Virus Name: Nyamanini	Abbreviation: NYMV

Status
Probable Arbovirus

Select Agent
No

SALS Level
2

SALS Basis
Results of SALS surveys and information from the Catalogue.

Other Information

Antigenic Group
Nyamanini

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
SAAn 2526

Accession Number

Original Date Submitted
10/16/1984

Family
Not listed

Genus
Not listed

Information From
B.M. McIntosh

Address
National Institute for Virology, P/Bag X4, Sandringham, 2131, South Africa

Information Footnote
Revised

Section II - Original Source

Isolated By (name)
B.M. McIntosh, et al. (1)

Isolated at Institute
S. Afr. Inst. for Med. Res.

Host Genus
Bubulcus ibis (cattle egret)

Species

Host Age/Stage
Adult

Sex
Not Answered

Isolated From	Isolation Details
Serum/Plasma	

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Shot

Collection Date
11/19/1957

Place Collected (Minimum of City, State, Country)
Nyamanini Pan, Natal, South Africa

Latitude
27° S

Longitude
32° E

Macrohabitat
Tropical, coastal lowland; savannah woodland

Microhabitat

Method of Storage until Inoculated
Solid CO2

Footnotes

Section III - Method of Isolation

Inoculation Date
11/26/1957

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons
Further isolations from cattle egrets

Homologous Antibody Formation by Source Animal

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical

Pieces (number of genome segments)	Infectivity	Sedimentation Coefficients(s) (S)
Percentage wt, of Virion Protein	Lipid	Carbohydrate
Virion Polypeptides: Number	Details	
Non-virion Polypeptides: Number	Details	
Virion Density	Sedimentation Coefficients(s) (S)	
Nucleocapsid Density	Sedimentation Coefficients(s) (S)	

Stability of Infectivity (effects)

pH (infective range)

Lipid Solvent (ether - % used to test) **1:4**	After Treatment Titer **2.3 dex**	Control Titer **5.5 dex**
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate) **1:1000**	After Treatment Titer **2.8 dex**	Control Titer **5.7 dex**

Other (formalin, radiation)

Virion Morphology

Shape	Dimensions	
Mean nm	Range nm	
Measurement Method	Surface Projections/Envelope	Nucleocapsid Dimensions, Symmetry

Morphogenesis

Site of Constituent Formation in Cell	Site of Virion Assembly	Site of Virion Accumulation
Inclusion Bodies	Other	

Hemagglutination

Hemaggiutination **No**	Antigen Source **SMB ext. by sucrose-acetone**	Erythrocytes (species used) **Goose**
pH Range	pH Optimum	
Temperature Range	Temperature Optimum	

Remarks

Serologic Methods Recommended
CF, NT

Footnotes

Section V - Antigenic Relationship and Lack of Relationship to Other Viruses

NYM antigen showed no relationship in CF and/or NT to the following: chikungunya, Sindbis, Banzi, Rift Valley fever, Spondweni, Bwamba, Witwatersrand, bluetongue, horsesickness, Tete, Zika, Pongola, Nairobi sheep disease, Middelburg, WEE, EEE, VEE, Wesselsbron, Simbu, West Nile, Ilheus, dengue 1 and 2, RSSE, yellow fever, JE, MVE, Anopheles A, Anopheles B, Uganda S, EMC, California encephalitis, SLE, Zika, Bunyamwera, Pongola, Semliki Forest, Quaranfil, Germiston, Tahyna, Mossuril, Ndumu, Wad Medani, Ganjam, Bhanja, Wanowrie, Silverwater, Colorado tick fever, Hughes, Dalcairnie [1] , [2] .
NYM virus was shown to be antigenically related to the recently described Midway virus. Both viruses were shown to be antigenically distinct when compared by CF, neutralization and IFA tests [7] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (M) (LV)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice

Cell system (a)	Virus passage history (b)	Evidence of Infection							
		CPE			PLAQUES			Growth Without CPE	
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	+/- (g)	
BHK-21 (CL)	EgAr 1304 MB 25	6	3+	5.6* (3)					
Vero (CL)	SAAn 2526					No plaques (8)			
LLC-MK2 (CL)	MB 25				6	3 mm	6.9* (8)		

* Expressed in dex

Section VII - Natural Host Range (Additional text can be added below table)

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Man		3/403 NT	South Africa
Man		0/191 CF	Lower Egypt (4)
Cattle, sheep		0/76 NT	South Africa (1)
Buffalo		3/109 CF	Lower Egypt (4)
Camel		1/137 CF	
Dog		1/101 CF	
Donkey		1/9 NT	South Africa (1)
Donkey		0/197 CF	Lower Egypt (4)
Pig		0/101 CF	
Rodents		0/94 CF	
Bubulcus ibis	5		Natal, S. Africa(1)
Nestling egret	1		Nile Barrage, Egypt (2)
Argas walkerae	12		Transvaal, South Africa (5)
Argas arboreus	2		Nile Barrage, Egypt (2)
Argas arboreus	15/119		Northeast State, Nigeria (6)
Argas arboreus	2/141		Egypt (9)

Section VIII - Susceptibility to Experimental Infection (include viremia)

Experimental host and age	Passage history and strain	Inoculation Route-Dose	Evidence of infection	AST (days)	Titer log10/ml
Mice (nb)	An 2526	ic	Death	7-8	7.4
Mice (nb)		ip	Death	7-8	4.8
Mice (nb)		sc			
Mice (wn)		ic	Death occasionally		+1.0
Mice (wn)		ip			
guinea pig (ad)		ic	Antibody response		
rabbit (ad)		ic	Antibody response		
vervet monkey (ad)		sc	Viremia, antibody response		
lamb (6 mo)		sc	Antibody response		
chickens (1 day)		im	Antibody response		
emb. eg (8 day)		ys	Death	4	5.0
cattle egret (nestling)		iv	Viremia		
coot (ad)		iv	Viremia		>6.2

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmision by bite (d)		Assay of arthropod, log10/ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System

Section X - Histopathology

Character of lesions (specify host)

Inclusion Bodies — Intranuclear

Lower Vertabrates

Organs/Tissues Affected

Category of tropism

Section XI - Human Disease

In Nature	Residual	Death
Subclinical	Overt Disease	
Clinical Manifestations		
Number of Cases	Category (i.e. febrile illness, etc.)	

Section XII - Geographic Distribution

Known (Virus detected)

South Africa (1, 5), Egypt (2, 9), Nigeria (6)

Suspected (Antibody only detected)

Section XIII - References

1. McIntosh, B.M. Unpublished.
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6. Kemp, G.E., et al. 1975. J. Med. Ent. 12:535-537.
7. Takahashi, M., et al. 1982. J. Med. Virol. 10:181-193.
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Remarks

Although first isolated in Egypt (strain Ar 1304) strain SAAn 2526 from South Africa was retained as the prototype with the agreement of Dr. R.M. Taylor, since this was the first registered strain.