

## Opinion

### To agree or not to agree – the question of gender agreement in the International Code of Zoological Nomenclature

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**Summary.** The new (4th) edition of the International Code of Zoological Nomenclature still requires in its Articles 31.2 and 34.2 that an adjectival species-group name be in agreement with the gender of the name of the genus it is at any time associated with. Prominent and influential publications on the taxonomy of Lepidoptera expressly chose to ignore the gender agreement requirements of the (corresponding previous) Code, and to use the specific name as given in the original description. For most lepidopterists of our time it is, by lack of knowledge in Latin and Greek, impossible to ascertain unambiguously the gender of the generic names in Lepidoptera. Since strict application of the gender agreement provisions of the Code in the nomenclature of Lepidoptera would, in the course of progress in systematics, require continuous changes of epithets of specific names, the task of updating the names in electronic databases of large lepidopteran groups is beyond the manpower and financial resources of museums and scientific institutions. It is therefore practically not possible to apply those rules of gender agreement. Regrettably, the International Commission on Zoological Nomenclature did not accept those arguments for the latest version of the Code. The author explains that in lepidopterology there has never been a tradition of ‘classic purity’ as advocated by the Code. Given the priority of the principles of stability and permanence of zoological names the author proposes that all lepidopterists follow the example of leading authors in taxonomy and disregard the gender agreement requirements of the Code. The leading lepidopterists’ societies should encourage their members in this respect. The Societas Europaea Lepidopterologica (SEL) with about 600 members has, on 4 June, 2002, passed an appropriate resolution (which is reproduced in the Appendix).

**Zusammenfassung.** Die neue (4.) Fassung der Internationalen Nomenklaturregeln, die zum 1.1.2000 in Kraft getreten sind, hält daran fest (Art. 31.2, 34.2), daß ein adjektivischer (Adjektiv oder Partizip im Nominativ Singular) Artnamen immer mit dem grammatikalischen Geschlecht des Gattungsnamens übereinstimmen muß, mit dem er jeweils verbunden ist. Eine Reihe namhafter Wissenschaftler und Autoren haben bisher die „Übereinstimmung im grammatikalischen Geschlecht“ ignoriert und in ihren Publikationen den Artnamen in seiner ursprünglichen, in der Urbeschreibung dokumentierten (Geschlechts-)Form verwendet. Die Vorschrift ist nämlich schon deshalb für die meisten Lepidopterologen in der Praxis kaum vollziehbar, weil sie wegen unzureichender Kenntnisse in Latein oder Griechisch das grammatikalische Geschlecht der Gattungsnamen nicht zweifelsfrei feststellen können. Es ist auch praktisch unmöglich, weil nicht finanzierbar, die vielen Anpassungen, die sich im Zuge des Fortschritts in der Systematik durch neue Gattungskombinationen ergeben müßten, in elektronischen Datenbanken für die großen Lepidopteren-Gruppen laufend nachzuvollziehen. Einen solchen Tribut an die Idee der „Korrektheit“ in der lateinischen Sprache kann sich eine moderne Taxonomie nicht leisten. Bedauerlicherweise hat sich die Internationale Nomenklaturkommission im Vorfeld der Neufassung der Regeln diesen Argumenten verschlossen. Der Autor legt dar, daß es in der Lepidopterologie auch gar keine Tradition für die von den Nomenklaturregeln verlangte grammatikalische „Reinheit“ gibt. Im Interesse des Leitprinzips der Namensstabilität und -kontinuität wird daher vorgeschlagen, dass alle Lepidopterologen nach dem Beispiel anerkannter Kataloge, Faunenlisten und systematischer Darstellungen davon absehen sollten, diesen Regeln zur „Übereinstimmung im grammatikalischen Geschlecht“ zu folgen. Vielmehr sollten die Artnamen in ihrer ursprünglichen (Geschlechts-)Form verwendet werden. Hierzu sollten die großen lepidopterologischen Vereinigungen ihre Mitglieder aufrufen. Die 600 Mitglieder starke Societas Europaea Lepidopterologica (SEL) hat am 4. Juni 2002 bereits eine entsprechende (im Anhang wiedergegebene) Resolution verabschiedet.

