (slides labelled as *D. anguilla*, listed in their table on page 38 as *D. anguillula*, but described including an improved diagnosis as *D. breviprobuscis*).
- angusta angusta Frontonia* KAHL, 1931 [Tierwelt Dtl. 21: 320] – FOISSNER, AGATHA & BERGER (2002) *Denisia* 5: 505. **OT**: Ephemeral meadow puddle; surroundings of Salzburg, Austria (about 47°N, 13°E). 3 **NP** (od): 2002/628, 2002/629, 2002/630 (all wet silver nitrate method). **Remarks**: Protonym binomial, currently subspecies rank.
- angusta obovata Frontonia* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 511. **OT**: Slightly saline soil from *Moringa ovalifolia* (ghost tree) forest; Etosha National Park, Namibia (19°S, 15°40'E). **HP** (od): 2002/201; 4 **PP**: 2002/202, 2002/203, 2002/204, 2002/205 (all wet silver nitrate method).
- angustistoma Pseudomonilicaryon* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 381. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/364; 2 **PP**: 2002/362, 2002/363.
- annulata Amphisella* (KAHL, 1928) BORROR, 1972 – BERGER (2004) *Acta Protozool.* 43: 2, 13. **OT**: Sandy beach; ahead the campground Pra' delle Torri near village Duna Verde, northern Adriatic Sea, Italy (45°34'n, 12°49'E). 5 **NP?** (od): 2003/146, 2003/147, 2003/148, 2003/149, 2003/150. **Remarks**: Protonym: *Holosticha a.* KAHL, 1928 – Arch. Hydrobiol. 19: 212. BERGER (2004: 13) mentions “the slide containing the neotype specimen and four slides containing some further specimens (including those depicted in the present paper [viz. ontogenesis]) of the neotype population”; however, five slides labelled as “neotypes”.
- anomolocardiae Myxophthirus* SILVA NETO, 1992 – *Europ. J. Protistol.* 28: 421. **TH**: Mantle cavity of the bivalve *Anomolocardia brasiliensis* GMELIN, 1791. **OT**: Magrove; village near Rio de Janeiro, Brazil (22°54'S, 43°14'W). **HP** (sd): 1998/94 (Fig. 28). **Remarks**: “Typification” not mentioned in the original paper, but slide designated, apart from an arrow further marks may indicate “paratypes” (Fig. 28). Nucleospecies (Tab. 6).
- anser Dileptus* (MÜLLER, 1773) DUJARDIN, 1841 – WIRNSBERGER, FOISSNER & ADAM (1984) *Arch. Protistenk.* 128: 314. **OT**: Edge of a pasture pool; Schlossalm near Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). 2 **NP** (od): 1986/14; 1986/15 (wet silver nitrate method). **Remarks**: Protonym: *Vibrio anser* MÜLLER, 1773 – Vermium Terrestrium et Fluviatilium: 47. Nucleospecies of *Dileptus* DUJARDIN, 1841 (Tab. 6).
- antarctica Maryna* FOISSNER, 1993 – *Protozoenfauna* 4/1: 354. **OT**: Mosses; Nunatak in Robertsollen, Western Dronning Maud Land, Antarctica (71°28'S, 3°15'W). 2 **SP** (sd): 1997/66 (dry silver nitrate method); 1997/68; 2 **PP**: 1997/67 (dry silver nitrate method), 1997/69. **Remarks**: “Typification” not mentioned in the original paper; but two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- antarctica Notohymena* FOISSNER, 1996 – *Acta Protozool.* 35: 109. **OT**: *Deschampsia antarctica* grass sward; Signy Island, South Orkney Islands, Antarctica (60°40'S, 45°40'W). **HP** (unspecific od on page 97): 1997/48; **PP**: 1997/49.
- antarctica Thigmokeronopsis* PETZ, 1995 – *Europ. J. Protistol.* 31: 138. **OT**: Sea ice; Weddel Sea, Antarctica (70°17'S, 8°53'W). **HP** (od): 2001/140; **PP**: 2001/152.
- antarctica Tontonia* PETZ, SONG & WILBERT, 1995 – *Stapfia* 40: 130. **OT**: Pelagial; Weddell Sea, Antarctica (69°46'S, 9°0'W). **SP?** (od): 2001/136; **PP**: 2001/77. **Remarks**: Slide bears the general note “Typ” (type) and one mark, but since further species are included, the status remains to be clarified.
- antarctica Urosomoida* FOISSNER, 1996 – *Acta Protozool.* 35: 115. **OT**: Soil; Garwood Valley, South Victoria Land, Antarctica (about 78°S, 160°E). **HP** (unspecific od on page 97): 1997/51; **PP**: 1997/52.
- antarcticum Kentrophyllum* PETZ, SONG & WILBERT, 1995 – *Stapfia* 40: 50. **OT**: Multiyear sea ice; Weddell Sea, Antarctica (70°17'S, 8°53'W). **SP?** (od): 2001/137. **Remarks**: Slide bears the general note “Typ” (type) and one big circle, but since further species are included, the status remains to be clarified. Nucleospecies (Tab. 6).
- antarcticum Strombidium* (BUSCH, 1930) KAHL, 1932 – PETZ, SONG & WILBERT (1995) *Stapfia* 40: 110. **OT**: Endopagial of newly formed and multiyear sea ice; Weddell Sea, Antarctica (69°07'–70°31'S, 06°18'–12°08'W). **NP** (od without number): 2001/28. **Remarks**: Protonym: *Buehringa antarcticum* BUSCH, 1930 – Abh. Ber. Mus. Magdeburg 6.

- antarcticus* *Litonotus* SONG & WILBERT 2002 – Acta Protozool. **41**: 24. **OT**: Rock pool and littoral; Potter Cove, King George Island, Antarctica (62°14'S, 58°40'W). **HP** (unspecific **od** on page 24): 2001/9; **PP**: 2001/139.
- antarcticus* *Placus* PETZ, SONG & WILBERT, 1995 – Stapfia **40**: 18. **OT**: Pancake sea ice; Weddell Sea, Antarctica (69°46'S, 11°0'W). **PP** (**od**): 2001/147. **Remarks**: Announced “holotype” not labelled, thus missing.
- anulatus* *Enchelyodon* FOISSNER, 1984 – Stapfia **12**: 56. **OT**: Astatic meadow-pond; between the so-called Henkerhaus and the Peterweiher, urban area of Salzburg, Austria (47°48'N, 13°02'E). **2 SP** (unspecific **od** on page 8): 1984/42, 1984/43. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.
- apiculatum* *Trachelophyllum* (PERTY, 1852) CLAPARÈDE & LACHMANN, 1859 – FOISSNER, AGATHA & BERGER (2002) Denisia **5**: 145. **OT**: Soil of a small salt pan; Morrocoy National Park, north coast of Venezuela (about 11°N, 68°W). **2 NP** (**od**): 2002/764, 2002/765. **Remarks**: Two further earlier slides (inv. no. 1984/31, 32), although mislabelled as “paratypes”, likely refer to the publication without explicit neotypification of FOISSNER (1984, Stapfia **12**: 50). Protonym: *Trachelius apiculatus* PERTY, 1852 – Kennntn. klein. Lebensformen: 151. Nucleospecies of *Trachelophyllum* CLAPARÈDE & LACHMANN, 1859 (Tab. 6), which is the nucleogenus of Trachelophyllidae KENT, 1882 (Tab. 7).
- arboricola* *Opercularia* (BIEGEL, 1954) FOISSNER, 1981 – Protistologica **17**: 34 (incorrectly as *O. arboricolum*). **OT**: Soil of a grass heath; Guttal, Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°10'N, 12°49'E). **NP?** (**sd**): 1981/65. **Remarks**: Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”. Locality according to the redescription on page 18. Protonym: *Pxyidium arboricolum* BIEGEL, 1954 – Trudy zool. Inst., Leningr. **129**: 163. Currently junior subjective synonym of *O. curvicaulis* (PENARD, 1922) according to FOISSNER (1998, Europ. J. Protistol. **34**: 206; as *O. curvicaule*); however, the genus has feminine gender (cp. AESCHT 2001).
- arcachonense* *Parduzcia* (NOUZAREDE, 1965) DRAGESCO, 1999 – Stapfia **66**: 74. **OT**: Marine sand; Thau lagoon, Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). **4 NP** (unspecific **od** on page 7): 1999/169, 1999/170, 1999/171, 1999/172. **Remarks**: Protonym: *Geleia a.* NOUZAREDE, 1965 – Exc. Medica Int. Congr. Ser. **91**: 248. Since the genus has feminine gender the species name has to be corrected to *P. arcachonensis* (cp. AESCHT 2001: 293). Misspelled *Parduzcia a.* by AESCHT (2003: 380).
- arcuata* *Microdiaphanosoma* (GRANDORI & GRANDORI, 1934) WENZEL, 1953 – FOISSNER (1981) Protistologica **17**: 30. **OT**: Exact soil site unknown; Glockner area, Hohe Tauern, Salzburg, Austria. **2 NP?** (**sd**): 1981/33 (dry silver nitrate method); 1981/34 (silver carbonate method). **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes”. Collected in 1977 and 1979, respectively. Protonym: *Diaphanosoma a.* GRANDORI & GRANDORI, 1934 – Boll. Lab. Zool. agr. Bachic. R. Ist. sup. agr. Milano **5**: 253. Nucleospecies of *Microdiaphanosoma* WENZEL, 1953 (Tab. 6). Since this genus has neuter gender, the species name was corrected to *M. arcuatum* (cp. FOISSNER 1993 – Protozoenfauna **4/1**: 714).
- arenicola* *Circinella* FOISSNER, 1994 – Europ. J. Protistol. **30**: 156. **OT**: Sand; Coral Pink Sand Dunes near the Zion National Park, Utah, USA (about 37°N, 113°W). **HP** (**od**): 1997/23 (mislabelled as “genotype”); **4 PP**: 1997/24, 1997/25, 1997/26, 1997/27. **Remarks**: More “paratypes” than indicated were deposited including ontogenesis. Nucleospecies (Tab. 6).
- arenicola* *Diplites* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 193. **OT**: Dune soil (sand); escarpment of central Namib Desert, about 20 km north of the village of Solitaire, Namibia (23°50'S, 16°0'E). **HP** (**od**): 2002/259; **PP**: 2002/258 (Fig. 35).
- arenicola* *Erimophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 796. **OT**: Sand with litter from *Nara* scrubs; Southern Namib Desert, centre of Sossus Vlei, Namibia (24°50'S, 15°20'E). **HP** (**od**): 2002/243; **2 PP**: 2002/244, 2002/245.
- arenicola* *Prorodon* (KAHL, 1933) DRAGESCO, 2002 – Linzer biol. Beitr. **34**: 1565. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **2 NP** (unspecific **od** on page 1547): 2002/801, 2002/802. **Remarks**: Protonym: *Pseudoprorodon a.* KAHL, 1933 – Tierwelt Dtl. **30**: 50. “FOISSNER, 1987” is incorrectly cited as combining author.
- “*arenicola* *Protospathidium*” FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 110. **OT**: Forest soil; surroundings of Alice Springs, that is, a hill beside the road to the Ayers Rock, Australia (about 24°S, 133°E). **HP** (**od**): 2007/125. **4 PP**: 2007/125 (3 specimens figured), 2007/126, 2007/127, 2007/128. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- arenicola* *Swedmarkia* DRAGESCO, 1954 – Bull. Soc. zool. Fr. **79**: 69. **OT**: Unknown. **SP?** (**sd**): 2002/926. **Remarks**: “Typification” not mentioned in the original paper, where “Roscoff, France (Aber qu’a Banyuls)” is given as type location. According to the label the slide is from 1953 and Arcachon, France (44°39'N, 1°10'W); two marks. Nucleospecies and subsequently nucleogenus of Swedmarkiidae JANKOWSKI, 1979 (Tab. 6, 7).
- arenicola* *Vermioxytricha* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 751. **OT**: Humous sand under *Acacia erioloba*; Southern Namib Desert, centre of Sossus Vlei, Namibia (24°50'S, 15°20'E). **HP** (**od**): 2002/234 (Fig. 32); **5 PP**: 2002/235, 2002/236, 2002/237, 2002/238, 2002/239. **Remarks**: Last four slides labelled as vouchers, but designated as “paratypes” according to their table 1 on page 43; all slides include ontogenetic specimens (e.g. Fig. 32). Nucleospecies (Tab. 6).
- arenicolus* *Sathrophilus* DRAGESCO, 2002 – Linzer biol. Beitr. **34**: 1575. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **HP** (unspecific **od** – incorrectly as “neotypes” – on page 1547): 2002/803; **PP**: 2002/804.
- armata* *Apertospathula* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 322. **OT**: Loamy wheat field soil; about 10 km south of Nazareth, Israel (32°30'N, 35°0'E). **HP** (**od**): 2002/599; **2 PP**: 2002/600, 2002/601.

- armatides Enchelyodon* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 130. **OT**: Litter from *Combretum imberbe* (leadwood tree); at foot of the Brandberg, an inselberg, east margin of the central Namib Desert, Namibia (21°S, 14°35'E). **HP (od)**: 2002/226; 2 **PP**: 2002/227, 2002/228.
- armatides Prorodon* FOISSNER, 1997 – *Limnologia* (Berlin) 27: 206. **OT**: Zinnbach stream in Bavaria, Fichtelgebirge, Germany (50°19'N, 12°13'E). 3 **NP?** (od): 1998/66, 1998/67; 1998/68 (wet silver nitrate method). **Remarks**: Neotypified, because it is a replacement name for *Pseudoprorodon armatus* KAHL, 1930, which is a secondary homonym. However, according to Art. 72.7 (ICZN 1999) these taxa have the same name-bearing type suggesting that the deposited slides are symphoronts.
- armatum Semispathidium* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 331. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP (od)**: 2002/362; 2 **PP**: 2002/340, 2002/341. **Remarks**: Two further slides (inv. no. 2002/184, 191) labelled as “paratype”, represent vouchers according to table 1 in their paper.
- armatum Supraspathidium* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 280. **OT**: Highly saline soil; Etosha National Park, road to the Halali rest camp, Namibia (18°55'S, 16°25'E). **HP (od)**: 2002/29; **PP**: 2002/30.
- armatus Dileptus* FOISSNER & SCHADE in FOISSNER, 2000 – *Eur. J. Protistol.* 36: 265. **OT**: Soil; Helgoland (“Oberland”), Germany (54°12'N, 7°53'E). **HP (od)**: 2000/114 (Fig. 33); 3 **PP**: 2000/115, 2000/116, 2000/117. **Remarks**: Unmentioned “paratypes” are also included in the first slide (Fig. 33).
- armatus Phialinides* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 224. **OT**: Rain forest soil from a small island; Amazon River, about 20 km east of the town of Manaus, Janauari region, Brazil (about 4°S, 60°W). **HP (od)**: 2002/786; 4 **PP**: 2002/781, 2002/782, 2002/783, 2002/784.
- ascendens Epispithidium* (WENZEL, 1955) FOISSNER, 1987 – *Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt.* 195: 231. **OT**: Soil of a conventionally farmed field near Seekirchen, Salzburg, Austria (47°54'N, 13°8'E). **NP?** (sd): 1988/104. **Remarks**: Neotypification not mentioned in paper, but slide designated. Protonym: *Spathidium ascendens* WENZEL, 1955 – *Arch. Protistenk.* 100: 518.
- aspera Colpoda* KAHL, 1926 [*Arch. Protistenk.* 55: 322] – FOISSNER (1980) *Zool. Jb. Syst.* 107: 415. **OT**: Soil; Glockner area, Austria. 2 **NP?** (sd): 1981/29 (dry silver nitrate method); 1981/30 (silver carbonate method; Fig. 5). **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes” (e.g. Fig. 5). No precise site given, neither in the original paper nor the given reference. FOISSNER (1993, *Protozoenfauna* 4/1: 99) noted the original locality “Water-lily pond in rotting *Glyceria* stalks; Hamburg, City Park, Germany (53°N, 10°E)” and the Glockner area.
- aspoeci Cyrtohymena* (*Cyrtohymenides*) FOISSNER, 2004 – *Denisia* 13: 372. **OT**: Floodplain soil; Enns River near the mouth to the Danube River, Upper Austria (48°14'N, 14°30'E). **HP (od)**: 2007/594; **PP**: 2007/595, 2007/596, 2007/597, 2007/598. **Remarks**: Nucleospecies of the subgenus (Tab. 6).
- astyliformis Vorticella* FOISSNER, 1981 – *Protistologica* 17: 37. **OT**: Soil; Hochtort at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°04'N, 12°50'E). **HP (sd)**: 1981/67. **Remarks**: “Typification” not mentioned in the original paper, but slide designated.
- attenuatum Trachelophyllum* FOISSNER, 1983 [*Annln naturh. Mus. Wien* 84B: 70; aphory] – FOISSNER (1984) *Stapfia* 12: 50. **OT**: Pasture pool; Schlossalm near Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). **NP?** (sd): 1984/33. **Remarks**: Neotypification not mentioned in paper (see page 8), but slide designated. Currently *Epitholius attenuatus* according to FOISSNER, AGATHA & BERGER (2002, *Denisia* 5: 164).
- atypicus Bryometopus* FOISSNER, 1980 [*Ber. Nat.-Med. Ver. Salzburg* 5: 83; aphory] – FOISSNER (1984) *Stapfia* 12: 101. **OT**: Soil of an alternatively farmed grassland; urban area of Salzburg, Austria (47°48'N, 13°02'E). 2 **NP?** (sd): 1984/77, 1984/78. **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes”.
- augustini Colpoda* FOISSNER, 1987 – *Zool. Beitr. N. F.* 31: 249. **OT**: Soil of an *Eucalyptus* forest; south of Tel Aviv, Israel (32°4'N, 34°46'E). 2 **SP** (unspecific od on page 190): 1988/72; 1988/73 (dry silver nitrate method); **PP**: 1988/74. **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Currently *Exocolpoda a.* according to FOISSNER, AGATHA & BERGER (2002, *Denisia* 5: 921f.; nucleospecies of the latter genus and subsequently nucleogenus of Exocolpodidae (Tab. 6, 7).
- auripunctata Oxytricha* BLATTERER & FOISSNER, 1988 – *Stapfia* 17: 61. **OT**: Mosses of a natural pine forest (*Callitris* sp.); near Tailem Bend, Adelaide; Australia (35°16'S, 139°27'E). **HP** (unspecific od on page 4): 1989/74; 2 **PP**: 1989/75, 1989/76.
- australe Arcuospathidium* FOISSNER, 1988 – *Stapfia* 17: 99. **OT**: Soil of an *Eucalyptus* forest; Belair National Park near Adelaide, Australia (35°0'S, 138°38'E). **SP** (unspecific od on page 88): 1989/37 (four marks, Fig. 21); **PP**: 1989/38. **Remarks**: Currently considered as junior subjective synonym of *Cultellothrix atypica* (WENZEL, 1953) FOISSNER & XU, 2007 (*Monogr. Biologicae* 81: 29).
- australe Loxophyllum* FOISSNER & O'DONOGHUE, 1990 – *Invertebr. Taxon.* 3: 674. **OT**: Standing waters and ponds; metropolitan area of Perth, West Australia (31°57'S, 115°58'E). 2 **PP** (unspecific od on page 662): 1988/177, 1988/178 (labelled as *L. australis*). **Remarks**: Precise details of the collection sites were not recorded. A single “holotype” slide is deposited in AMS. Currently *Siroloxophyllum a.* according to FOISSNER & LEIPE (1995, *J. Eukaryot. Microbiol.* 42: 485).
- australiense Pedohymena* FOISSNER, 1995 – *Arch. Protistenk.* 145: 59. **OT**: Coastal soil; Darwin, Northern Territory, Australia (12°28'S, 130°50'E). 3 **SP** (od): 1997/74; 1997/70 (wet silver nitrate method); 1997/73 (dry silver nitrate method); 2 **PP**: 1997/71; 1997/72 (wet silver nitrate method; all labelled as “genotype” and *P. australis*). **Remarks**: Three slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies (Tab. 6);

- gender ending corrected to *P. australiensis* by FOISSNER, AGATHA & BERGER (2002, Denisia 5: 466).
- australiense Spetazoon* FOISSNER, 1994 – Kataloge des ÖÖ. Landesmuseums N. F. 71: 267. **OT**: Soil of a reservoir; Fogg Dam near Darwin, Northern Territory, Australia (12°28'S, 130°50'E). **HP (od)**: 1994/83; **PP**: 1994/84. **Remarks**: Nucleospecies (Tab. 6).
- australiensis Bilamelophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 170. **OT**: Floodplain soil; Murray River near the town of Albury at the landside of Ryans road, Australia (37°0'S, 147°0'E). **HP (od)**: 2002/708; 2 **PP**: 2002/705, 2002/709. **Remarks**: Nucleospecies (Tab. 6).
- australiensis Clavoplites* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 217. **OT**: Red, sandy soil under shrubs; between the village of Erldunda and the Ayers Rock, Australia (26°S, 132°30'E). **HP (od)**: 2002/716; 5 **PP**: 2002/717, 2002/718, 2002/719, 2002/722, 2002/723.
- australis Amphisiella* BLATTERER & FOISSNER, 1988 – Stapfia 17: 36. **OT**: Soil of a secondary pine forest; near South Para Reservoirs, surroundings of Adelaide, Australia (34°56'S, 138°36'E). **HP (unspecific od on page 4)**: 1989/56; **PP**: 1989/57.
- australis Australothrix* BLATTERER & FOISSNER, 1988 – Stapfia 17: 39. **OT**: Bark of a rain forest tree (probably *Eucalyptus* sp.); near Cairns, Queensland, Australia (16°55'S, 145°46'E). **HP (unspecific od on page 4)**: 1989/59; **PP**: 1989/60. **Remarks**: Nucleospecies (Tab. 6).
- australis Bressluides* BLATTERER & FOISSNER, 1988 – Stapfia 17: 21. **OT**: Bark overgrown with lichens and mosses of a secondary pine forest near Innisfail; Cairns, Australia (17°32'S, 146°2'E). **HP (unspecific od on page 4)**: 1989/46; 2 **PP**: 1989/47, 1989/48 (all wet silver nitrate method). **Remarks**: Nucleospecies (Tab. 6).
- australis Cladotricha* BLATTERER & FOISSNER, 1988 – Stapfia 17: 32. **OT**: Soil of strongly haline grass heath; shore of Lake Alexandrina (Point Pelican) near Adelaide, Australia (34°47'S, 138°29'E). **HP (unspecific od on page 4)**: 1989/53; **PP**: 1989/54.
- australis Cyrtohymena* FOISSNER, 1995 – Arch. Protistenk. 145: 70. **OT**: Soil; Amazonian rain forest near the town of Iquitos, Peru (3°46'S, 73°15'W). **HP (od)**: 1997/87; **PP**: 1997/88. **Remarks**: Currently *C. (Cyrtohymenides) a.* according to FOISSNER (2004, Denisia 13: 371).
- australis Holosticha* BLATTERER & FOISSNER, 1988 – Stapfia 17: 45. **OT**: Coniferous litter of a secondary pine forest; margin of Adelaide, Australia (34°56'S, 138°36'E). **HP (unspecific od on page 4)**: 1989/65; **PP**: 1989/66. **Remarks**: Currently *Anteholosticha a.* according to BERGER (2003, Europ. J. Protistol. 39: 377).
- australis Lacrymaria* FOISSNER & O'DONOGHUE, 1990 – Invertebr. Taxon. 3: 669. **OT**: Small pond in metropolitan Perth, West Australia (31°57'S, 115°58'E). **PP (od)**: 1988/183. **Remarks**: "Typification" only generally mentioned on page 662. A single "holotype" slide is deposited in AMS.
- australis Microthorax* FOISSNER & O'DONOGHUE, 1990 – Invertebr. Taxon. 3: 680. **OT**: Small pond in metropolitan Perth, West Australia (31°57'S, 115°58'E). **PP (od)**: 1988/182. **Remarks**: "Typification" only generally mentioned on page 662. A single "holotype" slide is deposited in AMS.
- australis Naxella* FOISSNER & O'DONOGHUE, 1990 – Invertebr. Taxon. 3: 678. **OT**: Small farm dam; adjacent to Whispering Road, 1 km east of Barossa Reservoir, Williamstown, South Australia (34°39'S, 138°51'E). 3 **PP (unspecific od on page 662)**: 1988/194; 1988/193 (wet silver nitrate method); 1988/195 (dry silver nitrate method). **Remarks**: A single "holotype" slide is deposited in AMS.
- australis Oxytricha* FOISSNER & O'DONOGHUE, 1990 – Invertebr. Taxon. 3: 689. **OT**: Small pond in metropolitan Perth, West Australia (31°57'S, 115°58'E). 2 **PP (unspecific od on page 662)**: 1988/186, 1988/187. **Remarks**: A single "holotype" slide is deposited in AMS. Currently *Notohymena a.* according to BLATTERER & FOISSNER (1988, Stapfia 17: 70).
- australis Phialimides* FOISSNER, 1988 – Stapfia 17: 98. **OT**: Soil of a grassland; Mzima Springs, Tsavo National Park West, Kenya (2°59'S, 38°1'E). **HP (unspecific od on page 88)**: 1989/33; **PP**: 1989/34. **Remarks**: Nucleospecies (Tab. 6).
- australis Pleuroplites* FOISSNER, 1988 – Stapfia 17: 89. **OT**: Gum tree (*Ficus* sp.) litter; Nairobi Arboretum, Kenya (2°20'S, 36°50'E). **HP (unspecific od on page 88)**: 1989/29; **PP**: 1989/30. **Remarks**: Nucleospecies (Tab. 6) and subsequently nucleogenus of Pleuroplitidae FOISSNER, 1996 (Tab. 7).
- australis Rostrophryides* BLATTERER & FOISSNER, 1988 – Stapfia 17: 23. **OT**: Soil of a sand hill; 99 Mile Dessert, north of Lake Alexandrina near Adelaide, Australia (about 35°S, 139°E). **HP (unspecific od on page 4)**: 1989/49; **PP**: 1989/77.
- australis Trochilopsis* FOISSNER, SKOGSTAD & PRATT, 1988 – J. Protozool. 35: 489. **OT**: Activated sludge, Glenelg wastewater treatment plant, Glenelg, South Australia (34°59'S, 138°31'E). 2 **SP (od)**: 1988/171 (dry silver nitrate method), 1988/172; 3 **PP**: 1988/173 (dry silver nitrate method); 1988/174, 1988/175. **Remarks**: Two slides are labelled as "holotype", because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- auxiliaris Krassniggia* FOISSNER, 1987 – Zool. Beitr. N. F. 31: 261. **OT**: Soil of a coastal rain forest; Shimba Hills near Mombasa, Kenya (4°13'S, 39°25'W). 3 **SP (unspecific od on page 190)**: 1988/83, 1988/85, 1988/84 (all wet silver nitrate method). **Remarks**: Three slides are labelled as "holotype" and "genotypes" violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies (Tab. 6).

B

- bacilliformis Kahliella* (GELEI, 1954) CORLISS, 1960 – BERGER & FOISSNER (1987) Zool. Jb. Syst. 114: 197. **OT**: Loamy soil of a wheat field near Kibbitz, about 10 km south of Nazaret, Israel (32°30'N, 35°0'E). 6 **NP (unspecific od on page 195)**: 1986/51, 1986/52, 1986/53, 1986/54, 1986/55, 1986/56. **Remarks**: Protonym: *Kahlia b.* GELEI, 1954 – Acta biol. hung. 5: 316. Currently *Deviata b.* according to EIGNER (1995, Europ. J. Protistol. 31: 358).
- balbianii breviproboscis Monodinium* FOISSNER, BERGER & SCHAUMBURG, 1999 – Informationsberichte Bayer. Lan-

- desantes für Wasserwirtschaft 3/99: 190. **OT:** Pelagial of the pond; University of Salzburg, Austria (47°48'N, 13°40'E). **HP (od):** 1999/95; **PP:** 1999/96.
- balbianii* *Monodinium* FABRE-DOMERGUE, 1888 [Annls Sci. nat. (sér. 7, Zool.) 5: 35.] – FOISSNER (1979) Int. Revue ges. Hydrobiol. 64: 122. **OT:** Neuston of alpine pools; Hexenküche, Glockner, Salzburg, Austria (47°7'N, 12°49'E). **NP? (sd):** 1981/8 (dry silver nitrate method). **Remarks:** Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”. Currently subspecies rank according to FOISSNER, BERGER & SCHAUMBURG (1999, Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 182).
- balteatus* *Euplotes* (DUJARDIN, 1841) DIESING, 1850? – SONG & WILBERT (2002) Acta Protozool. 41: 55. **OT:** Rock pool and littoral; Potter Cove, King George Island, Antarctica (62°14'S, 58°40'W). **NP? (sd):** 2001/5. **Remarks:** Neotypification not mentioned, but “new type” according to slide and an external sheet of paper. Protonym: *Ploesconia balteata* DUJARDIN, 1841 – Hist. nat. zoophytes: 437.
- bamforthi* *Apoenchelys* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 112. **OT:** Mud and soil from granitic rock-pools; escarpment of the central Namib Desert, Spitzkoppe area about 120 km north of the town of Swakopmund, Namibia (21°45'S, 15°8'E). **HP (od):** 2002/478; 9 **PP:** 2002/481, 2002/482, 2002/483, 2002/484, 2002/485, 2002/486, 2002/487, 2002/488, 2002/489. **Remarks:** Nucleospecies (Tab. 6).
- beninensis* *Gruberia* DRAGESCO & DRAGESCO-KERNÉIS, 1986 – Faune tropicale 26: 199. **OT:** Brackish water; Cotonou, Benin (6°15'N, 2°20'E). 3 **SP? (sd):** 2002/841 (wet silver nitrate method); 2002/842; 2006/39 (Feulgen staining from 1977). **Remarks:** “Typification” not mentioned in the original paper, but slides labelled as “n[ov]. sp. 1986”; because of different preparation methods symphoronts.
- bergeri* *Holosticha* FOISSNER, 1987 – Zool. Beitr. N. F. 31: 197. **OT:** Mosses; village Sandkäs, Isle Bornholm, Baltic Sea, Denmark (55°10'N, 15°0'E). **HP (unspecific od on page 190):** 1988/138; 2 **PP:** 1988/139, 1988/140. **Remarks:** Currently *Anteholosticha b.* according to BERGER (2003, Europ. J. Protistol. 39: 377).
- bergeri* *Laurentiella* DRAGESCO, 2003 – Trav. Mus. natl. Hist. nat. “Grigore Antipa” 45: 38. **OT:** Sand; margin of Lake Tanganyika Bujumbura, Burundi (3°37'S, 29°35'E). 2 **SP (unspecific od – incorrectly as “neotypes” – on page 7):** 2003/78, 2003/133.
- bifurcata* *Halteria* TAMAR, 1968 [Acta Protozool. 6: 176] – KRAINER (1995) Lauterbornia 21: 52. **OT:** Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50'N, 15°30'W). 2 **NP (unspecific od on page 40):** 1992/14, 1992/15.
- bimicronucleatum* *Blepharisma* VILLENEUVE-BRACHON, 1940 [Archs Zool. exp. gén. 82: 48] – FOISSNER (1989) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. 196: 228. **OT:** Soil of a conventionally farmed meadow; Schaming, Eugendorf near Salzburg, Austria (47°52'N, 13°7'E). 2 **NP (od):** 1988/48, 1988/49 (labelled as *B. bimicronucleata*).
- binucleata* *Enchelyotricha* FOISSNER, 1987 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. 195: 224. **OT:** Soil of a meadow near Seekirchen, Salzburg, Austria (47°54'N, 13°8'E). **HP (od):** 1988/105 (incorrectly labelled as “genotype”); 2 **PP:** 1988/106, 1988/107. **Remarks:** Only one “paratype” indicated, but two labelled. Nucleospecies (Tab. 6).
- binucleata multicirrata* *Amphisiella* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 663. **OT:** Soil from *Aloe dichotoma* forest; Gariganus Guest Farm, about 30 km northeast of the town of Keetmanshoop, Namibia (26°30'S, 18°25'E). **HP (od):** 2002/419; 3 **PP:** 2002/420, 2002/423, 2002/424.
- binucleata Parakahlia* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 607. **OT:** Soil; Etosha National Park, Aus water-hole, Namibia (19°10'S, 16°10'E). 2 **SP (od):** 2002/117, 2002/118; 2 **PP:** 2002/119, 2002/120. **Remarks:** Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.
- binucleata Platyophrya* FOISSNER, 1987 – Zool. Beitr. N. F. 31: 238. **OT:** Haline soil of the Negev desert near the Dead Sea, Israel (30°30'N, 34°55'E). **HP (unspecific od on page 190):** 1988/51; **PP:** 1988/52.
- binucleatum* *Paragonostomum* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 826. **OT:** Lawn (artificial?) soil; hotel in the village of Sharm el Sheik, Sinai, Egypt (about 27°N, 34°E). **HP (od):** 2002/602; 4 **PP:** 2002/603, 2002/604, 2002/605, 2002/606.
- binucleatus Pseudocohnilembus* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 530. **OT:** Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **HP (od):** 2002/87; **PP:** 2002/88.
- binucleatus Trachelolophos* DRAGESCO, 1999 – Annls Sci. nat. 1: 2. **OT:** Marine sand; Thau lagoon and Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). 5 **SP (od):** 1998/20, 1998/21, 2002/853 (Fig. 19), 2002/854, 2002/860. **Remarks:** The first two slides are indicated as “holo- and paratype” in the paper. However, the three slides with a total of 7 marks deposited later are labelled as “n. sp.” and refer to “Dg. 1999” (e.g. Fig. 19), thus they are also included in the type series. They are considered as symphoronts because different years (1994-1996) and sites of collection are given.
- bitricha* *Plagiocampa* FOISSNER, 1999 – Biodiversity and Conservation 8: 336. **OT:** Soil near beach of Candelaria; Canary Islands, Tenerife, Spain (28°21'N, 16°22'W). **HP (od):** 2002/687; 2 **PP:** 1999/12, 2002/688. **Remarks:** The “holotype” was already announced in 1999, but not deposited, in contrast to a “paratype” (inv. no. 1999/12 including four marks). FOISSNER, AGATHA & BERGER (2002, Denisia 5: 41) deposited the holophoront and one further “paratype”.
- bivacuolata* *Podophrya* FOISSNER, 2004 – Denisia 13: 378. **OT:** Floodplain soil; Enns River near the mouth to the Danube River, Upper Austria (48°14'N, 14°30'E). **HP (od):** 2007/600; **PP:** 2007/599.
- blattereri* *Enchelydium* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 121. **OT:** Soil; Murray River floodplain near Albury at the landside of Ryans road, Australia (37°S, 147°E). **HP (od):** 2002/705; 3 **PP:** 2002/706, 2002/707, 2002/708.

- blochmanni* *Furgasonia* (FAURÉ-FREMIET, 1967) JANKOWSKI, 1964 – FOISSNER (1989) Sber. Österr. Akad. Wiss., Math.-Naturwiss. **196**: 210. **OT**: Pasture pool; Koppler Moor near Salzburg, Austria (47°48'N, 13°10'E). 2 **NP** (**od**): 1988/27; 1988/28 (wet silver nitrate method). **Remarks**: Protonym: *Cyclogramma b.* FAURÉ-FREMIET, 1967 – J. Protozool. **14**.
- bodiani* *Trachelocerca* (DRAGESCO, 1963) DRAGESCO 2002 – Linzer biol. Beitr. **34/2**: 1549. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). 2 **NP** (unspecific **od** on page 1547): 2002/805, 2002/806. **Remarks**: Protonym: *Tracheloraphis b.* DRAGESCO, 1963 – Cah. Biol. mar. **4**: 97.
- brachyarmata* *Paraenchelys* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 106. **OT**: Savannah soil; near the village of El Sapo, about 50 km north of Puerto Ayacucho, Venezuela (about 7°N, 67°W). **HP** (**od**): 2002/766; 3 **PP**: 2002/767, 2002/768, 2002/769.
- “*brachycaryon* *Edaphospathula*” FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 85. **OT**: Soil of reed-mace swamp; bank of the Kanab Creek near the town of Kanab, Utah, USA (37°N, 112°30'W). **HP** (**od**): 2007/116. 5 **PP**: 2007/116, 2007/117, 2007/118, 2007/119, 2007/120. **Remarks**: Nucleospecies (Tab. 6). Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- brachykinetum* *Rimostrombidium* KRAINER, 1995 – Lauterbornia **21**: 62. **OT**: Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50'N, 15°30'W). **HP** (unspecific **od** on page 40): 1992/30; **PP**: 1992/31. **Remarks**: Incorrectly labelled as “*Strobilidium hexakinetum*”, as in the unpublished thesis (cp. FOISSNER, BERGER & SCHAUMBURG, 1999 Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **3/99**: 606).
- brachyoplites* *Paraenchelys* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 109. **OT**: Soil; escarpment of the central Namib Desert, surroundings of the Ameib Guest Farm, about 120 km northeast of the town of Swakopmund, Namibia (21°50'S, 15°35'E). **HP** (**od**): 2002/409; 3 **PP**: 2002/410, 2002/411, 2002/412.
- brachypoda mucosa* *Brachyosoma* FOISSNER, 1999 – Biodiversity and Conservation **8**: 360. **OT**: Soil from Hortobágy Puzta near the town of Debrecen, Hungary (47°32'N, 21°38'E). **HP** (**od**): 1999/27; 4 **PP**: 1999/28, 2007/601, 2007/602 (figured).
- brachysticha* *Holosticha* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 579. **OT**: Sandy, saline coastal soil (pH 7.6) near Punta Pirikiki, about 54 km south of Limon; Caribbean coast of Costa Rica (9°40'N, 82°40'W). **HP** (**od**): 2002/754; 2 **PP**: 2002/755, 2002/756. **Remarks**: Currently *Anteholosticha b.* according to BERGER (2003, Europ. J. Protistol. **39**: 377).
- brachytona* *Eschaneustyla* STOKES, 1886 [Proc. Am. phil. Soc. **23**: 28] – EIGNER (1994) Europ. J. Protistol. **30**: 462. **OT**: Disused coconut doormat, which has been lying for several years on a lawn; village of Schrötten near Deutsch Goritz, Styria, Austria (46°47'N, 15°49'E). 2 **NP** (**od**): 1993/14, 1993/15 (originally labelled as “*Calvobakuella tericola*”). **Remarks**: Nucleospecies (Tab. 6).
- bradburyarum* *Colpodidium* (*Pseudocolpodidium*) FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 489. **OT**: Soil from bottom of river overflow in Beijing, China (39°56'N, 116°24'E). **HP** (**od**): 2002/677; 2 **PP**: 2002/678, 2002/679 (wet silver nitrate method). **Remarks**: Nucleospecies of the subgenus (Tab. 6).
- brasiliensis* *Cephalospatula* FOISSNER, 2003 – Acta Protozool. **42**: 128. **OT**: Floodplain soil; Parana River, near the town of Maringá, Brazil (22°40'S, 53°15'W). **HP** (**od**): 2007/76. 5 **PP**: 2007/72, 2007/73, 2007/75, 2007/76, 2007/77. **Remarks**: Nucleospecies (Tab. 6).
- breviproboscis* *Dileptus* FOISSNER, 1981 – Zool. Jb. Syst. **108**: 281. **OT**: Soil of an alpine pasture; Hochmais at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°7'N, 12°48'E). **HP** (**sd**): 1981/7. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Considered as junior subjective synonym of *D. anguillula* by FOISSNER (1984, Stapfia **12**: 94), a neotypified species (see above).
- breviseries* *Orthoamphiella* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 703. **OT**: Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **HP** (**od**): 2002/114; 2 **PP**: 2002/115, 2002/116.
- buitikampi* *Paraurostyla* FOISSNER, 1982 – Arch. Protistenk. **126**: 40. **OT**: Soil of the margin of a ski slope; Schlossalm near Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). **HP** (**sd**): 1981/82. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Currently *Pseudouroleptus b.* according to BERGER & FOISSNER (1987, Zool. Jb. Syst. **114**: 197).
- bulli* *Arcuospathidium* FOISSNER, 2000 – Biol. Fertil. Soils **30**: 473. **OT**: Savannah soil; near the village of Gabiro, Virunga National Park, Rwanda (about 2°S, 30°E). **HP** (**od**): 2000/128; 6 **PP**: 2000/129, 2000/130, 2000/131, 2000/132, 2000/133, 2000/134.
- burkli* *Alinostoma* BLATTERER & FOISSNER, 1990 – Arch. Protistenk. **138**: 101. **OT**: Windach stream; near the sewage plant of the village of Eching, Bavaria, Germany (48°5'N, 11°7'E). **HP** (**od**): 1993/33; **PP**: 1993/34. **Remarks**: Genus needs redefinition (cp. AESCHT 2001: 20).
- bursaria* *Bursostoma* VÖRÖSVÁRY, 1950 [Annl. biol. Univ. szeged. **1**] – GANNER, FOISSNER & ADAM (1988) Annl. Sci. nat. (Zool.) **9**: 3. **OT**: Flocks of *Sphaerotilus natans* (sewage fungus); river Salzach, town of Salzburg, Austria (47°48'N, 13°02'E). 6 **NP?** (**sd**): 1988/118, 1988/119, 1988/122, 1988/123; 1988/120 (wet silver nitrate method); 1988/121 (dry silver nitrate method). **Remarks**: “Typification” not mentioned in the latter paper, but slides designated. Nucleospecies (Tab. 6).

C

- calkinsi* *Dysteria* KAHL, 1931 – SONG & WILBERT (2002) Acta Protozool. **41**: 35 **OT**: Rock pool and littoral; Potter Cove, King George Island, Antarctica (62°14'S, 58°40'W). **NP?** (**sd**): 2001/8. **Remarks**: Neotypification not mentioned, but “new type” according to slide and an external sheet of paper. KAHL (1931, Tierwelt Dtl. **21**: 258) introduced this name for a misidentified *D. lanceolata* sensu CALKINS.

- calyciformis* *Cymatocyelis* (LAACKMANN, 1907) LAACKMANN, 1910 – PETZ, SONG & WILBERT (1995) *Stapfia* **40**: 151. **OT**: Pelagial; Weddel Sea, Antarctica (68°38'S, 6°05'W). **NP** (od without number): 2001/124. **Remarks**: Protonym: *Cyttarocyelis* c. LAACKMANN, 1907 – Deutsche Südpolarexpedition 1901-1903 **12**: 127.
- campyla* *Dexiostoma* (STOKES, 1886) JANKOWSKI, 1967 – GANNER & FOISSNER (1989) *Hydrobiologia* **182**: 201. **OT**: Macrophyte-based waste water treatment system; Ardenberg, Upper Austria (48°8'N, 12°58'E). 3 **NP** (od without number on page 182): 1989/5 (silver carbonate method); 1989/4, 1989/6 (wet silver nitrate method). **Remarks**: Location according to paper. Perhaps a “neotype” strain of MCCOY (1974) exists in liquid nitrogen (cp. GANNER & FOISSNER 1989: 182). Protonym: *Colpidium campylum* STOKES, 1886 – *Ann. Mag. nat. Hist.* **17**: 101. Nucleospecies of *Dexiostoma* JANKOWSKI, 1967 (Tab. 6); since this genus has neuter gender, the species name has to be *D. campylum*.
- capari* *Anatolociirrus* ÖZBEK & FOISSNER in FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 617. **OT**: Highly saline soil; Mersin, Silifke, Göksu Delta, Cirba Region, Turkey (36°20'N, 33°59'E). **HP** (od): 2002/689; 12 **PP**: 2002/690, 2002/691, 2002/692, 2002/693, 2002/694, 2002/695, 2002/696, 2002/697, 2002/698, 2002/699, 2002/700, 2002/701 (according to their table 1 on p. 37). **Remarks**: “Paratypes” include ontogenesis. Nucleospecies (Tab. 6).
- carchesii* *Papillorhabdos* FOISSNER, 1984 – *Stapfia* **12**: 42. **OT**: *Carchesium* film of the right bank of river Traun; between Laakirchen and Steyremühl, Upper Austria (47°59'N, 13°48'E). **HP** (unspecific od on page 8): 1984/27.
- carnea* *Pseudokeronopsis* (COHN, 1866) WIRNSBERGER, LARSEN & UHLIG, 1987 – *Europ. J. Protistol.* **23**: 79. **OT**: Marine; Little Belt, Denmark (52°02'N, 10°24'E). 2 **NP** (od): 1986/40, 1986/41. **Remarks**: Protonym, trinomial: *Oxytricha flava carnea* COHN, 1866 – *Z. wiss. Zool.* **16**: 288; currently raised to species rank.
- castalia* *Urotiricha* MUNOZ, TELLEZ & FERNANDENZ-GALIANO, 1987 [*Acta Protozool.* **26**: 200] – FOISSNER & PFISTER (1997) *Limnologica* (Berlin) **27**: 336. **OT**: Plankton of an artificial pond; Salzburg University, Austria (47°48'N, 13°40'E). 8 **NP** (od): 1998/95, 1998/96, 1998/97, 1998/98; 1998/100, 1998/101, 1998/103, 1998/104 (wet silver nitrate method).
- caudata* *Paramphisiella* (HEMBERGER, 1985) FOISSNER, 1988 – EIGNER & FOISSNER (1994) *J. Eukaryot. Microbiol.* **41**: 247. **OT**: Grassland soil; Mt. Kenya near the lodge “The Arc”, Mount Kenya National Park, Kenya (about 0°N, 37°E). **NP** (od): 1993/104 (one mark). **Remarks**: Neotypification not mentioned in paper, but two slides mentioned unspecifically, one slide designated, although mislabelled as “holotype”. Six further marked slides with specimens in divisional morphogenesis. Due to earlier deposition other inventory numbers as stated in the paper, viz. “12, 13/1994”. Protonym: *Uroleptoidea* c. HEMBERGER, 1985 – *Arch. Protistenk.* **130**: 402.
- caudata* *Pseudochilodonopsis* (PERTY, 1852) BLATTERER & FOISSNER, 1990 – *Arch. Protistenk.* **138**: 100. **OT**: Windach stream; near the sewage plant of the village of Eching, Bavaria, Germany (48°5'N, 11°7'E). **NP** (od): 1993/38.
- Remarks**: Protonym: *Loxodes cucullio caudatus* PERTY, 1852 – *Kenntn. klein. Lebensformen*: 152.
- caudatum* *Paragonostomum* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 820. **OT**: Soil from a meadow in the Botanical Garden; Darwin, Northern Territory, Australia (12°28'S, 130°50'E). **HP** (od): 2002/733; 4 **PP**: 2002/734, 2002/735, 2002/736, 2002/737. **Remarks**: Nucleospecies (Tab. 6).
- caudatum* *Strobilidium* (FROMNTEL, 1876) FOISSNER, 1987 – PETZ & FOISSNER (1992) *J. Protozool.* **39**: 160. **OT**: Forest pond; near the Grabensee, Salzburg, Austria (47°59'N, 13°05'E). 2 **NP** (od): 1993/58, 1993/59. **Remarks**: Protonym: *Strombidion* c. FROMNTEL, 1876 – *Études microzoaires*: 264.
- caudatus* *namibiensis* *Pseudouroleptus* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 652. **OT**: Soil from margin of a small pond; Aubschlucht near the village of Billspurt, Namibia (24°0'S, 16°20'E). **HP** (od): 2002/452; 4 **PP**: 2002/449, 2002/453, 2002/454, 2002/455.
- caudatus* *Uroleptus* (STOKES, 1886) DRAGESCO, 2003 – *Trav. Mus. natl. Hist. nat. “Grigore Antipa”* **45**: 14. **OT**: Limnetic sites; Butare, Rwanda (about 2°35'S, 29°44'E) and Lake Tanganyika, Burundi (3°19'S, 29°19'E). 3 **NP** (unspecific od on page 7): 2003/72, 2003/75, 2003/140. **Remarks**: Protonym: *Holosticha* c. STOKES, 1886 – *Proc. Am. phil. Soc.* **23**: 25.
- cavicola* *amicronucleata* *Colpoda* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 910. **OT**: Bark from *Moringa ovalifolia* trees (ghost tree) forest; Etosha National Park, Namibia (19°S, 15°40'E). 3 **SP** (od): 2002/156; 2002/158 (silver carbonate method); 2002/157 (wet silver nitrate method). 7 **PP**: 2002/159, 2002/160; 2002/161, 2002/162 (two wet silver nitrate method); 2002/163, 2002/164, 2002/165 (three Feulgen stainings). **Remarks**: Three slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- cavicola* *Histiculus* (KAHL, 1935) BERGER & FOISSNER, 1987 – *Zool. Jb. Syst.* **114**: 213. **OT**: Soil of an arable land; near Salzburg, Austria (about 47°N, 13°E). 4 **NP**? (sd): 1986/65, 1986/66, 1986/67, 1986/68. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Location according to slides. Protonym: *Oxytricha* c. KAHL, 1935 – *Tierwelt Dtl.* **30**: 841. Currently *Sterkiella* c. and nucleospecies of the latter genus (Tab. 6).
- chardezi* *Holostichides* FOISSNER, 1987 – *Zool. Beitr. N. F.* **31**: 203. **OT**: Soil; Insel Santo Antao, Ribeira do Paul, Cap Verde Islands, Atlantic Ocean (17°5'N, 25°10'W). **HP** (unspecific od on page 190): 1988/143 (incorrectly labelled as “genotype”); **PP**: 1988/144. **Remarks**: Nucleospecies (Tab. 6).
- chilensis* *Epitholiolus* (BÜRGER, 1906) FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 165. **OT**: *Stipagrostis* and shrub remnants; Southern Namib Desert, dune 45 at road to the Sossus Vlei, Namibia (24°50'S, 15°30'E). 2 **NP** (od): 2002/272, 2002/273. **Remarks**: Protonym: *Lacrimaria chilensis* BÜRGER, 1906 – *Anales Univ. Chile* **117**: 427. Nucleospecies of *Epitholiolus* FOISSNER, AGATHA & BERGER, 2002 (Tab. 6).

- chlorellata Vorticella* STILLER, 1940 [Arch. Hydrobiol. 36] – FOISSNER & BROZEK (1996) Int. Revue ges. Hydrobiol. 81: 341. **OT**: Attached to planktonic colonies of *Anabaena* sp.; Lake Grabensee, Salzburg, Austria (48°0'N, 13°5'E). 4 **NP (od)**: 1998/119; 1998/120, 1998/121, 1998/122 (three dry silver nitrate method). **Remarks**: Two more slides than indicated were deposited. Misspelled *V. chlorostigma* in the “Material and Methods” chapter (page 330, cp. 341 “specimens from Salzburg”).
- chlorelligera Askenasia* KRAINER & FOISSNER, 1990 – J. Protozool. 37: 425. **OT**: Excavated groundwater ponds near Graz, Styria, Austria (47°04'N, 15°25'E). 2 **SP** (unspecific **od** on page 415): 1992/4 (Fig. 26), 1992/10; 2 **PP**: 1992/5, 1992/37. **Remarks**: Two slides are labelled as “holotypes” violating Art. 73.2 (ICZN 1999), thus symphoronts.
- chlorelligera Pelagothrix* FOISSNER, BERGER & SCHAUMBURG, 1999 – Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 395. **OT**: Höglwörther See, a small lake in southern Bavaria, Germany (47°49'N, 12°50'E). **HP (od)**: 1999/70; 2 **PP**: 1999/71, 1999/73 (incorrectly labelled as *Holophrya* c.). **Remarks**: Since the slides are of mediocre quality, FOISSNER et al. (1999: 395) declared the figures 13-24 as additional type material. Nucleospecies (Tab. 6).
- chlorelligerum Monodinium* KRAINER, 1995 – Lauterbornia 21: 48. **OT**: Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50'N, 15°30'W). **HP?** (unspecific **od** on page 40): 1992/16. **Remarks**: Mislabelled as “neotype” of *M. vorax*, an undescribed species; identification needs clarification.
- chlorostigma Vorticella* (EHRENBERG, 1831) EHRENBERG, 1838 – FOISSNER & BROZEK (1996) Intern. Revue ges. Hydrobiol. 81: 344. **OT**: Peat-bog; Ibmer Moor near the village of Buch, Upper Austria (48°03'N, 12°E). 4 **NP (od)**: 1998/135, 1998/136, 1998/137, 1998/138 (all dry silver nitrate method). **Remarks**: Protonym: *Carchesium* c. EHRENBERG, 1831 – Abh. Akad. Wiss. Berlin 1832: 93.
- cinctum Pelagovascicola* (VOIGT, 1901) JANKOWSKI, 1980 – KRAINER (1995) Lauterbornia 21: 45. **OT**: Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50'N, 15°30'E). 2 **NP** (unspecific **od** on page 40): 1992/12; 1992/13 (dry silver nitrate method and labelled as *Cyclotrichium* c.). **Remarks**: Protonym: *Cyclotrichium cinctum* VOIGT, 1901 – Zool. Anz. 25.
- citrina Steinia* BERGER & FOISSNER, 1987 – Zool. Jb. Syst. 114: 225. **OT**: Litter and soil of a goat pasture between Nauplion and Tripolis, Peloponnesus, Greece (37°34'N, 22°48'E). **HP** (unspecific **od** on page 195): 1986/83; **PP**: 1986/84. **Remarks**: Currently *Cyrtohymena* (*Cyrtohymena*) c. according to FOISSNER (1989, Sber. Österr. Akad. Wiss., Math.-Naturwiss. 196: 239) and FOISSNER (2004, Denisia 13: 370, although not formally transferred).
- citrina Uroleptopsis* KAHL, 1932 – BERGER (2004) Acta Protozool. 43: 102. **OT**: Sandy littoral; ahead the campground Pra' delle Torri near the village of Duna Verde, northern Adriatic Sea, Italy (45°34'N, 12°49'E). 6 **NP (od)**: 2003/146, 2004/301, 2004/302, 2004/303, 2004/304, 2004/305. **Remarks**: Further slides (inv. no. 2003/147, 2003/148, 2003/149, 2003/150) are not labelled as “neotypes”, although on page 110 BERGER (2004) mentioned “the slide containing the neotype specimen and nine slides containing some further specimens, including those depicted in the present paper [viz. ontogenesis], of the neotype population”. Nucleospecies also of subgenus *Uroleptopsis* (for new status see BERGER 2004, Acta Protozool. 43: 114 and Tab. 6).
- clarissima Anigsteinia* (ANIGSTEIN, 1912) ISQUITH, 1968 – DRAGESCO (2002) Linzer biol. Beitr. 34: 1562. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). 3 **NP** (unspecific **od** on page 1547): 2002/791, 2002/792, 2002/793. **Remarks**: Protonym: *Blepharisma clarissimum* ANIGSTEIN, 1912 – Arch. Protistenk. 24.
- claudicans Pseudocarchesium* (PENARD, 1922) FOISSNER, 1989 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. 196: 215. **OT**: Soil of a haline lake; surroundings of the Neusiedlersee, a soda lake in the “hell” region near Illmitz, Burgenland, Austria (47°45'N, 16°49'E). 4 **NP (od)**: 1988/35, 1988/36 (wet silver nitrate method); 1988/37, 1988/38 (two dry silver nitrate method). **Remarks**: Two slides announced, but more designated on label. Protonym: *Vorticella* c. PENARD, 1922 – Études Infusoires. The genus needs nomenclatural verification (cp. AESCHT 2001).
- claviforme Spathidium* KAHL, 1930 [Arch. Protistenk. 70: 389] – FOISSNER (1987) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. 195: 228. **OT**: Soil of an alternatively farmed field; Lobau, Vienna, Austria (48°9'N, 16°31'E). 3 **NP?** (**sd**): 1988/153, 1988/154, 1988/155. **Remarks**: Neotypification not mentioned in paper, but slides labelled.
- clavistoma oligostriatum Paracondylostoma* FOISSNER & KREUTZ, 1998 – Acta Protozool. 37: 228. **OT**: Soil and sediment from rock-pools; Laja near the farm of Mr. Eisenberg, vicinity of Puerto Ayacucho, Venezuela (5°40'N, 67°35'W). **HP (od)**: 1998/45; **PP**: 1998/46.
- coemeterii Arcuospathidium* (KAHL, 1943) FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN, 2005 – Biodiversity and Conservation 14: 652. **OT**: *Pinus nigra* forest soil; Stampftal near Vienna, Austria (47°53'N, 16°02'E). 3 **NP (od)**: 2007/157, 2007/158, 2007/159. **Remarks**: Currently *Cultellothrix* c. according to FOISSNER & XU (2007, Monogr. Biologicae 81: 275).
- coeruleus Heterostentor* SONG & WILBERT 2002 – Acta Protozool. 41: 49. **OT**: Rock pool and littoral; Potter Cove, King George Island, Antarctica (62°14'S, 58°40'W). **HP** (unspecific **od** on page 24): 2001/4. **Remarks**: “Paratypes” deposited in the Laboratory of Protozoology, College of Fisheries, Ocean University of Qingdao, China. Nucleospecies (Tab. 6).
- colisarum Heteropolaria* FOISSNER & SCHUBERT, 1977 [Acta Protozool. 16: 231] – FOISSNER, HOFFMANN & MITCHELL (1985) J. Fish Diseases 8: 145. **TH**: Green sunfish *Lepomis cyanellus* RAFINESQUE, 1819. **OT**: Cultured in a tank at the Fish Farming Experimental Station of the U.S. Fish and Wildlife Service, Stuttgart, Arkansas (34°30'N, 91°33'W). 3 **NP?** (**sd**): 1982/75 (dry silver nitrate method); 1982/76, 1982/77. **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes”. Involved in the ‘red-shore’ disease of various North American freshwater fishes.

- colpoda Colpidium* (LOSANA, 1829) GANNER & FOISSNER, 1989 – *Hydrobiologia* **182**: 191. **OT**: Macrophyte-based waste water treatment system; Ardenberg, Upper Austria (48°8'N, 12°58'E). 2 **NP** (od without number on page 182): 1989/7; 1989/8 (wet silver nitrate method). **Remarks**: Location according to slides. Protonym: *Paramaecia colpoda* LOSANA, 1829 – Mem. R. Accad. Sci. Torino (Class. Sci. Fis. e Mat.) **29**: 45. Nucleospecies of *Colpidium* STEIN, 1860 (Tab. 6).
- conspiciuus Dileptus* KAHL, 1931 [Tierwelt Dtl. **21**: 209] – FOISSNER (1989) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **196**: 174. **OT**: Soil; near Thingvellier, southwest of Iceland (64°15'N, 21°10'W). 2 **NP** (od): 1988/94, 1988/95.
- contortus Metopus* (QUENNERSTEDT, 1867) KAHL, 1932 – DRAGESCO (1996) Cah. Biol. mar. **37**: 279. **OT**: Marine sand; Thau lagoon Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). 2 **NP?** (sd): 1997/7, 1997/8. **Remarks**: Neotypification not mentioned in paper, but labels refer to paper. Site according to paper. Protonym: *Metopides* c. QUENNERSTEDT, 1867 – Acta Univ. lund. **2**: 23.
- contractile Spathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 263. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/356; 4 **PP**: 2002/350, 2002/357, 2002/358, 2002/361. **Remarks**: Unmentioned “paratypes” are included in a further slide (inv. no 2002/342, Fig. 36).
- convallaria Cymatocylis* LAACKMANN, 1910 [Deutsch. Südpol.-Exped. **11** (Zool. 3)] – PETZ, SONG & WILBERT (1995) Stapfia **40**: 154. **OT**: Pelagial; Weddel Sea, Antarctica (between 68°32'–70°20'S and 06°05'–12°14'W). **NP** (od without number): 2001/102.
- cooperi Arcuospathidium* FOISSNER, 1996 – Biol. Fertil. Soils **23**: 288. **OT**: Moss and soil; Marion Island, Prince Edward Islands, South Africa (46°54'45"S, 37°44'37'E). **HP** (unspecific od on page 283): 1997/57; **PP**: 1997/58.
- corlissi Meseres* PETZ & FOISSNER, 1992 – J. Protozool. **39**: 162. **OT**: Dried mud from an astatic meadow-pond; between the so-called Henkerhaus and the Peterweiher, urban area of Salzburg, Austria (47°47'N, 13°02'E). 2 **SP** (od): 1993/52, 1993/53; **PP**: 1993/54. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.
- corticicola Pentahymena* FOISSNER, 1994 – Arch. Protistenk. **144**: 290. **OT**: Bark of an *Acacia* tree; ranch house “La Casona”, Santa Rosa National Park, Costa Rica (10°50'N, 85°40'W). **HP** (od): 1997/38; **PP**: 1997/39 (wet silver nitrate method). **Remarks**: Nucleospecies (Tab. 6).
- “*costaricana Armatospathula*” FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 313. **OT**: Horse pasture soil; surrounding of the Selva Verde Lodge, Pto. Viejo, Costa Rica (10°27'N, 84°W). **HP** (od): 2007/68. 4 **PP**: 2007/65, 2007/66, 2007/67, 2007/68. **Remarks**: Nucleospecies (Tab. 6). Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- costaricana Bicornonella* FOISSNER, 1995 – Arch. Protistenk. **145**: 64. **OT**: Soil; near the ranch house “La Casona”, Santa Rosa National Park, Costa Rica (10°50'N, 85°40'W). **HP** (od): 1997/92; **PP**: 1997/93. **Remarks**: Nucleospecies (Tab. 6).
- costaricanum Trachelophyllum* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 160. **OT**: Soil from coastal swamp near Punta Cocles; Caribbean coast of Costa Rica (9°40'N, 82°40'W). **HP** (od): 2002/752; **PP**: 2002/753.
- costaricanus Dileptus* FOISSNER, 1995 – Arch. Protistenk. **145**: 40. **OT**: Upper soil layer; near the ranch house “La Casona”, Santa Rosa National Park, Costa Rica (10°50'N, 85°38'W). **HP** (od): 1997/96; **PP**: 1997/97.
- costatus Leptopharynx* MERMOD, 1914 [Revue suisse Zool. **22**: 58] – FOISSNER (1979) Int. Revue ges. Hydrobiol. **64**: 127. **OT**: Neuston of alpine pools; Hexenküche, Glockner, Salzburg, Austria (47°7'N, 12°49'E). **NP?** (sd): 1981/46 (dry silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper, but slide designated, although mislabelled as “paratype”. Nucleospecies (Tab. 6).
- crassulum Strombidium* (LEEGAARD, 1915) KAHL, 1932 – PETZ, SONG & WILBERT (1995) Stapfia **40**: 114. **OT**: Endopagial of pancake and multiyear sea ice; Weddel Sea, Antarctica (between 68°38'–70°21'S and 06°05'–8°53'W). **NP** (od without number): 2001/10. **Remarks**: Protonym: *Laboea crassulum* LEEGAARD, 1915 – Nytt Mag. Naturvid. **53**.
- cratera Codonella* (LEIDY, 1877) IMHOF, 1885 – FOISSNER & WILBERT (1979) J. Protozool. **26**: 100. **OT**: Plankton; Mattsee near Salzburg, Austria (47°58'N, 13°6'E). 2 **NP?** (sd): 1993/62, 1993/63. **Remarks**: “Typification” not mentioned in the original paper, but slides designated, although one mislabelled as “paratype”. Protonym: *Diffugia* c. LEIDY, 1877 – Proc. Acad. nat. Soc. Philad. **1877**: 307.
- crenata Aspidisca* FABRE-DOMERGUE, 1885 [J. Anat. Physiol. **21**] – SONG & WILBERT (2002) Acta Protozool. **41**: 58. **OT**: Rock pool and littoral; Potter Cove, King George Island, Antarctica (62°14'S, 58°40'W). **NP?** (sd): 2001/6. **Remarks**: Neotypification not mentioned, but “new type” according to slide, although mislabelled as “paratype”, and an external sheet of paper.
- cristata Pseudourostyla* (JERKA-DZIADOSZ, 1964) BORROR, 1972 – OBERSCHMIDLEITNER & AESCHT (1996) Beitr. Naturk. Oberösterreichs **4**: 14. **OT**: Activated sludge plant; Asten near Linz, Upper Austria (48°13'N, 14°24'E). **NP** (unspecific od on page 7): 1997/137. **Remarks**: Protonym: *Urostyla* c. JERKA-DZIADOSZ, 1964 – Acta Protozool. **2**: 123. Nucleospecies of *Pseudourostyla* BORROR, 1972 (Tab. 6), which is the nucleogenus of *Pseudourostylidae* JANKOWSKI, 1979 (Tab. 7). Not included in the list of AESCHT (2003), because the specificity of the slide was only clarified later. For complications with “type” material and supplements to neotypification see BERGER (2006, Monogr. Biologicae **85**: 759ff.).
- crystallis Thigmokeronopsis* PETZ, 1995 – Europ. J. Protistol. **31**: 138. **OT**: Sea ice; Weddel Sea, Antarctica (71°S, 11°80'W). **HP** (od): 2001/143; **PP**: 2001/144.
- cultriforme Arcuospathidium* (PENARD, 1922) FOISSNER, 1984 – Stapfia **12**: 78. **OT**: Soil of a coniferous forest (“Ebenaerwald”); southern Burgenland, Austria (47°8'N, 16°30'E). 2 **NP?** (sd): 1984/5, 1984/56. **Remarks**: Neotypification not mentioned in paper (see page 8), but

slides labelled, although incorrectly as “paratype”. Protonym: *Spathidium* c. PENARD, 1922 – Études Infusoires: 25. Nucleospecies of *Arcuospathidium* FOISSNER, 1984 (Tab. 6), which is the nucleogenus of Arcuospathidiidae FOISSNER & XU, 2007 (Tab. 7). Currently subspecies rank according to FOISSNER, AGATHA & BERGER (2002, Denisia 5: 299).

cultriforme megastoma Arcuospathidium FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 300. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP (od)**: 2002/355; 4 **PP**: 2002/346, 2002/353, 2002/359, 2002/361.

“*cuneata Apertospathula*” FOISSNER & XU, 2007 – Monogr. Biologicae 81: 346. **OT**: Upper soil layer of a small swamp; surroundings of the town of Eubenangee, south of Cairns, Australia (about 17°S, 145°E). **HP (od)**: 2007/36; **PP**: 2007/34, 2007/35, 2007/36. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).

cylindrata Tintinnopsis KOFOID & CAMPBELL, 1929 [Univ. Calif. Pubs Zool. 34: 33] – FOISSNER & WILBERT (1979) J. Protozool. 26: 97. **OT**: Plankton; Salzachsee near Salzburg, Austria (47°50'N, 13°1'E). 2 **NP?** (**sd**): 1993/60, 1993/61 (labelled as *Tintinnidium* c.). **Remarks**: Neotypification not mentioned in paper, but slides designated, although one mislabelled as “paratype”.

cylindricum Telotrochidium FOISSNER, 1978 – Annln naturh. Mus. Wien 81: 554. **OT**: Rainwater pond; Guttal at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°10'N, 12°49'E). 2 **SP (sd)**: 1981/70 (dry silver nitrate method); 1981/71 (opal blue staining). **Remarks**: “Typification” not mentioned in the original paper; but two slides are labelled as “holotype”, because of different preparation methods, thus symphoronts. Three further slides (inv. no. 1981/68, 1981/69 (wet silver nitrate method), 1986/28), also labelled as “holotype”, were collected in Gastein 1980, thus vouchers.

D

darbyshirei Afrothrix FOISSNER, 1999 – Biodiversity and Conservation 8: 376. **OT**: Grassland soil near the Sheldrick waterfalls in the Shimba Hills Nature Reserve, Kenya (4°13'S, 39°25'E). **HP (od)**: 1999/35; **PP**: 1999/36. **Remarks**: Nucleospecies (Tab. 6).

decolor Geleia KAHL, 1933 [Tierwelt Nord- und Ostsee II. c3: 76] – DRAGESCO (1999) Stapfia 66: 16. **OT**: Needs clarification. 2 **NP?** (unspecific **od** on page 7): 1999/153, 1999/152. **Remarks**: Different localities and sampling years: Roscoff 1965 (4 marks, first slide) and Cotonou 1976 (4 marks). Labels undesignated, thus “typification” according to paper. Since the unavailable genus was revalidated by FOISSNER in COOMBS et al. (1998, The karyorelictids: 308), nomenclatural authorship is complicated, viz. a new combination is not supported by ICZN (1999 Art. 51.3, 50.1, Rec. 50C, 51F).

decorata Lamtostyla FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 712. **OT**: Litter from *Welwitschia mirabilis*; Central Namib Desert, at road margin between Welwitschia Drive and Bloedkoppie, about 100 km east of Swakomund,

Namibia (22°45'S, 15°25'E). **HP (od)**: 2002/289; 3 **PP**: 2002/290, 2002/291, 2002/292.

“*deforme Arcuospathidium*” FOISSNER & XU, 2007 – Monogr. Biologicae 81: 170. **OT**: Soil from a green portion (“green river bed”); Chobe River near the Muchenje Safari Lodge, Botswana (18°S, 24°40'E). **HP (od)**: 2007/50; 7 **PP**: 2007/47, 2007/49, 2007/46, 2007/45, 2007/43, 2007/42, 2007/48. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).

deforme Spathidium KAHL, 1928 [Arch. Hydrobiol. 19: 63] – LEITNER & FOISSNER (1997) Linzer biol. Beitr. 29: 366. **OT**: Activated sludge of two stage sewage-treatment plant; Siggerwiesen, Salzburg, Austria (47°51'N, 13°0'E). 2 **NP (od)**: 1997/21 (three marks), 1997/22 (six marks). **Remarks**: Two “neotypes” announced in the paper, however, second slide unspecified, but specimens marked.

depressa Frontonia (STOKES, 1886) KAHL, 1931 – FOISSNER (1987) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. 195: 253. **OT**: Soil of a mixed forest (*Asperulo-Fagetum*); near village of Baumgarten, Lower Austria (48°22'N, 15°34'E). **NP?** (**sd**): 1986/7 (wet silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slide designated. Protonym: *Colpoda* d. STOKES, 1886 – Proc. Am. phil. Soc. 23: 566.

derouxi Gastronauta BLATTERER & FOISSNER, 1992 – Arch. Protistenk. 142: 109. **OT**: Light redish-brown soil grown with *Opuntia* sp. and tufts of grass; Garajau Kap, Madeira, Portugal (32°50'N, 17°0'W). **HP (od)**: 2000/10; 3 **PP**: 2000/11, 2000/51, 2000/52. **Remarks**: Habitat according to page 102. Only one “paratype” announced, but three labelled.

deserticola Urosomoida FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 787. **OT**: Dune soil (sand); escarpment of central Namib Desert, about 20 km north of the village of Solitaire, Namibia (23°50'S, 16°0'E). **HP (od)**: 2002/257; **PP**: 2002/258 (Fig. 35).

diademata Holosticha (REES, 1884) KAHL, 1932 – SONG & WILBERT (2002) Acta Protozool. 41: 53 **OT**: Rock pool and littoral; Potter Cove, King George Island, Antarctica (62°14'S, 58°40'W). **NP?** (**sd**): 2001/9. **Remarks**: Neotypification not mentioned, but “new type” according to slide and an external sheet of paper. Protonym: *Amphisia* d. REES, 1884 – Tijdschr. ned. dierk. Vereen, Suppl. Deel I: 650f.

dicentrarchi Philasterides DRAGESCO A., DRAGESCO J., COSTE, GASC, ROMESTAND, RAYMOND & BOUIX, 1995 – Europ. J. Protistol. 31: 329. **TH**: Fish *Dicentrarchus labrax* (LINNAEUS, 1758). **OT**: St. Clement, Montpellier area, France (44°25'N, 5°12'E). **HP (od)**: 2006/81. **Remarks**: Site according to label. Considered as junior subjective synonym of *Miamiensis avidus* THOMPSON & MOEWUS, 1964 by SONG & WILBERT (2000, Zool. Anz. 239: 62). For comparison “type” slides of the latter are in USNM.

dieckmanni Keronopsis FOISSNER, 1998 – Europ. J. Protistol. 34: 224. **OT**: Saline soil; shore of Lake Baringo, Kenya (about 0°45'N, 36°E). 3 **SP** (unspecific **od** on page 196): 1997/116, 1997/117, 1997/118. **Remarks**: “1 holotype and 1 or 2 paratypes” are generally mentioned on page 196. Two slides are labelled as “holotype” and one as “syntype” violating Art. 73.2 (ICZN 1999), thus symphoronts.

