

APPENDIX

Cárdenas Rozo AL, Harries PJ. Planktic foraminiferal diversity: logistic growth overprinted by a varying environment. Acta biol. Colomb. 2016;21(3):501-508. DOI: <http://dx.doi.org/10.15446/abc.v21n3.54218>

All the statistical analyses, were done using R (The R Project for Statistical Computing, www.r-project.org).

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Supplementary data

Planktic Foraminifers data

In order to remove any synonymous taxa from the planktic foraminifers' species list, we used PLANKRANGE as the primary template (<http://palaeo.gly.bris.ac.uk/Data/plankrange.html>). Nevertheless, given that it was last updated in 2002, we did an extensive search of newly reported species since that year. Once species list of 699 taxa was established (Table 1), the compilation of the stratigraphic ranges (Table 2) was obtained from long-term stratigraphic compendia for Cretaceous¹⁻⁵ and Cenozoic⁶⁻¹¹ times, as well more specific taxonomical publications¹²⁻⁴⁷. Finally, dates of first and last appearances from Aptian to Recent (125 Ma to 0 Ma) were adjusted to paleomagnetically calibrated biozonations^{28,49} and then integrated into the Gradstein's *et al.* (2012)⁵⁰ timescale.

Planktic Foraminifers Diversity Curve

To determine the standing diversity, we used the boundary-crossing (BC) methodology⁵¹ at even intervals of 1 Ma (Table 3). We favor this approach, as opposed to subsampling procedures⁵² (i.e., sampling in bin and shareholder quorum), primarily, because these novel methodologies need occurrence data, and even though these data are available for planktic foraminifers in the biostratigraphical reports from the Deep Sea Drilling Project/Ocean Drilling Project, they cover mainly the interval from the Late Cretaceous throughout Recent. Therefore, an application of this procedure would result in the loss of 60% of the temporal interval covered by the planktic foraminifers (from ~170 to ~70 Ma). Furthermore, the BC technique is both a direct measure of actual standing

diversity at interval boundaries and an exceptional method for documenting changes in diversity because it compares diversity at the start of different intervals^{51,53}, and even though BC is a very conservative measurement, assuming total completeness of the record, the sedimentation rates in the deep ocean and the long-term continuous 'rain' of planktic foraminifers to the deep bottoms, confer reliability to this approach.

Planktic Foraminifers Extinction and Origination Rates

Extinction and origination rates, were calculated following the routine of per-capita rates⁵⁴ at even intervals of 1 Ma (Table 3). This methodology was selected, given that the raw data is based on first and last appearances of the taxa. Additionally, it has been pointed out that this approach draws a census of taxa at precise moments in time and removes the bias introduced by the assumption of the existence of all taxa throughout a given interval of time, which would overestimate the extinction rates because, when standing diversity is higher, more taxa are at risk, based on the exponential survivorship model^{54,55}.

Pulse turnover - Coordinated stasis model

To determine whether the planktic foraminiferal diversity pattern was generated under a pulse-turnover or a coordinated stasis scenario, a model approach was used. The model consists of 700 taxa displayed throughout 170 Ma (Fig. 1). Given that both scenarios predict long intervals of evolutionary stasis punctuated by fast turnover pulses^{56,57}, the model, based on the mean stratigraphic range of planktic foraminifers empirical data (7.6 Ma +/- 0.5 Ma, computed on the 95% confidence intervals bootstrapped a 1000 times), resulted in 25 clustered taxonomic packages, each one

composed of 28 species, with a stratigraphic range of 7 Ma, timely distributed throughout 170 Ma (Fig. 1).

Supplementary methods

First generalized differences

All the comparisons between different time series using correlation coefficients were based on first generalized differences³ between successive stages (Table 3). Such autocorrelation may, in turn, induce spurious correlations between different time series⁵⁸⁻⁶⁰, and the long-term trends include ‘noise’ that does not allow one to identify the characteristic periods of the series, a primary objective of time-series analysis in ecology⁶¹.

Time-Series Correlation

Normality Shapiro-Wilk tests showed that planktic foraminiferal standing diversity and extinction-origination per-capita rates first generalized differences throughout the planktic foraminifers history (~170 Ma to Recent) are not normally distributed, given that the null hypothesis tests for them were rejected (Table 5). Due to the non-normality character of these datasets, Spearman’s rank-order coefficient was used to test for statistical correlation of these three variables (Table 6). Moreover, results of the same test but throughout mixed-house, greenhouse, and icehouse displayed the ‘non-normality’ in distribution of the variables are not normal given that the null hypothesis tests for them were rejected (Table 7). Consequently, given the non-normality character of these datasets, Spearman’s rank-order coefficient was used to test for

statistical correlation of these variables arranged in the different global climatic modes (Table 8).

Distribution comparison

Kolmogorov-Smirnov (K-S) test for equality of distribution was used to perform a statistical comparison of the complete shapes of both pulse turnover/coordinated stasis model (Fig. 1 and 2) and empirical planktic foraminifers first and last occurrence data (Fig. 3 and 4). Based on the K-S test, there is no significant difference between the simulated 'pulsed-turnover' model's first and last occurrence populations (Table 9). However, K-S results support that empirical planktic foraminiferal first and last occurrences are not taken from populations with equal distributions (Table 10).

Table 1. List of planktic foraminifer species used in this study, including their original names and author(s), used for the computation of diversity, extinction, and origination patterns.

Species	Original Name	Author
<i>Abathomphalus intermedius</i>	<i>Globotruncana intermedia</i>	Bolli, 1951
<i>Abathomphalus mayaroensis</i>	<i>Globotruncana mayaroensis</i>	Bolli, 1951
<i>Acarinina africana</i>	<i>Globorotalia africana</i>	El Nagggar, 1966
<i>Acarinina alticonica</i>	<i>Acarinina mattseensis alticonica</i>	Fleisher, 1974
<i>Acarinina angulosa</i>	<i>Globigerina soldadoensis angulosa</i>	Bolli, 1957
<i>Acarinina aquiensis</i>	<i>Globigerina aquiensis</i>	Loeblich & Tappan, 1957
<i>Acarinina aspensis</i>	<i>Globigerina aspensis</i>	Colom, 1954
<i>Acarinina boudreauxi</i>	<i>Acarinina boudreauxi</i>	Fleisher, 1974
<i>Acarinina bullbrookii</i>	<i>Globorotalia bullbrookii</i>	Bolli, 1957
<i>Acarinina coalingensis</i>	<i>Globigerina coalingensis</i>	Cushman & Hanna, 1927
<i>Acarinina collactea</i>	<i>Globorotalia collactea</i>	Finlay, 1939
<i>Acarinina cuneicamerata</i>	<i>Globorotalia cuneicamerata</i>	Blow, 1979
<i>Acarinina echinata</i>	<i>Catapsydrax echinatus</i>	Bolli, 1957
<i>Acarinina esnaensis</i>	<i>Globigerina esnaensis</i>	LeRoy, 1953
<i>Acarinina esnehensis</i>	<i>Globigerina cretacea esnehensis</i>	Nakkady, 1950
<i>Acarinina interposita</i>	<i>Acarinina interposita</i>	Subbotina, 1953
<i>Acarinina mcgowrani</i>	<i>Acarinina mcgowrani</i>	Wade & Pearson, 2006
<i>Acarinina mckannai</i>	<i>Globigerina mckannai</i>	White, 1928
<i>Acarinina medizzai</i>	<i>Globigerina medizzai</i>	Toumarkine & Bolli, 1957
<i>Acarinina nitida</i>	<i>Globigerina nitida</i>	Martin, 1943
<i>Acarinina pentacamerata</i>	<i>Globorotalia crassa pentacamerata</i>	Subbotina, 1947

Species	Original Name	Author
<i>Acarinina praetopilensis</i>	<i>Globorotalia topilensis praetopilensis</i>	Blow, 1979
<i>Acarinina primitiva</i>	<i>Globoquadrina primitiva</i>	Finlay, 1947
<i>Acarinina pseudosubphaerica</i>	<i>Acarinina subphaerica</i>	Pearson & Berggren, 2006
<i>Acarinina pseudotopilensis</i>	<i>Acarinina pseudotopilensis</i>	Subbotina, 1953
<i>Acarinina punctocarinata</i>	<i>Acarinina punctocarinata</i>	Fleisher, 1974
<i>Acarinina quetra</i>	<i>Globorotalia quetra</i>	Bolli, 1957
<i>Acarinina rohri</i>	<i>Truncorotaloides rohri</i>	Bronnimann & Bermúdez, 1953
<i>Acarinina sibaiyaensis</i>	<i>Globorotalia sibaiyaensis</i>	El Nagggar, 1966
<i>Acarinina soldadoensis</i>	<i>Globigerina soldadoensis</i>	Bronnimann, 1952
<i>Acarinina strabocella</i>	<i>Globorotalia strabocella</i>	Loeblich & Tappan, 1957
<i>Acarinina subphaerica</i>	<i>Globigerina subphaerica</i>	Subbotina, 1947
<i>Acarinina topilensis</i>	<i>Globigerina topilensis</i>	Cushman, 1925
<i>Acarinina wilcoxensis</i>	<i>Globorotalia wilcoxensis</i>	Cushman & Ponton, 1932
<i>Alanlordella aptiensis</i>	<i>Globigerinelloides aptiense</i>	Longoria, 1974
<i>Alanlordella banneri</i>	<i>Alanlordella banneri</i>	BouDagher-Fadel, 1995
<i>Alanlordella bentonensis</i>	<i>Anomalina bentonensis</i>	Morrow, 1934
<i>Alanlordella praebuxtorfi</i>	<i>Planomalina praebuxtorfi</i>	Wonders, 1975
<i>Archaeoglobigerina australis</i>	<i>Archaeoglobigerina australis</i>	Huber, 1990
<i>Archaeoglobigerina bosquensis</i>	<i>Archaeoglobigerina bosquensis</i>	Pessagno, 1967
<i>Archaeoglobigerina cretacea</i>	<i>Globigerina cretacea</i>	d'Orbigny, 1840
<i>Archaeoglobigerina mateola</i>	<i>Archaeoglobigerina mateola</i>	Huber, 1990
<i>Archeaoglobigerina blowi</i>	<i>Archeaoglobigerina blowi</i>	Pessagno, 1967
<i>Ascoliella nitida</i>	<i>Favusella nitida</i>	Michael, 1973
<i>Ascoliella quadrata</i>	<i>Favusella quadrata</i>	Michael, 1973

Species	Original Name	Author
<i>Ascoliella scitula</i>	<i>Favusella scitula</i>	Michael, 1973
<i>Ascoliella voloshinae</i>	<i>Favusella voloshinae</i>	Longoria & Gamper, 1977
<i>Astrorotalia palmerae</i>	<i>Globorotalia palmerae</i>	Cushman & Bermúdez, 1937
<i>Beella digitata</i>	<i>Globigerina digitata</i>	Brady, 1879
<i>Beella praedigitata</i>	<i>Globigerina praedigitata</i>	Parker, 1967
<i>Biglobigerinella barri</i>	<i>Biglobigerinella multispina</i>	Lalicker, 1948
<i>Biticinella breggiensis</i>	<i>Anomalina breggiensis</i>	Gandolfi, 1942
<i>Blefuscuiana albiana</i>	<i>Blefuscuiana albiana</i>	BouDagher-Fadel <i>et al.</i> , 1996
<i>Blefuscuiana aptiana</i>	<i>Hedbergella aptiana</i>	Bartenstein, 1965
<i>Blefuscuiana aptiana orientalis</i>	<i>Blefuscuiana aptiana orientalis</i>	BouDagher-Fadel <i>et al.</i> , 1996
<i>Blefuscuiana convexa</i>	<i>Loeblichella convexa</i>	Longoria, 1974
<i>Blefuscuiana daminia</i>	<i>Blefuscuiana daminia</i>	Copestake & White, 1993
<i>Blefuscuiana excelsa</i>	<i>Hedbergella excelsa</i>	Longoria, 1974
<i>Blefuscuiana excelsa cumulus</i>	<i>Blefuscuiana excelsa cumulus</i>	Banner, Copestake & White, 1993
<i>Blefuscuiana gorbachikae</i>	<i>Hedbergella gorbachikae</i>	Longoria, 1974
<i>Blefuscuiana hexacamerata</i>	<i>Blefuscuiana hexacamerata</i>	BouDagher-Fadel, Banner & Whittaker, 1997
<i>Blefuscuiana hispanae</i>	<i>Hedbergella hispanae</i>	Longoria, 1974
<i>Blefuscuiana infracretacea</i>	<i>Globigerina infracretacea</i>	Glaessner, 1937
<i>Blefuscuiana infracretacea occidentalis</i>	<i>Blefuscuiana infracretacea occidentalis</i>	BouDagher-Fadel <i>et al.</i> , 1996
<i>Blefuscuiana kuznetzovae</i>	<i>Blefuscuiana kuznetzovae</i>	Banner & Desai, 1988
<i>Blefuscuiana laculata</i>	<i>Blefuscuiana laculata</i>	Banner, Copestake & White, 1993
<i>Blefuscuiana laculata alobata</i>	<i>Blefuscuiana laculata alobata</i>	Banner, Copestake & White, 1993
<i>Blefuscuiana mitra</i>	<i>Blefuscuiana mitra</i>	Banner & Desai, 1988
<i>Blefuscuiana multicamerata</i>	<i>Blefuscuiana multicamerata</i>	Banner & Desai, 1988

Species	Original Name	Author
<i>Blefuscuiana occulta</i>	<i>Hedbergella occulta</i>	Longoria, 1974
<i>Blefuscuiana occulta</i> var. <i>perforocculata</i>	<i>Blefuscuiana occulta perforocculata</i>	Banner, Copestake & White, 1993
<i>Blefuscuiana praetrocoidea</i>	<i>Hedbergella praetrocoidea</i>	Kretchmar & Gorbachik, 1986
<i>Blefuscuiana primare</i>	<i>Clavihedbergella primare</i>	Kretchmar & Gorbachik, 1986
<i>Blefuscuiana rudis</i>	<i>Blefuscuiana rudis</i>	Banner, Copestake & White, 1993
<i>Blefuscuiana rudis</i> var. <i>pararudis</i>	<i>Blefuscuiana rudis pararudis</i>	BouDagher-Fadel, Banner & Whittaker, 1997
<i>Blefuscuiana speetonensis</i>	<i>Blefuscuiana speetonensis</i>	Banner & Desai, 1988
<i>Blefuscuiana speetonensis</i> var. <i>tunisiensis</i>	<i>Blefuscuiana speetonensis tunisiensis</i>	BouDagher-Fadel, 1995
<i>Blowiella blowi</i>	<i>Planomalina blowi</i>	Bolli, 1959
<i>Blowiella duboisi</i>	<i>Globigerinella duboisi</i>	Chevalier, 1961
<i>Blowiella gottisi</i>	<i>Globigerina gottisi</i>	Chevalier, 1961
<i>Blowiella maridalensis</i>	<i>Planomalina maridalensis</i>	Bolli, 1959
<i>Blowiella moulladei</i>	<i>Blowiella moulladei</i>	BouDagher-Fadel, 1995
<i>Blowiella solida</i>	<i>Blowiella solida</i>	Kretchmar & Gorbachik, 1986
<i>Bucherina sandidgei</i>	<i>Bucherina</i>	Bronnimann & Brown, 1956
<i>Candeina nitida</i>	<i>Candeina nitida</i>	d'Orbigny, 1839
<i>Cassigerinella boudecensis</i>	<i>Cassigerinella boudecensis</i>	Pokorny, 1955
<i>Cassigerinella chipolensis</i>	<i>Cassidulina chipolensis</i>	Cushman & Ponton, 1932
<i>Cassigerinella eocaenica</i>	<i>Cassigerinella eocaenica</i>	Cordey, 1968
<i>Cassigerinella globulosa</i>	<i>Cassidulina globulosa</i>	Egger, 1957
<i>Cassigerinella martinezpicoi</i>	<i>Riveroinella martinezpicoi</i>	Bermúdez & Seiglie, 1967
<i>Cassigerinelloita amekiensis</i>	<i>Cassigerinollita amekiensis</i>	Stolk, 1965
<i>Catapsydrax africanus</i>	<i>Globigerinita africana</i>	Blow & Banner, 1962
<i>Catapsydrax dissimilis</i>	<i>Globigerina dissimilis</i>	Cushman & Bermúdez, 1937

Species	Original Name	Author
<i>Catapsydrax globiformis</i>	<i>Globigerinita globiformis</i>	Blow & Banner, 1962
<i>Catapsydrax howei</i>	<i>Globigerinita howei</i>	Blow & Banner, 1962
<i>Catapsydrax parvulus</i>	<i>Catapsydrax parvulus</i>	Bolli, Loeblich & Tappan, 1957
<i>Catapsydrax stainforthi</i>	<i>Catapsydrax stainforthi</i>	Bolli, Loeblich & Tappan, 1957
<i>Catapsydrax unicavus</i>	<i>Catapsydrax unicavus</i>	Bolli, Loeblich, & Tappan, 1957
<i>Catapsydrax/Globorotaloides permicrus</i>	<i>Globorotalia permicra</i>	Blow & Banner, 1962
<i>Catapsydrax/Globorotaloides pliozea</i>	<i>Globorotalia pliozea</i>	Hornibrook, 1982
<i>Chiloguembelina crinita</i>	<i>Guembelina crinita</i>	Glaessner, 1937
<i>Chiloguembelina cubensis</i>	<i>Guembelina cubensis</i>	Palmer, 1934
<i>Chiloguembelina midwayensis</i>	<i>Guembelina midwayensis</i>	Cushman, 1940
<i>Chiloguembelina morsei</i>	<i>Guembelina morsei</i>	Kline, 1943
<i>Chiloguembelina ototara</i>	<i>Guembelina ototara</i>	Finlay, 1940
<i>Chiloguembelina parallela</i>	<i>Chiloguembelina parallela</i>	Beckmann, 1957
<i>Chiloguembelina subtriangularis</i>	<i>Chiloguembelina subtriangularis</i>	Beckmann, 1957
<i>Chiloguembelina trinitatensis</i>	<i>Guembelina trinitatensis</i>	Cushman & Renz, 1942
<i>Chiloguembelina wilcoxensis</i>	<i>Guembelina wilcoxensis</i>	Cushman & Ponton, 1932
<i>Clavatorella bermudezi</i>	<i>Hastigerinella bermudezi</i>	Bolli, 1957
<i>Clavatorella nicobarensis</i>	<i>Clavatorella nicobarensis</i>	Srinivasan & Kennett, 1974
<i>Claviblowiella minai</i>	<i>Globigerinelloides minai</i>	Obregón de la Parra, 1959
<i>Claviblowiella saundersi</i>	<i>Planomalina saundersi</i>	Bolli, 1959
<i>Claviblowiella sigali</i>	<i>Globigerinelloides sigali</i>	Longoria, 1974
<i>Clavigerinella akersi</i>	<i>Clavigerinella akersi</i>	Bolli, Loeblich & Tappan, 1957
<i>Clavigerinella caucasica</i>	<i>Hastigerinella caucasica</i>	Subbotina, 1958
<i>Clavigerinella colombiana</i>	<i>Hastigerinella colombiana</i>	Petters, 1954

Species	Original Name	Author
<i>Clavigerinella eocanica</i>	<i>Hastigerinella eocanica</i>	Nuttall, 1928
<i>Clavigerinella jarvisi</i>	<i>Hastigerinella jarvisi</i>	Cushman, 1930
<i>Clavihedbergella moremani</i>	<i>Hastigerinella moremani</i>	Cushman, 1931
<i>Clavihedbergella subcretacea</i>	<i>Hastigerinella subcretacea</i>	Tappan, 1943
<i>Compactogerina stellapolaris</i>	<i>Globuligerina stellapolaris</i>	Grigelis, 1977
<i>Conoglobigerina avarica</i>	<i>Globigerina avarica</i>	Morozova, 1961
<i>Conoglobigerina avariformis</i>	<i>Conoglobigerina avariformis</i>	Kasimova, 1984
<i>Conoglobigerina balakhmatovae</i>	<i>Globigerina balakhmatovae</i>	Morozova, 1961
<i>Conoglobigerina caucasica</i>	<i>Globuligerina caucasica</i>	Gorbachik & Poroshina, 1979
<i>Conoglobigerina conica</i>	<i>Globigerina conica</i>	Iovceva & Trifonova, 1961
<i>Conoglobigerina dagestanica</i>	<i>Globigerina dagestanica</i>	Morozova, 1961
<i>Conoglobigerina gulekhensis</i>	<i>Globuligerina gulekhensis</i>	Gorbachik & Poroshina, 1979
<i>Conoglobigerina jurassica</i>	<i>Globigerina jurassica</i>	Hofman, 1958
<i>Conoglobigerina meganomica</i>	<i>Globuligerina meganomica</i>	Kuznetsova, 1980
<i>Conoglobigerina terquemi</i>	<i>Globigerina terquemi</i>	Iovceva & Trifonova, 1961
<i>Contusotruncana contusa</i>	<i>Pulvinulina arca contusa</i>	Cushman, 1926
<i>Contusotruncana fornicata</i>	<i>Globotruncana fornicata</i>	Plummer, 1931
<i>Contusotruncana patelliformis</i>	<i>Globotruncana patelliformis</i>	Gandolfi, 1955
<i>Contusotruncana plicata</i>	<i>Globotruncana conica plicata</i>	White, 1928
<i>Contusotruncana plummerae</i>	<i>Globotruncana fornicata plummerae</i>	Gandolfi, 1955
<i>Contusotruncana walfischensis</i>	<i>Globotruncana walfischensis</i>	Todd, 1970
<i>Cribohantkenina inflata</i>	<i>Hantkenina inflata</i>	Howe, 1928
<i>Dentoglobigerina altispira</i>	<i>Globigerina altispira</i>	Cushman & Jarvis, 1936
<i>Dentoglobigerina altispira globosa</i>	<i>Globoquadrina altispira globosa</i>	Bolli, 1957