**Résumé.** La nouvelle (4ème) édition du Code International de la Nomenclature Zoologique nécessite, dans les articles 31.2, 34.2, qu’un adjectif utilisé comme nom pour un groupe d’espèces s’accorde avec le genre qui lui est associé. D’importantes publications sur la taxinomie des Lépidoptères choisissent expressément de négliger les recommandations du Code pour les genres et d’utiliser les noms spécifiques tels que rédigés dans les descriptions originales. A cause d’une manque de connaissances en langues classiques (Latin et Grec), il est impossible pour la plupart des Lépidoptéristes de notre époque de

s'assurer, sans ambiguïté, du genre correct des noms génériques des Lépidoptères. Comme l'application des règles du Code sur l'accord de genre dans la nomenclature doit, à la suite du progrès systématique, résulter des changements continus des épithètes des noms spécifiques, la tâche de trouver les noms "corrects" et de mettre à jour les noms d'espèces dans les banques de données conduira à une énorme perte de temps pour le taxinomiste ainsi que de ressources budgétaires des institutions scientifiques concernées. Il est donc pratiquement impossible d'observer les recommandations du Code sur l'accord de genre. Il est regrettable que la Commission Internationale à la Nomenclature Zoologique n'accepte pas ces arguments dans la dernière édition du Code. La grande majorité des noms génériques des Lépidoptères étant des termes latinisés plutôt que des noms à signification dans la langue latine, l'auteur explique qu'il n'y a jamais eu une tradition de "pureté linguistique" dans la nomenclature des Lépidoptères comme le soutient le Code. Vu que les règles de la nomenclature zoologique visent à la stabilité et permanence des noms, l'auteur propose aux Lépidoptéristes de suivre en général l'exemple de nombreux auteurs de haute réputation qui ont ignoré les dits articles du Code. L'auteur fait appel aux grandes sociétés lépidoptérologiques pour encourager leurs membres dans ce sens. La Société Européenne de Lépidoptérologie (SEL) vient d'adopter, le 4 juin 2002, lors de son Assemblée Générale, une telle Résolution (voir Annexe).

**Key words:** nomenclature, stability, gender agreement, generic combinations of species names, electronic databases.

*Nomina enim si pereunt perit et rerum cognitio*

[When the names go the perception of the things goes as well]

Linnaeus

## The burden of nomenclature on systematic research

Taxonomy and systematics are currently poorly supported as academic subjects in scientific research because, among other reasons, they tend to be deemed of low impact and are thus sparsely funded (Godfray 2002). In Germany, the need for more and better research in systematic biology was recognized decades ago by the German Science Foundation (DFG: Kraus 1982) but not much action was initiated. In fact, there are very few chairs of systematic zoology at German universities and their role is considered weak compared with 'modern' molecular and physiological, and even ecological, research projects. Permanent scientific staff at the natural history museums in Germany are rather 'rare birds' and in most cases also largely immersed in curatorial tasks. Following the Rio Conference of 1992 a number of projects involving matters of systematic zoology were commenced, some of them are funded by the European Commission. The focus is mainly on inventorying and databasing the information on zoological diversity already to hand in collections. A major resurgence in comprehensive, broad, and fundamental research in systematic zoology cannot be expected from those projects, and was not intended.

In the United Kingdom, too, the decline of systematic research was recently deplored, and the question was raised, among others by the President of the Linnean Society, as to why taxonomy is currently so unattractive to funding bodies (Smith 2001; Godfray 2002). It was felt that classifying and cataloguing species to produce mere lists of names is unexciting and that resolving complex synonymies (historical confusion in nomenclature) that have accumulated as the legacy of the 19th century is the sort of time-consuming, unspectacular revisionary work which can hardly win in the race for serious funding. It was argued that systematic research needs radical ac-



tion and should reinvent itself as a 21st century information science. A tremendous obstacle to that, however, was seen to be this very burden of nomenclatural problems which often wastes a large part of the life of a working taxonomist (Godfray 2002).

The concept of an official, central register of the names of organisms could offer an attractive way to improve or secure nomenclatural stability. But, while that concept has become working reality in microbiology, and is under way in botany, zoologists have so far chosen, for various reasons, not to pursue registration in any form (Howcroft & Thorne 1999). The nomenclatural problem is exacerbated by the fact that species-rich groups of animals like insects have, in many orders, e. g. Lepidoptera, seen over recent decades a remarkable increase in species numbers and new names; this problem will continue. Therefore they have been, or will be, faced with fundamental reassignments of species amongst genera and genera amongst higher categories as the classification is improved.

