Bunyaviruses and Bunyaviridae

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Summary. A new genus, bunyavirus, is proposed. As it cannot be allocated to a currently existing family, the establishment of a new one, Bunyaviridae, is suggested.

Key Words
Arboviruses
Viral taxonomy

Within the biologically defined and morphologically heterogeneous set of arboviruses it is possible to recognize more homogeneous subsets of viruses which share certain physical and chemical properties. Four subsets are already well characterized, namely the alphaviruses, the flaviviruses, the orbiviruses, and the rhabdoviruses; a fifth subset, the bunyaviruses, is proposed here. This proposal, while it represents the agreed views of the members of the Arbovirus Study Group of the International Committee on Nomenclature of Viruses (ICNV), is without any official standing until it has been considered by the Executive Committee of the ICNV and the ICNV as a whole.

Suggested generic name:	Bunyavirus
Cryptogram:	R/1: */*: S/E: V, I/Di, Ac
Taxonomic status:	Genus not belonging to any described family
Type species:	Bunyamwera virus

Main characteristics. Contains single-stranded RNA which is probably in several segments. The virions are spherical, enveloped particles, 90–100 nm

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in diameter. They develop in the cytoplasm of infected cells; they mature by budding into smooth-surfaced vesicles in the Golgi region or nearby. Multiplication is not specifically blocked by inhibitors of DNA transcription. A ribonucleoprotein component composed of long strands 2–2.5 nm broad is extractable from disrupted particles. The envelope contains at least one virus-specified glycopeptide.

	Number of members		Number of members
Other members			
Bunyamwera group	16	Guama group	9
Bwamba group	2	Koongol group	2
Group C	11	Olifantsvlei group	2
California group	10	Patois group	4
Capim group	7	Simbu group	16
Tete group	3	unassigned viruses	6
Other possible members			
Anopheles A viruses	6	Maputta group	2
Anopheles B viruses	2	Nairobi sheep disease	1
Bakau group	2	Pacui	1
Bhanja	1	Phlebotomus fever group	12
Crimean-Congo H. F. group	2	Rift Valley fever	1
Ganjam group	2	Tataguine	1
Kaeng Khoi	1	Thogoto	1
Kaisodi group	3	Turlock group	3
Kowanyama	1	Uukuniemi group	4
Lone Star	1	Witwatersrand	1

If the proposed genus is recognized, its allocation to a family poses certain difficulties. It cannot be placed with the alphaviruses and the flaviviruses in the family of *Togaviridae*, because of the possible helical symmetry of the nucleocapsids of some bunyaviruses reported by Finnish virologists [1–3], the larger size of the virions and because the genome is probably segmented. Nor can the genus be placed with the orthomyxoviruses or the paramyxoviruses, to both of which it bears some resemblance. It may be necessary to establish a new family, the *Bunyaviridae*, as has been suggested by MURPHY *et al.* [4]. The Study Group's proposals are in complete agreement with those of MUR-

PHY *et al.* [4] with respect to the Bunyamwera supergroup viruses, which we suggest should now be termed bunyaviruses; our proposals differ in that we suggest that the morphologically similar but serologically unrelated viruses should be regarded as 'other possible members' of the bunyaviruses, whereas MURPHY *et al.* [4] assign the serologically unrelated viruses to a separate unnamed presumptive genus. The Study Group is reluctant to propose two genera until such time as accumulated data make this necessary.

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