

This document incorporates some minor corrections listed after the meetings.

**MINUTES OF THE FIRST MEETING OF THE I.C.N.V.  
HELD AT ACADEMY OF MEDICAL SCIENCES OF THE U.S.S.R., Moscow,  
22.7.66**

14.10

(43 members present)

- 1/1 Proceedings were opened by Dr Lwoff who outlined the circumstances leading to the formation of the I.C.N.V. In 1963 the Provisional Committee for the Nomenclature of Viruses was set up and this body made some proposals which have provoked considerable interest in viral classification and nomenclature.
- 1/2 Dr Pereira was elected chairman at the meeting.
- 1/3 Delegates of each country were identified and their credentials verified.
- 1/4 It was unanimously decided that the committee was viable and that the list of delegates should be presented to the General Assembly of the I.A.M.S.
- 1/5 It was decided by acclamation that
1. The code of bacterial nomenclature should not be applied to viruses.
  2. Nomenclature should be international.
  3. Nomenclature should be universally applied to all viruses
- 1/6 There was considerable discussion on what system of Nomenclature should be adopted. Clearly there was disagreement not only in the room but in the world at large as to how viruses should be classified and named. The systems discussed were those of P.C.N.V., Gibbs et al and Hansen.

Finally three proposals were put.

1. - The committee considers that an international nomenclature for viruses is desirable . (carried unanimously)
2. - An effort should be made towards a latinized binomial nomenclature . (carried with 2 against)
3. - If and when latinized binomials are introduced, the existing names should be retained whenever feasible. (carried with 1 against)

16.50  
Peter WILDY  
26.7.66

**MINUTES OF THE SECOND MEETING OF THE I.C.N.V.  
HELD AT ACADEMY OF MEDICAL SCIENCES OF THE U.S. S. R., Moscow,  
23.7.66**

10. 32

(46 members present)

2/1 Dr Pereira was in the chair.

2/2 The proposed rules prepared by Drs Lwoff and Maurin for the I.C.N.V. were considered and amended . The amended document was unanimously approved. This is attached (C)

2/3 Election of Executive Committee

The results were as follows:

President	P. Wildy
Vice-President	H. S. Ginsberg
Secretaries	J. Maurin
	J. Brandes

Committee Members

D. Bradley  
F. Fenner  
S. Y. Gaidamovich  
A. Gibbs  
A. Lwoff  
J. L. Melnick  
H. G. Pereira  
C. Vago

Life Members: Dr Lwoff and Sir Christopher Andrewes were elected life members of the I.C.N.V. by acclamation.

2/4 The President took the chair. There followed a discussion about the proposed code. The following proposals were taken :

- 1/ The Law of priority will not be observed. (carried unanimously)
- 2/ New sigla will not be introduced. (carried 3 against)
- 3/ No person's name will be used. (carried unanimously)
- 4/ No nonsense names are to be used. (carried 11 - 8)
- 5/ The President will invite WHO to send a representation to I.C.N.V. as a member at large.

P. WILDY  
26.7.66

**MINUTES OF THE THIRD MEETING OF THE I.C.N.V.  
Moscow, 26.7.66**

- 3/1 The Minutes of the first two meetings on 22nd and 23rd July were read and approved.
- 3/2 The President presented a report on the first meeting of the executive committee. Attention was focussed on several expressions contained in it. After that the report was approved point by point, some modifications made and finally it was approved entirely. The report is attached (A).
- 3/3 The resolution permitting postal votes for the Executive Committee was extended to the whole Committee.
- 3/4 The rules so far made were summarized. The summary is attached (B).
- 3/5 Section 6 Chapter 3 of the proposed code was discussed point by point and accepted with minor alteration. (D).

## **A Chairman's Report on First Executive Committee Meeting**

The Executive Committee met at 14.00 on 25 July. The following recommendations were made

### El/1. - Status of Secretaries

The secretaries are to be of equal status and the division of labour between them is to be decided by them.

### El/2. - Working the Executive Committee at a distance

In view of geographical separation votes can be made by correspondence.

### El/3. - Two working definitions

In spite of disagreement over the terms groups, genera, species, etc., the following working definitions are proposed :

- a) For pragmatic purposes the species is "a collection of viruses with like characters".
- b) The genus is "a group of species sharing certain common characters".

