



EU Brazil Cloud Connect
EU Brazil Cloud Computing for Science

Leishmaniasis Virtual Laboratory (LVL) – a user's view

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Visceral

300 000

Estimated cases of visceral leishmaniasis (VL) and over 20 000 deaths annually

Cutaneous

1 million

Cases of cutaneous leishmaniasis (CL) reported in the last 5 years.

At risk

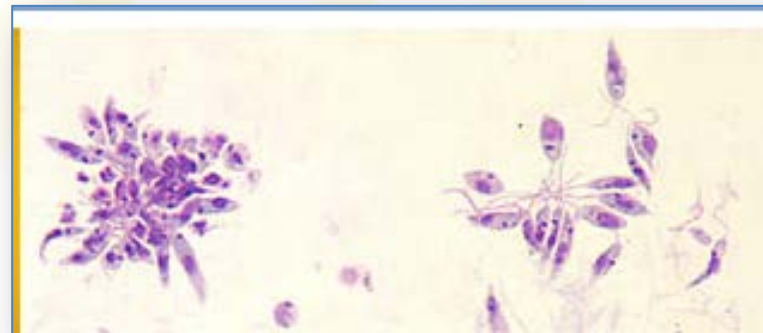
310 million

People at risk of infection in six countries reporting over 90% VL cases worldwide.

[WHO, 2015]





Ray Wilson, Liverpool School of Tropical Medicine - (2009) PLoS Pathogens



www.cdc.gov/parasites/leishmaniasis/index.html

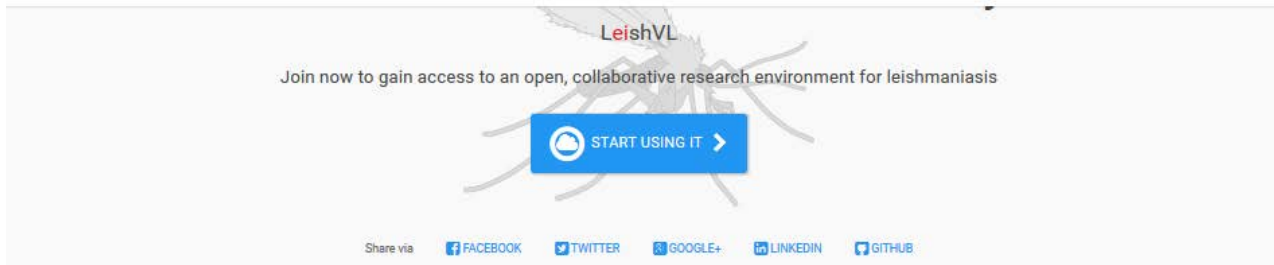
EUBrazilCC and the LVL

- ⊙ On **surveillance and knowledge of leishmaniasis**:
 - ⊙ **Integrating databases** of DNA sequences (**Genbank**) and associated literature (**PUBMED**) **with geographical and clinical data from Institutional collections**;
 -  ⊙ *Leishmania* collection (CLIOC) and Phlebotominae Sand fly collection (COLFLEB) from Fiocruz; through *speciesLink*;
 -  ⊙ Sand fly and *Leishmania* collection (ISCIH-WHO-CLL);
 - ⊙ Providing searches and analyses tools.
- ⊙ **User community**:
 - ⊙ Researchers, international organizations, pharmaceutical companies and public sector bodies;
 - ⊙ Interest raised from WHO to link the LVL in their web server to be offered to the community.

Leishmaniasis Virtual Laboratory (LeishVL)

LeishVL

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LeishVL




Join now to gain access to an open, collaborative research environment for leishmaniasis

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Focused on molecular surveillance of *Leishmania* and their vectors, the Leishmaniasis Virtual Laboratory (LeishVL) contains a number of online collaborative and research tools for advancing the current knowledge about leishmaniasis. These tools allow public health workers and researchers, but also international organizations, pharmaceutical companies and public sectors workers to access the LeishVL and supply relevant and in-depth information or data on the parasite and vector responsible for this disease from a unique entry point. The LeishVL is the result of the joint effort of Europeans and Brazilian research teams involved in the [EUBrazilICC](#) project.