Against such a background, the effect on systematic research of established nomenclatural rules must be carefully assessed. The changing of names for the mere sake of gender agreement might thus appear 'at the same time childish and obnoxious to science' (Guenée 1857[1858]). The purpose of the nomenclatural rules would be badly served if taxonomists, in order to avoid the disruption of such changes, turned to the use of 'numeric' names as was recently proposed (cf. Sommerer 1999).

### The gender trap

The much debated gender agreement between an adjectival species-group name and the grammatical gender of the pertinent genus-group name has persisted through the current 4th edition of the International Code of Zoological Nomenclature (ICZN 1999) which came into force on 1 January 2000 (=Code hereafter). The actual rule (Articles 31.2, 34.2) states that

a species-group name in the form of an adjective or participle in the nominative singular must agree with the gender of the generic name, and  
the epithet has to be changed according to any new combination with another generic name.

The application of that rule produces a twofold effect: (a) any new adjectival species-group name shall reflect the gender of the generic name it is associated with in the original description, and (b) the established species names must in the scientific literature be changed in gender to reflect any subsequent combination with a genus other than that of the original description.

In practice in Lepidoptera, however, taxonomists have met with the difficulties of the 'niceties' (Holloway 1993[1994]) of ancient Greek and Latin when trying to find out the right grammatical gender of a genus-group name and to decide whether a given species-group name is adjectival and therefore liable for gender agreement, or a noun in apposition, and therefore immutable. The various worked examples provided in the Code (cf. Artt. 30, 31.2, 34.2.1) sufficiently illustrate that difficulty as does the fact

that the Commission itself had to rely on 'advice on Latin and Greek gender' from a university Senior Lecturer in Classics (ICZN 1999: Preface to the Fourth Edition).

Moreover, the rule is not helpful when applying modern electronic tools in taxonomy and systematic zoology. An entry in a database should remain unmodified as long as possible so that easy retrieval and exchange with other systems are safeguarded. Any modification of an entry needs human resources and is therefore liable to human error. Certainly, software exists that can trace a name regardless of its ending, but a database program cannot differentiate names that are nouns in apposition from adjectives and the database will not furnish 'correct' names as envisaged by the Code unless every relevant entry has been changed to the epithet required by the rule of gender agreement. Advances in the higher classification will dictate that continuous, costly updates are inevitable.

'Gender agreement' of the Code has been widely ignored in major systematic lists and works on the Lepidoptera (cf. Scoble 1999, with further references; Holloway 2001, 1993 [1994]; Karsholt & Razowski 1996; Nielsen *et al.* 1996; Poole 1989) if not exactly qualified as 'nonsense' (Robinson 1993). The modern practice is to treat the generic name as genderless and to retain the original orthography of the specific name (Emmet 1991). Thus, many species names are in use in the spelling of the original description regardless of the actual generic combination, and since modern taxonomists with 'small Latin and Greek' seem unable to operate the gender agreement rule (cf. Emmet 1991), a multitude of 'incorrect' new species names have been entered in the Zoological Record through the years.

But conversely there are also numerous publications testifying to their authors' eagerness to comply fully with the Code. Some of such well intentioned attempts failed, however, through incorrect latinisation or the doubtful or arguable interpretation of the gender of the generic name (Scoble 1999). It is a misfortune that large and very important projects with public funding, such as the current EU-funded *Fauna of Europe* Project (the Lepidoptera work group is headed by O. Karsholt and E. van Nieukerken – section moths, – and W. De Prins – section butterflies), formally prescribe full compliance with all rules of the Code. That again will force taxonomists involved in the project to 'delve into the 19th century literature' and to elucidate generic genders, an expenditure of time that might be seen as 'simply not good value for money' (Godfray 2002).

Hence, there is much confusion about the 'correct' names of species. The scope for error (Robinson 1993) persists. If 'stability and universality' of zoological names has been the prime purpose of the nomenclatural rules (ICZN 1999: Introduction), the latest version of the Code, it seems, has failed to release taxonomists from unnecessary nomenclatural problems that are felt to contribute to the crisis in systematic biology.