- dinoferus Maristentor* LOBBAN, SCHEFTER, SIMPSON, POCHON, PAWLOWSKI & FOISSNER 2002 – Marine Biology (Berlin) **140**: 417. **OT**: Coral reef; Apra Harbor, Guam, Mariana Islands, USA (about 13°27'N, 144°40'E). **2 SP (od)**: 2000/48, 2000/74 (in 70 % ethanol in three vowels); **2 PP**: 2000/49, 2000/50. **Remarks**: Slide and fixed material labelled as “holotype”, because of different preparation methods, thus symphoronts. Nucleospecies and subsequently nucleogenus (Tab. 6, 7).
- dioplites Apertospathula* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 322. **OT**: Soil from margin of a small pond; Aubschlucht near the village of Büllsport, Namibia (23°55'S, 16°15'E). **HP (od)**: 2002/449. **3 PP**: 2002/450, 2002/451, 2002/452.
- discoidea Hausmanniella* (GELLERT, 1956) FOISSNER, 1984 – Stapfia **12**: 103. **OT**: Soil of an alder forest (Alnetum viridis); Stubnerkogel, Bad Gastein, Salzburg, Austria (47°7'N, 13°6'E). **3 NP? (sd)**: 1984/74 (wet silver nitrate method); 1984/75, 1984/76 (silver carbonate method; Fig. 9). **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes” and “genotypes” (e.g. Fig. 9). Protonym: *Colpoda d.* GELLERT, 1956 – Acta biol. hung. **6**: 342; Nucleospecies of *Hausmanniella* FOISSNER, 1984 (Tab. 6), which is the nucleogenus of Hausmanniellidae FOISSNER, 1987 (Tab. 7).
- discolor Paraurottricha* (KAHL, 1930) FOISSNER, 1983 – Annln naturh. Mus. Wien **84B**: 60. **OT**: Alpine ponds; Gastein, Salzburg, Austria (47°7'N, 13°8'E). **NP? (sd)**: 1981/6 (wet silver nitrate method). **Remarks**: Neotypification and exact site not mentioned in paper, but slide designated, although mislabelled as “genotype”. Protonym: *Urottricha d.* KAHL, 1930 – Tierwelt Dtl. **18**: 59. Nucleospecies (Tab. 6).
- ditis Trachelocerca* (WRIGHT, 1982) FOISSNER & DRAGESCO, 1996 – Arch. Protistenk. **147**: 75. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **2 NP (od)**: 2002/ 807, 2002/ 808. **Remarks**: Protonym: *Tracheloraphis d.* WRIGHT, 1982 – Cah. Biol. mar. **23**.
- dorsicirrata Gastrostyla* FOISSNER, 1982 – Arch. Protistenk. **126**: 69. **OT**: Soil; alpine, grazed hay meadow near Fusch, Glockner-Hochalpenstraße, Salzburg, Austria (47°10'N, 12°49'E). **HP (sd)**: 1982/58. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Currently classified in subgenus (Tab. 5) according to FOISSNER, AGATHA & BERGER (2002, Denisia **5**: 720).
- dorsiincisura Urosomoida* FOISSNER, 1982 – Arch. Protistenk. **126**: 119. **OT**: Soil of an intensely farmed grassland near Zwentendorf, Lower Austria (48°21'N, 15°54'E). **HP (sd)**: 1981/100. **Remarks**: “Typification” not mentioned in the original paper, but slide designated.
- dragescoi Balantidioides* FOISSNER, ADAM & FOISSNER I., 1982 – Protistologica **18**: 217. **OT**: Soil of an intensely farmed grassland near Zwentendorf, Lower Austria (48°21'N, 15°54'E). **2 SP (sd)**: 1981/77; 1981/78 (wet silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper; but two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- dragescoi Nassula* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 424. **OT**: Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°55'S, 15°55'E). **HP (od)**: 2002/65; **2 PP**: 2002/68, 2002/650 (all wet silver nitrate method).
- dragescoi Platyophryides* FOISSNER, 1987 – Zool. Beitr. N. F. **31**: 243. **OT**: Soil of a spruce forest near Ulm/Donau, Germany (48°24'N, 10°0'E). **HP (unspecific od on page 190)**: 1988/58. **Remarks**: Currently *Ottowphrya d.* and nucleospecies of the latter genus (Tab. 6)).
- dubia Platyophrya* FOISSNER, 1980 – Acta Protozool. **19**: 32. **OT**: Puddle in the east of the Wallack-Haus; Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (47°04'N, 12°49'E). **2 SP (sd)**: 1996/73 (two marks, dry silver nitrate method); 1996/76 (six marks, opal blue staining); **2 PP**: 1996/74 (dry silver nitrate method); 1996/75 (opal blue staining). **Remarks**: “Typification” not mentioned in the original paper, but two slides, deposited much later, are labelled as “holotype”, because of different preparation methods, moreover eight specimens are marked, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- dumonti Holostichides* FOISSNER, 2000 – Europ. J. Protistol. **36**: 273. **OT**: Coniferous forest soil; near the town of Savonlinna, Finland (61°52'N, 28°53'E). **HP (od)**: 2000/83; **3 PP**: 2000/84, 2000/85, 2000/86.

E

- edaphicus Clavoplites* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 213. **OT**: Red, sandy soil under shrubs between the village of Erldunda and the Ayers Rock, Australia (26°S, 132°30'E). **HP (od)**: 2002/720; **4 PP**: 2002/716, 2002/721, 2002/722, 2002/723. **Remarks**: Nucleospecies (Tab. 6).
- edaphoni Colpoda* FOISSNER, 1980 – Zool. Jb. Syst. **107**: 414. **OT**: Soil; Hochtort at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°04'N, 12°50'E). **HP (sd)**: 1981/25 (dry silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Two further slides labelled as “neotypes (inv. no. 1988/75, 76) refer to FOISSNER (1987), though this paper is not mentioned as authoritative redescription in the revision of FOISSNER (1993).
- edaphoni Lamtostyla* BERGER & FOISSNER, 1987 – Zool. Jb. Syst. **114**: 215. **OT**: Scattered in a lower part of a bundle of straw, which was in contact with the soil; Salzburg, Austria (47°48'N, 13°02'E). **HP (unspecific od on page 195)**: 1986/81; **PP**: 1986/82. **Remarks**: Currently *Amphisiella e.* according to EIGNER (1999, Europ. J. Protistol. **35**: 44).
- edaphoni Tetrahymena* FOISSNER, 1987 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **195**: 247. **OT**: Soil of an alpine pasture; Guttal at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°10'N, 12°49'E). **HP (sd)**: 1986/12. **Remarks**: “Typification” probably par lapsus not mentioned in the paper, but slide designated as “holotype”, thus subsequently designated herein by the original author. Federal state par lapsus “Carinthia”.
- elbraechteri Leegaardiella* PETZ, SONG & WILBERT, 1995 – Stapfia **40**: 134. **OT**: Pelagial; Weddell Sea, Antarctica

- (69°46'S, 9°00'W). **SP?** (od): 2001/136; **PP:** 2001/102. **Remarks:** Slide bears the general note "Typ" (type) and one mark, but since further species are included, the status remains to be clarified.
- elegans Amphisella* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 674. **OT:** Soil from Wadi Ram about 10 km east of Al Aqaba, Jordan (29°30'N, 15°35'E). **HP** (od): 2002/594; 4 **PP:** 2002/595, 2002/596, 2002/597, 2002/598.
- elegans Euplotopsis* (KAHL, 1932) BORROR & HILL, 1995 – DRAGESCO (2003) *Trav. Mus. natl. Hist. nat.* "Grigore Antipa" 45: 8. **OT:** Infusions of soil and mosses; Butaré, Rwanda (2°35'S, 29°4'E). **NP?** (unspecific od on page 7): 2003/84 (dry silver nitrate method 1986). **Remarks:** A further slide (inv. no. 2003/74, wet silver nitrate method; labelled as *Euplotes e.*) was collected in Cotonou, Benin 1977 and thus likely refers to DRAGESCO & DRAGESCO-KERNÉIS (1986, *Faune tropicale* (Éditions de l'Orstom, Paris) 26: 505). Although DRAGESCO (2003) unspecifically mentioned two "neotypes" considering the populations as conspecific, SCHWARZ & STOECK (2007, *Acta Protozool.* 46: 193ff.) established the new *Euplotes pseudoelegans* for the population from Cotonou (incorrectly cited as Cotonou and not mentioning the Rwanda population and the latter reference of DRAGESCO). Since SCHWARZ et al. (2007, *J. Eukaryot. Microbiol.* 54: 125ff.) neotypified an euryhaline *Euplotes elegans* from Denmark, without re-examination and citing existing material of DRAGESCO (2003) a petition to the International Commission of Zoological Nomenclature is of course necessary. Protonym: *Euplotes e.* KAHL, 1932 – *Tierwelt Dtl.* 25: 634.
- elegans Ilsiella* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 950. **OT:** Bark of a *Colophospermum mopane* tree; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). 2 **SP** (od): 2002/365; 2002/369 (wet silver nitrate method); 3 **PP:** 2002/366, 2002/367, 2002/368. **Remarks:** Two slides are labelled as "holotype", because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- elegans Longispatha* FOISSNER, XU & KREUTZ, 2005 – *J. Eukaryot. Microbiol.* 52: 362. **OT:** Field (Mahada) soil; surrounding of the village of El Sapo and the Orinoco River, that is about 50 km north of Pto. Ayacucho, Venezuela (about 6°N, 75°W). **HP** (unspecific od on page 360): 2007/14; **PP:** 2007/11, 2007/12, 2007/13. **Remarks:** Nucleospecies (Tab. 6).
- elegans Oxytricha* FOISSNER, 1999 – *Biodiversity and Conservation* 8: 384. **OT:** Forest soil near the Sheldrick waterfalls in the Shimba Hills Nature Reserve, Kenya (5°S, 39°25'E). **HP** (od): 1999/39; **PP:** 1999/40.
- elegans Wallackia* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 643. **OT:** Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/375; 2 **PP:** 2002/343, 2002/376. **Remarks:** Three further slides (inv. no. 2002/377–379) labelled as "paratype", represent vouchers according to table 1 in their paper.
- elliotti Colpoda* BRADBURY & OUTKA, 1967 [*J. Protozool.* 14: 345] – FOISSNER & SCHUBERT (1983) *Acta Protozool.* 22: 136. **LT:** Soil; Tullnerfeld, Lower Austria (48°19'N, 16°0'E). 2 **NP?** (sd): 1981/31 (dry silver nitrate method); 1981/32 (wet silver nitrate method). **Remarks:** Neotypification not mentioned in the original paper, but slides designated, although mislabelled as "paratypes". Location according to slides.
- elongata Pseudovorticella* (FROMENTEL, 1876) LEITNER & FOISSNER, 1997 – *Europ. J. Protistol.* 33: 21. **OT:** Plant B of a two stage activated sludge plant at Siggerwiesen, Salzburg, Austria (47°51'N, 13°0'E). 4 **NP** (od): 1998/143, 1998/144 (both dry silver nitrate method); 1998/145, 1998/146. **Remarks:** The latter two of the four "neotypes" announced according to publication are labelled as vouchers. Protonym: *Vorticella e.* FROMENTEL, 1876 – *Études microzoaires*: 229.
- elongatum Telotrochidium* FOISSNER, 1975 – *Protistologica* 11: 410. **OT:** Streamlet Gaisbach; Wartberg ob der Aist, Upper Austria (48°19'N, 14°30'E). 58 **SP** (sd): 1975/101–157, 1975/200 (all dry silver nitrate method). **Remarks:** "Typification" not mentioned in the original paper; slides "typified" on a sheet of paper, but not labelled. Location according to personal communication.
- emergens Strombidium* (LEEGAARD, 1915) KAHL, 1932 – PETZ, SONG & WILBERT (1995) *Stapfia* 40: 117. **OT:** Endopagial of multiyear sea ice of the Weddell Sea, Antarctica (between 69°46'–70°21'S and 08°53'–11°00'W). **NP** (od without number): 2001/141. **Remarks:** Protonym: *Laboea emergens* LEEGAARD, 1915 – *Nytt Mag. Naturvid.* 53.
- emmerichi Litonotus* PETZ, SONG & WILBERT, 1995 – *Stapfia* 40: 43. **OT:** Multiyear sea ice; Weddell Sea, Antarctica (70°21'S, 8°53'W). **SP?** (od): 2001/133; **PP:** 2001/32. **Remarks:** Slide bears the general note "Typ" (type) and one big circle, but since further species are included, the status remains to be clarified.
- enchelyodontides Obliquostoma* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 116. **OT:** Soil; Escarpment of the central Namib Desert, surroundings of the Ameib Guest Farm, about 120 km northeast of the town of Swakopmund, Namibia (21°50'S, 15°35'E). **HP** (od): 2002/413; **PP:** 2002/414. **Remarks:** Currently *Declivistoma e.* (see FOISSNER, AGATHA & BERGER in BERGER & AL-RASHEID, this volume) and nucleospecies of the latter genus (Tab. 6)
- enchelyodontides Semispathidium* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 327. **OT:** Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/351; 5 **PP:** 2002/342 (Fig. 36), 2002/343, 2002/358, 2002/360, 2002/375. **Remarks:** Nucleospecies (Tab. 6).
- espeletiae Fragmocirrus* FOISSNER, 2000 – *Stud. Neotrop. Fauna & Environm.* 35: 64. **OT:** On *Espeletia* leaves from dead, rotting *Espeletia* trunks; Cordillera de Merida, Paramo de Piedras Blancas about 2 km east of the Pico del Aquila, Venezuela (08°52'N, 70°48'W). **HP** (od): 2000/118; 5 **PP:** 2000/119, 2000/120, 2000/121, 2000/122, 2000/123. **Remarks:** Nucleospecies (Tab. 6).
- espeletiae Sikorops* FOISSNER, 2000 – *Stud. Neotrop. Fauna & Environm.* 35: 56. **OT:** On *Espeletia* leaves from dead, rotting *Espeletia* trunks; Cordillera de Merida, Paramo de Piedras Blancas about 2 km east of the Pico del Aquila, Venezuela (08°52'N, 70°48'W). **HP** (od): 2000/124; **PP:** 2000/125.

- etoschense Apobryophyllum* FOISSNER, 1998 – Quekett J. Microsc. **38**: 209. **OT**: Soil from margin (*Sporobolus* grass girdle) of Etosha Pan, Namibia (about 19°S, 16°E). **HP (od)**: 2002/46; 3 **PP**: 2002/47, 2002/48, 2002/49. **Remarks**: Slides deposited and description repeated later, because the original publication was carelessly edited (cp. FOISSNER, AGATHA & BERGER 2002, Denisia **5**: 37, 361).
- etoschense Apocolpodidium* (*Apocolpodium*) FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 493. **OT**: Highly saline soil; Etosha National Park, Okerfontein water-hole, Namibia (18°45'S, 16°45'E). **HP (od)**: 2002/77 (wet silver nitrate method); 5 **PP**: 2002/78 (wet silver nitrate method); 2002/79; 2002/80, 2002/81, 2002/82 (three dry silver nitrate method). **Remarks**: Nucleospecies (Tab. 6).
- etoschense Arcuospathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 292. **OT**: Highly saline swamp soil; Etosha National Park, Okerfontein water-hole, Namibia (18°45'S, 16°45'E). **HP (od)**: 2002/23; 2 **PP**: 2002/24, 2002/25.
- etoschense Spathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 255. **OT**: Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°55'S, 15°55'E). **HP (od)**: 2002/17; 5 **PP**: 2002/18, 2002/19, 2002/20, 2002/21, 2002/22.
- etoschense Supraspathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 274. **OT**: Highly saline soil; Etosha National Park, lookout “Etosha”, Namibia (18°50'S, 16°30'E). **HP (od)**: 2002/31; 2 **PP**: 2002/32, 2002/33.
- etoschensis Bilamellophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 177. **OT**: Soil from *Sporobolus* grass girdle; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **HP (od)**: 2002/57; 2 **PP** 2002/58, 2002/59.
- etoschensis Condylotomides* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 893. **OT**: Highly saline soil; Etosha National Park, road to the Halali rest camp, Namibia (18°55'S, 16°25'E). 2 **SP**: 2002/170, 2002/171; 4 **PP** (all marks on 4 slides figured): 2002/170, 2002/171, 2002/172, 2002/173. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.
- etoschensis Nassula* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 438. **OT**: Highly saline soil; Etosha National Park, lookout “Etosha”, Namibia (18°50'S, 16°30'E). **HP (od)**: 2002/74; 3 **PP**: 2002/31, 2002/75 (wet silver nitrate method); 2002/76.
- etoschensis Parabryophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 957. **OT**: Soil from *Moringa ovalifolia* (ghost tree) forest; Etosha National Park, Namibia (19°S, 15°40'E). **HP (od)**: 2002/181; 2 **PP**: 2002/182, 2002/183.
- etoschensis Pseudokreyella* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 1023. **OT**: Highly saline soil; Etosha National Park, Wolfsnes water-hole near the margin of the Etosha Pan, Namibia (19°S, 15°50'E). **HP (od)**: 2002/184; 7 **PP**: 2002/185, 2002/186, 2002/187, 2002/188, 2002/189, 2002/190, 2002/191.
- eurystoma Kalometopia* (GELLERT, 1950) FOISSNER, 1985 – FOISSNER (1987) Zool. Beitr. N. F. **31**: 269. **OT**: Mosses of spruce trees; Lake Höllerer See, Upper Austria (48°1'N, 12°53'E). 6 **NP?** (sd): 1988/86 (wet silver nitrate method); 1988/87, 1988/88, 1988/89; 1988/90, 1988/91 (two dry silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slides labelled. Protonym: *Colpoda e.* GELLERT, 1950 – Annl. biol. Univ. szeged. **1**: 313. Considered as junior subjective synonym of *K. duplicata* (PENARD, 1922) by FOISSNER (1993, Protozoenfauna **4/1**: 320).
- exigua bidentata Drepanomonas* FOISSNER, 1999 – Biodiversity and Conservation **8**: 345. **OT**: Gum tree (*Ficus* sp.) litter; Nairobi Arboretum, Kenya (2°20'S, 36°50'E). 2 **SP (od)**: 1989/28 (dry silver nitrate method); 1989/29; 3 **PP**: 1989/30; 1989/31, 1989/31 (both dry silver nitrate method). **Remarks**: Slides incorrectly labelled as “*D. bispinifera*”, which has not been described anywhere. Two slides are labelled as “holotypes”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- exigua exigua Drepanomonas* PENARD, 1922 – FOISSNER (1999) Biodiversity and Conservation **8**: 340. **OT**: Spruce needles mixed with some dark humus, mosses, lichens, and grass roots on top of the Hanneck Kogel near the village of Thumersbach, Zell am See, Salzburg, Austria (47°19'N, 12°47'E). 4 **NP (od)**: 1999/15 (Fig. 11), 1999/16; 1999/17, 1999/18 (two dry silver nitrate method). **Remarks**: Mislabeled as “neo-holotype” including five marks (Fig. 11), “neo-paratype” (second slide), respectively. Protonym: *Drepanomonas e.* PENARD, 1922 – Études Infusoires.
- exigua Nassula* KAHL, 1931 [Tierwelt Dtl. **21**: 220] – FOISSNER, AGATHA & BERGER (2002) Denisia **5**: 421. **OT**: Soil of a small salt pan; Morrocoy National Park, north coast of Venezuela (about 10°N, 68°W). 3 **NP (od)**: 2002/770, 2002/771, 2002/772 (wet silver nitrate method).
- exilis Tracheloraphis* DRAGESCO 2002 – Linzer biol. Beitr. **34**: 1556. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **HP** (unspecific **od** – incorrectly as “neotypes” – on page 1547): 2002/815; **PP**: 2002/816.

F

- fallax Pelagostrombidium* (ZACHARIAS, 1896) KRÄINER, 1991 – Europ. J. Protistol. **27**: 66. **OT**: Plankton; excavated groundwater ponds; Leibnitzer Feld, Styria, Austria (46°49'N, 15°32'E). 3 **NP** (unspecific **od** on page 61): 1992/22, 1992/23, 1992/24. **Remarks**: Protonym: *Strombidium fallax* ZACHARIAS, 1896 – ForschBer. biol. Stn Plönn **5**.
- fastigata Colpoda* KAHL, 1931 [Tierwelt Dtl. **21**: 280] – FOISSNER (1980) Zool. Jb. Syst. **107**: 417. **OT**: Soil; Großglockner area, Salzburg, Austria (about 47°N, 13°E). **NP?** (sd): 1981/26 (dry silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slide designated. No precise site given, neither in the original paper nor the given reference. Considered as junior subjective synonym of *C. maupasi* ENRIQUES, 1908 by FOISSNER (1993, Protozoenfauna **4/1**: 123), who also mentioned that KAHL did not indicate the original locus classicus; perhaps it is California.
- faurei Remanella* DRAGESCO, 1954 – Bull. Soc. zool. Fr. **79**: 58. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **NP?** (sd): 2003/101 (year 1962). **Remarks**: Considered as junior subjective synonym of *R. multinucleata* KAHL, 1933 according to FOISSNER (1996,

- Europ. J. Protistol. 32: 235, 247), who revalidated the unavailable genus.
- femoralis* *Zoothamnoides* SCHÖDEL, 2006 – *Lauterbornia* 56: 132. **OT**: Epizoic on *Dikerogammarus villosus* SOVINSKY, 1894; river Regnitz near Hirschaid, Bavaria, Germany (49°49'N, 10°59'E). 6 **SP?** (od): 2005/74/11, 2005/74/16 (two dry silver nitrate method; latter including swimmers); 2005/74/12, 2005/74/13 (silver carbonate method), 2005/74/14, 2005/74/15 (hematoxylin staining). **Remarks**: Slides without marks, may be considered as hapantophoronts due to ontogenetic stage(s) (ICZN 1999 Art. 73.3). The material indicated in the paper incorrectly includes voucher specimens (2005/74/1-15, 2005/74/17-29) of the other species described. Nucleospecies (Tab. 6).
- filiformis* *Erniella* FOISSNER, 1987 – *Zool. Beitr. N. F.* 31: 220. **OT**: Strongly haline coastal soil; Santo Vicente, Cap Verde Islands, Atlantic Ocean (17°N, 25°W). **HP** (unspecific od on page 190): 1988/147 (incorrectly labelled as “genotype”, on list as “holotype”). **Remarks**: Slide designated as “paratype” (inv. no. 1988/148) from Denmark, thus voucher. Nucleospecies (Tab. 6).
- filiformis* *Parduczia* (NOUZAREDE, 1977) DRAGESCO, 1999 – *Stapfia* 66: 59. **OT**: Marine sand; Thau lagoon, Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). 3 **NP** (unspecific od on page 7): 1999/166, 1999/167, 1999/168. **Remarks**: Labels undesignated, thus “typification” according to paper. Protonym: *Geleia* f. NOUZAREDE, 1977 – *Bull. Stn. biol. Arcachon (N.S.)*, Suppl. 28.
- filiformis* *Perisincirra* FOISSNER, 1982 – *Arch. Protistenk.* 126: 99. **OT**: Soil of a mesoxerophytic grassland near Zwentendorf, Lower Austria (48°21'N, 15°54'E). **HP** (sd): 1981/98. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Currently *Circinella* f. according to FOISSNER (1994, *Europ. J. Protistol.* 30: 169).
- filiformis* *Tracheloraphis* DRAGESCO 2002 – *Linzer biol. Beitr.* 34: 1554. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **HP** (unspecific od – incorrectly as “neotypes” – on page 1547): 2002/817; **PP**: 2002/818.
- filum* *Trachelolophos* (DRAGESCO & DRAGESCO-KERNÉIS, 1986) FOISSNER & DRAGESCO, 1996 – *J. Eukaryot. Microbiol.* 43: 23. **OT**: Needs clarification. **NP?** (od): 2002/851. **Remarks**: One mark on the untypified slide, labelled as from Sète contradicting the original locality, viz. a saline, temporary pool in Benin. According to the paper, the “type” slide contains only four cells, indicating that a further slide may exist in the personal collection of DRAGESCO. The two voucher slides (inv. no. 1995/12, 13) from Roscoff stated in the paper have not been deposited, thus designation according to paper. Due to later deposition other inventory number as stated in the paper, viz. 1995/11. Protonym: *Tracheloraphis* f. DRAGESCO & DRAGESCO-KERNÉIS, 1986 – *Faune tropicale* 26: 200.
- flava* *Pseudokeronopsis* (COHN, 1866) WIRNSBERGER, LARSEN & UHLIG, 1987 – *Europ. J. Protistol.* 23: 79. **OT**: Marine; Little Belt, Denmark (52°02'N, 10°24'E). 2 **NP** (od): 1986/38, 1986/39. **Remarks**: Protonym, trinomial: *Oxytricha* f. f. COHN, 1866 – *Z. wiss. Zool.* 16: 288; currently raised to species rank.
- flexilis* *Dapedophrya* (PENARD, 1922) FOISSNER, 1995 – *Arch. Protistenk.* 145: 73. **OT**: Soil; near the ranch house “La Casona”, Santa Rosa National Park, Costa Rica (10°50'N, 85°38'W). 3 **NP** (od): 1998/88; 1998/87, 1998/89 (two dry silver nitrate method). **Remarks**: Protonym: *Glaucoma* f. PENARD, 1922 – *Études Infusoires. Nucleospecies of Dapedophrya* FOISSNER, 1995 (Tab. 6).
- flexilis* *Onychodromopsis* STOKES, 1887 [Ann. Mag. nat. Hist., Ser. 5 20: 107] – PETZ & FOISSNER (1996) *Acta Protozool.* 35: 264. **OT**: Terrestrial moss; coast of Core Bay, Prince Edwards Island, Subantarctic, South Africa (about 46°38'S, 37°56'E). 4 **NP** (od): 2000/140, 2000/141, 2000/142, 2000/143. **Remarks**: The latter two slides include ontogenesis. Nucleospecies (Tab. 6). Currently a junior subjective synonym of *Allotracha antarctica* according to BERGER (1999, *Monogr. Biologicae* 78: 268), a supposal defended by FOISSNER, AGATHA & BERGER (2002, *Denisia* 5: 44).
- flexuosa* *Tracheloraphis* RAIKOV & KOVALEVA, 1968 – DRAGESCO (1999) *Annl. Sci. nat.* 1: 21. **OT**: Marine sand; Corniche (pointe du Lazaret) in Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). 2 **NP** (od): 1998/30, 1998/31. **Remarks**: Unspecifically designated as “type” specimens, but in fact neophoronts; labels refer to the latter paper. Protonym: *T. flexuosus* RAIKOV & KOVALEVA, 1968 – *Acta Protozool.* 6: 322. Since the genus has feminine gender, the species name has to be *T. flexuosa* (cp. FOISSNER & DRAGESCO 1996, *Arch. Protistenk.* 147: 85).
- fluviatilis* *Benthontophrys* FOISSNER & GSCHWIND, 1998 – *Ber. Nat.-Med. Ver. Salzburg* 12: 35. **OT**: Windach stream, near the sewage plant of the village of Eching, Bavaria, Germany (about 48°N, 11°E). **HP** (od): 1999/51; 3 **PP**: 1999/52, 1999/53; 1999/54 (wet silver nitrate method). **Remarks**: Nucleospecies (Tab. 6).
- fluviatilis* *Pseudochilodonopsis* FOISSNER, 1988 – *Hydrobiologia* 162: 38. **OT**: River Drau between Aßling and Lienz, Eastern Tyrol, Austria (46°49'N, 12°45'E). **HP** (od): 1988/168 (Fig. 15); **PP**: 1988/170.
- foissneri* *Holosticha* PETZ, SONG & WILBERT, 1995 – *Stapfia* 40: 159. **OT**: Sea ice; Weddell Sea, Antarctica (69°46'S, 11°00'E). **SP?** (od): 2001/129; **PP**: 2001/18. **Remarks**: Slide bears the general note “Typ” (type) and one big circle, but since further species are included, the status remains to be clarified.
- foissneri* *Loxocephalus* DRAGESCO & DRAGESCO-KERNÉIS, 1991 – *Europ. J. Protistol.* 26: 225. **OT**: Polysaprobic sands of small waterpools in the process of evaporation along Lake Tanganyika, Burundi (3°19'S, 29°19'E). 3 **SP** (sd): 2002/883 (dry silver nitrate method); 2003/123 (wet silver nitrate method); 2003/124. **Remarks**: “Typification” not mentioned in the original paper; but labels refer to this paper; different preparation methods, thus symphoronts.
- foissneri* *Semiplatyophrya* WILBERT & KAHAN, 1986 – *Arch. Protistenk.* 131: 130. **OT**: Strongly saline soil covered with halophytes; Sinai coast on the Gulf of Akaba, 10 km S Eilat, Israel (29°33'N, 34°57'E). 2 **SP** (sd): 1993/24, 1993/23. **Remarks**: “Typification” not mentioned in the original paper, but slides labelled and deposited later. Nucleospecies (Tab. 6).

- foliosus* *Cranotheridium* (FOISSNER, 1983) WIRNSBERGER, FOISSNER & ADAM, 1984 – Arch. Protistenk. **128**: 308. **OT**: Edge of a pasture pool; Schlossalm near Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). **NP?** (sd): 1986/16. **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “holotype”. Protonym: *Pseudoprorodon* f. FOISSNER, 1983 – Annln naturh. Mus. Wien **84B**: 59 (aphory). Since the genus has neuter gender, the species name has to be *C. foliosum* (cp. AESCHT 2001).
- formisanoi* *Colpoda* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 905. **OT**: Bark of a *Colophospermum mopane* tree; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/366; **3 PP**: 2002/365, 2002/367 2002/368.
- franzi* *Gonostomum* FOISSNER, 1982 – Arch. Protistenk. **126**: 74. **OT**: Soil of an alpine pasture; Guttal at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°10'N, 12°49'E). **PP?** (sd): 1982/18. **Remarks**: “Typification” not mentioned in paper, but three slides designated: One from the type locality is ambiguously labelled as “paratype”, since no specimens marked considered as symphoront. Two slides (inv. no. 1981/10, 1984/6) labelled as “holotype” and “paratype”, respectively were collected in Lunz, which is not the type location. Currently *Orthoamphisiella* f. according to EIGNER (1995, Europ. J. Protistol. **31**: 363).
- franzi* *Pseudourostyla* FOISSNER, 1987 – Zool. Beitr. N. F. **31**: 194. **OT**: Soil; Santo Vicente, Cap Verde Islands, Atlantic Ocean (about 17°N, 25°W). **HP** (unspecific od on page 190): 1988/135; **2 PP**: 1988/136, 1988/137.
- fraterculum* *Protophthidium* XU & FOISSNER, 2005 – J. Eukaryot. Microbiol. **52**: 299. **OT**: Dry bed soil; Mlambane River in the Kruger National Park, Republic of South Africa (25°50'S, 31°40'E). **HP** (od): 2007/143; **PP**: 2007/139, 2007/144, 2007/140, 2007/141, 2007/142 (labelled as *P. f. f.*). **Remarks**: Replacement name for *P. serpens* sensu FOISSNER (1996, Acta Protozool. **35**: 106).
- frigida* *Frontonia* PETZ, SONG & WILBERT, 1995 – Stapfia **40**: 79. **OT**: Multiyear sea ice; Weddell Sea, Antarctica (70°21'S, 8°53'W). **SP?** (od): 2001/141; **PP**: 2001/145. **Remarks**: Slide bears the general note “Typ” (type) and one big circle, but since further species are included, the status remains to be clarified.
- fuliginosus* *Stentor* FORBES, 1891 – FOISSNER & WÖLFL (1994) J. Plankton Res. **16**: 272. **OT**: Pelagial; Chiemsee, Bavaria, Germany (47°51'N, 12°25'E). **3 NP?** (sd): 2000/77, 2000/78, 2000/79. **Remarks**: “Typification” not mentioned in the original paper. Protonym, trinomial: *S. igneus* f. FORBES, 1891 – Bull. US Fish Comm. **11**: figs. 28, 29.
- furcata* *Urotricha* SCHEWIAKOFF, 1892 [Verh naturw.-med. Ver. Heidelberg (N.S.) **4**: 553] – FOISSNER & O'DONOGHUE (1990) Invertebr. Taxon. **3**: 663. **OT**: Small pond in the metropolitan area of Perth, West Australia (31°57'S, 115°58'E). **2 NP** (od): 1988/180, 1988/181. **Remarks**: “Typification” only generally mentioned on page 662.
- fusioplites* *Edaphospathula* (FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN, 2005) FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 60. **OT**: *Pinus nigra* forest soil; Stampftal near Vienna, Austria (47°53'N, 16°02'E). **PP** (od): 2007/109. **Remarks**: Protonym: *Protophthidium* f. FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN, 2005 – Biodiversity and Conservation **14**: 671, which already announced the “type material” deposited and labelled however, by the recombining authors. Holophoront not yet deposited.
- ## G
- gargantua* *Didinium* MEUNIER, 1910 [Microplankton des Mers de Barents et de Kara] – PETZ, SONG & WILBERT (1995) Stapfia **40**: 21. **OT**: Endopagial of pancake and multicar sea ice and pelagial; Weddell Sea, Antarctica (between 69°26'–70°22'S and 07°19'–9°00'W). **NP** (od without number): 2001/136.
- gasterosteus* *Enchelys* KAHL, 1926 [Arch. Protistenk. **55**: 261] – FOISSNER (1984) Stapfia **12**: 35. **OT**: Infusion with colonies of *Ophryidium versatile*; Lunzer See, Lower Austria (47°51'N, 15°3'E). **NP?** (sd): 1984/21. **Remarks**: Neotypification not mentioned in paper (see page 8), but three slides designated, although mislabelled as “paratypes”. Two of these slides indicated (inv. no. 1984/19 [wet silver nitrate method], 1984/20) are from Salzburg, thus vouchers.
- gellerti* *Perisincirra* FOISSNER, 1982 – Arch. Protistenk. **126**: 90. **OT**: Soil of an alpine mat near the Wallack-Haus; Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (about 2310 m altitude, 47°06'N, 13°07'E). **HP** (sd): 1981/91. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Currently *Hemisincirra* g. according to FOISSNER (1984, Stapfia **12**: 119) and subspecies rank according to FOISSNER (2000, Europ. J. Protistol. **36**: 278).
- gellerti verrucosa* *Hemisincirra* FOISSNER & SCHADE in FOISSNER, 2000 – Europ. J. Protistol. **36**: 278. **OT**: Coniferous forest soil; Tenerife, Canary Islands, Spain (28°N, 17°W). **HP** (od): 2000/80 (Fig. 31); **2 PP**: 2000/81, 2000/82. **Remarks**: An unmentioned “paratype” is also included in the first slide (Fig. 31).
- georgiana* *Obertrumia* (DRAGESCO, 1972) FOISSNER & ADAM, 1981 – Zool. Anz. **207**: 308. **OT**: Plankton and detritus; Obertrumer-See, Salzburg, Austria (47°58'N, 13°6'E). **2 NP?** (sd): 1981/50, 1981/51 (wet silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “genotypes”. Protonym: *Nassula* g. DRAGESCO, 1972 – AnnlsFac. Sci. Univ. féd. Cameroun **9**: 96. Nucleospecies of *Obertrumia* FOISSNER & ADAM, 1981 (Tab. 6).
- gibbus* *Metopus* KAHL, 1927 [Arch. Protistenk. **57**: 146] – FOISSNER, AGATHA & BERGER (2002) Denisia **5**: 875. **OT**: Soil of a bank of a stream flowing into a reservoir near the village of Ajaccio, Corsica, France (41°55'N, 8°44'E). **NP** (od): 2002/641.
- gigantea* *Urosoma* (HORVÁTH, 1933) KAHL, 1935 – BERGER & FOISSNER (1987) Zool. Jb. Syst. **114**: 233. **OT**: Soil of a saline grassland with halophile plants near the Neusiedlersee, a soda lake in the “hell” region near Illmitz, Burgenland, Austria (47°45'N, 16°49'E). **5 NP?** (sd): 1986/90, 1986/91, 1986/92, 1986/93, 1986/94. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Protonym: *Oxytricha* g. HORVÁTH, 1933 – Arch.

- Protistenk. **80**: 298. Since the genus has neuter gender, the species name has to be corrected to *Urosoma giganteum* (cp. AESCHT 2001).
- gigas Paraclathrostoma* DRAGESCO, 1996 – Cah. Biol. mar. **37**: 270. **OT**: Marine sand; Corniche in Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). **4 SP?** (**od**): 1997/3 (two marks), 1997/4 (one mark), 2002/869 (4 marks), 2002/870 (3 marks). **Remarks**: A “holo- and paratype” is announced in the paper, but two more slides referring to this paper were deposited years later. Exact site not specified.
- gigas Trachelolophos* FOISSNER & DRAGESCO, 1996 – J. Eukaryot. Microbiol. **43**: 15. **OT**: Marine sand; French Atlantic coast at Roscoff, France (48°44'N, 3°59'W). **HP (od)**: 1998/26; **PP**: 1998/27. **Remarks**: One mark on each of the untyped slides, thus designation according to paper. Due to later deposition other inventory numbers as stated in the paper, viz. 1995/9, 1995/10. Nucleospecies (Tab. 6).
- glaciale Strombidium* PETZ, SONG & WILBERT, 1995 – Stapfia **40**: 119. **OT**: Multiyear sea ice; Weddell Sea, Antarctica (70°21'S, 8°53'W). **SP? (od)**: 2001/135; **PP**: 2001/139. **Remarks**: Slide bears the general note “Typ” (type), one big circle and one mark, but since further species are included, the status remains to be clarified.
- glacialis Codonellopsis* (LAACKMANN, 1907) KOFOID & CAMPBELL, 1929 – PETZ, SONG & WILBERT (1995) Stapfia **40**: 144. **OT**: Pelagial; Weddell Sea, Antarctica (between 68°00'–71°16'S and 4°10'–12°14'W). **NP (od without number)**: 2001/95. **Remarks**: Protonym: *Codonella g.* LAACKMANN, 1907 – Deutsche Südpolarexpedition 1901-1903: **12**: 239.
- glacicum Rimostrombidium* PETZ, SONG & WILBERT, 1995 – Stapfia **40**: 141. **OT**: Multiyear sea ice; Weddell Sea, Antarctica (70°21'S, 8° 53'W). **SP? (od)**: 2001/130; **PP**: 2001/135. **Remarks**: Slide bears the general note “Typ” (type) and one big circle, but since further species are included, the status remains to be clarified.
- glatzeli Erimophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 791. **OT**: Humous sand under *Acacia erioloba*; Southern Namib Desert, centre of Sossus Vlei, Namibia (24°50'S, 15°20'E). **HP (od)**: 2002/246; **2 PP**: 2002/247, 2002/248. **Remarks**: Nucleospecies (Tab. 6).
- goertzi Hemiurosoma* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 843. **OT**: Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **HP (od)**: 2002/102; **4 PP**: 2002/103, 2002/104, 2002/105, 2002/106.
- goiseri Rigidothrix* FOISSNER & STOECK, 2006 – Europ. J. Protistol. **42**: 251. **OT**: Floodplain soil; river Niger near to the town of Timbuktu, Republic of Mali, West Africa (16°30'N, 3°W). **HP (od)**: 2007/645. **6 PP**: 2007/646, 2007/647, 2007/648, 2007/649, 2007/652, 2007/654. **Remarks**: Three of the “paratypes” include onotogenesis. Simultaneously, nucleospecies and nucleogenus (Tab. 6, 7).
- gouraudi Odontochlamys* CERTES, 1891 [Mém. Soc. zool. Fr. **4**: 538] – FOISSNER (1988) Hydrobiologia **162**: 34. **OT**: Soil of a mixed forest (*Asperulo-Fagetum*); near village of Baumgarten, Lower Austria (48°22'N, 15°34'E). **3 NP? (sd)**: 1981/39, 1988/128; 1981/40 (dry silver nitrate method). **Remarks**: Neotypification not mentioned in the original paper, but slides designated, although the first and third mislabelled as “paratypes”. Same locality according to slide. Nucleospecies (Tab. 6).
- gracilis Dileptus* KAHL, 1931 [Tierwelt Dtl. **21**: 209] – FOISSNER (1989 [for year 1987]) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **196**: 182. **OT**: Moss; Schönramer Filz near Freilassing, Bavaria, Germany (47°51'N, 12°59'E). **2 NP (od)**: 1988/98, 1988/99. **Remarks**: One slide mislabelled as “paratype” (inv. no. 1984/71) from Lower Austria probably refers to an ecological paper. Currently *Pseudomonilicaryon gracile* (corr. because of neuter gender) and nucleospecies of the latter genus according to FOISSNER (1987, Limnologica (Berlin) **27**: 196; Tab. 6).
- “*gracilis Edaphospathula*” FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 88. **OT**: Artificial (?) soil from lawn of a hotel; village of Sharm el Sheik, Sinai, Egypt (about 27°N, 34°E). **HP (od)**: 2007/113; **PP**: 2007/113, 2007/114, 2007/115. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- gracilis Holophrya* (PENARD, 1922) KAHL, 1930 – FOISSNER (1984) Stapfia **12**: 16. **OT**: Cyanophyte bloom (*Spirulina jenneri*) in a lake of bathing; Uttendorf, Zell am See, Salzburg, Austria (47°17'N, 12°34'E). **3 NP? (sd)**: 1984/1; 1984/2 (dry silver nitrate method); 1984/3 (wet silver nitrate method). **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes”. Protonym: *Urotricha gracilis* PENARD, 1922 – Études Infusoires: 17. Currently *Apsiktrata g.*; nucleospecies of the latter genus (Tab. 6), which is the nucleogenus of Apsiktratidae FOISSNER, BERGER & KOHMANN, 1994 (Tab. 7).
- gracilis Obertrumia* FOISSNER, 1989 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **196**: 200. **OT**: Pasture pool; Koppler Moor near Salzburg, Salzburg, Austria (47°48'N, 13°10'E). **3 SP (od)**: 1988/22, 1988/23 (wet silver nitrate method); 1988/24. **Remarks**: One “holotype” and one “paratype” (protargol impregnation) indicated, but all slides labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- gracilis Perisincirra* FOISSNER, 1982 – Arch. Protistenk. **126**: 95. **OT**: Soil; Schlossalm near Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). **HP (sd)**: 1981/87. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Currently *Caudiholosticha g.* according to BERGER (2006, Monogr. Biologicae **85**: 266).
- granata Nassula* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 427. **OT**: Highly saline soil; Etosha National Park, Okerfontein water-hole, Namibia (18°45'S, 16°45'E). **HP (od)**: 2002/70; **3 PP**: 2002/31, 2002/71, 2002/72.
- granulatum Epicarchesium* (KELLCOTT, 1887) JANKOWSKI, 1985 – LEITNER & FOISSNER (1997) Europ. J. Protistol. **33**: 14. **OT**: Plant B of a two stage activated sludge plant at Sigerwiesen, Salzburg, Austria (47°51'N, 13°0'E). **4 NP (od)**: 1998/139, 1998/140 (two dry silver nitrate method); 1998/141, 1998/142. **Remarks**: The latter two of the four “neotypes” announced according to publication are labelled as vouchers. Protonym: *Carchesium g.* KELLCOTT, 1887 – The microscope **7**. Nucleospecies of *Epicarchesium* JANKOWSKI, 1985 (Tab. 6).

- granulifera Bakuella* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 561. **OT:** Sieved litter from river bank; Bukaan, about 80 km north of the town of Keetmanshoop, Namibia (25°40'S, 18°10'E). **HP (od):** 2002/459; **6 PP:** 2002/460, 2002/461, 2002/462, 2002/463, 2002/464, 2002/465. **Remarks:** Possibly also classified in subgenus *Bakuella* (cp. BERGER 2006, Monogr. Biologicae 85: 569).
- granulifera Lacrymaria* FOISSNER, 1997 – Limnologica (Berlin) 27: 192. **OT:** Amper river; near town of Fürstentfeldbruck, Bavaria, Germany (48°10'N, 11°15'E). **HP (od):** 1998/59; **2 PP:** 1998/60, 1998/61.
- granulifera Lamtostyla* FOISSNER, 1997 – Biol. Fertil. Soils 25: 332. **OT:** Field (Mahada) soil; farm of Don Pedro Cortez; village of El Sapo, about 50 km N of Puerto Ayacucho, Venezuela (about 5°N, 68°W). **HP (unspecific od on page 319):** 1998/116; **2 PP:** 1998/117, 1998/118.
- granulifera quadricirrata Oxytricha* BLATTERER & FOISSNER 1988 – Stapfia 17: 63. **OT:** Soil of a sand hill; 99 Miles Desert, north of Lake Alexandrina near Adelaide, Australia (about 35°S, 139°E). **HP (unspecific od on page 4):** 1989/77; **2 PP:** 1989/49, 1989/78.
- granulifera Tachysoma* BERGER & FOISSNER, 1987 – Zool. Jb. Syst. 114: 228. **OT:** Arable soil near Vienna, Austria (48°11'N, 16°17'E). **HP (unspecific od on page 195):** 1986/86; **PP:** 1986/87. **Remarks:** Since the genus has neuter gender, the species name was corrected to *T. granuliferum* by FOISSNER & FOISSNER I. (1988, Catalogue Faunae Austriae I: 92).
- granulifera Urosomoida* FOISSNER, 1996 – Acta Protozool. 35: 115. **OT:** *Drepanocladus uncinatus* moss from Livingstone Island; South Shetland Islands, Antarctica (62°38'S, 61°04'W). **HP (unspecific od on page 97):** 1997/46; **PP:** 1997/47.
- granuliferum Strongylidium* FOISSNER, 1987 – Zool. Beitr. N. F. 31: 190. **OT:** Soil of a grassland near Garajan Kap; Madeira, Portugal (32°50'N, 17°0'W). **HP (unspecific od on page 190):** 1988/130. **Remarks:** Currently *Hemiamplesiella granulifera* according to FOISSNER (1988, Stapfia 17: 122).
- granulosum Condylostoma* BULLINGTON, 1940 [Pap. Tortugas Lab. 32] – PETZ, SONG & WILBERT (1995) Stapfia 40: 103. **OT:** Endopagial of pancake, nilas and mainly multiyear sea ice; Weddell Sea, Antarctica (68°38'–71°00'S, 6°05'–11°54'W). **NP (od without number):** 2001/148.
- grelli Anictostoma* FOISSNER, 1993 – Protozoenfauna 4/1: 313. **OT:** Mosses on trees near the Lady Barron Falls in the Mt. Fields National Park, Tansania, Australia (45°S, 146°E). **2 SP (sd):** 1998/90; 1998/92 (wet silver nitrate method); **2 PP:** 1998/91; 1998/93 (wet silver nitrate method; labelled as *Corallocolpoda g.*). **Remarks:** “Typification” not mentioned in the original paper, but two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies of *Anictostoma* FOISSNER, 1993 (Tab. 6). Currently *Corallocolpoda g.* according to FOISSNER (1993, Protozoenfauna 4/1: 313).
- grelli Orthoamplesiella* EIGNER & FOISSNER, 1993 – Arch. Protistenk 143: 342. **OT:** Moss and soil from a river bank; Gough Island, Transvaal Bay, South Africa (40°20'S, 10°00'W). **HP (od):** 1993/111 (one mark). **Remarks:** Announced “paratype” not labelled, but seven further marked slides, five of these with specimens in divisional morphogenesis.
- grisea Tracheloraphis* (KAHL, 1933) DRAGESCO, 1960 – DRAGESCO (1999) Anns Sci. nat. 1: 20. **OT:** Marine sand; Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). **2 NP (od):** 1998/28, 1998/29 (mislabelled as *T. griseus*). **Remarks:** Unspecifically designated as “type” specimens, but in fact neophoronts; labels unspecifically refer to this paper. Location according to paper, which inadvertently states an inventory number 1996/27 instead of 29. Protonym: *Trachelocerca g.* KAHL, 1933 – Tierwelt Nord- und Ostsee II. c3: 56.
- gyrans Disematostoma* DRAGESCO, 1972 – AnnsFac. Sci. Univ. féd. Cameroun 9: 112. **OT:** Unspecified; Cotonou, Benin (6°15'N, 2°20'E). **HP (sd):** 2002/910 (1968, dry silver nitrate method). **Remarks:** “Typification” not mentioned, but label refer to this paper; one mark. A second slide (2006/44) dated 1979 possibly refers to DRAGESCO & DRAGESCO-KERNEIS (1986, Faune tropicale 26: 315).

H

- haematoplasma Oxytricha* BLATTERER & FOISSNER, 1990 – Arch. Protistenk. 138: 106. **OT:** River Amper, about 1 km beneath the Ammersee, Bayern, Germany (48°00'N, 11°07'E). **HP (od):** 1993/47; **2 PP:** 1993/48, 1993/49. **Remarks:** Currently *Rubrioxxytricha h.* and nucleospecies of the latter genus according to BERGER (1999, Monogr. Biologicae 78: 481; Tab. 6).
- halophila Apourosomoida* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 761. **OT:** Highly saline, sandy soil; Unjab river bed, northern Namib Desert, Namibia (20°10'S, 13°10'E). **HP (od):** 2002/329; **2 PP:** 2002/330, 2002/331. **Remarks:** Nucleospecies (Tab. 6).
- halophila Lamtostyla* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 706. **OT:** Highly saline soil; surroundings of the town of Maltahöhe, Namibia (24°55'S, 16°55'E). **HP (od):** 2002/214; **PP:** 2002/215.
- halophila Parakahlia* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 598. **OT:** Highly saline coast soil; Great Salt Lake, near the town of Brigham, Utah, USA (41°30'N, 112°W). **HP (od):** 2002/665; **2 PP:** 2002/666, 2002/667.
- halophila Podophrya* KAHL, 1934 [Tierwelt Nord- und Ostsee II. c5] – BLATTERER & FOISSNER (1988) Stapfia 17: 26. **OT:** Sand hill; 99 Miles Desert, north of Lake Alexandrina near Adelaide, Australia (about 35°S, 139°E). **NP? (sd):** 1989/50. **Remarks:** Neotypification not mentioned in paper, but slides labelled.
- halophilus Plagiocampides* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 548. **OT:** Cyanobacterial crusts; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **HP (od):** 2002/210 (wet silver nitrate method); **2 PP:** 2002/211 (wet silver nitrate method; 2002/212). **Remarks:** One further slide (inv. no. 2002/213) labelled as “paratype”, represents a voucher according to table 1 in their paper. Nucleospecies (Tab. 6).
- hamatus Tracheloraphis* WRIGHT, 1982 – DRAGESCO (2002) Linzer biol. Beitr. 34: 1559. **OT:** Marine sand; Roscoff,

- Atlantic coast, France (48°44'N, 3°59'W). 2 NP (unspecific od on page 1547): 2002/819, 2002/820. **Remarks:** Since the genus has feminine gender, the species name has to be *T. hamata* (cp. FOISSNER & DRAGESCO 1996, Arch. Protistenk. 147: 85).
- harbinensis Stylonychia* SHI & AMMERMANN, 2004 – Protistology 3: 219. **OT:** Song-Hua River in the northern part of Harbin, China (45°70'N, 126°80'E). **HP (od):** 2003/45 (Fig. 30). **Remarks:** “Paratype” slides are deposited at the Laboratory of Protozoology of the Harbin Normal University (Harbin 150080, China) and at the “Zool. Schausammlung” of the University of Tübingen, Sigwartstr. 3, D-72076 Tübingen, Germany.
- hasei Metopus* SONDHEIM, 1929 [Abh. Senckenberg. Naturf. Ges. 41: 301] – FOISSNER (1981) Protistologica 17: 32. **OT:** Soil of an alpine pasture; Hochmais at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°7'N, 12°48'E). **NP? (sd):** 1981/75. **Remarks:** Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”. Location according to FOISSNER (1981: 18).
- hawaiiensis Bilamellophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 183. **OT:** Arable field soil; between the village of Honomu and the Akaka Falls, Big Island, Hawaii, USA (19°50'N, 155°10'W). **HP (od):** 2002/674; 2 **PP:** 2002/675, 2002/676.
- hawaiiensis Bryometopus* FOISSNER, 1994 – Anln naturh. Mus. Wien, Ser. B Bot. Zool. 96B: 20. **OT:** Grassland soil near the entrance to the Sandalwood trail in the Volcano National Park, Big Island, Hawaiian Archipelago, USA (19°25'N, 155°20'W). **HP (od):** 1997/42. **Remarks:** One “paratype” has been deposited in the Natural History Museum Vienna, but non as announced in Linz.
- henneguyi Colpoda* FABRE-DOMERGUE, 1889 [Annls Microgr. 1: 351] – FOISSNER (1980) Zool. Jb. Syst. 107: 424. **OT:** Unknown; Lower Austria (label). **NP? (sd):** 1981/27 (wet silver nitrate method). **Remarks:** Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”. No precise site given, neither in the original paper nor the given reference. The original locus classicus is an infusion of dried soil and leaves in the garden of the “Collège de France” in Paris.
- herzogi Gigantothrix* FOISSNER, 1999 – Biodiversity and Conservation 8: 368. **OT:** Soil of the forest surrounding the Sheldrick waterfalls in the Shimba Hills Nature Reserve, Kenya (4°13'S, 39°25'E). **HP (od):** 1999/29; **PP:** 1999/30. **Remarks:** Nucleospecies (Tab. 6).
- heterotricha Gellertia* (DRAGESCO, 1960) DRAGESCO, 1999 – Stapfia 66: 36. **OT:** Marine sand; Sète, Mediterranean coast, France (43°23'N, 3°42'E). 4 **NP?** (unspecific od on page 7): 1999/159, 1999/160, 1999/161 (note: “First slide of Leeuwenhoeck Laboratory”), 1999/162. **Remarks:** Site according to slides. Sampling years 1994 and 1997, respectively. Labels undesignated, thus “typification” according to paper. Protonym: *Geleia* h. DRAGESCO, 1960 – Trav. Stn. biol. Roscoff (N. S.) 12: 239. Nucleospecies of *Gellertia* DRAGESCO, 1999 (Tab. 6).
- hirtus Coleps* (MÜLLER, 1786) NITSCH, 1827 – FOISSNER (1984) Stapfia 12: 22. **OT:** Plankton and mud of a small pond; Peterweither in the urban area of Salzburg, Austria (47°48'N, 13°02'E). 2 **NP? (sd):** 1984/12, 1984/13 (wet silver nitrate method). **Remarks:** Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes”. Protonym: *Cercaria hirta* MÜLLER, 1786 – Animalc. infus.: 128. Nucleospecies of *Coleps* NITSCH, 1827 (Tab. 6), which is the nucleogenus of Colepidae EHRENBERG, 1838 (Tab. 7).
- histrio Histriculus* (MÜLLER, 1773) CORLISS, 1960 – FOISSNER & GSCHWIND (1998) Ber. Nat.-Med. Ver. Salzburg 12: 35. **OT:** Small lake (Teufelssee) in the surroundings of Berlin, Germany (52°31'N, 13°24'E). 4 **NP (od):** 1999/61, 1999/62, 1999/63, 1999/64. **Remarks:** Protonym: *Paramaecium* h. MÜLLER, 1773 – Vermium Terrestrium et Fluviatilium: 55.
- histriomuscorum Sterkiella* (FOISSNER, BLATTERER, BERGER & KOHMANN, 1991) FOISSNER, BLATTERER, BERGER & KOHMANN, 1991 – FOISSNER & BERGER (1999) Acta Protozool. 38: 234. **OT:** Jordan River; Indiana, USA (39°23'N, 86°55'W). 2 **NP (od):** 1999/109, 1999/110. **Remarks:** On page 235 the authors “suggest fixing the nomen nudum species *Oxytricha trifallax* as neotype of *Histrionuscorum* KAHL, 1932 – Tierwelt Dtl. 25: 617. The complicated nomenclature is unravelled by FOISSNER et al. (1991), BERGER (1999, Monogr. Biologicae 78: 683) and particularly FOISSNER & BERGER (1999, Acta Protozool. 38: 235).
- horribile Colpodidium* (Colpodidium) FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 474. **OT:** Highly saline soil from littoral of Lake Nakuru, Kenya (0°17'N, 36°04'E). **HP (od):** 2002/532; 2 **PP:** 2002/533, 2002/534.
- hortualis Neogeneia* EIGNER, 1995 – Europ. J. Protistol. 31: 349. **OT:** Compost heap in kitchen garden; village of Schrötten near Deutsch Goritz, Styria, Austria (46°47'N, 15°49'E). **HA (od):** 1994/86. **Remarks:** According to this paper the slide includes several “paratypes”, which are unmarked, and specimens in divisional morphogenesis. Nucleospecies (Tab. 6).
- hortualis Parentocirrus* VOSS, 1997 – Europ. J. Protistol. 33: 31. **OT:** In a bird bath; Am Dornbusch 42, village of Feldhausen, Bottrop, Nordrhein-Westfalen, Germany (51°31'N, 6°55'E). 3 **SP? (od):** 1996/27, 1996/28, 1996/29. **Remarks:** Four specimens marked as “holotype” on two slides violating Art. 73.2 (ICZN 1999), in addition specimens in divisional morphogenesis are announced in the paper. Thus the three slides (all including marks) may be considered as hapantophoronts (ICZN 1999 Art. 73.3). Nucleospecies (Tab. 6).
- hovassei Sathrophilus* GROLIERE, 1975 [Ann. Sta. Biol. Besse-en-Chandesse 9] – FOISSNER, ADAM & FOISSNER I. (1982) Zool. Jb. Syst. 109: 451. **OT:** Pond in the garden of the Zoological Institute; Karlsruhe, Germany (49°0'N, 8°30'E). 2 **NP? (sd):** 1981/58 (wet silver nitrate method), 1981/59. **Remarks:** Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes”.
- humicola longisetum Tachysoma* FOISSNER, 1998 – Europ. J. Protistol. 34: 226. **OT:** Soil from Shetani volcano area; Tsavo National Park, Kenya (about 2°55'S, 38°0'E). **HP (unspecific od on page 196):** 1997/109 (six marks); **PP:** 1997/110 (three six marks). **Remarks:** Slides incorrectly labelled as *T. h. longisetae* and in addition the first as “holotype” and the latter slide as “syntype”.

- humicola* *Tachysoma* GELLÉRT, 1957 [Annls Inst. Biol. pervest hung. **24**: 20.] – FOISSNER (1984) *Stapfia* **12**: 121. **OT**: Soil at the edge of a small salt lake in the so-called “hell”; Seewinkel, Burgenland, Austria (47°48'N, 16°49'E). **NP?** (**sd**): 1984/97. **Remarks**: Neotypification not mentioned in paper (see page 8), but slide designated, although mislabelled as “paratype”. Currently subspecies rank (see above).
- humile* *Rimostrombidium* (PENARD, 1922) PETZ & FOISSNER, 1992 – KRAINER (1995) *Lauterbornia* **21**: 40, 58. **OT**: Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50'N, 15°30'W). 2 **NP** (unspecific **od** on page 40): 1992/32, 1992/33 (as *Strobilidium* h.). **Remarks**: Redescribed on the basis of unpublished data of KRAINER (1988, doctoral thesis Univ. Graz: 162) by FOISSNER, BLATTERER, BERGER & KOHMANN (1991, Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **1/91**: 159). “Typification” and additional observations mentioned in KRAINER (1995, *Lauterbornia* **21**: 40, 58). Protonym: *Strobilidium* h. PENARD, 1922 – *Études Infusoires*: 218.
- hyalina* *Sagittaria* FOISSNER, CZAPIK & WIACKOWSKI, 1981 [Arch. Protistenk. **124**: 362] – FOISSNER (1987) *Zool. Beitr. N. F.* **31**: 244. **OT**: Strongly haline soil; Bay of Nauplion, Peloponnesus, Greece (37°34'N, 22°48'E). 2 **NP?** (**sd**): 1988/70, 1988/71 (wet silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slides labelled.
- hyalina* *Tachysoma* BERGER, FOISSNER & ADAM, 1984 – *Zool. Jb. Syst.* **111**: 359. **OT**: Soil of an alder forest (*Alnetum viridis*); Stubnerkogel, Bad Gastein, Salzburg, Austria (47°7'N, 13°6'E). **HP** (**od**): 1982/60. **Remarks**: “Paratype” deposition indicated, but not performed. Currently *Lamtoystyla* h. according to BERGER & FOISSNER (1987, *Zool. Jb. Syst.* **114**: 216).
- hyalinum* *Blepharisma* PERTY, 1852 [Kenntn. klein. Lebensformen: 144] – FOISSNER (1989) *Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt.* **196**: 226. **OT**: Soils along the Großglockner-Hochalpenstraße, Carinthia and Salzburg, Austria. 2 **NP** (**od**): 1988/46, 1988/47. **Remarks**: No specific site given.
- hyalinum* *Ophrydium* WRZESNIOWSKI, 1877 [Z. wiss. Zool. **29**] – FOISSNER (1989) *Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt.* **196**: 222. **OT**: Puddle; near Moosstraße, urban area of Salzburg, Austria (47°48'N, 13°02'E). 7 **NP** (**od**): 1988/39, 1988/40, 1988/41, 1988/42 (wet silver nitrate method); 1988/43, 1988/44, 1988/45 (three dry silver nitrate method). **Remarks**: Two slides indicated. Location according to note on page 174.
- I**
- illuvialis* *Amphisiellides* EIGNER & FOISSNER, 1994 – *J. Eukaryot. Microbiol.* **41**: 243. **OT**: Litter from a disused pigpen; village of Schroetten, Deutsch Goritz, Austria (320 m altitude, 46°47'N, 15°49'E). **HP** (**od**): 1993/103 (one mark), **PP**: 1993/44 (unmarked). **Remarks**: Due to earlier deposition other inventory numbers as stated in the paper, viz. 1994/10, 1994/11.
- incaudata* *Trachelocerca* KAHL, 1933 [Tierwelt Nord- und Ostsee **II**. **c3**: 56] – DRAGESCO (2002) *Linzer biol. Beitr.* **34**: 1550. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). 2 **NP** (unspecific **od** on page 1547): 2002/809, 2002/810.
- incisa* *Euplotopsis* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 868. **OT**: Slightly saline coastal soil; Dugi Otok, a small island at the Adriatic sea coast, Croatia (44°00'N, 15°00'E). 2 **SP** (**od**): 2002/651 (wet silver nitrate method), 2002/652; **PP**: 2002/653, 2007/690. **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- inermis* *Apertosphathula* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 318. **OT**: Sand dune; near the town of St. Anthony, Idaho, USA (43°N, 112°W). **HP** (**od**): 2002/659; 2 **PP**: 2002/660, 2002/661. **Remarks**: Nucleospecies (Tab. 6); *Apertosphathula* is the nucleogenus of Apertosphathulidae FOISSNER, XU & KREUTZ, 2005 (Tab. 7).
- “*inermis* *Edaphosphathula*” FOISSNER & XU, 2007 – *Monogr. Biologicae* **81**: 76. **OT**: Grassland soil; surroundings of the Paiku-Tso lake, South Tibet, China (about 4700 m altitude, 28°45'N, 85°45'E). **HP** (**od**): 2007/110. 3 **PP**: 2007/110, 2007/111, 2007/112. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- inflata* *Colpoda* (STOKES, 1884) KAHL, 1931 – FOISSNER (1980) *Zool. Jb. Syst.* **107**: 419. **OT**: Unknown; Lower Austria (label). **NP?** (**sd**): 1981/28 (wet silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”. No precise site given, neither in the original paper nor the given reference. The original locus classicus is a water container used to grow Chinese narcissuses in New Jersey, USA, suspecting that the species might have been imported from China with the bulbs (cf. FOISSNER 1993, *Protozoenfauna* **4/1**: 144). Protonym: *Tillina* i. STOKES, 1884 – *Am. Nat.* **18**: 138.
- infravacuolatus* *Pseudohaplocaulus* FOISSNER & BROZEK, 1996 – *Int. Revue ges. Hydrobiol.* **81**: 330. **OT**: Attached to planktonic colonies of *Anabaena* sp.; Lake Grabensee, Salzburg, Austria (48°0'N, 13°5'E). 2 **SP** (**od**): 1998/121 (dry silver nitrate method), 1998/123; 2 **PP**: 1998/122, 1998/124 (dry silver nitrate method). **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Moreover “syntypes” instead of “paratypes” and concerning coordinates W instead of E are mentioned on page 332.
- inquieta* *Steinia* (STOKES, 1887) DIESING, 1866 – FOISSNER (1984) *Stapfia* **12**: 115. **OT**: Flood plain soil, dominated by *Phalaris arundinacea* and *Phragmites australis*; Vogelsang near the village of Grafenwörth, Tullnerfeld, Lower Austria (48°24'N, 15°47'E). 2 **NP?** (**sd**): 1984/91, 1984/92. **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes”. Protonym: *Histrio inquietus* STOKES, 1887 – *Ann. Mag. nat. Hist.* **20**: 113. BERGER & FOISSNER (1987, *Zool. Jb. Syst.* **114**: 227f.) introduced the name *Steinia primicirrata* for the misidentified species of FOISSNER (1984). FOISSNER (1989, *Sber. Österr. Akad. Wiss., Math.-Naturwiss.* **196**: 239) transferred it to *Cyrtohymena* and a subgeneric status may

be supposed (Tab. 5) according to FOISSNER (2004, Denisia 13: 371), although not formally transferred. BERGER (1999: 300) mentions "1 slide" deposited.

interrupta Nudiampisiella FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 694. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP (od)**: 2002/370; 5 **PP**: 2002/343, 2002/351, 2002/371, 2002/372, 2002/373. **Remarks**: Nucleospecies (Tab. 6).

inversus Metopus (JANKOWSKI, 1964) FOISSNER & AGATHA, 1999 – J. Eukaryot. Microbiol. 46: 177. **OT**: Soil from the margin of a pool communicating with a nearby stream; Aubschlucht, Bullsport, Namibia (24°S, 16°20'E). 6 **NP (od)**: 2002/436, 2002/437, 2002/438, 2002/439, 2002/440, 2002/444. **Remarks**: "Type" material also mentioned in FOISSNER, AGATHA & BERGER (2002, Denisia 5: 40). Protonym: *Brachonella inversa* JANKOWSKI, 1964 – Zool. Zh. 43.

islandica Lamtostyla BERGER & FOISSNER, 1988 – Zool. Anz. 220: 122. **OT**: Soil of a heath with dwarf shrubs; Gooa Foss, Bardárdalur, North-Iceland (63°48'N, 18°37'W). **HP (od)**: 1988/53; **PP**: 1988/56. **Remarks**: Replacement name for *Tachysoma perisincirra* HEMBERGER, 1985 (pro parte).

J

jankowskii Philina FOISSNER, 1984 – Stapfia 12: 64. **OT**: Sapropel of River Drau near barrage Amlach; Lienz, Eastern Tyrol, Austria (46°49'N, 12°45'E). 2 **SP (unspecific od on page 8)**: 1984/49; 1984/50 (wet silver nitrate method). **Remarks**: Two slides are labelled as "holotype", because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.

japonicum Arcuospithidium FOISSNER, 1988 – Stapfia 17: 102. **OT**: Soil of a deciduous forest; Mt. Kado-yama, Amakusa Islands, Kumamoto Prefecture, Japan (32°48'N, 130°43'E). **HP (unspecific od on page 88)**: 1989/13; **PP**: 1989/14.

japonicum Pseudomonilicaryon FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 378. **OT**: Tree and soil mosses; surroundings of the "Spring of Wisdom", Kyoto, Japan (35°00'N, 135°45'E). **HP (od)**: 2002/682; 4 **PP**: 2002/683, 2002/684, 2002/685, 2002/686.

jesnerae Enchelyotricha FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 186. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP (od)**: 2002/355; 3 **PP**: 2002/345, 2002/352, 2002/359.

K

kahli Obertrumia FOISSNER, 1989 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. 196: 196. **OT**: Soil of a pine forest; Madeira, Portugal (32°40'N, 16°45'W). **HP (od)**: 1988/25; **PP**: 1988/26 (both wet silver nitrate method).

kahli Stammeridium (WENZEL, 1953) FOISSNER, 1985 – Zool. Anz. 214: 44. **OT**: Soil; Haitzing-Alm (Rumicetum alpini) on the east slope of Stubnerkogel near Badgastein, Salzburg, Austria (47°5'N, 13°7'E). **NP? (sd)**: 1981/48 (dry silver nitrate method). **Remarks**: "Typification" not mentioned in the original paper, but slide designated.

Protonym: *Stammeriella k.* WENZEL, 1953 – Arch. Protistenk. 99. Nucleospecies of *Stammeridium* WENZEL, 1969 (Tab. 6).

kaneshiroae Corticocolpoda FOISSNER, 1993 – J. Eukaryot. Microbiol. 40: 764. **OT**: Bark of Ohia trees (*Metrosideros polymorpha*) in the Bird Park of the Volcano National Park, Big Island, Hawaiian Archipelago, USA (19°25'N, 155°20'W). 2 **SP (od)**: 1997/28, 1997/31 (wet silver nitrate method); 2 **PP**: 1997/29, 1997/30 (wet silver nitrate method). **Remarks**: Two slides are labelled as "holotype", because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies (Tab. 6).

karinae Urosoma FOISSNER, 1987 – Jber. Haus der Natur Salzburg 10: 62. **OT**: Soil of a meadow in front of the Piffmoos; Fuscher Tal, Salzburg, Austria (47°9'N, 12°48'E). **HP (od)**: 1988/114; **PP**: 1988/115. **Remarks**: Labelled and published as *U. karini*, which was nomenclaturally incorrect (cp. FOISSNER 1998, Europ. J. Protistol. 34: 210).

kirkeniensis Lamtostyla BERGER & FOISSNER, 1988 – Zool. Anz. 220: 124. **OT**: Tundra soil near the airport of Kirkenes, Norway (69°43'N, 30°3'E). **HP (od)**: 1988/54; **PP**: 1988/55.

kleini Colpidium FOISSNER, 1969 [Acta Protozool. 7: 19] – GANER & FOISSNER (1989) Hydrobiologia 182: 197. **OT**: Macrophyte-based waste water treatment system in Ardenberg, Upper Austria (48°8'N, 12°58'E). 3 **NP (od without number on page 182)**: 1989/9, 1989/11 (wet silver nitrate method); 1989/10 (silver carbonate method). **Remarks**: Location according to slides.

kopimorphus Litonotus PETZ, SONG & WILBERT, 1995 – Stapfia 40: 47. **OT**: Multiyear land-fast sea ice; Weddell Sea, Antarctica (70°31'S, 7°59'W). **SP? (od)**: 2001/54; **PP**: 2001/33. **Remarks**: Slide with three big circles, but since further species are included, the status remains to be clarified.

kryalis Strombidium PETZ, 1994 – Arch. Protistenk. 144: 186. **OT**: Sea ice; Weddell Sea, Antarctica (69°12'S, 12°14'W). **HP (od)**: 2001/142.

kryophilus Zosterodasys PETZ, SONG & WILBERT, 1995 – Stapfia 40: 59. **OT**: Pancake sea ice; Weddell Sea, Antarctica (69°26'S, 7°19'W). **SP? (od)**: 2001/150, **PP**: 2001/54. **Remarks**: Slide with one big circle, moreover "cells" are announced in the paper.

kuehnelti Gonostomum FOISSNER, 1987 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. 195: 263. **OT**: Field soil; Seekirchen, Salzburg, Austria (47°54'N, 13°8'E). **HP (od)**: 1986/48; 2 **PP**: 1986/49, 1986/50. **Remarks**: Only one "paratype" indicated in the paper, but two slides labelled.

L

labiatus Euplotes RUINEN, 1938 [Revta Biol. trop. 9.] – BLATERER & FOISSNER (1988) Stapfia 17: 29. **OT**: Alexandria Lake (Point Pelican) near Adelaide, Australia (34°47'S, 138°29'E). 2 **NP? (sd)**: 1989/51 (wet silver nitrate method); 1989/52. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Currently *Euplotes labiata* according to FOISSNER, AGATHA & BERGER (2002, Denisia 5: 868).

