

15 Shifts – No Zero Branch Lengths

Phylogenetic tree showing relationships between various cetacean species. The tree is rooted on the left and branches out to the right. Species names are listed on the right side of the tree. A bar chart on the far right shows the branch length for each species, with colors corresponding to the species. The chart has a scale from 3.0 to 4.4. Several nodes on the tree are highlighted with red circles and labeled with values: 1.327, 1.322, 0.722, 1.254, 1.045, 1.108, 0.777, 1.191, 1.646, 0.9, 1.105, 0.709, 0.691, 1.219, and 1.329.

Species listed (from top to bottom):

- Eubalaena japonica*
- Eubalaena glacialis*
- Eubalaena australis*
- Balaena mysticetus*
- Caperea marginata*
- Megaptera novaeangliae*
- Balaenoptera physalus*
- Balaenoptera musculus*
- Balaenoptera omurai*
- Balaenoptera edeni*
- Balaenoptera brydei*
- Balaenoptera borealis*
- Eschrichtius robustus*
- Balaenoptera bonaerensis*
- Balaenoptera acutorostrata*
- Platanista gangetica*
- Lipotes vexillifer*
- Pontoporia blainvillii*
- Inia geoffrensis*
- Orcinus orca*
- Leucopleurus acutus*
- Lissodelphis peronii*
- Lissodelphis borealis*
- Sagmatias obscurus*
- Sagmatias obliquidens*
- Sagmatias cruciger*
- Sagmatias australis*
- Cephalorhynchus heavisidii*
- Cephalorhynchus hectori*
- Cephalorhynchus eutropia*
- Cephalorhynchus commersoni*
- Lagenorhynchus albirostris*
- Steno bredanensis*
- Orcaella heinsohni*
- Orcaella brevirostris*
- Pseudorca crassidens*
- Grampus griseus*
- Globicephala melas*
- Globicephala macrorhynchus*
- Peponocephala electra*
- Feresa attenuata*
- Sotalia guianensis*
- Sotalia fluviatilis*
- Sousa teuszii*
- Sousa chinensis*
- Lagenodelphis hosei*
- Stenella longirostris*
- Stenella attenuata*
- Tursiops truncatus*
- Tursiops australis*
- Tursiops aduncus*
- Stenella frontalis*
- Stenella coeruleoalba*
- Stenella clymene*
- Delphinus delphis*
- Delphinus capensis*
- Delphinapterus leucas*
- Monodon monoceros*
- Phocoena spinipinnis*
- Phocoena sinus*
- Phocoenoides dalli*
- Phocoena phocoena*
- Phocoena dioptrica*
- Neophocaena phocaenoides*
- Berardius bairdii*
- Berardius arnuxii*
- Tasmacetus shepherdi*
- Ziphius cavirostris*
- Mesoplodon layardii*
- Mesoplodon carlhubbsi*
- Mesoplodon bowdoini*
- Mesoplodon peruvianus*
- Mesoplodon perrini*
- Mesoplodon grayi*
- Mesoplodon stejnegeri*
- Mesoplodon densirostris*
- Mesoplodon hotaula*
- Mesoplodon ginkgodens*
- Mesoplodon europaeus*
- Mesoplodon mirus*
- Mesoplodon traversii*
- Mesoplodon bidens*
- Mesoplodon hectori*
- Indopacetus pacificus*
- Hyperoodon planifrons*
- Hyperoodon ampullatus*
- Physeter macrocephalus*
- Kogia sima*
- Kogia breviceps*

Branch length values (from top to bottom):

- 1.327
- 1.322
- 0.722
- 1.254
- 1.045
- 1.108
- 0.777
- 1.191
- 1.646
- 0.9
- 1.105
- 0.709
- 0.691
- 1.219
- 1.329

Bar chart showing branch lengths for each species. The chart has a scale from 3.0 to 4.4. The colors of the bars correspond to the species names listed on the right.