### Roots evaluated

As early as 1905 the International Rules of Zoological Nomenclature contained the provision that adjectival specific names must agree grammatically with the generic name (Art. 14 a). But the gender agreement rule sat on even older shoulders and was

also embedded in a framework of other philological conditions. The Strickland Report (the complete title is *Series of Propositions for Rendering the Nomenclature of Zoology Uniform and Permanent*) of 1842, by the British Association for the Advancement of Science, had found that ‘by adhering to sound principles of philology, we may avoid errors in future, even when it is too late to remedy the past, and the language of science will thus eventually assume an aspect of more classic purity than it now presents’. It emanates from the spirit in the middle of the 19th century that the lingua franca of science was felt obliged to reflect the ‘Augustan age of Latin’ (Strickland 1842). The International Rules of 1905 had consequently recommended that ‘the best specific name is a Latin adjective, short, euphonic, and of easy pronunciation. Latinised Greek words or barbarous words may, however, be used.’ It had also been recommended that ‘in subdividing an old genus in future, the names given to the subdivisions should agree in gender with that of the original group’ (Strickland 1842: Recommendations § F). The author of a new generic name was, and by the way still is (ICZN 1999: Recommendations 30A & 30B; Appendix E no. 16), supposed to explain the derivation of the name and state its grammatical gender, a rule honoured more often in the breach.

Obviously, the application of the gender agreement rule would have posed significantly fewer problems had such recommendations been followed ever since. Instead, under the influence of dwindling knowledge of the classic languages, it was later found that the rule of grammatical agreement of 1905 gave birth to more and more ‘impossible’ names and became an annoying source of uncertainty and error (Richter 1948). If the multitude of ‘very bad taste’ genus-group names, together with the reduced number of taxonomists ‘who are conversant with the spirit of the Latin language’ was deplored more than a century ago (Strickland 1842), the situation had certainly not improved when the new Code of 1961 was published. This made gender agreement obligatory for all past and new species names, whether in their original or in any subsequent generic combination. Although ‘examples’ were added to help identify the generic gender, philological perfection had by that time become utopia.

The practical problems connected with gender agreement did, of course, not remain unnoticed. There were proposals like the ‘simple’ solution that the name of a species (not agreeing with the gender of the generic name) be ‘completed’ by the imaginary insertion of the Latin word ‘species’ after the generic name so that constant feminism of all adjectival species names would be the result (Richter 1948: 114). But such proposals were never seriously taken up by the Commission. In 1995, the ‘Discussion Draft’ of the Editorial Committee of the proposed fourth edition of the Code proposed that the original spelling of an adjectival species-group epithet first published after 1996 should be accepted as correct regardless of disagreement in gender in the original combination, and that generic names after 1996 should be treated as words having no gender and therefore not affecting the spelling of adjectival specific epithets. That solution was ‘abandoned’ because it was ‘not acceptable to a sufficiently wide consensus of zoologists’ (ICZN 1999: Preface). The objections were based on the argument that genera would then contain species names with various epithets and that it would never be clear whether or not a cited binomen had been ‘corrected’ so that users of that name would have repeatedly to check the original spelling and were thus



confronted with the difficulties of tracing old or scarce literature. Such argumentation sounds half-hearted and is not convincing. The reason why so many participants in the discussion of the then proposed text of the 4th edition would not accept any practical solution to get around the strict gender agreement principle must be rooted deeper.

The rule of gender agreement has certainly nothing to do with the fact that the working language of the acting International Commission on Zoological Nomenclature is now English. English adjectives are not varied according to the gender of the noun. The contrary is, however, true for most languages on the European continent, and is especially the case in the Latin language which was used for zoological nomenclature and had for centuries – until the second half of the 19th century – served as the language of science in Europe. To know and observe the rules of philology and grammar of Latin is certainly part of the cultural tradition of Europe. It seems well founded that no taxonomist familiar with classic Latin from his days at school could happily accept a *Felis marmoratus* once systematic meanderings had shifted that species from an original male genus to its combination with *Felis*. Likewise, an adjectival species name associated with the genus *Papilio* could only be tolerated with a masculine epithet. Such philological, cultural roots of European zoology certainly deserve respect.

But would a *Sarcinodes punctata* have a strong case in this respect? The answer is rather not, as is shown by the fact that exactly that combination of a feminine adjectival ending with a male generic noun (according to the Code for genera ending in *-odes*; cf. Examples to Art. 30 a ii in the 3<sup>rd</sup> Edition) was chosen by Warren in 1894. Warren was following the tradition of Guenée (1857 [1858]), who erected many geometrid genera ending in *-odes* and described numerous species in them with feminine endings.