- labiatus Nassulides* (KAHL, 1933) FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 448. **OT**: Saline grassland soil about 200 m inshore and behind a coastal dune; surroundings town of Armacao de Pera, Algarve coast, Portugal (37°06'N, 8°21'W). 4 **NP** (od): 2002/646, 2002/647, 2002/648, 2002/649 (all wet silver nitrate method). **Remarks**: Protonym: *Nassula labiata* KAHL, 1933 – Tierwelt Nord- und Ostsee II. c3: 66.
- lacustris Stenosemella* FOISSNER & O'DONOGHUE, 1990 – *Invertebr. Taxon.* 3: 685. **OT**: Lake Alexandrina, Murray Mouth Barrages, South Australia (35°26'S, 139°10'E). **PP**: (unspecifically od on page 662): 1988/188. **Remarks**: A single “holotype” slide is deposited in AMS.
- lagenula Enchelyodon* (KAHL, 1930) BLATTERER & FOISSNER, 1988 – *Stapfia* 17: 11. **OT**: Bark overgrown with lichens and mosses of a secondary pine forest near Innisfail; Chairns, Australia (17°32'S, 146°2'E). **NP?** (sd): 1989/82. **Remarks**: Neotypification not mentioned in paper, but slide designated. Protonym: *Spathidium l.* KAHL, 1930 – *Arch. Protistenk.* 70: 388.
- lagenula Lacrymaria* CLAPARÈDE & LACHMANN, 1859 [Mém. Inst. natn. génev. 6] – PETZ, SONG & WILBERT (1995) *Stapfia* 40: 36. **OT**: Endopagial of pancake and multiyear sea ice; Weddell Sea, Antarctica (69°07'–71°00'S, 7°59'–12°08'W). **NP** (od without number): 2001/66.
- lagyniforme Spathidium* KAHL, 1930 [Tierwelt Dtl. 18: 155] – FOISSNER (1984) *Stapfia* 12: 74. **OT**: Soil of a conventionally farmed field; Bierbaum, Lower Austria (48°23'N, 15°56'E). **NP?** (sd): 1984/54. **Remarks**: Neotypification not mentioned in paper (see page 8), but slide designated, although mislabelled as “paratype”. Currently *Semispathidium l.* according to FOISSNER, AGATHA & BERGER (2002, *Denisia* 5: 327).
- “*lajacola Apertospathula*” FOISSNER & XU, 2007 – *Monogr. Biologicae* 81: 359. **OT**: Ephemeral puddles (Lajas) on granite outgrowths; between Agricultural Research Institute and airport Pto. Ayachucho, Venezuela (about 6°N, 75°W). **HP** (od): 2007/33. 5 **PP**: 2007/29, 2007/30, 2007/31, 2007/32, 2007/33. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- lamella Litonotus* (MÜLLER, 1773) SCHEWIAKOFF, 1886 – FOISSNER & O'DONOGHUE (1990) *Invertebr. Taxon.* 3: 672. **OT**: [Probably] standing waters and ponds; metropolitan area of Perth, West Australia (31°57'S, 115°58'E). 2 **NP** (od): 1988/191, 1988/192. **Remarks**: “Typification” only generally mentioned on page 662. Precise details of the collection sites were not recorded. Protonym: *Kolpoda lamella* MÜLLER, 1773 – *Vermium Terrestrium et Fluviatilium*: 56.
- lanceolata Oxytricha* SHIBUYA, 1930 [J. imp. agric. Exp. Stn Tokyo 1: 214] – BERGER & FOISSNER (1987) *Zool. Jb. Syst.* 114: 219. **OT**: Soil of a pasture near Seekirchen, Salzburg, Austria (47°54'N, 13°8'E). 2 **NP?** (sd): 1986/77, 1986/78. **Remarks**: Neotypification not mentioned in paper, but slides labelled.
- lanceoplites Spathidium* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 267. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/351; 2 **PP**: 2002/342 (Fig. 36 also as *S. lancioplites*), 2002/358.
- langae Hackenbergia* FOISSNER, 1997 – *Limnologica* (Berlin) 27: 230. **OT**: River Illach; Bavaria, Germany (47°43'N, 10°55'E). 3 **SP?** (od): 1998/56 (Fig. 10), 1998/57, 1998/58. **Remarks**: Announced as one “holotype” and two “syntype” slides, however, the first slide is labelled as “hologenotype” (10 marks; Fig. 10), the second as “paratype” (six marks), while the third is undesignated with one mark referring to ontogenesis. Thus, the three slides (all including marks) may be considered as hapantoporphoronts (ICZN 1999 Art. 73.3). Nucleospecies (Tab. 6).
- latus Platyophryides* (KAHL, 1930) FOISSNER, 1987 – FOISSNER, AGATHA & BERGER (2002) *Denisia* 5: 977. **OT**: Mixture of plant litter and brownish, highly saline and circumneutral sand; Wadi Ram about 10 km east of Al Aqaba, Jordan (29°30'N, 15°35'E). 4 **NP** (od): 2002/586, 2002/587, 2002/588, 2002/589 (all wet silver nitrate method). **Remarks**: Protonym: *Platyophrya lata* KAHL, 1930 – *Tierwelt Dtl.* 18: 65. Nucleospecies of *Platyophryides* FOISSNER, 1987 (Tab. 6).
- lentus Ascobius* HENNEGUY, 1884 [Archs Zool. exp. gén. 2: 412] – MULISCH, HEEP, STURM & BORCHERDING (1998) *Acta Protozool.* 37: 29. **OT**: “Alte Kiesgrube” in the floodplain of the Lower Rhine between the cities Rees and Emmerich, Germany (51°48'N, 6°20'E). 5 **NP** (od): 1998/14, 1998/15, 1998/16, 1998/17, 1998/18. **Remarks**: Labels undesignated, but according to paper. Nucleospecies (Tab. 6).
- levis Pseudourostyla* TAKAHASHI, 1973 [J. Sci. Hiroshima Univ., Ser. B, Div. I. Zool. 24: 145] – BERGER (2006) *Monogr. Biologicae* 85: 778. **OT**: [likely rice-stubble from paddy fields]; Kumano-cho, Aki-gun, Hiroshima Prefecture, Japan (34°19'49"N, 132°34'43"E). 2 **NP** (od): 2006/85 (“ontogenesis illustrated”), 2006/86 (“neotype illustrated”). **Remarks**: BERGER (2006: 778) designated the specimen shown in figs. 150h, i as neotype, but two slides were deposited. Coordinates according to the latter publication (page 786).
- lingua multistriatum Bryophyllum* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 345. **OT**: Mud from granitic rock-pools in a stream; Windhoek, Daan Viljoen Game Park, Namibia (22°35'S, 17°5'E). **HP** (od): 2002/34; 7 **PP**: 2002/35, 2002/36, 2002/37, 2002/38, 2002/39, 2002/40, 2002/41. **Remarks**: Currently *Neobryophyllum l. m.* (FOISSNER, AGATHA & BERGER 2002) FOISSNER in FOISSNER & LEI, 2004 (*Linzer biol. Beitr.* 36: 162).
- lionotiforme Arcuospathidium* (KAHL, 1930) FOISSNER, 1984 – *Stapfia* 12: 78. **OT**: Soil of a mixed forest (*Asperulo-Fagetum*); village of Baumgarten, Lower Austria (48°22'N, 15°34'E). 4 **NP?** (sd): 1984/58, 1984/57, 1984/59, 1984/60. **Remarks**: Neotypification not mentioned in paper (see page 8), but slides labelled, although incorrectly as “paratype”. Protonym: *Spathidium l.* KAHL, 1930 – *Arch. Protistenk.* 70: 383. This taxon was lowered to subspecies rank, viz. *Arcuospathidium cultriforme lionotiforme* (cp. FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 300). Considered as misidentification and a junior subjective synonym of *A. c. scalpriforme* according to FOISSNER (2003, *Acta Protozool.* 42: 54).

- livida Hemisincirra* BERGER & FOISSNER, 1987 – Zool. Jb. Syst. **114**: 211. **OT**: Litter and upper soil layer of a pasture; between Nauplion and Tripolis, Peloponnesus, Greece (37°34'N, 22°48'E). **HP** (unspecific **od** on page 195): 1986/63; **PP**: 1986/64. **Remarks**: Currently *Terricirra l.* according to BERGER & FOISSNER (1989, Bull. Br. Mus. nat. Hist. (Zool.) **55**: 36).
- loeffleri Wolfkoscia* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 459. **OT**: Rock-pools at bank; Rio Corobici at the hacienda “La Pacifica” (Centro Ecológico “La Pacifica”), Cañas, Costa Rica (10°28'N, 85°10'W). **2 SP** (**od**): 2002/757 (dry silver nitrate method), 2002/758 (wet silver nitrate method); **7 PP**: 2002/617, 2002/618 (both wet silver nitrate method); 2002/619, 2002/759, 2002/760, 2002/761, 2002/762. **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleo-species (Tab. 6).
- longicaudata Condylostoma* DRAGESCO, 1996 – Cah. Biol. mar. **37**: 276. **OT**: Marine sand; Corniche in Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). **4 SP?** (**od**): 1997/5 (one mark), 1997/6 (two marks), 2002/867, 2002/868. **Remarks**: A “holo- and paratype” are announced in the paper, but two more slides referring to this paper were deposited years later.
- longicirrata Perisincirra* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 632. **OT**: Soil with some litter and roots; University Campus, Abomey-Calavi, Benin (6°27'N, 2°21'E). **HP** (**od**): 2002/548; **2 PP**: 2002/549, 2002/550.
- longicollis Tracheloraphis* (DRAGESCO, 1960) FOISSNER & DRAGESCO, 1996 – Arch. Protistenk. **147**: 75. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **2 NP** (**od**): 1998/33, 1998/32. **Remarks**: Unspecifically designated as type specimens, but in fact neophoronts; labels unspecifically refer to this paper. Protonym: *Trachelonema l.* DRAGESCO, 1960 – Trav. Stn. biol. Roscoff (N. S.) **12**: 135.
- longinassa Nassula* FOISSNER, 1980 [Naturk. Jb. Stadt Linz **25**: 200] – FOISSNER, AGATHA & BERGER (2002) Denisia **5**: 414. **OT**: Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **2 NP** (**od**): 2002/66; 2002/67 (wet silver nitrate method).
- longinucleatus Enchelyodon* FOISSNER, 1984 – Stapfia **12**: 53. **OT**: Soil of a meadow near Lange Lacke; Seewinkel, Burgenland, Austria (47°43'N, 16°49'E). **2 SP** (unspecific **od** on page 8): 1984/38; 1984/39 (dry silver nitrate method). **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- longiseris Amphisiella* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 680. **OT**: Sieved litter from bank of river; Bukaos River, about 80 km north of the town of Keetmanshoop, Namibia (25°40'S, 18°10'E). **HP** (**od**): 2002/466; **5 PP**: 2002/467, 2002/468, 2002/469, 2002/470, 2002/471.
- “longiseta Apertospathula”* FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 342. **OT**: Soil; Zambezi floodplain about 1.5 km upstream the Victoria Falls, Botswana (18°4'S, 25°50'E). **HP** (**od**): 2007/28. **5 PP**: 2007/24, 2007/25, 2007/26, 2007/27, 2007/28. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- longitricha Enchelys* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 101. **OT**: Moderately saline and alkaline, dark-red sand mixed with some halophyte litter; surroundings of the village El Haouaria, about 100 m inshore of Cape Bon, Tunisia (36°40'N, 10°40'E). **HP** (**od**): 2002/607; **2 PP**: 2002/608, 2002/609.
- lorjeae Arcuospithidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 295. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (**od**): 2002/354; **6 PP**: 2002/341, 2002/344, 2002/346, 2002/352, 2002/353, 2002/355.
- livida Naxella* (REUTER, 1961) FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 445. **OT**: Highly saline soil; Etosha National Park, lookout “Etosha”, Namibia (18°50'S, 16°30'E). **4 NP** (**od**): 2002/31 (mislabelled as “paratype”); 2002/61, 2002/62, 2002/63 (wet silver nitrate method). **Remarks**: Protonym: *Nassula livida* REUTER, 1961 – Acta zool. fenn. **99**: 12.
- ludwigi Avestina* AESCHT & FOISSNER, 1990 – Zool. Anz. **225**: 102. **OT**: Spruce forest litter; “Böhmerwald”, Upper Austria (48°42'N, 14°E). **HP** (**od**): 1993/119 (dry silver nitrate method).
- lugeri Eschaneustyla* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 572. **OT**: Forest soil; Taveuni island, Fiji Islands, Pacific Ocean (16°52'S, 180°E). **HP** (**od**): 2002/738; **4 PP**: 2002/739, 2002/740, 2002/741, 2002/742.
- lwoffi Heteropolaria* (FAURÉ-FREMIET, 1943) FOISSNER & SCHUBERT, 1977 – FOISSNER (1983) Zool. Jb. Syst. **110**: 401. **OT**: Morbid carp (*Cyprinus carpio*) from a fish farming; Kremsmünster, Upper Austria (48°3'N, 14°8'E). **2 NP?** (**sd**): 1982/73; 1982/74 (dry silver nitrate method). **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes”. Protonym: *Epistylis lwoffi* FAURÉ-FREMIET, 1943 – Bull. Soc. zool. Fr. **68**: 154.

M

- macrostoma Apocolpodidium* (Phagoon) FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 498. **OT**: Soil; Everglades, Florida, USA (about 26°N, 81°W). **HP** (**od**): 2002/662 (wet silver nitrate method); **2 PP**: 2002/663 (wet silver nitrate method); 2002/664. **Remarks**: Nucleospecies of the subgenus (Tab. 6).
- macrostoma Paraurostyla* FOISSNER, 1982 – Arch. Protistenk. **126**: 43. **OT**: Soil of a riverine floodplain; Vogelsang near Grafenwörth, Lower Austria (48°24'N, 15°47'E). **HP** (**sd**): 1981/83. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Currently *Parakahliella m.* and nucleospecies of the latter genus according to BERGER, FOISSNER & ADAM (1985, Protistologica **21**: 309; Tab. 6), which is the nucleogenus of Parakahliellidae EIGNER, 1997 (Tab. 7).
- macrostoma Pseudoamphileptus* (CHEN, 1955) FOISSNER, 1983 – Zool. Jb. Syst. **110**: 405. **OT**: Morbid carp (*Cyprinus carpio*) from a fish farming; Kremsmünster, Upper Austria (48°3'N, 14°8'E). **NP?** (**sd**): 1982/57. **Remarks**: Neotypi-

- fication not mentioned in paper, but slide designated, although mislabelled as “genotype”. Protonym: *Hemiophrys m.* CHEN, 1955 – Acta hydrobiol. sin. 1955, 2: 136. Nucleospecies of *Pseudoamphileptus* FOISSNER, 1983 (Tab. 6).
- macrostyla Urosoma* (WRZESNIEWSKI, 1866) FOISSNER, 1982 – Arch. Protistenk. 126: 114. OT: Soil of a riverine floodplain; Althan near Zwentendorf, Lower Austria (48°23'N, 15°56'E). NP? (sd): 1981/80. Remarks: Neotypification not mentioned in the original paper, but slide designated, although mislabelled as “paratypes”. Protonym: *Oxytricha m.* WRZESNIEWSKI, 1870 – Z. wiss. Zool. 20: 474. Since original material of the junior synonym of *U. ambigua* (see above) has been deposited, the neotypification needs clarification.
- magna Schizocalyptra* DRAGESCO, 1968 – Protistologica 4: 97. OT: Shallow-water; Roscoff, France (48°44'N, 3°59'W). 2 SP (sd): 2002/917, 2002/937 (wet silver nitrate method). Remarks: “Typification” not mentioned, but labels refer to this paper; each slide has one mark. Collections years 1956 und 1968. Nucleospecies (Tab. 6).
- magna Tillina* GRUBER, 1879 [Zool. Anz. 2: 519] – FOISSNER (1985) Arch. Protistenk. 129: 257. OT: Astatic meadow-pond; between the so-called Henkerhaus and the Peterweiher, urban area of Salzburg, Austria (47°48'N, 13°02'E). NP? (sd): 1984/28 (wet silver nitrate method). Remarks: Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratypes”. Nucleospecies (Tab. 6). Currently *Colpoda m.* (GRUBER, 1879) LYNN, 1978 according to FOISSNER (1993, Protozoenfauna 4/1: 215).
- magnigranulosa Amphisiella* FOISSNER, 1988 – Stapfia 17: 115. OT: Soil of a coffee plantage near Nairobi, Kenya (1°20'S, 36°50'E). HP (unspecific od on page 88): 1989/21; PP: 1989/22.
- magnus Loxodes* STOKES, 1887 [Ann. Mag. nat. Hist. 20: 106] – FOISSNER & RIEDER (1983) Zool. Anz. 210: 3. OT: Decomposing litter on the margin of a quarry pond; Karlsruhe, Germany (49°0'N, 8°30'E). 2 NP? (sd): 1981/2, 1981/3. Remarks: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes”.
- major Geleia* DRAGESCO, 1954 [Bull. Soc. zool. Fr. 79: 60] – DRAGESCO (1999) Stapfia 66: 20. OT: Shallow-water; Roscoff, France (48°44'N, 3°59'W) and Thau lagoon, Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). 5 NP? (unspecific od on page 7): 1999/154, 1999/155, 1999/156, 1999/157, 1999/158. Remarks: Different localities and sampling years: without site 1994 (one mark, first slide), Sète 1997 (three marks, second slide; two marks, third slide) and Thau 1999 (six and two marks, respectively). Labels undesignated, thus “typification” according to paper; as two varieties are mentioned, the taxonomy of this species needs clarification. Since the unavailable genus was revalidated by FOISSNER in COOMBS et al. (1998, The karyorelictids: 308), nomenclatural authorship is complicated, viz. a new combination is not supported by ICZN (1999 Art. 51.3, 50.1, Rec. 50C, 51F).
- margaritata chlorelligera Pseudovorticella* (KAHL, 1935) FOISSNER & SCHIFFMANN, 1975 – Protistologica 11: 420. OT: Sphagnum infusion; Ibmer Moor, Upper Austria (48°3'N, 12°57'E). 4 NP? (sd): 1975/55, 1975/56, 1975/57, 1982/62 (all dry silver nitrate method). Remarks: “Typification” not mentioned in the original paper; slides “typified” on a sheet of paper, but not labelled. The latter slide also designated, although mislabelled as “holotype”, but from the same site. Protonym, trinomial: *Vorticella m. c.* KAHL, 1935 – Tierwelt Dtl. 30: 730. Considered as junior subjective synonym of *Pseudovorticella fasciculata* (MÜLLER, 1773) by FOISSNER & BROZEK (1996, Intern. Revue Ges. Hydrobiol. 81: 348).
- marina Fuscheria* PETZ, SONG & WILBERT, 1995 – Stapfia 40: 29. OT: Pancake sea ice; Weddell Sea, Antarctica (69°49'S, 8°02'W). SP? (od): 2001/128. Remarks: Slide with one big circle, moreover “cells” are announced in the paper.
- martinicense Parduczia* (NOUZAREDE, 1977) DRAGESCO, 1999 – Stapfia 66: 68. OT: Marine sand; Thau lagoon, Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). 5 NP (unspecific od on page 7): 1999/173, 1999/174, 1999/175, 2002/850, 2002/856. Remarks: Protonym: *Geleia m.* NOUZAREDE, 1977 – Bull. Stn. biol. Arcachon (N.S.), Suppl. 28. Since the genus has feminine gender the species name has to be corrected to *P. martinicensis* according to ICZN (1999 Art. 31.2).
- massutii Pseudomonilicaryon* (KAHL, 1933) FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 373. OT: Highly saline soil; Etosha National Park, Okerfontein water-hole, Namibia (18°45'S, 16°45'E). 5 NP (od): 2002/34, 2002/42, 2002/43, 2002/44, 2002/45. Remarks: Protonym: *Dileptus m.* KAHL, 1933 – Tierwelt Nord- und Ostsee II. c3: 63.
- matiense Telotrochidium* (MARTIN-CERECEDA, SERRANO & GUINEA, 1999) MARTIN-CERECEDA, GUINEA, BONACCORSO, DYAL, NOVARINO & FOISSNER, 2007 – Europ. J. Protistol. 43: 265. OT: Inlet water to a rotating biological contractor wastewater treatment plant; Madrid, Spain (40°24, 3°41'W). 2 SP? (sd?): 2007/665; 2007/669 (dry silver nitrate method). 7 PP: 2007/666, 2007/667, 2007/668, 2007/670, 2007/671, 2007/672, 2007/673. Remarks: Protonym: *Opisthnecta m.* MARTIN-CERECEDA, SERRANO & GUINEA, 1999 – J. Eukaryot. Microbiol. 46: 283. MARTIN-CERECEDA et al. (2007: 266) only mentioned that a type culture has been deposited at the Culture Collection of Algae and Protozoa (CCAP, accession number 1655/2), which was also used for the investigation. Not explicitly “typified”, but two slides labelled as “holotype”, because of different preparation methods, and seven as “paratypes”; needs clarification.
- matthesi tristicha Urotricha* FOISSNER & PFISTER, 1997 – Limnologica (Berlin) 27: 343. OT: Plankton of an artificial pond at Salzburg University, Salzburg, Austria (47°48'N, 13°40'E). 4 SP (od): 1998/99 (mislabelled as “holotype”), 1998/95, 1998/96, 1998/98. Remarks: On page 343 the authors mention “A holotype slide and three syntypes”, an incorrect combination according to ICZN (1999 Art. 73.1, 73.2).
- matthesi Urotricha* KRÄINER, 1995 – Lauterbornia 21: 43. OT: Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50' 15°30'W). HP (unspecific od on page 40): 1992/41; PP: 1992/42. Remarks: FOISSNER & PFISTER (1997: 340) incorrectly refer to “One

- holotype and one syntype slide" (cp. note above). Currently *U. matthesi matthesi* according to FOISSNER, BERGER & SCHAUMBURG (1999, Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 340).
- megastoma Enchelyodon* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 139. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). 2 **SP** (od): 2002/364, 2002/347; 4 **PP**: 2002/348, 2002/349, 2002/391, 2002/392. **Remarks**: Two slides are labelled as "holotype" violating Art. 73.2 (ICZN 1999), thus symphoronts.
- metabolicus Woodruffides* (JOHNSON & LARSON, 1938) FOISSNER, 1987 – Zool. Beitr. N. F. 31: 232. **OT**: Soil of a coastal rain forest; Shimba Hills near Mombasa, Kenya (4°13'S, 39°25'E). 3 **NP?** (sd): 1988/65, 1988/66 (wet silver nitrate method); 1988/67 (labelled and published as *W. metabolica*). **Remarks**: Neotypification not mentioned in paper, but slides labelled. Protonym: *Woodruffia metabolica* JOHNSON & LARSON, 1938 – Arch. Protistenk. 90: 383. Since the genus has masculine gender the species name was corrected to *W. metabolicus* by FOISSNER (1992 Protozoenfauna 4/1: 630), although not formally.
- microstoma Colpodidium* (*Colpodidium*) FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 485. **OT**: Mud from granitic rock-pools on the Kruger Tablets; Kruger National Park, Republic of South Africa (23°S, 31°E). **HP** (od): 2002/551 (wet silver nitrate method); 2 **PP**: 2002/552; 2002/553 (dry silver nitrate method).
- minima Gastrostyla* HEMBERGER, 1985 [Arch. Protistenk. 130: 406] – FOISSNER (1997) Limnologica (Berlin) 27: 225. **OT**: Benthos; Röslau, a clean, periodically acidified brook, about 2.5 km down-stream the spring in the Fichtelgebirge, Bavaria; Germany (about 50°N, 12°E). 8 **SP?** (sd): 1998/77, 1998/78, 1998/79, 1998/80, 1998/81, 1998/82, 1998/83, 1998/84. **Remarks**: Stated as "neotypes" (8 slides) in AESCHT (2003, Beitr. Naturk. Oberösterreichs 12: 390), but in fact deposited as vouchers of the misidentified species of FOISSNER (1997, Limnologica (Berlin) 27: 225) for which the new name ("nov. spec.") *Gastrostyla* (*Kleinstyla*) *bavariensis* was established by FOISSNER, AGATHA & BERGER (2002, Denisia 5: 743). Since this taxon is the nucleospecies of the subgenus (Tab. 6) a name-bearing "type" is necessary according to ICZN (1999 Art. 72.3), though no statement to such "typification" is included in the paper, thus strictly the subgenus is nomenclaturally unavailable due to aphory. According to ICZN (1999 Art. 65.2.2) "by the discovery of an overlooked fixation of type species for the type genus (or of the name-bearing type for that type species), the case is to be referred to the Commission for a ruling [Art. 70.2]".
- minima Opisthonia* FOISSNER, 1975 – Protistologica 11: 407. **OT**: Streamlet Gaisbach; Wartberg ob der Aist, Upper Austria (48°19'N, 14°30'E). 5 **SP** (sd): 1975/158, 1975/159, 1975/160, 1975/161, 1975/162 (all dry silver nitrate method). **Remarks**: "Typification" not mentioned in the original paper; slides "typified" on a sheet of paper, but not labelled. Location according to personal communication.
- minima Phialina* (KAHL, 1927) FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 227. **OT**: Soil; surroundings of the Mzima Springs, Tsavo National Park West, Kenya (2°59'S, 38°1'E). 3 **NP** (od): 2002/787, 2002/788, 2002/789. **Remarks**: Protonym: *Lacrymaria minima* KAHL, 1927 – Arch. Protistenk. 60: 103.
- minima Rhabdoaskenasia* KRAINER & FOISSNER, 1990 – J. Protozool. 37: 426. **OT**: Excavated groundwater ponds near Graz, Styria, Austria (47°04'N, 15°25'E). **HP** (unspecific od on page 415): 1992/27; **PP**: 1992/39. **Remarks**: Nucleospecies (Tab. 6).
- minor Cristigera* PENARD, 1922 [Études Infusiores: 179] – FOISSNER, ADAM & FOISSNER I. (1982) Zool. Jb. Syst. 109: 459. **OT**: Periphyton; Lake Fuschlsee, Salzburg, Austria (47°48'N, 13°17'E). **NP?** (sd): 1981/60. **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as "paratype". Location according to slide.
- minor Sikorops* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 209. **OT**: Highly saline, alkaline soil; near the village of Himmafushi, North-Male Atoll, Maldives (about 3°N, 74°W). **HP** (od): 2002/579; 2 **PP**: 2002/580, 2002/581.
- minus Spirostomum* ROUX, 1901 [Faune infusorienne: 80.] – AUGUSTIN & FOISSNER (1992) Arch. Protistenk. 141: 244. **OT**: Activated sludge plant; Zellhof, Upper Austria (47°59'N, 13°6'E). 3 **NP** (od on page 244): 1993/86 (wet silver nitrate method); 1993/87, 1993/88. **Remarks**: Only two slides announced in the paper.
- minus viride Spirostomum* FOISSNER & GSCHWIND, 1998 – Ber. Nat.-Med. Ver. Salzburg 12: 41. **OT**: Pond at Bodenloser See; Horb am Neckar, Germany (48°22'N, 8°40'E). **HP** (od): 1999/48; 2 **PP**: 1999/49, 1999/50 (labelled as *S. m. viridis*).
- minuta Chilodonatella* DRAGESCO, 1966 [Arch. Protistenk. 109: 186] – BECARES & FOISSNER (1994) Linzer biol. Beitr. 26: 516. **OT**: Two-stage activated sludge pilot plant (A+B system) treating wastewater from a pharmaceutical company; León, Spain (42°36'N, 5°34'W). 3 **NP** (od): 1994/5 (four marks), 1994/6 (one mark, mislabelled as "syntype"), 1994/7 (three marks). **Remarks**: Nucleospecies (Tab. 6).
- minuta Frontonia* DRAGESCO, 1970 – AnnlFac. Sci. Univ. féd. Cameroun (Numéro hors-série): 54. **OT**: Limnetic sites; Yaounde, Cameroun (3°52'N, 11°31'E). 2 **SP** (sd): 2002/900, 2002/938 (wet silver nitrate method). **Remarks**: "Typification" not mentioned, but labels unspecifically refer to this paper; each slide one mark.
- minuta Pseudoholophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 99. **OT**: Mud from granitic rock-pools in a stream; Windhoek, Daan Viljoen Game Park, Namibia (22°35'S, 17°5'E). **HP** (od): 2002/505; 2 **PP**: 2002/506, 2002/507.
- minus Enchelyodon* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 136. **OT**: Mud from granitic rock-pools in a stream; Windhoek, Daan Viljoen Game Park, Namibia (22°35'S, 17°5'E). **HP** (od): 2002/508; 2 **PP**: 2002/509, 2002/510.
- mirabile Pelagostrombidium* (PENARD, 1916) KRAINER, 1991 – Europ. J. Protistol. 27: 64. **OT**: Excavated groundwater ponds; Leibnitzer Feld, Styria, Austria (46°49'N, 15°32'E). 2 **NP** (unspecific od on page 61): 1992/25, 1992/26. **Remarks**: Protonym: *Strombidium m.* PENARD, 1916 – Mém. Soc. Phys. Hist. Nat. Genève 38. Nucleo-

- species of *Pelagostrombidium* KRAINER, 1991 (Tab. 6), which is the nucleogenus of Pelagostrombidiidae AGATHA, 2004 (Tab. 7).
- mirabilis Ciliofaurea* (DRAGESCO, 1954) DRAGESCO, 1960 – Trav. Stn. biol. Roscoff (N. S.) 12: 225. **OT**: Marine sand; Roscoff, France (48°44'N, 3°59'W). **NP?** (sd): 2003/99 (collected in 1962). **Remarks**: “Typification” not mentioned in the original paper, but subsequently herein by the original author. Protonym: *Faurea m.* DRAGESCO, 1954 – Bull. Soc. zool. Fr. 79: 64.
- mobilis Engelmanniella* (ENGELMANN, 1862) FOISSNER, 1982 – Arch. Protistenk. 126: 66. **OT**: Soil of a riverine floodplain; Vogelsang near Grafenwörth, Lower Austria (48°24'N, 15°47'E). 2 **NP?** (sd): 1981/96, 1982/55. **Remarks**: Neotypification not mentioned in the original paper, but slides labelled (one incorrectly as “genotype”). Protonym: *Uroleptus m.* ENGELMANN, 1862 – Z. wiss. Zool. 11: 386. Nucleospecies (Tab. 6).
- monilata Coniculostomum* (DRAGESCO & NJJINE, 1971) NJJINE, 1979 – DRAGESCO & DRAGESCO-KERNÉIS (1986) Faune tropicale 26: 456. **OT**: Unspecific; Cotonou, Benin (6°15'N, 2°20'E). 2 **NP?** (sd): 2003/80, 2003/134 (labelled *Laurentiella m.*). **Remarks**: “Typification” not mentioned in the original paper, but label refer to this paper (dated 1979). Site according to slide. Revision in BERGER (1999, Monogr. Biologicae 78: 608). Protonym: *Laurentia m.* DRAGESCO & NJJINE, 1971 – AnnsFac. Sci. Univ. féd. Cameroun 7-8: 124. Nucleospecies of *Coniculostomum* NJJINE, 1979 (Tab. 6).
- monilatus Monilicaryon* (STOKES, 1886) JANKOWSKI, 1967 – FOISSNER (1997) Limnologica (Berlin) 27: 197. **OT**: Amper river; near town of Fürstenfeldbruck, Bavaria, Germany (48°10'N, 11°15'E). 4 **NP** (od): 1998/73, 1998/74, 1998/75, 1998/76. **Remarks**: Protonym: *Dileptus m.* STOKES, 1886 – Ann. Mag. nat. Hist. 17: 102. Nucleospecies of *Monilicaryon* JANKOWSKI, 1967 (Tab. 6).
- monostyla Urosomoida* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 784. **OT**: Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°55'S, 15°55'E). **HP** (od): 2002/125; **PP**: 2002/126.
- moserae Pelagolacrymaria* FOISSNER, BERGER & SCHAUMBURG, 1999 – Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 265. **OT**: Höglwörther See, a small lake in southern Bavaria, Germany (47°49'N, 12°50'E). **HP** (od): 1999/74; 2 **PP**: 1999/72, 1999/73. **Remarks**: Nucleospecies (Tab. 6).
- mucicola Cyrtolophosis* STOKES, 1885 [Am. Nat. 19: 439] – FOISSNER (1987) Zool. Beitr. N. F. 31: 249. **OT**: Soil of an uncultivated grassland dominated by *Poa* sp.; Golan Hills, Israel (33°0'N, 35°45'E). 2 **NP?** (sd): 1988/61, 1988/62. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Nucleospecies and subsequently nucleogenus (Tab. 6, 7).
- mucronatus Dileptus* PENARD, 1922 [Études Infusoires: 80] – FOISSNER (1984) Stapfia 12: 94. **OT**: Soil of a meadow near Neusiedlersee, a soda lake in the “hell” region near Illmitz, Burgenland, Austria (47°45'N, 16°49'E). **NP?** (sd): 1984/34. **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes”.
- multimicronucleatus Stentor* DRAGESCO, 1970 – AnnsFac. Sci. Univ. féd. Cameroun (Numéro hors-série): 69. **OT**: Marine; Yaounde, Cameroun (3°52'N, 11°31'E). 3 **SP?** (sd): 2003/58 (1969); 2003/60, 2003/61 (1968, two Feulgen stainings). **Remarks**: “Typification” not mentioned in the original paper, but subsequently herein by the original author. Two further slides from Butare 1985 likely refer to DRAGESCO & DRAGESCO-KERNÉIS (1986, Faune tropicale 26: 409), thus vouchers.
- multinucleata Actinobolina* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 383. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/332; 4 **PP**: 2002/333, 2002/334, 2002/338, 2002/339.
- multinucleata Afroamphisiella* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 699. **OT**: Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **HP** (od): 2002/111; 2 **PP**: 2002/112, 2002/113. **Remarks**: Nucleospecies (Tab. 6).
- multinucleata Afrothrix* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 588. **OT**: Litter and *Stipagrostis* roots from a sand dune; between the towns of Aus and Helmeringhausen, Namibia (26°5'S, 16°35'E). **HP** (od): 2002/255; **PP**: 2002/256.
- multinucleata Amphisiella* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 685. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/391; 2 **PP**: 2002/392, 2002/393.
- multinucleata Avelia* DRAGESCO, 1999 – Stapfia 66: 43. **OT**: Marine sand; Thau lagoon, Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). 2 **SP** (unspecific od – incorrectly as “neotypes” – on page 7): 1999/163, 1999/164. **Remarks**: Labelled as “syntypes” with 4 and 3 marks, respectively.
- multinucleata Enchelaria* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 221. **OT**: Soil from *Aloe dichotoma* forest; Gariganus Guest Farm, about 30 km northeast of the town of Keetmanshoop, Namibia (26°30'S, 18°25'E). **HP** (od): 2002/419; 4 **PP**: 2002/418, 2002/420, 2002/421, 2002/422. **Remarks**: Nucleospecies (Tab. 6).
- multinucleata Enchelys* (DRAGESCO & DRAGESCO-KERNÉIS, 1979) BERGER, FOISSNER & ADAM, 1984 – Zool. Jb. Syst. 111: 349. **OT**: Soil of ski slope; Schlossalm Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). **NP?** (sd): 1986/24. **Remarks**: Neotypification not mentioned in the original paper, but one slide labelled as neotype, another (inv. no. 1986/25) as voucher. Protonym: *Enchelyodon m.* DRAGESCO & DRAGESCO-KERNÉIS, 1979 – Acta Protozool. 18: 405.
- multinucleata Pleurotricha* DRAGESCO, 2003 – Trav. Mus. natl. Hist. nat. “Grigore Antipa” 45: 36. **OT**: Not given; Butare, Rwanda (about 2°35'S, 29°44'E). **HP** (unspecific od – incorrectly as “neotypes” – on page 7): 2006/37.
- multinucleata Remanella* KAHL, 1933 [Tierwelt Nord- und Ostsee II. c3: 65] – FOISSNER (1996) Europ. J. Protistol. 32: 235. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). 2 **NP** (od): 2003/98 (1966), 2003/106 (1962). **Remarks**: The slides were collected and deposited

- by DRAGESCO, if they were studied by FOISSNER and refer to the material announced on page 235 of his paper remains to be clarified. Since the unavailable genus was revalidated in the FOISSNER'S publication, nomenclatural authorship is complicated, viz. a new combination is not supported by ICZN (1999 Art. 51.3, 50.1, Rec. 50C, 51F).
- multinucleatum Arcuospathidium* FOISSNER, 1999 – Biodiversity and Conservation 8: 330. **OT**: Forest soil; near the village of Limuru, about 25 km NE of Nairobi, Kenya (1°S, 36°50'E). **HP (od)**: 1999/4; **PP**: 1999/5.
- multinucleatum Paragonostomum* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 828. **OT**: Highly saline crust soil from small quartz stones; Coastal National Park near Lüderitz, Namibia (26°40'S, 15°10'E). **HP (od)**: 2002/274. **Remarks**: The “paratype” (inv. no. 2002/276) is indicated by FOISSNER as being lost on an external sheet of paper.
- multinucleatus Papillorhabdos* FOISSNER, 1984 – Stapfia 12: 42. **OT**: Astatic meadow-pond; between the so-called Henkerhaus and the Peterweiher, urban area of Salzburg, Austria (47°48'N, 13°02'E). **HP (unspecific od on page 8)**: 1984/26. **Remarks**: Nucleospecies (Tab. 6). Corrected to *P. multinucleata* by AESCHT (2001, Denisia 1: 114).
- multisetata Uroleptopsis* DRAGESCO, 1970 – AnnsFac. Sci. Univ. féd. Cameroun (Numéro hors-série): 97. **OT**: Not given; near Yaounde, Cameroun (about 3°52'N, 11°31'E). **HP (sd)**: 2002/918 (labelled as *Uroleptaspis m.*). **Remarks**: “Typification” not mentioned, but label refers to this paper; one mark. Nucleospecies of *Plesiotricha* DRAGESCO, 1970 (Tab. 6). DRAGESCO & DRAGESCO-KERNÉIS (1986, Faune tropicale 26: 427, 429) renamed this species (misspelled as *Uroleptaspis m.*) as *Kahliella microstoma* due to secondary homonymy.
- multistilata Holosticha* KAHL, 1928 [Arch. Hydrobiol. 19: 212] – FOISSNER (1982) Arch. Protistenk. 126: 50. **OT**: Soil; near the village of Grafenwörth, Tullnerfeld, Lower Austria (48°23'37"N, 15°46'35"E). **NP? (sd)**: 1981/90. **Remarks**: Neotypification not mentioned in the original paper, but slide designated, although mislabelled as “paratype”. Demonstrating possible discrepancies between publication and “unpublished evidence”, thus a “neotype” was not “automatically” or by “curatorial routine” assumed as stated by BERGER (2006, Monogr. Biologicae 85: 319). 6 sites are given, but no specific. Currently junior subjective synonym of *Anteholosticha intermedia* (BERGH, 1889) according to BERGER (2006, Monogr. Biologicae 85: 317 and p. 328 for more detailed neotype location).
- multistriata Supraspathidium* FOISSNER & DIDIER, 1982 – Anns Stn biol. Besse 15: 255. **OT**: Detritus of a streamlet; Besse-en-Chandesse area, France (45°31'N, 2°56'E). 2 **SP (sd)**: 1981/11, 1981/12. **Remarks**: “Typification” not mentioned in the original paper, but two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts. Since the genus has neuter gender, the species name has been corrected to *S. multistriatum* FOISSNER, AGATHA & BERGER (2002, Denisia 5: 278).
- muscolica Cyclidium* KAHL, 1931 [Tierwelt Dtl. 21: 380] – FOISSNER (1995) Arch. Protistenk. 145: 51. **OT**: No specific site given; “Hawaii”, USA [North Kohala, Temporary stream (20°4'N, 155°50'W)] 2 **NP (od)**: 1997/85, 1997/86. **Remarks**: Also a “syntype” is mentioned on page 38 and labelled (inv. no. 1997/86), which is nomenclaturally incorrect (cp. ICZN 1999 Art. 73.2, 75). Currently *Protocyclidium m.* according to FOISSNER, AGATHA & BERGER (2002, Denisia 5: 524).
- muscolica Keronopsis* (KAHL, 1932) HEMBERGER & WILBERT, 1982 – FOISSNER (1987) Zool. Beitr. N. F. 31: 204. **OT**: Lichens and mosses with adhering soil; village of Sandkäs, Isle Bornholm, Baltic Sea, Denmark (55°10'N, 15°0'E). 2 **NP? (sd)**: 1988/145, 1988/146. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Protonym: *Paraholosticha m.* KAHL, 1932 – Tierwelt Dtl. 25: 545.
- muscolica Phialinides* (KAHL, 1943) FOISSNER & WENZEL, 2004 – Acta Protozool. (Suppl.) 43: 63. **OT**: Spruce-fir-beech forest soil; Neuwald, Lower Austria (47°46'N, 15°32'E). 4 **NP (od)**: 2007/97, 2007/98, 2007/99, 2007/100. **Remarks**: Protonym: *Lacrymaria m.* KAHL, 1943 – Handbücher für die praktische wissenschaftliche Arbeit 31/32: 17. Original description reprinted in the publication including the redescription and recombination.
- muscolica Protospathidium* DRAGESCO & DRAGESCO-KERNÉIS, 1979 – Acta Protozool. 18: 411. **OT**: Moss; University garden, Cotonou, Benin (6°15'N, 2°20'E). **SP? (sd)**: 2006/50 (from 1978, labelled as *Spathidium serpens*). **Remarks**: “Typification” not mentioned in the original paper, but subsequently herein according to FOISSNER & XU (2007, Monogr. Biologicae 81: 119f.); including a note on the type locality. Label untypified, but shows one big circle, status needs clarification.
- muscorum Chilodontopsis* KAHL, 1931 [Tierwelt Dtl. 21: 227] – FOISSNER (1984) Stapfia 12: 98. **OT**: Soil of an alder forest (*Alnetum viridis*); Stubnerkogel, Bad Gastein, Salzburg, Austria (47°7'N, 13°7'E). **NP? (sd)**: 1984/8 (Fig. 13). **Remarks**: Neotypification not mentioned in paper (see page 8), reference of “paratype” needs clarification.
- muscorum Euplotes* DRAGESCO, 1970 [AnnsFac. Sci. Univ. féd. Cameroun (Numéro hors-série): 134.] – DRAGESCO & DRAGESCO-KERNÉIS (1986) Faune tropicale 26: 503. **OT**: Unknown; Butaré, Rwanda (2°35'S, 29°4'E). **NP? (sd)**: 2003/82. **Remarks**: Neotypification not mentioned in paper, but slide labelled as “n. sp.” with one mark. Site according to slide; stated in the paper as mosses from Cameroun. Currently *Euplotopsis m.* according to BORROR & HILL (1995, J. Eukaryot. Microbiol. 42: 460).
- muscorum Litonotus* (KAHL, 1931) BLATTERER & FOISSNER, 1988 – Stapfia 17: 14. **OT**: Soil of an *Eucalyptus* forest; Belair National Park near Adelaide, Australia (35°0'S, 138°38'E). 2 **NP? (sd)**: 1989/40, 1989/41. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Protonym: *Lionotus m.* KAHL, 1931 – Tierwelt Dtl. 21: 195.
- muscorum Paruroleptus* (KAHL, 1932) FOISSNER, 1982 – Arch. Protistenk. 126: 61. **OT**: Soil of a beech forest; village of Baumgarten, Lower Austria (48°22'N, 15°34'E). **NP? (sd)**: 1981/79. **Remarks**: Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”. Location according to slide. Protonym: *Uroleptus m.* KAHL, 1932 – Tierwelt Dtl. 25: 548. Currently *Birojima m.* according to BERGER & FOISSNER (1989, Bull. Br. Mus. nat. Hist. (Zool.) 55: 25).

- “muscorum rhopaloplites Arcuospathidium”* FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 200. **OT**: Forest soil; surroundings of Alice Springs, that is, a hill beside the road to the Ayers Rock, Australia (about 24°S, 133°E). **HP (od)**: 2007/147; **PP**: 2007/147, 2007/148 (figured), 2007/149, 2007/150 (figured), 2007/151. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- muscorum Sathrophilus* (KAHL, 1931) CORLISS, 1960 – FOISSNER, ADAM & FOISSNER I. (1982) Zool. Jb. Syst. **109**: 455. **OT**: Soil; village of Baumgarten, Lower Austria (48°22'N, 15°34'E). **NP? (sd)**: 1981/57 (dry silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes”; locality according to slide. Protonym: *Saprophilus m.* KAHL, 1931 – Tierwelt Dtl. **21**: 350.
- muscorum Steinia* (KAHL, 1932) FOISSNER, 1989 – FOISSNER (1982) Arch. Protistenk. **126**: 105. **OT**: Soil of an alpine pasture; Hochmais at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°7'N, 12°48'E). **NP? (sd)**: 1981/93. **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratype”. Protonym: *Oxytricha (Steinia) m.* KAHL, 1932 – Tierwelt Dtl. **25**: 613. Currently *Cyrtohymena m.* and nucleospecies of the latter genus and subgenus (Tab. 6) according to FOISSNER (1989, Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **196**: 239) and FOISSNER (2004, Denisia **13**: 371), although not formally transferred.
- muscorum Strongylidium* KAHL, 1932 [Tierwelt Dtl. **25**: 553] – FOISSNER (1984) Stapfia **12**: 107. **OT**: Soil of a damp willow floodplain (*Phalaris arundinacea-Urtica dioica*); Althan near Bierbaum, Lower Austria (48°23'N, 15°56'E). **SP (sd)**: 1984/83 (six marks). **Remarks**: Neotypification not mentioned in paper (see page 8), but slide designated, although mislabelled as “paratype”. FOISSNER (1988, Stapfia **17**: 123) established *Hemiamphisiella terricola* for his misidentification referring to the previous “type” material.
- musculus Paruroleptus* KAHL, 1932 – FOISSNER (1984) Stapfia **12**: 109. **OT**: Infusion of plant remnants and mud; Hellbrunner-Bach in the urban area of Salzburg, Austria (47°48'N, 13°02'E). **2 NP? (sd)**: 1984/84, 1984/85. **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although latter one mislabelled as “paratype”. Protonym: *Holosticha (Paruroleptus) m.* KAHL, 1932 – Tierwelt Dtl. **25**: 588. Currently *Uroleptus m.* according to FOISSNER, BLATTERER, BERGER & KOHMANN (1991) Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **1/91**: 248).
- mutabile Acropisthium* PERTY, 1852 [Kenntn. klein. Lebensformen: 149] – FOISSNER (1984) Stapfia **12**: 60. **OT**: Astatic meadow-pond; between the so-called Henkerhaus and the Peterweiher, urban area of Salzburg, Austria (47°48'N, 13°02'E). **2 NP? (sd)**: 1984/44, 1984/45 (wet silver nitrate method). **Remarks**: Neotypification not mentioned in paper (see page 8), but slides labelled, although incorrectly as “paratype”. Nucleospecies (Tab. 6); *Acropisthium* is the nucleogenus of Acropisthiidae FOISSNER & FOISSNER, 1988 (Tab. 7).
- mutabilis Pseudochilonopsis* FOISSNER, 1981 – Zool. Jb. Syst. **108**: 287. **OT**: Soil; Hochtor-Nord at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°04'N, 12°50'E). **HP (sd)**: 1981/42. **Remarks**: “Typification” not mentioned in the original paper, but slide designated.
- mystacea mystacea Gastrostyla (Spetastyla)* (STEIN, 1859) STERKI, 1878 – FOISSNER, AGATHA & BERGER (2002) Denisia **5**: 724. **OT**: Ephemeric, eutrophic meadow pond; near the Salzburg University, Austria (47°48'N, 13°40'E). **5 NP (od)**: 2002/623, 2002/624, 2002/625, 2002/626, 2002/627. **Remarks**: Protonym: *Oxytricha mystacea* STEIN, 1859 – Org. Infusionsthiere: 188. Nucleospecies of the subgenus (Tab. 6).

N

- namibicola Parakahliella* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 611. **OT**: Sandy bark from *Acacia erioloba*; Southern Namib Desert, centre of Sossus Vlei, Namibia (24°50'S, 15°20'E). **HP (od)**: 2002/249; **3 PP**: 2002/250, 2002/251, 2002/252.
- namibicola Protospathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 305. **OT**: Dune soil (sand); escarpment of central Namib Desert, about 20 km north of the village of Solitaire, Namibia (23°50'S, 16°0'E). **HP (od)**: 2002/257; **2 PP**: 2002/258 (Fig. 35), 2002/259.
- namibicola Spathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 246. **OT**: Slightly saline litter and sand; Southern Namib Desert, centre of Sossus Vlei, Namibia (24°50'S, 15°20'E). **HP (od)**: 2002/263; **6 PP**: 2002/264, 2002/265, 2002/266, 2002/267, 2002/268, 2002/269.
- namibiense Gonostomum* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 810. **OT**: Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **HP (od)**: 2002/121, **PP**: 2002/122.
- namibiense namibiense Arcuospathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 285. **OT**: Soil from *Aloe dichotoma* forest; Gariganus Guest Farm, about 30 km north-east of the town of Keetmanshoop, Namibia (26°30'S, 18°25'E). **HP (od)**: 2002/432; **3 PP**: 2002/417, 2002/429, 2002/431.
- namibiense Obliquostoma* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 119. **OT**: Litter from *Combretum imberbe* (leadwood tree); foot of the Brandberg, an inselberg at the east margin of the central Namib Desert, Namibia (21°S, 14°35'E). **HP (od)**: 2002/229; **3 PP**: 2002/230, 2002/231, 2002/232. Currently *Declivistoma n.* (FOISSNER, AGATHA & BERGER in BERGER & AL-RHASHEID this volume).
- namibiense tristicha Arcuospathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 288. **OT**: Bark from a *Maytenus oleoides* tree (Celastraceae) in the botanical garden; Cape Town, Republic of South Africa (33°53'S, 18°25'E). **HP (od)**: 2002/554; **2 PP**: 2002/555, 2002/556.
- namibiensis Amphisiella* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 656. **OT**: Highly saline soil; Etosha National Park, Wolfsnes water-hole near the margin of the Etosha Pan, Namibia (19°S, 15°50'E). **HP (od)**: 2002/108; **6 PP**: 2002/109, 2002/110, 2002/147, 2002/148, 2002/5, 2002/8.

- namibiensis costaricensis* Maryna FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 942. **OT**: Rock-pools at river bank: Rio Corobici, surroundings of the hacienda “La Pacifica” (Centro Ecológico “La Pacifica”) near the town of Cañas, Costa Rica (10°28'N, 85°10'W). 2 **SP** (od): 2002/745; 2002/748 (wet silver nitrate method); 5 **PP**: 2002/743, 2002/744; 2002/746, 2002/747, 2002/749 (wet silver nitrate method). **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- namibiensis Hemisincirra* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 857. **OT**: Litter around *Stipagrostis* roots in a sand dune; between the towns of Aus and Helmeringhausen, Namibia (26°5'S, 16°35'E). **HP** (od): 2002/253; **PP**: 2002/254.
- namibiensis Kuehneliella* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 916. **OT**: Bark from *Sterculia africana*; escarpment of the central Namib Desert, surroundings of the Ameib Guest Farm, about 120 km northeast of the town of Swakopmund, Namibia (21°50'S, 15°35'E). **HP** (od): 2002/400; 7 **PP**: 2002/401, 2002/402, 2002/403, 2002/404, 2002/405, 2002/406, 2002/407 (all wet silver nitrate method).
- namibiensis maldivensis Rostrophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 994. **OT**: Coastal soil; near the village of Hembadoo, North Male Atoll, Maldives (about 4°N, 74°W). **HP** (od): 2002/582; 3 **PP**: 2002/583, 2002/584, 2002/585 (all wet silver nitrate method).
- namibiensis Metacimeta* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 404. **OT**: Slightly saline sand dune; escarpment of central Namib Desert, about 20 km north of the village of Solitaire, Namibia (23°50'S, 16°0'E). **HP** (od): 2002/260; 4 **PP**: 2002/258 (Fig. 35), 2002/259, 2002/261, 2002/262.
- namibiensis namibiensis Maryna* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 935. **OT**: Mud from granitic rock-pools in a stream; Windhoek, Daan Viljoen Game Park, Namibia (22°35'S, 17°05'E). **HP** (od): 2002/496; 7 **PP**: 2002/497, 2002/498, 2002/499, 2002/500, 2002/501, 2002/502, 2002/503 (all wet silver nitrate method).
- namibiensis Plagiocampa* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 542. **OT**: Slightly saline sand dune; escarpment of central Namib Desert, about 20 km north of the village of Solitaire, Namibia (23°50'S, 16°0'E). **HP** (od): 2002/444; **PP**: 2002/445.
- namibiensis Sikorops* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 203. **OT**: Bark of a *Colophospermum mopane* tree; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/335; 5 **PP**: 2002/336, 2002/337, 2002/366, 2002/367, 2002/368.
- namibiensis Urosomoida* FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 780. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (od): 2002/373; 2 **PP**: 2002/372, 2002/374.
- nana Pseudoplatyophrya* (KAHL, 1926) FOISSNER, 1980 – Zool. Jb. Syst. 107: 395. **OT**: Soil; Bad Hofgastein, Salzburg, Austria (47°5'N, 13°7'E). 3 **NP?** (sd): 1981/15, 1982/78 (wet silver nitrate method); 1981/16 (dry silver nitrate method; all incorrectly labelled as “genotypes”). **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “holo- and paratypes”. Different dates of deposition, but same sampling year; site according to label. The original locus classicus is the *Nymphaea* pond in the City Park of Hamburg, Germany (decaying *Glyceria*-stalks). Protonym: *Platyophrya* n. KAHL, 1926 – Arch. Protistenk. 55: 237. Nucleospecies of *Pseudoplatyophrya* FOISSNER, 1980 (Tab. 6).
- nasutum Didinium* (MÜLLER, 1773) STEIN, 1859 – FOISSNER (1984) Stapfia 12: 44. **OT**: Astatic meadow-pond; between the so-called Henkerhaus and the Peterweiher, urban area of Salzburg, Austria (47°48'N, 13°02'E). **NP?** (sd): 1984/28 (wet silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratype”. Protonym: *Vorticella nasuta* MÜLLER, 1773 – Vermium Terrestrium et Fluviatilium: 102. Nucleospecies of *Didinium* STEIN, 1859 (Tab. 6), which is the nucleogenus of Didiniidae POCHE, 1913 (Tab. 7).
- nauplia Oxytricha* BERGER & FOISSNER, 1987 – Zool. Jb. Syst. 114: 219. **OT**: Salt soil with rush; Nauplia Bay, Peloponnesus, Greece (37°34'N, 22°48'E). **HP** (unspecific od on page 195): 1986/75; **PP**: 1986/76.
- nigricans mobilis Bursellopsis* (WANG & NIE, 1933) FOISSNER, BERGER & SCHAUMBURG, 1999 – Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 387. **OT**: Höglwörther See, a small lake in southern Bavaria, Germany (47°49'N, 12°50'E). 2 **NP** (od): 2000/135, 2000/136 (mislabelled as *B. plankticola*). **Remarks**: Protonym: *Holophrya mobilis* WANG & NIE, 1933 – Contr. biol. Lab. Sci. Soc. China, Zool. Ser. 10: 18.
- nodosa Enchelyodon* BERGER, FOISSNER & ADAM, 1984 – Zool. Jb. Syst. 111: 345. **OT**: Soil of a meadow near Lange Lacke; Seewinkel, Burgenland, Austria (47°43'N, 16°49'E). 2 **SP** (od): 1984/34; 1984/35 (dry silver nitrate method). **Remarks**: Only one “holotype” and “paratype” indicated, but two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Two further slides (inv. no. 1984/36, 1984/37) are labelled as “paratype” and *E. nodosus*, but collected from another site, thus here considered as vouchers.
- nodosa Fuscheria* FOISSNER, 1983 [Annln naturh. Mus. Wien 84B: 66; aphory] – FOISSNER & O'DONOGHUE (1990) Invertebr. Taxon. 3: 666. **OT**: Small pond in metropolitan Perth, West Australia (31°57'S, 115°58'E). 2 **NP** (od): 1988/184, 1988/185. **Remarks**: Neotypification only generally mentioned on page 662, but slides designated, although mislabelled as “paratypes”. Nucleospecies (Tab. 6); *Fuscheria* is the nucleogenus of Fuscheriidae FOISSNER, AGATHA & BERGER, 2002 (Tab. 7).
- nova Sterkiella* FOISSNER & BERGER, 1999 – Acta Protozool. 38: 218. **OT**: Freshwater; North Carolina, USA. 8 **SP?** (od): 1999/111, 1999/112, 1999/113, 1999/114, 1999/115, 1999/116, 1999/117, 1999/118. **Remarks**: First slide designated as “holotype”, but with three marks and as specimens in divisional morphogenesis are included, all may be considered as hapantophoronts (ICZN 1999 Art. 73.3).

- novaki Arcuospithidium* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 303. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP (od)**: 2002/338; **2 PP**: 2002/350, 2002/358.
- O**
- obliquum Apocyclidium* (KAHL, 1926) FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 520. **OT**: Lichen litter and soil under lichen carpets; Central Namib Desert, about 40 km north of the town of Swakopmund, Namibia (22°10'S, 14°25'E). **6 NP (od)**: 2002/316, 2002/317 (wet silver nitrate method); 2002/318, 2002/319, 2002/320, 2002/321. **Remarks**: Protonym: *Cyclidium o.* KAHL, 1926 – Arch. Protistenk. 55: 371. Nucleospecies (Tab. 6).
- oblonga Holophrya* MAUPAS, 1883 [Arch. Zool. Exper. Gen. 1] – DRAGESCO (2002) Linzer biol. Beitr. 34/2: 1568. **OT**: Marine sand; Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). **5 NP?** (unspecific **od** on page 1547): 2002/798 (dated 1966), 2002/799 (dated 1996), 2002/800 (dated 1996), 2002/861 (“endosymbionts”, undated), 2002/863 (undated).
- oconucleatus Australocirrus* FOISSNER, 1988 – *Stapfia* 17: 123. **OT**: Soil of a deciduous forest; Nakuru Lake, Kenya (0°22'S, 36°5'E). **HP** (unspecific **od** on page 88): 1989/15; **2 PP**: 1989/16, 1989/17. **Remarks**: Currently *Rigidocortex o.* and nucleospecies of the latter genus according to BERGER (1999, Monogr. Biologicae 78: 718; Tab. 6).
- olor Lacrymaria* (MÜLLER, 1786) BORY [de SAINT-VINCENT], 1824 – FOISSNER (1997) *Limnologica* (Berlin) 27: 186. **OT**: Acidic moorland pond; Franking, Upper Austria (48°3'N, 12°55'E). **2 NP (od)**: 1998/64, 1998/65. **Remarks**: Protonym: *Vibrio o.* MÜLLER, 1786 – *Animalc. infus.*: 75. Nucleospecies of *Lacrymaria* BORY, 1824 (Tab. 6), which is the nucleogenus of *Lacrymariidae* FOISSNER, 1983 (Tab. 7).
- opisthomuscorum Oxytricha* FOISSNER, BLATTERER, BERGER & KOHMANN, 1991 [Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 1/91: 311] – PETZ & FOISSNER (1997) *Polar Record* 33: 318. **OT**: *Grimmia antarctici* and *Bryum pseudotriquetrum* moss, Casey Station, Antarctica (66°17'S, 110°31'E). **NP (od)**: 2000/150.
- oppositevacuolatus Thigmogaster* AUGUSTIN & FOISSNER, 1989 – *Lauterbornia* 1: 40. **OT**: Activated sludge; Rußbach sewage treatment plant, Salzburg, Austria (47°35'N, 13°28'E). **2 SP (od)**: 1993/16; 1993/17 (dry silver nitrate method); **PP**: 1993/18. **Remarks**: Although only one “holotype” is announced (page 40), two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- orbis Parduzia* (FAURÉ-FREMIET, 1950) DRAGESCO, 1999 – *Stapfia* 66: 54. **OT**: Marine sand; Cotonou, Benin (6°15'N, 2°20'E). **NP** (unspecific **od** on page 7): 1999/165. **Remarks**: Label (dated 1978) undesignated, thus “typification” according to paper. Protonym: *Geleia o.* FAURÉ-FREMIET, 1950 – *Bull. biol. Fr. Belg.* 84. Nucleospecies (Tab. 6); genus misspelled *Parducia* and *Parduzia* by AESCHT (2001: 120, 293; 2003: 393).
- ornata Nassula* EHRENBERG, 1833 [Abh. Akad. Wiss. Berlin 1835: 304] – FOISSNER (1989) *Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt.* 196: 186. **OT**: Plankton and mud; Peterweiher, urban area of Salzburg, Austria (47°48'N, 13°02'E). **2 NP (od)**: 1988/15, 1988/16 (wet silver nitrate method).
- oscillatoriphaga Etoschophrya* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 987. **OT**: Highly saline soil; Etosha National Park, lookout “Etosha”, Namibia (18°50'S, 16°30'E). **HP (od)**: 2002/166; **2 PP**: 2002/167, 2002/168 (all wet silver nitrate method). **Remarks**: Nucleospecies (Tab. 6).
- oscitans Australocirrus* BLATTERER & FOISSNER, 1988 – *Stapfia* 17: 66. **OT**: Soil of a coastal forest; Royal National Park; south of Sidney, Australia (35°S, 151°E). **2 SP** (unspecific **od** on page 4): 1989/79, 1989/80; **PP**: 1989/73. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies (Tab. 6).
- otti Dioplitophrya* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 199. **OT**: Soil from *Moringa ovalifolia* (ghost tree) forest; Etosha National Park, Namibia (19°S, 15°40'E). **HP (od)**: 2002/54; **3 PP**: 2002/55, 2002/56, 2002/181. **Remarks**: Nucleospecies (Tab. 6).
- ovalis Metopus* KAHL, 1927 [Arch. Protistenk. 57: 142] – FOISSNER (1998) *Europ. J. Protistol.* 34: 222. **OT**: Grassland soil from shore of Lake Baringo, Kenya (0°45'N, 36°0'E). **3 NP? (sd)**: 1997/106, 1997/107, 1997/108. **Remarks**: Neotypification not indicated (cp. page 196), but slides designated, although two mislabelled as “syntypes”.
- ovalis Prorodon* DRAGESCO, 1970 – *Annl. Fac. Sci. Univ. féd. Cameroun* (Numéro hors-série): 25. **OT**: Not given; Yaounde, Cameroun (3°52'N, 11°31'E). **3 SP (sd)**: 2003/67, 2003/68, 2003/95. **Remarks**: “Typification” not mentioned in the original paper, but subsequently herein by the original author. No specific site mentioned.
- ovata Grossglockneria* FOISSNER, 1999 – *J. Eukaryot. Microbiol.* 46: 39. **OT**: Leaf litter from Lackawanna State Forest (intersection of Pittston Road and Sassafras Hill Road); north of Scranton, Pennsylvania, USA (41°24'N, 75°40'W). **2 SP (od)**: 1998/50 (wet silver nitrate method); 1998/52; **2 PP**: 1998/51 (wet silver nitrate method); 1998/53. **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- ovatus Metopus* DRAGESCO & DRAGESCO-KERNÉIS, 1986 – *Faune tropicale* 26: 387. **OT**: Brackish water; Cotonou, Benin (6°15'N, 2°20'E). **4 SP? (sd)**: 2006/42, 2006/59 (both from 1977), 2006/68 (1978), 2006/57 (1979). **Remarks**: “Typification” not mentioned in the original paper, but all slides (each with one mark) from the same site labelled. Considered as junior subjective synonym of *M. propagatus* KAHL, 1926 by ESTEBAN, FENCHEL & FINLAY (1995, Arch. Protistenk. 146: 139).
- ovum Holophrya* EHRENBERG, 1831 [Abh. Akad. Wiss. Berlin 1835: 102] – FOISSNER, BERGER & KOHMANN (1994) *Informationsberichte Bayer. Landesamtes für Wasserwirtschaft* 1/94: 322. **OT**: Windach stream near the sewage plant of the village of Eching, Bavaria, Germany (48°5'N, 11°7'E). **3 NP? (sd)**: 1999/67, 1999/68, 1999/69 (all wet silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper, but slides labelled; lo-

cality according to slides and reprint. Nucleospecies and subsequently nucleogenus (Tab. 6, 7).

ovum Trachelius (EHRENBERG, 1831) EHRENBERG, 1838 – FOISSNER, BERGER, BLATTERER & KOHMANN (1995) Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 1/95: 208. **OT**: Eger stream, Fichtelgebirge, Bavaria, Germany (50°32'N, 14°8'E). 4 **NP?** (**sd**): 1998/69, 1998/70, 1998/71, 1998/72. **Remarks**: “Typification” not mentioned in the original paper, but slides labelled; locality according to slides and reprint. Protonym: *Ophryocerca o.* EHRENBERG, 1831 – Abh. Akad. Wiss. Berlin 1831: 112. Nucleospecies of *Trachelius* SCHRANK, 1803 (Tab. 6).

P

pachyoplites Arcuospathidium FOISSNER, 2003 – Acta Protozool. 42: 146. **OT**: Saline coastal soil; surroundings of the village of Choroni, Henry Pittier National Park, north coast of Venezuela (10°15'N, 67°45'W). **HP** (**od**): 2007/88; **PP**: 2007/90, 2007/88, 2007/89.

palaeformis Metopus KAHL, 1927 [Arch. Protistenk. 57: 132] – FOISSNER, AGATHA & BERGER (2002) Denisia 5: 885. **OT**: Brown leaves from a streamlet in the rain forest; Nosy Be Island, Madagascar (13°21'S, 40°21'E). 3 **NP** (**od**): 2002/576, 2002/577, 2002/578.

pampinaria Bakuella EIGNER & FOISSNER, 1992 – Europ. J. Protistol. 28: 461. **OT**: Litter of vineleaves; village of Schröten near Deutsch Goritz, Styria, Austria (46°47'N, 15°49'E). 2 **SP?** (**od**): 1993/45 (two circled and four square marks, Fig. 23), 1993/46 (three circled marks). **Remarks**: Labels undesignated, but referring to describers (e.g. Fig. 23). Due to the nine marks and specimens in divisional morphogenesis included, they may also be considered as hapantophoronts (ICZN 1999 Art. 73.3). Currently subspecies rank, viz. *Bakuella (Bakuella) p. p.* according to BERGER (2006, Monogr. Biologicae 85: 565).

pampinaria oligocirrata Bakuella FOISSNER, 2004 – Denisia 13: 376. **OT**: Floodplain soil; Enns River near the mouth to the Danube River, Upper Austria (48°14'N, 14°30'E). **HP** (**od**): 2007/599; **PP**: 2007/600. **Remarks**: Currently *Bakuella (Bakuella) p. o.* according to BERGER (2006, Monogr. Biologicae 85: 567).

pannonicum Trachelophyllum FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 155. **OT**: Saline grassland soil from margin of the Neusiedlersee, a soda lake in the “hell” region near Illmitz, Burgenland, Austria (47°45'N, 16°48'E). **HP** (**od**): 2002/621; **PP**: 2002/622.

paoletti Platyophrya FOISSNER, 1997 – Biol. Fertil. Soils 25: 326. **OT**: Soil of a gallery forest at Pozo Azul, about 10 km north of Puerto Ayacucho, Venezuela (5°51'N, 67°30'W). 2 **SP** (unspecific **od** on page 319): 1998/105; 1998/108 (dry silver nitrate method); 4 **PP**: 1998/106; 1998/107 (wet silver nitrate method); 1998/109, 1998/110 (two dry silver nitrate method). **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.

papilliferum Epispathidium (KAHL, 1930) FOISSNER, 1984 – Stapfia 12: 84. **OT**: Mosses on a wall in the palace grounds of Rauisch-Holzhausen, near Gießen, Germany (50°45'N, 8°53'E). **NP?** (**sd**): 1984/65. **Remarks**: Neotypification not mentioned in paper (see page 8), but slide designated,

although mislabelled as “paratype”. Protonym: *Spathidium p.* KAHL, 1930 – Arch. Protistenk. 70: 386.

