APPENDIX 2
CHARACTER MAP, EMPLOYED WEIGHTS

k=6

homoplasious character

0

character state

non homoplasious character

Characters numerated from 0-271 (1-272)
Appendix 3. Phylogenetic arrangement under implied weights analysis (k=3).
Appendix 4. Phylogenetic relation of *Tlaxcallicetus*. Equal weights analysis, strict consensus of 260 equally parsimonious trees. Tree length is 1474. The number in each branch denotes the branch length.
Appendix 5. Phylogenetic relation of *Tlaxallicetus*. Implied weights analysis (k=6), strict consensus of three equally parsimonious trees. Tree length is 1338. The number in each branch denotes the branch length.
Appendix 6

Backbone constraint tree, based on Gatesy et al. (2013)
Code using command ‘force /’ in TNT software (Goloboff et al., 2008a):
(3 ((11 44) (27 (41 ((16 14) ((19 (17 20)) (21 62)))))));

TRANSLATE FROM THE MATRIX
  3  Physeter_catodon
 11  Balaena_mysticetus
 14  Balaenoptera_acutorostrata
 16  Balaenoptera_bonaerensis
 17  Balaenoptera_borealis
 19  Balaenoptera_musculus
 20  Balaenoptera_omurai
 21  Balaenoptera_physalus
 27  Caperea_marginata
 44  Eschrichtius_robustus
 41  Eubalaena_spp.
 62  Megaptera_novaeangliae