Many authors of lepidopteran descriptions after Linnaeus did not bother much with grammatical gender agreement in the sense of the present Code although many 19th century lepidopterists were more at home with Latin (and Greek) than most of their modern colleagues, especially if they were trained as medical doctors (like Linnaeus, Boisduval, Herrich-Schäffer, Rambur), lawyers (like Guenée), or theologians (like Schrank) (cf. Herbulot 1983). The *Genera and Index Methodicus Europaeorum Lepidopterorum* by Boisduval (1840) was written in Latin but the species in *Elophos* and *Gnophos* were listed with their original feminine epithet. Walker's 35-volume *List of the specimens of lepidopterous insects in the collection of the British Museum* contains numerous bilingual, i.e. Latin and English, descriptions of new species. Nevertheless the nomenclatural result in very many cases was such that the Commission would now have to deplore it as 'regrettable in itself and an unfortunate example to others'. Obviously, in the aftermath of the classification of Linnaeus and his contemporaries, the generic names were understood to have general grouping prefixes like the Linnaean *Phalaena* (*Bombyx*, *Sphinx*, *Noctua*, *Geometra*, *Pyrallis*, *Tortrix*, *Tinea*, *Alucita*) which would then induce feminine species names, or *Papilio* leading towards masculine species names (although most specific names of the Rhopalocera were in fact nouns in apposition), regardless of the gender of the real genus name. (Some lepidopterists like Emmet 1991, much regretted that this simple and workable pattern – butterfly species male and moths female – bequeathed by Linnaeus 'had been torn

into shreds'.) Linnaean species names in some groups are characterized by uniform endings such as *-ana* (*Tortrix*), *-alis* (*Pyralis*), *-ella* (*Tinea*), *-dactyla* (*Alucita*). In the geometrids the distinction between species with pectinated (pectinicornes) and those with filiform (seticornes) antennae resulted in the name pattern with the endings *-aria* or *-ata* respectively. 'Hardly a name has been bestowed since [1758] that is not modelled on one that is found in *Systema Naturae*, Edition 10' (Emmet 1991: 20). Tradition and culture of lepidopterological nomenclature hence cannot be reduced to mere philological purity. The Code's 4th edition claims to mark the 242<sup>nd</sup> anniversary of the formal starting point of zoological nomenclature, the publication of Linnaeus' *Systema Naturae* Ed. 10 (ICZN 1999: Preface); but the Code adopts philological ideals that are not found in the taxonomy of Linnaeus and subsequent systematists.

While *Felis* or *Papilio* were common words of the vocabulary of ancient Rome, creations like *Sarcinodes* and many other artificial latinisations used as generic names of Lepidoptera would not have had any meaning in the Roman empire. Cultural traditions of philological correctness have no relevance here. If the gender of such artifacts or meaningless neologisms can only be determined by specialized linguists trained in the etymology of Indo-Germanic words and by means of deduction, extrapolation or postulation, it is indefensible that 21st century lepidopterists be burdened with such virtual linguistic 'correctness'. Why should taxonomists today be forced, in the name of the rules existing in classic Latin, to 'correct' real or imaginary misdemeanors committed more than a century ago? Moreover, 'classic purity' as advocated by the Code was never deeply rooted in the tradition of lepidopterological science.

Meanwhile, the task of recording biodiversity has largely shifted beyond the realm of the tradition of the Latin language and involves taxonomists with other cultural backgrounds. Of course, there have been great zoologists outside Europe with an outstanding proficiency in classic languages but that may not reflect the situation in the years to come, even less so since such philological abilities tend to become more and more isolated if not obsolete among academics in Europe as well. The German press reported recently (in early 2002) that a *lapsus linguae* occurred even to the Holy Father when John Paul II referred to the *paupera lingua latina*. (There is a dispute among philologists about that 'fault'.) In 1895 no one could have foreseen that most users of scientific names would have no knowledge of Latin or Greek (Melville 1995: Conclusion), but in 2002 it is a fact. 'Classic purity' in a system of zoological names, if ever sought for, is not a feature of relevant cultural impact any more. The rigid formula of gender agreement in the Code must then appear as the anachronism that it was termed decades ago (Holloway 1981; Robinson, 1993).

After all, scientific correctness rather depends upon historical truth. There was no *Gnophos accipitrarius* by Guenée but *accipitraria*, no *Gnophos ambiguatus* described by Duponchel but *ambiguata*, but there is now *Gnophos porphyra* Zerny.