“*paradoxa Edaphospathula*” FOISSNER & XU, 2007 – Monogr. Biologicae 81: 67. **OT**: Pruno-Fraxinetum floodplain forest soil; Müllerboden near Vienna, Austria (48°N, 16°42'E). **HP** (**od**): 2007/105. 5 **PP**: 2007/101, 2007/102, 2007/103, 2007/104, 2007/105. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).

paramarinum Uronema PETZ, SONG & WILBERT, 1995 – Stapfia 40: 93. **OT**: Sea ice; Weddell Sea, Antarctica (70°31'S, 7°59'W). **SP?** (**od**): 2001/146. **Remarks**: Slide with one big circle, moreover “cells” are announced on the “holotype” in the paper.

paranotabilis Uroleptus FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 566. **OT**: Dung balls formed by a large *Scarabaeus*; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **HP** (**od**): 2002/383; 2 **PP**: 2002/384, 2002/385. **Remarks**: Currently *Caudiholosticha p.* according to BERGER (2006, Monogr. Biologicae 85: 254).

parasalarum Blepharisma DRAGESCO, 1996 – Cah. Biol. mar. 37: 286. **OT**: Marine sand; Thau lagoon, Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). **HP** (**od**): 1997/10 (one mark); **PP**: 1997/9 (two marks).

parduczi Uronema FOISSNER, 1971 – Arch. Protistenk. 113: 35. **OT**: Streamlet Gaisbach; Wartberg ob der Aist, Upper Austria (48°19'N, 14°30'E). 3 **SP?** (**sd**): 1974/298, 1974/299, 1974/300 (all dry silver nitrate method; last slide Fig. 2). **Remarks**: “Typification” not mentioned in the original paper; label not designated, but same original locality according to personal communication and an external sheet of paper (Fig. 1), thus symphoronts. 43 further slides with specimens collected in Stammersdorf, Burgenland.

parva Nassula KAHL, 1928 [Arch. Hydrobiol. 19: 28] – FOISSNER, AGATHA & BERGER (2002) Denisia 5: 417. **OT**: Grass soil; margin of a geyser in the littoral of Lake Baringo, Kenya (0°28'N, 36°0'E). 3 **NP** (**od**): 2002/529, 2002/530, 2002/531.

parvulus Notocephalus (CORLISS & SNYDER, 1986) PETZ, SONG & WILBERT, 1995 – Stapfia 40: 170. **OT**: Endopagial of mainly multiyear sea ice of the Weddell Sea, Antarctica (between 69°02'–70°21'S and 8°02'–8°53'W). **NP** (**od** without number): 2001/137. **Remarks**: Protonym: *Tachysoma parvulum* CORLISS & SNYDER, 1986 – Protistologica 22: 44. Nucleospecies of *Notocephalus* PETZ, SONG & WILBERT, 1995 (Tab. 6).

patella Hausmanniella (KAHL, 1931) FOISSNER, 1984 – FOISSNER (1987) Zool. Beitr. N. F. 31: 265. **OT**: Soil of a deciduous forest; Mt. Kado-yama, Amakusa Islands, Fukuregi, Japan (32°30'N, 130°0'E). 2 **NP?** (**sd**): 1988/77 (wet silver nitrate method); 1988/78. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Protonym: *Colpoda p.* KAHL, 1931 – Tierwelt Dtl. 21: 276.

patula Opisthnecta FOISSNER, 1975 – Protistologica 11: 406. **OT**: Tank; Wartberg ob der Aist, Upper Austria (48°19'N, 14°30'E). 37 **SP** (**sd**): 1975/163–199 (all dry silver nitrate method). **Remarks**: “Typification” not mentioned in the

- original paper; slides “typified” on a sheet of paper, but not labelled. Location according to personal communication. Considered as junior subjective synonym of *O. heneguyi* by FOISSNER, BERGER & SCHAUMBURG (1999 Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 467).
- pauciciliata Drepanomonas* FOISSNER, 1987 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **195**: 237. **OT**: Soil of a spruce forest near Ulm/Donau, Germany (48°24'N, 10°0'E). **HP (od)**: 1988/156. **Remarks**: “Paratype” deposition indicated, but not performed.
- paucicirrata Periholosticha* FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN, 2005 – Biodiversity and Conservation **14**: 679. **OT**: *Quercus petraea-Carpinus betulus* (oak-hornbeam) forest soil; Kolmberg near Vienna, Lower Austria (47°58'N, 16°41'E). **HP (od)**: 2007/684; **PP**: 2007/688, 2007/687, 2007/686, 2007/685, 2007/681, 2007/678, 2007/680.
- paucicirrata Perisincirra* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 628. **OT**: Mud from rock-pools; bank of the Shoalhaven River near the village of Bungonia, Australia (35°0'S, 149°0'E). **HP (od)**: 2002/726; **3 PP**: 2002/727, 2002/728, 2002/729.
- “*paucistriata Cultellothrix*” FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 290. **OT**: Soil; surroundings of Rio de Janeiro, viz. the shrub zone of the Restingha area about 1 km off the Atlantic sea coast, Brazil (23°30'S, 43°W). **HP (od)**: 2007/56; **PP**: 2007/56 (3 specimens figured), 2007/57, 2007/55. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- paucistriatum Bryophyllum* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 340. **OT**: Savannah soil; Masei Mara National Reserve, Kenya (1°30'S, 34°55'E). **HP (od)**: 2002/523; **4 PP**: 2002/524, 2002/525, 2002/526, 2002/527. **Remarks**: Currently *Neobryophyllum p.* (FOISSNER, AGATHA & BERGER, 2002) FOISSNER in FOISSNER & LEI, 2004 (Linzer biol. Beitr. **36**: 162).
- pelagica Belonophrya* ANDRÉ, 1914 [Revue suisse Zool. **22**: 182] – FOISSNER, BERGER & SCHAUMBURG (1999) Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 124. **OT**: Eutrophic pond; Salzburg University, Austria (47°47'N, 13°40'E). **2 NP (od)**: 1999/93, 1999/94. **Remarks**: Nucleospecies (Tab. 6).
- pelagica Bursellopsis* FOISSNER, BERGER & SCHAUMBURG, 1999 – Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 375. **OT**: Höglwörther See, a small lake in southern Bavaria, Germany (47°49'N, 12°50'E). **HP (od)**: 2000/137; **3 PP**: 2000/135, 2000/138, 2000/139.
- pelagica Marituja* GAJEWSKAJA, 1928 [C.R. Acad. Sci. U.R.S.S. 1928 (A): 476] – KRAINER (1988) Diss. Univ. Graz: 105. **OT**: Two clean groundwater ponds; Leibnitz, Styria, Austria (47°04'N, 15°26'E). **2 NP? (od)**: 1992/17, 1992/18. **Remarks**: FOISSNER, BERGER & SCHAUMBURG (1999, Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 431) acknowledge the redescription in the unpublished thesis, but are likely unaware of “type” material and moreover state that a reinvestigation is needed. Nucleospecies and subsequently nucleogenus (Tab. 6, 7).
- pelagica Urotricha* KAHL, 1935 [Tierwelt Dtl. **30**: 807] – FOISSNER & PFISTER (1997) Limnologica (Berlin) **27**: 325. **OT**: Plankton of an artificial pond; Salzburg University, Austria (47°48'N, 13°40'E). **8 NP (od)**: 1998/95, 1998/96, 1998/97, 1998/98; 1998/100, 1998/102, 1998/103, 1998/104 (four wet silver nitrate method). **Remarks**: Five further slides deposited as “neotypes” (inv. no. 1992/35, 38, 39, 40, 42) by KRAINER are considered as vouchers, because they refer to his unpublished doctoral thesis. Moreover, he probably mixed the three species, *U. pelagica*, *U. apsheronica*, and *U. castalia* (cp. FOISSNER & PFISTER 1997, Limnologica (Berlin) **27**: 325).
- pelagicum Strombidium* KRAINER, 1991 – Europ. J. Protistol. **27**: 62. **OT**: Excavated groundwater ponds; Leibnitzer Feld, Styria, Austria (46°49'N, 15°32'E). **HP (unspecific od on page 61)**: 1992/30; **PP**: 1992/31, 1992/36 (last slide labelled as *S. viride pelagica*). **Remarks**: Homonym to *S. viride* forma *pelagica* KAHL, 1932 [Tierwelt Dtl. **25**: 493], thus replaced by *S. pelagoviride* by KRAINER (1993, J. Eukaryot. Microbiol., IX Int. Congr. Protozool. Abstr.). For this replacement name KRAINER (1995, Lauterbornia **21**: 56) deposited a “neotype” (unspecific designation on page 40; inv. no. 1992/36) from the pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria; here considered as voucher, because this taxon is as junior subjective synonym of *Limnostrombidium pelagicum* (KAHL, 1932) KRAINER, 1995 according to FOISSNER, BERGER & SCHAUMBURG (1999 Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 574).
- pellionellum Tachysoma* (MÜLLER, 1773) BORROR, 1972 – FOISSNER & DIDIER (1982) Anns Stn biol. Besse **15**: 259. **OT**: Small river; Besse-en-Chandesse area, France (45°31'N, 2°56'E). **NP? (sd)**: 1981/94. **Remarks**: “Typification” not mentioned in the original paper, but slide designated, although mislabelled as “paratype” and *T. pellionella*. Protonym: *Trichoda pellionella* MÜLLER, 1773 – Vermium Terrestrium et Fluviatilium: 80. Nucleospecies of *Tachysoma* STOKES, 1887 (Tab. 6).
- “*pelobia Apertospathula*” FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 362. **OT**: Soil from a green area (“green river bed”); Chobe River near the Muchenje Safari Lodge, Botswana (18°S, 24°40'E). **HP (od)**: 2007/45; **PP**: 2007/42, 2007/43, 2007/44, 2007/41. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- pelobia Idiocolpoda* FOISSNER, 1993 – Acta Protozool. **32**: 175. **OT**: Temporary stream; North Kohala, Hawaii, USA (20°04'N, 155°50'W). **HP (od)**: 1997/32; **PP**: 1997/33. **Remarks**: Nucleospecies (Tab. 6).
- “*pelobium Arcuospathidium*” FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 164. **OT**: Mud from a temporary stream; North Kohala, Hawaii, USA (20°04'N, 155°50'W). **HP (od)**: 2007/51; **PP**: 2007/52, 2007/53, 2007/54. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3). New name for population II of *A. vermiforme* in FOISSNER (1984, see this species below).
- penardi Bryophyllum* KAHL, 1931 [Tierwelt Dtl. **21**: 185] – FOISSNER, AGATHA & BERGER (2002) Denisia **5**: 350. **OT**: Brown leaves from a streamlet in the rain forest; Nosy Be Island, Madagascar (13°21'S, 40°21'E). **4 NP (od)**:

- 2002/339, 2002/340, 2002/356, 2002/358. **Remarks:** Currently *Neobryophyllum* *p.* according to FOISSNER in FOISSNER & LEI, 2004 (Linzer biol. Beitr. **36**: 162).
- pentadactyla Plagiocampa* FOISSNER, AGATHA & BERGER, 2002, *Denisia* **5**: 539. **OT:** Field soil; Cotonou, Benin (6°15'N, 2°20'E). **HP (od):** 2002/446; **PP:** 2002/447 (all wet silver nitrate method).
- “*periamata Armatospathula*” FOISSNER & XU, 2007 – *Monogr. Biologicae* **81**: 308. **OT:** Soil; Tachypogon savannah, surroundings town of Puerto Ayacucho, Venezuela (about 5°N, 68°W). **HP (od):** 2007/69. **3 PP:** 2007/69, 2007/70, 2007/71. **Remarks:** Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- perisincirra Tachysoma* HEMBERGER, 1985 [Arch. Protistenk. **130**: 412] – BERGER, FOISSNER & ADAM (1984) *Zool. Jb. Syst.* **111**: 363. **OT:** Soil of an alpine meadow; Schlossalm Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). **2 NP? (sd):** 1986/99, 1986/100. **Remarks:** Neotypification not mentioned in the paper, but slides designated, although mislabelled as “holotype” and “paratype”, respectively. Currently *Lamtostyla* *p.* according to BERGER & FOISSNER (1987, *Zool. Jb. Syst.* **114**: 216).
- persalinus hexakinetus Pseudocohnilembus* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 533. **OT:** Sedge girdle; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **HP (od):** 2002/89; **3 PP:** 2002/90, 2002/91, 2002/92.
- phoenicopterus Tracheloraphis* (COHN, 1866) DRAGESCO, 1960 – FOISSNER & DRAGESCO (1996) *Arch. Protistenk.* **147**: 60 (including nomenclatural note as noun in apposition). **OT:** Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **2 NP (od):** 1998/34, 1998/35. **Remarks:** Protonym: *Trachelocerca* *p.* COHN, 1866 – *Z. wiss. Zool.* **16**: 262. Nucleospecies of *Tracheloraphis* DRAGESCO, 1960 (Tab. 6).
- piger Amphileptus* (VUXANOVICI, 1962) SONNTAG & FOISSNER, 2004 – *J. Eukaryot. Microbiol.* **51**: 672. **OT:** Plankton of Lake Traunsee, Austria (51°N, 13°47'E). **25 NP (od):** 2005/18–42. **Remarks:** Protonym: *Litonotus* *p.* VUXANOVICI, 1962 – *Studii Cerc. (Biol. Anim.)* **14**.
- piliforme Enchelydium* (KAHL, 1930) FOISSNER, 1984 – *Stapfia* **12**: 40. **OT:** Astatic meadow-pond; between the so-called Henkerhaus and the Peterweiher; urban area of Salzburg, Austria (47°48'N, 13°02'E). **2 NP? (sd):** 1984/24, 1984/25. **Remarks:** Protonym: *Spathidium* *p.* KAHL, 1930 – *Arch. Protistenk.* **70**: 389. Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes”. One further slide (inv. no. 1981/9) labelled as protonym and likewise “paratype”, thus listed in AESCHT (2001: 494), refers to FOISSNER & DIDIER (1982, *Annls Stn biol. Besse* **15**: 257) and was however, collected in the Besse-en-Chandesse area, France; needs clarification, also concerning the onymotope.
- pituitosus Thylakidium* FOISSNER, 1980 – *Ber. Nat.-Med. Ver. Salzburg* **5**: 97. **OT:** Alpine puddle between Tauernbach and Schareck, Glockner-Hochalpenstraße, Salzburg, Austria (47°04'N, 12°52'E). **2 SP (sd):** 1981/72 (opal blue staining; Fig. 6), 1981/73 (dry silver nitrate method; Fig. 7). **Remarks:** “Typification” not mentioned in the original paper, but two slides are labelled as “holotype” (Fig. 6, 7), because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Ending of species name corrected to *T. pituitosum* by FOISSNER (1993, *Protozoenfauna* **4/1**: 703).
- plana Nivaliella* FOISSNER, 1980 – *Zool. Jb. Syst.* **107**: 394. **OT:** Soil of an alpine mat near the Wallack-Haus; Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (47°04'N, 12°49'E). **HP (sd):** 1981/17 (dry silver nitrate method). **Remarks:** “Typification” not mentioned in the original paper, but slide designated, although mislabelled as “genotype”. Nucleospecies (Tab. 6).
- plancitcola Pelagothrix* FOISSNER, BERGER & SCHAUMBURG, 1999 – *Informationsberichte Bayer. Landesamtes für Wasserwirtschaft* **3/99**: 401. **OT:** Pond; near the village of Maria Sorg, surroundings of Salzburg City, Austria (47°48'N, 13°40'E). **5 SP (od):** 1999/88, 1999/89 (labelled as “*P. asymmetrica*”); 1999/91 (dry silver nitrate method and labelled as “*P. minuta*”); 1999/90, 1999/92 (two wet silver nitrate method and labelled as “*P. minuta*”). **Remarks:** Type deposition not mentioned in the original paper; but four slides are labelled as “neo/holotype”, because of different preparation methods, thus symphoronts. Incorrectly labelled, since these two species have never been described.
- platysoma Vorticella* STOKES, 1887 [Proc. Am. phil. Soc. **24**: 249] – FOISSNER, BERGER & SCHAUMBURG (1999) *Informationsberichte Bayer. Landesamtes für Wasserwirtschaft* **3/99**: 486. **OT:** Lake Mondsee, Upper Austria (47°49'N, 13°23'E). **3 NP? (sd):** 1998/128; 1998/129, 1998/130 (two dry silver nitrate method). **Remarks:** Neotypification not mentioned in paper and no formal redescription provided, although three original drawings of silver impregnated specimens are included, but slides designated as “neotypes”; locality according to labels.
- plumipes Euplotoides* (STOKES, 1884) BORROR & HILL, 1995 – DRAGESCO (2003) *Trav. Mus. natl. Hist. nat. “Grigore Antipa”* **45**: 10. **OT:** Mosses near Butaré, Rwanda (2°35'S, 29°4'E). **2 NP? (unspecific od on page 7):** 2003/81 (1986, wet silver nitrate method); 2003/142 (1985, dry silver nitrate method). **Remarks:** Site according to slides from different years! Protonym: *Euplotes* *p.* STOKES, 1884 – *Am. mon. microsc. J.* **5**: 229.
- “*plurinucleata Armatospathula*” FOISSNER & XU, 2007 – *Monogr. Biologicae* **81**: 317. **OT:** Soil from a secondary rain forest; surroundings of Tropical Hotel Manaus, Brazil (3°S, 60°W). **HP (od):** 2007/64; **PP:** 2007/61, 2007/62, 2007/63, 2007/64. **Remarks:** Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- plurivacuolata Chlamydonellopsis* BLATTERER & FOISSNER, 1990 – *Arch. Protistenk.* **138**: 99. **OT:** Windach stream near the sewage plant; village of Eching, Bavaria, Germany (48°5'N, 11°7'E). **HP (od):** 1993/35; **PP:** 1993/36 (Fig. 16). **Remarks:** Nucleospecies (Tab. 6). For this species LYNN & FOISSNER (1994) used the genus name *Pseudochlamydonellopsis*, however, this is a nomen nudum without characterization and no formal combination has been performed (cp. Anonymus [likely FOISSNER W.] 1995, *Europ. J. Protistol.* **31**: 401).
- polynucleata Hemisincirra* FOISSNER, 1984 – *Stapfia* **12**: 119. **OT:** Soil of a mesoxerophytic grassland (Mesobrometum); Althan near Bierbaum, Lower Austria (48°19'N, 16°0'E).

- 2 **SP** (unspecific **od** on page 8): 1984/96, 1984/95. **Remarks:** Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts. Currently *Hemiurosoma p.* according to FOISSNER, AGATHA & BERGER (2002, *Denisia* 5: 835). Since the genus has neuter gender, the species name has to be corrected to *H. polynucleatum* nom. corr.
- polynucleatum* *Enchelydium* FOISSNER, 1984 – *Stapfia* 12: 37. **OT:** Soil of an intensely farmed field; Bierbaum, Tullnerfeld, Lower Austria (48°23'N, 15°56'E). **HP** (unspecific **od** on page 8): 1984/22. **Remarks:** Currently *Enchelys polynucleata* according to FOISSNER, AGATHA & BERGER (2002, *Denisia* 5: 127).
- polynucleatum* *Epispathidium* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 312. **OT:** Soil and litter under an *Euphorbia* cushion; Namib Escarpment in the desert and succulent steppe between the towns of Goageb and Aus, Namibia (26°40'S, 16°50'E). **HP (od):** 2002/281; 3 **PP:** 2002/282, 2002/283, 2002/284.
- polyvacuolata* *Pseudochilodonopsis* FOISSNER & DIDIER, 1982 – *Anns Stn. biol. Besse* 15: 258. **OT:** Submerge mooses of a streamlet; near Biological Station in Besse-en-Chandesse, France (45°31'N, 2°56'E). 2 **SP (sd):** 1981/44 (dry silver nitrate method); 1981/45. **Remarks:** “Typification” not mentioned in the original paper, but two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- polyvacuolatus* *Dileptus* FOISSNER, 1989 – *Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt.* 196: 179. **OT:** Soil of a paddy field near Kumamoto, Japan (32°47'N, 130°41'E). **HP (od):** 1988/96; **PP:** 1988/97.
- potamophilus* *Thigmogaster* FOISSNER, 1988 – *Hydrobiologia* 162: 30. **OT:** River Drau between Abling and Lienz, Eastern Tyrol, Austria (46°49'N, 12°45'E). **HP (od):** 1988/168 (Fig. 15); **PP:** 1988/169.
- procera* *Amphisiella* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 670. **OT:** Soil under *Aloe dichotoma*; surroundings of the Gariganus Guest Farm, about 30 km northeast of the town of Keetmanshoop, Namibia (26°25'S, 18°20'E). **HP (od):** 2002/380; **PP:** 2002/381.
- procerum* *Spathidium* KAHL, 1930 [*Arch. Protistenk.* 70: 380] – FOISSNER (1984) *Stapfia* 12: 71. **OT:** Soil of a conventionally farmed field; Bierbaum, Lower Austria (48°23'N, 15°56'E). **NP? (sd):** 1984/51. **Remarks:** Neotypification not mentioned in paper (see page 8), but slide designated, although mislabelled as “paratype”.
- procerus* *Pseudouroleptus* BERGER & FOISSNER, 1987 – *Zool. Jb. Syst.* 114: 195. **OT:** Soil of a meadow; near the city of Salzburg, Austria (47°48'N, 13°02'E). **HP** (unspecific **od** on page 195): 1986/61; **PP:** 1986/62.
- procumbens* *Epistylis* ZACHARIAS, 1897 [*ForschBer. biol. Stn Plön* 5: 7] – FOISSNER, BERGER & SCHAUMBURG (1999) *Informationsberichte Bayer. Landesamtes für Wasserwirtschaft* 3/99: 527. **OT:** Höglwörther See, a small lake in southern Bavaria, Germany (47°49'N, 12°50'E). 4 **NP? (sd):** 1998/131, 1998/132, 1998/133, 1998/134 (all dry silver nitrate method). **Remarks:** Neotypification not mentioned in paper, but slide designated; locality according to slides restricted herein.
- protectissima* *Parafurgasonia* (PENARD, 1922) FOISSNER, 1989 – *Biodiversity and Conservation* 8: 348. **OT:** Mud from granitic rock-pools on the Kruger Tablets; Kruger National Park, Republic of South Africa (23°50'S, 31°30'E). 4 **NP (od):** 1999/19, 1999/20 (both wet silver nitrate method); 1999/21, 1999/22. **Remarks:** Protonym: *Nassula p.* PENARD, 1922 – *Études Infusoires*: 88. Three slides mislabelled as “holotype or paratypes”.
- psammophilus* *Planicoleps* DRAGESCO & DRAGESCO-KERNÉIS, 1991 – *Europ. J. Protistol.* 26: 217. **OT:** Interstitial in the sands, at slight depth (0.5-1 m); Bujumbura and up to 80 km southwards, along the east shore of Lake Tanganyika, Burundi (3°19'S, 29°19'E). 3 **SP (sd):** 2003/71 (1985), 2003/137 (1986); 2003/144 (1985, dry silver nitrate method). **Remarks:** “Typification” not mentioned, but all labels unspecifically refer to this paper; symphoronts because of different preparation methods and two sampling years. Nucleospecies (Tab. 6).
- psenneri* *Urotricha* SONNTAG & FOISSNER, 2004 – *J. Eukaryot. Microbiol.* 51: 670. **OT:** Plankton of Lake Traunsee, Austria (51°N, 13°47'E). **HP (od):** 2005/10; 17 **PP:** 2005/11 – 16 (all wet silver nitrate method); 2005/17, 2005/34–42.
- pseudochilodon* *Bryometopus* KAHL, 1932 [*Tierwelt Dtl.* 25: 434] – FOISSNER, ADAM & FOISSNER I. (1982) *Protistologica* 18: 212. **OT:** Alpine soil; Hohe Tauern, Salzburg, Austria (about 47°N, 13°E). **NP? (sd):** 1981/74. **Remarks:** Neotypification not mentioned, but slide designated, although mislabelled as “paratypes”. No specific site given. Nucleospecies and subsequently nucleogenus (Tab. 6, 7).
- pseudocinctum* *Spirostrombidium* (WANG, 1934) PETZ, SONG & WILBERT, 1995 – *Stapfia* 40: 123. **OT:** Endopagial of pancake and multiyear sea ice; Weddell Sea, Antarctica (between 69°26'–70°24'S and 06°18'–07°19'W). **NP? (sd):** 2001/134. **Remarks:** Neotypification neither mentioned on page 7 nor 123, but slide designated. Protonym: *Strombidium pseudocinctum* WANG, 1934 – *Rep. Mar. Biol. Ass. China* 3: 62.
- pseudofurcata* *Urotricha* KRÄINER, 1995 – *Lauterbornia* 21: 40. **OT:** Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50'N, 15°30'W). 2 **SP** (unspecific **od** on page 40): 1992/11 (Fig. 25), 1992/37. **Remarks:** Slides mislabelled as “*U. parafurcata*” and incorrectly designated as “neotypes”.
- pulchra* *Bardeliella* FOISSNER, 1984 – *Stapfia* 12: 106. **OT:** Soil of a meadow in the so-called “hell”; Seewinkel, Burgenland, Austria (47°49'N, 16°48'E). 4 **SP** (unspecific **od** on page 8): 1984/79, 1984/80; 1984/81, 1984/82 (two dry silver nitrate method). **Remarks:** Four slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies (Tab. 6); *Bardeliella* is the nucleogenus of *Bardeliellidae* FOISSNER, 1984 (Tab. 7).
- pulchra* *Paraenchelys* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 104. **OT:** Highly saline soil; Etosha National Park, Wolfsnes water-hole near the margin of the Etosha Pan, Namibia (19°S, 15°50'E). **HP (od):** 2002/50; 3 **PP:** 2002/51, 2002/52, 2002/53.
- pulchra* *Tricornella* BLATTERER & FOISSNER, 1988 – *Stapfia* 17: 59. **OT:** Soil of a bushland; Brisbane Waters National

Park, north of Sidney, Australia (33°28'S, 151°20'E). **HP** (unspecific **od** on page 4): 1989/72; **PP**: 1989/73. **Remarks**: Nucleospecies (Tab. 6).

pusillum Tintinnidium ENTZ, 1909 [Arch. Protistenk. 15: 118] – FOISSNER & WILBERT (1979) J. Protozool. 26: 94. **OT**: Pond (Poppelsdorfer Weiher); Bonn, Germany (50°44'N, 7°6'E). 2 **NP?** (**sd**): 1993/64, 1993/65. **Remarks**: “Typification” not mentioned in the original paper, but slides designated, although latter one mislabelled as “paratype”.

pusillus Microthorax ENGELMANN, 1862 [Z. wiss. Zool. 11: 381] – LEITNER & FOISSNER (1997) Linzer biol. Beitr. 29: 350. **OT**: Activated sludge of two stage sewage-treatment plant; Siggerwiesen, Salzburg, Austria (47°51'N, 13°0'E). 4 **NP** (**od**): 1997/17 (five marks), 1997/18 (10 marks); 1997/19 (nine marks), 1997/20 (four marks, dry silver nitrate method). **Remarks**: The latter three slides undesigned, but marked and announced. One slide mislabelled as “paratype” (inv. no. 1981/49) probably refers to FOISSNER (1979, Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. 188: 30). Nucleospecies and subsequently nucleogenus (Tab. 6, 7).

pustulata Stylynychia (MÜLLER, 1786) EHRENBERG, 1835 – WIRNSBERGER, FOISSNER & ADAM (1985) J. Protozool. 32: 262. **OT**: Lake Mondsee; Upper Austria (47°49'N, 13°23'E). 3 **NP?** (**sd**): 1986/31, 1986/32, 1986/33. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Protonym: *Kerona p.* MÜLLER, 1786 – Animalc. infus.: 246. Currently *Tetmemena p.* according to EIGNER (1999, Europ. J. Protistol. 35: 44, 47).

putrinus Pseudocohnlembus (KAHL, 1928) FOISSNER & WILBERT, 1981 – J. Protozool. 28: 291. **OT**: Soil; Hohe Tauern, Salzburg, Austria (about 47°N, 13°E). 2 **NP?** (**sd**): 1981/63; 1981/64 (dry silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “paratypes”. Protonym: *Lembus p.* KAHL, 1928 – Arch. Hydrobiol. 19: 121.

pyriformis Perispira WIRNSBERGER, FOISSNER & ADAM, 1984 – Arch. Protistenk. 128: 306. **OT**: Edge of a pasture pool; Schlossalm near Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). 2 **SP** (**od**): 1986/17, 1986/18. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.

Q

quadricornutus Onychodromus FOISSNER, SCHLEGEL & PRESCOTT, 1987 – J. Protozool. 34: 150. **OT**: Unknown; isolated from a freshwater aquarium in Boulder, Colorado, USA (40°00'N, 105°16'W). **HP** (**od**): 1986/95; 3 **PP**: 1986/96, 1986/97, 1986/98. **Remarks**: Currently *Styphophrya quadricornuta* and nucleospecies of the latter genus according to FOISSNER, MOON VAN DER STAAY, VAN DER STAAY, HACKSTEIN, KRAUTGARTNER & BERGER (2004, Europ. J. Protistol. 40: 279; Tab. 6).

quadrinucleata Erimophrya FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN, 2005 – Biodiversity and Conservation 14: 671 **OT**: *Pinus nigra* forest soil; Stampftal near Vienna, Austria (47°53'N, 16°02'E). **HP** (**od**): 2007/678; **PP**: 2007/679, 2007/680, 2007/683.

quadrinucleata Kahliaella DRAGESCO, 2003 – Trav. Mus. natl. Hist. nat. “Grigore Antipa” 45: 23. **OT**: Soil in the garden; University of Butaré, Rwanda (2°35'S, 29°4'E). 2 **SP**

(unspecific **od** – incorrectly as “neotypes” – on page 7): 2003/91, 2003/136. **Remarks**: Type not specified on the labels, but according to publication.

quadrinucleata Steimia DRAGESCO & NJINÉ, 1971 [AnnlsFac. Sci. Univ. féd. Cameroun 7-8: 129] – FOISSNER (1984) Stapfia 12: 118. **OT**: Soil of a conventionally farmed field; left of the Hellbrunner-Allee, urban area of Salzburg, Austria (47°48'N, 13°04'E). 2 **NP?** (**sd**): 1984/93, 1984/94. **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes”. Currently *Cyrtohymena q.* according to FOISSNER, 1989 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. 196: 239; classified in subgenus (Tab. 5) according to FOISSNER (2004, Denisia 13: 370), although not formally transferred.

quadrinucleata Uroleptoides FOISSNER, 1984 – Stapfia 12: 114. **OT**: Soil; Salesen-Alm am Stubnerkogel near Bad Gastein, Salzburg, Austria (47°7'N, 13°6'E). 2 **SP** (unspecific **od** on page 8): 1982/59, 1984/90 (as *U. quadrinucleatus*). **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts. Currently *Hemiamphisiella q.* according to FOISSNER (1988, Stapfia 17: 122).

R

rariseta Hemisincirra FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 865. **OT**: Soil from *Aloe dichotoma* forest; Gariganus Guest Farm, about 30 km northeast of the town of Keetmanshoop, Namibia (26°30'S, 18°25'E). **HP** (**od**): 2002/431; 2 **PP**: 2002/429, 2002/430.

rarisetum Paragonostomum FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 831. **OT**: Soil from *Aloe dichotoma* forest; Gariganus Guest Farm, about 30 km northeast of the town of Keetmanshoop, Namibia (26°30'S, 18°25'E). **HP** (**od**): 2002/429; 4 **PP**: 2002/415, 2002/430, 2002/431, 2002/432.

regium Epispathidium FOISSNER, 1984 – Stapfia 12: 82. **OT**: Soil of an alder forest (*Alnetum viridis*); Stubnerkogel near Bad Gastein, Salzburg, Austria (47°7'N, 13°6'E). **HP** (unspecific **od** on page 8): 1984/8 (Fig. 13). **Remarks**: Nucleospecies (Tab. 6).

rehwaldi Strombidium PETZ & FOISSNER, 1992 – J. Protozool. 39: 165. **OT**: River Amper; about 2 km downriver from the sewage plant at Geiselbullach, east of Fürstenfeldbruck, Bavaria, Germany (48°13'N, 11°21'E). 2 **SP** (**od**): 1993/55, 1993/56; **PP**: 1993/57. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.

reniforme Cryptochilum PETZ, SONG & WILBERT, 1995 – Stapfia 40: 84. **OT**: Sea ice; Weddell Sea, Antarctica (70°24'S, 6°18'W). **SP?** (**od**): 2001/134. **Remarks**: Slide with one big circle, moreover “cells” are announced for the “holotype” in the paper.

reticulata Urosomoida FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 771. **OT**: Litter from *Combretum imberbe* (leadwood tree); foot of the Brandberg, an inselberg at the east margin of the central Namib Desert, Namibia (21°S, 14°35'E). **HP** (**od**): 2002/219; 3 **PP**: 2002/220, 2002/221, 2002/222.

- revoluta Drepanomonas* PENARD, 1922 [Études Infusoires: 169] – FOISSNER (1987) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **195**: 242. **OT**: Field soil near Seekirchen, Salzburg, Austria (47°54'N, 13°8'E). **NP?** (sd): 1986/13. **Remarks**: Neotypification not mentioned in the original paper, but slide designated as “neotype”. One further slide mislabelled as “paratype” (inv. no. 1981/47, dry silver nitrate method) needs clarification.
- rex Loxodes* DRAGESCO, 1970 – AnnlFac. Sci. Univ. féd. Cameroun (Numéro hors-série): 16. **OT**: Freshwater with sand; Yaounde, Cameroun (3°52'N, 11°31'E). 5 **SP** (sd): 2003/46, 2003/47, 2003/109, 2003/112; 2003/118 (haematoxilin staining). **Remarks**: “Typification” not mentioned in the original paper, but subsequently herein by the original author. Sampling year 1969, site according to slide, no biotope indicated.
- ristoi Urotricha* KRAINER, 1995 – Lauterbornia **21**: 41. **OT**: Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50'N, 15°30'W). 2 **SP** (unspecific od on page 40): 1992/4 (Fig. 26), 1992/11 (Fig. 25). **Remarks**: One slide labelled as “n. sp.” (Fig. 26), the other as “holo-, paratype” (Fig. 25) violating Art. 73.2 (ICZN 1999), thus symphoronts.
- robusta Lacrymaria* VUXANOVICI, 1959 [Revue Biol. **4**] – FOISSNER (1987) Limnologica (Berlin) **27**: 195. **OT**: Eger stream; Fichtelgebirge, Bavaria, Germany (50°32'N, 14°8'E). 2 **NP** (od): 1998/69, 1998/70.
- roquei Frontonia* DRAGESCO, 1970 – AnnlFac. Sci. Univ. féd. Cameroun (Numéro hors-série): 51. **OT**: Not given; Yaounde, Cameroun (3°52'N, 11°31'E). **HP?** (sd): 2002/904 (wet silver nitrate method, dated 1970). **Remarks**: “Typification” not mentioned, but labels unspecifically refer to this paper; one mark. Redescribed by DRAGESCO & DRAGESCO-KERNÉIS (1986, Faune tropicale **26**: 327). Since the genus has feminine gender, the species name was corrected to *F. roqueae* by FOISSNER, AGATHA & BERGER (2002, Denisia **5**: 504).
- rosea Naxella* (TUCOLESCO, 1962) FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 441. **OT**: Highly saline soil; Etosha National Park, lookout site “Pan”, Namibia (19°55'S, 15°55'E). 3 **NP** (od): 2002/64, 2002/65 (wet silver nitrate method); 2002/66. **Remarks**: Protonym: *Nassula r.* TUCOLESCO, 1962 – AnnlSp Spéléol. **17**.
- rostrata Woodruffia* KAHL, 1931 [Tierwelt Dtl. **21**: 285] – FOISSNER (1987) Zool. Beitr. N. F. **31**: 227. **OT**: Strongly haline coastal soil; Santo Vicente, Cap Verde Islands, Atlantic Ocean (about 17°N, 25°W). 2 **NP?** (sd): 1988/63 (wet silver nitrate method), 1988/64. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Nucleospecies of *Woodruffia* KAHL, 1931 and subsequently nucleogenus of *Woodruffiidae* GELEI, 1954 (Tab. 6, 7).
- rostratum Loxophyllum* COHN, 1866 [Z. wiss. Zool. **16**: 280] – PETZ, SONG & WILBERT (1995) Stapfia **40**: 55. **OT**: Endopagial of pancake and multiyear sea ice of the Weddell Sea, Antarctica (68°38'–71°00'S, 06°04'–12°12'W). **NP** (od without number): 2001/139.
- rouxi Plagiocampa* KAHL, 1926 [Arch. Protistenk. **55**: 319] – FOISSNER (1984) Stapfia **12**: 22. **OT**: Soil of a damp willow floodplain (*Phalaris arundinacea-Urtica dioica*); Vogel-sang near Grafenwörth, Lower Austria (48°24'N, 15°47'E). **NP?** (sd): 1984/9. **Remarks**: Neotypification not mentioned in paper (see page 8), but slide designated, although mislabelled as “paratype”.
- rubescens Notohymena* BLATTERER & FOISSNER, 1988 – Stapfia **17**: 71. **OT**: Bark overgrown with lichens and mosses of a secondary pine forest near Innisfail; Chairns, Australia (17°32'S, 146°2'E). **HP** (unspecific od on page 88): 1989/81; **PP**: 1989/82. **Remarks**: Nucleospecies (Tab. 6).
- rubra Metaurostyloopsis* SONG & WILBERT 2002 – Acta Protozool. **41**: 52. **OT**: Rock pool and littoral; Potter Cove, King George Island, Antarctica (62°14'S, 58°40'W). **HP** (unspecific od on page 24): 2001/5. **Remarks**: “Paratypes” deposited in the Laboratory of Protozoology, College of Fisheries, Ocean University of Qingdao, China.
- rubra Pseudokeronopsis* (EHRENBERG, 1835) BORROR & WICKLOW, 1983 – WIRNSBERGER, LARSEN & UHLIG (1987) Europ. J. Protistol. **23**: 77. **OT**: Unknown; South Africa. 2 **NP** (od): 1986/42, 1986/43. **Remarks**: Two further slides labelled as “paratypes” (inv. no. 1984/86, 1984/87, samples in a seawater aquarium originating from Porto Rosz in Slovenia), refer to the publication of FOISSNER (1984, Stapfia **12**: 111), where neotypification is not mentioned on page 8 referring to deposition. This species is now considered as misidentified *P. carnea* (cp. reference above: 86; BERGER 2006, Monogr. Biologicae **85**: 931). Protonym: *Oxytricha rubra* EHRENBERG, 1835 – Abh. Akad. Wiss. Berlin **1835**: 164. Nucleospecies of *Pseudokeronopsis* BORROR & WICKLOW, 1983 (Tab. 6), which is the nucleogenus of *Pseudokeronopsidae* BORROR & WICKLOW, 1983 (Tab. 7).
- rubripuncta Oxytricha* BERGER & FOISSNER, 1987 – Zool. Jb. Syst. **114**: 222. **OT**: Soil of an uncultivated grassland; Golan Hills, Israel (33°0'N, 35°45'E). **HP** (unspecific od on page 195): 1986/73; **PP**: 1986/74.
- rugosa Remanella* KAHL, 1933 – DRAGESCO (1965) Cah. Biol. mar. **6**: 377. **OT**: Marine sand; Aber de Roscoff, France (48°44'N, 3°59'W). **NP?** (sd): 2003/105 (labelled as *R. rugosa*, sampling year 1962). **Remarks**: “Typification” not mentioned in the original paper, but subsequently herein by the original author. DRAGESCO established a *R. unicorpusculata* for *R. rugosa* var. *unicorpusculata* KAHL, 1933 (Tierwelt Nord- und Ostsee II. **c3**: 65) “due to misinterpretation of article 45g of the IZCN” (cp. FOISSNER 1996, Europ. J. Protistol. **32**: 235). Moreover FOISSNER cited the taxon as *R. rugosa* var. *unicorpusculata*, viz. as infrasubspecific rank violating Art. 45.6.4 (ICZN 1999). Thus, the taxon should have subspecies rank; supported by the label of DRAGESCO, the specimens are considered as *R. rugosa*. Since the unavailable genus was revalidated in the FOISSNER's publication, nomenclatural authorship is complicated, viz. a new combination is not supported by ICZN (1999 Art. 51.3, 50.1, Rec. 50C, 51F).
- runcina Gastronauta* WILBERT, 1974 – Protistologica **7**: 358. **OT**: Eutrophic ponds; Bonn, Germany (50°44'N, 7°6'E). 2 **SP** (sd): 1997/40 (Fig. 27), 1997/41. **Remarks**: “Typification” not mentioned in the original paper, but slides designated (e.g. Fig. 27). Considered as junior subjective synonym of *G. membranaceus* by FOISSNER (2001, Protozo-

ol. Monogr. 1: 66), who reinvestigated and deposited the original slides, mislabelled as one “holo- and syntype” each violating Art. 73.2 (ICZN 1999).

S

- sagitta Trachelocerca* (MÜLLER, 1786) EHRENBERG, 1840 – FOISSNER & DRAGESCO (1996) Arch. Protistenk. **147**: 46. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). 2 **NP**? (od): 2002/811, 2002/812. **Remarks**: “Neotypes” also unspecifically mentioned by DRAGESCO (2002, Linzer biol. Beitr. **34**) on page 1547 referring to the description on page 1553. Since the year (of collection?) is given with 1999 on the label, the originally intended slides have possibly not been deposited. Protonym: *Vibrio sagitta* MÜLLER, 1786 – Animalc. infus. Nucleospecies of *Trachelocerca* EHRENBERG, 1840 (Tab. 6), which is the nucleogenus of *Trachelocercidae* KENT, 1881 (Tab. 7).
- salinarum Holophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 537. **OT**: Highly saline soil; Etosha National Park, road to the Halali rest camp, Namibia (18°55'S, 16°25'E). **HP** (od): 2002/206; **PP**: 2002/209 (both wet silver nitrate method).
- salmastra Frontonia* DRAGESCO & DRAGESCO-KERNÉIS, 1986 – Faune tropicale **26**: 319. **OT**: Brackish water; Cotonou, Benin (6°15'N, 2°20'E). **HP** (sd): 2002/889 (wet silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper, but label refers to this paper; one mark; site according to slide.
- salmastra Pleuronema* DRAGESCO & DRAGESCO-KERNÉIS, 1986 – Faune tropicale **26**: 359. **OT**: Brackish water; Cotonou, Benin (6°15'N, 2°20'E). **HP**? (sd): 2002/875. **Remarks**: “Typification” not mentioned in the original paper, but label refers to this paper, one mark; site likely erroneously given as “Yaounde”.
- saltans Pseudoplatyophrya* FOISSNER, 1988 – Stapfia **17**: 105. **OT**: Gum tree (*Ficus* sp.) litter; Nairobi Arboretum, Kenya (2°20'S, 36°50'E). 2 **SP** (unspecific od on page 88): 1989/26; 1989/28 (dry silver nitrate method); **PP**: 1989/27 (dry silver nitrate method). **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- sapropelica Balanonema* FOISSNER, 1978 – Protistologica **14**: 385. **OT**: Puddle below the Wallack-Haus; Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (47°04'N, 12°49'E). **HP**? (sd): 1981/54. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Site on label perhaps inadvertently given as “Gastein”. Genus needs nomenclatural validation (cp. AESCHT 2001: 29).
- sapropelicus Ovalorhabdos* FOISSNER, 1984 – Stapfia **12**: 33. **OT**: Sapropel of River Drau near barrage Amlach; Lienz, Eastern Tyrol, Austria (46°49'N, 12°45'E). 3 **SP** (unspecific od on page 8): 1984/16; 1984/17, 1984/18 (wet silver nitrate method). **Remarks**: Three slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Slides labelled as *O. sapropelica*, which is correct according to ICZN (1999 Art. 31.2)) since the genus has feminine gender (cp. AESCHT 2001: 291). Nucleospecies (Tab. 6).
- schiffmanni Orthokreyella* FOISSNER, 1984 – Stapfia **12**: 99. **OT**: Soil of an alder forest (*Alnetum viridis*); Stubnerkogel near Bad Gastein, Salzburg, Austria (47°7'N, 13°6'E). **HP** (unspecific od on page 8): 1984/73 (incorrectly labelled as “genotype”). **Remarks**: According to page 7 the site would be Haitzinger-Alm (*Rumicetum alpini*), Bad Hofgastein. Nucleospecies (Tab. 6).
- schulzei Trachelolophos* (DRAGESCO, 1954) DRAGESCO, 1999 – Annl. Sci. nat. **1**: 6. **OT**: Marine sand; Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). 2 **NP** (od): 1998/22, 1998/23. **Remarks**: Unspecifically designated as type specimens, but in fact neophoronts; labels unspecifically refer to this paper. Year of first description incorrectly given as 1960 in the paper. Protonym: *Trachelocerca* s. DRAGESCO, 1954 – Trav. Stn. biol. Roscoff (N. S.) **12**: 118.
- semiciliatum Tintinnidium* (STERKI, 1879) KENT, 1881 – BLATERER & FOISSNER (1990) Arch. Protistenk. **138**: 102. **OT**: Windach stream near the sewage plant; village of Eching, Bavaria, Germany (48°5'N, 11°7'E). 2 **NP** (od): 1993/37, 1993/38. **Remarks**: Only one slide announced. Protonym: *Tintinnus semiciliatus* STERKI, 1879 – Z. wiss. Zool. **32**: 460. Currently nucleospecies of the subgenus *Semintinnidium* according to AGATHA & STRÜDER-KYPKE, 2007 (Europ. J. Protistol. **43**: 58; Tab. 6).
- seppelti etoschense Spathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 229. **OT**: Soil from *Sporobolus* grass girdle; Etosha National Park, lookout site “Pan”, Namibia (19°10'S, 15°55'E). **HP** (od): 2002/1 (Fig. 34); **PP**: 2002/2. **Remarks**: Unmentioned “paratypes” are also included in the first slide (Fig. 31).
- seppelti Spathidium* PETZ & FOISSNER, 1997 – Polar Record **33**: 313. **OT**: Algal ornithogenic soil near an Adélie penguin rookery; north coast of Shirley Island, Windmill Islands, continental Antarctica (66°17'S, 110°29'E). 2 **SP** (od): 2000/147 (Fig. 24), 2000/148. **Remarks**: Labelled unspecifically as “types” with 10 (e.g. Fig. 24) and four marks, respectively, thus symphoronts. Currently subspecies rank according to FOISSNER, AGATHA & BERGER (2002, Denisia **5**: 229).
- sepulcreti Vorticella* FOISSNER & SCHIFFMANN, 1975 – Protistologica **11**: 422. **OT**: Vase of flowers on the cemetery; Haus im Ennstal; Styria?, Austria (47°24'N, 13°46'E). 5 **SP** (sd): 1975/51, 1975/52, 1975/53, 1975/54, 1982/61 (all dry silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper; slides “typified” on a sheet of paper, but not labelled, except the latter which is designated as “holotype”, but with three marks. Different deposition years, but same sampling year and location.
- serpens Protospathidium* (KAHL, 1930) FOISSNER, 1981 – XU & FOISSNER (2005) J. Eukaryot. Microbiol. **52**: 309. **OT**: Soil under a temporary pond in the town of Salzburg, Austria (47°48'N, 13°40'E). 3 **NP** (od): 2007/133, 2007/134, 2007/135. **Remarks**: Protonym: *Spathidium* s. KAHL, 1930 – Tierwelt Dtl. **18**: 158.
- serratus Tracheloraphis* RAIKOV & KOVALEVA, 1968 [Acta Protozool. **6**.] – DRAGESCO (2002) Linzer biol. Beitr. **34/2**: 1558. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). 2 **NP** (unspecific od on page 1547): 2002/821, 2002/822. **Remarks**: Since the genus has femi-

- nine gender, the species name was corrected to *T. serrata* (cp. FOISSNER & DRAGESCO 1996, Arch. Protistenk. **147**: 85).
- setensis Trachelolophos* DRAGESCO, 1996 – Cah. Biol. mar. **37**: 262. **OT**: Marine sand; Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). **2 SP (od)**: 1997/1 (two marks, Fig. 17), 1997/2 (one mark, Fig. 18). **Remarks**: DRAGESCO (1999, Annl. Sci. nat. **1**: 2) unspecifically announced “neotypes”; seven untypified slides deposited in 1998 (2) and 2002 (5) are, however, considered as voucher.
- setosa Homalogastra* KAHL, 1926 [Arch. Protistenk. **55**: 341] – FOISSNER, ADAM & FOISSNER I. (1982) Zool. Jb. Syst. **109**: 444. **OT**: Soil; village of Baumgarten, Lower Austria (48°22'N, 15°34'E). **NP? (sd)**: 1981/56 (dry silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper, but slide designated, although mislabelled as “paratype”. Location according to slide. Nucleospecies (Tab. 6).
- seyrli Holophrya* FOISSNER, 1997 – Limnologica (Berlin) **27**: 213. **OT**: Zinnbach stream; Bavaria, Germany (50°19'N, 12°13'E). **HP (od)**: 1998/54; **PP**: 1998/55 (both wet silver nitrate method).
- sigmoidea Holosticha* FOISSNER, 1982 – Arch. Protistenk. **126**: 53. **OT**: Soil of a snow pocket near the Wallack-Haus; Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (47°04'N, 12°49'E). **HP (sd)**: 1982/56; **PP**: 1984/98. **Remarks**: “Typification” not mentioned in the original paper, but slides designated; although they were deposited in different years, they are from the same site. Currently *Anteholosticha* s. according to BERGER (2003, Europ. J. Protistol. **39**: 377).
- “*similis Apertospathula*” FOISSNER & XU, 2007 – Monogr. Biologicae **81**: 339. **OT**: Soil from a green portion (“green river bed”); Chobe River near the Muchenje Safari Lodge, Botswana (18°S, 24°40'E). **HP (od)**: 2007/26; **PP**: 2007/27, 2007/23, 2007/24. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- similis Dileptus* FOISSNER, 1995 – Arch. Protistenk. **145**: 43. **OT**: Soil; near the ranch house “La Casona”; Santa Rosa National Park, Costa Rica (10°50'N, 85°38'W). **HP (od)**: 1997/98; **PP**: 1997/99.
- similis Holosticha* STOKES, 1886 [Proc. Am. phil. Soc. **23**: 26] – FOISSNER & DIDIER (1982) Annl. Stn. biol. Besse **15**: 260. **OT**: Submerge mosses of a streamlet; Biological Station Besse-en-Chandesse, France (45°31'N, 2°56'E). **NP? (sd)**: 1981/88. **Remarks**: Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”.
- similis Perisincirra* FOISSNER, 1982 – Arch. Protistenk. **126**: 94. **OT**: Field soil; near Grafenwörth, Lower Austria (48°24'N, 15°47'E) or Zwentendorf, Lower Austria (48°21'N, 15°54'E). **HP (sd)**: 1981/92. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Currently *Hemiurosoma* s. according to FOISSNER, AGATHA & BERGER (2002, Denisia **5**: 835).
- similis Vorticella* STOKES, 1887 [Am. mon. microsc. J. **8**: 144] – FOISSNER (1981) Protistologica **17**: 40. **OT**: Soil; Hochtor at the Großglockner-Hochalpenstraße, Hohe Tauern (47°04'N, 12°50'E) and soil of an alpine pasture; Guttal at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°10'N, 12°49'E). **NP? (sd)**: 1981/66. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Location according to FOISSNER (1981: 18).
- similis Woodruffia* FOISSNER, 1980 – Zool. Jb. Syst. **107**: 404. **OT**: Soil of an alpine mat; Hochtor at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°04'N, 12°50'E). **3 SP (sd)**: 1981/21, 1981/22; 1981/23 (dry silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper; ; but three slides are labelled as “holotype”, because of different preparation methods, thus symphoronts. Currently *Platyophrya* s. according to FOISSNER (1987, Progr. Protistol. **2**: 126).
- simonsbergeri Urotricha* FOISSNER, BERGER & SCHAUMBURG, 1999 – Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **3/99**: 324. **OT**: Pelagial of a eutrophic, artificial pond at Salzburg University, Austria (47°48'N, 13°40'E). **HP (od)**: 1999/79; **4 PP**: 1999/80, 1999/81, 1999/82; 1999/83 (wet silver nitrate method).
- simplex Geleia* FAURÉ-FREMIET, 1951 – DRAGESCO (1999) Stapfia **66**: 10. **OT**: Marine sand; Dodomey-Akpakpa near Cotonou, Benin (6°15'N, 2°20'E). **2 NP?** (unspecific od on page 7): 1999/151, 1999/150. **Remarks**: Different localities and sampling years: Roscoff 1965 (2 marks, first slide) and Cotonou 1978 (3 marks). Labels undesignated, thus “typification” according to paper; as two varieties are mentioned taxonomy of this species needs clarification. Since the unavailable genus was revalidated by FOISSNER in COOMBS et al. (1998, The karyorelictids: 308), nomenclatural authorship is complicated, viz. a new combination is not supported by ICZN (1999 Art. 51.3, 50.1, Rec. 50C, 51F).
- simplex Kahlia* (HORVÁTH, 1934) CORLISS, 1960 – BERGER & FOISSNER (1987) Zool. Jb. Syst. **114**: 201. **OT**: Soil of a pasture near Seekirchen, Salzburg, Austria (47°54'N, 13°8'E). **4 NP? (sd)**: 1986/57, 1986/58, 1986/59, 1986/60. **Remarks**: Neotypification not mentioned in paper, but slides labelled. Protonym: *Kahlia* s. HORVÁTH, 1934 – Acta biol. hung. **3**: 60.
- simplex Paragonostomum* FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN, 2005 – Biodiversity and Conservation **14**: 674 **OT**: *Pinus nigra* forest soil; Stampftal near Vienna, Austria (47°53'N, 16°02'E). **HP (od)**: 2007/681. **6 PP**: 2007/678, 2007/679, 2007/680, 2007/681 (figured), 2007/682.
- smalli Actinobolina* HOLT, LYNN & CORLISS, 1973 [Protistologica **9**: 521] – KRÄINER (1988) Diss. Univ. Graz: 101. **OT**: Excavated groundwater ponds near Graz, Styria, Austria (47°04'N, 15°25'E). **2 NP? (sd)**: 1992/10, 1992/11 (Fig. 25). **Remarks**: FOISSNER, BERGER & SCHAUMBURG (1999, Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **3/99**: 115) accepted the redescription on the basis of unpublished data of KRÄINER and further refer to figures from an unpublished manuscript of him. “Typification” not mentioned in the paper, but slides labelled and designated by KRÄINER.

- smithi* *Pleuroplitoides* FOISSNER, 1996 – Acta Protozool. **35**: 103. **OT**: *Chorisodontium aciphyllum* moss; Signy Island, South Orkney Islands, Antarctica (60°40'S, 45°40'W). 2 **SP** (unspecific **od** on page 97): 1997/61 (dry silver nitrate method); 1997/63, 1997/64; 3 **PP**: 1997/62 (dry silver nitrate method); 1997/65. **Remarks**: Three slides are labelled as “holotype” (the second protargol one perhaps inadvertently), because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies (Tab. 6).
- sociale* *Platynematum* (PENARD, 1922) FOISSNER, BERGER & KOHMANN, 1994 – FOISSNER (1997) Limnologica (Berlin) **27**: 223. **OT**: Zinnbach stream; Fichtelgebirge, Bavaria, Germany (50°19'N, 12°13'E). 2 **NP** (**od**): 1997/119, 1997/120. **Remarks**: Location according to slides and reprint of FOISSNER (1997). “Neotypes” already announced with a different locality (clean, periodically brook in the Fichtelgebirge near der Röslau, Bavaria, Germany), but not deposited by FOISSNER, BERGER & KOHMANN (1994, Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **1/94**: 256). Protonym: *Uronema* s. PENARD, 1922 – Études Infusoires. Nucleospecies of *Platynematum* FOISSNER, BERGER & KOHMANN, 1994 (Tab. 6), a replacement name of *Platynema*.
- sorex* *Parafurgasonia* (PENARD, 1922) FOISSNER & ADAM, 1981 – Zool. Anz. **207**: 304. **OT**: Soil of a beech forest; village of Baumgarten, Lower Austria (48°22'N, 15°34'E). 2 **NP?** (**sd**): 1981/52 (dry silver nitrate method); 1981/53 (wet silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slides designated, although mislabelled as “genotypes”. Protonym: *Nassula* s. PENARD, 1922 – Études Infusoires: 89. Nucleospecies of *Parafurgasonia* FOISSNER & ADAM, 1981 (Tab. 6).
- spathula* *Spathidium* (MÜLLER, 1773) DUJARDIN, 1841 – FOISSNER (1984) Stapfia **12**: 70. **OT**: Soil of an alder forest (*Alnetum viridis*); Stubnerkogel, Bad Gastein, Salzburg, Austria (47°7'N, 13°6'E). 2 **NP?** (**sd**): 1982/80, 1984/8 (Fig. 13). **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes” (e.g. Fig. 13). Different dates of deposition, but same site and preparation year. On slide (inv. no. 1984/53), also labelled as “paratype”, was collected in Lower Austria. Protonym: *Enchelis* s. MÜLLER, 1773 – Vermium Terrestrium et Fluviatilium: 38.
- spetai* *Coleps* FOISSNER, 1984 – Stapfia **12**: 21. **OT**: Plankton; Obertrumer-See, Salzburg, Austria (47°58'N, 13°6'E). 2 **SP** (unspecific **od** on page 8): 1984/10 (wet silver nitrate method); 1984/11. **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- sphagni* *Bryometopus* (PENARD, 1922) KAHL, 1932 – FOISSNER (1987) Zool. Beitr. N. F. **31**: 221. **OT**: Soil of an acidified spruce forest; Ulm, Germany (48°24'N, 10°0'E). **NP?** (**sd**): 1988/57. **Remarks**: Neotypification not mentioned in paper, but slide designated. Protonym: *Condylostoma* s. PENARD, 1922 – Études Infusoires: 204.
- sphagni* *Drepanomonas* KAHL, 1931 [Tierwelt Dtl. **21**: 305] – FOISSNER (1987) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **195**: 238. **OT**: Soil of an alternatively farmed field; urban area of Salzburg, Austria (47°48'N, 13°02'E). 3 **NP?** (**sd**): 1988/103; 1988/157, 1988/158 (two dry silver nitrate method). **Remarks**: Neotypification not mentioned in paper, but slides labelled.
- sphagni* *Platyophrya* (PENARD, 1922) FOISSNER, 1993 – FOISSNER & KREUTZ (1996) Linzer biol. Beitr. **28**: 745. **OT**: Small pond; Hegne, a suburb of Constance, Germany (47°40'N, 9°10'E). 6 **NP** (**od**): 1996/53 (nine marks); 1996/54 (wet silver nitrate method); 1996/55, 1996/56, 1996/57, 1996/58 (dry silver nitrate method). **Remarks**: Protonym: *Glaucoma* s. PENARD, 1922 – Études Infusoires: 126.
- sphagni* *Pseudovorticella* FOISSNER & SCHIFFMANN, 1974 – Protistologica **10**: 498. **OT**: *Sphagnum* infusion; Ibmer Moor, Upper Austria (48°3'N, 12°57'E). 14 **SP** (**sd**): 1974/230 (Fig. 3), 1974/231, 1974/232, 1974/233, 1974/234, 1974/235, 1974/236, 1974/237, 1974/238, 1974/239, 1974/240, 1974/241, 1974/242 (all dry silver nitrate method). **Remarks**: “Typification” not mentioned in the original paper, but on an external sheet of paper (Fig. 1); slides not designated (e.g. Fig. 3), except the latter which is labelled as “holotype”, but four marks, thus also symphoront. Different deposition years, but same sampling year and location.
- sphagnicola* *Steinia* FOISSNER, 1989 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **196**: 235. **OT**: *Sphagnum*-pond; Koppler Moor near Salzburg, Austria (47°48'N, 13°10'E). **HP** (**od**): 1988/8; 6 **PP**: 1988/9, 1988/10, 1988/11, 1988/12, 1988/13, 1988/14. **Remarks**: Only three “paratypes” indicated.
- splindleri* *Holosticha* PETZ, SONG & WILBERT, 1995 – Stapfia **40**: 164. **OT**: Sea ice; Weddell Sea, Antarctica (70°17'S, 8°53'W). **SP?** (**od**): 2001/138; **PP**: 2001/53. **Remarks**: Slide with one big circle, moreover “cells” are announced for the “holotype” in the paper.
- spirogyrophagus* *Prorodon* LEIPE, 1989 – Europ. J. Protistol. **24**: 392. **OT**: Mats of the filamentous green algae *Spirogyra* in “Lac d'Aydat” close to a weir in the department of “Puy de Dome”, France (45°50'N, 2°38'E). **HP** (**od**): 1993/28. 2 **PP**: 1993/ 29, 1993/30. **Remarks**: Currently *Holophrya spirogyrophaga* according to FOISSNER, AGATHA & BERGER (2002, Denisia **5**: 538).
- spumacola* *hexasticha* *Platyophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 960. **OT**: Soil from *Aloe dichotoma* forest; Gariganus Guest Farm, about 30 km northeast of the town of Keetmanshoop, Namibia (26°30'S, 18°25'E). **HP** (**od**): 2002/415; 4 **PP**: 2002/416, 2002/417, 2002/418, 2002/422.
- spumacola* *Platyophrya* KAHL, 1927 [Arch. Protistenk. **60**: 90].– FOISSNER (1985) Arch. Protistenk. **129**: 247. **OT**: Soil of a dry grassland (*Xerobrometum*) near Grafenwörth, Lower Austria (48°24'N, 15°47'E). **NP?** (**sd**): 1981/20 (wet silver nitrate method; mislabelled as *Woodruffia* s.). **Remarks**: Neotypification not mentioned in paper, but slide designated. The original locus classicus is cicada foam; Hamburg, Germany (cp. FOISSNER 1993, Protozoenfauna **4/1**: 589; 580). Currently subspecies rank according to FOISSNER, AGATHA & BERGER (2002, Denisia **5**: 959).
- srameki* *Trithigmostoma* FOISSNER, 1988 – BLATTERER & FOISSNER (1992) Arch. Protistenk. **142**: 102. **OT**: River Traun near Steyermühl, Upper Austria (48°N, 13°50'E). 2 **NP**

- (**od**): 1993/50, 1993/51 (mislabelled as *T. hyalina* and “paratype”). **Remarks**: FOISSNER (1988, *Hydrobiologia* **162**: 23) replaced the original species name, viz. *Chilodonella hyalina* ŠRÁMEK-HUŠEK, 1952, because of pre-occupation.
- steineri Australothrix* FOISSNER, 1995 – Arch. Protistenk. **145**: 66. **OT**: Upper soil layer of a river bank; Rio Corobici at the hacienda “La Pacifica” (Centre Ecologia La Pacifica) near town of Canas, Costa Rica (10°27'N, 85°8'W). **HP** (**od**): 1997/90; **PP**: 1997/91.
- steini Blepharisma* KAHL, 1932 [Tierwelt Dtl. **25**: 444] – FOISSNER (1989) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **196**: 228. **OT**: Soil of a saline grassland with halophile plants near the Neusiedlersee, a soda lake in the “hell” region near Illmitz, Burgenland, Austria (47°48'N, 16°49'E). **2 NP** (**od**): 1988/1, 1988/2.
- steini Trithigmostoma* (BLOCHMANN, 1895) FOISSNER, 1988 – *Hydrobiologia* **162**: 23. **OT**: Unspecified; Poland. **4 NP?** (**sd**): 1988/124 (dry silver nitrate method); 1988/125, 1988/126 (Fig. 12 as *T. steinii*), 1988/127. **Remarks**: Neotypification not mentioned in the original paper, but slides designated, although two of them mislabelled as “syntype to neotype” (e.g. Fig. 12). Slides prepared from culture material. Protonym: *Chilodonella* s. BLOCHMANN, 1895 – *Mikr. Thierwelt*: 95.
- stephani Trachelocerca* (DRAGESCO, 1965) DRAGESCO 2002 – *Linzer biol. Beitr.* **34**: 1547. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **2 NP** (unspecific **od** on page 1547): 2002/813, 2002/814. **Remarks**: Protonym: *Tracheloraphis* s. DRAGESCO, 1965 – *Cah. Biol. mar.* **6**: 368.
- sterkii Paraholosticha* (GARNJOBST, 1934) DIECKMANN, 1988 – *Europ. J. Protistol.* **23**: 218. **OT**: Brackish ditch; Cuxhaven, Niedersachsen, Germany (53°53'N, 8°42'E). **NP?** (**sd**): 1993/25. **Remarks**: Neotypification not mentioned in paper, but one unmarked slide designated; two further undesignated slides (1993/26, 1993/27) considered as vouchers. Protonym: *Stylonethes* s. GARNJOBST, 1934 – *J. mar. biol. Ass. U. K.* **19**: 707.
- stioanovitichae Sorogena* BRADBURY & OLIVE, 1980 [J. Protozool. **27**: 275] – BARDELE, FOISSNER & BLANTON (1991) J. Protozool. **38**: 7. **OT**: Plates of soaked dead figs collected in dried condition from a tree; Papua New Guinea. **6 NP?** (**sd**): 1988/162, 1988/166, 1988/167, 1988/163 (wet silver nitrate method); 1988/164, 1988/165 (two dry silver nitrate method). **Remarks**: Neotypification not mentioned in the “reinvestigation of the type population” by BARDELE et al., but slides incorrectly labelled as “paratypes” were deposited. FOISSNER (1993, *Protozoenfauna* **4/1**: 499) mentions a type slide PNG76-73 [according to BARDELE et al. the isolate acronym] originally deposited. Simultaneously, nucleospecies and nucleogenus (Tab. 6, 7).
- stramenticola Orthoamphisiella* EIGNER & FOISSNER, 1991 – *Acta Protozool.* **30**: 129. **OT**: Walnut leaf litter; village of Schrötten near Deutsch Goritz, Styria, Austria (46°47'N, 15°49'E). **SP** (**od**): 1993/31 (three arrows, Fig. 22); **PP**: 1993/32. **Remarks**: Labelled as “holotype”, but three specimens marked violating Art. 73.2 (ICZN 1999), thus symphoront. Nucleospecies (Tab. 6) and subsequently nucleogenus of Orthoamphisiellidae EIGNER, 1997 (Tab. 7).
- strenuum Gonostomum* (ENGELMANN, 1862) STERKI, 1878 – FOISSNER, AGATHA & BERGER (2002) *Denisia* **5**: 815. **OT**: Mud and soil from road puddles; Bambatsi Guest Farm between the towns of Khorixas and Outjo, Namibia (20°10'S, 15°25'E). **4 NP** (**od**): 2002/357, 2002/362, 2002/389, 2002/390. **Remarks**: Protonym: *Oxytricha strenua* ENGELMANN, 1862 – *Z. wiss. Zool.* **11**: 387.
- striata Metacystis* STOKES, 1893 [Jl. R. microsc. Soc. **1893**: 300] – FOISSNER (1984) *Stapfia* **12**: 18. **OT**: Infusion with plant remnants and mud of a rock-pool; Banyuls-sur-Mer, France (42°29'N, 3°8'E). **2 NP?** (**sd**): 1984/4 (wet silver nitrate method); 1984/5. **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes”.
- striatus Loxodes* (ENGELMANN, 1862) PENARD, 1917 – FOISSNER & RIEDER (1983) *Zool. Anz.* **210**: 3. **OT**: Decomposing litter on the margin of a quarry pond; Karlsruhe, Germany (49°0'N, 8°30'E). **NP?** (**sd**): 1981/1. **Remarks**: Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”. Protonym: *Drepanostoma striatum* ENGELMANN, 1862 – *Z. wiss. Zool.* **11**: 382.
- strobli Fungiphrya* FOISSNER, 1999 – *J. Eukaryot. Microbiol.* **46**: 34. **OT**: Mud/soil mixture from dry rock-pools; Table Mountain, surroundings of Cape Town, Republic of South Africa (33°53'S, 18°25'E). **2 SP** (**od**): 1998/47 (wet silver nitrate method), 1998/49; **PP**: 1998/48. **Remarks**: Two slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies (Tab. 6). Misspelled *F. stobli* by AESCHT (2003: 397).
- stueberi Holosticha* FOISSNER, 1987 – *Jber. Haus der Natur Salzburg* **10**: 59. **OT**: Soil of a meadow in front of the Piffmoos; Fuscher Tal, Salzburg, Austria (47°9'N, 12°48'E). **HP** (**od**): 1988/110; **3 PP**: 1988/111, 1988/112, 1988/113. **Remarks**: Currently *Caudiholosticha* s. and nucleospecies of the latter genus according to BERGER (2003, *Europ. J. Protistol.* **39**: 377; Tab. 6).
- sulcata Kovalevaia* (KOVALEVA, 1966) FOISSNER, 1997 – DRAGESCO (1999) *Annl. Sci. nat.* **1**: 31. **OT**: Marine sand; Sète near Montpellier, Mediterranean coast, France (43°23'N, 3°42'E). **2 NP** (**od**): 2002/852, 2002/876. **Remarks**: Unspecifically designated as type specimens, but in fact neophoronts. Location according to slides; due to later deposition other inventory numbers as stated in the paper, viz. 1998/36, 1998/37. The latter two slides, without collection year and site, are mislabelled as *K. poljanskyi*, an undescribed species. The five(?) mediocly impregnated voucher slides from Roscoff indicated by FOISSNER (1997, *Acta Protozool.* **36**: 205) have not been deposited. Protonym: *Trachelonema* s. KOVALEVA, 1966 – *Zool. Zh.* **45**. Nucleospecies of *Kovalevaia* FOISSNER, 1997 (Tab. 6).
- sylvatica Erimophrya* FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN, 2005 – *Biodiversity and Conservation* **14**: 667. **OT**: *Pinus nigra* forest soil; Stampftal near Vienna, Austria (47°53'N, 16°02'E). **HP** (**od**): 2007/678; **PP**: 2007/678 [figured], 2007/679, 2007/680, 2007/682.
- sylvatica Holosticha* FOISSNER, 1982 – Arch. Protistenk. **126**: 58. **OT**: Soil of a beech forest; village of Baumgarten, Lower Austria (48°22'N, 15°34'E). **HP** (**sd**): 1981/95. **Remarks**: “Typification” not mentioned in the original paper, but

slide designated. Currently *Caudiholosticha* s. according to BERGER (2003, Europ. J. Protistol. **39**: 378). A voucher slide is deposited in the British Museum (Natural History) in London; concerning an inadvertent indication of a “neotype” see BERGER (2006, Monogr. Biologicae **85**: 240).

sylvatica Periholosticha FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN, 2005 – Biodiversity and Conservation **14**: 687. **OT**: *Pinus nigra* forest soil; Stampftal near Vienna, Austria (47°53'N, 16°02'E). **HP (od)**: 2007/680; **PP**: 2007/683, 2007/679, 2007/678.

sympagicum Gymnozoum PETZ, SONG & WILBERT, 1995 – Stapfia **40**: 74. **OT**: Multiyear land-fast sea ice; Atka Bay, Weddell Sea, Antarctica (70°31'S, 7°59'E). **SP? (od)**: 2001/120; **PP**: 2001/151. **Remarks**: A “hapantotype” (first slide) is combined with a “paratype” contradicting the indivisibility according to Art. 73.3.1 of the ICZN (1999). Since no ontogenesis is included likely a symphoront.

synuraphaga Urotricha KAHL, 1927 [Arch. Protistenk. **60**: 64] – FOISSNER (1997) Limnologica (Berlin) **27**: 220. **OT**: Rösslau stream, Fichtelgebirge, Bavaria, Germany (50°6'N, 12°16'E). 2 **NP (od)**: 1998/62, 1998/63 (both wet silver nitrate method).

T

tamari Membranicola FOISSNER, BERGER & SCHAUMBURG, 1999 – Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **3/99**: 626. **OT**: Plankton; eutrophic lake Wallersee, Salzburg, Austria (47°55'N, 13°10'E). **HP (od)**: 1999/84; 3 **PP**: 1999/85, 1999/86, 1999/87. **Remarks**: Fourth “paratype” announced, but not deposited. Nucleospecies (Tab. 6).

tanganyikae Frontonia DRAGESCO & DRAGESCO-KERNÉIS, 1991 – Europ. J. Protistol. **26**: 222. **OT**: Coastal sands of Lake Tanganyika, from Bujumbura and up to 80 km southwards, Burundi (3°19'S, 29°19'E). **HP (sd)**: 2002/888; **PP**: 2002/884 (1985, both wet silver nitrate method). **Remarks**: “Typification” not mentioned, but labels refer to this paper; one mark on the first slide, but non on the second. A further slide (inv. no. 2003/141) was collected in 1986 in Butare, thus considered as voucher.

tasmaniensis Keronopsis BLATTERER & FOISSNER, 1988 – Stapfia **17**: 53. **OT**: Soil of a hop culture; Bushy Park near Mt. Field National Parks, Tasmania, Australia (42°45'S, 146°50'E). **HP (unspecific od on page 88)**: 1989/71.

tchadensis Pleurotricha DRAGESCO, 1972 – AnnsFac. Sci. Univ. féd. Cameroun **11**: 85. **OT**: “Mare de la Réserve de Waza (échantillon 12)”; Yaounde, Cameroun (3°52'N, 11°31'E). **HP (sd)**: 2006/40 (collection year 1966). **Remarks**: “Typification” not mentioned in the original paper, but subsequently herein by the original author. Considered as junior subjective synonym of *P. lanceolata* by BERGER (1999, Monogr. Biologicae **78**: 700).

telmatobius Diplites FOISSNER, 1998 – Quekett J. Microsc. **38**: 207 (cp. FOISSNER, AGATHA & BERGER (2002, Denisia **5**: 38, 197). **OT**: River rock-pools; Aubschlucht near Bullsport, Namibia (about 24°S, 16°20'E). **HP (od)**: 2002/434, **PP**: 2002/435. **Remarks**: Nucleospecies (Tab. 6).

teres Spirostomum CLAPARÈDE & LACHMANN, 1858 [Mém. Inst. natn. génev. **5**: 233] – AUGUSTIN & FOISSNER (1992)

Arch. Protistenk. **141**: 257. **OT**: Activated sludge plant; Gastein, Salzburg, Austria (47°7'N, 13°8'E). 2 **NP(od on page 244)**: 1993/84, 1993/85.

terrenum Enchelydium FOISSNER, 1984 – Stapfia **12**: 38. **OT**: Soil of an alder forest (*Alnetum viridis*); Stubnerkogel near Bad Gastein, Salzburg, Austria (47°7'N, 13°6'E). **HP (unspecific od on page 8)**: 1984/23. **Remarks**: Slide incorrectly labelled as “*E. terricola*”, a species never described.

terrenus Dileptus FOISSNER, 1981 [Zool. Jb. Syst. **108**: 286] – FOISSNER, 1984 – Stapfia **12**: 96. **OT**: Soil of a riverine floodplain; Vogelsang near Grafenwörth, Lower Austria (48°24'N, 15°47'E). **NP? (sd)**: 1984/72. **Remarks**: Not indicated as redescription and type designation as well as deposition not mentioned in the original paper, but slide designated, although incorrectly as “paratype”.

terrenus Enchelyodon FOISSNER, 1984 – Stapfia **12**: 53. **OT**: Soil of a meadow; near Lange Lacke, Seewinkel, Burgenland, Austria (47°43'N, 16°49'E). 2 **SP (unspecific od on page 8)**: 1984/40, 1984/41. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.

terricola Amphiella GELLERT, 1955 [Hidrol. Közl. **30**: 95] – FOISSNER (1984) Stapfia **12**: 114. **OT**: Soil of a dry grassland (*Xerobrometum*); Vogelsang near Grafenwörth, Lower Austria (48°24'N, 15°47'E). 2 **NP? (sd)**: 1984/89, 1984/88. **Remarks**: Neotypification not mentioned in paper (see page 8), but slides labelled, although incorrectly as “paratype”.

terricola Apobryophyllum FOISSNER, 1998 – Europ. J. Protistol. **34**: 222. **OT**: Soil from Shetani volcano area; Tsavo National Park, Kenya (2°55'S, 38°00'E). 2 **SP? (unspecific od on page 196)**: 1997/114, 1997/115. **Remarks**: “1 holotype and 1 or 2 paratypes” are generally mentioned, but latter slide labelled as “syntype”. Nucleospecies (Tab. 6).

terricola Apospathidium FOISSNER, AGATHA & BERGER, 2002 – Denisia **5**: 334. **OT**: Mud and soil from granitic rock-pools; escarpment of the central Namib Desert, Spitzkoppe area about 120 km north of the town of Swakopmund, Namibia (21°45'S, 15°8'E). **HP (od)**: 2002/478; 2 **PP**: 2002/481, 2002/482. **Remarks**: Nucleospecies (Tab. 6).

terricola Bresslaua FOISSNER, 1987 – Zool. Beitr. N. F. **31**: 253. **OT**: Soil of a secondary pine forest; Shimba Hills near Mombasa, Kenya (4°13'S, 39°25'E). 2 **SP (unspecific od on page 190)**: 1988/79, 1988/80 (both wet silver nitrate method); 2 **PP**: 1988/81, 1988/82. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts. Currently *Bresslauides* t. according to FOISSNER (1993, Protozoenfauna **4/1**: 300).

terricola Chilophrya FOISSNER, 1984 – Stapfia **12**: 24. **OT**: Soil of an alder forest (*Alnetum viridis*); Stubnerkogel near Bad Gastein, Salzburg, Austria (47°7'N, 13°6'E). 3 **SP (unspecific od on page 8)**: 1984/6, 1984/7 (two dry silver nitrate method); 1984/8 (Fig. 13). **Remarks**: Three slides are labelled as “holotype” (e.g. Fig. 13), because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.

terricola Cirrophrya FOISSNER, 1987 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. **195**: 261. **OT**: Soil of a field; Ober-

- siebenbrunn, Lower Austria (48°16'N, 16°42'E). **HP (sd)**: 1988/103. **Remarks**: "Typification" in contrast to other species, thus probably par lapsus not mentioned in the paper, but slide designated. Currently *Platyophrya t.* according to FOISSNER I. & FOISSNER (1995) *Europ. J. Protistol.* 31: 257).
- terricola Condylostoma* FOISSNER, 1995 – *Arch. Protistenk.* 145: 59. **OT**: Upper soil layer; near the ranch house "La Casona", Santa Rosa National Park, Costa Rica (10°50'N, 85°38'W). **HP (od)**: 1997/94; **PP**: 1997/9. **Remarks**: Currently *Condylostomides t.* according to FOISSNER, AGATHA & BERGER (2002) *Denisia* 5: 899).
- terricola Coriplites* FOISSNER, 1988 – *Stapfia* 17: 93. **OT**: Soil of a deciduous forest; Mt. Kado-yama, Amakusa Islands, Kumamoto Prefecture, Japan (32°48'N, 130°43'E). 2 **SP** (unspecific **od** on page 88): 1989/12, 1989/39. **Remarks**: A deposition in the British Museum of Natural History in London is stated, however, one slide (inv. no. 1989/12) is labelled as "paratype", the second is undesignated ("Beleg", viz. voucher), but with seven marks. The species could not be found on the internet list of the Museum, however, although FOISSNER as well as BERGER & FOISSNER appear on the collection list, non of their slides could be traced. Possibly, the name-bearers were inadvertently deposited in Linz; needs clarification. Nucleospecies (Tab. 6).
- terricola Dragescozoon* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 912. **OT**: Soil; surroundings of Cotonou, Benin (6°15'N, 2°20'E). **HP (od)**: 2002/544; 3 **PP**: 2002/545, 2002/546, 2002/547 (all wet silver nitrate method). **Remarks**: Nucleospecies (Tab. 6).
- terricola Enchelys* FOISSNER, 1987 – *Sber. Österr. Akad. Wiss., Math.-Naturwiss.* 195: 219. **OT**: Meadow soil; urban area of Salzburg, Austria (47°48'N, 13°02'E). **HP (od)**: 1988/101; **PP**: 1988/102.
- terricola Epispithidium* FOISSNER, 1987 – *Sber. Österr. Akad. Wiss., Math.-Naturwiss.* 195: 234. **OT**: Soil of a spruce forest; Ulm/Donau, Germany (48°24'N, 10°0'E). **HP (od)**: 1988/151; **PP**: 1988/152.
- terricola Etoschothrix* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 594. **OT**: Highly saline soil; Etosha National Park, lookout site "Pan", Namibia (19°10'S, 15°55'E). **HP (od)**: 2002/140; 6 **PP**: 2002/141, 2002/142, 2002/143, 2002/144, 2002/145, 2002/146. **Remarks**: Three slides labelled as vouchers, but designated according to their table 1 on page 39. Nucleospecies (Tab. 6).
- terricola Frontonia* FOISSNER, 1987 – *Sber. Österr. Akad. Wiss., Math.-Naturwiss.* 195: 254. **OT**: Field soil; Lobau, Wien, Austria (48°9'N, 16°31'E). **HP (od)**: 1986/3; 2 **PP**: 1986/4, 1986/5 (all wet silver nitrate method). **Remarks**: Only one "paratype" indicated in the paper, but two slides labelled.
- terricola Fuscheria* BERGER, FOISSNER & ADAM, 1983 – *J. Protozool.* 30: 529. **OT**: Soil of a bottomland; Grafenwörth, Lower Austria (48°24'N, 15°47'E). **HP (od)**: 1981/4. **Remarks**: Slide labelled as "*F. flatscheri*", which has not been described anywhere. A "paratype", as indicated on page 531, has not been deposited.
- terricola Hemiurosoma* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 835. **OT**: Soil from *Moringa ovalifolia* (ghost tree) forest; Etosha National Park, Namibia (19°S, 15°40'E). **HP (od)**: 2002/127; 3 **PP**: 2002/128, 2002/129, 2002/130. **Remarks**: Nucleospecies (Tab. 6).
- terricola Holostichides* FOISSNER, 1988 – *Stapfia* 17: 108. **OT**: Savannah soil; Samburu Nationalpark, Kenya (0°40'N, 37°32'E). **HP (unspecific od on page 88)**: 1989/18 (Fig. 14); 2 **PP**: 1989/19, 1989/20. **Remarks**: Currently *Paragastrostyla t.* according to BERGER (2006, *Monogr. Biologicae* 85: 593, 631).
- terricola Nassula* FOISSNER, 1989 – *Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt.* 196: 190. **OT**: Soil of a field; urban area of Salzburg, Austria (47°48'N, 13°02'E). 2 **SP (od)**: 1988/17, 1988/18; **PP**: 1988/19 (all wet silver nitrate method). **Remarks**: One "holotype" indicated, but two slides with same preparation method are labelled as "holotype" violating Art. 73.2 (ICZN 1999), thus symphoronts.
- terricola Paraenchelys* FOISSNER, 1984 – *Stapfia* 12: 30. **OT**: Soil of an intensely farmed field; Bierbaum, Tullnerfeld, Lower Austria (48°23'N, 15°56'E). **HP (unspecific od on page 8)**: 1984/14.
- terricola Parafurgasonia* FOISSNER, 1999 – *Biodiversity and Conservation* 8: 356. **OT**: Litter layer of leguminous forest surrounding the Mzima Springs in Tsavo National Park West, Kenya (2°59'S, 38°01'E). **HP (od)**: 1999/23 (wet silver nitrate method).
- terricola Phialina* FOISSNER, 1984 – *Stapfia* 12: 63. **OT**: Soil of an intensely farmed field; Bierbaum, Tullnerfeld, Lower Austria (48°23'N, 15°56'E). **HP (unspecific od on page 8)**: 1984/48.
- terricola Plesiocaryon* FOISSNER, AGATHA & BERGER, 2002 – *Denisia* 5: 963. **OT**: Soil from *Moringa ovalifolia* (ghost tree) forest; Etosha National Park, Namibia (19°S, 15°40'E). 2 **SP (od)**: 2002/175, 2002/176 (wet silver nitrate method); 4 **PP**: 2002/177 (wet silver nitrate method); 2002/178, 2002/179, 2002/180. **Remarks**: Two slides are labelled as "holotype", because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts.
- terricola Protocyclidium* (KAHL, 1931) FOISSNER, AGATHA & BERGER (2002) *Denisia* 5: 525. **OT**: Meadow soil; urban area of Salzburg, Austria (47°48'N, 13°02'E). 7 **NP (od)**: 2002/610, 2002/611 (both wet silver nitrate method); 2002/612, 2002/613, 2002/614, 2002/615, 2002/616 (six dry silver nitrate method). **Remarks**: Protonym: *Cyclidium t.* KAHL, 1931 – *Tierwelt Dtl.* 21: 375.
- terricola Protospithidium* FOISSNER, 1998 – *Europ. J. Protistol.* 34: 218. **OT**: Grassland soil; Mt. Kenya near the lodge "The Arc", Mount Kenya National Park, Kenya (about 0°10'S, 37°20'E). 3 **SP (unspecific od on page 196)**: 1997/111 (three marks), 1997/112 (one marks), 1997/113 (two marks). **Remarks**: "1 holotype and 1 or 2 paratypes" are generally mentioned on page 196. However, the latter two slides labelled as "syntypes" and the "holotype" includes more than one specimen marked.
- terricola Pseudoholophrya* BERGER, FOISSNER & ADAM, 1984 – *Zool. Jb. Syst.* 111: 343. **OT**: Soil of a ski slope; Schlossalm, Bad Hofgastein, Salzburg, Austria (47°9'N, 13°4'E). **HP (od)**: 1986/19; 2 **PP**: 1986/20, 1986/21. **Remarks**: On-

ly one “paratype” indicated in the paper, but two unlabelled slides from the same locality considered herein as “paratypes”. Nucleospecies (Tab. 6); *Pseudoholophrya* is the nucleogenus of Pseudoholophryidae BERGER, FOISSNER & ADAM, 1984 (Tab. 7).

