| Virus Name: Una | Abbreviation: UNAV |
|---|---|

Status
**Probable Arbovirus**

Select Agent
**No**

SALS Level
**2**

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

Other Information

Antigenic Group
**A**

## SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
**BeAr 13136**

Accession Number

Original Date Submitted
1/27/1985

Family
**Togaviridae**

Genus
**Alphavirus**

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 Lab. (1)**

Isolated at Institute
**Belem, Para, Brazil**

Host Genus
**Psorophora ferox**

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 bait**

Collection Date
**9/5/1959**

Place Collected (Minimum of City, State, Country)
**Instituto Agronomico do Norte forest, Brazil**

Latitude
**2° S**

Longitude
**48° W**

Macrohabitat
**Old secondary forest**

Microhabitat
**Near ground level**

Method of Storage until Inoculated
**At -60dC**

Footnotes

## Section III - Method of Isolation

Inoculation Date
**9/13/1959**

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) | 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 | 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; mouse sarcoma 180/TG; serum ext. by sucrose-acetone + protamine; acetone.** | **Goose** |
| pH Range | pH Optimum | |
| **6.0-6.4** | **6.2** | |
| Temperature Range | Temperature Optimum | |
| | **37dC** | |

Remarks

Serologic Methods Recommended
**HI, CF, NT**

Footnotes

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

Belongs to Semliki Complex of Group A [1] , [16] . SIRACA has antigenically classified UNA virus as a subtype of Mayaro virus [16] .

## Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

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) |
| BHK-21 (CL) | | | | | | Plaques (10) | | |
| Vero (CL) | | | | | | Plaques (10) | | |
| MA-104 (CL) | | | | | | Plaques (10) | | |
| Chick embryo(PC) | Prototype, P-3 | | | | 2-3 | Plaques (2 sizes) | 7.7* (11) | |
| Mouse embryo (PC) | | | | | | Plaques | 6.5 (11) | |
| GMK (CL) | | | | | | Plaques | 5.0 (11) | |
| HeLa (CL) | | | CPE | 7.5* (12) | | | | |

* 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 | | HI, NT * | Brazilian Amazon(1);, S. Trinidad (8) |
| Sentinel mice | 1 | | Trinidad (8, 15) |
| Horses | 2 | | Argentina (2) |
| Rodents | | 0/94 NT | Trinidad (8) |

| | | | |
|---|---|---|---|
| Birds | | 0/119 NT | Trinidad |
| Psorophora ferox | 12 | | Brazilian Amazon |
| Psorophora ferox | 10 | | Colombia (3, 4) |
| Psorophora ferox | 10 | | Panama (5) |
| Psorophora ferox | 1 | | Trinidad (6, 15) |
| Psorophora ferox | 1 | | Surinam (7) |
| Ps ferox and Ps albipes | 4 | | Colombia (4) |
| Ps albipes | 2 | | Brazilian Amazon (1) |
| Ps albipes | 1 | | Panama (5) |
| Ps lutzii | 1 | | Colombia (3) |
| Aedes serratus | 2 | | Brazilian Amazon (1) |
| Aedes serratus | 4 | | Colombia (3, 4) |
| Aedes serratus | 1 | | Trinidad (6, 15) |
| Aedes (Ochlerotatus) sp. | 4 | | Panama (5) |
| Cq arribalzagai | 7 | | Colombia (3) |

Also isolated from other species of Aedes (Belem), Culex (Trinidad, Fr. Guiana), Wyeomyia (Colombia), Anopheles (Panama) and Coquillettidia (Fr. Guiana).

* HI and NT antibody found in man.

Bird HI antibody not confirmable by NT. HI antibody rare in rodents, horses, cows; not found in marsupials, edentates, bats, carnivores, or sheep in Brazilian Amazon (1).

## 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 | 2.3 | 10.2 |
| Mice (nb) | | ip 0.02 | Death, viremia (8) | 2.2 | |
| Mice (nb) | | sc | | | |
| Mice (wn) | | ic 0.03 | Antibody | | |
| Mice (wn) | | ip 0.03 | Antibody | | |
| hamsters (ad) | | ic | Antibody (9) | | |

## 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)
**Encephalitis only (L.B. Dias)**

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)
**Amazonian Brazil; Trinidad, Colombia, Panama (5); French Guiana (13), Surinam, Argentina.**

Suspected (Antibody only detected)

## Section XIII - References


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## Remarks