### El/4. - Working Subcommittees on Nomenclature

#### a) Duties

I. Each subcommittee will study criteria and make suggestions on definitions of particular species, genera and where necessary, subgenera,

II. The Subcommittees are asked to select type species for each genus or subgenus.

- b) Constitution - After some discussion it was decided to constitute four subcommittees to consider viruses of Insects, Plants, Vertebrates and Bacteria.

#### I. Subcommittee for Invertebrate viruses

Chairman	Vago
Members	Aizawa, Tinsley, Tarasevich, Martignioni
Attending secretary	J. Brandes

#### II. Subcommittee for plant viruses

Chairman	Harrison
Members	Hirth, Valenta, Brandes Maramorosch, Gibbs
Attending Secretary	J. Brandes

#### III. Subcommittee of vertebrate viruses

Chairman	Sir Christopher Andrewes
Deputy chairman	Pereira
Members	Tournier, Ginsberg, Melnick, Zhdanov, Broosky, Rott, Blaskovic, Casals, Kaplan
Attending Secretary	J. Maurin

#### IV. Subcommittee on Bacteriophages

Chairman	Bradley
Members	T.F. Andersen, Goldfarb, Kellenberger
Attending Secretary	J. Maurin

Consultant for all groups : D. L. D. Caspar

C) Further Recommendation

- I. It is essential to provide for cross fertilization between the subcommittees and chairmen are required to see to this.
- II. It is hoped to take advantage of the virus Symposium in London in 1968 to have meetings of subcommittees and of the Executive Committee.
- III. The Committee recommends Dr Hansen's nomenclature for serious consideration by the subcommittees.
- IV. It is expected that the Chairman of each subcommittee will circulate the proposals of his group to a sizable representation of virologists working in relevant fields and to the members of the I. C.N.V. After their comments have been received, these should be integrated into a new report of the subcommittee and the process repeated.

E 1/5 Working Subcommittee on the Cryptogram

The Committee recommends that

- a) The following subcommittee be set up to consider the practicability, form and general utility of the cryptogram.
- b) The composition be as follows

Chairman	Gibbs
Members	Tournier, Ginsberg, Vago, Klug.

E 1/6 Life Members

The Committee commends that in addition to M. Lwoff and Sir Christopher Andrewes we invite the following as life members of the I.C.N.V. :  
Dr Ryzhkov, Dr Zhdanov, Dr Holmes

## **B Summary of rules that result from adopted resolutions**

1. The code of bacterial nomenclature shall not be applied to viruses.
2. Nomenclature shall be international.
3. Nomenclature shall be universally applied to all viruses.
4. An effort will be made towards a latinized binomial nomenclature.
5. Existing latinized names shall be retained whenever feasible.
6. The law of priority shall not be observed.
7. New sigla shall not be introduced.
8. No person's name shall be used.
9. No nonsense names shall be used.
10. For pragmatic purposes the species is considered to be collections of viruses with like characters.
11. The genus is a group of species sharing certain common characters.
12. The rules of Orthography of names and epithets are listed in Chapter 3 Section 6 of the proposed international code of nomenclature of names (D)

## **C THE INTERNATIONAL COMMITTEE ON NOMENCLATURE OF VIRUSES**

A permanent International Committee on Nomenclature of Viruses (I.C.N.V.) has been established by the International Association of Microbiological Societies during its IXth Congress. This Committee is so constituted that wherever practicable each country is represented by at least one member and no country by more than five. Nominations for membership are made by the microbiological society in each country.

The several societies and Committee members making nominations are urged to nominate persons representing all branches of virology so that the I.C.N.V. may have broad representation of all virological interests in nomenclature. The I.C.N.V. through its Permanent Secretaries and executive Committee (see below) shall submit a list of its members to the last Plenary Session of each International Congress for confirmation.

At least one year before each Congress, each national society shall inform the Permanent Secretaries of any recommendations relative to changes in its representation.

The I.C.N.V. possesses an executive Committee which is composed of the President, the vice-President, two secretaries and eight members elected by the I.C.N.V.