Species	Original Name	Author
<i>Dentoglobigerina galavisi</i>	<i>Globigerina galavisi</i>	Bermúdez, 1961
<i>Dentoglobigerina globularis</i>	<i>Globoquadrina globularis</i>	Bérmudez, 1961
<i>Dentoglobigerina langhiana</i>	<i>Dentoglobigerina langhiana</i>	Cita & Gelati, 1960
<i>Dentoglobigerina larmeui</i>	<i>Globoquadrina larmeui</i>	Akers, 1955
<i>Dentoglobigerina pseudovenezuelana</i>	<i>Globigerina yeguaensis pseudovenezuelana</i>	Blow & Banner, 1962
<i>Dentoglobigerina tripartita</i>	<i>Globigerina bulloides tripartita</i>	Koch, 1926
<i>Dicarinella algeriana</i>	<i>Praeglobotruncana algeriana</i>	Caron, 1966
<i>Dicarinella asymetrica</i>	<i>Globotruncana asymetrica</i>	Sigal, 1952
<i>Dicarinella concavata</i>	<i>Rotalia concavata</i>	Brotzen, 1934
<i>Dicarinella hagni</i>	<i>Praeglobotruncana hagni</i>	Scheibnerova, 1962
<i>Dicarinella imbricata</i>	<i>Globotruncana imbricata</i>	Mornod, 1949-1950
<i>Dicarinella primitiva</i>	<i>Globotruncana ventricosa primitiva</i>	Dalbiez, 1955
<i>Dipsidripella danvillensis</i>	<i>Globorotalia danvillensis</i>	Howe & Wallace, 1932
<i>Dipsidripella liqianyui</i>	<i>Dipsidripella liqianyui</i>	Huber & Pearson, 2006
<i>Eoglobigerina edita</i>	<i>Globigerina edita</i>	Subbotina, 1953
<i>Eoglobigerina eobulloides</i>	<i>Globigerina eobulloides</i>	Morozova, 1959
<i>Eoglobigerina spiralis</i>	<i>Globigerina spiralis</i>	Bolli, 1957
<i>Falsotruncana maslakovae</i>	<i>Falsotruncana maslakovae</i>	Caron, 1981
<i>Favusella hiltermanni</i>	<i>Hedbergella hiltermanni</i>	Loeblich & Tappan, 1961
<i>Favusella hoterivica</i>	<i>Globigerina hoterivica</i>	Subbotina, 1953
<i>Favusella stiftia</i>	<i>Favusella stiftia</i>	Rosler, Lutze & Pflaumann, 1979
<i>Favusella washitensis</i>	<i>Globigerina washitaensis</i>	Carsey, 1926
<i>Fleisherites glabrans</i>	<i>Guembelina glabrans</i>	Cushman, 1938
<i>Fohsella birnageae</i>	<i>Globorotalia birnageae</i>	Blow, 1969

Species	Original Name	Author
<i>Fohsella fohsi</i>	<i>Globorotalia fohsi</i>	Cushman & Ellisor, 1939
<i>Fohsella lobata</i>	<i>Globorotalia fohsi lobata</i>	Bermudez, 1949
<i>Fohsella peripheroacuta</i>	<i>Globorotalia peripherocuta</i>	Blow & Banner, 1966
<i>Fohsella peripheroronda</i>	<i>Globorotalia peripheroronda</i>	Blow & Banner, 1966
<i>Fohsella praefohsi</i>	<i>Globorotalia praefohsi</i>	Blow & Banner, 1966
<i>Fohsella robusta</i>	<i>Globorotalia fohsi robusta</i>	Bolli, 1950/ Cushman & Ellisor, 1939
<i>Gansserina gansseri</i>	<i>Globotruncana gansseri</i>	Bolli, 1951
<i>Gansserina wiedenmayeri</i>	<i>Globotruncana wiedenmayeri</i>	Gandolfi, 1955
<i>Globanomalina archeocompressa</i>	<i>Globorotalia archeocompressa</i>	Blow, 1979
<i>Globanomalina australiformis</i>	<i>Globorotalia australiformis</i>	Jenkins, 1965
<i>Globanomalina chapmani</i>	<i>Globorotalia chapmani</i>	Parr, 1938
<i>Globanomalina compressa</i>	<i>Globigerina compressa</i>	Plummer, 1926
<i>Globanomalina ehrenbergi</i>	<i>Globorotalia ehrenbergi</i>	Bolli, 1957
<i>Globanomalina imitata</i>	<i>Globorotalia imitata</i>	Subbotina, 1953
<i>Globanomalina luxorensis</i>	<i>Anomalina luxorensis</i>	Nakkady, 1950
<i>Globanomalina ovalis</i>	<i>Globanomalina ovalis</i>	Haque, 1956
<i>Globanomalina planocompressa</i>	<i>Globorotalia planocompressa</i> <i>planocompressa</i>	Shutskaya, 1965
<i>Globanomalina planoconica</i>	<i>Globorotalia planoconica</i>	Subbotina, 1953
<i>Globanomalina pseudomenardii</i>	<i>Globorotalia pseudomenardii</i>	Bolli, 1957
<i>Globigerina cariaensis</i>	<i>Globigerina cariaensis</i>	Rogl & Bolli, 1973
<i>Globigerina euapertura</i>	<i>Globigerina euapertura</i>	Jenkins, 1960
<i>Globigerina fariasi</i>	<i>Globigerina ciperoensis fariasi</i>	Bermudez, 1961
<i>Globigerina occlusa</i>	<i>Globigerina praebulloides</i> <i>occlusa</i>	Blow & Banner, 1962
<i>Globigerina officinalis</i>	<i>Globigerina officinalis</i>	Subbotina, 1953

Species	Original Name	Author
<i>Globigerina ottnangiensis</i>	<i>Globigerina ciproensis ottangiensis</i>	Rogl, 1969
<i>Globigerina prasaepis</i>	<i>Globigerina prasaepis</i>	Blow, 1969
<i>Globigerina umbilicata</i>	<i>Globigerina umbilicata</i>	Orr & Zaitzeff, 1971
<i>Globigerina angulisuturalis</i>	<i>Globigerina ciproensis angulisuturalis</i>	Bolli, 1957
<i>Globigerina angustiumbilicata</i>	<i>Globigerina ciproensis angustiumbilicata</i>	Bolli, 1957
<i>Globigerina bulloides</i>	<i>Globigerina bulloides</i>	d'Orbigny, 1826
<i>Globigerina ciproensis</i>	<i>Globigerina ciproensis</i>	Bolli, 1954
<i>Globigerina eamesi</i>	<i>Globigerina eamesi</i>	Blow, 1959
<i>Globigerina falconensis</i>	<i>Globigerina falconensis</i>	Blow, 1959
<i>Globigerina praebulloides</i>	<i>Globigerina praebulloides</i>	Blow, 1959
<i>Globigerina quinqueloba</i>	<i>Globigerina quinqueloba</i>	Natland, 1938
<i>Globigerina venezuelana</i>	<i>Globigerina venezuelana</i>	Hedberg, 1937
<i>Globigerinatella insueta</i>	<i>Globigerinatella insueta</i>	Cushman & Stainforth, 1945
<i>Globigerinatheka barri</i>	<i>Globigerinatheka barri</i>	Bronnimann, 1952
<i>Globigerinatheka curryi</i>	<i>Globigerinatheka curryi</i>	Proto Decima & Bolli, 1970
<i>Globigerinatheka euganea</i>	<i>Globigerinatheka euganea</i>	Proto Decima & Bolli, 1970
<i>Globigerinatheka index</i>	<i>Globigerinoides index</i>	Finlay, 1939
<i>Globigerinatheka korotkovi</i>	<i>Globigerinoides korotkovi</i>	Keller, 1946
<i>Globigerinatheka kugleri</i>	<i>Globigerapsis kugleri</i>	Bolli, Loeblich, & Tappan, 1957
<i>Globigerinatheka luterbacheri</i>	<i>Globigerinatheka luterbacheri</i>	Bolli, 1972
<i>Globigerinatheka mexicana</i>	<i>Globigerina mexicana</i>	Cushman, 1925
<i>Globigerinatheka rubriformis</i>	<i>Globigerinoides rubriformis</i>	Subbotina, 1953
<i>Globigerinatheka semiinvoluta</i>	<i>Globigerinoides semi-involutus</i>	Keijzer, 1945
<i>Globigerinatheka subconglobata</i>	<i>Globigerinoides subconglobatus subonglobatus</i>	Shutskaya, 1958

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<i>Globigerinatheka tropicalis</i>	<i>Globigerapsis tropicalis</i>	Blow & Banner, 1962
<i>Globigerinella adamsi</i>	<i>Globigerinella adamsi</i>	Banner & Blow, 1959
<i>Globigerinella aequilateralis</i>	<i>Globigerina aequilateralis</i>	Brady, 1879
<i>Globigerinella calida</i>	<i>Globigerina calida</i>	Parker, 1962
<i>Globigerinella obesa</i>	<i>Globorotalia obesa</i>	Bolli, 1957
<i>Globigerinella praesiphonifera</i>	<i>Hastigerina siphonifera praesiphonifera</i>	Blow, 1969
<i>Globigerinella pseudobesa</i>	<i>Turborotalia pseudobesa</i>	Salvatorini, 1966
<i>Globigerinelloides algerianus</i>	<i>Globigerinelloides algeriana</i>	Cushman & ten Dam, 1948
<i>Globigerinelloides barri</i>	<i>Biglobigerinella barri</i>	Bolli, Loeblich & Tappan, 1957
<i>Globigerinelloides blowi</i>	<i>Globigerinelloides blowi</i>	Bolli, 1959
<i>Globigerinelloides escheri</i>	<i>Nonionina escheri</i>	Kauffman, 1865
<i>Globigerinelloides ferreolensis</i>	<i>Biticinella ferreolensis</i>	Moullade, 1961
<i>Globigerinelloides prairiehillensis</i>	<i>Globigerinelloides prairiehillensis</i>	Pessagno, 1967
<i>Globigerinelloides subcarinata</i>	<i>Globigerinella messinae subcarinata</i>	Bronnimann, 1952
<i>Globigerinelloides ultramicra</i>	<i>Globigerinella ultramicra</i>	Subbotina, 1949
<i>Globigerinita glutinata</i>	<i>Globigerinita glutinata</i>	Egger, 1893
<i>Globigerinita incrusta</i>	<i>Globigerinita incrusta</i>	Akers, 1955
<i>Globigerinita parkerae</i>	<i>Globigerinoides parkerae</i>	Bermúdez, 1961
<i>Globigerinita uvula</i>	<i>Pylodexia uvula</i>	Ehrenberg, 1861
<i>Globigerinoides altiapertura</i>	<i>Globigerinoides triloba altiapertura</i>	Bolli, 1957
<i>Globigerinoides bisphericus</i>	<i>Globigerinoides bisphericus</i>	Todd, 1957
<i>Globigerinoides bollii</i>	<i>Globigerinoides bollii</i>	Blow, 1959
<i>Globigerinoides bulloideus</i>	<i>Globigerinoides bulloideus</i>	Crescenti, 1966
<i>Globigerinoides conglobatus</i>	<i>Globigerina conglobata</i>	Brady, 1879

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<i>Globigerinoides diminutus</i>	<i>Globigerinoides diminuta</i>	Bolli, 1957
<i>Globigerinoides extremus</i>	<i>Globigerinoides obliquus extremus</i>	Bolli & Bermúdez, 1965
<i>Globigerinoides fistulosus</i>	<i>Globigerina fistulosa</i>	Schubert, 1910
<i>Globigerinoides immaturus</i>	<i>Globigerinoides sacculiferus immatura</i>	LeRoy, 1939
<i>Globigerinoides inusitatus</i>	<i>Globigerinoides inusitatus</i>	Jenkins, 1966
<i>Globigerinoides kennetti</i>	<i>Globigerinoides kennetti</i>	Keller & Poore, 1980
<i>Globigerinoides mitra</i>	<i>Globigerinoides mitra</i>	Todd, 1957
<i>Globigerinoides obliquus</i>	<i>Globigerinoides obliqua</i>	Bolli, 1957
<i>Globigerinoides parawoodi</i>	<i>Globigerinoides parawoodi</i>	Keller, 1981
<i>Globigerinoides primordius</i>	<i>Globigerinoides quadrilobatus primordius</i>	Blow & Banner, 1962
<i>Globigerinoides quadrilobatus</i>	<i>Globigerina quadrilobata</i>	d'Orbigny, 1846
<i>Globigerinoides ruber</i>	<i>Globigerina rubra</i>	d'Orbigny, 1839
<i>Globigerinoides sacculifer</i>	<i>Globigerina sacculifera</i>	Brady, 1877
<i>Globigerinoides seigliei</i>	<i>Globigerinoides rubra seigliei</i>	Bermúdez & Bolli, 1969
<i>Globigerinoides sicanus</i>	<i>Globigerinoides sicanus</i>	De Stefani, 1950
<i>Globigerinoides subquadratus</i>	<i>Globigerinoides subquadrata</i>	Bronnimann, 1954
<i>Globigerinoides subsacculifer</i>	<i>Globigerinoides sacculifer subsacculifer</i>	Cita, Premoli Silva & Rossi, 1965
<i>Globigerinoides tenellus</i>	<i>Globigerinoides tenella</i>	Parker, 1958
<i>Globigerinoides triloba</i>	<i>Globigerinoides triloba</i>	Reuss, 1850
<i>Globoconella conoidea</i>	<i>Globorotalia miozea conoidea</i>	Walters, 1965
<i>Globoconella conomiozea</i>	<i>Globorotalia conomiozea</i>	Kennett, 1966
<i>Globoconella incognita</i>	<i>Globorotalia zelandica incognita</i>	Walters, 1965
<i>Globoconella inflata</i>	<i>Globigerina inflata</i>	d'Orbigny, 1839
<i>Globoconella miozea</i>	<i>Globorotalia miozea</i>	Finlay, 1939

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<i>Globoconella panda</i>	<i>Globorotalia menardii panda</i>	Jenkins, 1960
<i>Globoconella puncticulata</i>	<i>Globigerina puncticulata</i>	Deshayes, 1832
<i>Globoconella sphericomiozea</i>	<i>Globorotalia miozea sphericomiozea</i>	Walters, 1965
<i>Globoconella zelandica</i>	<i>Globorotalia zelandica</i>	Hornibrook, 1958
<i>Globoconusa daubjergensis</i>	<i>Globigerina daubjergensis</i>	Bronnimann, 1953
<i>Globoheterohelix paraglobulosa</i>	<i>Globoheterohelix paraglobulosa</i>	Georgescu & Huber, 2009
<i>Globoquadrina baroemonensis</i>	<i>Globigerina baroemoenensis</i>	LeRoy, 1939
<i>Globoquadrina binaiensis</i>	<i>Globigerina binaiensis</i>	Koch, 1926
<i>Globoquadrina conglomerata</i>	<i>Globigerina conglomerata</i>	Schwager, 1866
<i>Globoquadrina dehiscens</i>	<i>Globorotalia dehiscens</i>	Chapman, Parr, & Collins, 1934
<i>Globoquadrina praedehiscens</i>	<i>Globoquadrina dehiscens praedehiscens</i>	Blow & Banner, 1962
<i>Globoquadrina rohri</i>	<i>Globigerina rohri</i>	Bolli, 1957
<i>Globoquadrina sellii</i>	<i>Globoquadrina sellii</i>	Borsetti, 1959
<i>Globoquadrina tapuriensis</i>	<i>Globigerina tripartita tapuriensis</i>	Blow & Banner, 1962
<i>Globorotalia linguaensis</i>	<i>Globorotalia linguaensis</i>	Bolli, 1957
<i>Globorotalia mediterranea</i>	<i>Globorotalia mediterranea</i>	Catalano & Sprovieri
<i>Globorotalia merotumida</i>	<i>Globorotalia merotumida</i>	Blow & Banner, 1965
<i>Globorotalia nioclae</i>	<i>Globorotalia nicolae</i>	Catalano & Sprovieri
<i>Globorotalia paralenguaensis</i>	<i>Globorotalia paralenguaensis</i>	Blow, 1969
<i>Globorotalia plesiotumida</i>	<i>Globorotalia tumida plesiotumida</i>	Blow & Banner, 1965
<i>Globorotalia praescitula</i>	<i>Globorotalia scitula praescitula</i>	Blow, 1959
<i>Globorotalia saheliana</i>	<i>Globorotalia saheliana</i>	Catalano & Sprovieri
<i>Globorotalia suterae</i>	<i>Globorotalia suterae</i>	Catalano & Sprovieri
<i>Globorotalia flexulosa</i>	<i>Pulvinulina tumida flexulosa</i>	Koch, 1923

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<i>Globorotalia tumida</i>	<i>Pulvinulina menardii tumida</i>	Brady, 1877
<i>Globorotalia unguata</i>	<i>Globorotalia unguata</i>	Bermúdez, 1960
<i>Globorotaloides eovariabilis</i>	<i>Globorotaloides eovariabilis</i>	Huber & Pearson, 2006
<i>Globorotaloides hexagona</i>	<i>Globigerina hexagona</i>	Natland, 1938
<i>Globorotaloides quadrocameratus</i>	<i>Globorotaloides quadrocameratus</i>	Olsson, Pearson, & Huber, 2006
<i>Globorotaloides testarugosa</i>	<i>Globorotalia testarugosa</i>	Jenkins, 1960
<i>Globorotaloides variabilis</i>	<i>Globorotaloides variabilis</i>	Bolli, 1957
<i>Globotruncana aegyptiaca</i>	<i>Globotruncana aegyptiaca</i>	Nakkady, 1951
<i>Globotruncana arca</i>	<i>Pulvinulina arca</i>	Cushman, 1926
<i>Globotruncana bulloides</i>	<i>Globotruncana linnei bulloides</i>	Volger, 1941
<i>Globotruncana dupeublei</i>	<i>Globotruncana dupeublei</i>	Caron et. al., 1984
<i>Globotruncana esnehensis</i>	<i>Globotruncana arca esnehensis</i>	Nakkady, 1950
<i>Globotruncana falsostuarti</i>	<i>Globotruncana falsostuarti</i>	Sigal, 1952
<i>Globotruncana insignis</i>	<i>Globotruncana rosetta insignis</i>	Gandolfi, 1955
<i>Globotruncana lapparenti</i>	<i>Globotruncana lapparenti</i>	Brotzen, 1936
<i>Globotruncana linneiana</i>	<i>Rosalina linneiana</i>	d'Orbigny, 1839
<i>Globotruncana mariei</i>	<i>Globotruncana mariei</i>	Banner & Blow, 1960
<i>Globotruncana nothi</i>	<i>Rugotruncana nothi</i>	Bronnimann & Brown, 1955
<i>Globotruncana orientalis</i>	<i>Globotruncana orientalis</i>	El Nagggar, 1966
<i>Globotruncana pseudoconica</i>	<i>Globotruncana pseudoconica</i>	Solakius, 1982
<i>Globotruncana rosetta</i>	<i>Globigerina rosetta</i>	Carsey, 1926
<i>Globotruncana rugosa</i>	<i>Rosalinella rugosa</i>	Marie, 1941
<i>Globotruncana ventricosa</i>	<i>Globotruncana canaliculata ventricosa</i>	White, 1928
<i>Globotruncanella citae</i>	<i>Globotruncana citae</i>	Bolli, 1951

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<i>Globotruncanella havanensis</i>	<i>Globotruncana havanensis</i>	Voorwijk, 1937
<i>Globotruncanella minuta</i>	<i>Globotruncanella minuta</i>	Caron et. al., 1984
<i>Globotruncanella petaloidea</i>	<i>Globotruncana petaloidea</i> <i>petaloidea</i>	Gandolfi, 1955
<i>Globotruncanella pschadae</i>	<i>Globorotalia pschadae</i>	Keller, 1946
<i>Globotruncanella semsalensis</i>	<i>Globotruncana semsalensis</i>	Corminboeuf, 1961
<i>Globotruncanita atlantica</i>	<i>Globotruncana atlantica</i>	Caron, 1972
<i>Globotruncanita conica</i>	<i>Globotruncana conica</i>	White, 1928
<i>Globotruncanita elevata</i>	<i>Globorotalia elevata</i>	Brotzen, 1934
<i>Globotruncanita fareedi</i>	<i>Globotruncana fareedi</i>	El-Naggar, 1966
<i>Globotruncanita pettersi</i>	<i>Globotruncanita pettersi</i>	Gandolfi, 1955
<i>Globotruncanita stuarti</i>	<i>Rosalina stuarti</i>	de Lapparent, 1918
<i>Globotruncanita stuartiformis</i>	<i>Globotruncana elevata</i> <i>stuartiformis</i>	Dalbiez, 1955
<i>Globotruncanita subspinosa</i>	<i>Globotruncana subspinosa</i>	Pessagno, 1960
<i>Globoturborotalita anguliofficialis</i>	<i>Globigerina anguliofficialis</i>	Blow, 1969
<i>Globoturborotalita bassriverencis</i>	<i>Globoturborotalita</i> <i>bassriverencis</i>	Olsson & Hemleben, 2006
<i>Globoturborotalita gnaucki</i>	<i>Globigerinita ouachitaensis</i> <i>gnaucki</i>	Blow & Banner, 1962
<i>Globoturborotalita martini</i>	<i>Globigerinita martini</i>	Blow & Banner, 1962
<i>Globoturborotalita ouachitaensis</i>	<i>Globigerina ouachitaensis</i>	Howe & Wallace, 1932
<i>Globuligerina bathoniana</i>	<i>Globigerina bathoniana</i>	Pazdrowa, 1969
<i>Globuligerina calloviensis</i>	<i>Globuligerina calloviensis</i>	Kuznetsova, 1980
<i>Globuligerina oxfordiana</i>	<i>Globigerina oxfordiana</i>	Grigelis, 1958
<i>Gorbachikella anteroapertura</i>	<i>Gorbachikella anteroapertura</i>	BouDagher-Fadel et al., 1995
<i>Gorbachikella depressa</i>	<i>Gorbachikella depressa</i>	BouDagher-Fadel et al., 1995
<i>Gorbachikella grandiapertura</i>	<i>Gorbachikella grandiapertura</i>	BouDagher-Fadel et al., 1995

