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The timing and pattern of biotic recovery following the end-Permian mass extinction

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S1: Numbers of genera of major fossil groups included in Figure 1

Fossil Groups	Ch	Gr	Di	Sm	Sp	An1	An2	An3
Radiolarians [*1*, *2*]	46	12	11	8	18	14	77	111
Foraminifera [*3, 4, 5*]	93	5	4	21	25	35	44	45
Brachiopods [*6*, *7*]	143	2	4	19		50		
Ammonoids [*8*]	26	11	28	85	110	37	66	79
Conodonts [*9, 10*]	6	11	11	21	16	8		
Ophiuroids [*11*]	1	3	1	6	7			
Plants [*12, 13, 14*]	152	64		88		76		
Tetrapods [*15*, *16*, Benton, unpublished data]	27	62		26	42	36	51	

Ch. = Changhsingian, Gr. = Griesbachian, Di = Dienerian, Sm = Smithian, Sp = Spathian, An1 = early Anisian, An2 = middle Anisian, An3 = late Anisian

S2: Major data sources and references included in Figure 1:

Radiometric dates used to judge time scale in Figure 1 are sourced from Mundil et al. (*17*) and Shen et al. (*18*) for the Permian–Triassic (P–Tr) boundary, Lehrmann et al. (*19*) for the Olenekian-Anisian boundary, Ovtcharova et al. (*20*) and Galfetti et al. (*21*) for Early Triassic, Brack et al. (*22–23*) for the Anisian (Middle Triassic), and Mundil et al. (*24*) for update of the Early-Middle Triassic. Carbon isotope fluctuations from Payne et al. (*25*); Siberian Traps Large Igneous Province (STLIP) eruption from Reichow et al. (*26*); other volcanic ash beds were compiled based on data from Tong et al. (*27*) for the latest Permian to Early Triassic ash beds, Isozaki et al. (*28*) for the ash beds near the P–Tr boundary, Lehrmann et al. (*19*), Ovtcharova et al. (*20*), Galfetti et al. (*21*) and Chen et al. (unpublished data); anoxia ranges from Isozaki (*29*) for P-Tr transition and Wignall and Twitchett (*30*) for the P–Tr boundary beds; In addition, anoxia near the P-Tr boundary is also indicated by chemocline upward excursions [Kump et al. (*31*); Riccardi et al. (*32*)], upwelling of deep anoxic watermasses [Algeo et al. (*33*, *34*)], increase in C^{30}-M/C^{30}-HP and 2-MehL biomarker ratios [Xie et al. (*35*)], and increased concentrations of ^{34}S-depleted pyrite [Algeo et al. (*33*, *34*)]. Unusual facies data from Pruss et al. (*36*) for the Early Triassic records, Baud et al. (*37*) for additional Early Triassic records from the Neo-Tethys region and Chen et al. (*38*) for the Anisian (Middle Triassic) record; trace fossil data from Twitchett (*39*) for the Early Triassic record, Pruss and Bottjer (*40*) for the Olenekian record,

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Beatty et al. (*41*) and Zonneveld et al. (*42*) for the Induan records, and Chen et al. (*43*) for the Early Triassic records; chert data from Knoll et al. (*44*).

Genus richness of major fossil groups included in Figure 1: Radiolarians (*1*, *2*), Foraminifera (*3, 4, 5*), Brachiopods (*6, 75*), Corals, reef builders and reefs (*45*), Ammonoids (*8*), Conodonts (*9*, *10*), Ophiuroids (*11*), Plants (*12-14*), Early Triassic "coal gap" (*46*), Tetrapods (*12*, *16*, Benton, unpublished data).

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