There may not be a copyright in scientific species names; but there are the author's motives, ideas, intentions, mostly unknown to us today, underlying his choice of a name for a new species. Respect for the personalities contributing to the nomenclatural web, or at least the good taste which was so often claimed by the early drafters of the nomenclatural rules, should prevent the pioneers of the nomenclature of Lepidoptera



to be deprived of their species names as they had spelled them out. Guenée (1857 [1858]) once put the question whether there is permission to attack the genius of Linnaeus and touch on the names in *Systema Naturae*, and he cites the fact that even Voltaire was blamed for his correcting obvious faults committed by the Great Corneille. To give names to a thing always had a special character. '*Nominum ideoque impositio primi hominis in aurea aetate actio erat*' [naming was the first man's action in the golden age], as Linnaeus (*Systema Naturae*, ed. 10) put it. In a time of endangered species and burning primary forests the naming of species may well appear as a treasure of the golden age which should be cherished. 'Whatever the man called each living creature, that was its name' (Genesis 2: 19–20).

### Waiting for adoption

While the confusion stemming from the impracticality of the gender agreement rules was much regretted, no way was found to surmount the seemingly broad resistance to them. Some minor changes in the text of the Code, intended to simplify the identification of gender in genus-group names, merely nourish the Commission's 'hope' that they will reduce some of the difficulties of those without knowledge of Latin (ICZN 1999: Introduction). More vigorous attempts to end debates about the correctness of names were proposed in the discussions leading to the 4th edition of the Code. To secure conformity with the articles of the Code in future, a system of authorisation or mandatory registration of names was suggested. Practical difficulties as well as the principle of taxonomic freedom were felt to stand against that (ICZN 1999: Preface). In fact, lack of resources would preclude any system of formal acts involving the Commission. The vision of an authority with the ability to check, within a reasonable time, whether a new species name or a species name in a new combination meets the gender agreement requirements and/or other provisions of the Code would, indeed, be utterly unrealistic (cf. Bouchet 1999).

The Code envisages, however, a potential remedy through the official adoption of *Lists of Available Names in Zoology* (Art. 79): A name occurring in an adopted part of the *List* is deemed to have the spelling recorded in the *List* despite any evidence to the contrary (Art. 79.4.1). Once such *Lists* have been compiled, there will obviously be peace with the gender agreement rule and any doubts about the correct species-group name will be settled – for the given combination with a generic name! If the species is later transferred to another genus with different gender the Code apparently still requires the specific adjectival name to be adjusted (cf. Art. 80.6.2). The adoption of an official list of available names was seemingly not meant to fix the epithet once and for ever. Otherwise, specific names with different epithets could assemble in a genus as systematic research progresses, a result that has always horrified the drafters of the Code.

The protocols for an adoption system are likely to be complicated and slow (Artt. 79.1, 79.2). But the main issue is breaking down the immense numbers of generic and specific names into adoptable comprehensive lists of genera and/or species which require the attention of specialists to an extent that is difficult to imagine as realistic



within a reasonable span of years. A general inventory of the existing species in the Lepidoptera alone can be estimated to comprise some 160,000 (valid) names. So, even if that option is viable in the long term, it cannot offer a handy solution for the taxonomist working today.

### The option now

The Code is a set of rules under the aegis (now) of the International Union of Biological Sciences. The articles of the Code are not enforceable under International Law and the provisions of the Code are not enforceable against any taxonomist or author. There is no court to hear arguments whilst the Commission itself explicitly states that it is under no obligation to search out violations of the Code or to initiate any action within its field of competence (Art. 83). But the Code claims that zoological names published after 1757 are governed by the provisions of the Code (Art. 88) and that its articles are mandatory to zoologists when determining the valid name for a taxon or establishing a new name. The Code also provides for its own interpretation and administration (ICZN 1999: Introduction). Whatever its juridical character, the Code was meant to regulate zoological nomenclature, and it can still be dealt with in the same way as other obligations of law are treated.

As pointed out, taxonomists have tended to choose a pragmatic formula that disregards gender agreement. Such procedure clearly contravenes the wording of Artt. 31.2, 34.2 of the Code. But the verdict is not so clear-cut.

(a) In the first place, the strict gender agreement provisions of the Code, although in their essential content upheld over a century, were, due to the negative effects mentioned above, not at all supported by consent of the majority of the addressees, at least in the taxonomy of Lepidoptera. They may thus be deemed derogated by the intentional and continuous custom of contravention.

