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Corrigendum

Erratum to "A magneto- and chemostratigraphically calibrated dinoflagellate cyst zonation of the early Paleogene South Pacific Ocean" [Earth Sci. Rev. 124 (2013) 1–31]

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In Bijl et al. (2013), we placed by mistake the Paleocene–Eocene boundary at 55.53 Ma. This is not in accordance with the geomagnetic polarity time sale of Vandenberghe et al. (2012), in which an age of 56.0 Ma is given for the boundary. In the paper, we use the carbon isotope excursion corresponding to the Paleocene–Eocene thermal maximum as chemostratigraphic tie point for the calibration of our dinocyst zonation. Therefore, this error necessitates a correction of our dinocyst zonation. This leads to a change in the age of the boundary between South Pacific Dinocyst Zone (SPDZ) 1 and SPDZ2. The correct age is 56.1 Ma, instead of the 55.6 Ma given in the original paper. Accordingly, we include corrected versions of Figs. 6, 7 and 8 and include the ages for the zone boundaries (Table 1).

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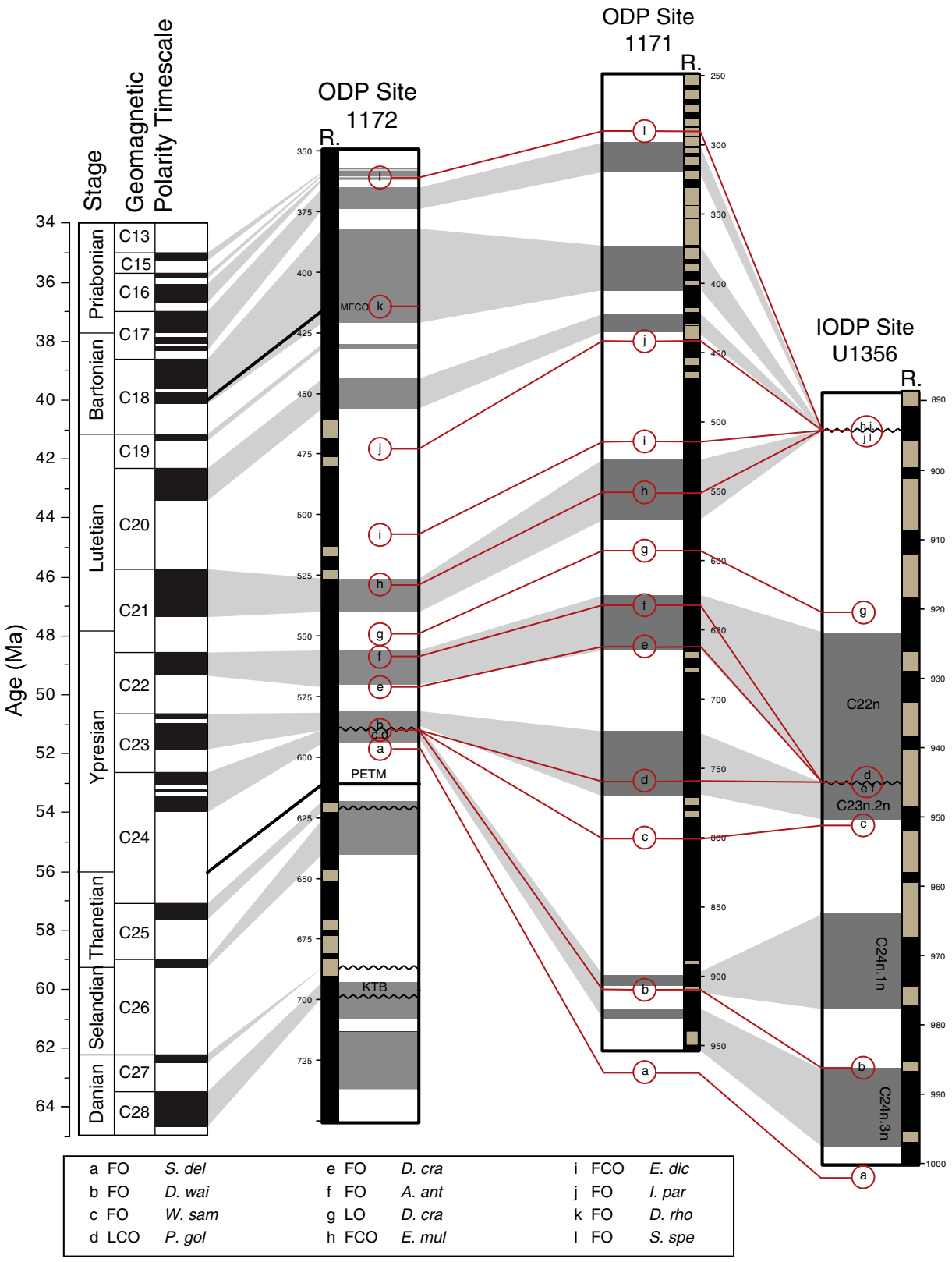

