A Web Tool for Assessing and Comparing Classifications and Taxonomies

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ABSTRACT

Bergey's, an appendix published in 1923 that helped establish and sell naming conventions, has been
recently digitized and made freely available online. This initiative represents the first step in a
collaborative effort to update and develop new tools for digital classification and nomenclature.
Recent developments have shown that this initiative is timely after application of self-organizing and
correcting automatic taxonomic tools. We have used this initiative to develop a web tool that allows
users to explore and compare prokaryotic classifications. This tool is useful for testing hypotheses
and for gaining new insights into the relationships among prokaryotic taxa.

INTRODUCTION

The Taxonomic Browser allows users to explore relationships among the phyla in the
recently updated Bergey's Manual of Systematics and Bacteriology. The tool is
interactive and allows users to select and compare phyla and classes across a range of
organisms. The tool is useful for testing hypotheses and for gaining new insights into
relationships among prokaryotic taxa.

THE DATA

The data used to create the Taxonomic Browser were obtained from the RDP-II
Database Project. The RDP-II Database Project is a comprehensive database of
prokaryotic 16S rRNA sequences. The database contains over 200,000 sequences
covering over 10,000 prokaryotic taxa. The tool is useful for testing hypotheses and
for gaining new insights into relationships among prokaryotic taxa.

DESCRIPTION OF WEB TOOL TYPES

PCA plots: Data points in PCA plots highlight specific taxa across a
range of organisms. This tool is useful for testing hypotheses and for
obtaining new insights into relationships among prokaryotic taxa.

Global PCA plots: Global PCA plots highlight specific taxa across a
range of organisms. This tool is useful for testing hypotheses and for
obtaining new insights into relationships among prokaryotic taxa.

Distribution of potential orthology in prokaryotes

WEB SITE

The Taxonomic Browser is available at www.bergeys.com. This tool
is useful for testing hypotheses and for gaining new insights into
relationships among prokaryotic taxa.

REFERENCES

Classifications and Taxonomies. In: Proceedings of the 9th International Conference on
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