Virus Name: Jerry Slough	Abbreviation: JSV

Status
Arbovirus

Select Agent
No

SALS Level
2

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

Other Information

Antigenic Group
California

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
BFS 4474

Accession Number

Original Date Submitted
7/20/1984

Family
Bunyaviridae

Genus
Buyavirus

Information From
Dr. W.C. Reeves

Address
School of Public Health, University of California, Berkeley, California 94720, USA

Information Footnote
Revised

Section II - Original Source

Isolated By (name)
Dr. William C. Reeves

Isolated at Institute
Berkeley, California

Host Genus
Culiseta inornata

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Aspiration

Collection Date
1/4/1963

Place Collected (Minimum of City, State, Country)
Kern Co. California

Latitude
35° 30' N

Longitude
119° 0' W

Macrohabitat
Farmyard

Microhabitat
Artificial shelters (sheds, barns, etc.)

Method of Storage until Inoculated
Sealed glass tube stored at -65dC

Footnotes

Section III - Method of Isolation

Inoculation Date
8/29/1963

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons
No work in laboratory with California or trivittatus viruses at time of mosquito preparation

Homologous Antibody Formation by Source Animal

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical
RNA, Single Strand

Pieces (number of genome segments) **3 (6)**	Infectivity	Sedimentation Coefficients(s) (S)
Percentage wt, of Virion Protein	Lipid	Carbohydrate
Virion Polypeptides: Number **3 (9)**	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) **1:500**	After Treatment Titer **<3.0 dex**	Control Titer **<8.0 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	Antigen Source	Erythrocytes (species used)
Yes	**SMB ext. by sucrose-acetone**	**Goose**
pH Range	pH Optimum	
6.3,6.4	**6.3**	
Temperature Range	Temperature Optimum	
	37dC	

Remarks
HA shown after sonication but very low titer (1:40) and not useable for routine HI tests.

Serologic Methods Recommended
CF, NT

Footnotes
HA shown after sonication but very low titer (1:40) and not useable for routine HI tests.

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

Cross complement-fixation tests results with BFS 4474, BFS 4470, and other California group viruses [1]

Antigen	Immune serum			
Serum or Antigen	BFS 4474	BFS 4470	BFS 4474	BFS 4470
California	32	16	32	
Trivittatus	4	<4	32	
Snowshoe hare	16		32	32
Florida isolate	4	4	16	
Tahyna	32		32	
Lumbo	32		32	
Melao	16		64	
BFS 4474	256	128	256	256
BFS 4470	256	256	128	256
Guaroa	<4		<4	

HI reactions of California group viruses with immune sera of BFS 4474 and BFS 4470 *

Antigen	Immune Sera				
	BFS 4474	BFS 4470	California	Trivittatus	Florida isolate
CE	<10,10	<10	320	20	20
TVT	80	80	160	>2560	>2560
Florida isolate	80	80	160	1280	
SSH	20	20	640	80160	80
LAC	20	20	320		
TAH	<10,10	10	160	20	80
GRO	<10	<10	10	<10	<10

Mouse cross-neutralization tests with BFS 4474 and BFS 4470 viruses and other California group viruses.

Virus	Serum						
	CE	BFS 4474	BFS 4470	TVT	Florida isolate	Lumbo	MEL
Univ. of Pittsburgh *							
California	3.1 **	1.7	2.0	3.4	3.4	3.5	1.3
BFS 4474	2.9		3.8			3.5	2.9
BFS 4470	2.9	4.6	4.6				
Trivittatus				>5.4	>5.4		
Florida isolate	3.6	2.9	3.3	>5.6	>5.6		
Lumbo						3.7	2.0
Melao	2.8						<3.0

* Courtesy of Dr. W. McD. Hammon, University of Pittsburg

** LNI in dex

SIRACA considers Jerry Slough virus to be a strain of Jamestown Canyon virus.