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<i>Gorbachikella Kugleri</i>	<i>Globigerina kugleri</i>	Bolli, 1959
<i>Gorbachikella neili</i>	<i>Globuligerina neili</i>	Maamouri & Salaj, 1995
<i>Gublerina acuta</i>	<i>Gublerina acuta</i>	De Klasz, 1953
<i>Gublerina glaessneri</i>	<i>Gublerina glaessneri</i>	Bronnimann & Brown, 1953
<i>Guembelitra cenomana</i>	<i>Guembelina cenomana</i>	Keller, 1935
<i>Guembelitra cretacea</i>	<i>Guembelitra cretacea</i>	Cushman, 1933
<i>Guembelitrioides nutalli</i>	<i>Globigerinoides nutalli</i>	Hamilton, 1953
<i>Haeuslerina helvetojurassica</i>	<i>Globigerina helvetojurassica</i>	Haeusler, 1881
<i>Haeuslerina parva</i>	<i>Globigerina parva</i>	Kuznetsova, 1985
<i>Hantkenina alabamensis</i>	<i>Hantkenina alabamensis</i>	Cushman, 1924
<i>Hantkenina australis</i>	<i>Hantkenina australis</i>	Finlay, 1939
<i>Hantkenina compressa</i>	<i>Hantkenina compressa</i>	Parr, 1947
<i>Hantkenina dumblei</i>	<i>Hantkenina dumblei</i>	Weinzierl & Applin, 1929
<i>Hantkenina lehneri</i>	<i>Hantkenina lehneri</i>	Cushman & Jarvis, 1929
<i>Hantkenina liebusi</i>	<i>Hantkenina liebusi</i>	Shokhina, 1937
<i>Hantkenina mexicana</i>	<i>Hantkenina mexicana</i>	Cushman, 1924
<i>Hantkenina nangulanensis</i>	<i>Hantkenina nangulanensis</i>	Hartono, 1969
<i>Hantkenina primitiva</i>	<i>Hantkenina primitiva</i>	Cushman & Jarvis, 1929
<i>Hantkenina singanoae</i>	<i>Hantkenina singanoae</i>	Pearson & Coxall, 2006
<i>Hartella harti</i>	<i>Hartella harti</i>	Georgescu & Abramovich, 2009
<i>Hastigerina pelagica</i>	<i>Nonionina pelagica</i>	d'Orbigny, 1839
<i>Hastigerinoides alexanderi</i>	<i>Hastigerinella alexanderi</i>	Cushman, 1931
<i>Hastigerinoides atlanticus</i>	<i>Hastigerinoides atlanticus</i>	Georgescu & Huber, 2008
<i>Hastigerinoides clavata</i>	<i>Globigerinella escheri clavata</i>	Bronnimann, 1952

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<i>Hastigerinoides subdigitata</i>	<i>Globigerina subdigitata</i>	Carmen, 1929
<i>Hastigerinoides watersi</i>	<i>Hastigerinella watersi</i>	Cushman, 1931
<i>Hastigerinopsis riedeli</i>	<i>Hastigerinella riedeli</i>	Rogl & Bolli, 1973
<i>Hedbergella delrioensis</i>	<i>Hedbergella delrioensis</i>	Carsey, 1926
<i>Hedbergella flandrini</i>	<i>Hedbergella flandrini</i>	Porthault, 1970
<i>Hedbergella hoelzli</i>	<i>Globigerina hoelzli</i>	Hagn & Zeil, 1954
<i>Hedbergella holmdelensis</i>	<i>Hedbergella holmdelensis</i>	Olsson, 1964
<i>Hedbergella maslakovae</i>	<i>Hedbergella maslakovae</i>	Longoria, 1974
<i>Hedbergella monmouthensis</i>	<i>Hedbergella monmouthensis</i>	Olsson, 1960
<i>Hedbergella planispira</i>	<i>Globigerina planispira</i>	Tappan, 1940
<i>Hedbergella praelibyca</i>	<i>Hedbergella praelibyca</i>	Petrizzo & Huber, 2006
<i>Hedbergella punctata</i>	<i>Hedbergella punctata</i>	Michael, 1972
<i>Hedbergella simplex</i>	<i>Hastigerinella simplex</i>	Morrow, 1934
<i>Hedbergella sliteri</i>	<i>Hedbergella sliteri</i>	Huber, 1990
<i>Hedbergella trocoidea</i>	<i>Anomalina lorneiana trocoidea</i>	Gandolfi, 1942
<i>Helvetoglobotruncana? helvetica</i>	<i>Globotruncana helvetica</i>	Bolli, 1945
<i>Helvetoglobotruncana? prae-helvetica</i>	<i>Rogoglobigerina prae-helvetica</i>	Trujillo, 1960
<i>Hendersonia carinata</i>	<i>Guembelina carinata</i>	Cushman, 1938
<i>Hendersonia hendersoni</i>	<i>Hendersonia hendersoni</i>	Georgescu & Abramovich, 2008
<i>Hendersonia jerseyensis</i>	<i>Hendersonia jerseyensis</i>	Georgescu & Abramovich, 2008
<i>Heterohelix americana</i>	<i>Textilaria americana</i>	Ehrenberg, 1843
<i>Heterohelix globulosa</i>	<i>Heterohelix globulosa</i>	Ehrenberg, 1840
<i>Heterohelix olssoni</i>	<i>Heterohelix olssoni</i>	Georgescu, 2000
<i>Heterohelix planata</i>	<i>Heterohelix planata</i>	Cushman, 1938

Species	Original Name	Author
<i>Heterohelix punctulata</i>	<i>Heterohelix punctulata</i>	Cushman, 1938
<i>Heterohelix reussi</i>	<i>Gumbelina reussi</i>	Cushman, 1938
<i>Heterohelix semicostata</i>	<i>Heterohelix semicostata</i>	Cushman, 1938
<i>Heterohelix striata</i>	<i>Heterohelix striata</i>	Ehrenberg, 1840
<i>Hirsutella bermudezi</i>	<i>Globorotalia bermudezi</i>	Rogl & Bolli, 1973
<i>Hirsutella challenger</i>	<i>Globorotalia challenger</i>	Srinivasan & Kennett, 1981
<i>Hirsutella cibaoensis</i>	<i>Globorotalia cibaoensis</i>	Bermúdez, 1949
<i>Hirsutella hirsuta</i>	<i>Rotalina hirsuta</i>	d'Orbigny, 1839
<i>Hirsutella juanai</i>	<i>Globorotalia juanai</i>	Bermúdez & Bolli, 1969
<i>Hirsutella margaritae</i>	<i>Globorotalia margaritae</i>	Bolli & Bermúdez, 1965
<i>Hirsutella scitula</i>	<i>Pulvinulina scitula</i>	Brady, 1882
<i>Hirsutella theyeri</i>	<i>Globorotalia theyeri</i>	Fleisher, 1974
<i>Huberella huberi</i>	<i>Huberella huberi</i>	Georgescu, 2007
<i>Huberella praehuberi</i>	<i>Huberella praehuberi</i>	Georgescu, 2007
<i>Igorina albeari</i>	<i>Globorotalia albeari</i>	Cushman & Bermúdez, 1949
<i>Igorina anapetes</i>	<i>Globorotalia broedermanni anapetes</i>	Blow, 1979
<i>Igorina broedermanni</i>	<i>Globorotalia broedermanni</i>	Cushman & Bermúdez, 1949
<i>Igorina convexa</i>	<i>Globorotalia convexa</i>	Subbotina, 1953
<i>Igorina lodoensis</i>	<i>Globorotalia broedermanni lodoensis</i>	Mallory, 1959
<i>Igorina pusilla</i>	<i>Globorotalia pusilla pusilla</i>	Bolli, 1957
<i>Igorina tadjikistanensis</i>	<i>Acarinina tadjikistanensis</i>	Bykova, 1953
<i>Jenkinsella acrostoma</i>	<i>Globorotalia acrostoma</i>	Wezel, 1966
<i>Jenkinsella bella</i>	<i>Globorotalia bella</i>	Jenkins, 1967
<i>Jenkinsella columbiana</i>	<i>Guembelitra columbiana</i>	Howe, 1939

Species	Original Name	Author
<i>Jenkinsella mayeri</i>	<i>Globorotalia mayeri</i>	Cushman & Ellis, 1939
<i>Jenkinsella semivera</i>	<i>Globigerina semivera</i>	Hornibrook, 1961
<i>Jenkinsella siakensis</i>	<i>Globorotalia siakensis</i>	LeRoy, 1939
<i>Jenkinsella triseriata</i>	<i>Textularia triseriata</i>	Terquem, 1882
<i>Laeviheterohelix pulchra</i>	<i>Guembelina pulchra</i>	Brotzen, 1936
<i>Laeviheterohelix reniformis</i>	<i>Ventilabrella reniformis</i>	Marie, 1941
<i>Leupoldina protuberans</i>	<i>Leupoldina protuberans</i>	Bolli, 1957
<i>Lilliputianella bizonae</i>	<i>Hastigerinella bizonae</i>	Chevalier, 1961
<i>Lilliputianella globulifera</i>	<i>Clavhedbergella globulifera</i>	Kretchmar & Gorbachik, 1971
<i>Lilliputianella kuhryi</i>	<i>Hedbergella kuhryi</i>	Longoria, 1974
<i>Lilliputianella labocaensis</i>	<i>Hedbergella labocaensis</i>	Longoria, 1974
<i>Lilliputianella longorii</i>	<i>Lilliputianella longorii</i>	Banner & Desai, 1988
<i>Lilliputianella roblesae</i>	<i>Globigerina roblesae</i>	Obregón de la Parra, 1959
<i>Lilliputianelloides eocretacea</i>	<i>Clavhedbergella eocretacea</i>	Neagu, 1975
<i>Lipsonia lipsonae</i>	<i>Lipsonia lipsonae</i>	Georgescu & Abramovich, 2008
<i>Liueella falklandica</i>	<i>Liueella falklandica</i>	Georgescu, 2008
<i>Marginotruncana canaliculata</i>	<i>Rosalina canaliculata</i>	Reuss, 1854
<i>Marginotruncana coronata</i>	<i>Globotruncata lapparenti coronata</i>	Bolli, 1945
<i>Marginotruncana marginata</i>	<i>Rosalina marginata</i>	Reuss, 1845
<i>Marginotruncana marianosi</i>	<i>Globotruncana marianosi</i>	Douglas, 1969
<i>Marginotruncana paraconcovata</i>	<i>Marginotruncana paraconcovata</i>	Porthault, 1970
<i>Marginotruncana pseudolinneiana</i>	<i>Marginotruncana pseudolinneiana</i>	Pessagno, 1967
<i>Marginotruncana renzi</i>	<i>Globotruncana renzi</i>	Gandolfi, 1942
<i>Marginotruncana schneegansi</i>	<i>Globotruncana schneegansi</i>	Sigal, 1952

Species	Original Name	Author
<i>Marginotruncana sigali</i>	<i>Globotruncana sigali</i>	Reichel, 1950
<i>Marginotruncana sinuosa</i>	<i>Marginotruncana sinuosa</i>	Porthault, 1970
<i>Marginotruncana tarfayaensis</i>	<i>Marginotruncana tarfayaensis</i>	Lehmann, 1963
<i>Marginotruncana undulata</i>	<i>Marginotruncana undulata</i>	Lehmann, 1963
<i>Menardella archeomenardii</i>	<i>Globorotalia archeomenardii</i>	Bolli, 1957
<i>Menardella exilis</i>	<i>Globorotalia cultrata exilis</i>	Blow, 1969
<i>Menardella limbata</i>	<i>Rotalia limbata</i>	Fornasini, 1902
<i>Menardella menardii</i>	<i>Rotalia menardii</i>	Parker, Jones & Brady, 1865
<i>Menardella miocenica</i>	<i>Globorotalia menardii miocenica</i>	Palmer, 1945
<i>Menardella multicamerata</i>	<i>Globorotalia menardii multicamerata</i>	Cushman & Jarvis, 1930
<i>Menardella pertenuis</i>	<i>Globorotalia pertenuis</i>	Beard, 1969
<i>Menardella praemenardii</i>	<i>Globorotalia praemenardii</i>	Cushman & Stainforth, 1945
<i>Menardella pseudomiocenica</i>	<i>Globorotalia pseudomiocenica</i>	Bolli and Bermudez, 1965
<i>Morozovella acuta</i>	<i>Globorotalia wilcoxensis acuta</i>	Toulmin, 1941
<i>Morozovella acutispira</i>	<i>Globorotalia acutispira</i>	Bolli & Cita, 1960
<i>Morozovella aequa</i>	<i>Globorotalia crassata aequa</i>	Cushman & Renz, 1942
<i>Morozovella allisonensis</i>	<i>Morozovella allisonensis</i>	Kelly, Bralower, & Zachos, 1998
<i>Morozovella angulata</i>	<i>Globigerina angulata</i>	White, 1928
<i>Morozovella apantesma</i>	<i>Globorotalia apantesma</i>	Loeblich & Tappan, 1957
<i>Morozovella aragonensis</i>	<i>Globorotalia aragonensis</i>	Nuttall, 1930
<i>Morozovella caucasica</i>	<i>Globorotalia aragonensis caucasica</i>	Glaessner, 1937
<i>Morozovella conicotruncata</i>	<i>Globorotalia conicotruncata</i>	Subbotina, 1947
<i>Morozovella crater</i>	<i>Globorotalia crater</i>	Hornibrook, 1958
<i>Morozovella dolabrata</i>	<i>Globorotalia dolabrata</i>	Jenkins, 1966

Species	Original Name	Author
<i>Morozovella edgari</i>	<i>Globorotalia edgari</i>	Premoli Silva & Bolli, 1973
<i>Morozovella formosa</i>	<i>Globorotalia formosa formosa</i>	Bolli, 1957
<i>Morozovella gracilis</i>	<i>Globorotalia formosa gracilis</i>	Bolli, 1957
<i>Morozovella lensiformis</i>	<i>Globorotalia lensiformis</i>	Subbotina, 1953
<i>Morozovella marginodentata</i>	<i>Globorotalia marginodentata</i>	Subbotina, 1953
<i>Morozovella occlusa</i>	<i>Globorotalia occlusa</i>	Loeblich & Tappan, 1957
<i>Morozovella pasionensis</i>	<i>Pseudogloborotalia pasionensis</i>	Bermúdez, 1961
<i>Morozovella praeangulata</i>	<i>Globorotalia praeangulata</i>	Blow, 1979
<i>Morozovella subbotinae</i>	<i>Globorotalia subbotinae</i>	Morozova, 1939
<i>Morozovella trinidadensis</i>	<i>Globorotalia trinidadensis</i>	Bolli, 1957
<i>Morozovella velascoensis</i>	<i>Pulvinulina velascoensis</i>	Cushman, 1925
<i>Morozovelloides bandyi</i>	<i>Morozovella bandyi</i>	Fleisher, 1974
<i>Morozovelloides coronatus</i>	<i>Globorotalia coronata</i>	Blow, 1979
<i>Morozovelloides crassatus</i>	<i>Pulvinulina crassata</i>	Cushman, 1925
<i>Morozovelloides lehneri</i>	<i>Globorotalia lehneri</i>	Cushman & Jarvis, 1929
<i>Mutabella mirabilis</i>	<i>Mutabella mirabilis</i>	Pearson, Norris & Empson, 2001
<i>Neogloboquadrina acostaensis</i>	<i>Globorotalia acostaensis</i>	Blow, 1959
<i>Neogloboquadrina asanoi</i>	<i>Neogloboquadrina asanoi</i>	Mayia et.al., 1976
<i>Neogloboquadrina continua</i>	<i>Neogloboquadrina opima continua</i>	Blow, 1959
<i>Neogloboquadrina dutertrei</i>	<i>Globigerina dutertrei</i>	d'Orbigny, 1839
<i>Neogloboquadrina humerosa</i>	<i>Globorotalia humerosa</i>	Takayanagi & Saito, 1962
<i>Neogloboquadrina inglei</i>	<i>Neogloboquadrina inglei</i>	Kucera & Kennett, 2000
<i>Neogloboquadrina nympa</i>	<i>Neogloboquadrina mayeri nympa</i>	Jenkins, 1967
<i>Neogloboquadrina pachyderma</i>	<i>Aristopira pachyderma</i>	Ehrenberg, 1861

Species	Original Name	Author
<i>Orbulina bilobata</i>	<i>Orbulina bilobata</i>	d'Orbigny, 1864
<i>Orbulina suturalis</i>	<i>Orbulina suturalis</i>	Bronnimann, 1951
<i>Orbulina universa</i>	<i>Orbulina universa</i>	d'Orbigny, 1839
<i>Orbulinoides beckmanni</i>	<i>Orbulinoides beckmanni</i>	Saito, 1962
<i>Paracostellagerina libyca</i>	<i>Hedbergella libyca</i>	Barr, 1972
<i>Paragloborotalia griffinoides</i>	<i>Paragloborotalia griffinoides</i>	Olsson & Pearson, 2006
<i>Paragloborotalia kugleri</i>	<i>Globorotalia kugleri</i>	Bolli, 1957
<i>Paragloborotalia nana</i>	<i>Globorotalia opima nana</i>	Bolli, 1957
<i>Paragloborotalia? opima</i>	<i>Globorotalia opima opima</i>	Bolli, 1957
<i>Paragloborotalia? pseudocontinua</i>	<i>Globorotalia nana pseudocontinua</i>	Jenkins, 1967
<i>Paragloborotalia? pseudokugleri</i>	<i>Globorotalia pseudokugleri</i>	Blow, 1969
<i>Paraspiroplecta navarroensis</i>	<i>Heterohelix navarroensis</i>	Loeblich, 1951
<i>Parasubbotina aff. pseudobulloides</i>	<i>Parasubbotina aff. pseudobulloides</i>	Plummer, 1926
<i>Parasubbotina eoclava</i>	<i>Parasubbotina eoclava</i>	Coxal, Huber, & Pearson, 2003
<i>Parasubbotina griffinae</i>	<i>Globorotalia griffinae</i>	Blow, 1979
<i>Parasubbotina inaequispira</i>	<i>Globigerina inaequispira</i>	Subbotina, 1953
<i>Parasubbotina prebetica</i>	<i>Globigerina prebetica</i>	Martínez-Gallego & Cremades, 1978
<i>Parasubbotina pseudobulloides</i>	<i>Globigerina pseudobulloides</i>	Plummer, 1926
<i>Parasubbotina pseudowilsoni</i>	<i>Parasubbotina pseudowilsoni</i>	Olsson & Pearson, 2006
<i>Parasubbotina varianta</i>	<i>Globigerina varianta</i>	Subbotina, 1953
<i>Parasubbotina variospira</i>	<i>Globorotalia variospira</i>	Belford, 1984
<i>Parathalmanninella appenninica</i>	<i>Globotruncana appenninica</i>	Renz, 1936
<i>Parathalmanninella balernaensis</i>	<i>Globotruncana apenninica balernaensis</i>	Gandolfi, 1957
<i>Parathalmanninella gandolfii</i>	<i>Rotalipora appenninica gandolfii</i>	Luterbacher & Premoli-Silva, 1962