Fig. 6. Correlation of Eocene dinocyst events between ODP Holes 1171D and 1172A/D, and IODP Hole U1356A, and their magnetostratigraphies. The age of the Thanetian–Ypresian boundary is corrected to 56.0 Ma, and the boundary between SPDZ1 and SPDZ2 to 56.1 Ma. In red the dinocyst bioevents are indicated: First occurrence (FO) of *Samlandia delicata* (*S. del*), *Dracodinium waipawaense/varielongitudum* (*D. wai*), *Wetzeliella samlandica* (*W. sam*), *Damassadinium crassimuratum* (*D. cra*), *Arachnodinium antarcticum* (*A. ant*), *Impagidinium parvireticulatum* (*I. par*), *Dracodinium rhomboideum* (*D. rho*) and *Alterbidinium distinctum* (*A. dis*); last common occurrence (LCO) of *Palaeocystodinium golzowense* (*P. gol*); last occurrence (LO) of *Damassadinium crassimuratum* (*D. cra*); first common occurrence (FCO) of *Enneadocysta multicornuta* (*E. mul*) and *Enneadocysta dictyostila* (*E. dic*). Grey bars indicate intervals with normal magnetic polarity; white indicates reversed polarity. Magnetochrons are correlated between the sites based on the dinocyst events in red. Identification of the K–Pg boundary (Schellenberg et al., 2004) and chemostratigraphic correlations to the Palaeocene–Eocene Thermal Maximum (PETM; Sluijs et al., 2011), and Middle Eocene Climatic Optimum (MECO; Bijl et al., 2010) further ties ODP Site 1172 to the geomagnetic polarity time scale of Vandenberghe et al. (2012).