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice, 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)
Hamster kidney (PC)	SM 4	2	CPE	>7.0 (a)				
Duck embryo (PC)					Plaques with DEAE dextran or protamine sulfate		7.7 (a)	
Vero (CL)	SM 2	3	4+		3	2-3 mm	9.3	
Ae. dorsalis (CL)			No CPE					+ (7)
Cx. tarsalis (CL)			No CPE					+ (8)

(a) 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
Culiseta inornata	2/5,830		Kern Co., California
Culex tarsalis	0/158,446		California
Other mosquitoes	0/53,144		
Culicoides variipenis	0/122,089		
Other Culicoides spp.;			
Leptoconops, Phlebotomus and Simulium spp.	0/11,689		
Lepus californicus	0/1,066		Kern Co., California
Sylvilagus audubonii	0/601		
Ammospermophilus nelsoni	0/1,308		
Citellus beecheyi	0/230		
Other Rodentia, Chiroptera, Carnivora	0/4,489		
Amphibians and reptiles	0/470		
Culiseta inornata	>1		Imperial Valley, California (10)
Other Aedes, and Psorophora spp.	Many		California (11)

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)	Original	ic 0.01	Sickness, death	4.0	
Mice (nb)	SM 4	ic 0.01	Sickness, death	3.0	8.2
Mice (nb)		sc			
Mice (wn)		ic 0.03	Sickness, death	4.0	8.7
Mice (wn)		ip 0.10	Antibody		
Sylvilagus audubonii (ad)	SM 1	sc 1000 PFU	10/12, HI antibody and/or viremia		2.4-4.7
Ammospermophilus nelsoni (ad)		sc 1000 PFU	12/12, HI antibody and/or viremia		1.7-3.0
Citellus beecheyi (ad)		sc 1000 PFU	8/9, HI antibody and/or viremia		1.7-5.0
Dipodomys nitratoides (ad)		sc 1000 PFU	2/13, HI antibody and/or viremia		3.2-3.6
Peromyscus maniculatus (ad)		sc 1000 PFU	18/23, HI antibody and/or viremia		2.4-2.8
Agelaius tricolor (ad)		sc 1000 PFU	No NT and/or HI antibodies		
Carpodacus mexicanus (ad)		sc 1000 PFU	No NT and/or HI antibodies		
Euphagus cyanocephalus (ad)		sc 1000 PFU	No NT and/or HI antibodies		
Passer domesticus (ad)		sc 1000 PFU	No NT and/or HI antibodies		
Zenaidura macroura (ad)		sc 1000 PFU	No NT and/or HI antibodies		

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 nigromaculis	pledget and Syl. audubonii								
Ae melanimon	pledget								
Anopheles freeborni	pledget								
Culiseta inornata	pledget and Syl. audubonii				Ammospermophilus nelsoni (5)				
Culex tarsalis	pledget				Ammospermophilus nelsoni (5)				
Culicoides variipennis Not infected when fed on pledget									
Dermacentor andersoni Not infected when fed on Syl. audubonii									
Ornithodoros parkeri Not infected when fed on Syl. audubonii									

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)
California, USA (2)

Suspected (Antibody only detected)

Section XIII - References

1. Sather, G.E. and W. McD. Hammon. 1967. Am. J. Trop. Med. Hyg. 16:548-557.
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4. Calisher, C.H. and Maness, K.S.C. 1970. Appl. Microbiol. 19:557-564.
5. Reeves, W.C. 1971. Unpublished results.
6. Porterfield, J.S., et al. 1975/76. Intervirolology 6:13-24
7. Cahoon, B.E., et al. 1979. J. Med. Ent. 16:104-111.
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10. Wallace, H.G. 1972. Ph.D. Thesis, University of California, Los Angeles.
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Remarks

Virus BFS 4470 is closely related (if not identical) to BFS 4474 virus strain. This virus was isolated from a pool of 46 Culiseta inornata collected January 14, 1963, approximately 50 miles east of the collection site of BFS 4474 mosquitoes in Kern County, California. The laboratory test of BFS 4470 was done on August 29, 1963. Reisolation was made from the original mosquito suspension also. See References 3 and 4.