### Recognition of Alternates

If a member of the I.C.N.V. cannot attend the meetings of the Committee, an alternate having all the rights of an appointed member, except in the election of officers and commissioners, will be chosen in accordance with the following provisions

- (a) The national microbiological society which the member represents shall have the right to nominate an alternate.
- (b) If no nomination is made by the national society, the member himself shall have the right to nominate an alternate.
- (c) If neither the national society nor the member nominates an alternate, the executive Committee may nominate. All nominations for alternates by national societies, or by members shall be in writing and should be in the hands of one of the Permanent Secretaries.

### Functions of the International Committee

The I.C.N.V. has the following functions

- 1) To hold meetings at the time of and as a part of the sessions of each Congress of the International Association of Microbiological Societies.
- 2) To consider and pass judgment upon all recommendations made by its executive Committee or any of its subcommittees relative to the formulation, the modification or the amendment of the International Code of Nomenclature of Viruses. In cases in which the approval of the Congress is also necessary, the Committee will make the appropriate recommendations. Proposals for amendment of the Virological Code shall be submitted to one of the Permanent Secretaries at least one year before the next International Congress.
- 3) Whenever a vacancy occurs, to nominate a substitute.

4) To appoint as Life Members of the I.C.N.V. individuals who have rendered distinguished service to viral nomenclature and taxonomy. Such Life Members shall be regarded as members-at-large and not as representing the virologists of any nation.

#### Election of President and Vice-President.

At a meeting held at each International Congress, the Committee shall elect a President and a Vice-President, who shall hold office until the close of the next succeeding Congress.

A/ - The duties of the President of the Committee shall be:

- 1) To preside at all meetings of the Committee.
- 2) To collaborate with the Secretaries in the preparation of the Agenda for the meetings of the Committee.
- 3) To appoint members of such subcommittees as may be approved by the executive Committee and not otherwise provided for.
- 4) To assume such other duties as may be requested by the executive Committee.

B/ The duties of the Vice-President of the Committee shall be:

- 1) To preside at the meetings of the Committee in the absence of the President.
- 2) To assume such other duties as may be requested by the Committee.

#### Election of two Secretaries.

Two Secretaries are chosen by the Committee and confirmed by the Plenary Session of the Congress. One of the Secretaries shall primarily represent the interests of medical and veterinary virology and one the interests of plant virologists. Vacancies in the position of Secretary which may occur in the interim between Congresses of the International Association of Microbiological Societies shall be filled by the executive Committees such appointments to be temporary unless confirmed by the next Congress. The President, Vice-president and Secretaries shall be regarded as-members-at-large and shall not be included in the quota of any nation.

- The duties of the Secretaries shall be

- 1) To prepare, in cooperation with the President of the Committee, the Agenda for all meetings of the Committee.
- 2) To serve ex officio as voting members and as joint Secretaries of the executive Committee.
- 3) To secure from each national society representing microbiology their nominations for membership, and when such nominations are in accordance with the Provisions of the I.C.N.V. to prepare a list of all nominations for membership for presentation to the Committee at its first meeting at each International Congress.
- 4) To receive from the Executive Committee such recommendations as may require action by the Committee; in the intervals between International Congresses to duplicate and send such recommendations to all members of the Committee. If the members of the Committee are circularized to secure comments and suggestions, to tabulate the information received. If the members are asked to vote upon any proposal, to tabulate and announce the result of the ballot and to certify the results to the President of the Committee.
- 5) With the President, to serve as members of the Editorial Board to edit and prepare for final publication all Opinions issued by the executive Committee, also the International



Code of Nomenclature of Viruses and its amendments and all other publications authorized by or sponsored by the Committee or by the Executive Committee.

- 6) To keep the minutes of the Committee and of the executive Committee and submit them for publication in the Proceedings of the appropriate International Congress and in the International Bulletin of Virological Nomenclature and Taxonomy.
- 7) To present to the Plenary Session of the Congress all actions of the executive Committee or the International Committee requiring approval of said session.
- 8) One or the other of the Secretaries shall be designated a member of each subcommittee authorized or appointed by the International Committee, and shall be responsible only for advising the specialist subcommittees on the interpretation of the International Code of Nomenclature of Viruses.
- 9) With the President to authorize the formation of new subcommittees to consider the taxonomy and classification of special groups of Viruses. Such subcommittees to have provisional status only until such time as they may be duly authorized by action of the I.C.N.V. Proposals for the formation of such subcommittees may be made by an individual or by a group of individuals to one of the Secretaries. Such a request should be accompanied by a statement of the proposed duties of the subcommittee and a list of the members proposed.

