Virus Name: Arumowot		Abbreviation: AMTV
Status **Possible Arbovirus**	Select Agent **No**	SALS Level **2**

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

Other Information

Antigenic Group
Phlebotomus Fever

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
Ar 1284-64

Accession Number

Original Date Submitted
11/7/1984

Family
Bunyaviridae

Genus
Phlebovirus

Information From
from J.R. Schmidt

Address
Department of the Navy, BUMED, Washington, D.C. 20372 USA

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
J.R. Schmidt at NAMRU-3

Isolated at Institute
Cairo, Egypt

Host Genus
Culex antennatus, pool of 111 mosquitoes

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Human biting collections

Collection Date

Place Collected (Minimum of City, State, Country)
Melut and Malakal, Sudan

Latitude
11° N

Longitude
32° E

Macrohabitat
East bank of Nile River, near Malawi, Sudan and east bank of Nile River near Arumotot,4km south of M

Microhabitat

Method of Storage until Inoculated
-20dC for 1 month; dry ice for 3 days; -70dC thereafter

Footnotes

Section III - Method of Isolation

Inoculation Date
3/26/1964

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons

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) **1:10**	After Treatment Titer **3.8 dex**	Control Titer **7.5 dex**
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate)	After Treatment Titer **7.5 dex**	Control Titer **7.8 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 arcton and sucrose-acetone**	**Goose**
pH Range	pH Optimum	
5.8-7.2	**6.0**	
Temperature Range	Temperature Optimum	
	Room temperature	

Remarks
Optimum titer = 320

Serologic Methods Recommended
CF, HI, NT

Footnotes
Optimum titer = 320

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

Indistinguishable by CF and HI from IbAn 15736 (1,2). Arumowot (strain IbAn 15736) related to other members of the Phlebotomus fever group by HI as follows [1] :

		Titers with Arumowot	
Antigen or Serum	**Homologous Serum Titer**	**Antigen**	**Ascitic Fluid**
Naples	1280	20	20
Icoaraci	640	40	80
Chagres	>320	20	160
Anhanga	2560	0	40
Bujaru	80	20	40
Itaporanga	320	0	80
Sicilian	80	0	10
Karimabad	>320	20	20
Candiru	160	0	0
Salehabad	Not done	0	0
Punta Toro	Not done	0	Not done
Urucuri	Not done	0	0
Arumowot	160		

Unrelated to 47 African arboviruses, Congo and herpes simplex viruses [3] .

In cross-CF tests, AMT hamster hyperimmune serum (homologous titer = 512) did not react with antigens of 20 other viruses of the PHL group. AMT antigen reacted in low titer against ICO antiserum (titer = 32) but not with antisera of other members (lowest dilution tested 1:4).
AMT (homologous titer 64) did not react at 1:16 serum dilution in cross-plaque neutralization tests using 20 heterologous PHL viruses and hamster hyperimmune sera [6] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Liver, spleen pool (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)
Vero (CL)			CPE			Plaques (6)		

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
Culex antennatus	1/7 pools		Melut and Malakal, Sudan
Tatera kempii	1/136		Tsanchaga, Nigeria (4)
Arvicanthis niloticus	3/328		Bahindi and Panyam, Nigeria (4)
Thamnomys macmillani	1/7		Panyam, Nigeria (4)
Crocidura sp. (shrew)	1/8		
Lemnyscomys striatus	1		Kolongo, Cent.Afr. Rep. (5)
Culex rubinotus	2		South Africa ; Rhodesia (8)
Small mammals	4		Kano Plain, Kenya (10)
Turdus libonyanus (bird)	1		Bangui, Cent.Afr. Rep. (11)
Mansonia uniformis	1		Kenya (12)

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)	SMB 8	ic 0.01	Death	4.0	9.8
Mice (nb)		ip 0.03	Death	3.3	9.1
Mice (nb)		sc			
Mice (wn)		ic 0.03	Death	5.6	8.9
Mice (wn)		ip 0.03	Death	9.0	3.5
Mice (wn)	SMB 12	sc 0.1	Antibody		

Section IX - Experimental Arthropod Infection and Transmission

Virus multiplication in Aedes albopictus and Culex quinquefasciatus by plaque assay in Vero cells after 10 days at 32C following intrathoracic inoculation (8).

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)
Sudan, Nigeria, Central African Republic, Ethiopia (7), South Africa (9), Rhodesia (7), Kenya

Suspected (Antibody only detected)

Section XIII - References

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Remarks