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<i>Parathalmanninella micheli</i>	<i>Rotalipora micheli</i>	Sacal & Debourle, 1957
<i>Parathalmanninella praebalernaensis</i>	<i>Rotalipora praebalernaensis</i>	Sigal, 1969
<i>Paraticinella eubejaouaensis</i>	<i>Paraticinella eubejaouaensis</i>	Randrianasolo & Anglada, 1998
<i>Parvularugoglobigerina alabamensis</i>	<i>Guembelitra alabamensis</i>	Liu & Olsson, 1992
<i>Parvularugoglobigerina eugubina</i>	<i>Globigerina anconitana</i>	Luterbacher & Premoli-Silva, 1964
<i>Parvularugoglobigerina extensa</i>	<i>Eoglobigerina extensa</i>	Blow, 1979
<i>Planoglobanomalina pseudoalgeriana</i>	<i>Planoglobanomalina pseudoalgeriana</i>	Olsson & Hemleben, 2006
<i>Planoglobulina acervulinoides</i>	<i>Planoglobulina acervulinoides</i>	Lehmann, 1963
<i>Planoglobulina carseyae</i>	<i>Planoglobulina carseyae</i>	Plummer, 1931
<i>Planoglobulina multicamerata</i>	<i>Planoglobulina multicamerata</i>	De Klasz, 1953
<i>Planoheterohelix moremani</i>	<i>Guembelina moremani</i>	Cushman, 1938
<i>Planoheterohelix postmoremani</i>	<i>Planoheterohelix postmoremani</i>	Georgescu & Huber, 2010
<i>Planomalina buxtorfi</i>	<i>Planulina buxtorfi</i>	Gandolfi, 1942
<i>Planomalina cheniouensis</i>	<i>Planulina cheniouensis</i>	Sigal, 1952
<i>Planorotalites capdevilensis</i>	<i>Globorotalia capdevilensis</i>	Cushman & Bermúdez, 1949
<i>Planorotalites pseudoscitula</i>	<i>Globorotalia pseudoscitula</i>	Glaessner, 1937
<i>Plummerita hantkeninoides</i>	<i>Ruglobigerina hantkeninoides</i>	Bronnimann, 1952
<i>Praeglobotruncana aumalensis</i>	<i>Praeglobotruncana aumalensis</i>	Sigal, 1952
<i>Praeglobotruncana delrioensis</i>	<i>Globorotalia delrioensis</i>	Plummer, 1931
<i>Praeglobotruncana gibba</i>	<i>Praeglobotruncana stephani gibba</i>	Klaus 1960
<i>Praeglobotruncana stephani</i>	<i>Globotruncana stephani</i>	Gandolfi, 1942
<i>Praehedbergella handousi</i>	<i>Caucasella handousi</i>	Salaj, 1984
<i>Praehedbergella pseudosigali</i>	<i>Praehedbergella pseudosigali</i>	Banner, Copestake & White, 1993
<i>Praehedbergella ruka</i>	<i>Praehedbergella ruka</i>	Banner, Copestake & White, 1993

Species	Original Name	Author
<i>Praehedbergella ruka var. contritus</i>	<i>Praehedbergella ruka contritus</i>	Banner, Copestake & White, 1993
<i>Praehedbergella ruka var. papillata</i>	<i>Praehedbergella ruka papillata</i>	Banner, Copestake & White, 1993
<i>Praehedbergella sigali</i>	<i>Hedbergella sigali</i>	Moullade, 1966
<i>Praehedbergella sigali var. compacta</i>	<i>Praehedbergella sigali compacta</i>	Banner, Copestake & White, 1993
<i>Praehedbergella tatianae</i>	<i>Praehedbergella tatianae</i>	Banner, Copestake & White, 1993
<i>Praehedbergella tuschepsensis</i>	<i>Globigerina tuschepsensis</i>	Antonova, 1964
<i>Praehedbergella tuschepsensis var. grigelisi</i>	<i>Praehedbergella grigelisae</i>	Banner & Desai, 1988
<i>Praehedbergella tuschepsensis var. perforare</i>	<i>Praehedbergella grigelisi perforae</i>	Banner, Copestake & White, 1993
<i>Praehedbergella yakovlevae</i>	<i>Praehedbergella yakovlevae</i>	BouDagher-Fadel, Banner & Whittaker, 1997
<i>Praemurica inconstans</i>	<i>Globigerina inconstans</i>	Subbotina, 1953
<i>Praemurica lozanoi</i>	<i>Globigerina lozanoi</i>	Colom, 1954
<i>Praemurica pseudoinconstans</i>	<i>Globorotalia pseudoinconstans</i>	Blow, 1979
<i>Praemurica taurica</i>	<i>Globigerina taurica</i>	Morozova, 1961
<i>Praemurica uncinata</i>	<i>Globorotalia uncinata</i>	Bolli, 1957
<i>Praeorbulina glomerosa circularis</i>	<i>Globigerinoides glomerosa circularis</i>	Blow, 1956
<i>Praeorbulina glomerosa curva</i>	<i>Globigerinoides glomerosa curva</i>	Blow, 1956
<i>Praeorbulina glomerosa glomerosa</i>	<i>Globigerinoides glomerosa glomerosa</i>	Blow, 1956
<i>Praeorbulina sicana</i>	<i>Praeorbulina sicana</i>	Di Stefani, 1950
<i>Praeorbulina transitoria</i>	<i>Globigerinoides transitoria</i>	Blow, 1956
<i>Protentella proluxa</i>	<i>Protentella proluxa</i>	Lipps, 1964
<i>Protentella clavaticamerata</i>	<i>Protentella clavaticamerata</i>	Jenkins, 1977
<i>Protentella navazuelensis</i>	<i>Protentella navazuelensis</i>	Molina, 1979
<i>Protentella nicobarensis</i>	<i>Protentella nicobarensis</i>	Srinivasan & Kennett, 1974
<i>Protoheterohelix obscura</i>	<i>Protoheterohelix obscura</i>	Georgescu & Huber, 2009

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<i>Protoheterohelix washitensis</i>	<i>Guembelina washitensis</i>	Tappan, 1940
<i>Pseudoglobigerina bolivariana</i>	<i>Globigerina wilsoni bolivariana</i>	Petters, 1954
<i>Pseudoguembelina costellifera</i>	<i>Pseudoguembelina costellifera</i>	Masters, 1977
<i>Pseudoguembelina costulata</i>	<i>Guembelina costulata</i>	Cushman, 1938
<i>Pseudoguembelina excolata</i>	<i>Guembelina excolata</i>	Cushman, 1926
<i>Pseudoguembelina hariaensis</i>	<i>Pseudoguembelina hariaensis</i>	Nederbragt, 1991
<i>Pseudoguembelina kempensis</i>	<i>Pseudoguembelina kempensis</i>	Esker, 1968
<i>Pseudoguembelina palpebra</i>	<i>Pseudoguembelina plapebra</i>	Bronnimann & Brown, 1953
<i>Pseudohastigerina micra</i>	<i>Nonion micrus</i>	Cole, 1927
<i>Pseudohastigerina naguewichiensis</i>	<i>Globigerinella naguewichiensis</i>	Myatliuk, 1950
<i>Pseudohastigerina sharkriverensis</i>	<i>Pseudohastigerina sharkriverensis</i>	Berggren & Olsson, 1967
<i>Pseudohastigerina wilcoxensis</i>	<i>Nonion wilcoxensis</i>	Cushman & Ponton, 1932
<i>Pseudotextularia elegans</i>	<i>Cuneolina elegans</i>	Rzehak, 1891
<i>Pseudotextularia intermedia</i>	<i>Pseudotextularia intermedia</i>	De Klasz, 1953
<i>Pseudothalmanninella klausii</i>	<i>Rotalipora klausii</i>	Lehmann, 1966
<i>Pseudothalmanninella subticiensis</i>	<i>Globotruncana ticiensis subticiensis</i>	Gandolfi, 1957
<i>Pseudothalmanninella tehamaensis</i>	<i>Rotalipora tehamaensis</i>	Marianos & Zingula, 1966
<i>Pseudothalmanninella ticiensis</i>	<i>Globotruncana ticiensis</i>	Gandolfi, 1942
<i>Pulleniatina finalis</i>	<i>Pulleniatina obliquiloculata finalis</i>	Banner & Blow, 1967
<i>Pulleniatina obliquiloculata</i>	<i>Pullenia sphaeroides obliquilata</i>	Parker & Jones, 1865
<i>Pulleniatina praecursor</i>	<i>Pulleniatina obliquiloculata</i>	Parker & Jones, 1967
<i>Pulleniatina primalis</i>	<i>Pulleniatina primalis</i>	Banner & Blow, 1967
<i>Pulleniatina spectabilis</i>	<i>Pulleniatina spectabilis</i>	Parker, 1965
<i>Racemiguembelina fructicosa</i>	<i>Guembelina fructicosa</i>	Egger, 1899

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<i>Racemiguembelina powelli</i>	<i>Racemiguembelina powelli</i>	Smith & Pessagno, 1973
<i>Radotruncana calcarata</i>	<i>Globotruncana calcarata</i>	Cushman, 1927
<i>Rectoguembelina cretacea</i>	<i>Rectoguembelina cretacea</i>	Cushman, 1932
<i>Rotalipora cushmani</i>	<i>Globorotalia cushmani</i>	Morrow, 1934
<i>Rotalipora montsalvensis</i>	<i>Globotruncana montsalvensis</i>	Mornod, 1949-50
<i>Rotalipora praemontsalensis</i>	<i>Rotalipora praemontsalensis</i>	Ion, 1976
<i>Rugoglobigerina hexacamerata</i>	<i>Rugoglobigerina reicheli hexacamerata</i>	Bronnimann, 1952
<i>Rugoglobigerina macrocephala</i>	<i>Rugoglobigerina macrocephala</i>	Bronnimann, 1952
<i>Rugoglobigerina milamensis</i>	<i>Rugoglobigerina milamensis</i>	Smith & Pessagno, 1973
<i>Rugoglobigerina pennyi</i>	<i>Rugoglobigerina rugosa pennyi</i>	Bronnimann, 1952
<i>Rugoglobigerina pilula</i>	<i>Rugoglobigerina pilula</i>	Belford, 1960
<i>Rugoglobigerina reicheli</i>	<i>Rugoglobigerina reicheli</i>	Bronnimann, 1952
<i>Rugoglobigerina rotundata</i>	<i>Rugoglobigerina rugosa rotundata</i>	Bronnimann, 1952
<i>Rugoglobigerina rugosa</i>	<i>Globigerina rugosa</i>	Plummer, 1926
<i>Rugoglobigerina scotti</i>	<i>Trinitella scotti</i>	Bronnimann, 1952
<i>Rugotruncana circumnodifer</i>	<i>Globigerina circumnodifer</i>	Finlay, 1940
<i>Rugotruncana subcircumnodifer</i>	<i>Globotruncana circumnodifer subcircumnodifer</i>	Gandolfi, 1955
<i>Rugotruncana subpennyi</i>	<i>Globotruncana pennyi subpennyi</i>	Gandolfi, 1955
<i>Schackoina cabri</i>	<i>Schackoina cabri</i>	Sigal, 1952
<i>Schackoina cenomana</i>	<i>Siderolina cenomana</i>	Schacko, 1897
<i>Schackoina cepedai</i>	<i>Hastigerinelloides cepedai</i>	Obregón de la Parra, 1959
<i>Schackoina multispinata</i>	<i>Schackoina multispinata</i>	Cushman & Wickenden, 1930
<i>Sigalia decoratissima</i>	<i>Ventilabrella decoratissima</i>	De Klasz, 1953
<i>Sphaeroidinella dehiscens</i>	<i>Sphaeroidina bulloides dehiscens</i>	Parker & Jones, 1865

Species	Original Name	Author
<i>Sphaeroidinellopsis disjuncta</i>	<i>Sphaeroidinella disjuncta</i>	Finlay, 1940
<i>Sphaeroidinellopsis kochi</i>	<i>Globigerina kochi</i>	Caudri, 1934
<i>Sphaeroidinellopsis paenedehiscens</i>	<i>Sphaeroidinellopsis subdehiscens paenedehiscens</i>	Blow, 1969
<i>Sphaeroidinellopsis seminulina</i>	<i>Globigerina seminulina</i>	Schwager, 1866
<i>Spiroplecta americana</i>	<i>Spiroplecta americana</i>	Ehrenberg, 1844
<i>Steineckia steinecki</i>	<i>Steineckia steinecki</i>	Georgescu, 2009
<i>Streptochilus globigerum</i>	<i>Textularia globigera</i>	Schwager, 1866
<i>Streptochilus martini</i>	<i>Textularia martini</i>	Pijpers, 1933
<i>Streptochilus pristinum</i>	<i>Streptochilus pristinum</i>	Bronnimann & Resig, 1971
<i>Streptochilus tokelauae</i>	<i>Streptochilus tokelauae</i>	Bronnimann & Resig, 1971
<i>Subbotina angiporoides</i>	<i>Globigerina angiporoides</i>	Hornibrook, 1965
<i>Subbotina cancellata</i>	<i>Subbotina triangularis cancellata</i>	Blow, 1979
<i>Subbotina corpulenta</i>	<i>Globigerina corpulenta</i>	Subbotina, 1953
<i>Subbotina crociapertura</i>	<i>Subbotina crociapertura</i>	Blow, 1979
<i>Subbotina eocaena</i>	<i>Globigerina eocaena</i>	Guembel, 1868
<i>Subbotina gortanii</i>	<i>Globigerina gortanii</i>	Borsetti, 1959
<i>Subbotina hagni</i>	<i>Globigerina hagni</i>	Gohrbandt, 1967
<i>Subbotina hornibrooki</i>	<i>Globigerina hornibrooki</i>	Bronnimann, 1952
<i>Subbotina jacksonensis</i>	<i>Globigerina rotundata jacksonensis</i>	Bandy, 1949
<i>Subbotina linaperta</i>	<i>Globigerina linaperta</i>	Finlay, 1939
<i>Subbotina minima</i>	<i>Subbotina angiporoides minima</i>	Jenkins, 1966/5
<i>Subbotina patagonica</i>	<i>Globigerina patagonica</i>	Todd & Kniker
<i>Subbotina roesnaesensis</i>	<i>Subbotina roesnaesensis</i>	Olsson & Berggren, 2006
<i>Subbotina senni</i>	<i>Sphaeroidinella senni</i>	Beckmann, 1953

Species	Original Name	Author
<i>Subbotina triangularis</i>	<i>Globigerina triangularis</i>	White, 1928
<i>Subbotina triloculinoides</i>	<i>Globigerina triloculinoides</i>	Plummer, 1926
<i>Subbotina trivialis</i>	<i>Globigerina trivialis</i>	Subbotina, 1953
<i>Subbotina utilisindex</i>	<i>Globigerina ulilisindex</i>	Jenkins & Orr, 1973
<i>Subbotina velascoensis</i>	<i>Globigerina velascoensis</i>	Cushman, 1925
<i>Subbotina yeguaensis</i>	<i>Globigerina yeguaensis</i>	Weinzierl & Applin, 1929
<i>Tenuitella anfracta</i>	<i>Globorotalia anfracta</i>	Parker, 1967
<i>Tenuitella clemenciae</i>	<i>Turborotalia clemenciae</i>	Bermúdez, 1961
<i>Tenuitella gemma</i>	<i>Globorotalia gemma</i>	Jenkins, 1966
<i>Tenuitella insolita</i>	<i>Globorotalia insolita</i>	Jenkins, 1966
<i>Tenuitella iota</i>	<i>Globigerinita iota</i>	Parker, 1962
<i>Tenuitella jamesi</i>	<i>Tenuitella jamesi</i>	Li, Radford & Banner, 1990
<i>Tenuitella minutissima</i>	<i>Tenuitella minutissima</i>	Bolli, 1957
<i>Tenuitella munda</i>	<i>Globorotalia munda</i>	Jenkins, 1966
<i>Tenuitella neoclemenciae</i>	<i>Tenuitella neoclemenciae</i>	Li, 1987
<i>Tenuitella patefacta</i>	<i>Praetenuitella patefacta</i>	Li, 1987
<i>Tenuitella postcretacea</i>	<i>Globigerina postcretacea</i>	Mjatliuk, 1950
<i>Tenuitella praegemma</i>	<i>Praetenuitella praegemma</i>	Li, 1987
<i>Tenuitella pseudoedita</i>	<i>Tenuitella pseudoedita</i>	Subbotina, 1960
<i>Tenuitella selleyi</i>	<i>Tenuitella selleyi</i>	Li, Radford & Banner, 1992
<i>Tenuitellinata juvenilis</i>	<i>Globigerina juvenilis</i>	Bolli, 1957
<i>Tenuitellinata praestainforthi</i>	<i>Tenuitellinata praestainforthi</i>	Blow, 1979
<i>Thalmanniella deecke</i>	<i>Rotalipora deecke</i>	Franke, 1925
<i>Thalmanniella multiloculata</i>	<i>Globorotalia? multiloculata</i>	Morrow, 1934

Species	Original Name	Author
<i>Thalmaninella brotzeni</i>	<i>Rotalipora brotzeni</i>	Sigal, 1948
<i>Thalmaninella globotruncanoides</i>	<i>Rotalipora globotruncanoides</i>	Sigal, 1948
<i>Thalmaninella greenhornensis</i>	<i>Globorotalia greenhornensis</i>	Morrow, 1934
<i>Thalmaninella reicheli</i>	<i>Globotruncana reicheli</i>	Mornod, 1950
<i>Ticinella bejaouensis</i>	<i>Ticinella roberti bejaouensis</i>	Sigal, 1966
<i>Ticinella madecassiana</i>	<i>Ticinella madecassiana</i>	Sigal, 1966
<i>Ticinella praeticinensis</i>	<i>Ticinella praeticinensis</i>	Sigal, 1966
<i>Ticinella primula</i>	<i>Ticinella primula</i>	Luterbacher & Schneider, 1963
<i>Ticinella raynaudi</i>	<i>Ticinella raynaudi</i>	Sigal, 1966
<i>Ticinella roberti</i>	<i>Anomalina roberti</i>	Gandolfi, 1942
<i>Truncorotalia cavernula</i>	<i>Globorotalia cavernula</i>	Bé, 1967
<i>Truncorotalia crassaformis</i>	<i>Globigerina crassaformis</i>	Galloway & Wissler, 1927
<i>Truncorotalia crassula</i>	<i>Globorotalia crassula</i>	Cushman & Stewart, 1930
<i>Truncorotalia tosaensis</i>	<i>Globorotalia tosaensis</i>	Takayanagi & Saito, 1962
<i>Truncorotalia truncatulinoides</i>	<i>Rotalia truncatulinoides</i>	d'Orbigny, 1839
<i>Turborotalia altispiroides</i>	<i>Turborotalia altispiroides</i>	Bermúdez, 1961
<i>Turborotalia ampliapertura</i>	<i>Globigerina ampliapertura</i>	Bolli, 1957
<i>Turborotalia cerroazulensis</i>	<i>Globigerina cerro-azulensis</i>	Cole, 1928
<i>Turborotalia cocoaensis</i>	<i>Globorotalia cocoaensis</i>	Cushman, 1928
<i>Turborotalia cunialensis</i>	<i>Globorotalia cerroazulensis cunialensis</i>	Toumarkine & Bolli, 1970
<i>Turborotalia frontosa</i>	<i>Globigerina frontosa</i>	Subbotina, 1953
<i>Turborotalia increbescens</i>	<i>Globigerina increbescens</i>	Bandy, 1949
<i>Turborotalia pomeroli</i>	<i>Globorotalia cerroazulensis pomeroli</i>	Toumarkine & Bolli, 1970
<i>Turborotalia possagnoensis</i>	<i>Globorotalia cerroazulensis possagnoensis</i>	Toumarkine & Bolli, 1970

Species	Original Name	Author
<i>Turborotalita carcoselleensis</i>	<i>Globorotaloides carcoselleensis</i>	Toumarkine & Bolli, 1975
<i>Turborotalita cristata</i>	<i>Globigerina cristata</i>	Heron-Allen & Earland, 1929
<i>Turborotalita humilis</i>	<i>Truncatulina humilis</i>	Brady, 1884
<i>Turborotalita praequineloba</i>	<i>Turborotalita praequineloba</i>	Hemleben & Olsson, 2006
<i>Whiteinella aprica</i>	<i>Whiteinella aprica</i>	Loeblich & Tappan, 1961
<i>Whiteinella archaeocretacea</i>	<i>Whiteinella archaeocretacea</i>	Pessagno, 1967
<i>Whiteinella baltica</i>	<i>Whiteinella baltica</i>	Douglas & Rankin, 1969
<i>Whiteinella brittonensis</i>	<i>Whiteinella brittonensis</i>	Loeblich & Tappan,
<i>Whiteinella inornata</i>	<i>Whiteinella inornata</i>	Bolli, 1957
<i>Whiteinella paradubia</i>	<i>Globigerina paradubia</i>	Sigal, 1952
<i>Wondersella athersuchi</i>	<i>Wondersella athersuchi</i>	Banner & Strank, 1987
<i>Woodringina claytonensis</i>	<i>Woodringina claytonensis</i>	Loeblich & Tappan, 1957
<i>Woodringina homerstownensis</i>	<i>Woodringina homerstownensis</i>	Olsson, 1960
<i>Zeaglobigerina apertura</i>	<i>Globigerina apertura</i>	Cushman, 1918
<i>Zeaglobigerina brazieri</i>	<i>Globigerina brazieri</i>	Jenkins, 1966
<i>Zeaglobigerina connecta</i>	<i>Globigerina woodi connecta</i>	Jenkins, 1964
<i>Zeaglobigerina decoraperta</i>	<i>Globigerina druryi decoraperta</i>	Takayanagi & Saito, 1962
<i>Zeaglobigerina druryi</i>	<i>Globigerina druryi</i>	Akers, 1955
<i>Zeaglobigerina nepenthes</i>	<i>Globigerina nepenthes</i>	Todd, 1957
<i>Zeaglobigerina rubescens</i>	<i>Globigerina rubescens</i>	Hofker, 1956
<i>Zeaglobigerina woodi</i>	<i>Globigerina woodi</i>	Jenkins, 1960
<i>Zeaglobigerina/(Globoturborotalita) connecta</i>	<i>Globigerina connecta</i>	Jenkins, 1964
<i>Zeaglobigerina/(Globoturborotalita) labiacrassata</i>	<i>Globigerina labiacrassata</i>	Jenkins, 1966
<i>Zeauvigerina aegyptiaca</i>	<i>Zeauvigerina aegyptiaca</i>	Said & Kenawy, 1956

Species	Original Name	Author
<i>Zeauvigerina lodoensis</i>	<i>Zeauvigerina lodoensis</i>	Martin, 1943
<i>Zeauvigerina parri</i>	<i>Zeauvigerina parri</i>	Finlay, 1939
<i>Zeauvigerina teuria</i>	<i>Zeauvigerina teuria</i>	Finlay, 1947
<i>Zeauvigerina virgata</i>	<i>Heterohelix virgata</i>	Khalilov, 1967
<i>Zeauvigerina waiparaensis</i>	<i>Chiloguembelina waiparaensis</i>	Jenkins, 1965
<i>Zeauvigerina zelandica</i>	<i>Zeauvigerina zelandica</i>	Finlay, 1939

Table 2. Planktic foraminifers' stratigraphic ranges used for the computation of diversity, extinction, and origination patterns. Data are calibrated to Gradstein's *et al.* (2012) time scale.

