

# Phylo3D

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Description Visualising huge phylogenetic trees (more than a thousand nodes) is not possible in ordinary phylogenetic tree visualization software such as DRAWTREE, TREEVIEW or ATV. Tools for visualising graphs with more than a thousand nodes (WALRUS, H3VIEWER) have been developed and are based on 3D hyperbolic viewing. However, these tools read file formats that are designed for describing graphs and not trees. This conversion tool download converts phylogenetic tree formats to LibSea format which is the format read by WALRUS, thus making it possible to visualise huge phylogenetic trees in 3D hyperbolic space.

The features available in the conversion tool version 1.1, include:

- conversion from New Hampshire (Newick, Phylip), New Hampshire Extended (NHX read by ATV), NEXUS and the NCBI taxonomy database files to the LibSea format (implemented in 1.0)
- narrowing the conversion to a particular subtree of interest (implemented in 1.0)
- colouring of different sections of the tree included in the conversion and production of a corresponding legend (implemented in 1.0)
- in the case of conversion from the NCBI taxonomy database, inclusion in the LibSea output of data on rank, taxonomy ID and scientific name (implemented in 1.0)
- in the case of conversion from NH, NHX or NEXUS, functionality to associate taxonomic data with the tree and use this for colouring the LibSea format tree (implemented in 1.1)

DownloadZip file containing the conversion tool and its documentation:

phylo3D-1.0.zip - January 2004.

phylo3D-1.1.zip - August 2004.

phylo3D-1.2.zip - July 2006.

If you decide to download the software it is highly recommended that you join the phylo3D mailing list. This will be a list that keeps users up to date with developments in phylo3D (bugs, new releases, new functionality, etc).

DocumentationThe manual in pdf format is available here (overview, obtaining and installing, using, references, obtaining java, more info and copyright).

Output samplesSamples of phylo3D output (in LibSea format and in New Hampshire format) are available for download.

- Eutheria (placental mammals): LibSea format (Walrus) and its legend file, NHX format and NH format

- Cetacea (whales): LibSea format (Walrus) and its legend file, NHX format and NH format

RequirementsThe conversion tool requires JDK 1.3.0 (or later).

ReferenceHughes, Hyun and Liberles (2004), Visualizing very large phylogenetic trees in three dimensional hyperbolic space, BMC Bioinformatics, Vol5, Article 48.

Notes on WalrusWalrus is available from CAIDA (the Cooperative Association for Internet Data Analysis) and requires Java3D v1.2.1 (or later) and JDK 1.3.0 (or later). A hardware-accelerated graphics card with OpenGL support is required. It is also necessary to have a speedy machine with lots of memory (128MB is probably a minimum, 512MB is probably required for a few hundred thousand nodes).