(b) Another strong argument was, in a way, acknowledged by the Commission itself (ICZN 1999: Introduction): the paucity of knowledge of Latin. The knowledge of classic Greek is evidently no longer even worth mentioning because it is virtually nonexistent among the younger zoologists of our days. For example, even the editor of the series *The Generic Names of Moths of the World*, who served himself on the ICZN, did not state the genders of the genera listed, an omission that could be interpreted as being a tacit admission that the gender agreement article of the Code is unworkable (Holloway 1981). If modern taxonomists are unable to find the philologically correct answers as to the gender of all generic names and to the linguistic qualification of certain specific names then they are not able to apply the gender agreement rule correctly, and certainly not within a reasonable time and without unreasonable effort. It has been a principle since Roman Law that *ultra posse nemo obligetur*, i.e. a law cannot oblige adherence to something impossible.

Full application of the rule that adjectival species names must at any time reflect the gender of the generic name would demand updating of the species name in electronic databases whenever required by a new combination. Institutions maintaining databases of large animal groups like Lepidoptera would have to invest much man-

power to follow the systematic alterations. A survey of the moths of Borneo recently found that about 50% of the macromoths may be in unsatisfactory generic combinations (Holloway 2002). Obviously, the budgets of museums and other scientific institutions cannot match the need for additional staff. It is thus also financially impossible to observe the gender agreement rule in the modern electronic tools of taxonomy and systematics.

This twofold impossibility of observing the gender agreement requirements (Artt. 31.2, 34.2) renders those provisions of the Code void.

(c) Such understanding of the gender agreement rules of the Code is uniquely consistent with the foremost principles of stability and permanence of zoological names, principles that have predominance over mere rules: 'The objects of the Code are to promote stability and universality in the scientific names of animals and to ensure that the name of each taxon is unique and distinct. All its provisions and recommendations are subservient to those ends and none restricts the freedom of taxonomic thought or actions.' (ICZN 1999: Preamble). The Preamble declares itself an 'integral part of the Code's provisions'.

As pointed out, in large animal groups like Lepidoptera, systematic research is continuously yielding reallocations of species to existing or new genera. Consequently, an adjectival species name might possibly within a few years require different endings and would thus, in contrast to the stated objectives of the Code, not remain stable and permanent, and miss the single best quality of a scientific name (Minelli 1999).

(d) The contradiction between the wording of Artt. 31.2, 34.2 and the declared objects of the Code leaves a gap that can best be bridged by adopting the interpretation offered by the Code, albeit with some restrictions, in Artt. 31.2.2 and 34.2.1: Species names in the form of an adjective or participle in the nominative singular may be understood as nouns in apposition and hence remain unchanged in whichever combination with a generic name. Regrettably, the Code and the Commission did not dare to open that door explicitly, but the restrictions to such a general application indicated in the Code (Art. 31.2.2) seem to be of little relevance in Lepidoptera and can be deemed overruled by the overriding principle of stability.

### *Quae sit actio* – what to do?

Summing up, the conclusion is that, for the sake of stability and in order to avoid confusion in the nomenclature of Lepidoptera, something has to be done. The gender agreement provisions of the Code (Artt. 31.2, 34.2) must not be allowed to interfere with the mainstream attitude of taxonomists in Lepidoptera which is that the species name be preserved in its original form, regardless of any genus with which it may later be combined. That result can be achieved if species-group names originally established in the form of an adjective or participle in the nominative singular are generally treated as nouns in apposition (Artt. 31.2.2, 34.2.1).

Since neither the (new) Code nor the Commission have so far offered a remedy for the worrying situation, it is highly desirable for all working lepidopterists to have clear and simple guidelines. In this direction, action could be taken by the leading lepidop-



terists' societies as a service to their members engaged in taxonomy and systematics of Lepidoptera. For instance, members could be encouraged to adopt generally the prevalent tradition of disregarding the gender agreement requirement of the Code for the sake of stability. Additionally the societies could urge, and hopefully convince, the Commission to cooperate in finding a formal way to achieve that goal.

The Societas Europaea Lepidopterologica (SEL), a society of about 600 lepidopterists of (mainly) the Northern Hemisphere, passed a Resolution in this respect at its General Meeting at the XIII European Congress of Lepidopterology in June 2002 (see Appendix). *Vivant sequentes* [followers welcome]!