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Abathomphalus intermedius</i>	4.13	71.03	66.90	46
<i>Abathomphalus mayaroensis</i>	3.00	68.50	65.50	46
<i>Acarinina africana</i>	0.20	55.80	55.60	10
<i>Acarinina alticonica</i>	4.35	53.20	48.85	10
<i>Acarinina angulosa</i>	7.28	55.99	48.71	10
<i>Acarinina aquiensis</i>	5.90	60.10	54.20	12
<i>Acarinina aspensis</i>	0.64	50.10	49.46	10
<i>Acarinina boudreauxi</i>	6.85	49.89	43.04	10
<i>Acarinina bullbrooki</i>	9.95	49.65	39.70	10
<i>Acarinina coalingensis</i>	7.30	57.00	49.70	10, 9
<i>Acarinina collactea</i>	14.87	50.10	35.24	10
<i>Acarinina cuneicamerata</i>	6.61	50.60	43.99	10
<i>Acarinina echinata</i>	10.48	42.40	31.92	10
<i>Acarinina esnaensis</i>	5.44	56.71	51.27	10
<i>Acarinina esnehensis</i>	5.91	56.01	50.10	10
<i>Acarinina interposita</i>	4.00	54.10	50.10	10
<i>Acarinina mcgowrani</i>	11.75	49.65	37.90	10
<i>Acarinina mckannai</i>	2.39	58.94	56.55	10

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Acarinina medizzai</i>	5.58	41.63	36.05	10
<i>Acarinina nitida</i>	3.33	59.90	56.57	10
<i>Acarinina pentacamerata</i>	3.45	52.30	48.85	10
<i>Acarinina praetopilensis</i>	10.17	49.57	39.40	10
<i>Acarinina primitiva</i>	12.02	50.60	38.59	10
<i>Acarinina pseudosubphaerica</i>	8.62	50.02	41.40	10
<i>Acarinina pseudotopilensis</i>	6.89	55.80	48.92	10
<i>Acarinina punctocarinata</i>	9.21	48.91	39.70	10
<i>Acarinina quetra</i>	4.24	54.34	50.10	10
<i>Acarinina rohri</i>	4.03	42.06	38.03	10
<i>Acarinina sibaiaensis</i>	0.20	55.80	55.60	10
<i>Acarinina soldadoensis</i>	8.40	57.00	48.60	10
<i>Acarinina strabocella</i>	1.50	61.56	60.06	9
<i>Acarinina subphaerica</i>	5.80	59.90	54.10	10
<i>Acarinina topilensis</i>	2.70	42.40	39.70	10
<i>Acarinina wilcoxensis</i>	5.18	55.95	50.77	10
<i>Alanlordella aptiensis</i>	6.00	118.00	112.00	3
<i>Alanlordella banneri</i>	12.40	112.00	99.60	3
<i>Alanlordella bentonensis</i>	21.90	118.00	96.10	3
<i>Alanlordella praebuxtorfi</i>	6.20	105.80	99.60	3

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Archaeoglobigerina australis</i>	11.60	77.10	65.50	25
<i>Archaeoglobigerina bosquensis</i>	6.10	89.60	83.50	1
<i>Archaeoglobigerina cretacea</i>	16.90	89.00	72.10	5
<i>Archaeoglobigerina mateola</i>	7.50	73.00	65.50	25
<i>Archeaoglobigerina blowi</i>	23.40	88.90	65.50	5
<i>Ascoliella nitida</i>	21.40	121.00	99.60	3
<i>Ascoliella quadrata</i>	6.20	105.80	99.60	3
<i>Ascoliella scitula</i>	12.40	112.00	99.60	3
<i>Ascoliella voloshinae</i>	6.20	105.80	99.60	3
<i>Astrorotalia palmerae</i>	0.78	49.88	49.10	10
<i>Beella digitata</i>	1.93	1.93	0.00	8
<i>Beella praedigitata</i>	6.77	8.70	1.93	8
<i>Biglobigerinella barri</i>	9.00	121.00	112.00	3
<i>Biticinella breggiensis</i>	6.60	106.50	99.90	1
<i>Blefuscuiana albiana</i>	6.90	106.50	99.60	3
<i>Blefuscuiana aptiana</i>	24.20	130.00	105.80	3
<i>Blefuscuiana aptiana orientalis</i>	14.00	127.50	113.50	3
<i>Blefuscuiana convexa</i>	5.40	121.00	115.60	3
<i>Blefuscuiana daminiaie</i>	7.00	128.00	121.00	3
<i>Blefuscuiana excelsa</i>	4.00	125.00	121.00	3

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Blefuscuiana excelsa cumulus</i>	4.00	125.00	121.00	3
<i>Blefuscuiana gorbachikae</i>	19.20	125.00	105.80	3
<i>Blefuscuiana hexacamerata</i>	9.00	121.00	112.00	3
<i>Blefuscuiana hispanae</i>	8.00	120.00	112.00	3
<i>Blefuscuiana infracretacea</i>	18.50	124.30	105.80	3
<i>Blefuscuiana infracretacea occidentalis</i>	12.90	126.20	113.30	3
<i>Blefuscuiana kuznetzovae</i>	9.00	121.00	112.00	3
<i>Blefuscuiana laculata</i>	2.00	130.00	128.00	3
<i>Blefuscuiana laculata alobata</i>	2.00	130.00	128.00	3
<i>Blefuscuiana mitra</i>	9.00	121.00	112.00	3
<i>Blefuscuiana multicamerata</i>	9.00	121.00	112.00	3
<i>Blefuscuiana occulta</i>	13.00	125.00	112.00	3
<i>Blefuscuiana occulta</i> var. <i>perforocculata</i>	16.00	128.00	112.00	3
<i>Blefuscuiana praetrocoidea</i>	4.00	125.00	121.00	3
<i>Blefuscuiana primare</i>	7.00	128.00	121.00	3
<i>Blefuscuiana rudis</i>	5.00	130.00	125.00	3
<i>Blefuscuiana rudis</i> var. <i>pararudis</i>	9.00	130.00	121.00	3
<i>Blefuscuiana speetonensis</i>	9.50	116.00	106.50	3
<i>Blefuscuiana speetonensis</i> var. <i>tunisiensis</i>	6.20	112.00	105.80	3

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Blowiella blowi</i>	16.60	128.60	112.00	3
<i>Blowiella duboisi</i>	9.00	121.00	112.00	3
<i>Blowiella gottisi</i>	13.00	125.00	112.00	3
<i>Blowiella maridalensis</i>	9.00	121.00	112.00	3
<i>Blowiella moulladei</i>	4.10	122.40	118.30	3
<i>Blowiella solida</i>	9.00	121.00	112.00	3
<i>Bucherina sandidgei</i>	4.10	69.60	65.50	13
<i>Candeina nitida</i>	7.52	7.52	0.00	8
<i>Cassigerinella boudecensis</i>	7.06	23.03	15.97	1
<i>Cassigerinella chipolensis</i>	22.20	33.90	11.70	10, 8
<i>Cassigerinella eocaenica</i>	9.35	38.27	28.92	10
<i>Cassigerinella globulosa</i>	11.09	28.62	17.54	11
<i>Cassigerinella martinezpicoi</i>	13.75	28.45	14.70	11, 8
<i>Cassigerinelloita amekiensis</i>	6.01	49.92	43.90	10
<i>Catapsydrax africanus</i>	4.05	38.63	34.58	10
<i>Catapsydrax dissimilis</i>	6.69	37.44	30.76	10, 8
<i>Catapsydrax globiformis</i>	5.06	39.61	34.55	10
<i>Catapsydrax howei</i>	10.20	44.10	33.90	10
<i>Catapsydrax parvulus</i>	7.10	17.40	10.30	8
<i>Catapsydrax stainforthi</i>	4.85	22.05	17.20	8

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Catapsydrax unicavus</i>	37.51	55.01	17.50	10, 8
<i>Catapsydrax/Globorotaloides permicrus</i>	13.75	28.45	14.70	11
<i>Catapsydrax/Globorotaloides pliozea</i>	1.20	5.30	4.10	48
<i>Chiloguembelina crinita</i>	15.27	60.10	44.83	9, 10
<i>Chiloguembelina cubensis</i>	17.27	42.17	24.90	10
<i>Chiloguembelina midwayensis</i>	9.12	65.32	56.20	9
<i>Chiloguembelina morsei</i>	2.51	65.44	62.94	9
<i>Chiloguembelina ototara</i>	13.01	45.11	32.10	10
<i>Chiloguembelina parallela</i>	1.12	54.70	53.58	10
<i>Chiloguembelina subtriangularis</i>	2.16	62.70	60.54	9
<i>Chiloguembelina trinitatensis</i>	1.52	55.90	54.38	9, 10
<i>Chiloguembelina wilcoxensis</i>	4.67	58.30	53.63	9, 10
<i>Clavatorella bermudezi</i>	4.55	16.30	11.75	8
<i>Clavatorella nicobarensis</i>	5.10	9.10	4.00	8
<i>Claviblowiella minai</i>	9.00	121.00	112.00	3
<i>Claviblowiella saundersi</i>	10.80	121.40	110.60	3
<i>Claviblowiella sigali</i>	9.00	121.00	112.00	3
<i>Clavigerinella akersi</i>	7.07	49.06	41.99	10
<i>Clavigerinella caucasica</i>	0.31	49.06	48.75	10
<i>Clavigerinella colombiana</i>	6.44	49.06	42.62	10

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Clavigerinella eocanica</i>	15.11	49.37	34.26	10
<i>Clavigerinella jarvisi</i>	6.44	49.06	42.62	10
<i>Clavihedbergella moremani</i>	10.00	103.40	93.40	2
<i>Clavihedbergella subcretacea</i>	0.60	100.40	99.80	15
<i>Compactogerina stellapolaris</i>	4.60	150.80	146.20	3
<i>Conoglobigerina avarica</i>	2.84	169.04	166.20	3
<i>Conoglobigerina avariformis</i>	1.90	169.60	167.70	3
<i>Conoglobigerina balakhmatovae</i>	3.40	169.60	166.20	3
<i>Conoglobigerina caucasica</i>	3.20	145.50	142.30	3
<i>Conoglobigerina conica</i>	5.30	150.80	145.50	3
<i>Conoglobigerina dagestanica</i>	4.90	169.60	164.70	3
<i>Conoglobigerina gulekhensis</i>	3.20	145.50	142.30	3
<i>Conoglobigerina jurassica</i>	4.60	167.70	163.10	3
<i>Conoglobigerina meganomica</i>	1.20	163.70	162.50	3
<i>Conoglobigerina terquemi</i>	5.30	150.80	145.50	3
<i>Contusotruncana contusa</i>	6.50	72.00	65.50	5
<i>Contusotruncana fornicata</i>	15.30	83.50	68.20	46
<i>Contusotruncana patelliformis</i>	13.00	80.70	67.70	5
<i>Contusotruncana plicata</i>	6.40	72.40	66.00	5
<i>Contusotruncana plummerae</i>	9.00	80.80	71.80	5

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Contusotruncana walfischensis</i>	7.70	73.20	65.50	5
<i>Cribohantkenina inflata</i>	2.61	36.51	33.90	10
<i>Dentoglobigerina altispira</i>	20.43	23.03	2.60	8
<i>Dentoglobigerina altispira globosa</i>	22.49	26.85	4.36	8
<i>Dentoglobigerina galavisi</i>	13.72	38.62	24.90	10
<i>Dentoglobigerina globularis</i>	14.52	32.10	17.58	11
<i>Dentoglobigerina langhiana</i>	14.52	28.45	13.94	11
<i>Dentoglobigerina larmeui</i>	16.27	30.97	14.70	11
<i>Dentoglobigerina pseudovenezuelana</i>	9.27	36.92	27.65	10
<i>Dentoglobigerina tripartita</i>	13.46	38.36	24.90	10
<i>Dicarinella algeriana</i>	3.70	94.70	91.00	4
<i>Dicarinella asymetrica</i>	1.30	84.80	83.50	5
<i>Dicarinella concavata</i>	6.10	89.60	83.50	5
<i>Dicarinella hagni</i>	3.00	93.60	90.60	5
<i>Dicarinella imbricata</i>	6.80	93.90	87.10	5
<i>Dicarinella primitiva</i>	4.40	90.00	85.60	5
<i>Dipsidripella danvillensis</i>	6.70	43.00	36.30	10
<i>Dipsidripella liqianyui</i>	8.80	41.80	33.00	10
<i>Eoglobigerina edita</i>	3.63	65.43	61.80	9
<i>Eoglobigerina eobulloides</i>	1.37	65.48	64.11	9

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Eoglobigerina spiralis</i>	0.62	62.32	61.70	9
<i>Falsotruncana maslakovae</i>	2.80	91.60	88.80	1
<i>Favusella hiltermanni</i>	3.05	99.60	96.55	3
<i>Favusella hoterivica</i>	24.50	145.50	121.00	3
<i>Favusella stiftia</i>	11.40	136.40	125.00	3
<i>Favusella washitensis</i>	24.45	121.00	96.55	3
<i>Fleisherites glabrans</i>	4.80	70.30	65.50	19
<i>Fohsella birnageae</i>	2.60	17.30	14.70	8
<i>Fohsella fohsi</i>	0.30	12.30	12.00	6
<i>Fohsella lobata</i>	0.50	12.30	11.80	8
<i>Fohsella peripheroacuta</i>	1.65	13.65	12.00	6
<i>Fohsella peripheroronda</i>	10.48	22.30	11.82	6
<i>Fohsella praefohsi</i>	0.29	12.45	12.16	6
<i>Fohsella robusta</i>	0.20	12.20	12.00	6
<i>Gansserina gansseri</i>	6.50	72.00	65.50	46
<i>Gansserina wiedenmayeri</i>	7.70	73.20	65.50	5
<i>Globanomalina archeocompressa</i>	1.99	65.49	63.50	9
<i>Globanomalina australiformis</i>	12.78	56.07	43.29	10
<i>Globanomalina chapmani</i>	4.75	60.55	55.80	9
<i>Globanomalina compressa</i>	2.13	63.50	61.37	9

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Globanomalina ehrenbergi</i>	1.70	61.80	60.10	9
<i>Globanomalina imitata</i>	6.52	62.75	56.22	9, 10
<i>Globanomalina luxorensis</i>	-0.04	55.99	54.80	10
<i>Globanomalina ovalis</i>	3.18	57.00	53.82	10
<i>Globanomalina planocompressa</i>	2.77	65.38	62.61	9
<i>Globanomalina planoconica</i>	6.29	56.72	50.43	10
<i>Globanomalina pseudomenardii</i>	3.80	60.10	56.30	9
<i>Globigerina cariaensis</i>	1.81	1.81	0.00	1
<i>Globigerina euapertura</i>	16.20	30.37	14.17	11
<i>Globigerina fariasi</i>	13.72	28.42	14.70	11
<i>Globigerina occlusa</i>	7.42	27.85	20.43	11
<i>Globigerina officinalis</i>	25.49	42.69	17.20	10
<i>Globigerina ottnangiensis</i>	13.34	29.40	16.06	11
<i>Globigerina prasaepis</i>	15.19	32.10	16.91	11
<i>Globigerina umbilicata</i>	1.70	2.20	0.50	8
<i>Globigerina angulisuturalis</i>	5.60	27.50	21.90	40
<i>Globigerina angustiumbilicata</i>	29.80	33.00	3.20	38, 8
<i>Globigerina bulloides</i>	14.60	14.60	0.00	8
<i>Globigerina ciperoensis</i>	12.90	31.20	18.30	38, 8
<i>Globigerina eamesi</i>	24.75	26.85	2.10	8

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Globigerina falconensis</i>	17.20	17.20	0.00	8
<i>Globigerina praebulloides</i>	28.40	34.10	5.70	38, 8
<i>Globigerina quinqueloba</i>	21.08	21.08	0.00	8
<i>Globigerina venezuelana</i>	26.50	30.70	4.20	14, 1
<i>Globigerinatella insueta</i>	3.59	17.86	14.27	8
<i>Globigerinatheka barri</i>	7.36	43.84	36.48	10
<i>Globigerinatheka curryi</i>	2.97	43.81	40.84	10
<i>Globigerinatheka euganea</i>	2.44	41.91	39.47	10
<i>Globigerinatheka index</i>	8.79	43.29	34.50	10
<i>Globigerinatheka korotkovi</i>	9.04	44.77	35.72	10
<i>Globigerinatheka kugleri</i>	5.90	45.20	39.30	10
<i>Globigerinatheka luterbacheri</i>	5.08	39.58	34.50	10
<i>Globigerinatheka mexicana</i>	8.95	45.20	36.25	10
<i>Globigerinatheka rubriformis</i>	8.05	42.80	34.75	38
<i>Globigerinatheka semiinvoluta</i>	2.27	38.32	36.05	10
<i>Globigerinatheka subconglobata</i>	8.85	47.76	38.92	10
<i>Globigerinatheka tropicalis</i>	4.71	38.61	33.90	10
<i>Globigerinella adamsi</i>	1.81	1.81	0.00	1
<i>Globigerinella aequilateralis</i>	12.70	12.70	0.00	8
<i>Globigerinella calida</i>	3.85	3.85	0.00	8

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Globigerinella obesa</i>	26.85	26.85	0.00	8
<i>Globigerinella praesiphonifera</i>	10.45	22.20	11.75	8
<i>Globigerinella pseudobesa</i>	7.70	11.70	4.00	8
<i>Globigerinelloides algerianus</i>	2.90	120.20	117.30	3
<i>Globigerinelloides barri</i>	6.50	118.50	112.00	3
<i>Globigerinelloides blowi</i>	10.40	128.00	117.60	1
<i>Globigerinelloides escheri</i>	12.70	88.90	76.20	22
<i>Globigerinelloides ferreolensis</i>	9.00	121.00	112.00	3
<i>Globigerinelloides prairiehillensis</i>	10.20	79.60	69.40	1
<i>Globigerinelloides subcarinata</i>	9.80	75.30	65.50	1
<i>Globigerinelloides ultramicra</i>	25.70	100.40	74.70	1
<i>Globigerinita glutinata</i>	26.85	26.85	0.00	8
<i>Globigerinita incrusta</i>	13.68	27.85	14.17	11
<i>Globigerinita parkerae</i>	11.80	11.80	0.00	8
<i>Globigerinita uvula</i>	26.85	26.85	0.00	8
<i>Globigerinoides altiapertura</i>	4.18	21.08	16.90	8
<i>Globigerinoides bisphericus</i>	2.30	15.90	13.60	7
<i>Globigerinoides bollii</i>	10.80	13.00	2.20	8
<i>Globigerinoides bulloideus</i>	2.50	6.10	3.60	8
<i>Globigerinoides conglobatus</i>	5.70	5.70	0.00	8

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Globigerinoides diminutus</i>	3.23	17.40	14.17	8
<i>Globigerinoides extremus</i>	6.87	8.80	1.93	8
<i>Globigerinoides fistulosus</i>	0.57	2.50	1.93	8
<i>Globigerinoides immaturus</i>	18.70	18.70	0.00	8
<i>Globigerinoides inusitatus</i>	2.88	26.72	23.84	11
<i>Globigerinoides kennetti</i>	3.40	8.90	5.50	8
<i>Globigerinoides mitra</i>	5.50	17.50	12.00	8
<i>Globigerinoides obliquus</i>	18.50	20.50	2.00	8
<i>Globigerinoides parawoodi</i>	5.03	22.23	17.20	8
<i>Globigerinoides primordius</i>	9.22	26.80	17.58	40, 8
<i>Globigerinoides quadrilobatus</i>	17.53	17.53	0.00	8
<i>Globigerinoides ruber</i>	10.60	10.60	0.00	8
<i>Globigerinoides sacculifer</i>	17.50	17.50	0.00	8
<i>Globigerinoides seigliei</i>	3.60	9.10	5.50	8
<i>Globigerinoides sicanus</i>	2.71	16.91	14.20	8
<i>Globigerinoides subquadratus</i>	11.65	22.10	10.45	8
<i>Globigerinoides subsacculifer</i>	6.99	22.04	15.05	11
<i>Globigerinoides tenellus</i>	2.00	2.00	0.00	8
<i>Globigerinoides triloba</i>	21.03	22.20	1.17	8
<i>Globoconella conoidea</i>	9.30	14.90	5.60	8

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Globoconella conomiozea</i>	0.50	5.70	5.20	8
<i>Globoconella incognita</i>	2.70	19.90	17.20	8
<i>Globoconella inflata</i>	2.70	2.70	0.00	8
<i>Globoconella miozea</i>	7.37	17.20	9.83	8
<i>Globoconella panda</i>	8.90	14.60	5.70	8
<i>Globoconella puncticulata</i>	2.72	5.20	2.48	8
<i>Globoconella sphericomiozea</i>	0.60	5.50	4.90	8
<i>Globoconella zelandica</i>	2.64	17.54	14.90	8
<i>Globoconusa daubjergensis</i>	2.96	65.47	62.51	9
<i>Globoheterohelix paraglobulosa</i>	6.40	94.20	87.80	23
<i>Globoquadrina baroemonensis</i>	15.61	21.08	5.47	8
<i>Globoquadrina binaiensis</i>	6.28	25.58	19.30	8
<i>Globoquadrina conglomerata</i>	3.60	3.60	0.00	36
<i>Globoquadrina dehiscens</i>	16.93	22.40	5.47	8, 40
<i>Globoquadrina praedehiscens</i>	9.35	26.85	17.50	8
<i>Globoquadrina rohri</i>	18.67	32.10	13.43	11
<i>Globoquadrina sellii</i>	5.25	32.10	26.85	38, 8
<i>Globoquadrina tapuriensis</i>	9.13	34.07	24.94	38
<i>Globorotalia linguaensis</i>	5.00	12.00	7.00	8
<i>Globorotalia mediterranea</i>	2.40	8.10	5.70	6

