Virus Name: Kwatta	Abbreviation: KWAV

Status
Possible Arbovirus

Select Agent
No

SALS Level
2

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

Other Information

Antigenic Group
Kwatta

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
A-57

Accession Number

Original Date Submitted
12/13/1984

Family
Rhabdoviridae

Genus
Not listed

Information From
Centraal Laboratorium

Address
Paramaribo, Surinam

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Dr. R.A. de Haas (1)

Isolated at Institute
Centraal Lab., Paramaribo

Host Genus
Culex spp.

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Double baited cage trap

Collection Date
9/3/1964

Place Collected (Minimum of City, State, Country)
10 miles west of Paramaribo, Surinam

Latitude
5° 8' N

Longitude
55° 3' W

Macrohabitat
Coastal plain

Microhabitat
Orange grove, lush undergrowth

Method of Storage until Inoculated
Not stored

Footnotes

Section III - Method of Isolation

Inoculation Date
9/3/1964

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Not tried

Other Reasons
No virus of this type previously encountered.

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)	After Treatment Titer	Control Titer
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate)	After Treatment Titer	Control Titer

Other (formalin, radiation)

Virion Morphology

Shape
Rhabdovirus morphology (3)

Dimensions
48 x 285 nm

Mean
nm

Range
nm

Measurement Method
Electron microscopy (3)

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, liver ext. by sucrose-acetone**	Erythrocytes (species used) **Goose**
pH Range	pH Optimum	
Temperature Range	Temperature Optimum	

Remarks

Serologic Methods Recommended
CF

Footnotes

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

None found by CF tests with immune fluids known to react with all agents of groups A, B, C, Guama, Bunyamwera and Simbu and individual immune fluids to some 70 ungrouped agents [1] .
Not related by CF to any other known rhabdovirus tested in 1971 [3] .

Related to an unregistered virus, BeAn 157575, isolated from birds in Belem, Brazil [3] .

Kwatta virus is a member of the Vesicular Stomatitis antigenic group through its relationship with the unregistered Maraba virus [4] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice and Vero cell cultures

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)	
Vero (CL)	SM 6				2	1 mm	7.5* (2)		
LLC-MK2 (CL)						No plaques (2)			

* 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	>200	>1000 HI, NT	Shimoga District, India (9, 13)
Monkeys: Presbytis entellus, Macaca radiata	>100	>100 HI, NT	Mysore, India (9, 13)
Other wild animals:			
Rattus rattus wroughtoni	1	>100 NT	Shimoga District, Mysore, India (9, 13)
Rattus blanfordi	3	>100 NT	
Sancus murinus	2	>100 NT	
Funambulus t. tristriatus	0	>100 NT	
Tatera indica hardwickei	0	+	
Mus booduga	0	+	
Rhinolophus rouxi	4	Shimoga District, Mysore, India (16)	

Domestic mammals:			
Cattle	0	>100	Shimoga District, Mysore, India (9, 13)
Avian (numerous) Gallus sonnerati Pycnonotus jocosus fuscicaudatus Megalaima viridis	0		
Ticks:			
Haemaphysalis spinigera	>200*		
H. turturis	>100		
H. papuana kinneari	+		
H. kyasanurensis	+		
H. minuta	+		
H. wellingtoni	+		
H. bispinosa	+		
Ixodes sp.	>2		
Ornithodoros (adult)	1		Shimoga District, Mysore, India (16)

* Most isolates from nymphs, others from adults, only two from larvae (13).

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)		ic 0.02	Death	3-6	6.7
Mice (nb)		ip 0.02	None		
Mice (nb)		sc			
Mice (wn)		ic 0.03	Hind leg paralysis	10-13	
Mice (wn)		ip 0.03	None		

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

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)
Surinam

Suspected (Antibody only detected)

Section XIII - References

1. De Haas, R.A., et al. 1966. Am. J. Trop. Med. Hyg. 15:954-957.
2. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.
3. Karabatsos, N., et al. 1973. J. Gen. Virol. 21:429-433.
4. Calisher, C.H. et al. 1989. Intervirology. In Press.

Remarks