- terricola Saudithrix* FOISSNER, AL-RASHEID & BERGER in BERGER, AL-RASHEID & FOISSNER, 2006 – J. Eukaryot. Microbiol. **53**: 267. **OT**: Soil of a vegetable field about 20 km north of Riyadh, Saudi Arabia (24°64'N, 46°77'E). **HP (od)**: 2005/77; **PP**: 2005/78, 2005/79, 2005/80, 2005/81, 2005/82. **Remarks**: Nucleospecies (Tab. 6).
- terricola Sphaerophrya* FOISSNER, 1986 – Zool. Jb. Syst. **113**: 49. **OT**: Soil of a dry grassland (Xerobrometum); Bierbaum, Tullnerfeld, Lower Austria (48°23'N, 15°56'E). **HP (od)**: 1982/53 (dry silver nitrate method). **Remarks**: Slide incorrectly labelled as *Podophrya t.*; “paratype” indicated, but not deposited.
- terricola Trihymena* FOISSNER, 1988 – Stapfia **17**: 103. **OT**: Gum tree (*Ficus* sp.) litter; Nairobi Arboretum, Kenya (2°20'S, 36°50'E). 3 **SP** (unspecific **od** on page 88): 1989/18 (Fig. 14); 1989/23 (wet silver nitrate method); 1989/24 (dry silver nitrate method); 2 **PP**: 1989/18 (Fig. 14); 1989/25 (dry silver nitrate method). **Remarks**: Three slides are labelled as “holotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Simultaneously nucleospecies and nucleogenus (Tab. 6, 7).
- terricola Uriella* FOISSNER, 1989 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **196**: 203. **OT**: Field soil; Obersiebenbrunn, Lower Austria (48°16'N, 16°42'E). **HP (od)**: 1988/31 (mislabelled as “genotype”); 3 **PP**: 1988/32, 1988/33, 1988/34. **Remarks**: One “paratype” indicated. Nucleospecies (Tab. 6).
- terricola Woodruffides* FOISSNER, 1987 [Zool. Beitr. N. F. **31**: 229] – FOISSNER, AGATHA & BERGER (2002) *Denisia* **5**: 1009. **OT**: Slightly saline soil from *Moringa ovalifolia* (ghost tree) forest; Etosha National Park, Namibia (19°S, 15°40'E). 3 **NP?** (**od**): 2002/149, 2002/150, 2002/151 (all wet silver nitrate method). **Remarks**: However, a “holotype” from Lower Austria was found (inv. no. 1988/100; dry silver nitrate method); needs clarification. Nucleospecies (Tab. 6).
- tetracirrata Holosticha* BUITKAMP & WILBERT, 1974 [Acta Protozool. **13**: 206] – FOISSNER (1982) *Arch. Protistenk.* **126**: 55. **OT**: Soil of an alpine mat (*Caricetum curvulae*); Wallack-Haus, Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (about 2310 m altitude, 47°6'N, 13°7'E). **NP?** (**sd**): 1981/99. **Remarks**: Neotypification not mentioned in paper, but slide designated, although mislabelled as “paratype”. Demonstrating possible discrepancies between publication and “unpublished evidence”, thus a “neotype” was not per se “incorrect” as stated by BERGER (2006, *Monogr. Biologicae* **85**: 246). Currently *Caudiholosticha t.* according to BERGER (2006, *Monogr. Biologicae* **85**: 246); this author supposes that (not officially designated) type material is likely in the Zoological Institute of the University of Bonn and considered the above slide as voucher; needs to be clarified.
- tetracirrata Steinia* GELLERT, 1942 [Acta Sci. math.-nat. Univ. Francisco-Josephina Kolozsvár (N.E.) **8**: 25] – BERGER & FOISSNER (1987) *Zool. Jb. Syst.* **114**: 225. **OT**: Salt soil with rush; about 50 m away from the sea, Nauplia Bay, Peloponnesus, Greece (37°34'N, 22°48'E). **NP?** (**sd**): 1986/85. **Remarks**: Neotypification not mentioned in paper, but slide designated. Currently *Cyrtohymena t.* according to FOISSNER, 1989 – *Sber. öst. Akad. Wiss.* **196**: 239; classified in subgenus (Tab. 5) according to FOISSNER (2004, *Denisia* **13**: 370), although not formally transferred.
- thompsoni Sterkiella* FOISSNER, 1996 – *Acta Protozool.* **35**: 112. **OT**: *Drepanocladus uncinatus* moss; Signy Island, South Orkney Islands, Antarctica (60°40'S, 45°40'W). **HP** (unspecific **od** on page 97): 1997/55; **PP**: 1997/56.
- tihanyiensis Apoamphisiella* (GÉLLERT & TAMÁS, 1958) FOISSNER, 1997 – *Biol. Fertil. Soils* **25**: 335. **OT**: Light brown soil mixed with much leaf litter; Isquitos, Amazonian rain forest, Peru (about 4°S, 74°W). 3 **NP?** (**sd**): 1998/111, 1998/112, 1998/113. **Remarks**: Only two vouchers stated in publication on page 319, but one slide neotypified and two slides mislabelled as “paratypes”. BERGER (1999, *Monogr. Biologicae* **78**: 782) however, mentions two “neotypes”. Protonym: *Onychodromopsis t.* GÉLLERT & TAMÁS, 1958 – *Annls Inst. biol. Tihany* **25**: 230. Nucleospecies of *Apoamphisiella* FOISSNER, 1997 (Tab. 6).
- “toritistica Cultellothrix”* FOISSNER & XU, 2007 – *Monogr. Biologicae* **81**: 294. **OT**: Terra firma secondary rain forest soil; bank of Rio Negro in the surroundings of Hotel Tropical at Manaus, Brazil (3°S, 60°W). **HP (od)**: 2007/59. 3 **PP**: 2007/58, 2007/59, 2007/60. **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).
- tranquilla Dextiothrix* (KAHL, 1926) AUGUSTIN & FOISSNER, 1992 – *Arch. Protistenk.* **141**: 244. **OT**: Activated sludge plant; Aspach, Upper Austria (48°11'N, 13°18'E). 3 **NP** (**od** on page 244): 1993/90; 1993/92 (dry silver nitrate method); 1993/91 (wet silver nitrate method). **Remarks**: Only two slides announced in the paper. Protonym: *Loxocephalus tranquillus* KAHL, 1926 – *Arch. Protistenk.* **55**: 330.
- transfuga Uronychia* (MÜLLER, 1776) STEIN, 1859 – PETZ, SONG & WILBERT (1995) *Stapfia* **40**: 173. **OT**: Endopagial of pancake, multiyear land-fast sea and multiyear sea ice; Weddell Sea, Antarctica (67°47'–71°00'S, 06°05'–12°08'W). **NP** (**od** without number): 2001/138. **Remarks**: Protonym: *Trichoda t.* MÜLLER, 1776 – *Zoologicae Danicae*: 281. Nucleospecies of *Uronychia* STEIN, 1859 (Tab. 6), which is the nucleogenus of Uronychiidae JANKOWSKI, 1975 (Tab. 7).
- tratzii Enchelyodon* FOISSNER, 1987 – *Jber. Haus der Natur Salzburg* **10**: 64. **OT**: Soil of a meadow in front of the Piffmoos; Fuscher Tal, Salzburg, Austria (47°9'N, 12°48'E). **HP (od)**: 1988/116; **PP**: 1988/117.
- trichocystiferum Colpodidium* (*Colpodidium*) FOISSNER, AGATHA & BERGER, 2002 – *Denisia* **5**: 480. **OT**: Saline inland soil; Zicksee region, Burgenland, Austria (47°50'N, 16°50'E). **HP (od)**: 2002/636; **PP**: 2002/637.
- trichocystiferus Actinorhabdos* FOISSNER, 1984 – *Stapfia* **12**: 47. **OT**: Astatic meadow-pond; between the so-called Henkerhaus and the Peterweiher; urban area of Salzburg, Austria (47°48'N, 13°02'E). 2 **SP** (unspecific **od** on page

- 8): 1984/29, 1984/30. **Remarks:** Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies (Tab. 6). Misspelled *A. trichocystiferrus* by AESCHT (2001: 19, 2003: 398).
- trichocystis Furgasonia* (STOKES, 1894) JANKOWSKI, 1964 – FOISSNER (1989) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **196:** 207. **OT:** Astatic meadow-pond; between the so-called Henkerhaus and the Peterweiher; urban area of Salzburg, Austria (47°48'N, 13°02'E). **2 NP (od):** 1988/29, 1988/30 (both wet silver nitrate method). **Remarks:** Protonym: *Nassula t.* STOKES, 1894 – Proc. Am. phil. Soc. **33:** 342. Considered as junior subjective synonym of *Furgasonia theresae* by FOISSNER, AGATHA & BERGER (2002, Denisia **5:** 457).
- trichocystis Lagynophrya* FOISSNER, 1981 – Zool. Jb. Syst. **108:** 270. **OT:** Soil of an alpine pasture; Hochmais at the Großglockner-Hochalpenstraße, Hohe Tauern, Salzburg, Austria (47°7'N, 12°48'E). **SP (sd):** 1981/5. **Remarks:** “Typification” not mentioned in the original paper, but slide designated as “holotype”; due to seven marks considered as symphoront.
- trimarginata Diaxonella* JANKOWSKI, 1979 [Trudy zool. Inst. **86:** 83] – OBERSCHMIDLEITNER & AESCHT (1996) Beitr. Naturk. Oberösterreichs **4:** 21. **OT:** Activated sludge plant at Asten near Linz, Upper Austria (48°13'N, 14°24'E). **NP (unspecific od on page 7):** 1997/136. **Remarks:** Not included in the list of AESCHT (2003), because the specificity of the slide was only clarified later. For complications with type material and supplements to neotypification see BERGER (2006, Monogr. Biologicae **85:** 467ff.). According to this paper junior subjective synonym of *D. pseudorubra pseudorubra* (KALTENBACH, 1906) BERGER, 2006. Nucleospecies (Tab. 6).
- trinucleatus Condylostomides* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5:** 899. **OT:** Floodplain soil; Murray River near the town of Albury at the land side of Ryans road, New South Wales, Australia (37°S, 147°E). **HP (od):** 2002/724; **PP:** 2002/725.
- tripartita Colpoda* KAHL, 1931 [Tierwelt Dtl. **21:** 276] – BLATTERER & FOISSNER (1988) Stapfia **17:** 16. **OT:** Litter and roots under mosses of a natural pine forest (*Callitris* sp.); near Tailem Bend, Adelaide, Australia (35°16'S, 139°27'E). **4 NP? (sd):** 1989/42, 1989/43 (both wet silver nitrate method); 1989/44, 1989/45 [sample 13]. **Remarks:** Neotypification not mentioned in paper, but slides labelled. Five different sites in Australia given, neotype locality according to label on one slide.
- trisenestra Pseudokeronopsis* DRAGESCO & DRAGESCO-KERNÉIS, 1991 – Europ. J. Protistol. **26:** 230. **OT:** Saprobic sands of temporary pools supplied by the waves of Lake Tanganyika, Burundi (3°19'S, 29°19'E). **2 SP (sd):** 2002/896, 2002/897. **Remarks:** “Typification” not mentioned, but labels refer to this paper; one mark on each slide.
- tristriata Podophrya* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5:** 396. **OT:** Forest soil; near Tinaro Dam in the surroundings of Cairns, Australia (17°S, 145°E). **HP (od):** 2002/702; **2 PP:** 2002/703, 2002/704.
- truncatum Paracolpidium* (STOKES, 1885) GANNER & FOISSNER (1989) – Hydrobiologia **182:** 205. **OT:** Macrophyte-based waste water treatment system; Ardenberg, Upper Austria (48°8'N, 12°58'E). **3 NP (od without number on page 182):** 1989/1, 1989/2; 1989/3 (wet silver nitrate method). **Remarks:** Location according to slides likely inadvertently labelled as “Salzburg”. One slide from Lower Austria mislabelled as “paratype” (inv. no. 1981/55) probably refers to FOISSNER & SCHIFFMANN (1980, Naturk. Jb. Stadt Linz **24:** 28; aphory). Protonym: *Colpidium t.* STOKES, 1885 – Ann. Mag. nat. Hist. **15:** 443. Nucleospecies of *Paracolpidium* GANNER & FOISSNER 1989 (Tab. 6).
- turgitorum Spathidium* FOISSNER, AGATHA & BERGER, 2002 – Denisia **5:** 234. **OT:** Highly saline soil; Etosha National Park, Wolfsnes water-hole near the margin of the Etosha Pan, Namibia (19°S, 15°50'E). **HP (od):** 2002/3; **8 PP:** 2002/4, 2002/5, 2002/6, 2002/7, 2002/8, 2002/184, 2002/191, 2002/192.
- turrita Aspidisca* (EHRENBERG, 1831) CLAPARÈDE & LACHMANN, 1858 – AUGUSTIN & FOISSNER (1992) Arch. Protistenk. **141:** 244. **OT:** Activated sludge plant; Filzmoos, Salzburg, Austria (47°26'N, 13°31'E). **3 NP (od on page 244):** 1993/72 (dry silver nitrate method); 1993/73, 1993/74. **Remarks:** Only two slides announced in the paper. Protonym: *Euplotes turritus* EHRENBERG, 1831 – Abh. Akad. Wiss. Berlin **1831:** 118.

U

- umbrellata Maryna* (GELEI, 1950) FOISSNER, 1993 – FOISSNER, AGATHA & BERGER (2002) Denisia **5:** 945. **OT:** Rio Corobici; at the hacienda “La Pacifica” (Centro Ecológico) near the town of Cañas, Costa Rica (10°28'N, 85°10'W). **5 NP (od):** 2002/746, 2002/748, 2002/749 (all wet silver nitrate method); 2002/750, 2002/751. **Remarks:** Protonym: *Mycterothrix umbrellata* GELEI, 1950 – Hidrol. Közl. **30:** 112.
- uncinata Chilodonella* (EHRENBERG, 1835) STRAND, 1928 – FOISSNER (1979) Int. Revue ges. Hydrobiol. **64:** 124. **OT:** Neuston of alpine pools; Hexenküche, Glockner, Salzburg, Austria (47°7'N, 12°49'E). **NP? (sd):** 1981/41. **Remarks:** “Typification” not mentioned in the original paper, but slide designated, although mislabelled as “paratypes”. Protonym: *Chilodon uncinatus* EHRENBERG, 1835! – Abh. Akad. Wiss. Berlin **1835:** 164. Nucleospecies of *Chilodonella* STRAND, 1928 (Tab. 6) and subsequently nucleogenus (Tab. 6, 7).
- undulans Blepharisma* STEIN, 1867 [Org. Infusionsthierie II: 186] – FOISSNER (1989) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **196:** 231. **OT:** Soil of a riverine floodplain; Vogelsang near Grafenwörth, Lower Austria (48°24'N, 15°47'E). **2 NP (od):** 1988/3, 1988/4.
- uninucleata Gruberia* KAHL, 1932 [Tierwelt Dtl. **25:** 441] – DRAGESCO (2002) Linzer biol. Beitr. **34:** 1561. **OT:** Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). **2 NP (unspecific od on page 1547):** 2002/796, 2002/797. **Remarks:** Nucleospecies (Tab. 6).
- utriculariae Siroloxophyllum* (PENARD, 1922) FOISSNER & LEIPE, 1995 – J. Eukaryot. Microbiol. **42:** 477. **OT:** Waterwork; Bad Füssing near Straubing, Bavaria, Germany (48°22'N, 13°19'E). **2 NP (od):** 1997/43, 1997/44 (as *S. utricularium*). **Remarks:** Mentioned as “holo (genus) type slide”, “voucher slide” and as “neotypes”, but in fact they are neophoronts. Due to later deposition other inventory

numbers as stated in the paper, viz. “26, 27/1994”. Protonym: *Amphileptus utriculariae* PENARD, 1922 – Études Infusoires: 64. Since the genus has neuter gender, the species name has to be corrected to *S. utricularium* nom. corr. Nucleospecies (Tab. 6).

V

variabilis Colpoda FOISSNER, 1980 – Acta Protozool. 19: 42. **OT**: Puddle in the east of the Wallack-Haus; Großglockner-Hochalpenstraße, Hohe Tauern, Carinthia, Austria (47°04'N, 12°49'E). **PP (sd)**: 1981/24. **Remarks**: “Typification” not mentioned in the original paper, but slide designated. Location of “holotype” unknown.

“*velhoi Cultellothrix*” FOISSNER, 2003 – Acta Protozool. 42: 47. **OT**: Floodplain soil; Parana River near the town of Maringá, Brazil (22°40'S, 53°15'W). **HP (od)**: 2007/72; **PP**: 2007/73, 2007/74, 2007/75, 2007/76. **Remarks**: Nucleospecies (Tab. 6). Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3).

venatrix Urotricha KAHL, 1935 [Tierwelt Dtl. 30: 807] – FOISSNER, BERGER & SCHAUMBURG (1999) Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99: 315. **OT**: Pelagial of Höglwörther See, a small lake in southern Bavaria, Germany (47°49'N, 12°50'E). 4 **NP (od)**: 1999/75, 1999/76 (both wet silver nitrate method); 1999/77, 1999/78. **Remarks**: Incorrectly designated as “2 holotypes, 2 paratypes” in the paper, but in fact neophoronts.

venusta Ilsiella FOISSNER, 1987 – Zool. Beitr. N. F. 31: 272. **OT**: Meadow soil; Kiganjo, about 30 km southwest of Mt. Kenya, Kenya (0°24'S, 37°0'E). 2 **SP** (unspecific **od** on page 190): 1988/92 (dry silver nitrate method); 1988/93. **Remarks**: Two slides are labelled as “holotype” and “genotype”, because of different preparation methods, violating Art. 73.2 (ICZN 1999), thus symphoronts. Nucleospecies (Tab. 6).

vermiculare Homalozoon (STOKES, 1887) STOKES, 1890 – FOISSNER (1984) Stapfia 12: 90. **OT**: Unknown (culture from HAUSMANN, University Berlin) 4 **NP? (sd)**: 1984/66, 1984/67, 1984/68, 1984/69. **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as “paratypes”. Needs clarification, because redescription is (partially) stated as unnecessary. Protonym: *Litonotus vermicularis* STOKES, 1887 – Ann. Mag. nat. Hist. 20: 104. Nucleospecies of *Homalozoon* STOKES, 1890 (Tab. 6).

vermicularis Enchelyomorpha (SMITH, 1899) KAHL, 1930 – AUGUSTIN & FOISSNER (1992) Arch. Protistenk. 141: 250. **OT**: Activated sludge plant; Abtenau, Salzburg, Austria (47°33'N, 13°21'E). 2 **NP(od)** (on page 244): 1993/93 (dry silver nitrate method); 1993/94. **Remarks**: Slides mislabelled as “paratypes”. Protonym: *Enchelys* v. SMITH, 1899 – Trans. Am. microsc. Soc. 20: 52. Nucleospecies of *Enchelyomorpha* KAHL, 1930 (Tab. 6), which is the nucleogenus of Enchelyomorphidae AUGUSTIN & FOISSNER, 1992 (Tab. 7).

“*vermiculus* Protospathidium” (KAHL, 1926) FOISSNER & XU, 2007 – Monogr. Biologicae 81: 99. **OT**: Mire; surrounding of the village of Thingvellir, about 45 km east of the town of Reykjavik, SW-Iceland (64°15'N, 21°10'W). **NP (od)**:

2007/121 (labelled as para-neotype, ten marks), 2007/122 (six marks), 2007/123 (ten marks), 2007/124 (labelled as para-neotype, 11 marks). **Remarks**: Nomenclaturally unavailable due to aphory (see Glossary; ICZN 1999 Art. 72.3). Protonym: *Spathidium* v. by KAHL, 1926 – Arch. Protistenk. 55: 269.

vermiforme Apobryophyllum FOISSNER, AGATHA & BERGER, 2002 – Denisia 5: 357. **OT**: Highly saline terrestrial material from the dry bed of river; Löwen River, about 100 m downstream the “Naute” dam in the swarf shrub savannah, Namibia (26°55'S, 17°55'E). **HP (od)**: 2002/475; 2 **PP**: 2002/476, 2002/477.

vermiforme Arcuospathidium FOISSNER, 1984 – Stapfia 12: 79. **OT**: Soil of a conventionally farmed meadow; Schaming, Eugendorf near Salzburg, Austria (47°52'N, 13°7'E). 2 **SP** (unspecific **od** on page 8): 1984/62, 1984/63. **Remarks**: No specimens marked, thus symphoronts. One further slide (inv. no. 1984/61) also labelled as “paratype”, but sampled in Lower Austria, thus voucher.

vermiforme Cardiostomatella (KAHL, 1928) CORLISS, 1960 – DRAGESCO (2002) Linzer biol. Beitr. 34: 1572. **OT**: Marine sand; Roscoff, Atlantic coast, France (48°44'N, 3°59'W). 3 **NP?** (unspecific **od** on page 1547): 2002/794 (1995), 2002/795 (1996), 2002/912 (1965, division stage; all labelled as *Cardiostoma* v.) **Remarks**: Site according to slides, contradicting Sète (Mediterranean coast) given in the paper. Moreover, slides from different years; needs clarification. Protonym: *Cardiostoma* v. KAHL, 1928 – Arch. Hydrobiol. 19: 101. Nucleospecies of *Cardiostomatella* CORLISS, 1960 (Tab. 6). Since this genus has feminine gender the species name has to be corrected to *C. vermiformis* according to ICZN (1999 Art. 31.2; cp. AESCHT 2001: 38). Since AL-RASHEID (2001, Prostistology 2: 15) also neotypified the species, the case needs to be clarified by the International Commission of Zoological Nomenclature.

vermiformis Enchelyodon DRAGESCO, 1970 – AnnsFac. Sci. Univ. féd. Cameroun (Numéro hors-série): 7. **OT**: Limnetic sites; Nkolbisson, Yaounde, Cameroun (3°52'N, 11°31'E). **HP (sd)**: 2002/934 (wet silver nitrate method). **Remarks**: “Typification” not mentioned, but label refers to this paper; one mark.

vermiformis Enchelys FOISSNER, 1987 – Sber. Österr. Akad. Wiss., Math.-Naturwiss. 195: 223. **OT**: Field soil; Seekirchen, Salzburg, Austria (47°54'N, 13°8'E). 2 **SP (od)**: 1988/108, 1988/109. **Remarks**: Two slides are labelled as “holotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.

vermalis Nassula GELEI & SZABADOS, 1950 [Anns biol. Univ. szeged. 1: 259.] – FOISSNER (1989) Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. 196: 194. **OT**: Pasture pool; Koppler Moor near Salzburg, Austria (47°48'N, 13°10'E). 2 **NP (od)**: 1988/20, 1988/21 (both wet silver nitrate method). **Remarks**: Currently *Nassulides* v. according to FOISSNER, AGATHA & BERGER (2002, Denisia 5: 413).

vermalis Sathrophilus DRAGESCO & GROLIERE, 1969 – Anns Sta. Biol. Besse-en-Chandesse 4: 281. **OT**: Unknown; Besse-en-Chandesse, France (45°31'N, 2°56'E). **HP (sd)**: 2002/916 (wet silver nitrate method). **Remarks**: “Typifi-

- cation" not mentioned, but label refers to this paper; one mark. Currently *Sphenostomella v.* and nucleospecies of the latter genus according to JANKOWSKI (1980, Trudy zool. Inst. **94**: 119; Tab. 6).
- vernalis Stokesia* WENRICH, 1929 [Trans. Am. microsc. Soc. **48**] – KRAINER (1995) *Lauterbornia* **21**: 50. Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50'N, 15°30'W). 2 NP (unspecific od on page 40): 1992/28; 1992/29 (dry silver nitrate method). **Remarks**: Nucleospecies and subsequently nucleogenus (Tab. 6, 7).
- vernalis Vorticella* STOKES, 1887 [Am. mon. microsc. J. **8**: 145] – FOISSNER, BERGER & SCHAUMBURG, 1999 – Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **3/99**: 494. **OT**: Pelagial; Lake Mondsee, Upper Austria (47°49'N, 13°23'E). 3 NP? (sd): 1998/125; 1998/126, 1998/127 (two dry silver nitrate method). **Remarks**: Neotypification not mentioned, but slides labelled; locality according to slides.
- verruculifera Apertospathula* FOISSNER, XU & KREUTZ, 2005 – J. Eukaryot. Microbiol. **52**: 360. **OT**: Saline mud and soil from flooded grassland in the Maracay National Park, north coast of Venezuela (10°30'N, 68°W). **HP** (od): 2007/17; **PP**: 2007/15, 2007/16.
- virens Climacostomum* (EHRENBERG, 1838) STEIN, 1859 – AUGUSTIN & FOISSNER (1992) *Arch. Protistenk.* **141**: 261. **OT**: Activated sludge plant; Zellhof, Upper Austria (47°59'N, 13°6'E). 2 NP (od): 1993/82, 1993/83. **Remarks**: Protonym: *Spirostomum v.* EHRENBERG, 1838 – Infusionsthierchen: 332. Nucleospecies of *Climacostomum* STEIN, 1859 (Tab. 6).
- viride Limnostrombidium* (STEIN, 1867) KRAINER, 1995 – *Lauterbornia* **21**: 54. **OT**: Pelagial of quarry ponds (Tillmitscher Baggerseen) in the south of Graz, Styria, Austria (46°50'N, 15°30'W). 2 NP (unspecific od on page 40): 1992/24, 1992/31 (as *Strombidium v.*). **Remarks**: Protonym: *Strombidium v.* STEIN, 1867 – Organismus der Infusionsthier II: 163. Nucleospecies of *Limnostrombidium* KRAINER, 1995 (Tab. 6).
- vitiphila Pattersoniella* FOISSNER, 1987 – *Zool. Beitr. N. F.* **31**: 207. **OT**: Soil of a rain forest near Suva; Viti Levu, Fiji Islands, Pacific Ocean (18°0'S, 178°0'E). **HP** (unspecific od on page 190): 1988/131 (incorrectly labelled as "genotype"); 3 **PP**: 1988/132, 1988/133, 1988/134. **Remarks**: Nucleospecies and subsequently nucleogenus (Tab. 6, 7).
- vitiphila Uroleptooides* FOISSNER, 1987 – *Zool. Beitr. N. F.* **31**: 201. **OT**: Soil of a rain forest near Suva, Viti Levu, Fiji Islands, Pacific Ocean (18°0'S, 178°0'E). **HP** (unspecific od on page 190): 1988/141; **PP**: 1988/142. **Remarks**: Gender ending corrected to *U. vitiphilus* by FOISSNER (1988, *Stapfia* **17**: 113). Currently *Amphisiella vitiphila* according to FOISSNER (1988, *Stapfia* **17**: 113).
- vlassaki Arcuospathidium* FOISSNER, 2000 – *Biol. Fertil. Soils* **30**: 470. **OT**: Highly saline soil; margin (*Suaeda articulata* zone) of the Etosha Pan, Namibia (about 18°50'S, 16°20'E). **HP** (od): 2002/26; 3 **PP**: 2002/27, 2002/28, 2007/91. **Remarks**: More "paratypes" announced, but not deposited.
- volvox Askenasia* (EICHWALD, 1852) KAHL, 1930 – KRAINER & FOISSNER (1990) *J. Protozool.* **37**: 417. **OT**: Excavated groundwater ponds near Graz, Styria, Austria (47°04'N, 15°25'E). 3 NP (unspecific od on page 415): 1992/6, 1992/2, 1992/7. **Remarks**: Protonym: *Trichodina v.* EICHWALD, 1852 – *Bull. Soc. impér. nat. Moscou* **25**: 510. Nucleospecies of *Askenasia* BLOCHMANN, 1895 (Tab. 6).
- vorax Chaenea* QUENNERSTEDT, 1867 [Acta Univ. lund. **2**: 15] – FOISSNER (1984) *Stapfia* **12**: 60. **OT**: Infusion with plant remnants and mud of a rock-pool on the coast of Banyuls-sur-Mer, France (42°29'N, 3°8'E). 2 NP? (sd): 1984/46; 1984/47 (wet silver nitrate method). **Remarks**: Neotypification not mentioned in paper (see page 8), but slides designated, although mislabelled as "paratypes". Nucleospecies (Tab. 6).
- vorax Stylonychia* STOKES, 1885 [Am. mon. microsc. J. **6**: 188] – WIRNSBERGER, FOISSNER & ADAM (1985) *J. Protozool.* **32**: 261. **OT**: Pasture pools; Schlossalm Bad Hofgastein, Salzburg Austria (47°06'N, 13°07'E). 2 NP? (sd): 1986/34, 1986/35. **Remarks**: Neotypification not mentioned in paper, but slides labelled as "neotypes". Considered as misidentified and as junior subjective synonym of *S. bifaria* (STOKES, 1887) BERGER, 1999 by BERGER (1999, *Monogr. Biologicae* **78**: 557).

W

- weissei Paraurostyla* (STEIN, 1859) BORROR, 1972 – WIRNSBERGER, FOISSNER & ADAM (1985) *Zool. Scr.* **14**: 1. **OT**: Sediment on the shore; Lake Mondsee, Upper Austria (47°49'N, 13°23'E). 2 NP? (sd): 1986/36, 1986/37. **Remarks**: "Typification" not mentioned in the original paper, but subsequently herein by the original authors. Protonym: *Urostyla w.* STEIN, 1859 – *Org. Infusionsthier*: 192. Nucleospecies of *Paraurostyla* BORROR, 1972 (Tab. 6).
- wenzeli Hemisincirra* FOISSNER, 1987 – *Zool. Beitr. N. F.* **31**: 216. **OT**: Mosses; island Bornholm, Baltic Sea, Denmark (55°10'N, 15°0'E). **HP** (unspecific od on page 190): 1988/149; **PP**: 1988/150.
- wenzeli Paraenchelys* FOISSNER, 1984 – *Stapfia* **12**: 29. **OT**: Mosses on a wall in the palace grounds of Rauisch-Holzhausen, near Gießen, Germany (50°45'N, 8°53'E). 3 SP (unspecific od on page 8): 1984/15, 1984/65, 1984/70. **Remarks**: Three slides are labelled as "holotype" violating Art. 73.2 (ICZN 1999), thus symphoronts.
- wetzeli Keronopsis* WENZEL, 1953 [Arch. Protistenk. **99**: 111] – BERGER & FOISSNER (1987) *Zool. Jb. Syst.* **114**: 203. **OT**: Lower part of a bundle of straw, which was in contact with the soil; Salzburg, Austria (47°48'N, 13°02'E). 2 NP? (sd): 1986/79, 1986/80. **Remarks**: Neotypification not mentioned in paper, but slides labelled.
- wilberti Strongylidium* FOISSNER, 1982 – *Arch. Protistenk.* **126**: 32. **OT**: Soil of a riverine floodplain; Vogelsang near Grafenwörth, Lower Austria (48°24'N, 15°47'E). **HP** (sd): 1981/97. **Remarks**: "Typification" not mentioned in the original paper, but slide designated. Currently *Hemiamphisiella w.* according to FOISSNER (1988, *Stapfia* **17**: 122).
- wisconsinensis Odontochlamys* KAHL, 1931 [Tierwelt Dtl. **21**: 240] – PETZ & FOISSNER (1997) *Polar Record* **33**: 309. **OT**: Mineral soil under moss; Reeve Hill, Casey Station, Antarctica (66°17'S, 110°31'E). NP (od): 2000/149. **Re-**

marks: Location according to slide.

woronowiczae Sikorops FOISSNER, 1999 – Biodiversity and Conservation 8: 326. **OT:** Soil under grass carpet; Mzima Springs in Tsavo National Park West, Kenya (2°59'S, 38°1'E). **HP (od):** 1999/1; **PP:** 1999/2. **Remarks:** Nucleo-species (Tab. 6).

X

xantha Obertrumia DRAGESCO & DRAGESCO-KERNÉIS, 1991 – Europ. J. Protistol. 26: 219. **OT:** Pool fed by water from Lake Tanganyika, at Bujumbura yacht-club, Burundi (3°19'S, 29°19'E). **HP (sd):** 2003/73. **Remarks:** “Typification” not mentioned in the original paper, but slide designated.

Z

zechmeisterae Australocirrus FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN, 2005 – Biodiversity and Conservation 14: 691. **OT:** Slightly saline grassland soil; margin of the Zicklacke, a small soda lake near the town of Illmitz, Burgenland, Austria (47°45'N, 16°48'E). 2 **SP (od):** 2007/630, 2007/631; **PP:** 2007/633, 2007/632. **Remarks:** The “dorsal” and the “ventral” side, respectively, have been designated as “holotype” each violating Art. 73.2 (ICZN 1999), thus symphoronts.

3.2 Further protists

aegyptia Flamella MICHEL & SMIRNOV, 1999 – Europ. J. Protistol. 35: 409. **OT:** Mud and water of the river Nile, Egypt. **HP (od):** 1999/101 (labelled as *F. egypti*); **PP:** 1999/102.

amphikineta Hemimastix FOISSNER, BLATTERER & FOISSNER, 1988 – Europ. J. Protistol. 23: 380. **OT:** Upper soil layer (0-3 cm) of a bushland; Brisbane Waters National Park, north of Sidney, Australia (33°28'S, 151°20'E). **HP (od):** 1989/83; 2 **PP:** 1989/84, 1989/85.

blaberi Nephridiophaga FABEL, RADEK & STORCH, 2001 – Europ. J. Protistol. 36: 393. **TH:** Cockroach *Blaberus craniifer* BURMEISTER, 1838. **HL:** Northern Central America, for example Mexico and Cuba, and West Indies. 2 **HA (od):** 1999/176 (Giemsa staining); 1999/177 (Heidenhain's iron hematoxylin). **Remarks:** The marks refer to spores, plasmodia, and merozoites.

hrdyi Trichocovina MAASS & RADEK, 2006 – Europ. J. Protistol. 42: 125. **TH:** Termite *Neotermes (Kaloterme) cubanus* (SNYDER, 1922) KRISHNA, 1961. **OT:** Neotropical zoogeographic region, Cuba. **HP (od):** 2005/75; **PP:** 2005/75.

gonderi Spiromonas FOISSNER & FOISSNER I., 1984 – Protistologica. 20: 638. **TH:** *Colpoda* spp. (Ciliophora). **OT:** Soil of the “hell” between two lakes, the Neusiedlersee and the Oberer Stinkersee, Burgenland, Austria (47°48'N, 16°49'E). **HP (od):** 1986/1; **PP:** 1986/2. **Remarks:** Currently *Colpodella g.* according to SIMPSON & PATTERSON (1996, Systematic-Parasitology 33: 196).

minor Spirotrichonympha RADEK, 1997 – Europ. J. Protistol. 33: 372. **TH:** Dry-wood termite *Kaloterme sinaicus* KEMNER, 1932. **OT:** Arid coastal zone of the Mediterranean Sea of the peninsula of Sinai, Israel (about 32°N, 35°E). **HP (od):** 1996/30; **PP:** 1996/31.

orbistoma Pseudawerintzewia SCHÖNBORN, FOISSNER & MEIS-TERFELD, 1983 – Protistologica 19: 563. **OT:** Soil of a mixed forest (*Asperulo-Fagetum*); near village of Baumgarten, Lower Austria (48°22'N, 15°34'E). **HP (od):** 1982/29.

platyophryae Ciliatosporidium FOISSNER & FOISSNER, 1995 – Europ. J. Protistol. 31: 248. **TH:** Ciliate *Platyophrya terricola* (FOISSNER, 1987). **OT:** Soil; Zion National Park, Utah, USA (37°30'N, 115°W). 2 **SP (od):** 1997/101, 1997/100. **Remarks:** The epon-embedded material announced in the paper (inv. no. 95/10) was not deposited. Two slides yet designated, although mislabelled as “genotype” violating Art. 73.2 (ICZN 1999), thus symphoronts.

sinaica Placojoenia RADEK & HAUSMANN, 1994 – Europ. J. Protistol. 30: 26. **TH:** Dry-wood termite *Kaloterme sinaicus* KEMNER, 1932. **OT:** Arid coastal zone of the Mediterranean Sea of the peninsula of Sinai, Israel (about 32°N, 35°E). 2 **SP (unspecific od):** 1993/1 (three marks), 1993/2 (three marks; both labelled as *P. sinaicus*). **Remarks:** Labels untypified, but “typification” according to the paper, which states that various other flagellates are present. Nucleospecies (Tab. 6).

termitis Monocercomonoides RADEK, 1994 – Arch. Protistenk. 144: 374. **TH:** Dry-wood termite *Kaloterme sinaicus* KEMNER, 1932. **OT:** Arid coastal zone of the Mediterranean Sea of the peninsula of Sinai, Israel (about 32°N, 35°E). 2 **SP (unspecific od):** 1993/6, 1993/7. **Remarks:** Labels untypified, but each with three marks, thus symphoronts. The paper states that various other flagellates are present on the intestinal smears. Due to homonymy replaced by *M. hausmanni* RADEK, 1997 (Arch. Protistenk. 147: 411).

terricola Spiromonas FOISSNER I. & FOISSNER, 1993 – J. Eukaryot. Microbiol. 40: 424. **OT:** Soil; Grand Canyon, upper entrance to Bright Angel Trail, Arizona, USA (36°04'N, 112°07'E). **HP (od):** 1997/102; 3 **PP:** 1997/103, 1997/104, 1997/105.

thermarum Echinamoeba BAUMGARTNER, YAPI, GRÖBNER-FERREIRA & STETTER, 2003 – Extremophiles 7: 267. **OT:** Hot brook; outflow of Octopus Spring, Yellowstone National Park, Wyoming, USA (44°46'N, 110°14'W). 2 **SP (unspecific od):** 2002/940, 2002/941 (both haematoxylin stainings). **Remarks:** Living material of isolate OSB1 is available in the American Type Culture Collection (ATCC® Number: PRA-13) from the same site.

4 Survey of the revised collection and further “type” material

4.1 Involved persons and coverage of “typified” and untypified taxa

FOISSNER and his co-authors have described 819 new taxa from 1967 until now: 30 subspecies, 553 species, seven subgenera, 174 genera, one subfamily and 33 families; in addition, they made 396 new combinations and about 1965 redescrptions/reviews of 1361 taxa (for details see BERGER & AL-RHASHEID this volume). Jean DRAGESCO, a pioneer in developing new fixatives and impregnation techniques since the 1960s, discovered and described 315 species and subspecies of ciliates. Further contributors to the collection are summarised in Table 2; some more persons announced material in their publication(s), which is, however, not yet deposited (Tab. 3). More than 200 papers have been located referring to the collection of onomatophoronts at Linz.

However, the main contributors to the holdings of Linz, viz. W. FOISSNER and J. DRAGESCO, became aware of designating and depositing “types” only unspecific in 1974 and specifically in 1983 (BERGER et al. 1983; FOISSNER & ADAM 1983) and 1996 (DRAGESCO 1996, FOISSNER & DRAGESCO 1996a, b, DRAGESCO 1999a, b, 2002, 2003), respectively. In total about 50 % of the species established by FOISSNER and his co-workers are represented in Linz. The corresponding data for DRAGESCO are 51 species, i.e. about 16 % of his newly established ones. Thus, numerous new species have been established or redescrbed, where no “types”, but sometimes vouchers, could be located in Linz (Tab. 4). Some of them have been deposited in London (BMNH), Sydney (AMS) or Vienna (NHMW). Possibly, no permanent preparations exist or they may be found in the personal collections hold by the original authors. In some cases, onomatophoronts are not yet deposited (Tab. 3) or formal “typification” has seemly been forgotten par lapsus (e.g. FOISSNER 1987, FOISSNER et al. 1999, FOISSNER 2003a, FOISSNER & XU 2007). After 1999, however, these names are unavailable (ICZN 1999 Art. 16.4, 72.3).

4.2 Vouchers

Besides official “types”, about 4000 voucher slides are housed in Linz, among them the original material of Bruno Maria KLEIN (1891–1968) and 1035 slides of Josef DIECKMANN (1948–1996), whose important biogeographic collection awaits more detailed studies. 88 slides of populations originally collected by Ernst BRESSLAU (1877–1935; 6 slides from 1927), John Ozro

CORLISS (two slides from 1959), Alfred KAHL (1877–1946; 80 slides from 1928/29; prepared by KLEIN) and one slide of Eugène PENARD (1855–1954; via DRAGESCO) are especially noticable and of historical value. Among the vouchers several label names need to be clarified or are important species for comparison with name-bearers “typifying” a genus or even a family, e.g. *Neobursaridium gigas* – Neobursaridiidae, *Onychodromus grandis* – Onychodromusidae, *Opisthonecta henneguyi* – Opisthonectidae. Thus, Linz is a unique training possibility for beginners to become familiar with microscopic organisms, particularly ciliates. Other protist groups are only represented to a small extent: namely in about 400 slides including “types” of 12 species. 774 diatom preparations of the Austrian botanist Rudolf HANDMANN (1841–1929) are also worth to be mentioned.

Specimens labelled as “types”, which they are not according to the ICZN (1999), but have been listed in AESCHT (2003) before verification, are treated in the following (excluded from Tab. 5):

(i) Nine “neotypes” of *Urotricha apsheronica*, which are in fact vouchers since “one holotype slide and several syntype slides” were deposited by ALEKPEROV at the Institute of Zoology, Academy of Sciences of Azerbaijan, Baku, Russia (cp. FOISSNER & PFISTER 1997: 329).

(ii) One “neotype” of *Uronychia binucleata* referring to SONG & WILBERT (1997: 427); however, a closer inspection showed that the deposited material is from Antarctica (labelled with “Typ”, but including also other species), while the population studied in the paper was collected in China.

(iii) Three “neotypes” of *Onychodromus grandis* incorrectly referring to FOISSNER, SCHLEGEL & PRESCOTT (1987: 158), where another species of this genus is described. However, although they are labelled as “neotypes”, the slides are intended as vouchers according to FOISSNER & GSCHWIND (1998: 68).

(iv) One “holotype” of *Pseudovorticella difficilis magnistriata*, which has, however, subspecific rank; thus, it is nomenclaturally inexistent (ICZN 1999 Art.15.2).

(v) One slide (inv. no. 1981/84) of *Histiculus muscorum* KAHL, 1932, mislabelled as “paratype”, thus taken as subsequent “neotype” and synonym of *Sterkiella histriomuscorum* according to FOISSNER, BLATTERER, BERGER & KOHMANN (1991: 311) by AESCHT (2001: 391), should be considered as voucher. Concerning the very complicated nomenclature of this species see BERGER (1999: 683) and FOISSNER & BERGER (1999: 235).

(vi) One slide (inv. no. 1997/34) of *Colpoda cavicola* KAHL, 1935, was labelled as such and thus listed as “neotype”. However, it was collected in Peru, which

does not correspond to the “type locality” given in FOISSNER, AGATHA & BERGER (2002: 910) for the subspecies *C. c. c.* Three further slides (inv. no. 1997/35-37) labelled as “syntypes” are likewise vouchers.

(vii) Two slides of *Joenia paradoxa* were deposited as “types” and the species published as new by HAUSMANN et al. (1995: 188). However, this has been intended as joke (HAUSMANN, pers. comm.) demonstrating their underestimation of nomenclature and taxonomy.

(viii) HERWALDT et al. (2003: 946) deposited one of three slides announced of *Babesia* sp. (isolate EU1) and proposed the species name *B. venatorum* “if additional evidence supports the conclusion that the organism indeed constitutes a newly described species”. The authors advocated the use of the “Candidatus” concept (i.e., to propose candidates for newly described bacterial species; LAPAGE et al. 1992, ICNB) also for protozoa. It refers to organisms that had been well-characterized, including the sequencing of the small subunit RNA gene, but had not yet been cultured. At present, the protozoan name is however, unavailable according to the ICZN (1999 Art. 15.1).

Two further actual cases have likely inadvertently been designated as “types”:

(i) Although FOISSNER (2003b: 114) mentions 29 “neotype” slides of JANKOWSKI, the five slides of his own material of *Myriokaryon lieberkuehnii* are labelled as “neotypes”, but herein treated as vouchers.

(ii) One slide (inv. no. 2001/7) of *Diophrys scutum* DUJARDIN, 1842 is designated by a “T[ype]” and on an external sheet of paper as “new type”. However, in the respective paper, SONG & WILBERT (2002, Acta Protozool. 41: 55) note that “no further complete descriptions are necessary” for this species, thus the slide status is relegated to a voucher.

4.3 Onomatophores

In total 779 species, among them 44 subspecies, are represented by onomatophoronts – in fact about 2000 slides – in the museum collection at Linz. 574, viz. about three quarters of these have been “typified” by a more or less specific original designation. Comparing labels and papers, “type” material of 205 species was rediscovered, thus slides are taken as subsequently designated herein by the original author if the slide is labelled or if indications such as “n. sp.” or notes on an additional sheet of paper allow an unequivocal conclusion. However, about one quarter bears a question mark concerning the category of “type” and a closer inspection, i.e. comparing the original reference, marks on the slides and the ICZN (1999), revealed many discrepancies to the list of

AESCHT (2003), where mainly the designations on the labels were taken into account (Tab. 5). Excluding the “paratypes” (see below), the 768 taxa with name-bearers covered in the present catalogue (Tab. 5) embrace 730 valid names (kyronyma according to DUBOIS 2000), 20 inadvertently unavailable names and 18 subjective synonyms.

11 species are represented only by “paratypes”, i.e. *Colpoda variabilis*, *Edaphospathula fusioplites*, *Gonostomum franzi*, *Lacrymaria australis*, *Siroloxophyllum australe*, *Microthorax australis*, *Naxella australis*, *Oxytricha australis*, *Placus antarcticus*, *Stenosemella lacustris*, *Urosomoida agiliiformis*. They are not included in Table 5, because they are no name-bearers according to the ICZN (1999; for discussion see chapter 5.1.3). Some onomatophoronts remained probably inadvertently undesignated or may be found in the personal collection of the author(s), while other were deposited in another repository.

The most important taxa concerning the chain of onomatophores from species to families, viz. 191 nucleospecies and 38 nucleogenera, are extracted in Tables 6 and 7, respectively. FOISSNER et al. (2008: 353ff.), for the first time, provided a list of supposed endemics, containing so-called flagship species which are likely the “ultimate proof” for protist endemism: 24 of the 52 listed – that is, almost 50 % – often large (>200 µm) species are housed at Linz.

For ease of classification the families with genera embraced represented in the museum are also given (Tab. 8). All names have been grouped in families on the basis of available recent literature. When it was not possible, I was obliged to adopt my own view, which obviously requires confirmation by further studies. A short list of the families quantifies the number of genera and species represented in the collection (Tab. 9). Categories above the family are not included, because they are not covered by the ICZN (1999) and in great flux. From these tables it becomes evident that at present hypotrichs, colpodids, gymnostomatids are predestined to reveal permanent preparations. The species are classified in more than 343 genera and 138 families; including 11 genera and 10 families of diverse protist groups. In 2001 my compilation revealed 1484 valid genera of ciliates (AESCHT 2001). In the meantime about 75 new ones have been established demonstrating that about 22 % of the ciliate generic diversity is documented in the museum at Linz. In his new classification, Denis LYNN (personal communication) acknowledges about 300 ciliate families; thus more than one third is represented in Austria.

4.4 “Type” localities

47 countries of approximately 291 worldwide are represented in the “type” collection (Tab. 10): one third refers to Europe, more than 25 % to Africa and around 16 % to America and Asia, respectively. Taking into account further bigger collections already summarised (COLE 1994), we are far away from understanding the global diversity of ciliates. More than one third of the species have their “type” locality in Austria, about 14 % in Namibia, around 6 % each in Antarctica, Germany, France and Australia.

Due to the focus of FOISSNER’S working group from Salzburg, more than half of the species represented in the collection has been discovered in soil, about one third in freshwater and quite low portions in the sea or

other organisms (for details see Tab. 5). According to the list of “type” species of ciliate genera, 58 % of them occur in marine or freshwater habitats, 29 % are mostly symbiotic, 7 % are terrestrial and 6 % have fossil records (AESCHT 2001). This indicates that soil inhabitants are very well represented, while other habitats or niches are fairly underrepresented. Remarkable microhabitats represented are for instance a disused coconut doormat (*Eschaneustyla brachytona*), bird bath (*Parentocirrus hortualis*), ornithogenic soil (*Spathidium seppelti*), *Scarabaeus* dung balls (*Uroleptus paranotabilis*) or Walnut leaf litter (*Orthoamphisiella stramenticola*). But in general, we are also far away from understanding the local diversity because only a tiny fraction of the potential niches has ever been investigated for ciliates and other protists (FOISSNER 2006, 2007, 2008).

Table 2: Provenance of specimens in the protistan microscopic slide collection at Linz. Listed are only persons (in alphabetical order) depositing the slide(s) and their home countries, the first year of deposition, and the number of slides including vouchers. Note that often FOISSNER deposited the slides of members of his working group and that first describers and collectors can only be reconstructed referring to the literature in chapter 3.

Family name	Surname	Year	Slide(s)	State
AESCHT	Erna	1993	360	Austria
AMMERMANN	Dieter	2000	2	Germany
ASPÖCK	Horst	2003	1	Austria
BAUMGARTNER	Manuela	2002	2	Germany
BERGER	Helmut	2003	23	Austria
DIECKMANN	Josef	1993	1035*	Germany
DRAGESCO	Jean	1997	370	France
EIGNER	Peter	1993	12	Austria
FOISSNER	Wilhelm	1974	3021	Austria
KLEIN	Bruno Maria	posthumously	1041	Austria
KRAINER	Karl-Heinz	1992	28	Austria
LEIPE	Detlev	1993	3	Germany
MICHEL	Ralf	1999	2	Germany
MULISCH	Maria	1998	5	Germany
OBERSCHMIDLEITNER	Roland	1997	70	Austria
PETZ	Wolfgang	2001	205	Austria
RADEK	Renate	1993	12	Germany
SCHÖDEL	Horst	2005	29	Germany
SILVA NETO	Inacio Domingos da	1998	1	Brazil
SONNTAG	Bettina	2005	43	Austria
VOSS	Hans-Jürgen	1996	3	Germany
WILBERT	Norbert	1993	14	Germany

* mostly posthumously

Table 3: "Type" material designated and repository at Linz mentioned in the respective paper, but not yet deposited; listed in chronological order and by author(s); cp. chapter 8 for abbreviations.

Year	AUTHOR(S)	Journal	Species
1983	FOISSNER	Protistologica 19	<i>Psilotricha succisa</i>
1983	FOISSNER & ADAM	Zool. Scr. 12	<i>Oxytricha granulifera</i>
1983	SCHÖNBORN, FOISSNER & MEISTERFELD	Protistologie 19	<i>Edaphonobiotus campascoides</i>
1984	BERGER, FOISSNER & ADAM	Zool. Jb. Syst. 111	<i>Phialina binucleata</i>
1984	FOISSNER	Hydrobiologia 119	<i>Litonotus trichocystiferus</i>
1984	FOISSNER	Schweiz. Z. Hydrol. 46	<i>Trochiloides fimbriatus</i>
1984	FOISSNER, ADAM & FOISSNER I.	Ber. Nat.-Med. Ver. Salzburg 7	<i>Ophrydium eutrophicum</i>
1985	FOISSNER	Arch. Protistenk. 129	<i>Grossglockneria hyalina</i>
1985	FOISSNER	Arch. Protistenk. 129	<i>Pseudokreyella terricola, Pseudoplatyophrya terricola</i>
1985	FOISSNER	Zool. Anz. 214	<i>Microthorax leptopharyngiformis, M. simplex, M. transversus</i>
1986	FOISSNER	Acta Protozool. 25	<i>Stegochilum schoenborni</i>
1986	FOISSNER	Zool. Jb. Syst. 113	<i>Hemisincirra muelleri</i>
1986	FOISSNER I. & FOISSNER	Z. Parasitenk. 72	<i>Ciliomyces spectabilis</i>
1987	FOISSNER	Sber. Akad. Wiss. Wien, Math.-Naturwiss. Kl., I. Abt. 195	<i>Drepanomonas muscicola</i> NP, <i>Frontonia solea, Pseudomicrothorax foliformis</i>
1987	WIRNSBERGER & FOISSNER	Acta Protozool. 26	<i>Holosticha xanthichroma</i>
1988	BERGER & FOISSNER	Zool. Anz. 220	<i>Territricha stramenticola</i>
1988	FOISSNER, SKOGSTAD & PRATT	J. Protozool. 35	<i>Pelagohalteria viridis</i> NP, <i>Strobilidium lacustris</i>
1990	FOISSNER	Biol. Fertil. Soils 9	<i>Kuehneliella terricola</i>
1990	FOISSNER, OLEKSIV & MÜLLER	Arch. Protistenk. 138	<i>Mucotrichidium hospes</i> NP, <i>Paruroleptus gallina</i> NP, <i>Pseudobalanion planctonicum</i>
1992	AESCHT & FOISSNER	Arch. Hydrobiol. Suppl. 90 2	<i>Opercularia asymmetrica</i> NP, <i>Parastrombolidium oswaldi, Prodiscophrya collini</i> NP
1992	BLATTERER & FOISSNER	Arch. Protistenk. 142	<i>Odontochlamys alpestris, O. convexa</i>
1993	FOISSNER I. & FOISSNER	J. Euk. Microbiol. 40	<i>Spironema goodeyi</i>
1995	FOISSNER	Annln naturh. Mus. Wien, Ser. B Bot. Zool. 96B	<i>Bryometopus hawaiiensis</i>
1995	FOISSNER	Arch. Protistenk. 145	<i>Paracineta lauterborni</i>
1995	FOISSNER	Arch. Protistenk. 146	<i>Kentrophoros fistulosus</i> NP
1995	FOISSNER I. & FOISSNER	Europ. J. Protistol. 31	<i>Ciliatosporidium platyophryae</i>
1995	KRAINER	Lauterbornia 21	<i>Rimostrombidium brachykinetum, R. lacustris</i>
1995	KRAINER & MÜLLER	Europ. J. Protistol. 31	<i>Histiobalantium bodamicum</i>
1996	FOISSNER	Arch. Protistenk. 146	<i>Apocryptopharynx hippocampoides, Cryptopharynx setigerus</i>
1996	FOISSNER	Biol. Fertil. Soils 23	<i>Oxytricha ottowi</i>
1996	FOISSNER	Europ. J. Protistol. 32	<i>Prototrachelocerca caudata</i> NP, <i>P. fasciolata</i> NP, <i>Remanella multinucleata</i>
1996	FOISSNER & DRAGESCO	Arch. Protistenk. 147	<i>Tracheloraphis aragoi</i>
1996	FOISSNER & DRAGESCO	J. Euk. Microbiol. 43	<i>Trachelolophos filum</i>
1997	FOISSNER	Acta Protozool. 36	<i>Kovalevaia sulcata</i> VO, <i>Trachelocerca incaudata</i> NP, <i>Trachelotractus entzi</i> NP
1997	FOISSNER	Rev. Soc. Mex. Hist. Nat. 47	<i>Lopezoterenia torpens, Paraspathidium fuscum</i>
1998	AGATHA & RIEDEL-LORJÉ	Europ. J. Protistol. 34	<i>Rimostrombidium caudatum</i> NP, <i>R. conicum</i> NP
1998	FOISSNER & GSCHWIND	Ber. naturw.-med. Ver. Salzburg 12	<i>Oxytricha setigera</i> NP
1999	FOISSNER & AL-RASHEID	Europ. J. Protistol. 35	<i>Sultanophrys arabica</i>
2000	FOISSNER & KORGANOVA	Acta Protozool. 39	<i>Centropyxis aerophila</i> VO
2001	MEISTERFELD, HOLZMANN & PAWLOWSKI	Protist 152	<i>Edaphoallogromia australica</i>
2002	BAUMGARTNER, STETTER & FOISSNER	J. Euk. Microbiol. 49	<i>Trimyema minutum</i>
2002	FOISSNER & SONG	Europ. J. Protistol. 38	<i>Apofrontonia lamentschwandtneri</i>
2002	SONG & WILBERT	Acta Protozool. 41	<i>Aegyriana paroliva</i>
2002	SONG & WILBERT	Acta Protozool. 41	<i>Metanophrys antarctica, Orthodonella shenae</i>
2003	AGATHA	Europ. J. Protistol. 39	<i>Strombidinopsis minima</i> NP
2003	AGATHA	Europ. J. Protistol. 39	<i>Novistrombidium aspheronicum</i> VO, <i>Strombidium arenicola</i> NP

Tab. 3: continued

Year	AUTHOR(S)	Journal	Species
2003	DRAGESCO	Trav. Mus. natl. Hist. nat. "Grigore Antipa" 45	<i>Pleurotricha multinucleata</i>
2003	FOISSNER	Acta Protozool. 42	<i>Bromeliophrya brasiliensis</i> , <i>Cephalospatula brasiliensis</i>
2003	FOISSNER	Europ. J. Protistol. 39	<i>Colpoda brasiliensis</i> , <i>Lambornella trichoglossa</i> , <i>Pseudomaryna australiensis</i>
2004	FOISSNER & LEI	Linzer biol. Beitr. 36	<i>Apobryophyllum sulcatum</i> , <i>Bryophyllum longisetum</i> , <i>Neobryophyllum penardi</i> NP
2005	AGATHA, STRÜDER-KYPKE, BERAN & LYNN	Europ. J. Protistol. 41	<i>Pelagostrobilidium neptuni</i> VO, <i>Strombidium biformatum</i>
2005	FOISSNER	Europ. J. Protistol. 41	<i>Luporinophrys micelae</i> , <i>Sleighophrys pustulata</i>
2005	FOISSNER, BERGER, XU & ZECHMEISTER-BOLTENSTERN	Biodiversity & Conservation 14	<i>Latispathidium truncatum bimicronucleatum</i>
2005	FOISSNER, XU & KREUTZ	J. Eukaryot. Microsc. 52	<i>Rhinothrix porculus</i> NP
2005	WILBERT & SONG	J. Nat. Hist. 39	<i>Amphisiella antarctica</i> , <i>Dysteria parovalis</i> , <i>Hemigastrostyla szaboi</i> , <i>Intranstylum antarcticum</i> , <i>Pithites pelagicus</i> , <i>Strombidium apolatum</i> , <i>Thigmokeronopsis magna</i>
2006	AGATHA & RIEDEL-LORJÉ	Acta Protozool. 45	<i>Tintinnopsis cylindrica</i> NP
2006	NAQVI, GUPTA, BORGHAIN, SAPRA	Acta Protozool. 45	<i>Rubrioxystrix indica</i>
2007	FOISSNER & AL-RASHEID	Acta Protozool. 46	<i>Apobryophyllum schmidingeri</i> , <i>Keronopsis schminkei</i>

Table 4: Species and subspecies established by FOISSNER or DRAGESCO (and co-authors, respectively), but without as yet designated (aphory) and deposited "type" material. For ease of use the family is included and a reference to voucher(s); VO). Replacement names have been omitted. Of the 378 taxa included, 261 have been described by DRAGESCO and 117 by FOISSNER.