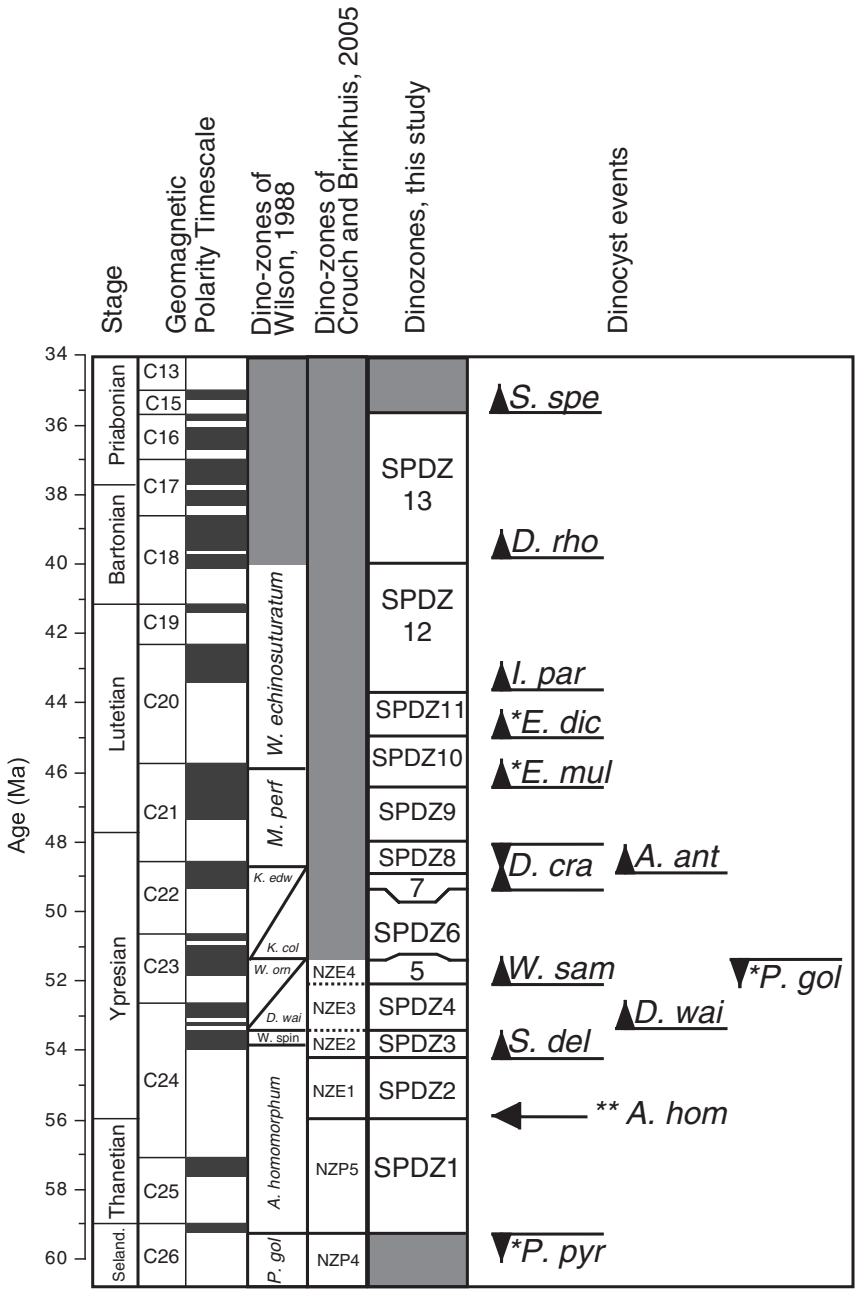

Fig. 7. South Pacific dinocyst zonation scheme, with zonal definitions and Southern Ocean dinocyst events. The age of the Thanetian–Ypresian boundary is corrected to 56.0 Ma, and the boundary between SPDZ1 and SPDZ2 to 56.1 Ma. Also indicated are dinocyst zonations from Wilson (1988) and Crouch and Brinkhuis (2005). Abbreviations: *Palaeoperidinium pyrophorum* (*P. pyr*; * indicates common occurrence), *Apectodinium homomorphum* (*A. hom*; ** indicates acme), *Samlandia delicata* (*S. del*), *Dracodinium waipawaense/varielongitudum* (*D. wai*), *Wetzeliella samlandica* (*W. sam*), *Palaeocystodinium golzowense* (*P. gol*), *Damassadinium crassimuratum* (*D. cra*), *Arachnodinium antarcticum* (*A. ant*), *Enneadocysta multicornuta* (*E. mul*), *Enneadocysta dictyostila* (*E. dic*), *Impagidinium parvireticulatum* (*I. par*), *Dracodinium rhomboideum* (*D. rho*) and *Schematophora speciosa* (*S. spe*).