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Globorotalia merotumida</i>	4.00	9.60	5.60	8
<i>Globorotalia nioclae</i>	2.20	6.80	4.60	6
<i>Globorotalia paralenguaensis</i>	2.20	10.20	8.00	8
<i>Globorotalia plesiotumida</i>	3.00	7.80	4.80	8
<i>Globorotalia praescitula</i>	3.39	17.49	14.10	8
<i>Globorotalia saheliana</i>	0.72	6.50	5.78	6
<i>Globorotalia suterae</i>	2.30	8.10	5.80	1
<i>Globorotalia flexulosa</i>	3.54	5.47	1.93	8
<i>Globorotalia tumida</i>	5.80	5.80	0.00	6
<i>Globorotalia ungulata</i>	2.70	2.70	0.00	8
<i>Globorotaloides eovariabilis</i>	16.76	48.98	32.21	10
<i>Globorotaloides hexagona</i>	17.40	17.40	0.00	8
<i>Globorotaloides quadrocameratus</i>	21.50	55.40	33.90	10
<i>Globorotaloides testarugosa</i>	5.55	27.85	22.30	11, 40
<i>Globorotaloides variabilis</i>	10.40	16.00	5.60	8
<i>Globotruncana aegyptiaca</i>	8.70	74.20	65.50	46
<i>Globotruncana arca</i>	16.40	83.50	67.10	5
<i>Globotruncana bulloides</i>	11.00	84.10	73.10	5
<i>Globotruncana dupeublei</i>	3.70	69.20	65.50	5
<i>Globotruncana esnehensis</i>	4.10	69.60	65.50	5

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Globotruncana falsostuarti</i>	4.90	70.40	65.50	5
<i>Globotruncana insignis</i>	12.60	78.50	65.90	5
<i>Globotruncana lapparenti</i>	10.70	83.90	73.20	1
<i>Globotruncana linneiana</i>	16.40	83.90	67.50	46
<i>Globotruncana mariei</i>	13.30	83.70	70.40	5
<i>Globotruncana nothi</i>	1.90	67.40	65.50	35
<i>Globotruncana orientalis</i>	12.10	81.80	69.70	5
<i>Globotruncana pseudoconica</i>	8.30	73.80	65.50	45
<i>Globotruncana rosetta</i>	13.50	79.00	65.50	5
<i>Globotruncana rugosa</i>	4.60	80.20	75.60	5
<i>Globotruncana ventricosa</i>	8.80	80.00	71.20	5
<i>Globotruncanella citae</i>	6.50	72.00	65.50	1
<i>Globotruncanella havanensis</i>	10.00	75.50	65.50	46
<i>Globotruncanella minuta</i>	4.80	70.30	65.50	5
<i>Globotruncanella petaloidea</i>	8.30	73.80	65.50	5
<i>Globotruncanella pschadae</i>	6.50	72.00	65.50	46
<i>Globotruncanella semsalensis</i>	3.50	74.20	70.70	46
<i>Globotruncanita atlantica</i>	4.50	80.10	75.60	5
<i>Globotruncanita conica</i>	6.40	71.90	65.50	5
<i>Globotruncanita elevata</i>	2.80	83.70	80.90	5

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Globotruncanita fareedi</i>	6.00	71.50	65.50	32
<i>Globotruncanita pettersi</i>	6.70	72.20	65.50	5
<i>Globotruncanita stuarti</i>	9.90	75.40	65.50	46
<i>Globotruncanita stuartiformis</i>	18.00	83.50	65.50	46
<i>Globotruncanita subspinosa</i>	7.80	79.70	71.90	5
<i>Globoturborotalita anguliofficialis</i>	7.45	34.75	27.30	16, 1
<i>Globoturborotalita bassriverencis</i>	13.75	55.40	41.66	10
<i>Globoturborotalita gnaucki</i>	5.19	35.56	30.37	10
<i>Globoturborotalita martini</i>	13.59	43.96	30.37	10
<i>Globoturborotalita ouachitaensis</i>	17.49	42.43	24.94	10
<i>Globuligerina bathoniana</i>	12.95	166.20	153.25	3
<i>Globuligerina calloviensis</i>	2.30	164.70	162.40	3
<i>Globuligerina oxfordiana</i>	2.75	161.20	158.45	3
<i>Gorbachikella anteroapertura</i>	13.00	134.00	121.00	3
<i>Gorbachikella depressa</i>	14.00	139.00	125.00	3
<i>Gorbachikella grandiapertura</i>	14.00	139.00	125.00	3
<i>Gorbachikella Kugleri</i>	15.40	136.40	121.00	3
<i>Gorbachikella neili</i>	10.70	139.00	128.30	3
<i>Gublerina acuta</i>	10.10	75.60	65.50	34
<i>Gublerina glaessneri</i>	6.50	72.00	65.50	41

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Guembelitra cenomana</i>	6.20	99.80	93.60	1
<i>Guembelitra cretacea</i>	8.07	72.50	64.43	1, 15
<i>Guembelitrioides nutalli</i>	7.20	48.60	41.40	10
<i>Haeuslerina helvetojurassica</i>	5.50	161.20	155.70	3
<i>Haeuslerina parva</i>	2.45	155.70	153.25	3
<i>Hantkenina alabamensis</i>	5.30	39.20	33.90	10
<i>Hantkenina australis</i>	3.40	41.40	38.00	10
<i>Hantkenina compressa</i>	6.58	40.48	33.90	10
<i>Hantkenina dumblei</i>	5.05	43.69	38.64	10
<i>Hantkenina lehneri</i>	4.25	44.68	40.43	10
<i>Hantkenina liebusi</i>	7.80	46.99	39.20	10
<i>Hantkenina mexicana</i>	5.23	48.70	43.47	10
<i>Hantkenina nangulanensis</i>	4.16	38.06	33.90	10
<i>Hantkenina primitiva</i>	5.50	39.40	33.90	10
<i>Hantkenina singanoae</i>	0.33	48.93	48.60	10
<i>Hartella harti</i>	2.20	67.70	65.50	19
<i>Hastigerina pelagica</i>	8.55	8.55	0.00	8
<i>Hastigerinoides alexanderi</i>	0.80	84.50	83.70	22
<i>Hastigerinoides atlanticus</i>	3.20	86.90	83.70	22
<i>Hastigerinoides clavata</i>	4.00	87.70	83.70	22

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Hastigerinoides subdigitata</i>	12.90	85.90	73.00	1
<i>Hastigerinoides watersi</i>	9.20	84.80	75.60	1
<i>Hastigerinopsis riedeli</i>	1.93	1.93	0.00	8
<i>Hedbergella delrioensis</i>	18.00	104.50	86.50	15
<i>Hedbergella flandrini</i>	4.80	89.60	84.80	1
<i>Hedbergella hoelzli</i>	3.10	92.70	89.60	15
<i>Hedbergella holmdelensis</i>	23.82	89.30	65.49	2, 9
<i>Hedbergella maslakovae</i>	3.40	118.40	115.00	28
<i>Hedbergella monmouthensis</i>	2.57	68.05	65.49	9
<i>Hedbergella planispira</i>	29.70	113.20	83.50	28, 15
<i>Hedbergella praelibyca</i>	2.40	101.70	99.30	20
<i>Hedbergella punctata</i>	2.20	100.40	98.20	15
<i>Hedbergella simplex</i>	20.60	109.50	88.90	1
<i>Hedbergella sliteri</i>	5.00	70.50	65.50	25
<i>Hedbergella trocoidea</i>	6.31	119.04	112.74	3
<i>Helvetoglobotruncana? helvetica</i>	2.30	93.30	91.00	4
<i>Helvetoglobotruncana? praehelvetica</i>	3.10	93.90	90.80	4
<i>Hendersonia carinata</i>	8.50	83.90	75.40	19
<i>Hendersonia hendersoni</i>	8.70	84.30	75.60	18
<i>Hendersonia jerseyensis</i>	3.30	83.40	80.10	18

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Heterohelix americana</i>	9.90	93.40	83.50	23
<i>Heterohelix globulosa</i>	28.50	94.00	65.50	23
<i>Heterohelix olssoni</i>	0.20	95.80	95.60	23
<i>Heterohelix planata</i>	19.60	85.10	65.50	18
<i>Heterohelix punctulata</i>	18.20	83.70	65.50	34
<i>Heterohelix reussi</i>	9.80	93.30	83.50	1
<i>Heterohelix semicostata</i>	2.70	77.00	74.30	34
<i>Heterohelix striata</i>	15.90	81.40	65.50	2
<i>Hirsutella bermudezi</i>	1.93	1.93	0.00	8
<i>Hirsutella challengerii</i>	4.87	14.70	9.83	8
<i>Hirsutella cibaoensis</i>	3.00	7.60	4.60	8
<i>Hirsutella hirsuta</i>	2.50	2.50	0.00	8
<i>Hirsutella juanai</i>	3.93	9.40	5.47	8
<i>Hirsutella margaritae</i>	2.57	5.47	2.90	8
<i>Hirsutella scitula</i>	14.50	14.50	0.00	8
<i>Hirsutella theyeri</i>	3.50	3.50	0.00	8
<i>Huberella huberi</i>	3.40	92.80	89.40	14
<i>Huberella praehuberi</i>	3.00	93.00	90.00	14
<i>Igorina albeari</i>	4.40	60.70	56.30	9
<i>Igorina anapetes</i>	4.00	46.80	42.80	10

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Igorina broedermanni</i>	12.83	55.90	43.07	10
<i>Igorina convexa</i>	11.10	56.30	45.20	38
<i>Igorina lodoensis</i>	5.84	56.19	50.35	10
<i>Igorina pusilla</i>	1.45	61.70	60.25	9
<i>Igorina tadjikistanensis</i>	4.90	60.70	55.80	10
<i>Jenkinsella acrostoma</i>	8.90	22.40	13.50	8
<i>Jenkinsella bella</i>	5.48	21.08	15.60	8
<i>Jenkinsella columbiana</i>	16.07	55.47	39.40	10
<i>Jenkinsella mayeri</i>	14.86	24.94	10.08	8
<i>Jenkinsella semivera</i>	14.10	29.40	15.30	8
<i>Jenkinsella siakensis</i>	16.87	26.85	9.98	8
<i>Jenkinsella triseriata</i>	8.70	50.10	41.40	10
<i>Laeviheterohelix pulchra</i>	12.00	87.60	75.60	16
<i>Laeviheterohelix reniformis</i>	5.80	81.40	75.60	16
<i>Leupoldina protuberans</i>	17.50	125.80	108.30	3
<i>Lilliputianella bizonae</i>	9.00	121.00	112.00	3
<i>Lilliputianella globulifera</i>	13.80	125.80	112.00	3
<i>Lilliputianella kuhryi</i>	10.60	122.60	112.00	3
<i>Lilliputianella labocaensis</i>	9.00	121.00	112.00	3
<i>Lilliputianella longorii</i>	9.00	121.00	112.00	3

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Lilliputianella roblesae</i>	9.00	121.00	112.00	3
<i>Lilliputianelloides eocretaceus</i>	3.70	128.70	125.00	3
<i>Lipsonia lipsonae</i>	1.50	67.00	65.50	17
<i>Liueella falklandica</i>	4.20	83.50	79.30	15
<i>Marginotruncana canaliculata</i>	9.40	93.70	84.30	2
<i>Marginotruncana coronata</i>	6.90	91.40	84.50	5
<i>Marginotruncana marginata</i>	10.30	91.00	80.70	5
<i>Marginotruncana marianosi</i>	1.20	91.70	90.50	5
<i>Marginotruncana paraconcovata</i>	5.60	90.30	84.70	5
<i>Marginotruncana pseudolinneiana</i>	8.60	92.10	83.50	5
<i>Marginotruncana renzi</i>	3.70	92.70	89.00	5
<i>Marginotruncana schneegansi</i>	6.90	92.40	85.50	5
<i>Marginotruncana sigali</i>	6.70	92.20	85.50	5
<i>Marginotruncana sinuosa</i>	6.70	89.70	83.00	5
<i>Marginotruncana tarfayaensis</i>	6.90	90.00	83.10	5
<i>Marginotruncana undulata</i>	7.40	90.70	83.30	5
<i>Menardella archeomenardii</i>	1.40	15.20	13.80	8
<i>Menardella exilis</i>	3.57	5.50	1.93	8
<i>Menardella limbata</i>	8.64	10.80	2.16	8
<i>Menardella menardii</i>	12.30	12.30	0.00	8

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Menardella miocenica</i>	1.60	3.00	1.40	8
<i>Menardella multicamerata</i>	4.30	6.40	2.10	8
<i>Menardella pertenuis</i>	1.10	2.80	1.70	8
<i>Menardella praemenardii</i>	1.90	14.10	12.20	8
<i>Menardella pseudomiocenica</i>	1.84	2.54	0.70	2
<i>Morozovella acuta</i>	4.10	59.90	55.80	9
<i>Morozovella acutispira</i>	3.31	60.19	56.88	9
<i>Morozovella aequa</i>	6.40	57.00	50.60	10
<i>Morozovella allisonensis</i>	0.20	55.80	55.60	10
<i>Morozovella angulata</i>	1.73	61.70	59.97	9
<i>Morozovella apantesma</i>	5.79	60.70	54.92	9
<i>Morozovella aragonensis</i>	9.50	52.30	42.80	10
<i>Morozovella caucasica</i>	4.39	50.60	46.21	10
<i>Morozovella conicotruncata</i>	1.62	61.58	59.97	9
<i>Morozovella crater</i>	9.94	53.51	43.57	10
<i>Morozovella dolabrata</i>	1.10	51.45	50.35	38
<i>Morozovella edgari</i>	1.04	55.14	54.10	10
<i>Morozovella formosa</i>	4.00	54.10	50.10	10
<i>Morozovella gracilis</i>	5.43	56.03	50.60	10
<i>Morozovella lensiformis</i>	3.71	54.10	50.39	10

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Morozovella marginodentata</i>	4.41	55.91	51.49	10
<i>Morozovella occlusa</i>	5.46	60.16	54.70	10
<i>Morozovella pasionensis</i>	5.63	60.33	54.70	10
<i>Morozovella praeangulata</i>	1.27	61.90	60.63	9
<i>Morozovella subbotinae</i>	5.70	56.30	50.60	10
<i>Morozovella trinidadensis</i>	1.75	63.50	61.75	2
<i>Morozovella velascoensis</i>	4.75	60.55	55.80	9
<i>Morozovelloides bandyi</i>	7.85	49.25	41.40	10
<i>Morozovelloides coronatus</i>	7.45	46.91	39.47	10
<i>Morozovelloides crassatus</i>	10.03	47.93	37.90	10
<i>Morozovelloides lehneri</i>	6.17	45.65	39.48	10
<i>Mutabella mirabilis</i>	3.90	17.50	13.60	39
<i>Neogloboquadrina acostaensis</i>	6.83	9.83	3.00	8
<i>Neogloboquadrina asanoi</i>	2.40	4.20	1.80	33
<i>Neogloboquadrina continua</i>	13.59	23.03	9.44	8
<i>Neogloboquadrina dutertrei</i>	2.25	2.25	0.00	8
<i>Neogloboquadrina humerosa</i>	4.26	5.60	1.34	8
<i>Neogloboquadrina inglei</i>	0.80	1.50	0.70	26
<i>Neogloboquadrina nympa</i>	2.90	14.10	11.20	18
<i>Neogloboquadrina pachyderma</i>	9.83	9.83	0.00	8

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Orbulina bilobata</i>	3.52	5.33	1.81	2
<i>Orbulina suturalis</i>	14.70	14.70	0.00	8
<i>Orbulina universa</i>	14.50	14.50	0.00	8
<i>Orbulinoides beckmanni</i>	0.30	39.70	39.40	10
<i>Paracostellagerina libyca</i>	1.90	100.80	98.90	20
<i>Paragloborotalia griffinoides</i>	21.90	55.80	33.90	10
<i>Paragloborotalia kugleri</i>	2.23	23.03	20.80	40
<i>Paragloborotalia nana</i>	23.05	48.95	25.90	2
<i>Paragloborotalia? opima</i>	2.55	29.40	26.85	38
<i>Paragloborotalia? pseudocontinua</i>	12.82	30.37	17.55	11
<i>Paragloborotalia? pseudokugleri</i>	3.70	24.50	20.80	40
<i>Paraspiroplecta navarroensis</i>	10.30	75.80	65.50	19
<i>Parasubbotina aff. pseudobulloides</i>	0.16	65.48	65.32	9
<i>Parasubbotina eoelava</i>	5.60	49.67	44.07	10
<i>Parasubbotina griffinae</i>	12.18	49.26	37.08	10
<i>Parasubbotina inaequispira</i>	8.99	55.80	46.81	10
<i>Parasubbotina prebetica</i>	0.67	51.45	50.78	10
<i>Parasubbotina pseudobulloides</i>	5.13	65.32	60.19	9
<i>Parasubbotina pseudowilsoni</i>	9.23	49.06	39.83	10
<i>Parasubbotina varianta</i>	7.70	63.50	55.80	9

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Parasubbotina variospira</i>	1.68	61.70	60.02	9
<i>Parathalmaninella appenninica</i>	5.70	101.00	95.30	31
<i>Parathalmaninella balernaensis</i>	4.40	99.80	95.40	31
<i>Parathalmaninella gandolfii</i>	5.30	99.80	94.50	31
<i>Parathalmaninella micheli</i>	0.80	96.50	95.70	31
<i>Parathalmaninella praebalernaensis</i>	1.90	102.50	100.60	31
<i>Paraticinella eubejaouaensis</i>	1.70	114.50	112.80	42
<i>Parvularugoglobigerina alabamensis</i>	4.96	65.49	60.52	9
<i>Parvularugoglobigerina eugubina</i>	0.20	65.47	65.27	9
<i>Parvularugoglobigerina extensa</i>	0.21	65.49	65.27	9
<i>Planoglobanomalina pseudoalgeriana</i>	3.93	50.50	46.57	10
<i>Planoglobulina acervulinoides</i>	6.50	72.00	65.50	41
<i>Planoglobulina carseyae</i>	6.50	72.00	65.50	41
<i>Planoglobulina multicamerata</i>	4.10	76.10	72.00	41
<i>Planoheterohelix moremani</i>	4.70	95.70	91.00	23
<i>Planoheterohelix postmoremani</i>	6.80	94.20	87.40	23
<i>Planomalina buxtorfi</i>	12.30	105.80	93.50	3
<i>Planomalina cheniourensis</i>	3.00	115.00	112.00	3
<i>Planorotalites capdevilensis</i>	13.46	50.10	36.64	10
<i>Planorotalites pseudoscitula</i>	7.56	56.30	48.74	10

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Plummerita hantkeninoides</i>	10.10	75.60	65.50	5
<i>Praeglobotruncana aumalensis</i>	3.60	94.80	91.20	4
<i>Praeglobotruncana delrioensis</i>	8.90	104.10	95.20	46
<i>Praeglobotruncana gibba</i>	4.60	95.60	91.00	4
<i>Praeglobotruncana stephani</i>	8.60	100.10	91.50	4
<i>Praehedbergella handousi</i>	2.40	136.40	134.00	3
<i>Praehedbergella pseudosigali</i>	3.00	128.00	125.00	3
<i>Praehedbergella ruka</i>	4.00	125.00	121.00	3
<i>Praehedbergella ruka</i> var. <i>contritus</i>	13.00	125.00	112.00	3
<i>Praehedbergella ruka</i> var. <i>papillata</i>	4.00	125.00	121.00	3
<i>Praehedbergella sigali</i>	9.00	130.00	121.00	3
<i>Praehedbergella sigali</i> var. <i>compacta</i>	9.00	130.00	121.00	3
<i>Praehedbergella tatianae</i>	9.00	121.00	112.00	3
<i>Praehedbergella tuschepsensis</i>	2.00	130.00	128.00	3
<i>Praehedbergella tuschepsensis</i> var. <i>grigelisi</i>	9.00	121.00	112.00	3
<i>Praehedbergella tuschepsensis</i> var. <i>perforare</i>	18.00	130.00	112.00	3
<i>Praehedbergella yakovlevae</i>	9.00	130.00	121.00	3
<i>Praemurica inconstans</i>	2.22	63.50	61.28	9
<i>Praemurica lozanoi</i>	7.43	50.35	42.92	10
<i>Praemurica pseudoinconstans</i>	3.48	65.35	61.87	9