Taxon	Family	VO	Taxon	Family	VO
<i>Acanthodiophrya almae</i> PUYTORAC & DRAGESCO, 1969	Radiophryidae		<i>Cardiostoma mononucleata</i> DRAGESCO, 1963	Loxocephalidae	
<i>Alinostoma plurivacuolatum</i> DEROUX & DRAGESCO, 1968	Chilodonellidae		<i>Cardiostomatella minuta</i> DRAGESCO, 1965	Loxocephalidae	
<i>Almophrya almae</i> PUYTORAC & DRAGESCO, 1969	Anoplophryidae		<i>Centrophorella faurei</i> DRAGESCO, 1954	Kentrophoridae	
<i>Amphisiella faurei</i> DRAGESCO, 1963	Amphisiellidae		<i>Centrophorella grandis</i> DRAGESCO, 1954	Kentrophoridae	
<i>Apobryophyllum sulcatum</i> FOISSNER & LEI, 2004	Spathidiidae		<i>Centrophorella longissima</i> DRAGESCO, 1954	Kentrophoridae	
<i>Apocolpoda africana</i> FOISSNER, 1993	Colpodidae		<i>Centrophorella minuta</i> DRAGESCO, 1960	Kentrophoridae	
<i>Arcuospathidium virugense</i> FOISSNER & XU, 2007	Arcuospathidiidae		<i>Centrophorella trichocystus</i> DRAGESCO, 1954	Kentrophoridae	
<i>Aspidisca fjeldi</i> DRAGESCO, 1960	Aspidiscidae		<i>Centropyxis oomorpha</i> SCHÖNBORN, FOISSNER & MEISTERFELD, 1983	Centropyxidae	
<i>Aspidisca hyalina</i> DRAGESCO, 1960	Aspidiscidae		<i>Chaenea psammophila</i> DRAGESCO, 1960	Trachelophyllidae	
<i>Aspidisca major faurei</i> DRAGESCO, 1960	Aspidiscidae		<i>Cheissinophrya knoeppfleri</i> PUYTORAC & DRAGESCO, 1969	Radiophryidae	
<i>Aspidisca tridentata</i> DRAGESCO, 1963	Aspidiscidae		<i>Chilodonella minuta</i> DRAGESCO, 1966	Chilodonellidae	
<i>Balladyna euplotes</i> DRAGESCO, 1960	Kahliellidae		<i>Chilodonella plurivacuolata</i> DEROUX & DRAGESCO, 1968	Chilodonellidae	
<i>Banyulsella viridis</i> DRAGESCO, 1954	Banyulsellidae		<i>Chilodonella psammophila</i> DRAGESCO, 1960	Chilodonellidae	
<i>Blepharisma multinucleatum</i> DRAGESCO, 1960	Spirostomidae		<i>Chilodonella schedoeublepharis</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Chilodonellidae	
<i>Brachonella caenomorphoides</i> FOISSNER, 1980	Metopidae		<i>Chlamydonon minutus</i> DRAGESCO, 1965	Chlamydonodontidae	
<i>Bryometopus balantidioides</i> FOISSNER, 1993	Bryometopidae		<i>Chlamydonon roseus</i> DRAGESCO, 1966	Chlamydonodontidae	
<i>Bryometopus chlorelligerus</i> FOISSNER, 1980	Bryometopidae		<i>Chlamydonellopsis polonica</i> FOISSNER, CZAPIK & WIACKOWSKI, 1981	Lynchellidae	
<i>Bryometopus edaphonus</i> FOISSNER, 1980	Bryometopidae		<i>Ciliofaurea brunea</i> DRAGESCO, 1965	incertae sedis	
<i>Bryometopus magnus</i> FOISSNER, 1980	Bryometopidae		<i>Ciliofaurea longissima</i> DRAGESCO, 1960	incertae sedis	
<i>Bryometopus triquetrus</i> FOISSNER, 1993	Bryometopidae		<i>Circinella filiformis</i> FOISSNER, 1982	Orthoamphisiellidae	
<i>Bryometopus viridis</i> FOISSNER, 1987	Bryometopidae		<i>Cirrophrya australis</i> FOISSNER, 1993	Platyophryidae	
<i>Bursaria caudata</i> DRAGESCO, 1972	Bursariidae				

Tab. 4: continued

Taxon	Family	VO	Taxon	Family	VO
<i>Climacostomum minimum</i> FOISSNER, 1980	Climacostomidae		<i>Enchelydium alpinum</i> FOISSNER, 1980	Enchelyidae	
<i>Coelophrya roquei</i> PUYTORAC & DRAGESCO, 1969	Radiophryidae		<i>Enchelydium simile</i> FOISSNER, 1980	Enchelyidae	
<i>Coelosomides teissieri</i> DRAGESCO, 1954	Coelosomidae		<i>Enchelydium trichocystis</i> FOISSNER, 1980	Enchelyidae	
<i>Coleps arenicolus</i> DRAGESCO, 1965	Colepidae		<i>Enchelyodon camerounensis</i> DRAGESCO, 1965	Trachelophyllidae	
<i>Coleps quadrispinus</i> FOISSNER, 1983	Colepidae		<i>Enchelyodon kenyaensis</i> FOISSNER, AGATHA & BERGER, 2002	Trachelophyllidae	
<i>Colpoda oblonga</i> DRAGESCO, 1972	Colpodidae		<i>Enchelyodon multinucleata</i> DRAGESCO & DRAGESCO-KERNÉIS, 1979	Trachelophyllidae	
<i>Colpoda orientalis</i> FOISSNER, 1993	Colpodidae		<i>Enchelyodon spathidiiformis</i> DRAGESCO, 1966	Trachelophyllidae	
<i>Colpoda ovinucleata</i> FOISSNER, 1980	Colpodidae		<i>Enchelyodon vacuolatus</i> DRAGESCO, 1960	Trachelophyllidae	
<i>Colpoda rotunda</i> FOISSNER, 1980	Colpodidae		<i>Enchelys binucleata</i> FOISSNER, 1983	Enchelyidae	
<i>Condylostoma acuta</i> DRAGESCO, 1960	Condylomatidae		<i>Enchelys gelei</i> FOISSNER, 1981	Enchelyidae	VO
<i>Condylostoma enigmatica</i> DRAGESCO, 1954	Condylomatidae		<i>Epistylis alpestris</i> FOISSNER, 1978	Epistylidae	
<i>Condylostoma kahli</i> DRAGESCO, 1960	Condylomatidae		<i>Eschaneustyla terricola</i> FOISSNER, 1982	Epiclintidae	
<i>Condylostoma minuta</i> DRAGESCO, 1954	Condylomatidae		<i>Euplotes aberrans</i> DRAGESCO, 1960	Euplotidae	
<i>Condylostoma nigra</i> DRAGESCO, 1960	Condylomatidae		<i>Euplotes patella lemani</i> DRAGESCO, 1960	Euplotidae	
<i>Condylostoma remanei oxyoura</i> DRAGESCO, 1960	Condylomatidae		<i>Euplotes platystoma</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Euplotidae	
<i>Condylostoma wangi</i> FOISSNER & WÖLFL, 1994	Condylomatidae		<i>Euplotes roscoffensis</i> DRAGESCO, 1966	Euplotidae	
<i>Contophrya chachoni</i> PUYTORAC & DRAGESCO, 1969	Contophryidae		<i>Euplotes thononensis</i> DRAGESCO, 1960	Euplotidae	
<i>Corlissia picta</i> DRAGESCO, 1954	Corlissiidae		<i>Faurea arenicola</i> DRAGESCO, 1954	incertae sedis	
<i>Cosmocolpoda naschbergeri</i> FOISSNER, 1993	Colpodidae		<i>Faurea ornata</i> DRAGESCO, 1954	incertae sedis	
<i>Cryptopharynx enigmaticus</i> DRAGESCO, 1954	Cryptopharyngidae		<i>Frontonia aberrans</i> DRAGESCO, 1960	Frontoniidae	
<i>Cryptopharynx kahli</i> DRAGESCO, 1954	Cryptopharyngidae		<i>Frontonia ambigua</i> DRAGESCO, 1972	Frontoniidae	
<i>Cryptopharynx mauritanicus</i> DRAGESCO, 1954	Cryptopharyngidae		<i>Frontonia bullingtoni</i> DRAGESCO, 1960	Frontoniidae	
<i>Cryptopharynx multinucleatum</i> DRAGESCO, 1960	Cryptopharyngidae		<i>Frontonia caneti</i> DRAGESCO, 1960	Frontoniidae	
<i>Cryptopharynx setigerum furcatum</i> DRAGESCO, 1960	Cryptopharyngidae		<i>Frontonia macrostoma</i> DRAGESCO, 1960	Frontoniidae	
<i>Cultellothrix japonica</i> FOISSNER, 1988	Arcuospathidiidae		<i>Frontonia vacuolata</i> DRAGESCO, 1960	Frontoniidae	
<i>Cyclidium plouneouri</i> DRAGESCO, 1963	Cyclidiidae		<i>Gastrostyla dorsicirrata</i> FOISSNER, 1982	Oxytrichidae	
<i>Cyrtohymena primicirrata</i> BERGER & FOISSNER, 1987	Oxytrichidae	VO	<i>Geleia acuta</i> DRAGESCO, 1960	Geleidae	
<i>Cyrtolophosis colpidiformis</i> FOISSNER, 1993	Cyrtolophosididae		<i>Geleia gigas</i> DRAGESCO, 1954	Geleidae	
<i>Dexiotricha polystyla</i> FOISSNER, 1987	Loxocephalidae		<i>Geleia hyalina</i> DRAGESCO, 1960	Geleidae	
<i>Dicoelophrya almae</i> PUYTORAC & DRAGESCO, 1969	Radiophryidae		<i>Geleia luci</i> DRAGESCO, 1960	Geleidae	
<i>Dicoelophrya calliste</i> PUYTORAC & DRAGESCO, 1969	Radiophryidae		<i>Geleia obliqua</i> DRAGESCO, 1960	Geleidae	
<i>Dicontophrya grassei</i> PUYTORAC & DRAGESCO, 1969	Contophryidae		<i>Geleia swedmarki</i> DRAGESCO, 1954	Geleidae	
<i>Dileptus aculeatus</i> DRAGESCO, 1960	Tracheliidae		<i>Geleia tenuis</i> DRAGESCO, 1954	Geleidae	
<i>Dileptus estuarinus</i> DRAGESCO, 1960	Tracheliidae		<i>Geleia vacuolata</i> DRAGESCO, 1960	Geleidae	
<i>Dileptus gabonensis</i> DRAGESCO, 1963	Tracheliidae		<i>Gruberia binucleata</i> DRAGESCO, 1960	Spirostomidae	
<i>Dileptus grandis</i> DRAGESCO, 1963	Tracheliidae		<i>Halteria faurei</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Halteriidae	
<i>Dileptus jonesi</i> DRAGESCO, 1963	Tracheliidae		<i>Halteria tamari</i> DRAGESCO & DRAGESCO-KERNEIS, 1986	Halteriidae	
<i>Dileptus marouensis</i> DRAGESCO, 1963	Tracheliidae		<i>Haplocaulus terrenus</i> FOISSNER, 1981	Vorticellidae	VO
<i>Dileptus thononensis</i> DRAGESCO, 1960	Tracheliidae		<i>Hartmannula angustipilosa</i> DRAGESCO & DEROUX, 1968	Hartmannulidae	
<i>Dileptus visscheri</i> DRAGESCO, 1963	Tracheliidae		<i>Hartmannulopsis dysteriana</i> DEROUX & DRAGESCO, 1968	Dysteriidae	
<i>Diophrys kahli</i> DRAGESCO, 1963	Uronychiidae		<i>Helicoprorodon barbatus</i> DRAGESCO, 1954	Helicoprorodontidae	
<i>Discocephalus ehrenbergi</i> DRAGESCO, 1960	Discocephalidae		<i>Helicoprorodon maximus</i> DRAGESCO, 1954	Helicoprorodontidae	
<i>Discocephalus grandis</i> DRAGESCO, 1954	Discocephalidae		<i>Helicoprorodon multinucleatum</i> DRAGESCO, 1960	Helicoprorodontidae	
<i>Discocephalus minimus</i> DRAGESCO, 1968	Discocephalidae		<i>Heminotus monilatus</i> DRAGESCO & DRAGESCO-KERNEIS, 1986	Litonotidae	
<i>Drepanomonas lunaris</i> FOISSNER, 1979	Microthoracidae		<i>Hemiophrys lanceolatus</i> DRAGESCO, 1965	Amphileptidae	
<i>Dysteria meridionalis</i> DRAGESCO, 1966	Dysteriidae		<i>Hemiophrys loxophylliforme</i> DRAGESCO, 1960	Amphileptidae	
<i>Dysteria spinifera</i> DRAGESCO, 1966	Dysteriidae		<i>Hemiophrys plurivacuolatus</i> FOISSNER, 1978	Amphileptidae	

Tab. 4: continued

Taxon	Family	VO	Taxon	Family	VO
<i>Histiobalantium marinum major</i> DRAGESCO, 1960	Histiobalantiidae		<i>Loxodes kahli</i> DRAGESCO & NJINÉ, 1971	Loxodidae	
<i>Histiculus admirabilis</i> FOISSNER, 1980	Oxytrichidae		<i>Loxodes penardi</i> DRAGESCO, 1960	Loxodidae	
<i>Histrio lemani</i> DRAGESCO, 1960	Metopidae		<i>Loxophyllum acutum</i> DRAGESCO, 1965	Loxophyllidae	
<i>Holophrya africana</i> DRAGESCO, 1965	Holophryidae		<i>Loxophyllum compressum</i> DRAGESCO, 1965	Loxophyllidae	
<i>Holophrya gelei</i> DRAGESCO, 1966	Holophryidae		<i>Loxophyllum fasciolatus</i> DRAGESCO, 1966	Loxophyllidae	
<i>Holophrya lemani</i> DRAGESCO, 1966	Holophryidae		<i>Loxophyllum fibrillatum</i> DRAGESCO, 1954	Loxophyllidae	
<i>Holophrya vorax</i> DRAGESCO, 1960	Holophryidae		<i>Loxophyllum helus minimus</i> DRAGESCO, 1960	Loxophyllidae	
<i>Holosticha camerounensis</i> DRAGESCO, 1970	Holostichidae		<i>Loxophyllum kahli</i> DRAGESCO, 1960	Loxophyllidae	
<i>Holosticha contractilis</i> DRAGESCO, 1970	Holostichidae		<i>Loxophyllum lanceolatum</i> DRAGESCO, 1954	Loxophyllidae	
<i>Holosticha gracilis</i> FOISSNER, 1982	Holostichidae		<i>Loxophyllum psammophyllum</i> DRAGESCO, 1954	Loxophyllidae	
<i>Holosticha interrupta</i> DRAGESCO, 1966	Holostichidae		<i>Loxophyllum pseudosetigerum</i> DRAGESCO, 1954	Loxophyllidae	
<i>Homalozoon minutus</i> DRAGESCO, 1966	Homalozoidae		<i>Loxophyllum raikovi</i> DRAGESCO, 1965	Loxophyllidae	
<i>Homalozoon multinucleatum</i> DRAGESCO, 1966	Homalozoidae		<i>Loxophyllum setigerum fibrillatus</i> DRAGESCO, 1960	Loxophyllidae	
<i>Isiella palustris</i> FOISSNER, 1993	Maryniidae	VO	<i>Loxophyllum variabilis</i> DRAGESCO, 1954	Loxophyllidae	
<i>Jaroschia sumptuosa</i> FOISSNER, 1993	Jaroschiidae		<i>Loxophyllum vitraeum</i> DRAGESCO, 1965	Loxophyllidae	
<i>Kahliella marina</i> FOISSNER, ADAM & FOISSNER, 1982	Kahliellidae		<i>Malacophrys viridis</i> FOISSNER, 1980	Malacophryidae	
<i>Kahliella multisetata</i> DRAGESCO, 1970	Kahliellidae		<i>Metaradiophrya almae</i> PUYTORAC & DRAGESCO, 1968	Radiophryidae	
<i>Keronopsis arenicola</i> DRAGESCO, 1963	Holostichidae		<i>Metopus alpestris</i> FOISSNER, 1980	Metopidae	
<i>Keronopsis arenivorus</i> DRAGESCO, 1954	Holostichidae		<i>Metopus bothrostomiformis</i> FOISSNER, 1980	Metopidae	
<i>Keronopsis longissima</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Holostichidae		<i>Metopus jankowski</i> DRAGESCO, 1968	Metopidae	
<i>Keronopsis macrostoma</i> DRAGESCO, 1963	Holostichidae		<i>Metopus lemani</i> DRAGESCO, 1960	Metopidae	
<i>Keronopsis thononensis</i> DRAGESCO, 1966	Holostichidae		<i>Metopus turbo</i> DRAGESCO & DRAGESCO-KERNEIS, 1986	Metopidae	
<i>Kreyella minuta</i> FOISSNER, 1979	Kreyellidae		<i>Microdiaphanosoma terricola</i> FOISSNER, 1993	Kreyellidae	
<i>Kuehneltiella muscicola</i> FOISSNER, 1993	Colpodidae		<i>Mykophagophrys terricola</i> FOISSNER, 1985	Grossglockneriidae	
<i>Kuklikophrya ougandae</i> DRAGESCO, 1972	Woodruffiidae	VO	<i>Nassula georgiana</i> DRAGESCO, 1972	Nassulidae	
<i>Lacazea ovalis</i> DRAGESCO, 1960	Lacazeidae		<i>Nassula ougandae</i> DRAGESCO, 1972	Nassulidae	
<i>Lacrymaria balechi</i> DRAGESCO, 1954	Lacrymariidae		<i>Nassula tuberculata</i> FOISSNER, AGATHA & BERGER, 2002	Nassulidae	VO
<i>Lacrymaria caudata lemani</i> DRAGESCO, 1960	Lacrymariidae		<i>Nassulopsis paucivacuolata</i> FOISSNER, 1979	Nassulopsidae	
<i>Lacrymaria delamarei</i> DRAGESCO, 1954	Lacrymariidae		<i>Naxella minuta</i> DRAGESCO & DRAGESCO-KERNEIS, 1986	Nassulidae	
<i>Lacrymaria kahli</i> DRAGESCO, 1954	Lacrymariidae		<i>Notoxoma parabryophryides</i> FOISSNER, 1993	Bryophryidae	
<i>Lacrymaria longissima</i> DRAGESCO, 1966	Lacrymariidae		<i>Notoxoma sigmoides</i> FOISSNER, 1993	Bryophryidae	
<i>Lacrymaria maurea</i> DRAGESCO, 1965	Lacrymariidae		<i>Opercularia archiorbopercularia</i> FOISSNER, 1979	Operculariidae	
<i>Lacrymaria minuta</i> DRAGESCO, 1963	Lacrymariidae		<i>Opercularia venusta</i> FOISSNER, 1979	Operculariidae	
<i>Lacrymaria multinucleata</i> DRAGESCO, 1954	Lacrymariidae		<i>Ophryidium eutrophicum</i> FOISSNER, 1979	Ophryidiidae	
<i>Lacrymaria rotundata</i> DRAGESCO, 1954	Lacrymariidae		<i>Ophryodendron roscoffensis</i> BATISSE & DRAGESCO, 1967	Ophryodendridae	
<i>Lacrymaria trichocystus</i> DRAGESCO, 1954	Lacrymariidae		<i>Ophryoglena catenulopsis</i> DRAGESCO & NJINÉ, 1971	Ophryoglenidae	
<i>Lagynus verrucosa</i> FOISSNER, 1983	Lagynidae		<i>Opisthonecta bivacuolata</i> FOISSNER, 1978	Opisthonectidae	
<i>Lambornella trichoglossa</i> FOISSNER, 2003	Tetrahymenidae		<i>Opisthonecta dubia</i> FOISSNER, 1975	Opisthonectidae	
<i>Laurentia macrostoma</i> DRAGESCO, 1966	Oxytrichidae		<i>Opisthotricha macrostoma</i> DRAGESCO, 1972	Oxytrichidae	
<i>Laurentiella macrostoma</i> DRAGESCO & NJINÉ, 1971	Oxytrichidae		<i>Orbopercularia nodosa</i> FOISSNER, 1979	Operculariidae	
<i>Lembadion bullinum arenicola</i> DRAGESCO, 1960	Lembadionidae		<i>Oxytricha buitkampii</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Oxytrichidae	
<i>Lembadion gabonensis</i> DRAGESCO, 1965	Lembadionidae		<i>Oxytricha enigmatica</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Oxytrichidae	
<i>Lionotus dusarti</i> DRAGESCO, 1960	Litonotidae		<i>Oxytricha granulifera quadricirrata</i> BLATTERER & FOISSNER, 1988	Oxytrichidae	
<i>Lionotus elongatus</i> DRAGESCO, 1957	Litonotidae		<i>Oxytricha longissima</i> DRAGESCO & NJINE, 1971	Oxytrichidae	
<i>Litonotus alpestris</i> FOISSNER, 1978	Litonotidae				
<i>Litonotus caudatus</i> DRAGESCO, 1966	Litonotidae				
<i>Litonotus quadrinucleatus</i> DRAGESCO & NJINÉ, 1971	Litonotidae				
<i>Litonotus uninucleatus</i> FOISSNER, 1978	Litonotidae				

Tab. 4: continued

Taxon	Family	VO	Taxon	Family	VO
<i>Oxytricha minor</i> DRAGESCO, 1966	Oxytrichidae		<i>Prorodon parafricans</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Prorodontidae	
<i>Oxytricha multiseta</i> DRAGESCO, 1966	Oxytrichidae		<i>Prorodon penardi</i> DRAGESCO, 1954	Prorodontidae	
<i>Oxytricha pseudofusiformis</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Oxytrichidae		<i>Prorodon teres lemani</i> DRAGESCO, 1960	Prorodontidae	
<i>Paracondylostoma setigerum</i> FOISSNER, 1980	Bursariidiidae		<i>Prorodon trichocystus</i> DRAGESCO, 1954	Prorodontidae	
<i>Paradileptus canellai</i> DRAGESCO, 1966	Tracheliidae		<i>Prorodon vacuolatus</i> DRAGESCO, 1960	Prorodontidae	
<i>Paradileptus minutus</i> DRAGESCO, 1972	Tracheliidae		<i>Prorodon vermiforme</i> DRAGESCO, 1960	Prorodontidae	
<i>Paraenchelys spiralis</i> FOISSNER, 1983	Pseudoholophryidae		<i>Protoopalina symphysodonis</i> FOISSNER, SCHUBERT & WILBERT, 1979	Opalinidae	
<i>Paramecium jankowskii</i> DRAGESCO, 1972	Parameciidae		<i>Protospathidium vermiforme</i> FOISSNER, AGATHA & BERGER, 2002	Protospathidiidae	
<i>Paramecium pseudotrichium</i> DRAGESCO, 1970	Parameciidae		<i>Pseudochilodonopsis kloiberi</i> FOISSNER, 1979	Chilodonellidae	
<i>Paramecium ugandae</i> DRAGESCO, 1972	Parameciidae		<i>Pseudocyrtolophosis terricola</i> FOISSNER, 1993	Cyrtolophosididae	
<i>Paraspathidium olbiquum</i> DRAGESCO, 1963	Plagiopylidae		<i>Pseudomicrothorax foliformis</i> FOISSNER, 1987	Pseudomicrothoracidae	
<i>Paraurostyla enigmatica</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Kahliellidae		<i>Pseudoprorodon protrichocystus</i> DRAGESCO, 1960	Prorodontidae	
<i>Paruroleptus notabilis</i> FOISSNER, 1982	Urostylidae	VO	<i>Pseudovorticella pseudocampanula</i> FOISSNER, 1979	Vorticellidae	
<i>Pauotricha cyclidiformis</i> DRAGESCO & DRAGESCO-KERNÉIS, 1991	Cyclidiidae		<i>Pseudovorticella quadrata</i> FOISSNER, 1979	Vorticellidae	
<i>Perisincirra interrupta</i> FOISSNER, 1982	Oxytrichidae		<i>Pseudovorticella sauwaldensis</i> FOISSNER & SCHIFFMANN, 1979	Vorticellidae	
<i>Perisincirra viridis</i> FOISSNER, 1982	Oxytrichidae		<i>Remanella caudata</i> DRAGESCO, 1954	Loxodidae	
<i>Peritromus arenicolus</i> DRAGESCO, 1965	Peritromidae		<i>Remanella gigas</i> DRAGESCO, 1954	Loxodidae	
<i>Phialina macrostoma</i> FOISSNER, 1983	Trachelophyllidae		<i>Remanella levii</i> DRAGESCO, 1960	Loxodidae	
<i>Pithites vorax</i> DEROUX & DRAGESCO, 1968	Plesiotrichopidae		<i>Remanella microstoma</i> DRAGESCO, 1954	Loxodidae	
<i>Plagiocampa difficilis</i> FOISSNER, 1981	Plagiocampidae		<i>Remanella minuta</i> DRAGESCO, 1954	Loxodidae	
<i>Plagiocampa terricola</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Plagiocampidae		<i>Remanella swedmarki</i> DRAGESCO, 1954	Loxodidae	
<i>Platyophrya citrina</i> FOISSNER, 1980	Platyophryidae		<i>Remanella trichocystus</i> DRAGESCO, 1954	Loxodidae	
<i>Platyophrya hyalina</i> FOISSNER, 1980	Platyophryidae		<i>Reticulowoodruffia terricola</i> FOISSNER, 1993	Reticulowoodruffiidae	VO
<i>Platyophrya macrostoma</i> FOISSNER, 1980	Platyophryidae		<i>Rhabdostoma roscoffensis</i> DRAGESCO, 1960	Prorodontidae	
<i>Platyophryides magnus</i> FOISSNER, 1993	incertae sedis		<i>Rhabdostyla dubia</i> FOISSNER, 1979	Epistylididae	
<i>Pleuronema arenicola</i> DRAGESCO, 1960	Pleuronematidae		<i>Rostrophrya terricola</i> FOISSNER, 1993	Woodruffiidae	
<i>Pleuronema borrori</i> DRAGESCO, 1968	Pleuronematidae		<i>Songophrya armata</i> FOISSNER, 2003	Myriokaryonidae	
<i>Pleuronema grassei</i> DRAGESCO, 1960	Pleuronematidae		<i>Spathidium binucleatum</i> DRAGESCO, 1966	Spathidiidae	
<i>Pleuronema oculata</i> DRAGESCO, 1960	Pleuronematidae		<i>Spathidium muscorum</i> DRAGESCO & DRAGESCO-KERNÉIS, 1979	Spathidiidae	VO
<i>Pleuronema roscoffensis</i> DRAGESCO, 1968	Pleuronematidae		<i>Spathidium rusticanum</i> FOISSNER, 1981	Spathidiidae	VO
<i>Pleuronema simplex</i> DRAGESCO, 1960	Pleuronematidae		<i>Spathidium tortum</i> FOISSNER, 1980	Spathidiidae	
<i>Pleuronema smalli</i> DRAGESCO, 1968	Pleuronematidae		<i>Sphaerophrya parurolepti</i> FOISSNER, 1980	Podophryidae	
<i>Pleurotricha macrostoma</i> DRAGESCO, 1970	Rigidotrichidae		<i>Steinia simplex</i> DRAGESCO, 1966	Oxytrichidae	
<i>Ponturostyla enigmatica</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Kahliellidae		<i>Stentor araucanus</i> FOISSNER & WÖLFL, 1994	Stentoridae	
<i>Prorodon africanus</i> DRAGESCO, 1970	Prorodontidae		<i>Stentor caudatus</i> DRAGESCO, 1970	Stentoridae	
<i>Prorodon amarus</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Prorodontidae		<i>Stentor pallidus</i> FOISSNER, 1980	Stentoridae	
<i>Prorodon arenarius</i> DRAGESCO, 1954	Prorodontidae		<i>Stereonema geiseri</i> FOISSNER & FOISSNER, 1993	Spirotemidae	
<i>Prorodon binucleatus</i> DRAGESCO, 1965	Prorodontidae		<i>Strombidium arenicola</i> DRAGESCO, 1960	Strombidiidae	
<i>Prorodon bivacuolatus</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Prorodontidae		<i>Strombidium faurei</i> DRAGESCO, 1960	Strombidiidae	
<i>Prorodon cinctum</i> FOISSNER, 1983	Prorodontidae		<i>Strombidium kahli</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Strombidiidae	
<i>Prorodon deflandrei</i> DRAGESCO, 1960	Prorodontidae		<i>Strombidium macronucleatum</i> DRAGESCO, 1960	Strombidiidae	
<i>Prorodon diaphanus</i> DRAGESCO, 1960	Prorodontidae		<i>Strombidium meganucleatum</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Strombidiidae	
<i>Prorodon laurenti</i> DRAGESCO, 1966	Prorodontidae		<i>Strombidium sauerbrayae fourneleti</i> DRAGESCO, 1960	Strombidiidae	
<i>Prorodon lemani</i> DRAGESCO, 1965	Prorodontidae		<i>Strongylidium arenicolus</i> DRAGESCO, 1954	Spirofilidae	
<i>Prorodon meridionalis</i> DRAGESCO, 1966	Prorodontidae				
<i>Prorodon multinucleatus</i> DRAGESCO, 1954	Prorodontidae				
<i>Prorodon nucleolatus magnus</i> DRAGESCO, 1960	Prorodontidae				

Tab. 4: continued

Taxon	Family	VO	Taxon	Family	VO
<i>Strongylidium microstoma</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Spirofilidae		<i>Tracheloraphis remanei</i> DRAGESCO, 1960	Trachelocercidae	
<i>Stylonychia kahli</i> DRAGESCO, 1966	Oxytrichidae		<i>Tracheloraphis swedmarki</i> DRAGESCO, 1960	Trachelocercidae	
<i>Stylonychia ovalis</i> DRAGESCO, 1966	Oxytrichidae		<i>Tracheloraphis teissieri</i> DRAGESCO, 1960	Trachelocercidae	
<i>Tectohymena terricola</i> FOISSNER, 1993	Tectohymenidae		<i>Trachelostyla dubia</i> DRAGESCO, 1954	Trachelostylidae	
<i>Teuthophrys trisulca africana</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Teuthophryidae		<i>Trachelostyla spiralis</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Trachelostylidae	
<i>Tillina gigantea</i> DRAGESCO, 1972	Colpodidae		<i>Trichototaxis aeruginosa</i> FOISSNER, 1980	Pseudourostylidae	
<i>Trachelocerca aragoi</i> DRAGESCO, 1954	Trachelocercidae		<i>Trithigmostoma alpestris</i> FOISSNER, 1979	Chilodonellidae	
<i>Trachelocerca binucleata</i> DRAGESCO, 1960	Trachelocercidae		<i>Trithigmostoma pituitosum</i> FOISSNER, 1979	Chilodonellidae	
<i>Trachelocerca geopetiti</i> DRAGESCO, 1954	Trachelocercidae		<i>Trochilia petrani</i> DRAGESCO, 1966	Trochiliidae	
<i>Trachelocerca gracilis</i> DRAGESCO, 1954	Trachelocercidae		<i>Urosoma acuta</i> DRAGESCO, 1972	Oxytrichidae	
<i>Trachelocerca lacrymariae</i> DRAGESCO, 1954	Trachelocercidae		<i>Urosoma salmastra</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Oxytrichidae	
<i>Trachelocerca minuta</i> DRAGESCO, 1960	Trachelocercidae		<i>Urospinula simplex</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Spirofilidae	
<i>Trachelocerca multinucleata</i> DRAGESCO, 1960	Trachelocercidae		<i>Urostyla chlorelligera</i> FOISSNER, 1980	Urostylidae	
<i>Trachelonema grassei</i> DRAGESCO, 1960	Trachelocercidae		<i>Urostyla latissima</i> DRAGESCO, 1970	Urostylidae	
<i>Trachelonema minima</i> DRAGESCO, 1960	Trachelocercidae		<i>Urotricha armata</i> DRAGESCO, 1960	Urotrichidae	
<i>Trachelophyllum hyalinum</i> FOISSNER, 1983	Trachelophyllidae		<i>Urotricha dragescoi</i> FOISSNER, 1984	Urotrichidae	
<i>Tracheloraphis africanus</i> DRAGESCO, 1965	Trachelocercidae		<i>Urotricha macrostoma</i> FOISSNER, 1983	Urotrichidae	
<i>Tracheloraphis beninensis</i> DRAGESCO & DRAGESCO-KERNÉIS, 1986	Trachelocercidae		<i>Urotricha puytoraci</i> DRAGESCO, IFTODE & FRYD-VERSAVEL, 1974	Urotrichidae	
<i>Tracheloraphis caudatus</i> DRAGESCO & RAIKOV, 1966	Trachelocercidae		<i>Vorticella alpestris</i> FOISSNER, 1979	Vorticellidae	
<i>Tracheloraphis drachi</i> DRAGESCO, 1960	Trachelocercidae		<i>Vorticella hamatella</i> FOISSNER, 1987	Vorticellidae	
<i>Tracheloraphis enigmaticus</i> DRAGESCO, 1960	Trachelocercidae		<i>Vorticella operculariformis</i> FOISSNER, 1979	Vorticellidae	
<i>Tracheloraphis gracilis</i> DRAGESCO, 1960	Trachelocercidae		<i>Wallackia schiffmanni</i> FOISSNER, 1976	Kahliellidae	
<i>Tracheloraphis hyalinum</i> DRAGESCO, 1960	Trachelocercidae		<i>Woodruffia australis</i> FOISSNER, 1993	Woodruffiidae	
<i>Tracheloraphis monocaryon</i> DRAGESCO, 1965	Trachelocercidae		<i>Zoothamnium asellicola</i> FOISSNER, 1987	Zoothamniidae	
<i>Tracheloraphis prenanti</i> DRAGESCO, 1960	Trachelocercidae				

Table 5: The 768 taxa, among them 44 subspecies, represented by onomatophoronts in the collection at Linz embrace 20 nomenclaturally unavailable, 18 subjective synonyms and 730 taxonomically valid nomina. Included is their habitat, category of “type” and number of slide(s) in the present catalogue compared to the data in the list of Aeschl (2001). H – habitat; HA – “hapantotype”; HT – “holotype”; lim – limnic; mar – marine; NT – “neotype”; par – parasitic; ref. – page number in the latter reference; ss – junior subjective synonym; ST – “syntype”; ter – terrestrial; see chapter 8 for further abbreviations.

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Acropisthium mutabile</i>	ter				2	391				2
<i>Actinobolina multinucleata</i>	ter	1				391	1			
<i>Actinobolina smalli</i>	lim				2	396				2
<i>Actinorhabdos trichocystiferus</i>	lim		2			398		2		
<i>Afroamphisiella abdita</i>	ter	1				379	1			
<i>Afroamphisiella multinucleata</i>	ter	1				391	1			
<i>Afrothrix darbyshirei</i>	ter	1				384	1			
<i>Afrothrix multinucleata</i>	ter	1				391	1			
<i>Alinostoma burkli</i>	lim	1				382	1			
<i>Amphileptus piger</i>	ter				25	–				
<i>Amphisiella annulata</i>	mar				5	–				
<i>Amphisiella australis</i>	ter	1				381	1			
<i>Amphisiella binucleata multicirrata</i>	ter	1				382	1			
<i>Amphisiella edaphoni</i>	ter	1				384	1			
<i>Amphisiella elegans</i>	ter	1				385	1			
<i>Amphisiella longiseries</i>	ter	1				389	1			
<i>Amphisiella magnigranulosa</i>	ter	1				390	1			
<i>Amphisiella multinucleata</i>	ter	1				391	1			
<i>Amphisiella namibiensis</i>	ter	1				392	1			
<i>Amphisiella procera</i>	ter	1				394	1			
<i>Amphisiella terricola</i>	ter				2	397				2
<i>Amphisiella vitiphila</i>	ter	1				399	1			
<i>Amphisiellides illuvialis</i>	ter	1				388		4		
<i>Anatolocierrus capari</i>	ter	1				382	1			
<i>Anigsteinia clarissima</i>	mar				3	–				
<i>Anteholosticha adami</i>	ter	1				379	1			
<i>Anteholosticha australis</i>	ter	1				381	1			
<i>Anteholosticha bergeri</i>	ter	1				–				
<i>Anteholosticha brachysticha</i>	ter	1				382	1			
<i>Anteholosticha sigmoidea</i>	ter	1				396	1			
<i>Apertopathula armata</i>	ter	1				380	1			
<i>“Apertopathula cuneata”</i>	ter	1				–				
<i>Apertopathula dioplites</i>	ter	1				384	1			
<i>Apertopathula inermis</i>	ter	1				388	1			
<i>“Apertopathula lajacola”</i>	lim	1				–				
<i>“Apertopathula longiseta”</i>	ter	1				–				
<i>“Apertopathula pelobia”</i>	ter	1				–				
<i>“Apertopathula similis”</i>	ter	1				–				
<i>Apertopathula verruculifera</i>	ter	1				–				
<i>Apoamphisiella tihanyiensis</i>	ter				3	398				3
<i>Apobryophyllum etoschense</i>	ter	1				385	1			
<i>Apobryophyllum terricola</i>	ter		2			397	1			
<i>Apobryophyllum vermiforme</i>	ter	1				399	1			
<i>Apocolpodidium (Apocolpodidium) etoschense</i>	ter	1				385	1			
<i>Apocolpodidium (Phagoon) macrostoma</i>	ter	1				389	1			
<i>Apocyclidium obliquum</i>	ter				6	392				7
<i>Apoenchelys bamforthi</i>	ter	1				381	1			
<i>Apospathidium terricola</i>	ter	1				397	1			
<i>Apourosomoida halophila</i>	ter	1				387	1			
<i>Arcuospathidium australe ss?</i>	ter		1			381	1			

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Arcuopathidium bulli</i>	ter	1				382	1			
<i>Arcuopathidium cooperi</i>	ter	1				383	1			
<i>Arcuopathidium cultriforme</i>	ter				2	384				2
<i>Arcuopathidium cultriforme megastoma</i>	ter	1				384	1			
" <i>Arcuopathidium deforme</i> "	ter	1				–				
<i>Arcuopathidium etoschense</i>	ter	1				385	1			
<i>Arcuopathidium japonicum</i>	ter	1				388	1			
<i>Arcuopathidium lionotiforme</i> ss?	ter				4	389				
<i>Arcuopathidium lorjeae</i>	ter	1				389	2			
<i>Arcuopathidium multinucleatum</i>	ter	1				391	1			
" <i>Arcuopathidium muscorum rhopaloplites</i> "	ter	1				–				
<i>Arcuopathidium namibiense namibiense</i>	ter	1				392	1			
<i>Arcuopathidium namibiense tristicha</i>	ter	1				392	1			
<i>Arcuopathidium novaki</i>	ter	1				392	1			
<i>Arcuopathidium pachyoplites</i>	ter	1				–				
" <i>Arcuopathidium pelobium</i> "	lim	1				–				
<i>Arcuopathidium vermiforme</i>	ter		2			399		2		
<i>Arcuopathidium vlassaki</i>	ter	1				400	1			
" <i>Armatospathula costaricana</i> "	ter	1				–				
" <i>Armatospathula periarmata</i> "	ter	1				–				
" <i>Armatospathula plurinucleata</i> "	ter	1				–				
<i>Ascobius lentus</i>	lim				5	–				
<i>Askenasia acrostomia</i>	lim	1				379	1			
<i>Askenasia chlorelligera</i>	lim		2			383	2			
<i>Askenasia volvox</i>	lim				3	400				2
<i>Aspidisca crenata</i>	mar				1	384				1
<i>Aspidisca turrita</i>	lim				3	399				3
<i>Australocirrus oscitans</i>	ter		2			393		3		
<i>Australocirrus zechmeisterae</i>	ter		2			–				
<i>Australothrix alwinae</i>	ter		2			379		3		
<i>Australothrix australis</i>	ter	1				381	1			
<i>Australothrix steineri</i>	ter	1				397	1			
<i>Avelia multinucleata</i>	mar		2			391		2		
<i>Avestina ludwigi</i>	ter	1				389	1			
<i>Bakuella granulifera</i>	ter	1				387	1			
<i>Bakuella (Bakuella) pampinaria oligocirrata</i>	ter	1				–				
<i>Bakuella (Bakuella) pampinaria pampinaria</i>	ter		2			393		2		
<i>Balanonema sapropelica</i>	lim	1				396	1			
<i>Balantidioides dragescoi</i>	ter		2			384	2			
<i>Bardeliella pulchra</i>	ter		4			395		4		
<i>Belonophrya pelagica</i>	lim				2	394				2
<i>Benthontophrys fluviatilis</i>	lim	1				386	1			
<i>Bicoronella costaricana</i>	ter	1				383	1			
<i>Bilamellophrya australiensis</i>	ter	1				381	1			
<i>Bilamellophrya etoschensis</i>	ter	1				385	1			
<i>Bilamellophrya hawaiiensis</i>	ter	1				387	1			
<i>Birojima muscorum</i>	ter				1	391				1
<i>Blepharisma americanum</i>	lim				5	379				5
<i>Blepharisma bimicronucleatum</i>	ter				2	381				2
<i>Blepharisma hyalinum</i>	ter				2	388				2
<i>Blepharisma parasalinarum</i>	mar	1				393		2		
<i>Blepharisma steini</i>	ter				2	397				2
<i>Blepharisma undulans</i>	ter				2	399				2
<i>Brachyosoma brachypoda mucosa</i>	ter	1				382	1			

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Bresslauides australis</i>	ter	1				381	1			
<i>Bresslauides terricola</i>	ter		2			397	2			
<i>Bryometopus atypicus</i>	lim				2	381				2
<i>Bryometopus hawaiiensis</i>	ter	1				387	1			
<i>Bryometopus pseudochilodon</i>	ter				1	395				1
<i>Bryometopus sphagni</i>	ter				1	396				1
<i>Bursellopsis nigricans mobilis</i>	lim				2	392				2
<i>Bursellopsis pelagica</i>	lim	1				394	1			
<i>Bursostoma bursaria</i>	lim				6	382				6
<i>Cardiostomatella vermiformis</i>	mar				3	–				
<i>Caudiholosticha gracilis</i>	ter	1				387	1			
<i>Caudiholosticha stueberi</i>	ter	1				397	1			
<i>Caudiholosticha sylvatica</i>	ter	1				397	1			
<i>Cephalospathula brasiliensis</i>	ter	1				–				
<i>Chaenea vorax</i>	mar				2	400				2
<i>Chilodonatella minuta</i>	lim				3	390				3
<i>Chilodonella uncinata</i>	lim				1	399				1
<i>Chilodontopsis muscorum</i>	ter				1	391				1
<i>Chilophrya terricola</i>	ter		3			398		3		
<i>Chlamydonella alpestris</i>	lim	1				379	1			
<i>Chlamydonellopsis plurivacuolata</i>	lim	1				394	1			
<i>Ciliatosporidium platyophryae</i>	par		2			400		2		
<i>Ciliofaurea mirabilis</i>	mar				1	–				
<i>Circinella arenicola</i>	ter	1				380	1			
<i>Cladotricha australis</i>	ter	1				381	1			
<i>Clavoplites australiensis</i>	ter	1				381	1			
<i>Clavoplites edaphicus</i>	ter	1				384	1			
<i>Climacostomum virens</i>	lim				2	399				2
<i>Codonella cratera</i>	lim				2	384				2
<i>Codonellopsis glacialis</i>	mar				1	386				1
<i>Coleps amphacanthus</i>	lim				2	379				2
<i>Coleps hirtus</i>	lim				2	388				2
<i>Coleps spetai</i>	lim		2			396		2		
<i>Colpidium colpoda</i>	lim				2	383				2
<i>Colpidium kleini</i>	lim				3	388				3
<i>Colpoda aspera</i>	ter				2	381				2
<i>Colpoda cavicola amiconucleata</i>	ter		3			383	3			
<i>Colpoda cavicola cavicola</i>	ter				2	383				1
<i>Colpoda edaphoni</i>	ter	1				384	1			
<i>Colpoda elliotti</i>	ter				2	385				2
<i>Colpoda fastigata ss?</i>	ter				1	386				1
<i>Colpoda formisanoi</i>	ter	1				386	1			
<i>Colpoda henneguyi</i>	ter				1	387				1
<i>Colpoda inflata</i>	ter				1	388				1
<i>Colpoda magna</i>	lim				1	390				1
<i>Colpoda tripartita</i>	ter				4	399				4
<i>Colpodidium (Pseudocolpodidium) bradburyarum</i>	ter	1				382	1			
<i>Colpodidium (Colpodidium) horribile</i>	ter	1				388	1			
<i>Colpodidium (Colpodidium) microstoma</i>	lim	1				390	1			
<i>Colpodidium (Colpodidium) trichocystiferum</i>	ter	1				398	1			
<i>Condylostoma granulosum</i>	mar				1	387				1
<i>Condylostoma longicaudata</i>	mar		4			389		4		
<i>Condylostomides etoschensis</i>	ter		2			385	2			
<i>Condylostomides terricola</i>	ter	1				398	1			

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Condylostomides trinucleatus</i>	ter	1				399	1			
<i>Coniclostomum monilata</i>	lim				1	–				
<i>Corallocolpoda grelli</i>	ter		2			387	2			
<i>Coriplites terricola</i>	ter		2			–				
<i>Corticocolpoda kaneshiroe</i>	ter		2			388	2			
<i>Cranotheridium foliosum</i>	lim				1	386				1
<i>Cristigera minor</i>	lim				1	390				1
<i>Cryptochilum reniforme</i>	mar		1			395	1			
<i>Cultellothrix coemeterii</i>	ter				3	–				
" <i>Cultellothrix paucistriata</i> "	ter	1				–				
" <i>Cultellothrix tortisticha</i> "	ter	1				–				
" <i>Cultellothrix velhoi</i> "	ter	1				–				
<i>Cymatocylis calyciformis</i>	mar				1	382				1
<i>Cymatocylis convallaria</i>	mar				1	383				2
<i>Cyrtohymena (Cyrtohymenides) australis</i>	ter	1				381	1			
<i>Cyrtohymena (Cyrtohymena) citrina</i>	ter	1				383	1			
<i>Cyrtohymena (Cyrtohymena) inquieta</i>	ter				2	388				2
<i>Cyrtohymena (Cyrtohymena) muscorum</i>	ter				1	391				1
<i>Cyrtohymena (Cyrtohymena) quadrinucleata</i>	ter				2	395				2
<i>Cyrtohymena (Cyrtohymenides) aspoECKi</i>	ter	1				–				
<i>Cyrtolophosis acuta</i>	ter				1	379				1
<i>Cyrtolophosis mucicola</i>	ter				2	391				2
<i>Dapedophrya flexilis</i>	ter				3	386				3
<i>Declivistoma enchelyodontides</i>	ter	1				–				
<i>Deviata abbrevescens</i>	lim	1				379	1			
<i>Deviata bacilliformis</i>	ter				6	381				6
<i>Dexiostoma campylum</i>	lim				3	382				3
<i>Dexiotricha tranquilla</i>	lim				3	398				3
<i>Diaxonella trimarginata</i> ss?	lim				1	–				
<i>Didinium gargantua</i>	mar				1	386				1
<i>Didinium nasutum</i>	lim				1	392				1
<i>Dileptus alpinus</i>	ter				2	379				2
<i>Dileptus anguillula</i>	ter				5	379				5
<i>Dileptus anser</i>	lim				2	380				2
<i>Dileptus armatus</i>	ter	1				380	1			
<i>Dileptus breviproboScis</i> ss?	ter	1				382	1			
<i>Dileptus conspicuus</i>	ter				2	383				2
<i>Dileptus costaricanus</i>	ter	1				384	1			
<i>Dileptus mucronatus</i>	lim				1	391				1
<i>Dileptus polyvacuolatus</i>	ter	1				394	1			
<i>Dileptus similis</i>	ter	1				396	1			
<i>Dileptus terrenus</i>	ter				1	397				
<i>Dimacrocyon amphileptoides</i>	ter				3	379				3
<i>Dioplitophrya otti</i>	ter	1				393	1			
<i>Diplites arenicola</i>	ter	1				380	1			
<i>Diplites telmatobius</i>	lim	1				397	1			
<i>Disematostoma gyrans</i>	lim	1				–				
<i>Dragescozoon terricola</i>	ter	1				398	1			
<i>Drepanomonas exigua bidentata</i>	ter		2			385	2			
<i>Drepanomonas exigua exigua</i>	ter				4	385				4
<i>Drepanomonas pauciciliata</i>	ter	1				393	1			
<i>Drepanomonas revoluta</i>	ter				1	395				2
<i>Drepanomonas sphagni</i>	ter				3	396				3
<i>Dysteria calkinsi</i>	mar				1	–				

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Echinamoeba thermanum</i>	mar		2			400	1			
" <i>Edaphospathula brachycaryon</i> "	ter	1				–				
" <i>Edaphospathula gracilis</i> "	ter	1				–				
" <i>Edaphospathula inermis</i> "	lim	1				–				
" <i>Edaphospathula paradoxa</i> "	ter	1				–				
<i>Enchelaria multinucleata</i>	ter	1				391	1			
<i>Enchelydium blattereri</i>	ter	1				382	1			
<i>Enchelydium piliforme</i>	lim				2	394				2
<i>Enchelydium terrenum</i>	ter	1				397	1			
<i>Enchelyodon anulatus</i>	lim		2			380		2		
<i>Enchelyodon armatides</i>	ter	1				380	1			
<i>Enchelyodon lagenula</i>	ter				1	389				1
<i>Enchelyodon longinucleatus</i>	ter		2			389	2			
<i>Enchelyodon megastoma</i>	ter		2			390	2			
<i>Enchelyodon minutus</i>	lim	1				390	1			
<i>Enchelyodon nodosus</i>	ter		2			392	2			
<i>Enchelyodon terrenus</i>	ter		2			397	2			
<i>Enchelyodon tratzi</i>	ter	1				398	1			
<i>Enchelyodon vermiformis</i>	lim	1				399	1			
<i>Enchelyomorpha vermicularis</i>	lim				2	399				2
<i>Enchelyotricha binucleata</i>	ter	1				381	1			
<i>Enchelyotricha jesnerae</i>	ter	1				388	1			
<i>Enchelys gasterosteus</i>	lim				1	386				3
<i>Enchelys longitricha</i>	ter	1				389	1			
<i>Enchelys multinucleata</i>	ter				1	391				1
<i>Enchelys polynucleata</i>	ter	1				394	1			
<i>Enchelys terricola</i>	ter	1				398	1			
<i>Enchelys vermiformis</i>	ter		2			399	2			
<i>Engelmanniella mobilis</i>	ter				2	391				2
<i>Epicarchesium granulatum</i>	lim				4	387				4
<i>Epispathidium amphoriforme</i>	ter				2	379				2
<i>Epispathidium ascendens</i>	ter				1	380				1
<i>Epispathidium papilliferum</i>	ter				1	393				1
<i>Epispathidium polynucleatum</i>	ter	1				394	1			
<i>Epispathidium regium</i>	ter	1				395	1			
<i>Epispathidium terricola</i>	ter	1				398	1			
<i>Epistylis procumbens</i>	lim				4	394				4
<i>Epitholiolus attenuatus</i>	lim				1	381				1
<i>Epitholiolus chilensis</i>	ter				2	383				2
<i>Erimophrya arenicola</i>	ter	1				380	1			
<i>Erimophrya glatzeli</i>	ter	1				387	1			
<i>Erimophrya quadrinucleata</i>	ter	1				–				
<i>Erimophrya sylvatica</i>	ter	1				–				
<i>Erniella filiformis</i>	ter	1				386	1			
<i>Eschaneustyla brachytoma</i>	ter				2	382	1			
<i>Eschaneustyla lugeri</i>	ter	1				389	1			
<i>Etoschophrya oscillatoriophaga</i>	ter	1				393	1			
<i>Etoschothrix terricola</i>	ter	1				398	1			
<i>Euplotes acanthodus</i>	mar	1				379	1			
<i>Euplotes aediculatus</i>	lim				1	379				1
<i>Euplotes balteatus</i>	mar				1	–				
<i>Euplotoides amieti</i>	lim		4			379		2		
<i>Euplotoides plumipes</i>	ter				2	–				
<i>Euplotopsis elegans</i>	ter				2	–				

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Euplotopsis incisa</i>	ter		2			388	2			
<i>Euplotopsis labiata</i>	ter				2	389				2
<i>Euplotopsis muscorum</i>	ter				1	–				
<i>Exocolpoda augustini</i>	ter		2			381	2			
<i>Flamella aegyptia</i>	par	1				400	1			
<i>Fragmocirrus espeletiae</i>	ter	1				385	1			
<i>Frontonia angusta angusta</i>	lim				3	380				3
<i>Frontonia angusta obovata</i>	ter	1				380	1			
<i>Frontonia depressa</i>	ter				1	384				1
<i>Frontonia frigida</i>	mar		1			386	1			
<i>Frontonia minuta</i>	lim		2			390	1			
<i>Frontonia roqueae</i>	lim		1			–				
<i>Frontonia salmastra</i>	mar	1				396	1			
<i>Frontonia tanganyikae</i>	mar	1				397	1			
<i>Frontonia terricola</i>	ter	1				398	1			
<i>Fungiphrya strobili</i>	ter		2			397	2			
<i>Furgasonia blochmanni</i>	lim				2	382				2
<i>Furgasonia trichocystis</i> ss?	lim				2	398				2
<i>Fuscheria marina</i>	mar		1			390	1			
<i>Fuscheria nodosa</i>	lim				2	392				2
<i>Fuscheria terricola</i>	ter	1				398	1			
<i>Gastronauta aloisi</i>	lim	1				379	1			
<i>Gastronauta derouxi</i>	ter	1				384	1			
<i>Gastronauta membranaceus</i>	lim		2			395		2		
<i>Gastronauta runcina</i>	lim		2			395		2		
<i>Gastrostyla (Gastrostyla) dorsicirrata</i>	ter	1				384	1			
<i>Gastrostyla minima</i> ss?	lim		8			390				8
<i>Gastrostyla (Spetastyla) mystacea mystacea</i>	lim				5	392				5
<i>Geleia decolor</i>	mar				2	384				2
<i>Geleia major</i>	mar				5	390				5
<i>Geleia simplex</i>	mar				2	396				2
<i>Gellertia heterotricha</i>	mar				4	387				4
<i>Gigantothrix herzogi</i>	ter	1				387	1			
<i>Gonostomum affine</i>	ter				1	379				1
<i>Gonostomum algicola</i> ss?	ter				6	379				6
<i>Gonostomum kuehnelti</i>	ter	1				389	1			
<i>Gonostomum namibiense</i>	ter	1				392	1			
<i>Gonostomum strenuum</i>	ter				4	397				4
<i>Grossglockneria acuta</i>	ter		2			379	2			
<i>Grossglockneria ovata</i>	ter		2			393	2			
<i>Gruberia beninensis</i>	mar		3			381	1			
<i>Gruberia uninucleata</i>	mar				2	–				
<i>Gymnozoum sympagicum</i>	mar		1			397	1			
<i>Hackenbergia langae</i>	lim		3			389	1			
<i>Halteria bifurcata</i>	lim				2	381				2
<i>Hausmanniella discoidea</i>	ter				3	384				3
<i>Hausmanniella patella</i>	ter				2	393				2
<i>Hemiamphisiella granulifera</i>	ter	1				–				
<i>Hemiamphisiella quadrinucleata</i>	ter		2			395		2		
<i>Hemiamphisiella wilberti</i>	ter	1				400	1			
<i>Hemimastix amphikineta</i>	ter	1				400	1			
<i>Hemisincirra gellerti gellerti</i>	ter	1				386	1			
<i>Hemisincirra gellerti verrucosa</i>	ter	1				386	1			
<i>Hemisincirra namibiensis</i>	ter	1				392	1			

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Hemisincirra rariseta</i>	ter	1				395	1			
<i>Hemisincirra wenzeli</i>	ter	1				400	1			
<i>Hemiurosoma goertzi</i>	ter	1				387	1			
<i>Hemiurosoma polynucleata</i>	ter		2			394		2		
<i>Hemiurosoma similis</i>	ter	1				396	1			
<i>Hemiurosoma terricola</i>	ter	1				398	1			
<i>Heteropolaria colisarum</i>	par				3	383				3
<i>Heteropolaria lwoffii</i>	par				2	389				2
<i>Heterostentor coeruleus</i>	mar	1				383	1			
<i>Histiculus histrio</i>	lim				4	388				4
<i>Holophrya gracilis</i>	lim				3	387				3
<i>Holophrya oblonga</i>	mar				5	–				
<i>Holophrya ovum</i>	lim				3	393				3
<i>Holophrya salinarum</i>	ter	1				395	1			
<i>Holophrya seyrlii</i>	lim	1				396	1			
<i>Holophrya spirogyrophaga</i>	lim	1				397	1			
<i>Holosticha diademata</i>	mar				1	–				
<i>Holosticha foissneri</i>	mar		1			386	1			
<i>Holosticha multistilata</i> ss?	ter				1	391				1
<i>Holosticha similis</i>	mar				1	396				1
<i>Holosticha spindleri</i>	mar		1			397	1			
<i>Holosticha tetracirrata</i>	ter				1	398				1
<i>Holostichides chardezi</i>	ter	1				383	1			
<i>Holostichides dumonti</i>	ter	1				384	1			
<i>Homalogastra setosa</i>	ter				1	396				1
<i>Homalozoon vermiculare</i>	lim				4	399				4
<i>Idiocolpoda pelobia</i>	lim	1				394	1			
<i>Ilsiella elegans</i>	ter		2			385	2			
<i>Ilsiella venusta</i>	ter		2			399	2			
<i>Kahliella microstoma</i>	lim	1				391	1			
<i>Kahliella quadrinucleata</i>	ter				2	–				
<i>Kahliella simplex</i>	ter				4	396				4
<i>Kalometopia eurystoma</i> ss?	ter				6	385				6
<i>Kentrophyllum antarcticum</i>	mar		1			380	1			
<i>Keronopsis dieckmanni</i>	ter		3			384		3		
<i>Keronopsis muscicola</i>	ter				2	391				2
<i>Keronopsis tasmaniensis</i>	ter	1				397	1			
<i>Keronopsis wetzeli</i>	ter				2	400				2
<i>Kovalevaia sulcata</i>	mar				2	–				
<i>Krassniggia auxiliaris</i>	ter		3			381		3		
<i>Kuehneliella namibiensis</i>	ter	1				392	1			
<i>Lacrymaria granulifera</i>	lim	1				387	1			
<i>Lacrymaria lagenula</i>	mar				1	389				1
<i>Lacrymaria olor</i>	lim				2	393				2
<i>Lacrymaria robusta</i>	lim				2	395				2
<i>Lagynophrya trichocystis</i>	ter		1			399	1			
<i>Lamtostyla decorata</i>	ter	1				384	1			
<i>Lamtostyla granulifera</i>	ter	1				387	1			
<i>Lamtostyla halophila</i>	ter	1				387	1			
<i>Lamtostyla hyalina</i>	ter	1				388	1			
<i>Lamtostyla islandica</i>	ter	1				388	1			
<i>Lamtostyla kirkeniensis</i>	ter	1				388	1			
<i>Lamtostyla perisincirra</i>	ter				2	394				2
<i>Laurentiella bergeri</i>	lim		2			–				

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Leegaardiella elbraechteri</i>	mar		1			384	1			
<i>Leptopharynx costatus</i>	lim				1	384				1
<i>Limnostrombidium pelagicum</i>	lim	1				394	1			1
<i>Limnostrombidium viride</i>	lim				2	399				2
<i>Litonotus antarcticus</i>	mar	1				380	1			
<i>Litonotus emmerichi</i>	mar		1			385	1			
<i>Litonotus kopimorphus</i>	mar		1			389	1			
<i>Litonotus lamella</i>	lim				2	389				2
<i>Litonotus muscorum</i>	ter				2	391				2
<i>Longispatha elegans</i>	ter	1				–				
<i>Loxocephalus foissneri</i>	lim		3			386	1			
<i>Loxodes magnus</i>	lim				2	390				2
<i>Loxodes rex</i>	lim		5			–				
<i>Loxodes striatus</i>	lim				1	397				1
<i>Loxophyllum rostratum</i>	mar				1	395				1
<i>Maristentor dinoferus</i>	mar		2			384	2			
<i>Marituja pelagica</i>	lim				2	394				2
<i>Maryna antarctica</i>	ter		2			380	2			
<i>Maryna namibiensis costaricensis</i>	mar		2			392	2			
<i>Maryna namibiensis namibiensis</i>	mar	1				392	1			
<i>Maryna umbrellata</i>	lim				5	399				5
<i>Membranicola tamari</i>	lim	1				397	1			
<i>Meseres corlissi</i>	lim		2			383	2			
<i>Metacineta namibiensis</i>	ter	1				392	1			
<i>Metacystis striata</i>	mar				2	397				2
<i>Metaurostylopsis rubra</i>	mar	1				395	1			
<i>Metopus contortus</i>	mar				2	383				2
<i>Metopus gibbus</i>	ter				1	386				1
<i>Metopus hasei</i>	ter				1	387				1
<i>Metopus inversus</i>	ter				6	388				6
<i>Metopus ovalis</i>	ter				3	393				3
<i>Metopus ovatus</i> ss?	mar		4			–				
<i>Metopus palaeformis</i>	ter				3	393				3
<i>Microdiaphanosoma arcuatum</i>	ter				2	380				2
<i>Microthorax pusillus</i>	lim				4	395				4
<i>Monilicaryon monilatus</i>	lim				4	391				4
<i>Monocercomonoides hausmanni</i>	par		2			–				
<i>Monodinium balbianii balbianii</i>	lim				1	381				1
<i>Monodinium balbianii breviprobois</i>	lim	1				381	1			
<i>Monodinium chlorelligerum</i>	lim	1				383	1			
<i>Myxophthirus anomalocardiae</i>	par	1				380	1			
<i>Nassula dragescoi</i>	ter	1				384	1			
<i>Nassula etoschensis</i>	ter	1				385	1			
<i>Nassula exigua</i>	ter				3	386				3
<i>Nassula granata</i>	ter	1				387	1			
<i>Nassula longinassa</i>	lim				2	389				2
<i>Nassula ornata</i>	lim				2	393				2
<i>Nassula parva</i>	ter				3	393				3
<i>Nassula terricola</i>	ter		2			398	2			
<i>Nassulides labiatus</i>	ter				4	389				4
<i>Nassulides vernalis</i>	lim				2	399				2
<i>Naxella lucida</i>	ter				4	389				4
<i>Naxella rosea</i>	ter				3	395				3
<i>Neobryophyllum lingua multistriatum</i>	lim	1				389	1			

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Neobryophyllum paucistriatum</i>	ter	1				384	1			
<i>Neobryophyllum penardi</i>	ter				4	394				3
<i>Neogeneia hortualis</i>	ter			1		388	1			
<i>Nephridiophaga blaberi</i>	par			2		400	1			
<i>Nivaliella plana</i>	ter	1				394	1			
<i>Notocephalus parvulus</i>	mar				1	393				1
<i>Notohymena antarctica</i>	ter	1				380	1			
<i>Notohymena rubescens</i>	ter	1				395	1			
<i>Nudiamphisiella interrupta</i>	ter	1				388	1			
<i>Obertruria georgiana</i>	lim				2	386				2
<i>Obertruria gracilis</i>	lim		3			387		3		
<i>Obertruria kahli</i>	ter	1				388	1			
<i>Obertruria xantha</i>	lim	1				–				
<i>Obliquostoma namibiense</i>	ter	1				392	1			
<i>Odontochlamys alpestris alpestris</i>	ter		3			379		3		
<i>Odontochlamys alpestris biciliata</i>	ter	1				379	1			
<i>Odontochlamys gouraudi</i>	ter				3	387				3
<i>Odontochlamys wisconsinensis</i>	ter				1	400				1
<i>Onychodromopsis flexilis</i> ss?	ter				4	386				4
<i>Opercularia arboricola</i> ss?	ter				1	380				1
<i>Ophrydium hyalinum</i>	lim				7	388				7
<i>Opisthonecta minima</i>	lim		5			390		5		
<i>Opisthonecta patula</i> ss?	lim		37			393		37		
<i>Orthoamphisiella breviseries</i>	ter	1				382	1			
<i>Orthoamphisiella grelli</i>	ter	1				387		8		
<i>Orthoamphisiella stramenticola</i>	ter		1			397	1			
<i>Orthokreyella schiffmanni</i>	ter	1				396	1			
<i>Ottowphrya dragescoi</i>	ter	1				384	1			
<i>Ovalorhabdos sapropelica</i>	lim		3			396		3		
<i>Oxytricha africana</i>	ter	1				379	1			
<i>Oxytricha auripunctata</i>	ter	1				381	1			
<i>Oxytricha elegans</i>	ter	1				385	1			
<i>Oxytricha granulifera quadricirrata</i>	ter	1				387	1			
<i>Oxytricha lanceolata</i>	ter				2	389				2
<i>Oxytricha nauplia</i>	ter	1				392	1			
<i>Oxytricha opisthomuscorum</i>	ter				1	393				1
<i>Oxytricha rubripuncta</i>	ter	1				395	1			
<i>Papillorhabdos carchesii</i>	lim	1				382	1			
<i>Papillorhabdos multinucleata</i>	lim	1				391	1			
<i>Parabryophrya etoschensis</i>	ter	1				385	1			
<i>Paraclathrostoma gigas</i>	mar		4			386		4		
<i>Paracolpidium truncatum</i>	lim				3	399				3
<i>Paracondylostoma clavistoma oligostriatum</i>	ter	1				383	1			
<i>Paraenchelys brachyarmata</i>	ter	1				382	1			
<i>Paraenchelys brachyoplites</i>	ter	1				382	1			
<i>Paraenchelys pulchra</i>	ter	1				395	1			
<i>Paraenchelys terricola</i>	ter	1				398	1			
<i>Paraenchelys wenzeli</i>	ter		3			400		3		
<i>Parafurgasonia protectissima</i>	lim				4	395				4
<i>Parafurgasonia sores</i>	ter				2	396				2
<i>Parafurgasonia terricola</i>	ter	1				398	1			
<i>Paragastrostyla terricola</i>	ter	1				398	1			
<i>Paragonostomum binucleatum</i>	ter	1				382	1			
<i>Paragonostomum caudatum</i>	ter	1				383	1			

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Paragonostomum multinucleatum</i>	ter	1				391	1			
<i>Paragonostomum rarisetum</i>	ter	1				395	1			
<i>Paragonostomum simplex</i>	ter	1				–				
<i>Paraholosticha sterkii</i>	mar				1	397				3
<i>Parakahliella binucleata</i>	ter		2			382	2			
<i>Parakahliella halophila</i>	ter	1				387	1			
<i>Parakahliella macrostoma</i>	ter	1				390	1			
<i>Parakahliella namibicola</i>	ter	1				392	1			
<i>Paramecium africanum</i>	lim		2			–				
<i>Paramphisiella acuta</i>	ter	1				379	1			
<i>Paramphisiella caudata</i>	ter				1	383				7
<i>Paraurostyla weissei</i>	lim				2	400				2
<i>Paraurottricha discolor</i>	ter				1	384				1
<i>Parduczia arcachonensis</i>	lim				4	380				4
<i>Parduczia filiformis</i>	mar				3	386				3
<i>Parduczia martinicensis</i>	mar				5	–				
<i>Parduczia orbis</i>	mar				1	393				1
<i>Parentocirrus hortualis</i>	lim		3			388			3	
<i>Pattersoniella vitiphila</i>	ter	1				399	1			
<i>Pedohymena australiensis</i>	ter		3			381	3			
<i>Pelagolacrymaria moserae</i>	lim	1				391	1			
<i>Pelagostrombidium fallax</i>	lim				3	386				3
<i>Pelagostrombidium mirabile</i>	lim				2	391				2
<i>Pelagothrix chlorelligera</i>	lim	1				383	1			
<i>Pelagothrix plancticola</i>	lim		5			394		5		
<i>Pelagovasicola cinctum</i>	lim				2	383				2
<i>Pentahymena corticicola</i>	ter	1				383	1			
<i>Periholosticha paucicirrata</i>	ter	1				–				
<i>Periholosticha sylvatica</i>	ter	1				–				
<i>Perisincirra filiformis</i>	ter	1				–				
<i>Perisincirra longicirrata</i>	ter	1				389	1			
<i>Perisincirra paucicirrata</i>	lim	1				393	1			
<i>Perispira pyriformis</i>	lim		2			395		2		
<i>Phialina jankowskii</i>	lim		2			388	2			
<i>Phialina minima</i>	ter				3	390				3
<i>Phialina terricola</i>	ter	1				398	1			
<i>Phialinides armatus</i>	ter	1				380	1			
<i>Phialinides australis</i>	ter	1				381	1			
<i>Phialinides muscicola</i>	ter				4	–				
<i>Philasterides dicentrarchi</i> ss?	lim		1			–				
<i>Placojoenia sinaica</i>	par		2			400	1			
<i>Plagiocampa bitricha</i>	ter	1				382	2			
<i>Plagiocampa namibiensis</i>	ter	1				392	1			
<i>Plagiocampa pentadactyla</i>	ter	1				394	1			
<i>Plagiocampa rouxi</i>	ter				1	395				1
<i>Plagiocampides halophilus</i>	ter	1				387	1			
<i>Planicoleps psammophilus</i>	mar		3			–				
<i>Platynematum sociale</i>	lim				2	396				2
<i>Platyophrya binucleata</i>	ter	1				382	1			
<i>Platyophrya dubia</i>	lim		2			384				4
<i>Platyophrya paoletti</i>	ter		2			393	2			
<i>Platyophrya similis</i>	ter		3			396		3		
<i>Platyophrya sphagni</i>	lim				6	396				6
<i>Platyophrya spumacola hexasticha</i>	ter	1				397	1			

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Platyophrya spumacola spumacola</i>	ter				1	397				1
<i>Platyophrya terricola</i>	ter	1				398	1			
<i>Platyophryides latus</i>	ter				4	389				4
<i>Plesiocaryon terricola</i>	ter		2			398	2			
<i>Pleuronema salmastra</i>	mar	1				396	1			
<i>Pleuropplites australis</i>	ter	1				381	1			
<i>Pleuropplitoides smithi</i>	ter		3			396	2			
<i>Pleurotricha multinucleata</i>	ter		1			–				
<i>Pleurotricha tchadensis</i> ss?	lim	1				–				
<i>Podophrya bivacuolata</i>	ter	1				–				
<i>Podophrya halophila</i>	ter				1	387				1
<i>Podophrya tristriata</i>	ter	1				399	1			
<i>Prorodon arenicola</i>	mar				2	–				
<i>Prorodon armatides</i>	lim		3			380		3		
<i>Prorodon ovalis</i>	lim		3			–				
<i>Protocyclidium muscicola</i>	lim				2	391				1
<i>Protocyclidium terricola</i>	ter				7	398				7
" <i>Protospathidium arenicola</i> "	ter	1				–				
<i>Protospathidium fraterculum fraterculum</i>	ter	1				–				
<i>Protospathidium muscicola</i>	ter		1			–				
<i>Protospathidium namibicola</i>	ter	1				392	1			
<i>Protospathidium serpens</i>	ter				3	–				
<i>Protospathidium terricola</i>	ter	1				398	1			
" <i>Protospathidium vermiculus</i> "	par				4	–				
<i>Pseudawerintzewia orbistoma</i>	ter	1				400	1			
<i>Pseudoamphileptus macrostoma</i>	par				1	390				1
<i>Pseudocarchesium claudicans</i>	ter				4	383				4
<i>Pseudochilodonopsis algivora</i>	lim				1	379				1
<i>Pseudochilodonopsis caudata</i>	lim				1	–				
<i>Pseudochilodonopsis fluviatilis</i>	lim	1				386	1			
<i>Pseudochilodonopsis mutabilis</i>	ter	1				391	1			
<i>Pseudochilodonopsis polyvacuolata</i>	lim		2			394	2			
<i>Pseudocohnilembus binucleatus</i>	ter	1				382	1			
<i>Pseudocohnilembus persalinus hexakineta</i>	ter	1				394	1			
<i>Pseudocohnilembus putrinus</i>	ter				2	395				2
<i>Pseudocyrtolophosis alpestris</i>	ter	1				379	1			
<i>Pseudohaplocaulus infravacuolatus</i>	lim		2			388	2			
<i>Pseudoholophrya minuta</i>	lim	1				390	1			
<i>Pseudoholophrya terricola</i>	ter	1				398	1			
<i>Pseudokeronopsis carnea</i>	mar				2	382				2
<i>Pseudokeronopsis flava</i>	mar				2	386				2
<i>Pseudokeronopsis rubra</i>	mar				2	395				2
<i>Pseudokeronopsis trisenestra</i>	lim		2			399	1			
<i>Pseudokreyella etoschensis</i>	ter	1				385	1			
<i>Pseudomonilicaryon angustistoma</i>	ter	1				380	1			
<i>Pseudomonilicaryon gracile</i>	ter				2	387				3
<i>Pseudomonilicaryon japonicum</i>	ter	1				388	1			
<i>Pseudomonilicaryon massutii</i>	ter				5	390				5
<i>Pseudoplatyophrya nana</i>	ter				3	392				2
<i>Pseudoplatyophrya saltans</i>	ter		2			396	2			
<i>Pseudouroleptus buitkampii</i>	ter	1				382	1			
<i>Pseudouroleptus caudatus namibiensis</i>	ter	1				383	1			
<i>Pseudouroleptus procerus</i>	ter	1				394	1			
<i>Pseudourostyla cristata</i>	lim				1	–				

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Pseudourostyla franzi</i>	ter	1				386	1			
<i>Pseudourostyla levis</i>	ter				2	–				
<i>Pseudovorticella elongata</i>	lim				4	385				4
<i>Pseudovorticella margaritata chlorelligera</i> ss?	lim				4	390				4
<i>Pseudovorticella sphagni</i>	ter		14			396		13		
<i>Remanella faurei</i>	mar				1	–				
<i>Remanella multinucleata</i>	mar				2	–				
<i>Remanella rugosa</i>	mar				1	–				
<i>Rhabdoaskenasia minima</i>	lim	1				390	1			
<i>Rigidocortex octonucleatus</i>	ter	1				392	1			
<i>Rigidothrix goiseri</i>	ter	1				–				
<i>Rimostrombidium brachykinetum</i>	lim	1				–				
<i>Rimostrombidium glacialium</i>	mar		1			386	1			
<i>Rimostrombidium humile</i>	ter				2	388				2
<i>Rostrophrya namibiensis maldivensis</i>	ter	1				392	1			
<i>Rostrophryides africana africana</i>	ter	1				379	1			
<i>Rostrophryides africana etoschensis</i>	ter	1				379	1			
<i>Rostrophryides australis</i>	ter	1				381	1			
<i>Rubrioxxytricha haematoplasma</i>	lim	1				387	1			
<i>Sagittaria hyalina</i>	ter				2	388				2
<i>Sathrophilus arenicolus</i>	mar	1				380	1			
<i>Sathrophilus hovassei</i>	lim				2	388				2
<i>Sathrophilus muscorum</i>	ter				1	391				1
<i>Saudithrix terricola</i>	ter	1				–				
<i>Schizocalyptra magna</i>	ter		2			390		2		
<i>Semiplatyophrya acrostoma</i>	ter	1				379	1			
<i>Semiplatyophrya foissneri</i>	ter		2			386		2		
<i>Semispathidium armatum</i>	ter	1				380	1			
<i>Semispathidium enchelyodontides</i>	ter	1				385	1			
<i>Semispathidium lagyniforme</i>	ter				1	389				1
<i>Sikorops espeletiae</i>	ter	1				385	1			
<i>Sikorops minor</i>	ter	1				390	1			
<i>Sikorops namibiensis</i>	ter	1				392	1			
<i>Sikorops woronowiczae</i>	ter	1				400	1			
<i>Siroloxophyllum utricularium</i>	lim				2	399	1			
<i>Sorogena stoianovitchae</i>	ter				6	397				6
<i>Spathidium aciculare</i>	ter	1				379	1			
<i>Spathidium anguilla</i>	ter				1	379				1
<i>Spathidium claviforme</i>	ter				3	383				3
<i>Spathidium contractile</i>	ter	1				383	1			
<i>Spathidium deforme</i>	lim				2	384				2
<i>Spathidium etoschense</i>	ter	1				385	1			
<i>Spathidium lanceoplites</i>	ter	1				389	1			
<i>Spathidium namibicola</i>	ter	1				392	1			
<i>Spathidium procerum</i>	ter				1	394				1
<i>Spathidium seppelti etoschense</i>	ter	1				396	1			
<i>Spathidium seppelti seppelti</i>	ter		1			396	1			
<i>Spathidium spathula</i>	ter				2	396				3
<i>Spathidium turgitorum</i>	ter	1				399	1			
<i>Spetazon australiense</i>	ter	1				381	1			
<i>Sphaerophrya terricola</i>	ter	1				398	1			
<i>Sphenostomella vernalis</i>	mar	1				399	1			
<i>Spiromonas gonderi</i>	ter	1				400	1			
<i>Spironema terricola</i>	ter	1				400	1			

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Spirostomum minus minus</i>	lim				3	390				3
<i>Spirostomum minus viride</i>	lim	1				390	1			
<i>Spirostomum teres</i>	lim				2	397				2
<i>Spirostrombidium pseudocinctum</i>	mar				1	395				1
<i>Spirotrichonympha minor</i>	par	1				400	1			
<i>Stammeridium kahli</i>	ter				1	388				1
<i>Steinia sphagnicola</i>	lim	1				397	1			
<i>Steinia tetracirrata</i>	ter				1	398				1
<i>Stentor fuliginosus</i>	lim				3	386				3
<i>Stentor multimicronucleatus</i>	mar		3			391	1			
<i>Sterkiella cavicola</i>	ter				4	383				4
<i>Sterkiella histriomuscorum</i>	lim				2	391				1
<i>Sterkiella nova</i>	lim		8			392	1			
<i>Sterkiella thompsoni</i>	ter	1				398	1			
<i>Stokesia vernalis</i>	lim				2	399				2
<i>Strobilidium caudatum</i>	lim				2	383				2
<i>Strombidium antarcticum</i>	mar				1	380				1
<i>Strombidium crassulum</i>	mar				1	384				1
<i>Strombidium emergens</i>	mar				1	385				1
<i>Strombidium glaciale</i>	mar	1				386	1			
<i>Strombidium kryalis</i>	mar	1				389	1			
<i>Strombidium rehwaldi</i>	lim		2			395	2			
<i>Strongylidium muscorum ss?</i>	ter		1			391				1
<i>Stylonychia ammermanni</i>	lim	1				379	1			
<i>Stylonychia harbinensis</i>	lim	1				–				
<i>Stylonychia vorax ss?</i>	ter				2	400				2
<i>Styxophrya quadricornuta</i>	lim	1				395	1			
<i>Supraspathidium armatum</i>	ter	1				380	1			
<i>Supraspathidium etoschense</i>	ter	1				385	1			
<i>Supraspathidium multistriatum</i>	lim		2			391		2		
<i>Swedmarkia arenicola</i>	mar		1			380	1			
<i>Tachysoma granuliferum</i>	ter	1				387	1			
<i>Tachysoma humicola humicola</i>	ter				1	388				1
<i>Tachysoma humicola longisetum</i>	ter		2			388	1			
<i>Tachysoma pellionellum</i>	lim				1	394				1
<i>Telotrochidium cylindricum</i>	lim		2			384	1			
<i>Telotrochidium elongatum</i>	lim		58			385		58		
<i>Telotrochidium matiense</i>	lim		2			–				
<i>Terricirra livida</i>	ter	1				389	1			
<i>Tetmemena pustulata</i>	lim				3	395				1
<i>Tetrahymena edaphoni</i>	ter	1				384	1			
<i>Thigmogaster oppositovacuolatus</i>	lim		2			393	2			
<i>Thigmogaster potamophilus</i>	lim	1				394	1			
<i>Thigmokeronopsis antarctica</i>	mar	1				380	1			
<i>Thigmokeronopsis crystallis</i>	mar	1				384	1			
<i>Thylakidium pituitosum</i>	lim		2			394	2			
<i>Tintinnidium pusillum</i>	lim				2	395				2
<i>Tintinnidium (Semitintinnidium) semiciliatum</i>	lim				2	396				2
<i>Tintinnopsis cylindrata</i>	lim				1	384				2
<i>Tontonia antarctica</i>	mar		1			380	1			
<i>Trachelius ovum</i>	lim				4	393				2
<i>Trachelocerca bodiani</i>	mar				2	382		2		
<i>Trachelocerca ditis</i>	mar				2	–				
<i>Trachelocerca incaudata</i>	mar				2	–				

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Trachelocerca sagitta</i>	mar				2	395				2
<i>Trachelocerca stephani</i>	mar				2	397		2		
<i>Trachelolophos binucleatus</i>	mar		5			382		5		
<i>Trachelolophos filum</i>	mar				1	–				
<i>Trachelolophos gigas</i>	mar	1				386	1			
<i>Trachelolophos schulzei</i>	mar				2	396				2
<i>Trachelolophos setensis</i>	mar		2			396	1			
<i>Trachelophyllum africanum</i>	ter	1				379	1			
<i>Trachelophyllum apiculatum</i>	ter				2	380				2
<i>Trachelophyllum costaricanum</i>	ter	1				384	1			
<i>Trachelophyllum pannonicum</i>	ter	1				393	1			
<i>Tracheloraphis exilis</i>	mar	1				386	1			
<i>Tracheloraphis filiformis</i>	mar	1				386	1			
<i>Tracheloraphis flexuosa</i>	mar				2	–				
<i>Tracheloraphis grisea</i>	mar				2	–				
<i>Tracheloraphis hamata</i>	mar				2	–				
<i>Tracheloraphis longicollis</i>	mar				2	389				2
<i>Tracheloraphis phoenicopterus</i>	mar				2	394				2
<i>Tracheloraphis serrata</i>	mar				2	396				2
<i>Trichocovina hrđyi</i>	par	1				–				
<i>Tricornella pulchra</i>	ter	1				395	1			
<i>Trihymena terricola</i>	ter		3			398	3			
<i>Trithigmostoma srameki</i>	lim				2	397				2
<i>Trithigmostoma steini</i>	lim				4	397				4
<i>Trochilopsis australis</i>	lim		2			381	2			
<i>Urliella terricola</i>	ter	1				398	1			
<i>Uroleptopsis (Uroleptopsis) citrina</i>	ter				6	–				
<i>Uroleptus caudatus</i>	lim				3	–				
<i>Uroleptus musculus</i>	lim				1	391				2
<i>Uroleptus paranotabilis</i>	ter	1				393	1			
<i>Uronema paramarinum</i>	mar		1			393	1			
<i>Uronema parduczi</i>	lim		3			393		39		
<i>Uronychia transfuga</i>	mar				1	398				1
<i>Urosoma ambigua</i> ss?	mar	1				–				
<i>Urosoma giganteum</i>	lim				5	386				5
<i>Urosoma karinae</i>	ter	1				388	1			
<i>Urosoma macrostyla</i>	ter				1	390				1
<i>Urosomoida antarctica</i>	ter	1				380	1			
<i>Urosomoida deserticola</i>	ter	1				384	1			
<i>Urosomoida dorsiincisura</i>	ter	1				384	1			
<i>Urosomoida granulifera</i>	ter	1				387	1			
<i>Urosomoida monostyla</i>	ter	1				391	1			
<i>Urosomoida namibiensis</i>	ter	1				392	1			
<i>Urosomoida reticulata</i>	ter	1				395	1			
<i>Urotricha castalia</i>	lim				8	382				8
<i>Urotricha furcata</i>	lim				2	386				2
<i>Urotricha matthesi matthesi</i>	lim	1				390	1			
<i>Urotricha matthesi tristicha</i>	lim		4			390	1			
<i>Urotricha pelagica</i>	lim				8	394				8
<i>Urotricha psenneri</i>	lim	1				–				
<i>Urotricha pseudofurcata</i>	lim		2			395		2		
<i>Urotricha ristoï</i>	lim		2			395		2		
<i>Urotricha simonsbergeri</i>	lim	1				396	2			
<i>Urotricha synuraphaga</i>	lim				2	397				2

Tab. 5: continued

Species	H	HP	SP	HA	NP	ref.	HT	ST	HA	NT
<i>Urotricha venatrix</i>	lim				4	399				4
<i>Vermioxytricha arenicola</i>	ter	1				380	1			
<i>Vorticella astyliformis</i>	ter	1				381	1			
<i>Vorticella chlorellata</i>	lim				4	383				4
<i>Vorticella chlorostigma</i>	lim				4	383				4
<i>Vorticella platysoma</i>	lim				3	394				3
<i>Vorticella sepulcreti</i>	lim		5			396		5		
<i>Vorticella similis</i>	ter				1	396				1
<i>Vorticella vernalis</i>	lim				3	399				3
<i>Wallackia elegans</i>	ter	1				385	1			
<i>Wolfskosa loeffleri</i>	mar		2			389	2			
<i>Woodruffia rostrata</i>	ter				2	395				2
<i>Woodruffides metabolicus</i>	ter				3	390				3
<i>Woodruffides terricola</i>	ter				3	398				3
<i>Zoothamnioides femoralis</i>	lim		6			–				
<i>Zosterodasys kryophilus</i>	mar	1				389	1			
Sum of slides		350	405	3	707		421	266	3	567
Total amount of slides			1465					1284		
Number of taxa			768					669		

Table 6: List of 191 “type” species (nucleospecies) of the respective genus or subgenus represented in the Linz collection. Genera in brackets are recently synonymised. The reference refers to the establishment of the genus, for original or subsequent designation see AESCHT (2001) and BERGER & AL-RHASHEID (this volume).