Bring the power of the Cloud to your lab

 <p>Leish online research community</p> <p>Participate in a collaborate workspace, sharing your sequences and protocols with other researchers and deciding who can access your files. Create permanent links to your files to reference them in scientific papers.</p> <p>GET INVOLVED IN THE COMMUNITY</p>	 <p>Leishmania & sand fly collections</p> <p>Search the database built from CLIOC, COLFLEB and ISCIII-WHO-CCL. Cluster & aggregate your results by area (country, shaped area) and visualize simultaneously unrelated data (papers, sequences, species occurrences).</p> <p>GET ACCESS TO COLLECTIONS</p>	 <p>Molecular analysis of DNA sequences</p> <p>Customize the pipelines to add your own parameters. Execute your experiments in a large-scale computing infrastructure and interpret the results online. Share your experiments and results to be referenced on publications.</p> <p>ENTER THE ANALYSIS SECTION</p>
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Leishmaniasis Virtual Laboratory (LeishVL)

Leishmaniasis Virtual Lab: x

lvi3m.upv.es/#analysis/runs/d5c34f5d-56fc-409b-9da0-92e474d86430/treeviewer

LeishVL MOLECULAR ANALYSIS - Ignacio Alerts 0 About Documentation Support Software

Pipelines Runs

Runs / d5c34f5d-56fc-409b-9da0-92e474d86430 / Tree Viewer

AFBR462-14|KP112569|LBMI*0343|Lutzomyia_alencari|COI-5P
 AFBR463-14|KP112571|LBMI*0344|Lutzomyia_alencari|COI-5P
 AFBR522-14|KP112572|LBMI*0423|Lutzomyia_cruzi|COI-5P
 AFBR513-14|KP112606|LBMI*0414|Lutzomyia_sp.|COI-5P
 AFBR517-14|KP112581|LBMI*0418|Lutzomyia_longipalpis|COI-5P
 AFBR515-14|KP112575|LBMI*0416|Lutzomyia_cruzi|COI-5P
 AFBR521-14|KP112595|LBMI*0422|Lutzomyia_longipalpis|COI-5P
 AFBR478-14|KP112579|LBMI*0365|Lutzomyia_dispar|COI-5P
 AFBR477-14|KP112578|LBMI*0364|Lutzomyia_dispar|COI-5P
 AFBR333-14|KP112939|LBMI*0198|Psathyromyia_lutziana|COI-5P
 AFBR318-14|KP112940|LBMI*0181|Psathyromyia_lutziana|COI-5P
 AFBR586-14|KP112602|LBMI*0489|Lutzomyia_renei|COI-5P
 AFBR578-14|KP112604|LBMI*0481|Lutzomyia_renei|COI-5P
 AFBR715-14|KP113001|LBMI*0647|Psychodopygus_matosi|COI-5P
 AFBR716-14|KP113002|LBMI*0648|Psychodopygus_matosi|COI-5P
 AFBR324-14|KP112661|LBMI*0187|Micropygomyia_quinquefer|COI-5P
 AFBR061-13|KP112647|LBMI*0073|Micropygomyia_quinquefer|COI-5P

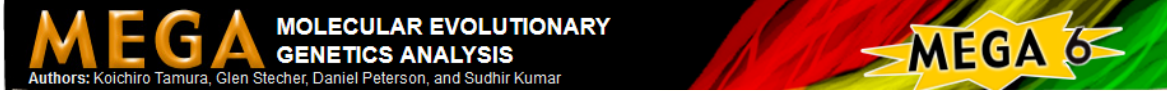
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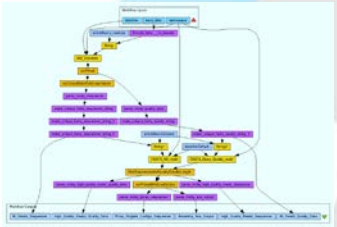
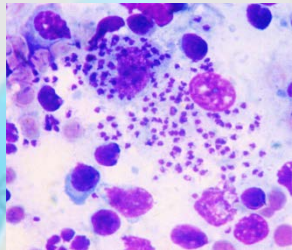
Leishmaniasis Virtual Laboratory (LeishVL)



Data Type	= nucleotide (non-coding)
No. of Taxa	= 82
No. of Sites	= 658
Analysis	= Phylogeny Reconstruction
Statistical Method	= Maximum Parsimony
Test of Phylogeny	= Bootstrap method
No. of Bootstrap Replications	= 10
Gaps/Missing Data Treatment	= Complete deletion
MP Search Method	= Subtree-Pruning-Regrafting (SPR)
Statistical Method	= Maximum Parsimony
Test of Phylogeny	= Bootstrap method
No. of Bootstrap Replications	= 10
Substitutions Type	= Nucleotide
Gaps/Missing Data Treatment	= Complete deletion
Site Coverage Cutoff (%)	= 95
MP Search Method	= Subtree-Pruning-Regrafting (SPR)

Added value of LVL - EUBrazilCC

- ⦿ LVL provides a **single entry point for processing and data exploring** in Leishmaniasis
 - ⦿ It does not require local installations and separately accessing multiple data sources, formats and software tools.
 - ⦿ Open to the community to set-up their own installations.



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e-Infrastructure

Thank you!