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## *Appendix*

### **RESOLUTION**

**adopted by the General Meeting of the Societas Europaea Lepidopterologica (SEL) at the XIII European Congress of Lepidopterology in Korsør (Denmark) on June 4, 2002:**

Lepidopterists are strongly recommended to use species-group names of Lepidoptera established in the form of an adjective or participle in the nominative singular only in their original (gender) form given in the original description, unless the name was fixed otherwise by a subsequent opinion of the International Commission on Zoological Nomenclature. In this respect the gender agreement requirements of Artt. 31.2, 34.2 of the actual (4th edition) of the Code shall be disregarded, and such species-group names of Lepidoptera in the form of an adjective or participle in the nominative singular shall generally be treated as nouns in apposition and must in no case be changed to agree in gender with whichever generic name they are combined (cf. Artt. 31.2.2, 34.2.1).

When naming new species of Lepidoptera, taxonomists shall make sure that the form (epithet) of an adjectival species name either matches the obvious gender of the genus name (cf. Recommendation 30A, 30B) it shall be combined with or follows the example of (the majority of) its congeners.

The President is empowered to take appropriate action so that the afore mentioned general mode of the application of the gender agreement provisions of the Code in the nomenclature of Lepidoptera can be formally accepted by the institutions concerned.



*Anhang***RESOLUTION**

**verabschiedet von der Mitgliederversammlung der Societas Europaea Lepidopterologica (SEL) beim XIII. Europäischen Kongress für Lepidopterologie in Korsør (Denmark) am 4. Juni 2002:**

Den Lepidopterologen wird dringend empfohlen, Artnamen bei Lepidopteren, die aus einem Adjektiv oder Partizip im Nominativ Singular bestehen, nur in der grammatikalischen Form zu verwenden, in der sie ursprünglich beschrieben worden sind, es sei denn, daß der Name durch eine spätere Entscheidung der Nomenklaturkommission mit anderem grammatikalischem Geschlecht festgeschrieben worden ist. Die Bestimmungen zur Übereinstimmung im grammatikalischen Geschlecht (Artikel 31.2, 34.2) der aktuellen (4. Auflage) der internationalen Nomenklaturregeln sollen somit nicht angewandt werden. Vielmehr sollen solche Artnamen in Gestalt eines Adjektivs oder Partizips im Nominativ Singular wie substantivische Appositionen behandelt werden und bedürfen damit nie einer Anpassung an das grammatikalische Geschlecht des Gattungsnamens, mit dem der Artname je verbunden sein soll (vgl. Artikel 31.2.2, 34.2.1).

Wer eine Lepidopteren-Art mit einem neuen, adjektivischen Artnamen benennt, soll sicher stellen, daß sich die grammatikalische Endung nach dem offenkundigen Geschlecht des Gattungsnamens richtet oder mit den (meisten) anderen Artnamen in dieser Gattung übereinstimmt.

Der Präsident wird gebeten, die erforderlichen Schritte zu unternehmen, damit die zuständigen Institutionen diese Handhabung der Nomenklaturregeln für den Bereich Lepidoptera akzeptieren.

*Annexe***RESOLUTION**

**adopté par l'Assemblée Générale de la Societas Europaea Lepidopterologica (SEL) à l'occasion du XIII<sup>ème</sup> Congrès de la Lepidoptérologie à Korsør (Danemark) le 4 Juin 2002:**

Il est fortement recommandé aux Lépidoptéristes d'utiliser les noms de groupes d'espèces de Lépidoptères sous la forme (épithète) établie dans la description originale, à moins que ce nom n'ait été fixé autrement par une opinion subséquente de la Commission Internationale à la Nomenclature Zoologique, et d'ignorer de l'esprit du genre recommandé dans les articles 31.2, 34.2 de l'édition actuelle (4<sup>ème</sup>) du Code. De tels groupes de noms d'espèces de Lépidoptères sous forme d'adjectif ou de participe d'un nom au singulier doivent être en principe traités comme noms en apposition et ne doivent en aucun cas être changés en accord au genre avec lequel le nom de genre est accordé (cf. Art. 31.2.2, 34.2.1).

Lors de la description de nouvelles espèces de Lépidoptères les taxinomistes doivent s'assurer que la forme (épithète) d'un nom d'espèce adjectif s'accorde avec le nom du genre associé si le genre en est évident sans aucune ambiguïté (cf. recommandations 30A, 30B), ou suive l'exemple de (la majorité de) ses congénères.

Le Président de la SEL est mandaté pour entreprendre les actions appropriées en vue des modifications proposées en application des recommandations du Code sur les genres à propos des Lépidoptères afin qu'elles soient officiellement acceptées par les institutions concernées.