Genus	Reference	Protonym
<i>Acropisthium</i> PERTY, 1852	Kenntn. klein. Lebensformen: 149	<i>A. mutabile</i>
<i>Actinorhabdos</i> FOISSNER, 1984	Stapfia 12 : 47	<i>A. trichocystiferus</i>
<i>Afroamphisiella</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 698	<i>A. multinucleata</i>
<i>Afrothrix</i> FOISSNER, 1999	Biodiversity & Conservation 8 : 376	<i>A. darbyshirei</i>
<i>Anatoliocirrus</i> ÖZBEK & FOISSNER IN FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 615	<i>A. capari</i>
(<i>Anictostoma</i> FOISSNER, 1993)	Protozoenfauna 4/1 : 310	<i>A. grelli</i>
<i>Apertospathula</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 318	<i>A. inermis</i>
<i>Apoamphisiella</i> FOISSNER, 1997	Biol. Fertil. Soils 25 : 335	<i>Onychodromopsis tihanyiensis</i>
<i>Apobryophyllum</i> FOISSNER, 1998	Europ. J. Protistol. 34 : 220	<i>A. terricola</i>
<i>Apocolpodidium</i> (<i>Apocolpodidium</i>) FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 492	<i>A. (A.) etoschense</i>
<i>Apocolpodidium</i> (<i>Phagoon</i>) FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 497	<i>A. (P.) macrostoma</i>
<i>Apocyclidium</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 518	<i>Cyclidium obliquum</i>
<i>Apoenchelys</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 112	<i>A. bamforthi</i>
<i>Apospathidium</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 334	<i>A. terricola</i>
<i>Apourosomoida</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 759	<i>A. halophila</i>
<i>Apsiktrata</i> FOISSNER, BERGER & KOHMANN, 1994	Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 1/94 : 319	<i>Holophrya gracilis</i>
<i>Arcuospathidium</i> FOISSNER, 1984	Stapfia 12 : 74	<i>Spathidium cultriforme</i>
“ <i>Armatospathula</i> ” FOISSNER & XU, 2007	Monogr. Biologicae 81 : 308	<i>A. costaricana</i>
<i>Ascobius</i> HENNEGUY, 1884	Archs Zool. exp. gén. 2 : 412	<i>A. lentus</i>
<i>Askenasia</i> BLOCHMANN, 1895	Mikr. Thierwelt: 91	<i>Trichodina volvox</i>
<i>Australocirrus</i> BLATTERER & FOISSNER, 1988	Stapfia 17 : 65	<i>A. oscitans</i>
<i>Australothrix</i> BLATTERER & FOISSNER, 1988	Stapfia 17 : 38	<i>A. australis</i>
<i>Bardeliella</i> FOISSNER, 1984	Stapfia 12 : 104	<i>B. pulchra</i>
<i>Belonophrya</i> ANDRÉ, 1914	Revue suisse Zool. 22 : 182	<i>B. pelagica</i>
<i>Benthontophrys</i> FOISSNER & GSCHWIND, 1998	Ber. naturw.-med. Ver. Salzburg 12 : 35	<i>B. fluviatilis</i>
<i>Bicoronella</i> FOISSNER, 1995	Arch. Protistenk. 145 : 63	<i>B. costaricana</i>
<i>Bilamelophrya</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 170	<i>B. australiensis</i>
<i>Bresslauides</i> BLATTERER & FOISSNER, 1988	Stapfia 17 : 19	<i>B. australis</i>

Tab. 6: continued

Genus	Reference	Protonym
<i>Bryometopus</i> KAHL, 1932	Tierwelt Dtl. 25 : 433	<i>B. pseudochilodon</i>
<i>Bursostoma</i> VÖRÖSVARY, 1950	Annls biol. Univ. szeged 1 : 366	<i>B. bursaria</i>
<i>Cardiostomatella</i> CORLISS, 1960	J. Protozool. 7 : 274	<i>Cardiostoma vermiforme</i>
<i>Caudiholosticha</i> BERGER, 2003	Europ. J. Protistol. 39 : 377	<i>Holosticha stueberi</i>
<i>Cephalospatula</i> FOISSNER, 2003	Acta Protozool. 42 : 128	<i>C. brasiliensis</i>
<i>Chaenea</i> QUENNERSTEDT, 1867	Acta Univ. lund. 4 : 15	<i>C. vorax</i>
<i>Chilodonatella</i> DRAGESCO, 1966	Arch. Protistenk. 109 : 191	<i>C. minuta</i>
<i>Chilodonella</i> STRAND, 1928	Arch. Naturgesch. 92 : 31	<i>Chilodon uncinatus</i>
<i>Chlamydonellopsis</i> BLATTERER & FOISSNER, 1990	Arch. Protistenk. 138 : 94	<i>C. plurivacuolata</i>
<i>Circinella</i> FOISSNER, 1994	Europ. J. Protistol. 30 : 156	<i>C. arenicola</i>
<i>Clavoplites</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 212	<i>C. edaphicus</i>
<i>Climacostomum</i> STEIN, 1859	Org. Infusionsthier: 55	<i>Spirostomum virens</i>
<i>Coleps</i> NITZSCH, 1827	Gleditsch Verl., Leipzig 16 : 69	<i>Cercaria hirta</i>
<i>Colpidium</i> STEIN, 1860 and subgenus <i>Colpodidium</i>	Sber. K. böhm. Ges. Wiss. 1860 : 47	<i>Paramaecia kolpoda</i>
<i>Colpodidium</i> (<i>Pseudocolpodidium</i>) FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 488	<i>C. (P.) bradburyarum</i>
<i>Coniculostomum</i> NJINE, 1979	Protistologica 15 : 353	<i>Laurentia monilata</i>
<i>Coriplites</i> FOISSNER, 1988	Stapfia 17 : 93	<i>C. terricola</i>
<i>Corticocolpoda</i> FOISSNER, 1993	J. Euk. Microbiol. 40 : 765	<i>C. kaneshiroae</i>
" <i>Cultellothrix</i> " FOISSNER, 2003	Acta Protozool. 42 : 48	<i>C. velhoi</i>
<i>Cyrtohymena</i> FOISSNER, 1989 and subgenus <i>Cyrtohymena</i>	Sber. Akad. Wiss. Wien, Math.-Naturwiss. Kl., I. Abt. 196 : 238	<i>Oxytricha</i> (<i>Steinia</i>) <i>muscorum</i>
<i>Cyrtohymena</i> (<i>Cyrtohymenides</i>) FOISSNER, 2004	Denisia 13 : 372	<i>C. (Cyrtohymenides) aspoeki</i>
<i>Cyrtolophosis</i> STOKES, 1885	Am. Nat. 19 : 440	<i>C. mucicola</i>
<i>Dapedophrya</i> FOISSNER, 1995	Arch. Protistenk. 145 : 73	<i>Glaucoma flexilis</i>
<i>Declivistoma</i> FOISSNER, AGATHA & BERGER in BERGER & AL-RHASHEID, 2008	this volume	<i>Obliquostoma enchelyodontides</i>
<i>Deviata</i> EIGNER, 1995	Europ. J. Protistol. 31 : 341	<i>D. abbrevescens</i>
<i>Dexiostoma</i> JANKOWSKI, 1967	Zool. Zh. 46 : 18	<i>Colpidium campylum</i>
<i>Diaxonella</i> JANKOWSKI, 1979	Trudy zool. Inst. 86 : 83	<i>D. trimarginata</i>
<i>Didinium</i> STEIN, 1859	Lotos 9 : 5	<i>Vorticella nasuta</i>
<i>Dileptus</i> DUJARDIN, 1841	Histoire naturelle des zoophytes: 404	<i>Vibrio anser</i>
<i>Dimacrocaryon</i> JANKOWSKI, 1967	Akad. Sci. Moldav. SSR, Kishinev: 36	<i>Dileptus amphileptoides</i>
<i>Dioplitophrya</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 199	<i>D. otti</i>
<i>Diplites</i> FOISSNER, 1998	Quekett J. Microsc. 38 : 207	<i>D. telmatobius</i>
<i>Dragescozoon</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 912	<i>D. terricola</i>
" <i>Edaphospathula</i> " FOISSNER & XU, 2007	Monogr. Biologicae 81 : 85§	<i>E. brachycaryon</i>
<i>Enchelaria</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 220	<i>E. multinucleata</i>
<i>Enchelyomorpha</i> KAHL, 1930	Tierwelt Dtl. 18 : 140	<i>Enchelys vermicularis</i>
<i>Enchelyotricha</i> FOISSNER, 1987	Sber. Akad. Wiss. Wien, Math.-Naturwiss. Kl., I. Abt. 195 : 224	<i>E. binucleata</i>
<i>Engelmanniella</i> FOISSNER, 1982	Arch. Protistenk. 126 : 66	<i>Uroleptus mobilis</i>
<i>Epicarchesium</i> JANKOWSKI, 1985	Trudy zool. Inst., Leningr. 129 : 96	<i>Carchesium granulatum</i>
<i>Epispathidium</i> FOISSNER, 1984	Stapfia 12 : 81	<i>E. regium</i>
<i>Epitholiolus</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 164	<i>Lacrimaria chilensis</i>
<i>Erimophrya</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 791	<i>E. glatzeli</i>
<i>Erniella</i> FOISSNER, 1987	Zool. Beitr. N. F. 31 : 218	<i>E. filiformis</i>
<i>Eschaneustyla</i> STOKES, 1886	Proc. Am. phil. Soc. 23 : 28	<i>E. brachytona</i>
<i>Etoschophrya</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 986	<i>E. oscillatoriphaga</i>
<i>Etoschothrix</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 593	<i>E. terricola</i>
<i>Exocolpoda</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 921	<i>Colpoda augustini</i>
<i>Fragmocirrus</i> FOISSNER, 2000	Stud. Neotrop. Fauna & Environm. 35 : 61	<i>F. espeletiae</i>
<i>Fungiphrya</i> FOISSNER, 1999	J. Eukaryot. Microbiol. 46 : 34	<i>F. strobili</i>
<i>Fuscheria</i> FOISSNER, 1983	Annln naturh. Mus. Wien 84B : 66	<i>F. nodosa</i>
<i>Gastrostyla</i> (<i>Kleinstyla</i>) FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 742	<i>Gastrostyla bavariensis</i>

Tab. 6: continued

Genus	Reference	Protonym
<i>Gastrostyla (Spetastyla)</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 723	<i>Oxytricha mystacea</i>
<i>Gellertia</i> DRAGESCO, 1999	Stapfia 66 : 32	<i>Geleia heterotricha</i>
<i>Gigantothrix</i> FOISSNER, 1999	Biodiversity & Conservation 8 : 367	<i>G. herzogi</i>
<i>Gonostomum</i> STERKI, 1878	Z. wiss. Zool. 31 : 57	<i>Oxytricha affinis</i>
<i>Grossglockneria</i> FOISSNER, 1980	Zool. Jb. Syst. 107 : 399	<i>G. acuta</i>
<i>Gruberia</i> KAHL, 1932	Tierwelt Dtl. 25 : 440	<i>G. uninucleata</i>
<i>Hackenbergia</i> FOISSNER, 1997	Limnologica (Berlin) 27 : 230	<i>G. langae</i>
<i>Hausmanniella</i> FOISSNER, 1984	Stapfia 12 : 101	<i>Colpoda discoidea</i>
<i>Hemiurosoma</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 834	<i>H. terricola</i>
<i>Heterostentor</i> SONG & WILBERT, 2002	Acta Protozool. 41 : 49	<i>H. coeruleus</i>
<i>Holophrya</i> EHRENBERG, 1831	Abh. Akad. Wiss. Berlin 1831 : 101	<i>H. ovum</i>
<i>Holostichides</i> FOISSNER, 1987	Zool. Beitr. N. F. 31 : 201	<i>H. chardezi</i>
<i>Homalogastra</i> KAHL, 1926	Arch. Protistenk. 55 : 341	<i>H. setosa</i>
<i>Homalozoon</i> STOKES, 1890	Proc. Am. phil. Soc. 28 : 79	<i>Litonotus vermicularis</i>
<i>Idiocolpoda</i> FOISSNER, 1993	Acta Protozool. 32 : 175	<i>I. pelobia</i>
<i>Ilsiella</i> FOISSNER, 1987	Zool. Beitr. N. F. 31 : 272	<i>I. venusta</i>
<i>Kentrophyllum</i> PETZ, SONG & WILBERT, 1995	Stapfia 40 : 50	<i>K. antarcticum</i>
<i>Kovalevaia</i> FOISSNER, 1997	Acta Protozool. 36 : 198	<i>Trachelonema sulcata</i>
<i>Krassniggia</i> FOISSNER, 1987	Zool. Beitr. N. F. 31 : 260	<i>K. auxiliaris</i>
<i>Lacrymaria</i> BORY, 1824	Encyl. Meth. 138 (2) : 479	<i>Vibrio olor</i>
<i>Leptopharynx</i> MERMED, 1914	Revue suisse Zool. 22 : 39	<i>L. costatus</i>
<i>Limnostrombidium</i> KRAINER, 1995	Lauterbornia 21 : 54	<i>Strombidium viride</i>
<i>Longispatha</i> FOISSNER, XU & KREUTZ, 2005	J. Eukaryot. Microsc. 52 : 362§	<i>L. elegans</i>
<i>Maristentor</i> LOBBAN, SCHEFTER, SIMPSON, POCHON, PAWLO, 2002	Marine Biology (Berlin) 140 : 417	<i>M. dinoferus</i>
<i>Marituja</i> GAJEWSKAJA, 1928	Dokl. Akad. Nauk SSSR [= C. R. Acad. Sci. U.R.S.S.] 20 : 476	<i>M. pelagica</i>
<i>Membranicola</i> FOISSNER, BERGER & SCHAUMBURG, 1999	Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99 : 626	<i>M. tamari</i>
<i>Microdiaphanosoma</i> WENZEL, 1953	Arch. Protistenk. 99 : 97	<i>Diaphanosoma arcuata</i>
<i>Microthorax</i> ENGELMANN, 1862	Z. wiss. Zool. 11 : 381	<i>M. pusillus</i>
<i>Monilicaryon</i> JANKOWSKI, 1967	Akad. Sci. Moldav. SSR, Kishinev: 36	<i>Dileptus monilatus</i>
<i>Myxophthirus</i> SILVA NETO, 1992	Europ. J. Protistol. 28 : 421	<i>M. anomalocardiae</i>
<i>Neogeneia</i> EIGNER, 1995	Europ. J. Protistol. 31 : 341	<i>N. hortualis</i>
<i>Nivaliella</i> FOISSNER, 1980	Zool. Jb. Syst. 107 : 393	<i>N. plana</i>
<i>Notocephalus</i> PETZ, SONG & WILBERT, 1995	Stapfia 40 : 169	<i>Tachysoma parvulum</i>
<i>Notohymena</i> BLATTERER & FOISSNER, 1988	Stapfia 17 : 70	<i>N. rubescens</i>
<i>Nudiamphisiella</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 693	<i>N. interrupta</i>
<i>Obertrumia</i> FOISSNER & ADAM 1981	Zool. Anz. 207 : 308	<i>Nassula georgiana</i>
<i>Odontochlamys</i> CERTES, 1891	Mém. Soc. zool. Fr. 4 : 540	<i>O. gouraudi</i>
<i>Onychodromopsis</i> STOKES, 1887	Ann. Mag. nat. Hist., Serie 5, 20 : 107	<i>O. flexilis</i>
<i>Orthoamphisiella</i> EIGNER & FOISSNER, 1991	Acta Protozool. 30 : 129	<i>O. stramenticola</i>
<i>Orthokreyella</i> FOISSNER, 1984	Stapfia 12 : 98	<i>O. schiffmanni</i>
<i>Ottowphrya</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 967	<i>Platyophryides dragescoi</i>
<i>Ovalorhabdos</i> FOISSNER, 1984	Stapfia 12 : 31	<i>Ovalorhabdos sapropelicus</i>
<i>Papillorhabdos</i> FOISSNER, 1984	Stapfia 12 : 40	<i>P. multinucleatus</i>
<i>Paracolpidium</i> GANNER & FOISSNER, 1989	Hydrobiologia 182 : 205	<i>Colpidium truncatum</i>
<i>Parafurgasonia</i> FOISSNER & ADAM, 1981	Zool. Anz. 207 : 304	<i>Nassula soresx</i>
<i>Paragonostomum</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 819	<i>P. caudatum</i>
<i>Parakahliella</i> BERGER, FOISSNER & ADAM, 1985	Protistologica 21 : 309	<i>Paraurostyla macrostoma</i>
<i>Paramphisiella</i> FOISSNER, 1988	Stapfia 17 : 121	<i>Amphisiella acuta</i>
<i>Paraurostyla</i> BORROR, 1972	J. Protozool. 19 : 9	<i>Urostyla weissei</i>
<i>Paraurotricha</i> FOISSNER, 1983	Annln naturh. Mus. Wien 84B : 60	<i>Urotricha discolor</i>
<i>Parduczia</i> DRAGESCO, 1999	Stapfia 66 : 54	<i>Geleia orbis</i>
<i>Parentocirrus</i> VOSS, 1997	Europ. J. Protistol. 33 : 30	<i>P. hortualis</i>
<i>Pattersoniella</i> FOISSNER, 1987	Zool. Beitr. N. F. 31 : 207	<i>P. vitiphila</i>

Tab. 6: continued

Genus	Reference	Protonym
<i>Pedohymena</i> FOISSNER, 1995	Arch. Protistenk. 145 : 58	<i>P. australiense</i>
<i>Pelagolacrymaria</i> FOISSNER, BERGER & SCHAUMBURG, 1999	Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99 : 265	<i>P. moserae</i>
<i>Pelagostrombidium</i> KRAINER, 1991	Europ. J. Protistol. 27 : 64	<i>Strombidium mirabile</i>
<i>Pelagothrix</i> FOISSNER, BERGER & SCHAUMBURG, 1999	Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 3/99 : 395	<i>P. chlorelligera</i>
<i>Pentahymena</i> FOISSNER, 1994	Arch. Protistenk. 144 : 290	<i>P. corticicola</i>
<i>Phialinides</i> FOISSNER, 1988	Stapfia 17 : 97	<i>P. australis</i>
<i>Placojoenia</i> RADEK & HAUSMANN, 1994	Europ. J. Protistol. 30 : 26	<i>P. sinaica</i>
<i>Plagiocampides</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 547	<i>P. halophilus</i>
<i>Planicoleps</i> DRAGESCO & DRAGESCO-KERNEIS, 1991	Europ. J. Protistol. 26 : 217	<i>P. psammophilus</i>
<i>Platynematum</i> FOISSNER, BERGER & KOHMANN, 1994	Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 1/94 : 256	<i>Uronema sociale</i>
<i>Platyophryides</i> FOISSNER, 1987	Zool. Beitr. N. F. 31 : 240	<i>Platyophrya lata</i>
" <i>Plesiotricha</i> " DRAGESCO, 1970	AnnlsFac. Sci. Univ. féd. Cameroun (Numéro hors-série): 98	<i>Uroleptopsis multisetata</i>
<i>Pleuroplites</i> FOISSNER, 1988	Stapfia 17 : 88	<i>P. australis</i>
<i>Pleuroplitoides</i> FOISSNER, 1996	Acta Protozool. 35 : 103	<i>P. smithi</i>
<i>Pseudoamphileptus</i> FOISSNER, 1983	Zool. Jb. Syst. 110 : 405	<i>Hemiophrys macrostoma</i>
<i>Pseudocyrtolephosis</i> FOISSNER, 1980	Zool. Jb. Syst. 107 : 407	<i>P. alpestris</i>
<i>Pseudoholophrya</i> BERGER, FOISSNER & ADAM, 1984	Zool. Jb. Syst. 111 : 341	<i>P. terricola</i>
<i>Pseudokeronopsis</i> BORROR & WICKLOW, 1983	Acta Protozool. 22 : 123	<i>Oxytricha rubra</i>
<i>Pseudomonilicaryon</i> FOISSNER, 1987	Limnologica (Berlin) 27 : 196	<i>Dileptus gracilis</i>
<i>Pseudoplatyophrya</i> FOISSNER, 1980	Zool. Jb. Syst. 107 : 395	<i>Platyophrya nana</i>
<i>Pseudourostyla</i> BORROR, 1972	J. Protozool. 19 : 5, 11	<i>Urostyla cristata</i>
<i>Remanella</i> FOISSNER, 1996	Europ. J. Protistol. 32 : 249	<i>R. multinucleat</i>
<i>Rhabdoaskenasia</i> KRAINER & FOISSNER, 1990	J. Protozool. 37 : 426	<i>R. minima</i>
<i>Rigidocortex</i> BERGER, 1999	Monogr. Biologicae 78 : 717	<i>Australocirrus octonucleatus</i>
<i>Rigidothrix</i> FOISSNER & STOECK, 2006	Europ. J. Protistol. 42 : 251	<i>R. goiseri</i>
<i>Rostrophryides</i> FOISSNER, 1987	Zool. Beitr. N. F. 31 : 236	<i>R. africana</i>
<i>Rubrioxxytricha</i> BERGER, 1999	Monogr. Biologicae 78 : 479	<i>Oxytricha haematoplasma</i>
<i>Saudithrix</i> BERGER, AL-RASHEID & FOISSNER, 2006	J. Eukaryot. Microsc. 53 : 267	<i>S. terricola</i>
<i>Schizocalyptra</i> DRAGESCO, 1968	Protistologica 4 : 85	<i>S. magna</i>
<i>Semiplatyophrya</i> WILBERT & KAHAN, 1986	Arch. Protistenk. 131 : 130	<i>S. foissneri</i>
<i>Semispathidium</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 327	<i>S. enchelyodontides</i>
<i>Sikorops</i> FOISSNER, 1999	Biodiversity & Conservation 8 : 325	<i>S. woronowiczae</i>
<i>Siroloxophyllum</i> FOISSNER & LEIPE, 1995	J. Eukaryot. Microbiol. 42 : 477	<i>Amphileptus utriculariae</i>
<i>Sorogena</i> BRADBURY & OLIVE, 1980	J. Protozool. 27 : 275	<i>S. stoianovitchae</i>
<i>Spetazon</i> FOISSNER, 1994	Kataloge des OÖ. Landesmuseums N. F. 71 : 267	<i>S. australiense</i>
<i>Sphenostomella</i> JANKOWSKI, 1980	Trudy zool. Inst., Leningr. 94 : 119	<i>Sathrophilus vernalis</i>
<i>Stammeridium</i> WENZEL, 1969	Arch. Protistenk. 111 : 275: 275	<i>Stammeriella kahli</i>
<i>Sterkiella</i> FOISSNER, BLATTERER, BERGER & KOHMANN, 1991	Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 1/91 : 311	<i>Oxytricha cavicola</i>
<i>Stokesia</i> WENRICH, 1929	Trans. Am. microsc. Soc. 48 : 229	<i>S. vernalis</i>
<i>Styphophrya</i> FOISSNER, MOON VAN DER STAAY, VAN DER STAAY, HACKSTEIN, KRAUTGARTNER & BERGER, 2004	Europ. J. Protistol. 40 : 279	<i>Onychodromus quadricornutus</i>
<i>Swedmarkia</i> DRAGESCO, 1954	Bull. Soc. zool. Fr. 79 : 69	<i>S. arenicola</i>
<i>Tachysoma</i> STOKES, 1887	Ann. Mag. nat. Hist., Ser. 5 20 : 108	<i>Trichoda pellionella</i>
(<i>Tillina</i> GRUBER, 1879)	Zool. Anz. 2 : 519	<i>T. magna</i>
<i>Tintinnidium</i> (<i>Semitintinnidium</i>) AGATHA & STRÜDER-KYPKE, 2007	Europ. J. Protistol. 43 : 58	<i>Tintinnus semiciliatus</i>
<i>Trachelius</i> SCHRANK, 1803	Fauna Boica: 55	<i>Ophryocerca ovum</i>
<i>Trachelocerca</i> EHRENBERG, 1840	Ber. Verh. K. Preuss. Akad. Wiss. Berl. 1840 : 202	<i>Vibrio sagitta</i>
<i>Trachelolophos</i> FOISSNER & DRAGESCO, 1996	J. Euk. Microbiol. 43 : 15	<i>T. gigas</i>

Genus	Reference	Protonym
<i>Trachelophyllum</i> CLAPARÈDE & LACHMANN, 1859	Mém. Inst. natn. génev. 6 : 306	<i>Trachelius apiculatus</i>
<i>Tracheloraphis</i> DRAGESCO, 1960	Trav. Stn. biol. Roscoff (N. S.) 12 : 120	<i>Trachelocerca phoenicopterus</i>
<i>Tricoronella</i> BLATTERER & FOISSNER, 1988	Stapfia 17 : 56	<i>T. pulchra</i>
<i>Trihymena</i> FOISSNER, 1988	Stapfia 17 : 103	<i>T. terricola</i>
<i>Urliella</i> FOISSNER, 1989	Sber. Akad. Wiss. Wien, Math.-Naturwiss. Kl., I. Abt. 196 : 203	<i>U. terricola</i>
<i>Uroleptopsis (Uroleptopsis)</i> BERGER, 2004	Acta Protozool. 43 : 114	<i>U. citrina</i>
<i>Uronychia</i> STEIN, 1859	Abh. K. böhm. Ges. Wiss. 10 (year 1857): 62	<i>Trichoda transfuga</i>
<i>Vermioxytricha</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 749	<i>V. arenicola</i>
<i>Wolfkosia</i> FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 458	<i>W. loeffleri</i>
<i>Woodruffia</i> KAHL, 1931	Tierwelt Dtl. 21 : 285	<i>W. rostrata</i>
<i>Woodruffides</i> FOISSNER, 1987	Zool. Beitr. N. F. 31 : 229	<i>W. terricola</i>
<i>Zoothamnioides</i> SCHÖDEL, 2006	Lauterbornia 56 : 132§	<i>Z. femoralis</i>

Table 7: List of 38 "type genera" (nucleogenera) of the respective family represented in the Linz collection.

Family	Reference	Nucleogenus
Acropisthiidae FOISSNER & FOISSNER, 1988	Arch. Protistenk. 135 : 228	<i>Acropisthium</i>
Apertospathulidae FOISSNER, XU & KREUTZ, 2005	J. Eukaryot. Microsc. 52 : 317	<i>Apertospathula</i>
Apsiktratidae FOISSNER, BERGER & KOHMANN, 1994	Informationsberichte Bayer. Landesamtes für Wasserwirtschaft 1/94 : 319	<i>Apsiktrata</i>
Arcuospathidiidae FOISSNER & XU, 2007	Monogr. Biologicae 81 : 155	<i>Arcuospathidium</i>
Bardeliellidae FOISSNER, 1984	Stapfia 12 : 104	<i>Bardeliella</i>
Bryometopidae JANKOWSKI, 1980	Dokl. Akad. Nauk SSSR 94 : 120	<i>Bryometopus</i>
Chilodonellidae DEROUX, 1970	Protistologica 6 : 180	<i>Chilodonella</i>
Climacostomidae REPAK, 1972	J. Protozool. 19 : 417	<i>Climacostomum</i>
Colepidae EHRENBERG, 1838	Infusionsthierchen: 316	<i>Coleps</i>
Cyrtolophosididae STOKES, 1888	J. Trenton nat. Hist. Soc. 1 : 192	<i>Cyrtolophosis</i>
Didiniidae POCHE, 1913	Arch. Protistenk. 30 : 254	<i>Didinium</i>
Enchelyomorphidae AUGUSTIN & FOISSNER, 1992	Arch. Protistenk. 141 : 247	<i>Enchelyomorpha</i>
Exocolpodidae FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 921	<i>Exocolpoda</i>
Fuscheriidae FOISSNER, AGATHA & BERGER, 2002	Denisia 5 : 189	<i>Fuscheria</i>
Grossglockneriidae FOISSNER, 1980	Zool. Jb. Syst. 107 : 393	<i>Grossglockneria</i>
Hausmanniellidae FOISSNER, 1987	Zool. Beitr. N. F. 31 : 263	<i>Hausmanniella</i>
Holophryidae PERTY, 1852	Kenntn. klein. Lebensformen	<i>Holophrya</i>
Lacrymariidae FOISSNER, 1983	Annln naturh. Mus. Wien 84B : 75	<i>Lacrymaria</i>
Maristentoridae MIAO, SIMPSON, FU & LOBBAN, 2005	J. Eukaryot. Microbiol. 52 : 15	<i>Maristentor</i>
Maritujidae JANKOWSKI in SMALL & LYNN, 1985	Illustr. Guide, Ciliophora: 513	<i>Marituja</i>
Microthoracidae WRZESNIEWSKI, 1870	Z. wiss. Zool. 20 : 487	<i>Microthorax</i>
Orthoamphisiellidae EIGNER, 1997	J. Eukaryot. Microbiol. 44 : 557	<i>Orthoamphisiella</i>
Parakahliellidae EIGNER, 1997	J. Eukaryot. Microbiol. 44 : 563	<i>Parakahliella</i>
Pattersoniellidae SHI, SONG & SHI in SONG, 1999	Progr. Protozool., Qingdao: 118	<i>Pattersoniella</i>
Pelagostrombidiidae AGATHA, 2004	Zoology (Jena) 107 : 163	<i>Pelagostrombidium</i>
Pleuroplitidae FOISSNER, 1996	Acta Protozool. 35 : 103	<i>Pleuroplites</i>
Pseudoholophryidae BERGER, FOISSNER & ADAM, 1984	Zool. Jb. Syst. 111 : 340	<i>Pseudoholophrya</i>
Pseudokeronopsidae BORROR & WICKLOW, 1983	Acta Protozool. 22 : 123	<i>Pseudokeronopsis</i>
Pseudourostylidae JANKOWSKI, 1979	Trudy zool. Inst., Leningr. 86 : 74	<i>Pseudourostyla</i>
Rigidotrichidae FOISSNER & STOECK, 2006	Europ. J. Protistol. 42 : 251	<i>Rigidotrix</i>
Sorogenidae BRADBURY & OLIVE, 1980	J. Protozool. 27 : 275	<i>Sorogena</i>
Stokesiidae ROQUE, 1961	Bull. biol. Fr. Belg. 95 : 468	<i>Stokesia</i>
Swedmarkiidae JANKOWSKI, 1979	Trudy zool. Inst., Leningr. 86 : 82	<i>Swedmarkia</i>
Trachelocercidae KENT, 1881	Manual Infusoria 4 : 514	<i>Trachelocerca</i>
Trachelophyllidae KENT, 1882	Manual Infusoria 4 : 502	<i>Trachelophyllum</i>
Trihymenidae FOISSNER, 1988	Stapfia 17 : 102	<i>Trihymena</i>
Uronychiidae JANKOWSKI, 1975	Akad. Nauk. SSSR, Zool. Inst. Leningr.: 27	<i>Uronychia</i>
Woodruffiidae GELEI, 1954	Acta biol. hung. 5 : 303	<i>Woodruffia</i>

Table 8: Families in alphabetic order and enclosed genus or genera represented at Linz.

Acropisthiidae <i>Acropisthium</i> <i>Clavoplites</i> <i>Coriplites</i> <i>Cranotheridium</i> <i>Diplites</i> <i>Perispira</i>	<i>Coleps</i> <i>Planicolleps</i> Colpodidae <i>Colpoda</i> <i>Corallocolpoda</i> <i>Corticocolpoda</i> <i>Idiocolpoda</i> <i>Krassniggia</i> <i>Kuehneltiella</i>	<i>Grossglockneria</i> <i>Nivaliella</i> <i>Pseudoplatyophrya</i>	Maritujidae <i>Marituja</i> Marynidae <i>Ilsiella</i> <i>Maryna</i>	<i>Vermioxytricha</i> Parakahliellidae <i>Anatoliocirrus</i> <i>Fragmocirrus</i> <i>Neogeneia</i>
Actinobolinidae <i>Actinobolina</i> <i>Belonophrya</i>	Colpodidiidae <i>Apocolpodidium</i> <i>Colpodidium</i> <i>Pedohymena</i>	Halteriidae <i>Halteria</i> <i>Meseres</i>	Mesodiniidae <i>Askenasia</i> <i>Pelagovasicola</i> <i>Rhabdoaskenasia</i>	Parameciidae <i>Paramecium</i>
Amphileptidae <i>Amphileptus</i> <i>Kentrophyllum</i> <i>Pseudoamphileptus</i>	Condyllostomatidae <i>Condyllostoma</i> <i>Condyllostomides</i>	Hausmanniellidae <i>Avestina</i> <i>Bresslauides</i> <i>Hausmanniella</i> <i>Kalometopia</i>	Metacystidae <i>Metacystis</i>	Parauronematidae <i>Miamiensis</i>
Amphisiellidae <i>Afroamphisiella</i> <i>Amphisiella</i> <i>Amphisiellides</i> <i>Hemiamphisiella</i> <i>Lamstostyla</i> <i>Nudiamphisiella</i> <i>Paramphisiella</i>	Cryptochilidae <i>Cryptochilum</i>	Holophryidae <i>Bursellopsis</i> <i>Holophrya</i> <i>Pelagothrix</i>	Metopidae <i>Metopus</i>	Pattersoniellidae <i>Pattersoniella</i>
Apertospathulidae <i>Apertospathula</i> <i>Longispatha</i>	Cyclidiidae <i>Apocyclidium</i> <i>Cristigera</i> <i>Protocyclidium</i>	Holostichidae <i>Afrothrix</i> <i>Anteholosticha</i> <i>Birojima</i> <i>Caudiholosticha</i> <i>Diaxonella</i> <i>Holosticha</i> <i>Holostichides</i> <i>Periholosticha</i>	Microthoracidae <i>Drepanomonas</i> <i>Microthorax</i> <i>Stammeridium</i> <i>Trochillopsis</i>	Pelagostrombidiidae <i>Pelagostrombidium</i>
Arcuospathidiidae <i>Arcuospathidium</i> <i>Armatospathula</i> <i>Cultellothrix</i>	Cyrtolophosididae <i>Cyrtolophosis</i> <i>Plesiocaryon</i> <i>Pseudocyrtolophosis</i>	Homalozoonidae <i>Homalozoon</i>	Myriokaryonidae <i>Cephalospathula</i>	Placidiae <i>Placus</i>
Bakuellidae <i>Australothrix</i> <i>Bakuella</i>	Didiniidae <i>Didinium</i> <i>Monodinium</i>	Jaroschiidae <i>Dapedophrya</i> <i>Pentahymena</i>	Nassulidae <i>Nassula</i> <i>Nassulides</i> <i>Naxella</i> <i>Obertruria</i>	Plagiocampidae <i>Paraurotricha</i> <i>Plagiocampa</i> <i>Plagiocampides</i>
Balantidiidae <i>Balantidioides</i>	Dysteriidae <i>Dysteria</i>	Kahliellidae <i>Deviata</i> <i>Engelmanniella</i> <i>Kahliella</i> <i>Paraholosticha</i> <i>Parakahliella</i> <i>Wallackia</i>	Operculariidae <i>Opercularia</i>	Platyophryidae <i>Platyophrya</i> <i>Platyophryides</i>
Bardeliellidae <i>Bardeliella</i>	Enchelyidae <i>Apoenchelys</i> <i>Chilophrya</i> <i>Declivistoma</i> <i>Enchelys</i> <i>Obliquostoma</i> <i>Papillorhabdos</i>	Keronidae <i>Keronopsis</i>	Ophryidiidae <i>Ophrydium</i>	Pleuronematidae <i>Pleuronema</i> <i>Schizocalyptra</i>
Bryometopidae <i>Bryometopus</i> <i>Thylakidium</i>	Enchelyodontidae <i>Enchelydium</i>	Kreyelliidae <i>Microdiaphanosoma</i> <i>Orthokreyella</i>	Ophryoglenidae <i>Bursostoma</i>	Pleuroplitidae <i>Pleuroplites</i> <i>Pleuroplitoides</i>
Bryophryidae <i>Parabryophrya</i>	Enchelyomorphae <i>Enchelyomorpha</i>	Kryoprordontidae <i>Gymnozoum</i>	Opisthnectidae <i>Opisthnecta</i> <i>Telotrochidium</i>	Podophryidae <i>Podophrya</i> <i>Sphaerophrya</i>
Bryophyllidae <i>Neobryophyllum</i>	Epistylidae <i>Epistylis</i> <i>Heteropolaria</i>	Lacrymariidae <i>Lacrymaria</i> <i>Pelagolacrymaria</i> <i>Phialina</i> <i>Phialinides</i>	Orthoamphisiellidae <i>Circinella</i> <i>Cladotricha</i> <i>Orthoamphisiella</i>	Prorodontidae <i>Prorodon</i>
Bursaridiidae <i>Paracondylostoma</i>	Euplotidae <i>Euplotes</i> <i>Euplotoides</i> <i>Euplotopsis</i>	Lagynophryidae <i>Lagynophrya</i>	Orthodonellidae <i>Zosterodasys</i>	Protospathidiidae <i>Edaphospathula</i> <i>Protospathidium</i> <i>Sikorops</i>
Cardiastomatellidae <i>Cardiastomatella</i>	Exocolpodidae <i>Exocolpoda</i>	Leegaardiellidae <i>Leegaardiella</i>	Oxytrichidae <i>Apoamphisiella</i> <i>Apourosomoida</i> <i>Australocirrus</i> <i>Coniculostomum</i> <i>Cyrtohymena</i> <i>Gastrostyla</i> <i>Gonostomum</i> <i>Hemisincirra</i> <i>Hemiurosoma</i> <i>Histriculus</i> <i>Laurentiella</i> <i>Notohymena</i> <i>Onychodromopsis</i> <i>Onychodromus</i> <i>Oxytricha</i> <i>Paragonostomum</i> <i>Paraurostyla</i> <i>Parentocirrus</i> <i>Perisincirra</i> <i>Pleurotricha</i> <i>Pseudouroleptus</i> <i>Rigidocortex</i> <i>Rubrioxxytricha</i> <i>Steinia</i> <i>Sterkiella</i> <i>Stylonychia</i> <i>Tachysoma</i> <i>Terricirra</i> <i>Tetmemena</i> <i>Urosoma</i> <i>Urosomoida</i>	Pseudochlamydonellidae <i>Hackenbergia</i>
Chilodonellidae <i>Alinostoma</i> <i>Chilodonatella</i> <i>Chilodonella</i> <i>Odontochlamys</i> <i>Pseudochilodonopsis</i> <i>Thigmogaster</i> <i>Trithigmostoma</i>	Folliculinidae <i>Ascobius</i>	Leptopharyniidae <i>Leptopharynx</i>	Orthoamphisiellidae <i>Circinella</i> <i>Cladotricha</i> <i>Orthoamphisiella</i>	Pseudocohnilembidae <i>Pseudocohnilembus</i>
Cinetochilidae <i>Platynematum</i> <i>Sathrophilus</i> <i>Sphenostomella</i>	Frontoniidae <i>Disematostoma</i> <i>Frontonia</i> <i>Paraclathrostoma</i>	Litonotidae <i>Litonotus</i>	Orthoamphisiellidae <i>Circinella</i> <i>Cladotricha</i> <i>Orthoamphisiella</i>	Pseudoholophryidae <i>Ovalorhabdos</i> <i>Paraenchelys</i> <i>Pseudoholophrya</i>
Climacostomidae <i>Climacostomum</i>	Furgasoniidae <i>Furgasonia</i> <i>Parafurgasonia</i> <i>Urliella</i> <i>Wolfkasia</i>	Loxophthalidae <i>Balanonema</i> <i>Dexiotricha</i> <i>Loxocephalus</i>	Orthoamphisiellidae <i>Circinella</i> <i>Cladotricha</i> <i>Orthoamphisiella</i>	Pseudokeronopsidae <i>Pseudokeronopsis</i> <i>Thigmokeronopsis</i> <i>Uroleptopsis</i>
Codonellidae <i>Codonella</i> <i>Tintinnopsis</i>	Fuscheriidae <i>Dioplitophrya</i> <i>Fuscheria</i>	Loxodidae <i>Loxodes</i> <i>Remanella</i>	Orthoamphisiellidae <i>Circinella</i> <i>Cladotricha</i> <i>Orthoamphisiella</i>	Pseudourostylidae <i>Pseudourostyla</i>
Codonellopsidae <i>Codonellopsis</i>	Gastronautidae <i>Gastronauta</i>	Loxophyllidae <i>Loxophyllum</i> <i>Siroloxophyllum</i>	Orthoamphisiellidae <i>Circinella</i> <i>Cladotricha</i> <i>Orthoamphisiella</i>	Ptychocylidae <i>Cymatocylis</i>
Colepidae	Geleidae <i>Geleia</i> <i>Gellertia</i>	Lynchellidae <i>Chlamydonella</i> <i>Chlamydonellopsis</i>	Orthoamphisiellidae <i>Circinella</i> <i>Cladotricha</i> <i>Orthoamphisiella</i>	Reticulowoodruffiidae <i>Semiplatyophrya</i>

Tab. 8: continued

Spirostomidae <i>Anigsteinia</i> <i>Blepharisma</i> <i>Gruberia</i> <i>Spirostomum</i>	Tintinnidae <i>Membranicola</i> <i>Stenosemella</i> <i>Tintinnidium</i>	<i>Trachelophyllum</i>	<i>Pseudovorticella</i> <i>Vorticella</i>	Echinamoebidae (amoebozoan) <i>Echinamoeba</i>
Stentoridae <i>Heterostentor</i> <i>Stentor</i>	Tokophryidae <i>Brachyosoma</i>	Trihymenidae <i>Trihymena</i>	Woodruffiidae <i>Etoschophrya</i> <i>Rostrophrya</i> <i>Rostrophryides</i> <i>Woodruffia</i> <i>Woodruffides</i>	Encephalitozoonidae (microsporidans) <i>Ciliatosporidium</i>
Stokesiidae <i>Stokesia</i>	Tontoniidae <i>Tontonia</i>	Turaniellidae <i>Paracolpidium</i>	Zoothamniidae <i>Zoothamnioides</i>	Flabellulidae (lobosean amoebae) <i>Flamella</i>
Strobilidiidae <i>Rimostrombidium</i> <i>Strobilidium</i>	Tracheliidae <i>Dileptus</i> <i>Dimacrocaryon</i> <i>Monilicaryon</i> <i>Pseudomonilicaryon</i>	Uronematidae <i>Homalogastra</i> <i>Uronema</i>	incertae sedis <i>Benthontophrys</i> <i>Ciliofaurea</i> <i>Dragescozoon</i> <i>Erniella</i> <i>Gigantothrix</i> <i>Ottowphrya</i> <i>Saudithrix</i>	Joeniidae (hypermastigid flagellates) <i>Placojoenia</i>
Strombidiidae <i>Limnostrombidium</i> <i>Spirostrombidium</i> <i>Strombidium</i>	Tracheloceridae <i>Kovalevaia</i> <i>Trachelocerca</i> <i>Trachelolophos</i> <i>Tracheloraphis</i>	Uronychiidae <i>Diophrys</i> <i>Uronychia</i>	Further protists	Nephridiophagidae (zygomycote fungi) <i>Nephridiophaga</i>
Swedmarkiidae <i>Swedmarkia</i>	Trachelophyllidae <i>Actinorhabdos</i> <i>Bilamellophrya</i> <i>Chaenea</i> <i>Enchelyodon</i> <i>Enchelyotricha</i> <i>Epitholiolus</i> <i>Spetzoon</i>	Urostylidae <i>Bicoronella</i> <i>Eschaneustyla</i> <i>Etoschothrix</i> <i>Metaurostylopsis</i> <i>Notocephalus</i> <i>Tricoronella</i> <i>Uroleptus</i>	Colpodellidae (apicomplexan) <i>Spiromonas</i>	Polymastigidae (polymastigid flagellates) <i>Monocercomonoides</i> <i>Trichocovina</i>
Tectohymenidae <i>Pseudokreyella</i>		Urotrichidae <i>Urotricha</i>	Cyclopyxidae (testate amoebae) <i>Pseudawerinzewia</i>	Spirohemidae (hemimastigophoran flagellates) <i>Hemimastix</i>
Tetrahymenidae <i>Colpidium</i> <i>Dexiostoma</i> <i>Tetrahymena</i>		Vorticellidae <i>Epicarchesium</i> <i>Pseudocarchesium</i> <i>Pseudohaplocaulus</i>		Spirotrichonymphidae (trichomonadid flagellates) <i>Spirotrichonympha</i>
Thigmophryidae <i>Myxophthirus</i>				

Table 9: List of families with the respective number of genera and species represented in the Linz collection.

Family	Genera	Species	Family	Genera	Species	Family	Genera	Species
Acropisthiidae	6	10	Enchelyidae	6	12	Loxophyllidae	2	3
Actinobolinidae	2	3	Enchelyodontidae	1	3	Lynchellidae	2	2
Amphileptidae	3	3	Enchelyomorphidae	1	1	Maristentoridae	1	1
Amphisiellidae	7	29	Epistylidae	2	3	Maritujidae	1	1
Apertospathulidae	2	11	Euplotidae	3	8	Marynidae	2	6
Arcuospathidiidae	3	24	Exocolpodidae	1	1	Mesodiniidae	3	5
Aspidiscidae	1	2	Folliculinidae	1	1	Metacystidae	1	1
Aveliidae	2	5	Frontoniidae	3	11	Metopidae	1	7
Bakuellidae	2	6	Furgasoniidae	4	7	Microthoracidae	4	8
Balantidiidae	1	1	Fuscheriidae	2	4	Myriokaryonidae	1	1
Bardeliellidae	1	1	Gastronautidae	1	4	Nassulidae	4	16
Bryometopidae	2	5	Geleidae	2	4	Operculariidae	1	1
Bryophryidae	1	1	Grossglockneriidae	4	6	Ophryidiidae	1	1
Bryophyllidae	1	3	Halteriidae	2	2	Ophryoglenidae	1	1
Bursariidae	1	1	Hausmanniellidae	4	6	Opisthnectidae	2	5
Cardiastomatellidae	1	1	Holophryidae	3	10	Orthoamphisiellidae	3	5
Chilodonellidae	7	17	Holostichidae	8	23	Orthodonellidae	1	1
Cinetochilidae	3	5	Homalozoonidae	1	1	Oxytrichidae	33	94
Climacostomidae	1	1	Jaroschiidae	2	2	Parakahliellidae	3	3
Codonellidae	2	2	Kahliellidae	6	12	Parameciidae	1	1
Codonellopsidae	1	1	Keronidae	1	4	Parauronematidae	1	1
Colepidae	2	4	Kreyellidae	2	2	Pattersoniellidae	1	1
Colpodidae	6	16	Kryoporodontidae	1	1	Pelagostrombidiidae	1	2
Colpodidiidae	3	7	Lacrymariidae	4	13	Placidae	1	1
Condylostomatidae	2	5	Lagynophryidae	1	1	Plagiocampidae	3	6
Cryptochilidae	1	1	Leegaardiellidae	1	1	Platyophryidae	2	9
Cyclidiidae	3	4	Leptopharynidae	1	1	Pleuronematidae	2	2
Cyrtolophosididae	3	4	Litonotidae	1	5	Pleuroplitidae	2	2
Didiniidae	2	5	Loxocephalidae	3	3	Podophryidae	2	4
Dysteriidae	1	1	Loxodidae	2	6	Prorodontidae	1	3

Tab. 9: continued

Family	Genera	Species	Family	Genera	Species	Family	Genera	Species
Protospathidiidae	3	12	Tetrahymenidae	3	4	Further protists		
Pseudochlamydonellidae	1	1	Thigmophryidae	1	1	Colpodellidae	1	1
Pseudocohnilembidae	1	3	Tintinnidae	3	3	Cyclopyxidae	1	1
Pseudoholophryidae	3	8	Tokophryidae	1	1	Echinamoebidae	1	1
Pseudokeronopsidae	3	7	Tontoniidae	1	1	Encephalitozoonidae	1	1
Pseudourostylidae	1	3	Tracheliidae	5	18	Flabellulidae	1	1
Ptychocylidae	1	2	Trachelocercidae	4	18	Joeniidae	1	1
Reticulowoodruffiidae	1	2	Trachelophyllidae	8	24	Nephridiophagidae	1	1
Rigidotrichidae	1	1	Trihymenidae	1	1	Polymastigidae	2	2
Sagittariidae	1	1	Turaniellidae	1	1	Spironemidae	1	1
Scaphidiodontidae	1	1	Urnuidae	1	1	Spirotrichonymphidae	1	1
Sorogenidae	1	1	Uronematidae	2	3	Total	11	11
Spathidiidae	8	33	Uronychiidae	2	2			
Spirostomidae	4	12	Urostylidae	7	9			
Stentoridae	2	4	Urotrichidae	1	12			
Stokesiidae	1	1	Vorticellidae	5	13			
Strobilidiidae	2	5	Woodruffiidae	5	8			
Strombidiidae	3	9	Zoothamniidae	1	1			
Swedmarkiidae	1	1	incertae sedis	7	8			
Tectohymenidae	1	1	Total	332	768			

Table 10: Continents and countries represented in the Linz collection including the number of "type" localities (OT).

Continent	Country	OT	Continent	Country	OT	
Europe	Austria	254		Chile	1	
	Croatia	1		Costa Rica	13	
	Denmark	6		Cuba	1	
	Finland	1		Peru	2	
	France	49		USA	19	
	Germany	49		Venezuela	14	
	Greece	5	Asia	China	3	
	Hungary	1		India	1	
	Iceland	2		Israel	10	
	Italy	2		Japan	6	
	Norway	1		Jordan	2	
	Poland	1		Maldives	2	
	Portugal	4		Saudi Arabia	1	
	Spain	4		Australia	Fiji Islands	3
	Turkey	1	Australia		48	
	Africa	Benin	13		Papua New Guinea	1
		Botswana	4		Tasmania	1
Burundi		7	Antarctica		49	
Cameroun		9				
Egypt		4				
Kenya		35	Total	Unknown	7	
Madagascar		2		Europe	15	381
Mali		1		Africa	12	202
Namibia		108		America	8	62
Rwanda		7		Asia	7	25
South Africa		11		Australia	4	53
Tunisia	1	Antarctica		1	49	
America	Brazil	8		47	779	
	Cap Verde	4				

5 Discussion

5.1 Ambiguities of the ICZN and how many codes are needed?

Protists are neither plants nor animals, because, for instance they are (mostly) single cells without somatic tissue. However, they must be regarded as plants or animals for purposes of their nomenclature. The choice of which code to apply to a protist is unregulated; thus if nomenclatural instability is to be avoided, some changes in current practices are required (CORLISS 1983; TAYLOR et al. 1986; HEYWOOD & ROTHSCCHILD 1987, ROTHSCCHILD & HEYWOOD 1988; PATTERSON 1986, PATTERSON & LARSEN 1992; HAWKSWORTH et al. 1994; ADL et al. 2005, 2007). ROTHSCCHILD & HEYWOOD (1988) favour the adoption of a unified nomenclatural code, i.e. amalgamating existing codes into a single new code for all of life. If this is impossible for the heuristic and political reasons outlined by PATTERSON (1986), they suggest that botanical and zoological nomenclature be retained for the “true” (in an evolutionary sense) plants and animals, and develop a separate, again non-prejudicial ICZN for the lower taxonomic levels of the protists. PATTERSON & LARSEN (1992) proposed to establish a single common committee to consider issues arising with protists and other ambiregna taxa and identified 13 issues that deserve attention during desirable harmonization of the codes. Most relevant for present concerns is their suggestion that uninterpreted records (photographs, film, video, etc.) may serve to “typify” a taxon, which is opposed here (see chapter 5.1.2).

Protistologists are necessarily a special interest group and our problems should be reflected in future regulations. Thus, the discussion on the particular problems of protistan nomenclature should be intensified. As no solution concerning a unified code is foreseeable (e.g. HAWKSWORTH 1996), I will focus on the ICZN (1999) and its improvement since there should be a single ICZN, not different rules for different situations (cp. DUBOIS & NEMÉSIO 2007). Notwithstanding, our primary goal should be to accelerate the collection, study, description and storing of as many biological species of our planet as possible before they get extinct. It should be clear that all other goals – for example a phylogenetic nomenclature, however, “interesting” they may appear from a purely theoretical point of view – do not have the same priority (cp. DUBOIS 2006a).

5.1.1 Published versus unpublished evidence

“Types” must be fixed originally for new taxa established after 1999 (ICZN 1999 Art. 16.4, 72.3). This statement simply requires a designation, but not clearly – viz. only in a recommendation (Rec. 16C) and for the

“neotype” (Art. 75.3.7) – that the onomatophoront has to be preserved after designation and description (cp. DUBOIS & NEMÉSIO 2007). This results in the perplexing situation that, for instance, *Enchelyodon kenyaensis* FOISSNER, AGATHA & BERGER, 2002 is available, although “type” material is absent (Tab. 4), while more than 20 names are unavailable (see chapter 3), because formal “typification” has been forgotten par lapsus by FOISSNER & XU (2007; pers. comm.), although onomatophoronts are already deposited. Perhaps, since a second volume of the book is announced, Art. 10.1.1 of the ICZN (1999) can be applied referring to interrupted publication, continued at a later date, which makes the names available. Likewise complex is the case of *Protospathidium vermiforme* FOISSNER, AGATHA & BERGER, 2002, which remained untypified (see their table 1 and page 310), because it is a replacement name for a misidentified *P. bonneti*, redescribed by FOISSNER (1981), but without “neotype”.

Likely due to an overload with taxonomic matters, “type” designation has been omitted in several big revisions (e.g. FOISSNER 1993, partially FOISSNER et al. 1991, 1994, FOISSNER & XU 2007) and some smaller papers after 2000 (e.g. FOISSNER 2003a). Provided an unambiguous labelling and deposition of the respective slides, I suggest considering them as subsequently designated by the original author. Unfortunately, the recommendations for labelling a “type” (cp. 16D, 72D, E, 73C, D, E) are rarely fulfilled, but moreover, the ICZN (1999) is ambiguous concerning the inclusion of external, viz. unpublished, evidence such as labels of specimen and collector’s notes (cp. pro – Art. 72.4.1.1, 73.1.2, 73.2.1 and Rec. 76A; contra – Art. 7, 9, 72.4.7). For me an originally labelled slide in an official repository and data accompanying the original material should be given more weight in future rulings. This topic is closely interrelated with the next, both indicating that theory, i.e. designation, has priority over practice, i.e. deposition, in the present ICZN. As the ranks and concepts of a species, genus or other category cannot be defined objectively, the respective name-bearers should be differentiated as suggested by DUBOIS (2000; cp. chapter 2.1.2).

5.1.2 Immaterial versus material evidence

As KNAPP et al. (2004) noted it seems logical to assume that “type” specimens should be deposited in public institutions that will care for them in perpetuity – they are held in trust for future generations of biologists. Strangely, none of the codes specifies the deposition of all “types” in public institutions. It is required by the ICZN (1999 Art. 75.3.7) that “neotypes” be deposited in public institutions; why should the same not be mandatory for other primary “types” (holotypes, syntypes, lectotypes)? “Type” specimens deposited in pri-

vate collections (personal herbaria or museums) often are lost, either temporarily or permanently, when the owner of the collection dies or the collection is broken up. This is particularly problematic for “holotypes” based on unicate (single specimen) collections and for difficult-to-maintain bacterial cultures. The Bacteriological Code now requires new names to be “typified” with living cultures maintained in two registered collections (LAPAGE et al. 1992; DE VOS & TRÜPER 2000). Authors must also provide evidence as to the deposition and availability of the strains. This sort of deposition of specimens and declaration of the open accessibility of the specimens would be a logical and welcome step for the other codes to follow, modified of course to conform to the specifics of the sorts of specimens involved.

A further question concerns dead or alive specimens as onomatophoronts (cp. DALEBOUT & BAKER 2002; WAKEHAM-DAWSON et al. 2002): Larger algae, shelled foraminifera, and silver-stained preparations of ciliates may be preserved for posterity. There is no easy means of obtaining “type” material for many smaller algae, amoebae, or heterotrophic flagellates. These organisms often occur in diverse communities, and each species is often present in low abundances. To obtain “type” organisms from natural communities requires that individual cells be isolated, a suitable medium and food found, and conditions for growth established so that large numbers of cells are available. Subsequently, some device has to be used that will preserve the cells so that their diagnostic features can be freely observed. This process requires considerable time and manpower, with no guarantee of success (PATTERSON & LARSEN 1992).

Representation of protists in culture collections, some international in coverage, is on the increase (CORLISS 1965; DAGGETT 1980; see also online culture collection in chapter 7). Apart from the great deal of labor involved in establishing and maintaining such a culture collection, only a small portion of ciliates and other protists are cultivable (WILLIAMSON et al. 2007). To obviate changes which might occur over a prolonged time, all available strains have been cryopreserved (DAGGETT 1980; DAY & PRÖSCHOLD 2007).

Due to difficulties in preservation illustrations are increasingly designated as onomatophoronts for ciliates, e.g. for *Sturiella oblonga* (BORZA 1981), five *Praecalpionellites* spp. (GRÜN & BLAU 1999); *Pelagothrix chlorelligera* FOISSNER, BERGER & SCHAUMBURG, 1999, *Paramecium triassicum* FOISSNER & SCHÖNBORN in SCHÖNBORN, DÖRFELT, FOISSNER, KRIENITZ & SCHÄFER, 1999, *Rostrophrya fenestrata* FOISSNER, AGATHA & BERGER, 2002, *Nassula tuberculata* FOISSNER, AGATHA & BERGER, 2002 and further protists (e.g. BANDONI & DUSZYNSKI 1988; MIKRJUKOV & MYLNIKOV 2001; HAUSMANN et al. 2002;

NITSCHKE et al. 2007). The present practice of using illustrations as “holotypes” does not solve the underlying problem (HAWKSWORTH 1992; DUBOIS & NEMÉSIO 2007) because these illustrations cannot be examined to reveal new data when an existing description is found to be incomplete or inaccurate. Further, features which are considered as unimportant at the time of description may later become decisive taxonomic characters for comparison with new species (FOISSNER 2002: 166). Moreover, illustrations can serve as surrogate lectotypes (ICZN 1999 Art. 74.4), but they cannot serve as neotypes, which must be specimens (Art. 75).

Genomes are discussed as further alternatives to conventional “type” material (e.g. ADL et al. 2007). However, if care is not taken during the introduction of new technologies (particularly molecular criteria), the identities of organisms studied by early workers can easily become confused. The sole use of the DNA sequence of a particular gene, perhaps using different genes for each taxonomic group, seems to me a retrograde step, tantamount to throwing away good data (cp. KNAPP et al. 2004; WILLIAMSON et al. 2007). The checks and balances of the morphology of an actual specimen on which a taxonomist can examine additional characters are critical for the best taxonomic practice; the more data the better. The examination of “type” material is the single most reliable means to avoid misapplication of names and superfluous redescription of taxa already known to science.

5.1.3 Single specimen versus multiple specimens

Note that for curatorial purposes in protistology at present the effective units are the slides, which almost invariably can embrace several specimens (cp. homepage of BMNH). This contradicts an important principle of most nomenclatural codes, that is “To be objective a type must be unique, for identification of two or more individuals to the same species is always, in the last resort, a matter of subjective judgement” (MELVILLE 1980). The best words on this paradox have been found by DASTON (2004) and are thus cited here (of course they also apply to heterotrophic organisms): “The name of a [...] species does not inhere in the population of all members of that species, nor in some abstracted prototype or essence of the species, but rather in a single, concrete individual specimen that has been designated by the person who first publishes a newly discovered species as its holotype or type specimen, ideally for all time. [...] the modern type specimen achieved its paradoxical status as a concrete abstraction [...] type specimens turn the traditional logic of abstract ideas as the basis for the classification of particulars on its head, defy the canons of reliable sampling and inference, and are emphatically not prototypes or archetypes or anything

else smacking of the Platonic. Nor are they triumphs of nominalism: individual plants represent species; they do not, so to speak, supplant them. [...] Article after article weighed the pros and cons of multiple versus unique type specimens, but most plumped for singular specimens as the only way to insure the singularity of species names, despite the difficulties entailed by applying this rule to polymorphous plants or to fragmentary. [...] It is the calibration of species – always incorporated in particular specimens – with the holotype and description that forges the chain of transmission. This is neither realism – botanical species as essences – nor nominalism – species as random agglomerations of individuals. It is equally difficult to locate along the axis running from concrete to abstract. The holotype and its practices of induction between particulars have created a new way of representing the many by the one, a particular that stands in for the species, a type incarnate in the individual. Metaphysics in action.“

Consequently, the definition of the kinds of name-bearers should be much more stringent in a future edition of the ICZN:

(i) A “holotype” is based on unicate (single specimen) collections, this is conflicting since a hapantotype or a single unique collection (see below) is also a “holotype” (ICZN 1999 Art. 73.3). Why is individual not used in the ICZN and other codes? The confusing terminology is illustrated by the protist *Pneumocystis*, recently recognised as fungus, which resulted in a nomenclatural shift from the ICZN to the ICBN (REDHEAD et al. 2006). The authors noted that the same may be true for all microsporidians and sundry other organisms and give guidelines for the publication of new species of *Pneumocystis*: “[...]a holotype, which is a single unique collection, must be designated and its single place of deposit explicitly indicated. Additional “types” (paratypes [different collections or isolates], isotypes [duplicate of the holotype in another institute] may supplement the description but are not required. Therefore, care must be taken to not indicate one collection/isolate and then several places of deposit without specifically indicating which institute curates the designated holotype. [...] The holotype may be a specimen, and for *Pneumocystis* this may be a permanent stained slide. In particular for Fungi (unlike plants), a cryopreserved isolate (e.g. lyophilized or frozen in liquid or vapour phase nitrogen, or in an ultra-cool freezer) can be designated (Art. 8.4). A living metabolically active isolate (i.e. non-frozen, non-lyophilized) may not be designated as a holotype, although such a specimen or isolate can complement a preserved specimen. A third possibility is the designation of an illustration, presumably photograph, as holotype, but that is only allowed if it is technically

difficult to preserve a specimen. Hence, designation of either published photographs, which must represent a single collection or sample and not multiple samples, or photographs or micrographs deposited in an institute must be accompanied by an explanation as to why it was technically difficult to preserve a specimen.”

(ii) It seems quite ambiguous that although “paratypes” belong to the “type” series, they are no name-bearers and do not become “syntypes” if the “holotype” is lost or destroyed (ICZN 1999 Art. 72.4.5, 72.10). The contradictory was transported in brief and usable definitions of “types” of CORLISS (1962b, 1972a) for protistologists. Why can “paratypes” not be used for “lectotype” selection (Art. 74), but are eligible for “neotype” selection (Rec. 75A)?

(iii) Although the term population is not used in the ICZN, it is implied in the term “syntype” (SIMPSON 1940), because two or more localities, thus places of different origin (ICZN 1999 Art. 73.2.3; 76.1) may be embraced. This contradicts the principle of “the original type locality” demanded for “neotypes” (Art. 75.3.6).

(iv) The characterization of a “hapantotype” is scattered in Art. 72.5.2 (colony[...] derived by asexual or vegetative multiplication), 72.5.4 (directly related individuals representing differing stages in the life cycle), 73.3 (one or more preparations) and the glossary of the ICZN (is a “holotype” that must not be restricted by lectotype selection). For 12 *Sarcocystis* species sets of three slides and two micrographs (light and electron) and three texts are declared as “neohapantotypes” (instead of neohapantotypes) by MEHLHORN et al. (1985) and were sent out to 24 institutions worldwide. According to their list of details only young, infectious tissue cysts and a semi-thin section of them are embraced in the set, while “all developmental stages” are provided in a “short” description. Moreover, no references to “type” localities are provided. This raises the questions of inevitable material vouchers, the status of illustrations and what is a complex life cycle? The cycle of ciliates may also embrace cysts, which are increasingly recognized as important for alpha-taxonomy (FOISSNER 1993: 153, 165, FOISSNER & BERGER 1999, FOISSNER et al. 2002: 438), micro- and macrostomes and complex ontogenetic stages. Are thus the cases discussed in the present catalogue “neohapantotypes”? What is really meant by a “holo- and lectohapantotype” mentioned by MELVILLE (1980) – a member of the Commission – if a “hapantotype” is to be treated as indivisible? If a slide is considered as the effective unit for protists, Rec. 72C of ICZN (1999) referring to the marking of important individuals becomes quite often nearly impractical (e.g. Fig. 35).

(v) The ICZN clearly and understandably does not favour “neotypes” and in many circumstances the non-existence of a “type” is not a sufficient reason by itself to designate a “neotype”. Numerous complicated cases of diverse zoological groups are treated in detail by the Commission in the “Bulletin of Zoological Nomenclature”. However, since 40 years, when CORLISS et al. (1965) and CORLISS (1972a) established some “neotypes” for “difficult” ciliates, further species have been increasingly neotypified without application to the Commission. In 2002, FOISSNER has submitted a general article on neotypification to the “Bulletin of Zoological Nomenclature” summarising the situation in protists and focusing on the “type” locality regulation of the Art. 75.3.6 of the ICZN (1999).

In the following two years five comments of 12 persons appeared in this Bulletin, among them the two editors of scientific journals and one non-protistologist. Seven supported the proposal of waving Art. 75.3.6 or consider it as flexible enough (CORLISS & SONG 2003; DRAGESCO & AL-RASHEID 2003; SLEIGH et al. 2003). REVETS (2004) argues against the proposal, because a special interest group is created and the universality and the authority of the ICZN would be destroyed. Four colleagues of the BMNH in London (CURDS et al. 2005) oppose to the phylum wide derogation of Art. 75.3.6 based on the false assumption (cp. chapter 2.1.2 and 5.2.3) that “neotypification inevitably defines the taxon’s range of morphological variability” and that illustrations are “an acceptable kind of nomenclatural type”. Apart from a thorough check for existing material and lectotypification, they suggest that (i) “a journal of record should be designated so that the search for taxonomic acts can be greatly facilitated” and (ii) “the deposition of molecular sequence data to accompany the actual specimens and/or illustrations on which newly described protistan taxa have been based”. I support here the view that such practices are not doing a service to the discipline of taxonomy as illustrations, DNA sequences or “definitions” cannot replace voucher specimens (cp. DUBOIS & NEMÉSIO 2007). Provided that neotypification is based on a thorough redescription of the organism and usable “neotype” material has been deposited in an acknowledged repository, its increasing usage is inevitable to avoid an inflation of newly established names. Protistologists are necessarily a special interest group and our problems should be reflected in future regulations, viz. the fifth edition of the ICZN. Under the light of the present evaluation, which reveals about one third prospective neotypes, not only deviating from “type” locality regulation, but also from the “single specimen” principle – unfortunately not clearly expressed in the ICZN, but rigorously applied in the cases treated in the “Bulletin of Zoological Nomenclature”,

an enormous amount of work awaits the very few people interested in protistan alpha-taxonomy and nomenclature and the Commission to which the cases will have to be referred for validation (see below).

5.1.4 Further notes

The botanical practice of citing basionyms should be adopted in the future ICZN in the adapted form of the protonym suggested by DUBOIS (2000). Likewise as exemplified in chapter 2.1, I agree that a much more precise terminology is necessary to unravel the nomenclature and particularly that the misleading term “type” and its derivatives should be abandoned. Concerning for instance *Trypanosoma cruzi* and other organisms, the word “typification” refers to biochemical characterization (e.g. REDHEAD et al. 2006) rather than the act of designating a “type” specimen, thus in a nomenclatural context this term might be replaced by **onymification**. Due to the fact that the citation of describing author(s) is optional (ICZN 1999 Art. 51.1) and the new problem that new taxa are increasingly described and recombined in papers signed by long lists of co-workers, DUBOIS (2000, 2008) proposed a partial but radical solution in shortening the bibliographic reference to the date(s). Although the drastic change was not followed yet, the proposal is worth of being taken into account because for instance *Telotrochidium matiense* (MARTIN-CERECEDA, SERRANO & GUINEA, 1999) MARTIN-CERECEDA, GUINEA, BONACCORSO, DYAL, NOVARINO & FOISSNER, 2007 would become *T. matiense* (1999) 2007 and *Declivistoma enchehydontides* (FOISSNER, AGATHA & BERGER, 2002) FOISSNER, AGATHA & BERGER in BERGER & AL-RASHEID, 2008 would shorten to *D. enchehydontides* (2002) 2008. The results in chapter 3 and the above discussion clearly show that the status of recommendations is often unclear and consequently remain frequently unfollowed. Improving the glossary and index of the ICZN may also help to improve univocality (absence of ambiguity) and overcome the role of nomenclature as “dry dusty subject” (KNAPP et al. 2004; DUBOIS 2006c).

As CORLISS (1962b!) already noted, from a practical point of view it is discouraging to the conscientious taxonomic protistologist to even contemplate making use of petitions to the authoritative international body of nomenclaturists. Reasons: we have so many hundreds of cases requiring treatment; composing a petition is often a long and difficult task (the Commission itself is only a fact-reviewing not a fact-finding board); and so few cases can be dealt with annually by the Commissioners (but through no particular lack of diligence on their part). With respect to the last point the figures given are truly appalling: from 1907 to 1936, only 133 cases were considered by the Commission; from 1936 to 1950, 218

decisions were made (still only 14 per year); in 1951, 268 cases were on the docket and new applications were being received at the rate of about 100 per year and amount to 3452 until March 2008 according to the last issue of the “Bulletin of Zoological Nomenclature”! The international community of zoologists – including protistologists – should take the necessary steps to update the ICZN before it is wiped out by alternative codes or ignorance. One of the main points will be to improve automaticity, viz. absence of arbitrary or bureaucratic decisions (e.g. DUBOIS 2005b, 2006c).

5.2 Evaluation of “typification” in protistology

The practice of “typification” in protistology was reviewed above spanning about 30 years (chapter 3) indicating that the designation of the different sorts of “types” is often bewildering. Considering further literature, albeit rather intermittently, the terms “holo-, para-, syn- and neotype” have been quite inconsistently applied, lectotypification has been performed very rarely (Tab. 1). Moreover, terms not included in the ICZN, such as “hypotype” (SALLEY et al. 1978), “photosyn-types” (light micrographs; DYKOVÁ et al. 2005), “para-neotype” (e.g. GONG et al. 2002; LIN et al. 2004) or “symbiotype” (BANDYOPADHYAY et al. 2007) can be found. The “type” locality and rationale for neotypification are widely ignored (e.g. FOISSNER group in the mid 1980s; DRAGESCO 1999a, b, 2002, 2003; PETZ et al. 1995; SONG et al. 2001). Since only rarely a single individual reveals all necessary diagnostic characters, several differently stained permanent preparations are declared as “holotype” in many cases. In 1985 the concept of the “hapantotype” has been established for protozoans, but until now it has hardly been used for ciliates (e.g. GRANDA & MONTAGNES 2003, although it is in fact a “neohapantotype”), even if ontogenesis is included (e.g. EIGNER & FOISSNER 1992; VOSS 1997; FOISSNER & BERGER 1999; SONG et al. 2001; SCHÖDEL 2006) and it is even not consequently used for parasites, where “syntypes” are designated recently (e.g. BRONNVALL & LARSSON 2001; KORNILOVA 2004; AL QURAIISHY et al. 2007). BISWAS et al. (2004) simultaneously designated “syntypes and hapantotypes” for a new apicomplexan species; for a latter member also the combination “hapantotype and iconotype” (a term not used in the ICZN) exists (LEANDER & RAMEY 2006). Hapantotypification applied to a “neotype” can be found in XU & SONG (2006), “hapantotypes and parahapantotypes” are designated by KUDRYAVTSEV & HAUSMANN (2007). These terminological difficulties are accompanied by further particular problems concerning single-celled organisms.

