Pleurodira
Kinosternon odoratus
Trachemys scripta
Batagur baska
Mauremys caspica
Siebenrockiella crassicollis
Fontainechelon cassouleti †
Pelorochelon soriana †
'Testudo' eocaenica †
Oligopherus laticuneus †
Hadrianus corsoni †
Manouria emys
Manouria impressa
'Chelonoidis' gringorum †
Stylemys inusitata †
Stylemys nebrascensis †
aff. 'Stylemys' gisellae †
Namibchersus namaquensis †
Hesperotestudo osborniana †
Hesperotestudo crassiscutata †
Hesperotestudo bermudae †
Hesperotestudo williamsi †
Impregnochelys pachytestis
Centrochelys sulcata
Geochelone elegans
Gigantochersina ammon †
Hadrianus majusculus †
'Testudo' brontops †
Hesperotestudo orthopygia †
Malacochersus tornieri
Megalochelys atlas
'Testudo' kaiseni †
'Testudo' promarginata †
Cheirogaster maurini †
Taraschelon gigas †
Ergilemys insolitus †
Stylemys capax †
Indotestudo elongata
Indotestudo forstenii
Chelonoidis chilensis
Chelonoidis nigra
Chelonoidis carbonaria
Chelonoidis denticulata
Floridemys nana †
Kinixys erosa
Kinixys homeana
Stigmochelys pardalis
Titanochelon bacharidisi †
Titanochelon bolivari †
Titanochelon vitodurana †
'Testudo' costaricensis †
Gopherus agassizii
Gopherus polyphemus
Gopherus edae †
Gopherus hexagonatus †
Gopherus hollandi †
Gopherus auffenbergi †
Gopherus donlaloi †
Testudo horsfieldii
Paleotestudo canetotiana †
'Testudo' antiqua †
Mesochersus orangeus †
'Testudo' shensiensis †
'Testudo' lunellensis †
'Testudo' oughlamensis †
Testudo hermanni
Testudo graeca
Testudo marginata
Testudo kleinmanni
Testudo marmorum †

Pan-Testudinidae
Testudinidae
Gopherus-clade
Testudona

1/? — 1/11 — 2/? — 1/? — 1/? — 5/87 — 2/49 — 1/? — 1/? — 1/? — 2/? — 1/? — 1/? — 1/? — 1/?/? — 1/13 — 1/? — 1/4 — 1/19 — 3/82 — 2/88 — 2/22 — 8/98 — 2/? — 2/31 — 2/? — 3/67 — 2/9 — 1/? — 1/? — 1/17 — 1/? — 1/4 — 1/?/9 — 1/? — 2/6 — 1/11 — 1/40 — 1/37 — 2/51

Figure S1. Standard Maximum Parsimony consensus tree (TL = 11463, CI = 0.380, RI = 0.329). aff. "*Stylemys*" *gisellae* sp. nov. in bold. Numbers below the lines indicate Bremer/bootstrap values. Extinct taxa are marked with a cross.