Virus Name: Anopheles A	Abbreviation: ANAV

Status
Probable Arbovirus

Select Agent
No

SALS Level
2

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

Other Information

Antigenic Group
Anopheles A

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation

Accession Number

Original Date Submitted
2/25/1985

Family
Bunyaviridae

Genus
Bunyavirus

Information From
Manuel Roca-Garcia

Address
University del Valle, Cali, Colombia (Sanmartin)

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
M. Roca-Garcia (1)

Isolated at Institute
Villavicencio, Meta, Colombia

Host Genus
Anopheles (Kerteszia) boliviensis

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Caught by hand

Collection Date
8/15/1940

Place Collected (Minimum of City, State, Country)
"El Horizonte" region, Villavicencio, Colombia

Latitude
5° N

Longitude
74° W

Macrohabitat
Rural community hilly terrain, rain forest vegetation

Microhabitat
Out-of-doors, about 1000 above sea level, pastures; under shade.

Method of Storage until Inoculated

Footnotes

Section III - Method of Isolation

Inoculation Date
8/15/1940

Animal (Details will be in Section 6)
wn mice

Route Inoculated
Intracerebral

Reisolation
Not tried

Other Reasons
Hitherto undescribed virus

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 **Inactivated (2)**	Control Titer

Other (formalin, radiation)

Virion Morphology

Shape	Dimensions **92 nm**	
Mean nm	Range nm	
Measurement Method **Electron microscopy (5)**	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; crude ext.; acetone; sucrose-acetoneChick**	Erythrocytes (species used)
pH Range	pH Optimum	
Temperature Range	Temperature Optimum	
Remarks		
Serologic Methods Recommended **NT, CF**		
Footnotes		

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

A group under the designation of Anopheles A has been created in view of its antigenic relationship to Lukuni virus. Anopheles A group consists of Anopheles A complex (ANA, LUK, and unregistered viruses CoAr 3624 and CoAn 57389), and the Tacaiuma complex (TCM and CoAr 1071) [8] .
Presently, the Anopheles A serogroup consists of five registered viruses and six unregistered viruses. Several of the unregistered viruses have been classified as subtypes and varieties. Anopheles A virus is considered to be a distinct virus type [9] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Weanling 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)
Mouse embryo(PC)			Multiplication (1)					
BHK-21 (CL)						Plaques (4)		
Vero (CL)	P-167				4	2 mm	6.4 ** (6)	
LLC-MK2 (CL)					5	1 mm	5.7 (6)	

** 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. tsted Test used	Country and region
Anopheles (Ker) boliviensis	1		Colombia (1)

Repeated isolations of an Anopheles A group virus have been made from Anopheles (Ker) neivai 284852 collected with human bait in the Buenaventura area, Pacific lowlands, Colombia (7).

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)	P-10	ic 0.02	Paralysis, death	4	6.0
Mice (nb)		ip 0.06	Paralysis, death	4	6.0
Mice (nb)		sc			
Mice (wn)		ic 0.03	Paralysis, death	6	6.0
Mice (wn)		ip 0.50	Immunity (1)		
chick embryo (7-10 day)	MB 20-164	ys + other	Virus multiplication and brain hemorrhage (1,3)		4.0
rhesus monkey (ad)	MB 3	ic and sc	Trace of viremia		
Marsupials:					
Didelphis , Metachirus , Metachirops,			Resistant to infection by either sc or ic inoculation (1)		
Other mammals:					
Agoutis (Dasyprocta) and armadillos (Dasypus and Cabassous)			Resistant to infection by sc or ic routes (1)		
pigeons			Resistant (1)		
guinea pigs		sc	3 of 15 inoc. circulated trace of virus (1)		

Section IX - Experimental Arthropod Infection and Transmission

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)
Colombia

Suspected (Antibody only detected)

Section XIII - References

1. Roca-Garcia, M.J. 1944. Infec. Dis. 75:160.
2. Theiler, M. 1957. Proc. Soc. Exp. Biol. and Med. 96:380.
3. Taylor, R.M. 1952. J. Immunol. 68:473.
4. Bergold, G.H. Personal communication.
5. Holmes, I.H. 1971. Virology 43:708.
6. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.
7. Sanmartin, C. 1971. Personal communication.
8. Calisher, C.H., et al. 1973. Proc. Soc. Exp. Biol. and Med. 143:465-468.
9. Calisher, C.H., et al. 1985. Intervirology. To be submitted.

Remarks

It was reported (see abstract file) that Anopheles A had been isolated from mosquitoes collected in the state of Washington. It was subsequently concluded that the supposed isolation was a laboratory contamination and the report is withdrawn. The virus in question was originally registered in the Catalogue under the designation 659-59.