5.2.1 Problems of dimension, diversity and transient nature of populations

The study and preservation of many protists are not as straightforward as they are with most more-visible (so-called higher) animals and plants, because of their microscopic size (usual range 2–2000 µm with a strong bias toward a very small scale) and the transient nature of their populations, viz. they are encysted most of their life (FOISSNER 2006, 2007). Only when the appropriate conditions set in, do they excyst and become recognizable. Then, however, many of them – it is well known that rare species comprise more than 80 % of the total species in practically all organism communities – may be hidden by an abundance of a few ubiquitous and numerically dominant species (FOISSNER 2006). Thus, only when comparatively large samples are carefully (!) inspected by an experienced (!) investigator, are these rare species recognized (FOISSNER et al. 2002, 2005, 2008). The grand total of described-to-date protists, no matter how classified, reaches at least 300,000 species distributed among about three dozen phyla belonging to the five eukaryotic kingdoms challenging the few investigators devoting to this field (e.g. CORLISS 2002; FOISSNER 2002, 2006, 2008; PATTERSON 1999, 2003; ADL et al. 2005, 2007). In toto, their cytoarchitectural diversity and complexity – the list is far from exhaustive – is unique among all living things on earth. Controversial problems, such as the “species problem” and arguments of ubiquity versus endemism (see below), not trivial matters, are not made any easier by either the legitimate concerns of nomenclaturists (worried about synonymies, etc.) or the sobering predictions of census- or inventory-takers who estimate that protist species-yet-to-be-described are probably at least two or three times greater than those named and catalogued to date (CORLISS 2002; FOISSNER 2008).

Many ciliates and other protists are considered as being cosmopolitan, at least at morphospecies level (FINLAY et al. 1996, FOISSNER 1999, 2006, 2007, 2008), but there remains reasonable doubt that it is really so. More important is that they are very patchily distributed according to their microhabitat requirements. These microhabitats are usually transient, so that a species may have become extinct in the “type” locality, but may be abundant in other places (SLEIGH et al. 2003). Furthermore, the chances of rediscovering such minute organisms at a certain locality are minimal because they may be in a dormant (cystic) stage most of their lives and cultivation is quite often not successful. In addition, many are symbionts, commensals, or parasites of metazoan animals that often have a much wider biogeographical distribution than the narrow definition of ‘type locality’ implies. Unfortunately, biogeography of protists is still in its infancy (FOISSNER 2006, 2007, 2008; ADL et al. 2007).

5.2.2 Problems of lack and adequacy of “type” material

Beside their small size and immense diversity, the selective staining methods now available restrict the observable necessary features for identification (WEISER 1963; CORLISS 1963, 1965, 1972). Familiarity with at least four silver methods (or modifications) is an absolute prerequisite for successful taxonomic work. No staining method is equally appropriate to all kinds of ciliates and many heterotrophic and autotrophic flagellates (FOISSNER 1991: 314). Apart from silver impregnation (Fig. 2, 3, 5–7, 9–36), various other staining techniques are useful for taxonomic work with ciliates, especially the Feulgen nucleal reaction and supravital staining with methyl green-pyronin in order to reveal, respectively, the nuclear apparatus and the mucocysts. The preparation is yet temporary. Moreover, many important species characters cannot be seen or are changed in silvered specimens. In addition, several species (e.g., in the genera *Pseudoprorodon* and *Stentor*) persistently withstand our methods, their infraciliature and/or silverline system impregnates poorly or not at all (FOISSNER 2002, FOISSNER et al. 2002).

Good descriptions usually demand at least live observations, particularly on colour pigments, extrusomes and movement, silver nitrate and protargol or silver carbonate impregnation. Only the combination of observations, viz. the “constellation of characters” principle (CORLISS 1976), from living and prepared cells can provide sufficient information for a reliable determination. Additional important features are increasingly discovered, e.g. the resting cysts are much more diverse and are thus of great importance for alpha-taxonomy. Further improvements of existing methods or new techniques should therefore be developed (FOISSNER 1991, 1993, 2002). However, if care is not taken during the introduction of new technologies (particularly molecular criteria), the identities of organisms studied by early workers can easily become confused; normally, such difficulties can be resolved by reference to “type” material (e.g. PATTERSON & LARSEN 1992; ADL et al. 2007). As a result of these drawbacks, protistan systematics lags nearly a century behind the taxonomy of the better-known plant and animal groups and discussion concerning the adequacy, i.e. determinability, of deposited material is at its very beginning.

5.2.3 The underestimated role of repositories and documentation

Of course the traditions concerning palaeozoological collections are essentially different from those of extant non-shelled species (ZILCH 1939; WIKTOR & RYDZEWSKI 1991). However, it is not widely known that

Christian Gottfried EHRENBURG, one of the most important workers on the taxonomy of microscopic organisms, already cared to conserve his species and distributed vouchers to colleagues and museums (EHRENBURG 1837) and that some 40,000 microscope preparations, several thousand raw samples – mostly of diatoms and radiolaria – and thousands of illustrations are now available at the Museum für Naturkunde in Berlin (LAZARUS 1998, LAZARUS & JAHN 1998). Ongoing projects to re-catalogue the collection, improve access to materials, and to identify and re-illustrate the “type” material are highly welcomed and hopefully increase the interest in such “storing” activities, which are often denigrated, but absolutely necessary for the stability of nomenclature and reputation of taxonomy.

CORLISS (1963a, b) established an international “type”-slide collection for ciliates on the University of Illinois. Later it was transferred to the Smithsonian Institution (United States National Museum, USNM), comprising some 180 “type”-specimens, representing 105 species; until 1972 it increased to over 250 slides representing about 125 nominal ciliate species (CORLISS 1972a). According to COLE (1994) the respective values are 400 and 300, from which 159 ciliate species are listed in her catalogue (cp. Tab. 1); including further protists the collection embraced 650 slides of approximately 542 species. The British Museum in London actually lists about 140 identified ciliate species online not specifying if they are “types”. “Syntypes” of eight protist species are deposited in Canada (WEBSTER 1979), likewise small numbers are encountered in SALLEY et al. (1978), BOYKO (1994) and BAKKEN (1999). Further existing protist “types” are widely dispersed (cp. chapter 3), in numerous cases material is difficult to obtain because it is deposited in a university, e.g. the increasing collection in Qingdao, China, or private collections (cp. CORLISS 1972a; FOISSNER & PFISTER 1997, FOISSNER 2002, FOISSNER et al. 2002). Hence, the collection in Linz is the most comprehensive one worldwide.

Thus in general, the taxonomist who wishes to make a scholarly study of a group of species, including an investigation of their “typification”, faces the formidable task of locating the relevant original descriptions and “type” specimens. It seems to be a more general trend in recent scientific literature dealing with systematics, phylogeny and evolutionary biology, where the important role of vouchers is underestimated, if not ignored or denied (FUNK et al. 2005; DUBOIS & NEMÉSIO 2007). This is illustrated by the fact that some major databases such as GenBank do not require the indication of voucher specimens associated with the information they store (molecular sequences in the case of GenBank). Even the Zoological Record is very incomplete

(cp. chapter 5.2 and AESCHT 2001), viz. out of about 13,000 ciliate items less than 1 % refer to “type designation” or “typification”: also included are the designations of “type” species and “type” genera and nine of these deal with the comments to the general article on neotypification (cp. chapter 5.1.3). In fact, a total of eight refers to “hapantotypes” and five items remain indicating “neotypes”, non for “holo-, syn- or lectotypes”. Likewise, “type” localities and depositories are not indexed.

5.2.4 Two sides of a coin: taxonomy (science) and nomenclature (tool)

5.2.4.1 Confusing taxonomy and nomenclature

The ICZN (1999) operates on a number of simple principles. However, sometimes an inappropriate interpretation of the principles and rules causes confusion (cp. AESCHT 2001). Most of the problems discussed above derive, as many other ones in systematics (DUBOIS 2005a, b, 2006b), from confusion between the fields of taxonomy (recognising or diagnosing taxa) and nomenclature (naming taxa).

The first surprise to many scientists not familiar with taxonomy is that the ICZN does not attempt to regulate either which methods or species concepts are to be used, or which taxonomic interpretation of a given problem is correct (i.e. there is no regulated ‘official’ taxonomy). The ICZN deals solely with the way in which names are assigned to organisms, and which of these are to be used. Simple though this may appear, the ICZN is often misunderstood. It is because the ICZN is not correctly understood that names are used wrongly, or mistakes appear in the literature which can be misleading (cp. also chapter 4.2).

Secondly, unlike many evolutionary biologists believe (e.g. HEYWOOD & ROTHSCHILD 1987, ROTHSCHILD & HEYWOOD 1988), the ICZN does not regulate all nomina, but only those from the rank subspecies to the rank superfamily, excluding those of orders, classes and other higher categories, and those below the rank subspecies. The use of ranks and nominal-series in zoological nomenclature has recently been challenged by some authors who support unranked systems of nomenclature (ROTHSCHILD & HEYWOOD 1988; PATTERSON 1999, PATTERSON & LARSEN 1992; ADL et al. 2005, 2007). Nomenclatural ranks express only a position in a taxonomic hierarchy. If used consistently (which is not always the case), this system is very useful for the storage and retrieval of taxonomic and phylogenetic information. DUBOIS (2007) clearly shows that this criticism is based on a double misunderstanding: (1) the confusion between nomenclatural ranks and taxonomic categories; (2) the request for a monosemic nomenclatural

system, not for scientific reasons, but to please non-taxonomists, especially customers of the web. It is already argued by DUBOIS (2005a: 412-413, 2006b: 219-220) that nomenclatural ranks and taxonomic categories should be clearly distinguished and designated by different terms, and that the ICZN should be modified in order to make this distinction clear. Moreover, there is no theoretical reason for limiting this hierarchy of nomenclatural ranks either upwards, downwards or inwards (DUBOIS 2007). Consequently, DUBOIS (2005a, b, 2006b) further suggested that the nomina of higher-ranked taxa (nomenclatural class-series) should be incorporated into the ICZN; this system could be qualified as a system of bidirectional ostension, being a combination of inclusive and exclusive ostension. Such amendment would be very beneficial to unravel the system of protists, which is in a great flux. Already CORLISS (1972b, 1983) discussed the (unnecessary) proliferation of new names for redefined or reshuffled high-level taxa, i.e. kingdoms and phyla of protists and suggested to the use of either vernacular names (with a lowercase letter; a safe and inoffensive approach) or of existing names (a sensible as well as courteous approach).

5.2.4.2 “Types” are not necessarily typical

The principle of “typification” is of undeniable value. It means that each nominal taxon in the family, genus or species groups has actually or potentially a name-bearing “type”. The fixation of the name-bearing “type” of a nominal taxon provides the objective standard of reference for the application of the name it bears (ICZN 1999 Art. 61.1). “Typification” links the concept of a species to concrete specimens, the concept of a genus to a definite species, and that of a family to a definite genus.

But recall that at the basic level it must be distinguished between the name-bearing and the group-exemplifying functions (SIMPSON 1940):

(i) A “type” specimen is only the name-bearers of a nominal species. Such “type” is purely a nomenclatural concept, and has no significance for classification. It is not necessarily the most typical or representative element of the taxon in terms of range of variation (SIMPSON 1940; DASTON 2004) and thus does not guide scientists in their taxonomic decisions (cp. chapters 2.1.2, 5.1.3). In other words, a “type” specimen must not be considered as source of all descriptive data needed in identification of the species! This is the main reason, why the possibility of “hapantotypes” is not used herein.

(ii) Full characterization of a species must include not only the results of a comparative study of populations of the organism but consideration of its living aspects, entire life cycle (morphogenesis, cysts, polymor-

phism, swarmers, micro-macrostromes), behaviour, ecology, genetics and of its variation under differing conditions. Text and figures of original and subsequent descriptions must be considered by later workers (cp. already CORLISS 1972a) and in detailed revisions (e.g., FOISSNER 1993; BERGER 2006).

5.3 Guideline for “typification” of species

The deposition of “type” and/or voucher slides should become a standard procedure during taxonomic and ecological work. It is the only possibility to re-study populations and related concepts. Ideally this material is to be held in trust for science by a person responsible for their safe keeping. This responsibility on a fairly long-term basis is costly and cannot be provided in private collections and in universities with their temporary stuff. Thus, “types” should be housed in acknowledged repositories. The Biology Centre in Linz is such an institution and moreover the sole worldwide with a trained protistologist to ensure safety and the future availability to colleagues. **Don’t forget that onomatophores must be fixed originally for a new species, genus and family established, unless these taxa are “non-existent” in zoological nomenclature!**

As the basis of any biological classification is in practice one individual per species, the specific suggestions to contributors of collections, already proposed by CORLISS (1972a) are actualised, grouped, and extended here as follows:

- (1) Specimens should be preserved on slides by any of several methods of silver impregnation. Such preparations are generally the most useful as “type” material because of their permanence and what they reveal by way of morphological characteristics of comparative taxonomic significance. Other techniques (e.g. hematoxylin, Feulgen nuclear reaction, Borax carmine, Giemsa, nigrosin), if they give adequate results, are not to be and cannot be excluded, of course! It is important that details on preparation and embedding method for future remounting are included for the repository.
- (2) Single out one individual as “holotype” (ICZN 1999 Art. 73.1), further specimens may be designated as “paratypes” (Rec. 73D; Fig. 18, 20, 31-34). If different ontogenetic stages are embraced in one or more slide(s) or different preparation methods for a population from a single source are applied, they should be declared as “syntypes” (Art. 73.2.1.1). Concerning neotypification, also only one individual should be selected, further slides represent vouchers.
- (3) Note that the labelling of slides, despite of the restricted space, should not be underestimated. Moreover, it has to be done by the depositor and is not performed in a standardised form by a curator. The data on the label should be in accordance with published ones (cp. chapter 2.1.1). In addition to Recommendation 73C of the ICZN (1999) concerning data on the “holotype”, the microhabitat should be included for protists, at least in the publication (cp. chapter 5.2.1). If appropriate, the “type” slide(s) should be accompanied by an equally sized sheet of paper, which states the species and the kind of “types” contained (H – “holotype” specimen, N – “neotype” specimen, P – “paratype” specimen, V – voucher). Apart from the “holotype”, which is usually drawn, further specimens which served as a basis for illustrations should be marked by the letter “D” (Fig. 34-36).
- (4) Mark (use different colours on an external sheet of paper; Fig. 35, 36) distinctly the locations of specimens considered to be of crucial importance in demonstrating the taxonomic characters according to Rec. 72C of the ICZN (1999).
- (5) Select one or two repositories: A second repository is a highly recommended procedure, for such obvious reasons as safety and the convenience of future availability to other protistologists. The voucher(s), particularly “type” slide(s), should be immediately deposited and mailed with greatest care (not simply scantily wrapped and placed in an ordinary envelope with an accompanying letter! Such slides may arrive completely broken). Their arrival will be acknowledged along with the assignment of a permanent number in the collection. Inventory numbers will be only applied for deposited slides and no more in advance to avoid later discrepancies between publication and existence in the collection. Checking the label and marks on it may be a help for untrained taxonomists in designating categories of onymophoronts and unburden editors of scientific journals to fulfil the ICZN.
- (6) Include the original designation, the number of slides and the place of deposit of these “type” specimens in the original description of the new species, according to Rec. 72E of the ICZN (1999) all information on labels should be cited. The deposition of vouchers should also be published to facilitate the future recognition of this material. Include the official acronym of the repository, for instance **LI** for the Biology Centre of the Upper Austrian Museum in Linz according to the Biological Repositories Organisation (www.biorepositories.org).

- (7) After delivery of the publication two reprints or one pdf-file of the paper have to be sent to the repository, to ensure the link between material and circumscription. The paper will be filed and kept in the vicinity of the specimen collection.
- (8) In accordance with the ICZN (1999 Rec. 72F), all material received will be properly handled and indexed and regarded as “property of science”; preparations of name-bearers will be made available in Linz to qualified workers who need them temporarily for research purposes. “Paratypes” and vouchers may be borrowed by investigators connected with museums, other research institutions or specialists of a group. The principal value of a collection, of course, resides in its wide usage!

6 Acknowledgements

My thanks go to Helmut BERGER (Salzburg) for many valuable comments. All its remaining flaws are of course my responsibility. I also thank my colleagues in the library of the museum and Julia WALOCHNIK (Vienna) for support with literature.

7 References

Only references occurring in the general chapters are given in full length, because literature referring to “type” material in chapter 3 is cited by complete authorship, journal, volume (bold) and page number(s). Most of them can be found in the bibliography (and references therein) of W. FOISSNER (cp. AESCHT & BERGER, present issue). For ease of user, further references concerning deposition, viz. of other authors and those of W. FOISSNER (and co-workers) also needed in the general section, are marked by an asterix.

- ADL S.M., LEANDER B.S., SIMPSON A.G.B., ARCHIBALD J.M., ANDERSON O.R., BASS D., BOWSER S.S., BRUGEROLLE G., FARMER M.A., KARPOV S., KOLISKO M., LANE C.E., LODGE D.J., MANN D.G., MEISTERFELD R., MENDOZA L., MOESTRUP Ø., MOZLEY-STANDRIDGE S.E., SMIRNOV A.V. & SPIEGEL F. (2007): Diversity, nomenclature, and taxonomy of protists. — *Syst. Biol.* **56**: 684–689.
- ADL S.M., SIMPSON A.G.B., FARMER M.A., ANDERSEN R.A., ANDERSON O.R., BARTA J.R., BOWSER S.S., BRUGEROLLE G., FENSOME R.A., FREDERICQ S., JAMES T.Y., KARPOV S., KUGRENS P., KRUG J., LANE C.E., LEWIS L.A., LODGE J., LYNN D.H., MANN D.G., McCOURT R.M., MENDOZA L., MOESTRUP O., MOZLEY-STANDRIDGE S.E., NERAD T.A., SHEARER C.A., SMIRNOV A.V., SPEIGEL F.W. & TAYLOR M.F.J.R. (2005): The new higher level classification of eukaryotes with emphasis on the taxonomy of protists. — *J. Eukaryot. Microbiol.* **52**: 299–451.
- AESCHT E. (1994): Die Erforschung der Urtiere (Protozoen) in Österreich. — *Kataloge des OÖ. Landesmuseums N. F.* **71**: 7–79.
- AESCHT E. (2001): Catalogue of the generic names of ciliates (Protozoa, Ciliophora). — *Denisia* **1**: 1–350.
- AESCHT E. (2003a): Zur Geschichte der Sammlung “Wirbellose Tiere” (ohne Insekten) am Biologiezentrum Linz. — *Beitr. Naturk. Oberösterreichs* **12**: 51–88.
- AESCHT E. (2003b): Typen-Liste der Sammlung “Wirbellose Tiere” (ohne Insekten) am Biologiezentrum Linz. — *Beitr. Naturk. Oberösterreichs* **12**: 377–406.
- AGATHA S. (2003a): Morphology and ontogenesis of *Novistrombidium asphericum* nov. comb. and *Strombidium arenicola* (Protozoa: Ciliophora): a comparative lightmicroscopical and SEM study. — *Europ. J. Protistol.* **39**: 245–266. *
- AGATHA S. (2003b): Redescription of *Strombidinopsis minima* (GRUBER, 1884) LYNN et al., 1991 (Protozoa, Ciliophora), with notes on its ontogenesis and distribution. — *Europ. J. Protistol.* **39**: 233–244. *
- AGATHA S. & RIEDEL-LORJÉ J.C. (1998): Morphology, infraciliature, and ecology of some strobiliine ciliates (Ciliophora, Oligotrichea) from coastal brackish water basins of Germany. — *Europ. J. Protistol.* **34**: 10–17. *
- AGATHA S. & RIEDEL-LORJÉ J.C. (2006): Redescription of *Tintinnopsis cylindrica* DADAY, 1887 (Ciliophora: Spirotricha) and unification of tintinnid terminology. — *Acta Protozool.* **45**: 137–151. *
- AGATHA S. & STRÜDER-KYPKE M.C. (2007): Phylogeny of the order Choreotrichida (Ciliophora, Spirotricha, Oligotrichea) as inferred from morphology, ultrastructure, ontogenesis, and SSrRNA gene sequences. — *Europ. J. Protistol.* **43**: 37–63. *
- AL QURAISHY S., KOURA E., ABDEL-BAKI A.S., BASHTAR A.-R., EL DEED N., AL RASHEID K. & ABDEL GHAFAR F. (2007): Light and electron microscopic studies on *Kudoa pagrusi* sp. n. (Myxosporaea: Multivalvulida) infecting the heart of sea bream *Pagrus pagrus* (L.) from the Red Sea. — *Parasitology Research* **102**: 1432–1955 (Online).
- AUGUSTIN H. & FOISSNER W. (1989): Morphologie einiger Ciliaten (Protozoa: Ciliophora) aus dem Belebtschlamm. — *Lauterbornia* **1**: 38–59. *
- BAKKEN T. (1999): A catalogue of the type specimens of protozoans, invertebrates and fish in the Museum of Natural History and Archaeology, NTNU. — *Gunneria* **74**: 1–38.
- BANDONI S.M. & DUSZYNSKI D.W. (1988): A plea for improved presentation of type material for coccidia. — *J. Parasit.* **74**: 519–523.
- BANDYOPADHYAY P.K., MALLIK P. & MITRA A.K. (2007): *Nematocystis indica* sp. n. (Protozoa, Apicomplexa, Eugregarinida), an endoparasitic monocystid gregarine from the seminal vesicles of an Indian earthworm *Amyntas diffringens* BAIRD (Annelida, Oligochaeta). — *Protistology* **4**: 357–360.
- BAUMGARTNER M., YAPI A., GRÖBNER-FERREIRA R. & STETTER K.O. (2003): Cultivation and properties of *Echinamoeba thermarum* n. sp., an extremely thermophilic amoeba thriving in hot springs. — *Extremophiles* **7**: 267–274. *
- BERGER H. (1999): Monograph of the Oxytrichidae (Ciliophora, Hypotrichida). — *Monogr. Biologicae* **78**: 1–1080.
- BERGER H. (2004): *Amphisiella annulata* (KAHL, 1928) BORROR, 1972 (Ciliophora: Hypotrichida): morphology, notes on morphogenesis, review of literature, and neotypification. — *Acta Protozool.* **43**: 1–14. *
- BERGER H. (2004): *Uroleptopsis* KAHL, 1932 (Ciliophora: Hypotricha): morphology and cell division of type species, redefinition, and phylogenetic relationships. — *Acta Protozool.* **43**: 99–121. *
- BERGER H. (2006): Monograph of the Urostyloidea (Ciliophora, Hypotricha). — *Monogr. Biologicae* **85**: 1–1304.

- BERGER H. & AL-RHASHEID K.A.S. (2008): Wilhelm FOISSNER: nomenclatural and taxonomic summary 1967–2007. — *Denisia* **23**: this volume
- BERGER H. & FOISSNER W. (1987): Morphology and biometry of some soil hypotrichs (Protozoa: Ciliophora). — *Zool. Jb. Syst.* **114**: 193–239. *
- BERGER H. & FOISSNER W. (1989): Morphology and biometry of some soil hypotrichs (Protozoa: Ciliophora) from Europe and Japan. — *Bull. Br. Mus. nat. Hist. (Zool.)* **55**: 19–46. *
- BERGER H., FOISSNER W. & ADAM H. (1983): Morphology and morphogenesis of *Fuscheria terricola* n. sp. and *Spathidium muscorum* (Ciliophora: Kinetofragminophora). — *J. Protozool.* **30**: 529–535. *
- BERGER H., FOISSNER W. & ADAM H. (1984): Taxonomie, Biometrie und Morphogenese einiger terricoler Ciliaten (Protozoa: Ciliophora). — *Zool. Jb. Syst.* **111**: 339–367. *
- BISWAS S., CHATTERJEE M. & HALDAR D.-P. (2004): New species of *Odonaticola* SARKAR et HALDAR, 1981 (Apicomplexa: Conoidasida) from dragonflies (Insecta: Odonata) in West Bengal, India. — *Acta Protozool.* **43**: 183–191.
- BLATTERER H. & FOISSNER W. (1988): Beitrag zur terricolen Ciliatenfauna (Protozoa: Ciliophora) Australiens. — *Stapfia* **17**: 1–84. *
- BORZA K. (1981): *Sturiella* nov. gen. (Calpionellidae BONET, 1959) aus der unteren Kreide der Westkarpaten. — *Zapadne Karpaty, Seria Paleontologia* **6**: 93–97.
- BOYKO C.B. (1994): Catalog of recent type specimens in the Department of Invertebrates, American Museum of Natural History. 1. Micro-invertebrates (phyla Sarcomastigophora, Gnathostomula, Gastrotricha, Rotifera, and Tardigrada). — *Amer. Mus. Novitates* **3106**: 1–44.
- BRONNVALL A.-M. & LARSSON J.-R. (2001): Ultrastructure and light microscopic cytology of *Agglomerata lacrima* n. sp. (Microspora, Duboscqiidae), a microsporidian parasite of *Acanthocyclops vernalis* (Copepoda, Cyclopidae). — *Europ. J. Protistol.* **37**: 89–101.
- COLE L. (1994): Catalog of type specimens in the International Protozoan Type Collection. — *Smithson. Contr. Bot.* **561**: 1–28.
- CORLISS J.O. (1962a): Nomenclatural problems and practices in protozoology. — *J. Protozool. Suppl.* **9**: 12.
- CORLISS J.O. (1962b): Taxonomic-nomenclatural practices in protozoology and the new International Code of Zoological Nomenclature. — *J. Protozool.* **9**: 307–324.
- CORLISS J.O. (1963a): An international collection for type-specimens of the ciliate protozoa. — *Trans. Amer. microsc. Soc.* **82**: 350–351.
- CORLISS J.O. (1963b): Establishment of an international type-slide collection for the ciliate protozoa. — *J. Protozool.* **10**: 247–249.
- CORLISS J.O. (1965): The importance of type-specimens and type-culture collections in protozoology. — *Exc. Medica Int. Congr. Ser. [Conf. Int. Protozool. Progr. Protozool.]* **91**: 56–57, Abstr. 46.
- CORLISS J.O. (1972a): Current status of the international collection of ciliate type-specimens and guidelines for future contributors. — *Trans. Am. microsc. Soc.* **91**: 221–235.
- CORLISS J.O. (1972b): Common sense and courtesy in nomenclatural taxonomy. — *Trans. Am. microsc. Soc.* **91**: 117–122.
- CORLISS J.O. (1972c): Proposal for amendment of the code to allow multiple specimen type material in appropriate animal groups. *Z.N.(S.)* 2002. — *Bull. Zool. Nomencl.* **29**: 92.
- CORLISS J.O. (1976): General attributes and advantages of species of protozoa as objects of biological research. — *J. Protozool.* **23**: 14A.
- CORLISS J.O. (1982): The history and role of nomenclature in the taxonomy and classification of organisms. — In: PARKER S.P. (Ed.): *Synopsis and Classification of Living Organisms*. McGraw-Hill Book Company, New York **2**: 1065–1066.
- CORLISS J.O. (1983): Consequences of creating new kingdoms of organisms. — *BioScience* **33**: 314–318.
- CORLISS J.O. (1990): Toward a nomenclatural protist perspective. — In: MARGULIS L., CORLISS J.O., MELKONIAN M. & CHAPMAN D.J. (Ed.): *The Handbook of the Protoctista*. Jones & Bartlett Publ., Boston.
- CORLISS J.O. (1992): Should there be a separate code of nomenclature for the protists? — *BioSystems* **28**: 1–14.
- CORLISS J.O. (1995): The ambireginal protists and the codes of nomenclature: a brief review of the problem and of proposed solutions. — *Bull. Zool. Nomencl.* **52**: 11–17.
- CORLISS J.O. (2002): Biodiversity and biocomplexity of the protists and an overview of their significant roles in maintenance of our biosphere. — *Acta Protozool.* **41**: 199–219.
- CORLISS J.O. & SONG W. (2003): Comments on the neotypification of protists, especially ciliates (Protozoa, Ciliophora). — *Bull. Zool. Nom.* **60**: 48–49.
- CORLISS J.O., PUYTORAC P. DE & LOM J. (1965): Resolution of persistent taxonomic and nomenclatural problems involving ciliate protozoa assignable to the astome family Haptophryidae CEPEDE, 1923. — *J. Protozool.* **12**: 265–273.
- CURDS C.R., NOVARINO G., WARREN A. & ROBERTS D.M. (2005): Comments on the neotypification of protists, especially ciliates (Protozoa, Ciliophora). — *Bull. Zool. Nomencl.* **62**: 26–28.
- DAGGETT P.-M. (1980): Why a reference collection of living protozoa? — *J. Protozool.* **27**: 507–508.
- DALEBOUT M.L. & BAKER C.S. (2002): Type specimens: dead or alive? — *Bull. Zool. Nomencl.* **59**: 284–286.
- DASTON L. (2004): Type specimens and scientific memory. — *Critical Inquiry* **31**: 153–182.
- DAY J.G. & PRÖSCHOLD T. (2007): The conservation of “biological standards” or Why bother freezing protists? — *Society for Low Temperature Biology (SLTB) Newsletter* May 2007: unpaginated [<http://www.sltb.info/newsletter.html>].
- DE VOS P. & TRÜPER H.G. (2000): Judicial Commission of the International Commission on Systematic Bacteriology. IXth International (IUMS) Congr. Bacteriol. Appl. Microbiol. Minutes of the meetings. — *Int. J. Syst. Evol. Microbiol.* **50**: 2239–2244.
- DIECKMANN J. (1988): Infraciliature and morphogenesis of *Paraholosticha sterkii* (GARNJOBST, 1934) n. comb. (Ciliophora, Hypotrichida). — *Europ. J. Protistol.* **23**: 218–228. *
- DRAGESCO J. (1954): Diagnoses préliminaires de quelques ciliés nouveaux des sables. — *Bull. Soc. zool. Fr.* **79**: 62–70. *
- DRAGESCO J. (1954): Diagnoses préliminaires de quelques ciliés psammophiles nouveaux. — *Bull. Soc. zool. Fr.* **79**: 57–62. *
- DRAGESCO J. (1960): Ciliés mésopsammiques littoraux. Systématique, morphologie, écologie. — *Trav. Stn. biol. Roscoff (N. S.)* **12**: 1–356. *

- DRAGESCO J. (1963): Compléments a la connaissance des ciliés mésopsammiques de Roscoff I. Holotriches. — Cah. Biol. mar. **4**: 91–119.
- DRAGESCO J. (1965): Ciliés mésopsammiques d'Afrique Noire. — Cah. Biol. mar. **6**: 357–399. *
- DRAGESCO J. (1965): Étude cytologique de quelques flagellés mésopsammiques. — Cah. Biol. mar. **6**: 83–115. *
- DRAGESCO J. (1966): Ciliés libres de Thonon et ses environs. — Protistologica **2**: 59–95.
- DRAGESCO J. (1968): Les genres *Pleuronema* DUJARDIN, *Schizoclyptra* nov. gen. et *Histiobalantium* STOKES (ciliés holotriches hyménostomes). — Protistologica **4**: 85–106. *
- DRAGESCO J. (1970): Ciliés libres du Cameroun. — AnnsFac. Sci. Univ. féd. Cameroun (Numéro hors-série) : 1–141. *
- DRAGESCO J. (1972): Ciliés libres de la cuvette tchadienne. — AnnsFac. Sci. Univ. féd. Cameroun **11**: 71–91. *
- DRAGESCO J. (1972): Ciliés libres de l'Ouganda. — AnnsFac. Sci. Univ. féd. Cameroun **9**: 87–126. *
- DRAGESCO J. (1996): Infraciliature et morphométric de cinq espèces de ciliés mésopsammiques méditerranéens. — Cah. Biol. mar. **37**: 261–293. *
- DRAGESCO J. (1999a): Revision des geléiides (Ciliophora, Karyorelictea). — Stapfia **66**: 1–91. *
- DRAGESCO J. (1999b): Contribution à la connaissance des Trachelocercia (Ciliophora, Karyorelictea): infraciliature, morphométrie. — Anns Sci. nat. **1**: 1–38. *
- DRAGESCO J. (2002): Infraciliature de quinze especes de cilies mesopsammiques marins comprenant *Trachelocerca stephani* comb. nova, *T. bodiani* comb. nova, *Tracheloraphis filiformis* spec. nova, *T. exilis* spec. nova, et *Sathrophilus arenicolus* spec. nova. — Linzer biol. Beitr. **34/2**: 1545–1626. *
- DRAGESCO J. (2003): Infraciliature et morphometrie de vingt espèces de ciliés hypotriches recoltés au Rwanda et Burundi, comprenant *Kahliella quadrinucleata* n. sp., *Pleurotricha multinucleata* n. sp. et *Laurentiella bergeri* n. sp. — Trav. Mus. natl. Hist. nat. "Grigore Antipa" **45**: 7–59.
- DRAGESCO J. & AL-RASHEID K.A.S. (2003): Comments on the neotypification of protists, especially ciliates (Protozoa, Ciliophora). — Bull. Zool. Nom. **60**: 143.
- DRAGESCO J. & DRAGESCO-KERNÉIS A. (1986): Ciliés libres de l'Afrique intertropicale. Introduction à la connaissance et à l'étude des ciliés. — Faune tropicale (Éditions de l'Orstom, Paris) **26**: 1–559. *
- DRAGESCO J. & DRAGESCO-KERNÉIS A. (1991): Free-living ciliates from the coastal area of Lake Tanganyika (Africa). — Europ. J. Protistol. **26**: 216–235. *
- DRAGESCO J. & GROLIÈRE C.A. (1969): Le cilié *Sathrophilus vernalis* n. sp. (Holotricha, Hymenstomata). — Anns Sta. Biol. Besse-en-Chandesse **4**: 281–291. *
- DRAGESCO J. & NJINÉ T. (1971): Compléments à la connaissance des ciliés libres du Cameroun. — AnnsFac. Sci. Univ. féd. Cameroun **7–8**: 97–140, Pl. 1, 2. *
- DRAGESCO A., DRAGESCO J., COSTE F., GASC C., ROMESTAND B., RAYMOND J.-C. & BOUX G. (1995): *Philasterides dicentrarchi*, n. sp. (Ciliophora, Scuticociliatida), a histophagous opportunistic parasite of *Dicentrarchus labrax* (LINNAEUS, 1758), a reared marine fish. — Europ. J. Protistol. **31**: 327–340. *
- DUBOIS A. (2000): Synonymies and related lists in zoology: general proposals, with examples in herpetology. — Dumerilia **4**: 22–98.
- DUBOIS A. (2005a): Proposed rules for the incorporation of nomina of higher-ranked zoological taxa in the International Code of Zoological Nomenclature. 1. Some general questions, concepts and terms of biological nomenclature. — Zoosystema **27**: 365–426.
- DUBOIS A. (2005b): Proposals for the incorporation of nomina of higher-ranked taxa into the Code. — Bull. Zool. Nomencl. **62**: 200–209.
- DUBOIS A. (2006a): Naming taxa from cladograms: a cautionary tale. — Molecular Phylogenetics & Evolution **42**: 317–330.
- DUBOIS A. (2006b): Proposed rules for the incorporation of nomina of higher-ranked zoological taxa in the International Code of Zoological Nomenclature. 2. The proposed Rules and their rationale. — Zoosystema **28**: 165–258.
- DUBOIS A. (2006c): Incorporation of nomina of higher-ranked taxa into the International Code of Zoological Nomenclature: some basic questions. — Zootaxa **1337**: 1–37.
- DUBOIS A. (2007): Phylogeny, taxonomy and nomenclature: the problem of taxonomic categories and of nomenclatural ranks. — Zootaxa **1519**: 27–68.
- DUBOIS A. (2008): A partial but radical solution to the problem of nomenclatural taxonomic inflation and synonymy load. — Biol. J. Linnean Soc. **93**: 857–863.
- DUBOIS A. & NEMÉSIO A. (2007): Does nomenclatural availability of nomina of new species or subspecies require the deposition of vouchers in collections? — Zootaxa **1409**: 1–22.
- DUBOIS A. & OHLER A. (1997a): Early scientific names of Amphibia Anura I. Introduction. — Bull. Mus. Nat. Hist. nat. **18**: 297–320.
- DUBOIS A. & OHLER A. (1997b): Early scientific names of Amphibia Anura II. An exemplary case: *Rana arborea* LINNAEUS, 1758. — Bull. Mus. Nat. Hist. nat. **18**: 321–340.
- DYKOVÁ I., PECKOVÁ H., FIALA I. & DVO ÁKOVÁ H. (2005): *Filamoeba sinensis* sp. n., a second species of the genus *Filamoeba* PAGE, 1967, isolated from gills of *Carassius gibelio* (BLOCH, 1782). — Acta Protozool. **44**: 75–80.
- EHRENBERG C.G. (1837): Mittheilung einer sehr einfachen Methode zum Festhalten, Vergleichen und Aufbewahren der feinsten und vergänglichsten mikroskopischen Objecte. — Abh. Akad. Wiss. Berlin **1835**: 141–149.
- EIGNER P. (1994): Divisional morphogenesis and reorganization in *Eschaneustyla brachytona* STOKES, 1886 and revision of the Bakuellinae (Ciliophora, Hypotrichida). — Europ. J. Protistol. **30**: 462–475. *
- EIGNER P. (1995): Divisional morphogenesis in *Deviata abbrevescens* nov. gen., nov. spec., *Neogeneia hortualis* nov. gen., nov. spec., and *Kahliella simplex* (HORVÁTH) CORLISS and redefinition of the Kahliellidae (Ciliophora, Hypotrichida). — Europ. J. Protistol. **31**: 341–366. *
- EIGNER P. & FOISSNER W. (1992): Divisional morphogenesis in *Bakuella pampinaria* nov. spec. and reevaluation of the classification of the orostylids (Ciliophora, Hypotrichida). — Europ. J. Protistol. **28**: 460–470. *
- FABEL P., RADEK R. & STORCH V. (2001): A new spore-forming protist, *Nephridiophaga blaberi* sp. nov., in the death's head cockroach *Blaberus craniifer*. — Europ. J. Protistol. **36**: 387–395. *
- FINLAY B.J., CORLISS J.O., ESTEBAN G. & FENCHEL T. (1996): Biodiversity at the microbial level: the number of free-living ciliates in the biosphere. — Quart. Rev. Biol. **71**: 221–237.

- FOISSNER W. (1981): Morphologie und Taxonomie einiger neuer und wenig bekannter kinetofragminophorer Ciliaten (Protozoa: Ciliophora) aus alpinen Böden. — Zool. Jb. Syst. **108**: 264–297. *
- FOISSNER W. (1984): Infraciliatur, Silberliniensystem und Biometrie einiger neuer und wenig bekannter terrestrischer, limnischer und mariner Ciliaten (Protozoa: Ciliophora) aus den Klassen Kinetofragminophora, Colpodea und Polyhymenophora. — Stapfia **12**: 1–165. *
- FOISSNER W. (1985): Klassifikation und Phylogenie der Colpodea (Protozoa: Ciliophora). — Arch. Protistenk. **129**: 239–290. *
- FOISSNER W. (1987a): Neue terrestrische und limnische Ciliaten (Protozoa, Ciliophora) aus Österreich und Deutschland. — Sber. Österr. Akad. Wiss., Math.-Naturwiss. Kl., I. Abt. **195** (year 1986): 217–268. *
- FOISSNER W. (1987b): Neue und wenig bekannte hypotriche und colpode Ciliaten (Protozoa: Ciliophora) aus Böden und Moosen. — Zool. Beitr. N. F. **31**: 187–282. *
- FOISSNER W. (1987c): Miscellanea nomenclatorica ciliatea (Protozoa: Ciliophora). — Arch. Protistenk. **133**: 219–235.
- FOISSNER W. (1988a): Taxonomie und Ökologie einiger Ciliaten (Protozoa, Ciliophora) des Saprobiensystems. II. Familie Chilodonellidae. — Hydrobiologia **162**: 21–45. *
- FOISSNER W. (1988b): Gemeinsame Arten in den terricolen Ciliatenfauna (Protozoa: Ciliophora) von Australien und Afrika. — Stapfia **17**: 85–133. *
- FOISSNER W. (1991): Basic light and scanning electron microscopic methods for taxonomic studies of ciliated protozoa. — Europ. J. Protistol. **27**: 313–330.
- FOISSNER W. (1993): Colpodea. — Protozoenfauna **4/1**: i–x, 1–798. *
- FOISSNER W. (1997): Soil ciliates (Protozoa: Ciliophora) from evergreen rain forests of Australia, South America and Costa Rica: diversity and description of new species. — Biol. Fertil. Soils **25**: 317–339. *
- FOISSNER W. (1999): Description of two new, mycophagous soil ciliates (Ciliophora, Colpodea): *Fungiphrya strobili* n.g., n. sp. and *Grossglockneria ovata* n. sp. — J. Eukaryot. Microbiol. **46**: 34–42. *
- FOISSNER W. (2002): Neotypification of protists, especially ciliates (Protozoa, Ciliophora). — Bull. Zool. Nomencl. **59**: 165–169.
- FOISSNER W. (2003a): *Cultellothrix velhoi* gen. n., sp. n., a new spathidiid ciliate (Ciliophora: Haptorida) from a Brazilian floodplain soil. — Acta Protozool. **42**: 47–54. *
- FOISSNER W. (2003b): The Myriokaryonidae fam. n., a new family of spathidiid ciliates (Ciliophora: Gymnostomatea). — Acta Protozool. **42**: 113–143. *
- FOISSNER W. (2006): Biogeography and dispersal of micro-organisms: a review emphasizing protists. — Acta Protozool. **45**: 111–136.
- FOISSNER W. (2007): Dispersal and biogeography of protists: recent advances. — Jpn. J. Protozool. **40**: 1–16.
- FOISSNER W. (2008): Protist diversity and distribution: some basic considerations. — Biodiversity & Conservation **17**: 235–242.
- FOISSNER W. & ADAM H. (1983): Morphologie und Morphogenese des Bodenciliaten *Oxytricha granulifera* sp. n. (Ciliophora, Oxytrichidae). — Zool. Scr. **12**: 1–11. *
- FOISSNER W. & BERGER H. (1999): Identification and ontogenesis of the nomen nudum hypotrichs (Protozoa: Ciliophora) *Oxytricha nova* (= *Sterkiella nova* sp. n.) and *O. trifallax* (= *S. histriomuscorum*). — Acta Protozool. **38**: 215–248. *
- FOISSNER W. & DRAGESCO J. (1996a): Updating the trachelocercids (Ciliophora, Karyorelictea). I. A detailed description of the infraciliature of *Trachelolophos gigas* n. g., n. sp. and *T. filum* (DRAGESCO & DRAGESCO-KERNÉIS, 1986) n. comb. — J. Eukaryot. Microbiol. **43**: 12–25. *
- FOISSNER W. & DRAGESCO J. (1996b): Updating the trachelocercids (Ciliophora, Karyorelictea). III. Redefinition of the genera *Trachelocerca* EHRENBERG and *Tracheloraphis* DRAGESCO, and evolution in trachelocercid ciliates. — Arch. Protistenk. **147**: 43–91. *
- FOISSNER W. & GSCHWIND K. (1998): Taxonomy of some freshwater ciliates (Protozoa: Ciliophora) from Germany. — Ber. naturw.-med. Ver. Salzburg **12**: 25–76. *
- FOISSNER W. & PFISTER G. (1997): Taxonomic and ecologic revision of urotrichs (Ciliophora, Prostomatida) with three or more caudal cilia, including a user-friendly key. — Limnologica (Berlin) **27**: 311–347. *
- FOISSNER W. & XU K. (2007): Monograph of the Spathidiida (Ciliophora, Haptorida). Vol. I: Protospathidiidae, Arcuospathidiidae, Apertospathulidae. — Monogr. Biologicae **81**: 1–485. *
- FOISSNER W., BLATTERER H., BERGER H. & KOHMANN F. (1991): Taxonomische und ökologische Revision der Ciliaten des Saprobiensystems – Band I: Cyrtophorida, Oligotrichida, Hypotrichia, Colpodea. — Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **1/91**: 1–478. *
- FOISSNER W., BERGER H. & KOHMANN F. (1994): Taxonomische und ökologische Revision der Ciliaten des Saprobiensystems – Band III: Hymenostomata, Prostomatida, Nassulida. — Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **1/94**: 1–548. *
- FOISSNER W., BERGER H. & SCHAUMBURG J. (1999): Identification and ecology of limnetic plankton ciliates. — Informationsberichte Bayer. Landesamtes für Wasserwirtschaft **3/99**: 1–793. *
- FOISSNER W., AGATHA S. & BERGER H. (2002): Soil ciliates (Protozoa, Ciliophora) from Namibia (Southwest Africa), with emphasis on two contrasting environments, the Etosha region and the Namib desert. — Denisia **5**: 1–1459. *
- FOISSNER W., CHAO A. & KATZ L.A. (2008): Diversity and geographic distribution of soil protozoa. — Biodiversity & Conservation **17**: 345–363.
- FUNK V.A., HOCH P.C., PRATHER L.A. & WAGNER W.L. (2005): The importance of vouchers. — Taxon **54**: 127–129.
- GARNHAM P.C.C., BRAY R.S. & KILLICK-KENDRICK R. (1979): The case for multiple type specimens in parasitic Protozoa. Z.N. (G.) 185. — Bull. Zool. Nomencl. **36**: 17–21.
- GONG J., SONG W. & WARREN A. (2002): Redescriptions of two marine cyrtophorid ciliates, *Dysteria cristata* (GOURRET and ROESER, 1888) KAHL, 1931 and *Dysteria monostyla* (EHRENBERG, 1838) KAHL, 1931 (Protozoa, Ciliophora, Cyrtophorida), from China. — Europ. J. Protistol. **38**: 213–222.
- GRANDA A.P. & MONTAGNES D.J.S. (2003): An improved description of *Strombidium sulcatum* CLAPAREDE & LACHMANN, 1859 (Ciliophora) from slides of FAURE-FREMIET, and a designation of type material. — J. Eukaryot. Microbiol. **50**: 422–426.
- GRÜN B. & BLAU J. (1999): On *Praecalipionellites* POP (Calpionellidea BONET) and description of *Praecalpionellites hillebrandti* n. sp. (Lower Cretaceous, Italy). — N. Jb. Geol. Paläont. Abh. **211**: 201–212.

- GUPTA S., KAMRA K., ARORA S. & SAPRA G.R. (2001): *Stylonychia amermanni* sp. n., a new oxytrichid (Ciliophora: Hypotrichida) ciliate from the River Yamuna, Dehli, India. — Acta Protozool. **40**: 75–82. *
- HAUSMANN K., WEITERE M., WOLF M. & ARNDT H. (2002): *Meteora sporadica* gen. nov. et sp. nov. (Protista incertae sedis): an extraordinary free-living protist from the Mediterranean deep sea. — Europ. J. Protistol. **38**: 171–177.
- HAUSMANN K., RADEK R. & GRADIAS M. (2005) *Joenia paradoxa* n. sp. (Heteroflagellata, nov. subphyl.), a protozoan metakaryote with extraordinary axonemal and kinetosomal features. — Naturwissenschaften **82**: 188–189.
- HAWKSWORTH D.L. (1992): The need for a more effective biological nomenclature for the 21st century. — Bot. J. Linnean Soc. **109**: 543–567.
- HAWKSWORTH D.L. (1996): Stability in and harmonization of bionomenclature. — Int. J. Syst. Bacteriol. **46**: 619–621.
- HAWKSWORTH D.L., McNEILL J., SNEATH P.H.A., TREHANE R.P. & TUBBS P.K. (Ed.; 1994): Towards a harmonized binomenclature for life on earth. — Bull. zool. Nomencl. **51**: 188–216.
- HEMMING F. (Ed.; 1958): Opinions and declarations of the International Commission of Zoological Nomenclature. — London **1**, Sect. B: 1–508. [Facsimile edition of Opinions 1–133.]
- HERWALDT B.L., CACCIO S., GHERLINZONI F., ASPÖCK H., SLEMENDA S.B., PICCALUGA P., MARTINELLI G., EDELHOFER R., HOLLENSTEIN V., POLETTI G., PAMIGLIONE S., LÖSCHENBERGER K., TURA S. & PIENIAZEK N.J. (2003): Molecular characterization of a non-*Babesia divergens* organism causing zoonotic babesiosis in Europe. — Emerging infectious diseases **9**: 942–948.
- HEYWOOD P. & ROTHSCHILD L.J. (1987): Reconciliation of evolution and nomenclature among the higher taxa of protists. — Biol. J. Linn. Soc. **30**: 91–98.
- International Commission on Zoological Nomenclature (1905): Règles internationales de la nomenclature zoologique. International rules of zoological nomenclature. Internationale Regeln der zoologischen Nomenklatur. — Rudeval, Paris.
- International Commission on Zoological Nomenclature (1961): Code international de nomenclature zoologique. International Code of Zoological Nomenclature. — International Trust for Zoological Nomenclature, London.
- International Commission on Zoological Nomenclature (1964): Code International de Nomenclature Zoologique. International Code of Zoological Nomenclature. 2nd ed. — International Trust for Zoological Nomenclature, London.
- International Commission on Zoological Nomenclature (1985): International Code of Zoological Nomenclature. 3rd ed. February 1985. — Univ. California Press, Berkeley, Los Angeles.
- International Commission on Zoological Nomenclature (1999): International Code of Zoological Nomenclature. 4th ed. — International Trust for Zoological Nomenclature, London.
- KNAPP S., LAMAS G., LUGHADHA E.N. & NOVARINO G. (2004): Stability or stasis in the names of organisms: the evolving codes of nomenclature. — Phil. Trans. R. Soc. Lond. B **359**: 611–622.
- KORNILOVA O.A. (2004): *Strelkowella urunbasiensis* gen. et sp. n. (Suctorina, Allantosomalidae) from the hindgut of the yakut horse. — Vestnik zool. **38**: 69–73.
- KRAINER K.-H. (1988): Alpha-Taxonomie und Ökologie neuer sowie mehrerer wenig bekannter pelagischer Ciliaten (Protozoa: Ciliophora aus den Klassen Kinetofragminophora, Oligohymenophora, Polyhymenophora) einiger Grundwasserbaggerteiche des nördlichen Leibnitzer Feldes (Stmk, A). — Diss. Univ. Graz: i–iii, 1–209, i–xli. *
- KRAINER K.-H. (1991): Contributions to the morphology, infraciliature and ecology of the planktonic ciliates *Strombidium pelagicum* n. sp., *Pelagostrombidium mirabile* (PENARD, 1916) n. g., n. comb., and *Pelagostrombidium fallax* (ZACHARIAS, 1896) n. g. n. comb. (Ciliophora, Oligotrichida). — Europ. J. Protistol. **27**: 60–70. *
- KRAINER K.-H. (1995): Taxonomische Untersuchungen an neuen und wenig bekannten planktischen Ciliaten (Protozoa: Ciliophora) aus Baggerseen in Österreich. — Lauterbornia **21**: 39–68. *
- KRAINER K.-H. & MÜLLER H. (1995): Morphology, infraciliature and ecology of a new planktonic ciliate, *Histiobalantium bodamicum* n. sp. (Scuticociliatida: Histiobalantiidae). — Europ. J. Protistol. **31**: 389–395. *
- KUDRYAVTSEV A. & HAUSMANN K. (2007): *Spumochlamys iliensis* n.g. n. sp. (Testacealobosia, Microchlamyidae) from Central Asia, with notes on the diversity of *Microchlamys*-like testate amoebae. — Europ. J. Protistol. **43**: 185–191.
- LAPAGE S.P., SNEATH P.H., SKERMAN V.B.D., LESSEL E.F., SEELIGER H.P.R. & CLARK W.A. (1992): International Code of Nomenclature of Bacteria, 1990 Revision (Bacteriological Code) [ICNB]. — ASM Press, Washington, D.C.
- LAZARUS D. (1998): The EHRENBERG collection and its curation. — In: WILLIAMS D.M. & HUXLEY R. (Ed.): Christian Gottfried EHRENBERG (1795-1876): the man and his legacy. Spec. Publ. Linnean Soc., Acad. Press : 31–48.
- LAZARUS D. & JAHN R. (1998): Using the EHRENBERG collection. — Diatom Res. **13**: 273–291.
- LEANDER B.S. & RAMEY P.A. (2006): Cellular identity of a novel small subunit rDNA sequence clade of apicomplexans: description of the marine parasite *Rhytidocystis polygordiae* n. sp. (host: *Polygordius* sp., Polychaeta). — J. Eukaryot. Microbiol. **53**: 280–291.
- LEIPE D. (1989): *Prorodon spirogyrophagus* nov. spec. (Ciliophora, Prostomatea): morphology, infraciliature and food-uptake. — Europ. J. Protistol. **24**: 392–401. *
- LIN X., GONG J. & SONG W. (2004): Morphological studies on a new species of *Orthodonella*, with redescription of *O. gutta* (COHN, 1866) KAHL, 1931 (Protozoa: Ciliophora: Synhymeniida) from coastal water off Qingdao, China. — J. nat. Hist. **38**: 2001–2011.
- McNEILL J., BARRIE F.R., BURDET H.M., DEMOULIN V., HAWKSWORTH D.L., MARHOLD K., NICOLSON D.H., PRADO J., SILVA P.C., SKOG J.E., WIERSEMA J.H. & TURLAND N.J. (Ed.; [ICBN] 2006): International Code of Botanical Nomenclature (Vienna Code). — Regnum Vegetabile **146**: 1–568.
- MEHLHORN H., HEYDORN A.O., FRENKEL J.H. & GÖBEL E. (1985): Announcement of the establishment of neohepantotypes [sic] for some important *Sarcocystis* species. — Zeitschr. Parasitenkd. **71**: 689–692.
- MEISTERFELD R., HOLZMANN M. & PAWLOWSKI J. (2001): Morphological and molecular characterization of a new terrestrial allogromiid species: *Edaphoallogromia australica* gen. et spec. nov. (Foraminifera) from Northern Queensland (Australia). — Protist **152**: 185–192. *
- MELVILLE R.V. (1979): Report of the committee on typification of species of Protozoa. — Bull. Zool. Nomencl. **35**: 200–208.

- MELVILLE R. V. (1980): Nomina dubia and available names. — Parasitology Research **62**: 105–109.
- MICHEL R. & SMIRNOV A.V. (1999): The genus *Flamella* SCHAEFFER, 1926 (Lobosea, Gymnamoebia), with description of two new species. — Europ. J. Protistol. **35**: 403–410. *
- MIKRJUKOV K.-A. & MYLNIKOV A.-P. (2001): A study of the fine structure and the mitosis of a lamellicrystate amoeba, *Micronuclearia podoventralis* gen. et sp. nov. (Nucleariidae, Rotosphaerida). — Europ. J. Protistol. **37**: 15–24.
- MULISCH M., HEEP T., STURM W. & BORCHERDING J. (1998): Redescription of *Ascobius lentus*, a rare freshwater foliicolinid (Ciliophora: Heterotrichida) from a pond in Germany. — Acta Protozool. **37**: 29–39. *
- NITSCHKE F., WEITERE M., SCHECKENBACH F., HAUSMANN K., WYLEZICH C. & ARNDT H. (2007): Deep sea records of choanoflagellates with a description of two new species. — Acta Protozool. **46**: 99–106.
- OBERSCHMIDLEITNER R. & AESCHT E. (1996): Taxonomische Untersuchungen über einige Ciliaten (Ciliophora, Protozoa) aus Belebtschlamm oberösterreichischer Kläranlagen. — Beitr. Naturk. Oberösterreichs **4**: 3–30. *
- ONIONS C.T. (Ed.; 1966): The Oxford Dictionary of English Etymology. — Clarendon Press, Oxford.
- PATTERSON D.J. (1986): Some problems of ambireginal taxonomy and a possible solution. — Symp. Biol. Hung. **33**: 87–93.
- PATTERSON D.J. (1999): The diversity of eukaryotes. — Amer. Nat. Suppl. **65**: 96–124.
- PATTERSON D.J. (2003): Progressing towards a biological names register: How taxonomy could harness the indexing and organizational powers of the Internet. — Nature **422**: 661.
- PATTERSON D.J. & LARSEN J. (1992): A perspective on protistan nomenclature. — J. Protozool. **39**: 125–131.
- PETZ W. (1994): Morphology and morphogenesis of *Strombidium kryalis* nov. spec. (Ciliophora, Strombidiida) from Antarctic sea ice. — Arch. Protistenk. **144**: 185–195. *
- PETZ W. (1995): Morphology and morphogenesis of *Thigmokeronopsis antarctica* nov. spec. and *T. crystallis* nov. spec. (Ciliophora, Hypotrichida) from Antarctic sea ice. — Europ. J. Protistol. **31**: 137–147. *
- PETZ W., SONG W. & WILBERT N. (1995): Taxonomy and ecology of the ciliate fauna (Protozoa, Ciliophora) in the endopagial and pelagial of the Weddell Sea, Antarctica. — Stapfia **40**: 1–223. *
- RADEK R. (1997): *Spirotrichonympha minor* n. sp., a new hypermastigote termite flagellate. — Europ. J. Protistol. **33**: 360–374. *
- RADEK R. & HAUSMANN K. (1997): *Placojoenia sinaica* n. g., n. sp., a symbiotic flagellate from the termite *Kalotermes sinaicus*. — Europ. J. Protistol. **30**: 25–37. *
- REDHEAD S.A., CUSHION M.T., FRENKEL J.K. & STRINGER J.R. (2006): *Pneumocystis* and *Trypanosoma cruzi*: nomenclature and typifications. — J. Eukaryot. Microbiol. **53** (1): 2–11.
- REVETS S.A. (2004): Comments on the neotypification of protists, especially ciliates (Protozoa, Ciliophora). — Bull. Zool. Nom. **61**: 39–40.
- ROTHSCHILD L.J. & HEYWOOD P. (1988): "Protistan" nomenclature: analysis and refutation of some potential objections. — BioSystems **21**: 197–202.
- SALLEY E.J., LICHTENFELS J.R. & SHAW J.H. (1978): Checklist of types in the U. S. National Parasite Collection. Index-catalogue of medical and veterinary zoology. — Spec. Publs U. S. Dept. of Agriculture, Washington **4**: 1–233.
- SCHÖDEL H. (2006): Beitrag zur Kenntnis der auf Gammaridae epizoisch lebenden *Zoothamnium*-Arten und Beschreibung einer neuen Zoothamniidae-Art mit heteropolarem Schwärmer: *Zoothamnioides fermoralis* n.g., n.sp. (Ciliophora, Peritrichia). — Lauterbornia **56**: 99–140. *
- SCHÖNBORN W., DÖRFELT H., FOISSNER W., KRIENITZ L. & SCHÄFER U. (1999): A fossilized microcosmos in Triassic amber. — J. Eukaryot. Microbiol. **46**: 571–584. *
- SHI X.-B. & AMMERMANN D. (2004): *Stylonychia harbinensis* sp. n., a new oxytrichid ciliate (Ciliophora, Hypotrichia) from the Heilongjiang Province, China. — Protistology **3**: 219–222. *
- SILVA NETO I.D. DA (1992): Observations sur la structure et l'ultrastructure du cilié *Myxophthirus anomalocardiae* gen. nov., sp. nov. (Scuticociliatida, Thigmophryidae), parasite du bivalve *Anomalocardia brasiliana* GMELIN, 1791. — Europ. J. Protistol. **28**: 421–429. *
- SIMPSON G.G. (1940): Types in modern taxonomy. — Am. J. Sci. **238**: 413–431.
- SLEIGH M.A., DA SILVA NETO I.D. & SIKORA J. (2003): Comments on the neotypification of protists, especially ciliates (Protozoa, Ciliophora). — Bull. Zool. Nom. **60**: 216–217.
- SONG W. & WILBERT N. (1997): Morphological investigations on some free living ciliates (Protozoa, Ciliophora) from China Sea with description of a new hypotrichous genus, *Hemigastrostyla* nov. gen. — Arch. Protistenk. **148**: 413–444. *
- SONG W. & WILBERT N. (2002): Faunistic studies on marine ciliates from the Antarctic benthic area, including descriptions of one epizoic form, 6 new species and, 2 new genera (Protozoa: Ciliophora). — Acta Protozool. **41**: 23–61. *
- SONG W., PETZ W. & WARREN A. (2001): Morphology and morphogenesis of the poorly-known marine urostyloid ciliate, *Metaurostylopsis marina* (KAHL, 1932) nov. gen., nov. comb. (Protozoa, Ciliophora, Hypotrichida). — Europ. J. Protistol. **37**: 63–76.
- TAYLOR F.J.R., SARJEANT W.A.S., FENSOME R.A. & WILLIAMS G.L. (1986): Proposal to standardize the nomenclature in flagellate groups currently treated by both the botanical and zoological codes of nomenclature. — Taxon **35**: 890–896.
- VOSS H.-J. (1997): Morphology and morphogenesis of *Parentocirrus hortualis* nov. gen., nov. spec.: a new genus within the redefined family Kahliliidae sensu EIGNER 1995 (Ciliophora, Hypotrichida). — Europ. J. Protistol. **33**: 30–47. *
- WAKEHAM-DAWSON A., MORRIS S. & TUBBS P. (2002): Type specimens: dead or alive? — Bull. Zool. Nomencl. **59**: 282–284.
- WEBSTER W.A. (1979): List of parasitic helminth and protozoan type specimens deposited in the National Museum of Canada Invertebrate Collection. — Can. J. Zool. **57**: 791–703.
- WEISER J. (1963): Type collections of protozoa and taxonomy. — Proc. 1st Internat. Congr. Protozool., Prag **1961**: 65–65.
- WIKTOR J. & RYDZEWSKI W. (1991): Bibliography of catalogues to type specimens in world's zoological and palaeozoological collections. — Acta Univ. Wroclaw Prace zool. **22**: 1–308.
- WILBERT N. (1972): Morphologie und Ökologie einiger neuer Ciliaten (Holotricha, Cyrtophorina) des Aufwuchses. — Protistologica **7** (1971): 357–363. *
- WILBERT N. & KAHAN D. (1986): *Semiplatyophrya foissneri* nov. gen., nov. spec. und *Perisincirra pori* nov. spec., Ciliaten aus

einem Salzboden des Sinai. — Arch. Protistenk. **131**: 129–138. *

WILLIAMS R.B. (1980): Some comments on the report of the Committee on Typification of Species of Protozoa. (Z.N.(G.) 185). — Bull. Zool. Nomencl. **37**: 137–140.

WILLIAMSON P., ANDERSEN R.A. & KÜPPER F.C. (2007): Why every protist needs a barcode. — Microbiol. Today **02/07**: 46–47.

WIRNSBERGER E., FOISSNER W. & ADAM H. (1985a): Cortical pattern in non-dividers, dividers and reorganizers of an Austrian population of *Paraurostyla weissei* (Ciliophora, Hypotrichida): A comparative morphological and biometrical study. — Zool. Scr. **14**: 1–10. *

WIRNSBERGER E., FOISSNER W. & ADAM H. (1985b): Morphological, biometric, and morphogenetic comparison of two closely related species, *Stylonychia vorax* and *S. pustulata* (Ciliophora: Oxytrichidae). — J. Protozool. **32**: 261–268. *

WIRNSBERGER E., LARSEN H.F. & UHLIG G. (1987): Rediagnoses of closely related pigmented marine species of the genus *Pseudokeronopsis* (Ciliophora, Hypotrichida). — Europ. J. Protistol. **23**: 76–88. *

XU D. & SONG W. (2006): Hapantotypification and morphological redescription of the marine planktonic ciliate, *Spirostrombidium cinctum* (KAHL, 1932) PETZ, SONG et WILBERT, 1995 (Ciliophora: Oligotrichida). — Acta Protozool. **45**: 17–25.

ZILCH A. (1939): Die Typen und Typoide des Natur-Museums Senckenberg. 1. Protozoa. — Senckenberg-Buch **7**: 11–184.

Internet base information

American Type Culture Collection (ATCC; www.atcc.org)

Biological repositories (www.biorepositories.org)

Biology Centre of the Upper Austrian Museums (www.biologiezentrum.at)

British Museum of Natural History London, Microbiology Slide Collection (www.nhm.ac.uk/jdsml/research-curation/projects/protists/)

Culture Collections in the World (wcdm.nig.ac.jp/hpcc.html)

Culture Collection of Algae and Protozoa (CCAP; www.ccap.ac.uk)

Database of geographic coordinate information (www.tageo.com/index.php?show=search)

International Commission on Zoological Nomenclature (www.iczn.org/iczn/index.jsp)

ZOBODAT, Zoological Botanical Database, formerly ZODAT (www.zobodat.at)

8 Abbreviations

AMS	Australian Museum, Sydney
Art.	article of ICZN
BMNH	British Museum (Natural History), London
E	east
HA	hapantophoron / “hapantotype”
HL	host locality
HP	holophoron / “holotype”
ICZN	International Code of Zoological Nomenclature
inv. no.	inventory number

N	north
NHMW	Naturhistorisches Museum, Wien
NP	neophoron / “neotype”
od	original designation
OT	onymotope / “type” locality
PP	paraphoron / “paratype”
Rec.	recommendation of ICZN
S	south
sd	subsequent designation
SP	symphoron / “syntype”
TH	“type” host
USNM	National Museum of Natural History, Smithsonian Institution, Washington, DC.
VO	voucher
W	west

9 Glossary

Anoplonym – published but nomenclaturally unavailable nomen according to the ICZN, being either (1) excluded under Art. 1.3, or (2) not conform to the provisions of Art. 10 to 20 (DUBOIS 2000).

Aphory – (from the Greek a- or an-, “without”), the situation where a new name was established without designated onomatophore; a taxon created with original aphory may later be provided an onomatophore in another publication (“subsequent type designation” under the terminology of the ICZN) (DUBOIS 2005a).

Aponym – subsequent, modified, morphonym (DUBOIS 2005a).

Author (or nomenclatural author) – Person(s) to whom a published work, protonym or nomenclatural act is attributed (ICZN 1999).

Available – available nomen (ICZN 1999); see hoplonym (DUBOIS 2000).

Basionym – a previously published legitimate name-bringing or epithet-bringing synonym from which a new name is formed for a taxon of different rank or position (term used in botanical nomenclature; ICBN 2006); correct spelling of the protonym (DUBOIS 2000).

Hapantotype – one or more preparations consisting of directly related individuals representing distinct stages in the life cycle, which together form the name-bearing “type” in an extant species of protistan (ICZN 1999 Art. 72.5.4, 73.3). A hapantotype, while a series of individuals, is a “holotype” that must not be restricted by lectotype selection; however, if a hapantotype is found to contain individuals of more than one species, components may be excluded until it contains individuals of only one species (ICZN 1999 Art. 73.3.2; glossary).

Holophoron – from the Greek holos, “whole, entire”, instead of “holotype” of ICZN (DUBOIS 2005a).

Holotype – the single specimen (except in the case of a hapantotype) designated or otherwise fixed as the name-bearing “type” of a nominal species or subspecies when the nominal taxon is established (ICZN 1999; glossary).

Hoplonym – nomenclaturally available nomen according to the ICZN, as (1) not being excluded under Art. 1.3, and (2) conform to the provisions of Art. 10 to 20 (DUBOIS 2000).

- Invalid** – invalid hoplonym (akronym): hoplonym not to be used to denote a taxon, as (1) being a junior synonym or homonym, or (2) having been invalidated as a result of automatic application of some special rules of the ICZN 1999 (e.g., Art. 40.2 or 59.3), or (3) having been invalidated by ICZN using its Plenary Powers (DUBOIS 2000).
- Kyronym** – from the Greek kyrios, “proper, correct”, valid hoplonym of a taxon (DUBOIS 2000).
- Morphonym** – any particular spelling, onymorph or rank of a given nomen (DUBOIS 2000, 2005a and references therein).
- Name** – non-technical term used in common language with various meanings, including several ones liable to apply in zoological nomenclature: (1) nomen [Latin scientific name of a taxon]; (2) one of the words of a binomen or of a trinomen; (3) chresonym [from Greek chresis, “usage”]; (4) name of author or of first-user of a nomen (ICZN 1999; DUBOIS 2000).
- Name-bearing “type”** – the “type” genus, “type” species, holotype, lectotype, series of syntypes (which together constitute the name-bearing “type”) or “neotype” that provides the objective standard of reference whereby the application of the name of a nominal taxon can be determined (ICZN 1999; glossary).
- Neophoront** – from the Greek neos, “new”, instead of neotype (DUBOIS 2005a).
- Neotype** – The single specimen designated as the name-bearing “type” of a nominal species or subspecies when there is a need to define the nominal taxon objectively and no name-bearing “type” is believed to be extant. If stability and universality are threatened, because an existing name-bearing “type” is either taxonomically inadequate or not in accord with the prevailing usage of a name, the Commission may use its plenary power to set aside that “type” and designate a neotype. (ICZN 1999; glossary)
- Nucleogenus** – onomatophore of a nomen of the family-series (i.e. of rank family or subfamily) replacing “type genus” of the ICZN, because it does not refer to specimens (onymophoronts; DUBOIS 2005a).
- Nucleospecies** – onomatophore of a nomen of the genus-series (i.e. of rank genus or subgenus) replacing “type species” of the ICZN, because it does not refer to specimens (onymophoronts; DUBOIS 2005a).
- Onomatophore** – objective standard of reference whereby the application of a nomen to a taxon can be determined (DUBOIS 2000, 2005a and references therein).
- Onymology** – the study of concepts and theory of biological nomenclature (DUBOIS 2000).
- Onymophoront** – from the Greek terms onymos, “name”, -phoros, “bearing”, and onontos, “being, individual”, replaces “type” specimens of the ICZN; four kinds: holophoront, symphoront, lectophoront and neophoront used by DUBOIS (2005a).
- Onymorph** – any particular association between genus-series substantive(s) and species-series epithet(s) (DUBOIS 2000, 2005a and references therein).
- Onymotope** – from the Greek onymos, “name”, and topos, “place”, the place of collection of the onymophoront(s), called “type” locality in the ICZN, or sometimes also terra typica or locus typicus by some zoologists (DUBOIS 2005a).
- Onymotopic** – any specimen collected from the same locality, whether or not an original member of the onomatophore, designated “topotypic” in the ICZN (DUBOIS 2005a).
- Paratype** – each specimen of a “type” series other than the “holotype” (ICZN 1999 Rec. 73D; glossary).
- Protonym** – original morphonym of a hoplonym (DUBOIS 2000, 2005a).
- Semaphoront** – means “bearing the signs, the characters” to designate a second and independent function of specimens, including “type specimens” (DUBOIS 2005a and references therein)
- Subsequent** – (1) subsequent publication: any publication mentioning a nomen published after the original publication. (2) subsequent spelling, onymorph or rank of a nomen, “type”-species designation, description, etc.: appearing in a subsequent publication (ICZN 1999).
- Symphoront** – from the Greek sun, “with, together”, instead of “syntype” of ICZN (DUBOIS 2005a).
- Syntype** – each specimen of a “type” series from which neither a “holotype” nor a lectotype has been designated (ICZN 1999 Art. 72.1.2, 73.2, 74; glossary). The syntypes collectively constitute the name-bearing “type”.
- Taxon** (pl. taxa) – any taxonomic unit recognized by a zoologist, whether named or not; a taxon is a class having a diagnosis, a content and boundaries (ideally at least an apomorphy); when validly named according to the ICZN (1999), it is denoted by its kyronym (DUBOIS 2000).
- Type-genus** – the nominal genus that is the name-bearing type of a nominal family-group taxon (ICZN 1999).
- Type locality** – the geographical (and, where relevant, stratigraphical) place of capture, collection or observation of the name-bearing “type”; if there are syntypes, the “type” locality encompasses the localities of all of them [ICZN 1999 Art. 76.1, 73.2.3].
- Type-species** – the nominal species that is the name-bearing type of a nominal genus or subgenus (ICZN 1999).
- Type-specimen(s)** – a term used in previous editions of the code for a holotype, lectotype or neotype, or for any syntype; also used generally for any specimen of the type series (ICZN 1999).
- Typification** – the fixation of a name-bearing type of a nominal taxon so as to provide an objective standard of reference for the application of the name of a taxon (ICZN 1999).
- Unavailability** – of a name, nomenclatural act or work (ICZN 1999).
- Validity** – of an available name or a nomenclatural act: one that is acceptable under the provisions of the code and, in the case of a name, which is the correct name of a taxon in an author’s taxonomic judgment (ICZN 1999).

Address of author:

Erna AESCHT
 Biology Centre of the Upper Austrian Museum
 J.-W.-Klein-Straße 73
 4040 Linz
 Austria
 E-mail: e.aescht@landesmuseum.at