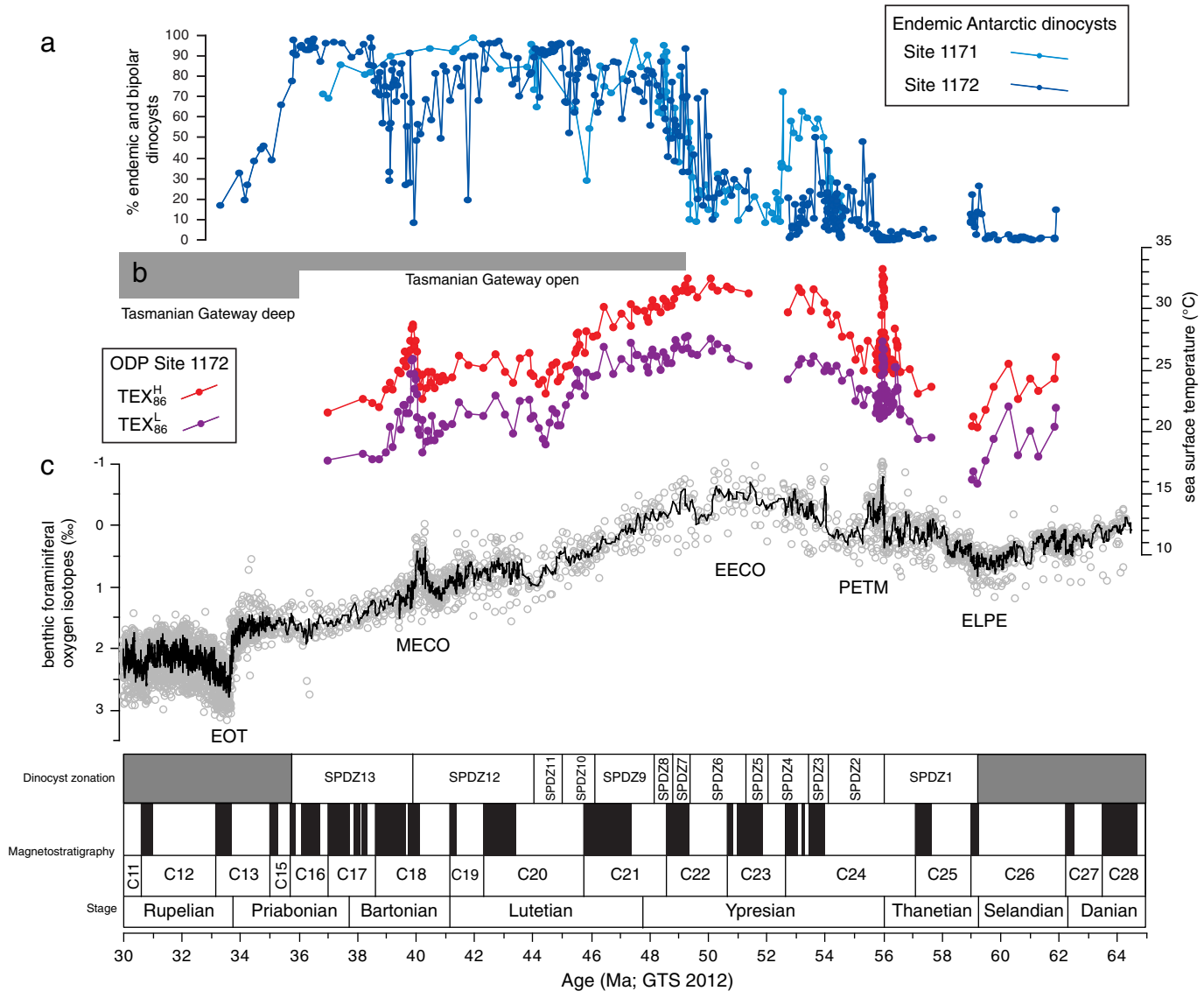

Fig. 8. A summary of the palaeoclimatic evolution of the South Pacific Ocean. All the data is redrawn with the correct age of the tie point of the onset of the PETM at 56.0 Ma. a. Relative abundance of endemic Antarctic and bipolar dinocysts from ODP Sites 1171 and 1172, modified from (Bijl et al., 2011) plotted in the new calibrated biostratigraphic age model presented in this paper. b. Sea surface temperature evolution of the southwest Pacific Ocean from TEX_{86} analyses on sediments from ODP Site 1172. The TEX_{86} data is a compilation of data from ODP Site 1172 from (Bijl et al., 2009, 2010; Sluijs et al., 2011), recalibrated to biostratigraphic age model presented here, with the most recent calibrations: TEX_{86}^{H} and TEX_{86}^{L} (Kim et al., 2010). c. A compilation of benthic foraminiferal oxygen isotope records from sites spread around the world's oceans. Data is obtained from (Zachos et al., 2008). Additional benthic foraminiferal oxygen isotope data is included for intervals that were represented with low-resolution data, such as the mid-Eocene (Sexton et al., 2006) and the Palaeocene (Westerhold et al., 2011). All data is calibrated to the GTS 2012 time scale (Vandenberghe et al., 2012).

Table 1
Original ages for the South Pacific Dinocyst Zone (SPDZ) boundaries, and those corrected herein. Ages in Vandenberghe et al. (2012).

Zone	Published in Bijl et al. (2013)	Here corrected to
SPDZ13	40.0–35.95	–
SPDZ12	44.0–40.0	–
SPDZ11	45.2–44.0	–
SPDZ10	46.2–45.2	–
SPDZ9	48.0–46.2	–
SPDZ8	48.7–48.0	–
SPDZ7	49.3–48.7	–
SPDZ6	51.5–49.3	–
SPDZ5	52.0–51.5	–
SPDZ4	53.4–52.0	–
SPDZ3	55.2–53.4	–
SPDZ2	55.6–55.2	56.1–55.2
SPDZ1	59.2–55.6	59.2–56.1