

Topic 08 – Uses of Cladograms

I. Taxonomies (Classifications)

- e.g., Cycad classification
- e.g., Recognition of new genera, families, etc. which are monophyletic.
- e.g., Helping to confirm new species status

II. Comparative Biology & Genomics

- e.g., evolution of flowers & fruits (ABC Model for floral organ identity)
- e.g., glutamate receptors

III. Disease origins and Disease Forensics

- e.g., HIV origins
- e.g., HIV infection histories

IV. Conservation

- e.g., Conservation Forensics: caviar in NY markets.
- e.g., Conservation Planning, Setting Conservation Priorities: recognizing phylogenetic redundancy vs. phylogenetic distinctiveness/diversity.

V. Ancestor Reconstruction

- e.g., via Fitch optimization

VI. Testing Adaptational Hypotheses

- e.g., is succulence an adaptation to deserts?
- e.g., is the tank-habit of bromeliads an adaptation for epiphytic existence?