MINUTES OF MEETINGS OF THE SUBCOMMITTEE
ON TAXONOMY OF THE VIRUSES, MONTREAL, 1962

The virus subcommittee of the International Nomenclature Committee met in Montreal on August 17, 18 and 20, 1962.

Members present were:

C.H. Andrewes (in the chair)	
S. Gard	F.P. McWhorter
W. McD. Hammon	V.M. Zhdanov

Also present as alternates for absent members were:

R.M. Chanock	A.B. Sabin
M. Kaplan	P. Tournier
K. Maramarosch	

(1). The subcommittee believed that it would be most useful at this time to define and name major groups and not to propose specific names for individual viruses. Specific names already proposed would not be withdrawn, but no new ones would be put forward at present. There would thus be no immediate progress towards a binomial system. The major groups would be defined in terms of (1) nucleic acid composition, (2) sensitivity to ether, and of three morphological characters. (4) presence of limiting membrane, (5) symmetry—whether cubical or helical—and (6) number of capsomeres (when this has been certainly determined). No action was deemed necessary for poxviruses and insect-pathogenic viruses, but new definitions of other major groups and some lists of contained viruses would be submitted for publication as soon as possible.

(2). Arbovirus. For arthropod borne viruses, use of the name "arbovirus" was recommended in preference to arborviruses, which had been used by many. The modified spelling was adapted to avoid any connotation that 'arbor' might have with the plant virus group. This group was however not at present to be considered as a taxon equivalent to myxovirus, poxvirus, etc. as its fundamental characters are not homogeneous and many of them had not yet been adequately studied.

(3). Enteroviruses. The recommendations of a study group under the chairmanship of Dr. J. L. Melnick were accepted. The recently proposed suggestion of the American Committee on Enteroviruses (Committee 1962) suggesting that the names of polioviruses, Coxsackie viruses and ECHO viruses be replaced by enterovirus numbers, and that the recently described viruses recovered from persons with the common cold syndrome be included in the enterovirus group with appropriate numbers, was not favourably received by the international group. The American as well as the other members of the international group agreed on the following alternative proposal. It was agreed that a name was needed for the small ether-resistant RNA viruses of which enteroviruses form an important part. The name "Nanivirus" tentatively proposed by Andrewes *et al.* (1961) was discarded in favour of "Picornavirus."* The prefix Pico- implies very small size, and RNA of course indicates nucleic-acid composition. (The initial letters of Picornavirus may be taken to refer to Poliomyelitis, insensitivity to ether, Coxsackie, orphan and Rhinovirus). The subcommittee approved the name Rhinovirus for common cold viruses related to those described by the Salisbury workers; the term has since been defined by Tyrrell and Chanock (1963). Viruses represented by single isolates or for some reason difficult to allocate to one of the subgroups (Coxsackie A, Rhinovirus etc.) may be allotted a temporary number as an unclassified Picornavirus. These proposals have not been published (International Study Group 1963).

(4). Myxovirus. It was agreed that on the basis of their morphology and other basic characters, the measles, distemper, rinderpest and respiratory syncytial viruses must be regarded as belonging in the group. Since, however, haemagglutination has not been demonstrated for some of them, the group needs to be redefined. The name "Myxovirus" would be retained, since in its original meaning, "affinity for mucins" it is applicable to the original members of the group. The myxoviruses appear to be divisible into two subgroups, the true influenza viruses (A, including fowl-plague, B and C) and the others. No separate names for the two subgroups are at present suggested.

* P. Tournier dissenting.

(5). Herpesviruses. The 'Herpesvirus' group should have its scope widened to include infectious bovine rhinotracheitis, equine rhinopneumonitis and other viruses; this course was preferred to that suggested by Andrewes et al. (1961) of making a new name 'Nitavirus' for this group of rather large ether-sensitive DNA viruses. The cytomegaloviruses (Weller et al. 1960) may well come to be included.

(6). Adenoviruses. The name was approved and a description of the group will be published. Viruses from non-human sources will be given numbers along with the appropriate adjective—simian, bovine etc.

(7). Reoviruses. Similar action was taken; the existing serotype numbers will be retained.

(8). Papovavirus. This name, suggested by Melnick (1962) for the group of DNA viruses containing papilloma and polyoma viruses and vacuolating agent (hence PA - PO - VA) was approved. A revised description and list of included members will be published shortly.

(9). Plant viruses. Recommendations from the few plant virologists present will be made known later when they have been submitted to those plant virologists on the subcommittee who were unable to be present.

(10). The subcommittee decided that no proposed virus names required consideration unless the viruses in question were made freely available to other laboratories.

The following summary enumerates the relevant characters of six virus groups, which were before the subcommittee during the discussion.

Papovavirus group

1. DNA - double stranded
2. Size - diameter 30-50 mμ
3. Ether resistant
4. No envelope
5. Cubic symmetry; icosahedral 5:3:2
6. 42, 60-70, or 92 capsomeres

Members:

Rabbit papilloma
Bovine papilloma
Simian vacuolating virus
(SV₄₀)
Human papilloma
Polyoma
Mouse K virus

Candidates:

Canine oral papilloma
Kilham rat
Toolan H-1
Equine papilloma
Rabbit oral papilloma

Reovirus

1. RNA
 2. 74 mμ
 3. Ether resistant
 4. No envelope
 5. Cubic symmetry
 6. 92 capsomeres
- (Note: wound-tumour of clover fits this group exactly)

Myxovirus

1. RNA
2. 80-200 mμ for most particles
3. Ether resistant
4. Envelope
5. Helical symmetry
6. Diameter of helix 9 or 18 mμ

Members:

- Group 1 Influenza A, B, C.
Group 2 Parinfluenza, mumps, Newcastle disease,
 measles, distemper, rinderpest, respiratory
 syncytial virus

Candidate: rabies

Herpesvirus

1. DNA
2. 120-180 mμ
3. Ether sensitive
4. Envelope
5. Cubic symmetry
6. 162 capsomeres

Members:

Herpes simplex
B virus of monkeys
Pseudorabies
Virus III of rabbits
Varicella-zoster
Infectious bovine rhinotracheitis
Equine rhinopneumonitis (equine abortion)

Under consideration (cytomegalic inclusion viruses
(infectious laryngotracheitis

Picornavirus

1. RNA
2. Size 17-20 mμ
3. Ether resistant
4. No envelope
5. Cubic symmetry

Members:

Human (Polio 1, 2, 3
enterovirus (Coxsackie A and B
group (ECHO's

Rhinoviruses

Animal enterovirus group (Teschén group, foot-and-mouth
disease etc.)

Unclassified

Adenovirus

1. DNA
2. 70-90 mμ
3. Ether resistant
4. No envelope
5. Cubic symmetry
6. Number of capsomeres 252 or 162

REFERENCES

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Tyrrell, D.A.J. and R.M. Chanock. 1963. Science (in press).

Weller, T.H., J.B. Hanshaw, and D.E. Scott. 1960.

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C.H. Andrewes
Chairman