Virus Name: Catu		Abbreviation: CATUV
Status **Arbovirus**	Select Agent **No**	SALS Level **2**

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

Other Information

Antigenic Group
Guama

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
BeH 151

Accession Number

Original Date Submitted
1/27/1985

Family
Bunyaviridae

Genus
Bunyavirus

Information From
Robert E. Shope

Address
Yale Arbovirus Research Unit, New Haven, Connecticut

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Belem Virus Laboratory

Isolated at Institute
Belem, Para, Brazil

Host Genus
Man (1)

Species

Host Age/Stage
17 years

Sex
Male

Isolated From	Isolation Details
Serum/Plasma	

Signs and Symptoms of Illness
Fever, headache, muscular aches during 5 days

Arthropod

Time Held Alive before Inoculation

Collection Method
Syringe, arm vein

Collection Date
2/7/1955

Place Collected (Minimum of City, State, Country)
Oriboca plantation forest, Brazil

Latitude
2° S

Longitude
48° W

Macrohabitat
Virgin forest

Microhabitat

Method of Storage until Inoculated

Footnotes

Section III - Method of Isolation

Inoculation Date
2/7/1955

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Not tried

Other Reasons

Homologous Antibody Formation by Source Animal
Yes

Test(s) Used
NT

Footnotes

Section IV - Virus Properties

Physicochemical
RNA

Pieces (number of genome segments)	Infectivity **Yes (14)**	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) **1:5**	After Treatment Titer **<2.6 dex**	Control Titer **>6.5 dex**
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate)	After Treatment Titer	Control Titer

Other (formalin, radiation)

Virion Morphology

Shape	Dimensions **95 nm**	
Mean nm	Range nm	
Measurement Method **Electron microscopy (13)**	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	Antigen Source	Erythrocytes (species used)
Yes	**SMB, serum ext. by sucrose-acetone; acetone**	**Goose**
pH Range	pH Optimum	
5.7-6.4	**6.0**	
Temperature Range	Temperature Optimum	
	27dC	

Remarks

Serologic Methods Recommended
HI, CF, NT

Footnotes

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

Belongs to Guama Group; for antigenic relationship see Reference [2] . In addition, SIRACA has antigenically classified Catu virus as a distinct virus type, and has placed it in the Catu complex, one of five complexes comprising the Guama serogroup [16] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (M)(LV), pooled liver, spleen, kidney (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)	
Mouse embryo(PC)	P-4				9-19	Plaques	6.3* (8)		
BHK-21 (CL)					5	0.2-0.6 mm	6.4 (9)		
Vero (CL)					6	1-2 mm	5.3 (9)		
MA-104 (CL)					8	3-3.5 mm (9)			
GMK (CL)			CPE (8)						
HeLa			CPE	6.5* (10)					

* 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	8		Para, Brazil
Man	1		Trinidad (15, 17)
Sentinel Cebus	8		Para, Brazil
Sentinel mouse	298/16,315		Para and Amapa, Brazil
Sentinel mouse	7		Bush Bush, Trinidad(4)
Nectomys squamipes	3		Para, Brazil
Proechimys guyannensis	15		
Proechimys guyannensis	1		Bush Bush, Trinidad(5)
Oryzomys laticeps	2		Bush Bush, Trinidad(4)
Oryzomys capito	22		Para and Amapa, Brazil
Didelphis marsupialis	2		Para, Brazil
Molossus obsurus (bat)	1		Amapa, Brazil

Mosquitoes: Culex portesi 39 Belem, 38 Trinidad (4), 3 French Guiana (6); all other Culex 8 Belem, 4 Trinidad; Anopheles nimbus 1, Amapa,Brazil.

HI antibody found in 45% Proechimys, 36% Oryzomys, 39% Nectomys, 15% Didelphis, 15% Philander, 4% Marmosa, 3% Caluromys, 67% Metachirus in Para, Brazil.

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-7	ic 0.02	Death	2.8	8.1
Mice (nb)		ip 0.02	Death, viremia	2.7	8.2
Mice (nb)		sc			
Mice (wn)		ic 0.03	Some die		
Mice (wn)		ip 0.03	Antibody		
hamsters (ad)		ic,sc	Antibody (7)		
Oryzomys laticeps (ad)		sc	Viremia, antibody (5)		
Zygodontomys (ad)		sc	Viremia, antibody (5)		
chicks		iv	Viremia (11)		

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

Aedes aegypti, An quadrimaculatus, parenterally inoculated; high virus titer in salivary glands after several passages; titer = + 4 dex/ml (11).

Culex portesi fed on viremic Zygodontomys transmitted after 14 days to another Zygodontomys (12).

Section X - Histopathology

Character of lesions (specify host)
ad, nb mice; ic and ip: spongy lesions of brain with mononuclear perivascular infiltration (3)

Inclusion Bodies — Intranuclear

Organs/Tissues Affected
Brain (LV)

Category of tropism
Neurotropic

Section XI - Human Disease

In Nature	Residual	Death
Reported		

Subclinical	Overt Disease
Reported	**Reported**

Clinical Manifestations
Fever (S), headache (S), myalgia (S)

Number of Cases	Category (i.e. febrile illness, etc.)
	Febrile illness

Section XII - Geographic Distribution

Known (Virus detected)
Brazil, Trinidad, French Guiana

Suspected (Antibody only detected)

Section XIII - References

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Remarks