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Praemurica taurica</i>	2.37	65.48	63.11	9
<i>Praemurica uncinata</i>	0.62	61.90	61.28	9
<i>Praeorbulina glomerosa circularis</i>	0.90	15.20	14.30	8
<i>Praeorbulina glomerosa curva</i>	1.60	16.10	14.50	8
<i>Praeorbulina glomerosa glomerosa</i>	1.20	15.70	14.50	8
<i>Praeorbulina sicana</i>	2.40	16.40	14.00	2
<i>Praeorbulina transitoria</i>	0.90	15.30	14.40	8
<i>Protentella proluxa</i>	1.35	11.80	10.45	8
<i>Protentella clavaticamerata</i>	2.28	24.88	22.60	11
<i>Protentella navazuelensis</i>	4.01	25.93	21.92	11
<i>Protentella nicobarensis</i>	9.62	28.08	18.46	11
<i>Protoheterohelix obscura</i>	8.60	99.70	91.10	23
<i>Protoheterohelix washitensis</i>	11.10	102.10	91.00	23
<i>Pseudoglobigerina bolivariana</i>	6.95	49.15	42.20	10
<i>Pseudoguembelina costellifera</i>	10.60	76.10	65.50	14
<i>Pseudoguembelina costulata</i>	10.40	75.90	65.50	14
<i>Pseudoguembelina excolata</i>	7.80	73.30	65.50	14
<i>Pseudoguembelina hariaensis</i>	1.90	67.40	65.50	34
<i>Pseudoguembelina kempensis</i>	4.90	70.40	65.50	14
<i>Pseudoguembelina palpebra</i>	4.70	70.20	65.50	14

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Pseudohastigerina micra</i>	16.92	49.34	32.42	10
<i>Pseudohastigerina nagewichiensis</i>	3.95	36.05	32.10	10
<i>Pseudohastigerina sharkriverensis</i>	10.55	49.34	38.78	10
<i>Pseudohastigerina wilcoxensis</i>	13.14	55.60	42.47	10
<i>Pseudotextularia elegans</i>	14.10	79.60	65.50	2
<i>Pseudotextularia intermedia</i>	5.00	70.50	65.50	34
<i>Pseudothalmanninella klausii</i>	1.40	101.00	99.60	46
<i>Pseudothalmanninella subticiensis</i>	6.00	106.60	100.60	46
<i>Pseudothalmanninella tehamaensis</i>	0.90	100.20	99.30	46
<i>Pseudothalmanninella ticiensis</i>	4.00	104.00	100.00	46
<i>Pulleniatina finalis</i>	1.30	1.30	0.00	37
<i>Pulleniatina obliquiloculata</i>	3.70	3.70	0.00	8
<i>Pulleniatina praecursor</i>	3.00	5.10	2.10	8
<i>Pulleniatina primalis</i>	4.00	7.20	3.20	8
<i>Pulleniatina spectabilis</i>	1.90	5.60	3.70	8
<i>Racemiguembelina fructicosa</i>	5.30	70.80	65.50	2
<i>Racemiguembelina powelli</i>	4.50	70.00	65.50	44
<i>Radotruncana calcarata</i>	0.50	76.10	75.60	44
<i>Rectoguembelina cretacea</i>	8.90	70.60	61.70	9
<i>Rotalipora cushmani</i>	1.70	95.60	93.90	24

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Rotalipora montsalvensis</i>	3.60	97.50	93.90	24
<i>Rotalipora praemontsalensis</i>	1.60	95.80	94.20	24
<i>Rugoglobigerina hexacamerata</i>	8.80	74.30	65.50	21
<i>Rugoglobigerina macrocephala</i>	9.00	74.50	65.50	46
<i>Rugoglobigerina milamensis</i>	6.80	72.30	65.50	5
<i>Rugoglobigerina pennyi</i>	8.60	74.10	65.50	5
<i>Rugoglobigerina pilula</i>	4.70	84.20	79.50	5
<i>Rugoglobigerina reicheli</i>	6.80	72.30	65.50	5
<i>Rugoglobigerina rotundata</i>	6.70	72.20	65.50	5
<i>Rugoglobigerina rugosa</i>	15.00	80.50	65.50	2
<i>Rugoglobigerina scotti</i>	4.00	69.50	65.50	5
<i>Rugotruncana circumnodifer</i>	7.60	73.10	65.50	21
<i>Rugotruncana subcircumnodifer</i>	9.00	75.80	66.80	2
<i>Rugotruncana subpennyi</i>	5.70	74.20	68.50	2
<i>Schackoina cabri</i>	15.20	121.00	105.80	3
<i>Schackoina cenomana</i>	26.60	121.00	94.40	2
<i>Schackoina cepedai</i>	9.00	121.00	112.00	3
<i>Schackoina multispinata</i>	17.00	97.70	80.70	2
<i>Sigalia decoratissima</i>	0.90	84.60	83.70	34
<i>Sphaeroidinella dehiscens</i>	5.47	5.47	0	8

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Sphaeroidinellopsis disjuncta</i>	4.07	17.50	13.43	8
<i>Sphaeroidinellopsis kochi</i>	10.13	13.90	3.77	8
<i>Sphaeroidinellopsis paenedehiscens</i>	4.15	7.20	3.05	8
<i>Sphaeroidinellopsis seminulina</i>	14.70	17.00	2.3	8
<i>Spiroplecta americana</i>	4.90	70.40	65.5	19
<i>Steineckia steinecki</i>	1.00	90.60	89.6	16
<i>Streptochilus globigerum</i>	7.41	11.61	4.2	8
<i>Streptochilus martini</i>	9.55	42.59	33.04	10
<i>Streptochilus pristinum</i>	12.40	22.40	10	43
<i>Streptochilus tokelauae</i>	3.80	3.80	0	8
<i>Subbotina angiporoides</i>	12.00	41.40	29.4	10
<i>Subbotina cancellata</i>	4.82	62.28	57.46	9
<i>Subbotina corpulenta</i>	16.29	48.86	32.57	10
<i>Subbotina crociapertura</i>	9.19	48.66	39.47	10
<i>Subbotina eocaena</i>	18.25	50.60	32.35	10
<i>Subbotina gortanii</i>	15.72	38.75	23.03	10
<i>Subbotina hagni</i>	14.99	49.15	34.16	10
<i>Subbotina hornibrooki</i>	3.50	55.98	52.48	10
<i>Subbotina jacksonensis</i>	9.97	43.87	33.9	10
<i>Subbotina linaperta</i>	18.16	52.06	33.9	10

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Subbotina minima</i>	8.60	46.90	38.3	12
<i>Subbotina patagonica</i>	11.33	58.06	46.73	10
<i>Subbotina roesnaesensis</i>	13.38	55.98	42.6	10
<i>Subbotina senni</i>	12.36	50.30	37.94	10
<i>Subbotina triangularis</i>	6.03	61.83	55.8	9
<i>Subbotina triloculinooides</i>	4.79	64.80	60.02	9
<i>Subbotina trivialis</i>	3.60	65.42	61.82	9
<i>Subbotina utilisindex</i>	7.22	35.62	28.4	10
<i>Subbotina velascoensis</i>	6.00	60.70	54.7	9
<i>Subbotina yeguaensis</i>	16.20	50.10	33.9	10
<i>Tenuitella anfracta</i>	5.60	5.60	0	8
<i>Tenuitella clemenciae</i>	14.48	21.08	6.6	8
<i>Tenuitella gemma</i>	9.26	34.20	24.94	10
<i>Tenuitella insolita</i>	1.16	35.80	34.64	10
<i>Tenuitella iota</i>	3.50	3.50	0	37
<i>Tenuitella jamesi</i>	3.21	16.91	13.7	30
<i>Tenuitella minutissima</i>	7.38	21.08	13.7	29
<i>Tenuitella munda</i>	7.34	30.37	23.03	8
<i>Tenuitella neoclemenciae</i>	17.93	32.10	14.17	11
<i>Tenuitella patefacta</i>	1.56	35.66	34.1	10

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Tenuitella postcretacea</i>	12.73	34.75	22.03	47
<i>Tenuitella praegemma</i>	1.74	35.09	33.35	10
<i>Tenuitella pseudoedita</i>	9.33	23.03	13.7	30
<i>Tenuitella selleyi</i>	3.79	17.49	13.7	30
<i>Tenuitellinata juvenilis</i>	14.93	29.10	14.17	11
<i>Tenuitellinata praestainforthi</i>	15.23	29.40	14.17	11
<i>Thalmanniella deeckeii</i>	0.83	95.63	94.8	31
<i>Thalmanniella multiloculata</i>	1.40	94.70	93.3	31
<i>Thalmanninella brotzeni</i>	5.50	99.60	94.1	31
<i>Thalmanninella globotruncanoides</i>	5.40	99.50	94.1	31
<i>Thalmanninella greenhornensis</i>	4.40	98.50	94.1	31
<i>Thalmanninella reicheli</i>	0.40	95.80	95.4	31
<i>Ticinella bejaouensis</i>	7.80	114.70	106.9	2
<i>Ticinella madecassiana</i>	1.20	100.80	99.6	2
<i>Ticinella praeticinensis</i>	4.30	106.90	102.6	2
<i>Ticinella primula</i>	10.70	110.80	100.1	2
<i>Ticinella raynaudi</i>	4.90	104.80	99.9	2
<i>Ticinella roberti</i>	3.81	104.42	100.61	28
<i>Truncorotalia cavernula</i>	1.00	1.00	0	8
<i>Truncorotalia crassaformis</i>	3.70	3.70	0	8

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Truncorotalia crassula</i>	2.70	4.40	1.7	8
<i>Truncorotalia tosaensis</i>	1.50	2.70	1.2	8
<i>Truncorotalia truncatulinoides</i>	1.93	1.93	0	8
<i>Turborotalia altispiroides</i>	2.64	40.03	37.4	10
<i>Turborotalia ampliapertura</i>	4.85	35.22	30.37	10, 48
<i>Turborotalia cerroazulensis</i>	6.92	41.01	34.09	10
<i>Turborotalia cocoaensis</i>	4.34	38.39	34.06	10
<i>Turborotalia cunialensis</i>	0.32	34.37	34.06	10
<i>Turborotalia frontosa</i>	9.56	49.56	40	10
<i>Turborotalia increbescens</i>	6.66	38.76	32.1	10, 27
<i>Turborotalia pomeroli</i>	7.46	42.36	34.9	10
<i>Turborotalia possagnoensis</i>	4.03	44.03	40	10
<i>Turborotalita carcoselleensis</i>	8.97	45.08	36.12	10
<i>Turborotalita cristata</i>	1.93	1.93	0	8
<i>Turborotalita humilis</i>	5.70	5.70	0	8
<i>Turborotalita praequinqueloba</i>	5.86	36.23	30.37	10
<i>Whiteinella aprica</i>	3.90	93.90	90	4, 5
<i>Whiteinella archaeocretacea</i>	5.10	93.80	88.7	4, 5
<i>Whiteinella baltica</i>	10.20	94.70	84.5	4, 5
<i>Whiteinella brittonensis</i>	10.00	94.30	84.3	4, 5

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Whiteinella inornata</i>	9.50	93.60	84.1	2
<i>Whiteinella paradubia</i>	10.10	94.40	84.3	4, 5
<i>Wondersella athersuchi</i>	5.50	115.00	109.5	3
<i>Woodringina claytonensis</i>	1.27	65.47	64.2	9
<i>Woodringina homerstownensis</i>	5.35	65.45	60.1	9
<i>Zeaglobigerina apertura</i>	7.03	9.83	2.8	8
<i>Zeaglobigerina brazieri</i>	7.53	23.03	15.5	8
<i>Zeaglobigerina connecta</i>	6.00	22.60	16.6	8
<i>Zeaglobigerina decoraperta</i>	12.57	14.50	1.93	8
<i>Zeaglobigerina druryi</i>	7.10	17.20	10.1	8
<i>Zeaglobigerina nepenthes</i>	8.60	11.40	2.8	8
<i>Zeaglobigerina rubescens</i>	3.50	3.50	0	8
<i>Zeaglobigerina woodi</i>	23.47	25.40	1.93	38, 8
<i>Zeaglobigerina/(Globoturborotalita) connecta</i>	6.06	22.97	16.91	8
<i>Zeaglobigerina/(Globoturborotalita) labiacrassata</i>	12.25	28.85	16.6	11
<i>Zeauvigerina aegyptiaca</i>	2.96	58.76	55.8	9
<i>Zeauvigerina lodoensis</i>	4.99	58.02	53.03	10
<i>Zeauvigerina parri</i>	9.00	49.18	40.19	10
<i>Zeauvigerina teuria</i>	5.49	62.79	57.31	9
<i>Zeauvigerina virgata</i>	8.08	63.88	55.8	9

Species	Range (Ma)	FAD (Ma)	LAD (Ma)	Reference(s)
<i>Zeauvigerina waiparaensis</i>	14.30	69.00	54.7	9
<i>Zeauvigerina zelandica</i>	18.45	55.60	37.15	10

Table 3. Datasets of planktic foraminifers range-through standing diversity, per-capita extinction and origination rates throughout the last 170 Ma of the Phanerozoic in time intervals of 1 Ma calibrated to Gradstein *et al.*'s (2012) time scale.

Time (Ma)	Diversity	Extinction rate	Origination rate
1.5	47	0.336472237	0.202940844
2.5	54	0.276253377	0.204794413
3.5	58	0.131028262	0.148420005
4.5	57	0.135801541	0.035718083
5.5	63	0.223143551	0.271933715
6.5	60	0.03509132	0.068992871
7.5	58	0.037041272	0.090151097
8.5	55	0	0.115512887
9.5	49	0.133531393	0.15415068
10.5	48	0.085157808	0.064538521
11.5	49	0.209091798	0.130620182
12.5	53	0.020619287	0.099090903
13.5	49	0.231801614	0.042559614
14.5	59	0.333491608	0.189242
15.5	68	0.078780878	0.093818755
16.5	67	0.09531018	0.09531018
17.5	67	0.182321557	0.277631737
18.5	61	0.03333642	0.016807118
19.5	62	0.016807118	0.016807118
20.5	62	0.048790164	0.016529302
21.5	64	0.053109825	0.1198012
22.5	60	0.090971778	0.339867826
23.5	47	0.021506205	0
24.5	48	0.127833372	0.065957968
25.5	51	0.021053409	0.061875404

Time (Ma)	Diversity	Extinction rate	Origination rate
26.5	49	0.050010421	0.207639365
27.5	42	0.055569851	0.133531393
28.5	39	0.062520357	0.176930708
29.5	35	0.033901552	0.159064695
30.5	31	0.182321557	0.182321557
31.5	31	0.033901552	0.033901552
32.5	31	0.277631737	0.21511138
33.5	33	0.340926587	0.030771659
34.5	45	0.268263987	0.143100844
35.5	51	0.042559614	0.122602322
36.5	47	0.15082289	0.067441281
37.5	51	0.148420005	0.019802627
38.5	58	0.099090903	0.189242
39.5	53	0.255933374	0.099090903
40.5	62	0.048790164	0.032789823
41.5	63	0.098440073	0.082691716
42.5	64	0.15415068	0.169899037
43.5	63	0.133531393	0.117783036
44.5	64	0	0.048009219
45.5	61	0.017699577	0.085522173
46.5	57	0.074107972	0.074107972
47.5	57	0	0.035718083
48.5	55	0.122602322	0.178691789
49.5	52	0.057158414	0.424883194
50.5	36	0.432864082	0.405465108
51.5	37	0.055569851	0.055569851
52.5	37	0.057158414	0.084557388
53.5	36	0.084557388	0.057158414
54.5	37	0.25489225	0.176930708

Time (Ma)	Diversity	Extinction rate	Origination rate
55.5	40	0.322773392	0.644357016
56.5	29	0.313657559	0.422856851
57.5	26	0.076961041	0.039220713
58.5	27	0	0.16034265
59.5	23	0.223143551	0.139761942
60.5	25	0.47957308	0.653926467
61.5	21	0.47957308	0.47957308
62.5	21	0.171850257	0.271933715
63.5	19	0.133531393	0.30538165
64.5	16	0.182321557	0.064538521
65.5	18	3.120895417	1.791759469
66.5	68	0.029413885	0.014815086
67.5	69	0.044451763	0.044451763
68.5	69	0.029852963	0.044451763
69.5	68	0.031748698	0.077558234
70.5	65	0.036367644	0.185403223
71.5	56	0.081678031	0.175204089
72.5	51	0.045462374	0.15082289
73.5	46	0.048790164	0.139761942
74.5	42	0.054067221	0.15415068
75.5	38	0.236388778	0.236388778
76.5	38	0.028987537	0.111225635
77.5	35	0	0.028987537
78.5	34	0	0.060624622
79.5	32	0.068992871	0.133531393
80.5	30	0.148420005	0.182321557
81.5	29	0	0.109199292
82.5	26	0.037740328	0
83.5	27	0.594707108	0.523248144

Time (Ma)	Diversity	Extinction rate	Origination rate
84.5	29	0.310154928	0.276253377
85.5	30	0.101782694	0.068992871
86.5	31	0.032789823	0.032789823
87.5	31	0.098440073	0.066691374
88.5	32	0.129211731	0.098440073
89.5	33	0.175890666	0.238411023
90.5	31	0.259511195	0.138150338
91.5	35	0.089612159	0.089612159
92.5	35	0	0.223143551
93.5	28	0.302280872	0.498991166
94.5	23	0.382992252	0.427444015
95.5	22	0.211309094	0.257829109
96.5	21	0.139761942	0.048790164
97.5	23	0	0.090971778
98.5	21	0.09531018	0.048790164
99.5	22	0.693147181	0.382992252
100.5	30	0.174353387	0.356674944
101.5	25	0	0.042559614
102.5	24	0.044451763	0.087011377
103.5	23	0	0.090971778
104.5	21	0	0.211309094
105.5	17	0.3254224	0.268263987
106.5	18	0.133531393	0.251314428
107.5	16	0	0
108.5	16	0.060624622	0
109.5	17	0.060624622	0.060624622
110.5	17	0.060624622	0.060624622
111.5	17	1.122142786	0.194156014
112.5	43	0.044451763	0

Time (Ma)	Diversity	Extinction rate	Origination rate
113.5	45	0.044451763	0.022472856
114.5	46	0.022989518	0.088947486
115.5	43	0.022989518	0.022989518
116.5	43	0	0
117.5	43	0.046520016	0.046520016
118.5	43	0.024097552	0.070617567
119.5	41	0	0.024097552
120.5	40	0.60077386	0.880358723
121.5	30	0	0.032789823
122.5	29	0	0.068992871
123.5	27	0	0
124.5	27	0.287682072	0.441832752
125.5	23	0	0.087011377
126.5	21	0	0.046520016
127.5	20	0.182321557	0.336472237
128.5	17	0.060624622	0.117783036
129.5	17	0	0.887303195
130.5	7	0	0
131.5	7	0	0
132.5	7	0	0
133.5	7	0.15415068	0.15415068
134.5	7	0	0
135.5	7	0	0
136.5	7	0	0.559615788
137.5	4	0	0
138.5	4	0	1.386294361
139.5	1	0	1.098612289
140.5	1	0	0
141.5	1	0	0

Time (Ma)	Diversity	Extinction rate	Origination rate
142.5	1	1.098612289	0
143.5	3	0	0
144.5	3	0	0
145.5	5	0	0.916290732
146.5	2	0.405465108	0
147.5	3	0	0
148.5	3	0	0
149.5	3	0.510825624	0
150.5	5	0	0.916290732
151.5	2	0	0
152.5	2	0	0
153.5	2	0	0
154.5	2	0	0
155.5	2	0.693147181	0.693147181
156.5	2	0	0
157.5	2	0	0
158.5	2	0.405465108	0
159.5	3	0	0
160.5	3	0	0
161.5	3	0	1.098612289
162.5	1	1.098612289	0
163.5	3	0.405465108	0.405465108
164.5	3	0.405465108	0.405465108
165.5	3	0	0
166.5	3	0.693147181	0.405465108
167.5	4	0.287682072	0.287682072
168.5	4	0	0.287682072

Table 4. First generalized difference values of planktic foraminifers standing diversity, per-capita extinction and origination rates throughout the last 170 Ma in time intervals of 1 Ma calibrated to Gradstein *et al.*'s (2012) geological time scale.