#### Functions of the Executive Committee

- 1) The executive Committee shall study all matters concerning the Nomenclature of Viruses.
- 2) Its proposals shall be submitted for amendment, approval or rejection to the members of the I.C.N.V. These members shall express their opinion either by correspondence in the interim between Congresses or by vote during the Congresses. Any decision will require a majority of 60% of those members of the I.C.N.V. which have answered within an interval of two months following the date of issue of the questionnaire.
- 3) The executive Committee may also authorize or appoint special subcommittees of experts to consider and report on the classification of special groups of Viruses and other phases of their taxonomy and to sponsor one or more sessions of a Section on Taxonomy and Classification at each International Congress at which these reports of subcommittees may be presented and discussed.
- 4) The executive Committee shall elect the members of any specific subcommittee, as vacancies may occur.

## D ORTHOGRAPHY OF NAMES AND EPITHETS

### RULE

The original spelling of a name or epithet must be retained, except typographic or orthographic errors. When two or more generic names, or two or more specific epithets in the same genus, are so similar as to cause confusion, they are treated as orthographic variants of the same name or epithet.

- note 1 - The spelling of the name of a taxon or an epithet derived from the Greek but not transliterated by its author into Latin form in accordance with classic usage (Appendix A) may be corrected as an orthographic error by the I.C.N.V. and placed in the list of preferred spellings (see Recommendation A). The name of the taxon as originally published becomes an orthographic variant of the corrected name. Specific and other epithets and names of Greek origin differing merely by having Greek and Latin gender endings respectively are orthographic variants. Epithets having the same meaning and differing only slightly in form are considered as orthographic variants.
- note 2 - Diacritic signs are not used in names or in specific epithets in virology. In names or epithets derived from words with such diacritic signs, the signs must be suppressed and the letters transcribed as follows :
- |   |                |
|---|----------------|
| 1 - ä, ö and ü become respectively ae, oe, ue               | (German)       |
| 2 - é, è and ê become e                                     | (French)       |
| 3 - ø (ö), âê (ä) and å become oe, ae, and aa, respectively | (Scandinavian) |

Where diphthongs are not indicated by special types the diaeresis should be used where required to show that two consecutive vowels are to be separately pronounced (are in separate syllables).

- note 3 - Certain consonants not found in classical Latin, namely w and y, and the rarely used k, may be employed in virology for names of taxa and for specific epithets.

Annotation (Note 2) - The only diacritic sign permissible in the spelling of names and epithets in virology is that of the diaeresis (Gr., a division) which may be placed above the second of two consecutive vowels to indicate the two vowels are to be separately pronounced (are in separate syllables), and not to be regarded as a diphthong.

### RECOMMENDATIONS

A. When a name or epithet for use in virological nomenclature is derived from a Greek word, the transliteration to Latin form should conform to classic usage. Appendix A (q.v.) may be used as a guide. If a later author corrects the spelling of a name or epithet incorrectly transliterated from the Greek, the correctly spelled word may be regarded as an orthographic variant of the name or epithet.

B. When it is necessary to choose between words as names of taxa or as specific epithets and which differ in spelling only because of faulty or alternative transliterations of Greek to Latin, or because of alternative transfer of endings denoting gender or oblique cases (particularly the genitive) from Greek to Latin, it is recommended that choices be governed by the provisions of Appendix A (q.v.).

C. For scientific names of taxa it is advisable to use another font from that used for the remainder of the text, or to space the letters, or to use some similar device appropriate to the text.

Typewritten scientific names should be underlined

Annotation - Generally in biology it is customary to print names of genera and species using a different type from that used in the body of the text. The most common device is the use of italics (*Poliovirus primus*, *Bacillus subtilis*). Occasionally bold face type is used. Another device employed is to increase the space between letters; this is common in German publications.

D. New specific (or other) epithets should be written in conformity with the original spelling of the words from which they are derived and in accordance with the rules of Latin and Latinization.