Time (Ma)	Δ Diversity	Δ Extinction rate	Δ Origination rate
1.5	-4.75	0.29	0.18
2.5	-1.58	0.25	0.19
3.5	3.38	0.11	0.14
4.5	-3.37	0.10	0.01
5.5	5.51	0.22	0.27
6.5	4.42	0.03	0.06
7.5	5.3	0.04	0.08
8.5	8.05	-0.02	0.10
9.5	3	0.12	0.15
10.5	1.05	0.05	0.05
11.5	-1.79	0.21	0.12
12.5	6.05	-0.02	0.09
13.5	-7.54	0.17	0.02
14.5	-6.16	0.32	0.18
15.5	3.8	0.06	0.08
16.5	2.8	0.06	0.07
17.5	8.55	0.18	0.28
18.5	1.59	0.03	0.02
19.5	2.59	0.01	0.02
20.5	0.67	0.04	0.00
21.5	6.51	0.04	0.09
22.5	14.96	0.09	0.34
23.5	1	0.00	-0.01
24.5	-0.87	0.12	0.06

Time (Ma)	Δ Diversity	Δ Extinction rate	Δ Origination rate
25.5	4.05	0.01	0.04
26.5	8.75	0.04	0.19
27.5	4.63	0.04	0.12
28.5	5.46	0.06	0.16
29.5	5.29	0.00	0.14
30.5	1.29	0.18	0.18
31.5	1.29	-0.01	0.01
32.5	-0.62	0.22	0.21
33.5	-10.12	0.30	0.02
34.5	-3.87	0.26	0.13
35.5	5.96	0.02	0.12
36.5	-1.87	0.13	0.07
37.5	-4.58	0.13	0.00
38.5	7.21	0.06	0.18
39.5	-6.41	0.25	0.10
40.5	1.63	0.03	0.02
41.5	1.67	0.07	0.07
42.5	3.63	0.13	0.16
43.5	1.67	0.13	0.11
44.5	5.55	0.00	0.04
45.5	6.38	0.01	0.08
46.5	2.38	0.07	0.07
47.5	4.3	-0.02	0.02
48.5	5.17	0.11	0.14
49.5	17.5	-0.02	0.38
50.5	0.54	0.42	0.40
51.5	1.54	0.05	0.05
52.5	2.5	0.04	0.08

Time (Ma)	Δ Diversity	Δ Extinction rate	Δ Origination rate
53.5	0.54	0.04	0.04
54.5	-1.33	0.20	0.11
55.5	12.21	0.27	0.60
56.5	4.09	0.30	0.42
57.5	0.13	0.08	0.02
58.5	4.96	-0.04	0.15
59.5	-0.96	0.14	0.08
60.5	4.88	0.40	0.61
61.5	0.88	0.45	0.45
62.5	2.79	0.15	0.24
63.5	3.67	0.10	0.30
64.5	-1.25	-0.35	-0.11
65.5	-47.16	3.12	1.79
66.5	1.88	0.02	0.01
67.5	2.88	0.04	0.04
68.5	3.84	0.02	0.04
69.5	5.71	0.03	0.06
70.5	11.34	0.02	0.17
71.5	7.13	0.07	0.16
72.5	6.92	0.04	0.14
73.5	5.75	0.04	0.12
74.5	5.59	0.01	0.13
75.5	1.59	0.23	0.23
76.5	4.46	0.03	0.11
77.5	2.42	0.00	0.02
78.5	3.34	-0.01	0.05
79.5	3.25	0.04	0.12
80.5	2.21	0.15	0.17

Time (Ma)	Δ Diversity	Δ Extinction rate	Δ Origination rate
81.5	4.09	-0.01	0.11
82.5	0.13	-0.06	-0.05
83.5	-0.79	0.54	0.50
84.5	0.25	0.29	0.27
85.5	0.29	0.10	0.07
86.5	1.29	0.02	0.03
87.5	0.34	0.08	0.06
88.5	0.38	0.10	0.07
89.5	3.29	0.13	0.22
90.5	-2.54	0.24	0.13
91.5	1.46	0.09	0.07
92.5	8.17	-0.05	0.17
93.5	5.96	0.24	0.46
94.5	1.92	0.35	0.40
95.5	1.88	0.19	0.25
96.5	-1.04	0.14	0.04
97.5	2.88	-0.02	0.09
98.5	-0.08	-0.02	0.01
99.5	-6.75	0.66	0.35
100.5	6.04	0.17	0.35
101.5	2	-0.01	0.03
102.5	1.96	0.04	0.08
103.5	2.88	0.00	0.07
104.5	4.71	-0.06	0.18
105.5	-0.25	0.30	0.24
106.5	2.67	0.13	0.25
107.5	0.67	-0.01	0.00
108.5	-0.29	0.05	-0.01

Time (Ma)	Δ Diversity	Δ Extinction rate	Δ Origination rate
109.5	0.71	0.05	0.05
110.5	0.71	-0.13	0.04
111.5	-24.2	1.11	0.19
112.5	-0.12	0.04	0.00
113.5	0.92	0.04	0.01
114.5	4.8	0.02	0.09
115.5	1.8	0.02	0.02
116.5	1.8	-0.01	0.00
117.5	1.8	0.04	0.04
118.5	3.71	0.02	0.07
119.5	2.67	-0.10	-0.06
120.5	11.25	0.60	0.88
121.5	2.21	0.00	0.03
122.5	3.13	0.00	0.07
123.5	1.13	-0.05	-0.04
124.5	4.96	0.29	0.43
125.5	2.88	0.00	0.08
126.5	1.84	-0.03	0.01
127.5	3.71	0.17	0.32
128.5	0.71	0.06	0.03
129.5	10.29	0.00	0.89
130.5	0.29	0.00	0.00
131.5	0.29	0.00	0.00
132.5	0.29	-0.03	-0.02
133.5	0.29	0.15	0.15
134.5	0.29	0.00	0.00
135.5	0.29	0.00	-0.06
136.5	3.17	0.00	0.56

Time (Ma)	Δ Diversity	Δ Extinction rate	Δ Origination rate
137.5	0.17	0.00	-0.14
138.5	3.04	0.00	1.28
139.5	0.04	0.00	1.10
140.5	0.04	0.00	0.00
141.5	0.04	-0.19	0.00
142.5	-1.87	1.10	0.00
143.5	0.13	0.00	0.00
144.5	-1.79	0.00	-0.09
145.5	3.08	-0.07	0.92
146.5	-0.87	0.41	0.00
147.5	0.13	0.00	0.00
148.5	0.13	-0.09	0.00
149.5	-1.79	0.51	-0.09
150.5	3.08	0.00	0.92
151.5	0.08	0.00	0.00
152.5	0.08	0.00	0.00
153.5	0.08	0.00	0.00
154.5	0.08	-0.12	-0.07
155.5	0.08	0.69	0.69
156.5	0.08	0.00	0.00
157.5	0.08	-0.07	0.00
158.5	-0.87	0.41	0.00
159.5	0.13	0.00	0.00
160.5	0.13	0.00	-0.11
161.5	2.04	-0.19	1.10
162.5	-1.87	1.03	-0.04
163.5	0.13	0.34	0.37
164.5	0.13	0.41	0.41

Time (Ma)	Δ Diversity	Δ Extinction rate	Δ Origination rate
165.5	0.13	-0.12	-0.04
166.5	-0.83	0.64	0.38
167.5	0.17	0.29	0.26

Table 5. Results of Spearman-rank-order correlation test, performed to establishing autocorrelation by comparing extinction and origination per-capita rates against themselves moved one time interval in the future (i.e., correlation of the variable with its points immediately after).

Correlation	ρ	P-value
Extinction rate - Lagged extinction rate	0.1708	0.0273
Origination rate - Lagged origination rate	0.0988	0.204

Table 6. Results of Spearman-rank-order correlation test, performed to establish whether long-term trends of extinction and origination per-capita rates are time correlated (i.e., cross correlation between variable and time).

Correlation	ρ	<i>p</i>-value
Extinction rate - Time	-0.2802	$2.34 \cdot 10^{-4}$
Origination rate - Time	-0.1923	0.0125

Table 7. Results of Shapiro-Wilk test for normal distribution, performed to the first generalized differences of extinction and origination per-capita rates datasets throughout the the planktic foraminifers history (~170 Ma to Recent) in time intervals of 1 Ma calibrated to Gradstein *et al.*'s (2012) geological time scale.

Distribution	W	p-value
Extinction rate	0.5293	$2.20 \cdot 10^{-16}$
Origination rate	0.6887	$2.20 \cdot 10^{-16}$

Table 8. Results obtained from the Spearman correlation tests between changes in planktic foraminifers extinction and origination per-capita rates and between changes in planktic foraminifers standing diversity and changes in both extinction and origination per-capita rates throughout the the planktic foraminifers history (~170 Ma to Recent).

Correlation	ρ	p-value
Δ Extinction rate - Δ Origination rate	0.4732	$1.07 \cdot 10^{-10}$
Δ Diversity- Δ Extinction rate	-0.2449	$1.42 \cdot 10^{-3}$
Δ Diversity- Δ Origination rate	0.3842	$2.96 \cdot 10^{-7}$

Table 9. Results of Shapiro-Wilk test for normal distribution, performed to the first generalized differences of planktic foraminifers extinction and origination per-capita rates datasets throughout mixed-house, greenhouse, and icehouse global climatic modes in time intervals of 1 Ma calibrated to Gradstein *et al.*'s (2012) geological time scale.

Climatic mode	Distribution	W	p-value
Mixed-house	Extinction rate	0.6920	$1.44 \cdot 10^{-10}$
Mixed-house	Origination rate	0.6970	$1.81 \cdot 10^{-10}$
Greenhouse	Extinction rate	0.4087	$1.66 \cdot 10^{-14}$
Greenhouse	Origination rate	0.6215	$1.78 \cdot 10^{-11}$
Icehouse	Extinction rate	0.9138	0.0073
Icehouse	Origination rate	0.9416	0.0518

Table 10. Results obtained from the Spearman correlation tests between changes in planktic foraminifers extinction and origination per-capita rates, and changes in standing diversity with changes in both extinction and origination per-capita rates throughout mixed-house, greenhouse, and icehouse global climatic modes in time intervals of 1 Ma calibrated to Gradstein *et al.*'s (2012) geological time scale.

Climatic mode	Correlation	ρ	P-value
Mixed-house	Δ Extinction rate - Δ Origination rate	0.2643	0.0307
Mixed-house	Δ Diversity- Δ Extinction rate	-0.2536	0.0384
Mixed-house	Δ Diversity- Δ Origination rate	0.4794	$4.06 \cdot 10^{-5}$
Greenhouse	Δ Extinction rate - Δ Origination rate	0.6659	$4.85 \cdot 10^{-9}$
Greenhouse	Δ Diversity- Δ Extinction rate	-0.3485	0.0051
Greenhouse	Δ Diversity- Δ Origination rate	0.2563	0.0426
Icehouse	Δ Extinction rate - Δ Origination rate	0.4248	0.0093
Icehouse	Δ Diversity- Δ Extinction rate	-0.5703	0.0002
Icehouse	Δ Diversity- Δ Origination rate	0.3713	0.0237

Table 11. Results obtained from the Kolmogorov-Smirnov equality of distribution test between both first and last occurrences data for pulse-turnover/coordinated stasis model and planktic foraminiferal empirical data.

Dataset	D	P-value
model	0.04	0.63
empirical	0.10	0.0018

Figure 1. Stratigraphic ranges of taxa spanning the 700 stratigraphic steps for the pulse-turnover - coordinated stasis scenario.

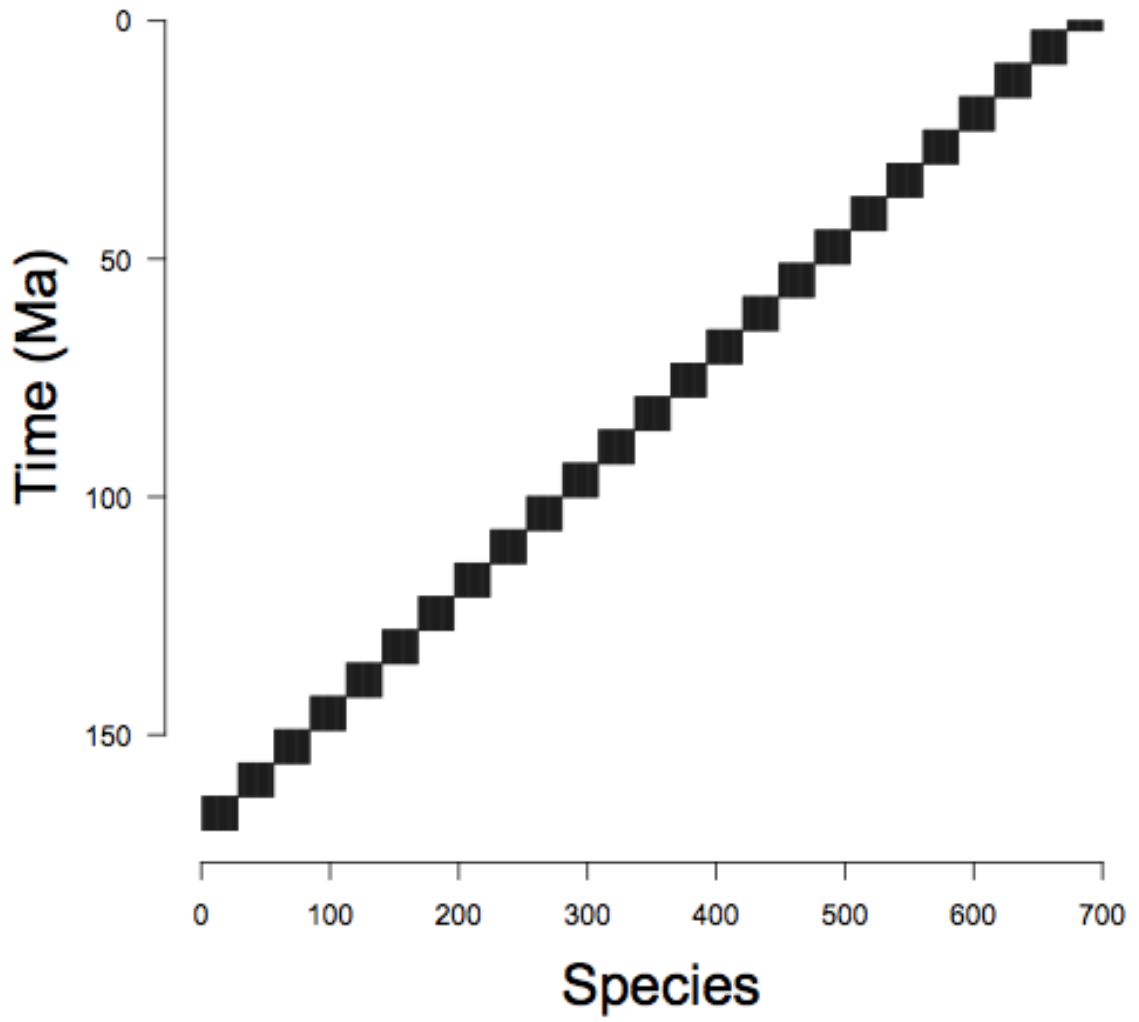


Figure 2. Histograms of first and last occurrences data of 700 simulated species for a pulse-turnover - coordinated stasis scenario. **a)** First occurrence data plotted as time-frequency histogram. **b)** Last occurrence data plotted as time-frequency histogram.

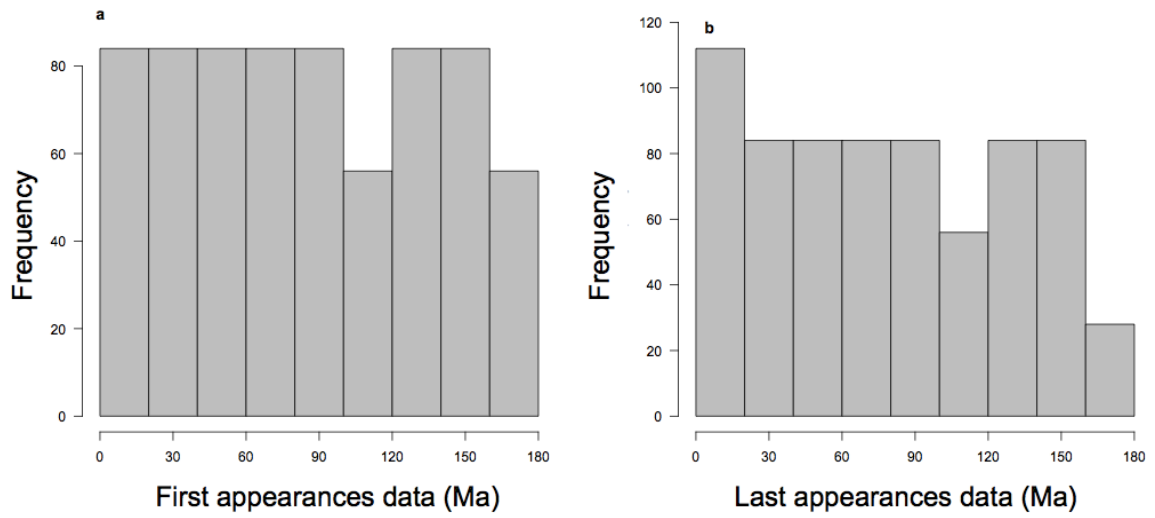


Figure 3. Stratigraphic ranges of planktic foraminifers throughout their fossil history arranged based on their first occurrence.

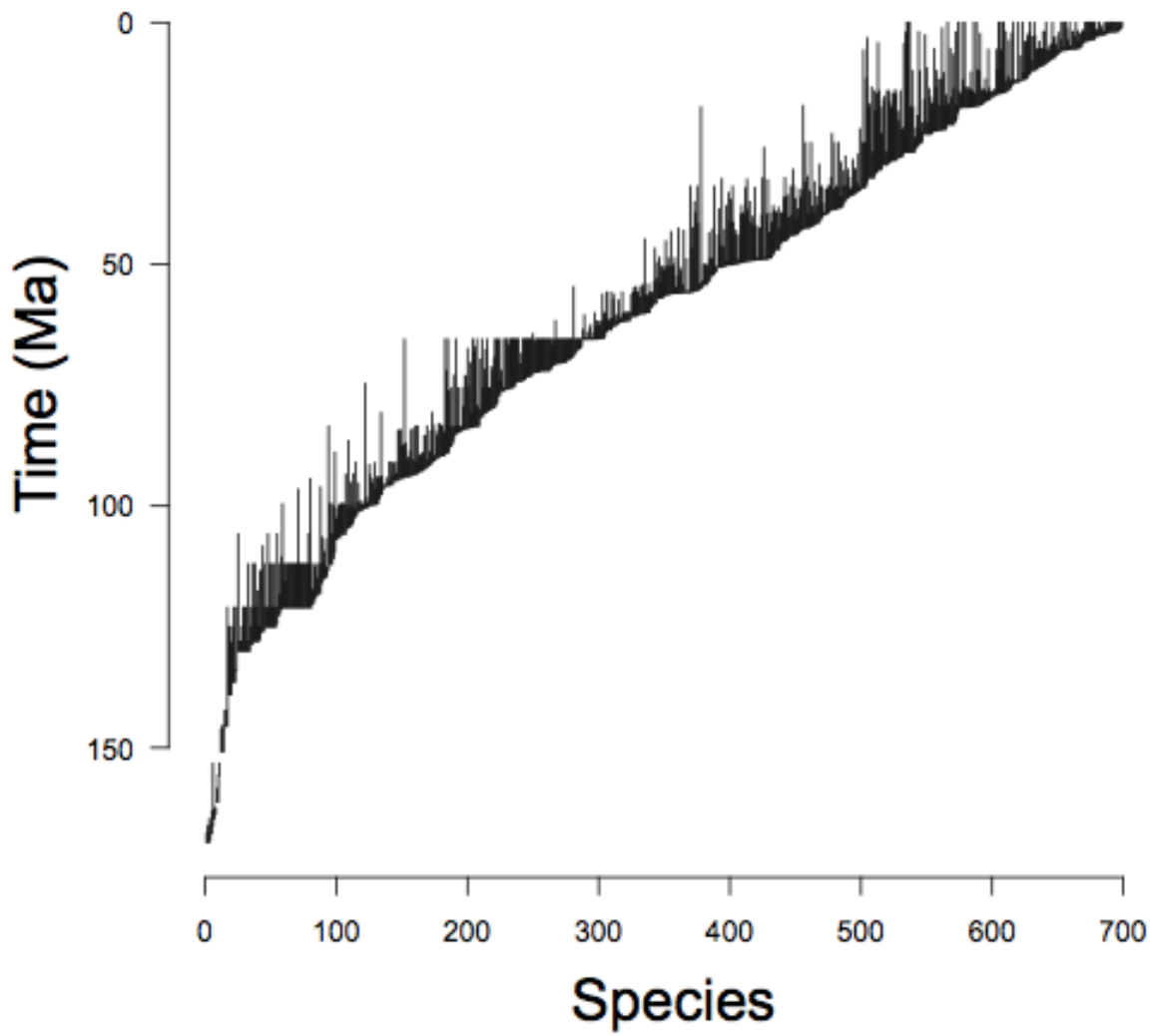
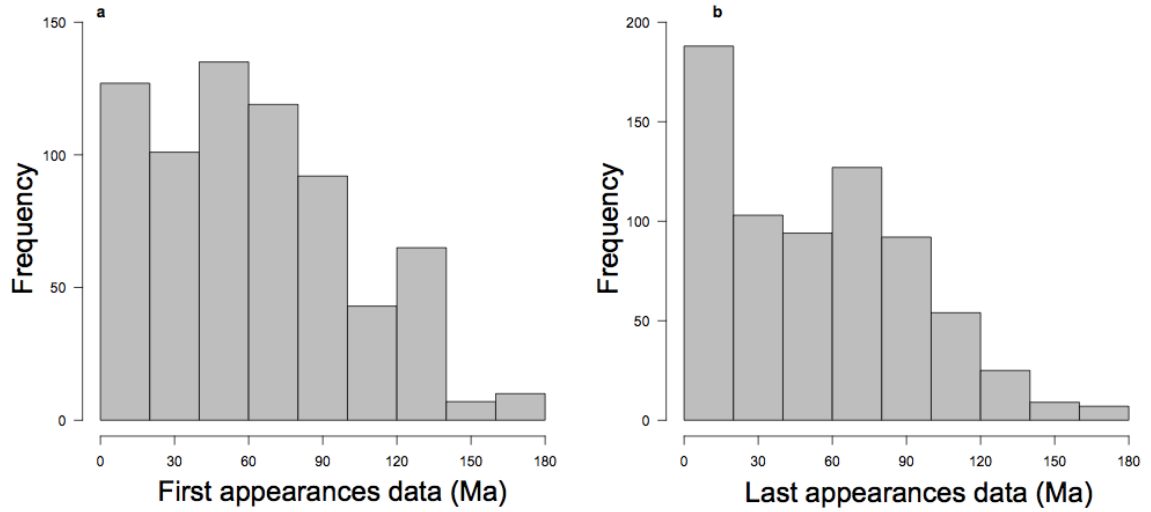


Figure 4. Histograms of first and last occurrences data of planktic foraminiferal empirical data. **a)** First occurrence data plotted as time-frequency histogram. **b)** Last occurrence data plotted as time-frequency histogram.



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