E. Specific epithets should never be capitalized.

F. Names of taxa and specific epithets are often compound words, sometimes formed from Latin stems, more often from Greek stems, sometimes (less correctly) from stems from two different languages. Such compound words formed from the same stems may differ only in the connecting vowels.

- a) In the formation of compound names of taxa and of specific epithets from the Latin, the preferred connecting vowel is -i-. Such compound names differing in spelling only by having the connecting vowel -i- or -o- are to be regarded as orthographic variants. Names of taxa which are such orthographic variants and based upon different types are to be regarded as homonyms. The spelling used for the name of each taxon or for each specific epithet should be that used by the author when the compound was validly published.
- b) The combining vowel in Greek compounds in which the first component is a noun (substantive) or adjective is usually -o-. It may be omitted if the second component begins with a vowel or when the first component ends in y, e.g. *glychylus*. Another combining vowel may be used if there is good Greek precedent, e.g. as in *Corynebacterium*. Names of taxa or words used as specific epithets which are Greek compounds and differ only in the presence or absence of the combining vowel -c-, or have another combining vowel, are to be regarded as orthographic variants. If the names are based upon different types they are to be regarded as homonyms. The correct spelling is that used by the author of the name in its initial and valid publication.

Compound words derived from two or more languages (*nomina hybrida*) are to be regarded as orthographic variant if they differ only in the combining vowel. If two compounds which are names of taxa have different nomenclatural types they are to be regarded as homonyms. The spelling first used by an author in the valid publication of a name should govern.

Annotations

(a) The Latins, in contrast to the Greeks, rarely joined stems to form new words. When stems were so joined, the connecting vowel was usually -i-, as in *atricapillus* (black haired), *albicornis* (white haired), a *aquifolius* (with pointed leaf) in modern Latin *mohiliformis* (in form of a necklace). New words were more commonly formed by use of numerous prefixes and suffixes.

In the modern Latin of biology there are numerous instances in which the connecting vowel between Latin stems is -o-. This is particularly true of words in which the first component has to do with color. The Latins occasionally coined such words as *albogilvus* (whitish yellow) in which both components are adjectives, the first component of the compound having an adverbial connotation (whitish).

(b) The Greeks formed many compound words. In consequence, Greek stems have been much used in making compounds for use as generic names throughout biology. Most Greek compounds with stems from adjectives and nouns show -o- as the connecting vowel. Greek precedent for *Corynebacterium* is found in Greek compounds such as *crynephorus* (club-bearing). A modern specific epithet is *halmophilus* (brine-loving).

(c) The recommendations advising against the formation of compound names or epithets from words of two or more languages particularly Latin and Greek, have been frequently ignored. Since such names in their formation do not violate a rule, they may be legitimate. There are many such words in bacteriology; some are Latin-Greek, some Greek-Latin, some have -i- as the combining vowel, some have -o- and some have another vowel.

G. Authors should give the etymology of new generic names and also of epithets.

Annotations - Compliance with this recommendation might well tend to reduce the number of nonsense words in viral nomenclature particularly nonsense specific epithets.

Possibly formation of hybrid names (*nomina hybrida*) would be less frequent if the authors clearly stated that the hybrid word contravened a nomenclatural recommendation.

H. An epithet derived from a non-Latin or a non-Greek word which does not have an ending conforming to one of the Latin declensions and which has not been latinized by the addition of a Latin ending shall be regarded as a non-declinable Latin noun. Two or more specific epithets derived from the same word, one with a Latin ending, the other not, are orthographic variants, and when the names of taxa are based on different types they should be treated as homonyms.

I. Authors of new names of taxa or of specific or subspecific epithets derived from the Greek are urged to transliterate words or stems into Latin form by adherence to the recommendations of Appendix A.

J. The name of a genus should be spelled without abbreviation the first time it is used with a specific epithet in a publication, except that in a series of names of species of the same genus it is customary to abbreviate the name of the genus in all names of the species after the first. Later use of the name of a species previously cited usually has the name of the genus abbreviated. The abbreviation used for the name of a genus in a species name is usually the first letter of the generic name. In publications in which species are listed belonging to two or

more genera which have the same initial letter, care should be used to abbreviate the names of the genera so as to avoid confusion.