Muttoni, G., and D. Kent, 2016, A novel plate tectonic scenario for the genesis and sealing of some major Mesozoic oil fields: GSA Today, v. 26, no. 12, p. 4–10, https://www.geosociety.org/gsatoday/archive/26/12/abstract/i1052-5173-26-12-4.htm.

Central	Mean	Ν	A95	Plat	Plong	Plat	Plong	Plat	Plong	Plat	Plong	Paleolat	Paleolat	Paleolat
Age (Ma)	Age (Ma)		(°)	NAM	NAM	SAM	SAM	NW AF	NW AF	AR	AR	Ghawar	Neuqén	GoM
10	8.3	54	2.0	85.0	168.1	85.9	151.0	85.3	173.5	85.6	221.6	21.1	-41.0	24.9
20	18.9	38	2.7	83.3	164.2	84.7	133.8	83.9	175.9	83.9	229.9	19.3	-42.8	24.0
30	29.5	23	3.8	81.5	169.2	83.7	132.6	81.8	190.7	80.6	235.3	16.1	-43.8	24.1
40	40.0	24	3.2	79.5	174.4	82.6	139.2	79.0	201.1	77.3	234.2	12.8	-44.4	24.5
50	49.4	9	5.4	79.4	171.8	82.5	130.0	78.5	206.0	76.4	236.9	11.9	-45.0	24.0
60	59.1	7	5.5	77.0	189.8	83.0	153.5	75.6	220.0	72.5	243.2	8.4	-42.9	27.5
70	68.9	7	4.6	75.9	204.7	84.5	181.7	73.8	234.7	69.6	253.0	6.5	-39.5	31.1
80	77.4	7	4.5	75.2	195.0	82.9	170.2	70.9	232.6	67.0	249.3	3.6	-41.2	28.9
90	89.7	8	3.4	75.5	190.6	84.2	158.6	68.0	237.8	63.8	252.1	1.0	-41.7	27.8
100	96.7	8	4.4	77.0	194.1	87.2	177.2	64.4	248.8	59.5	260.0	-1.5	-39.0	28.5
110	107.9	6	4.5	78.6	190.2	89.3	359.1	62.5	255.7	57.2	265.4	-2.1	-37.7	27.5
120	121.4	9	2.7	74.2	192.2	86.5	255.2	54.7	260.8	49.2	268.5	-7.7	-35.1	28.3
130	127.3	8	2.4	71.7	193.4	79.7	241.9	49.5	264.2	43.8	271.0	-11.1	-30.8	28.8
140	139.8	5	6.8	64.7	197.3	72.0	235.0	42.8	264.4	37.1	270.6	-16.5	-26.5	30.7
145	143.7	3	15.2	61.9	205.9	67.1	243.0	38.8	269.8	32.9	275.3	-17.3	-21.0	34.9
156	156.2	2	2.8	75.5	189.5	78.3	270.1	52.4	271.9	46.4	278.0	-5.9	-26.9	27.5
160	165.3	4	7.5	78.5	112.5	83.4	22.8	66.4	259.1	60.9	269.1	2.1	-38.0	15.3
170	170.8	4	6.5	76.3	105.9	83.3	24.3	66.5	258.7	61.0	268.8	2.1	-38.2	12.8
180	182.3	8	5.5	79.9	100.4	81.7	350.6	65.4	269.7	59.5	277.5	3.6	-33.6	16.1
190	184.6	8	6.7	79.7	91.6	80.5	357.7	66.9	270.3	61.0	278.3	5.0	-33.9	15.7
200	201.7	7	3.8	67.8	81.8	76.2	57.5	71.9	238.1	67.6	254.4	4.9	-45.4	4.0
210	207.7	11	2.9	64.2	91.2	76.3	79.7	67.5	229.5	63.9	244.9	0.1	-49.4	0.2
220	217.5	8	2.3	59.3	98.8	73.8	101.4	62.3	222.4	59.5	236.4	-4.9	-54.0	-4.4
230	223.0	3	5.7	57.8	102.8	73.2	110.2	59.7	222.0	57.0	235.1	-7.4	-54.8	-5.5

Corrigendum to Table 1 of Muttoni and Kent (2016). Entries that have been changed are in bold red.

Table 1. Composite APW path in North American (NAM), South American (SAM), NW African (NWAF) and Arabian (AR) coordinates used to calculate paleolatitudes at Ghawar, Neugen and Gulf of Mexico basins. Mean paleomagnetic north poles (paleopoles) from 10 to 40 Ma are from Besse and Courtillot (2003), paleopoles from 50 to 230 Ma are from Kent and Irving (2010), and paleopole at 156 Ma is from Kent et al. (2015). Central age (Ma) of sliding window used to calculate the mean paleopole; uncertainties in paleopoles are ±10 Myr (intervals of ±10 million years) except for paleopole at 145 Ma, with uncertainty of ±5 Myr, and paleopole at 156 Ma, with uncertainty of ±1.6 Myr. Mean age (Ma) = mean age of paleopoles falling in sliding window centered on Central Age. N = number of paleopoles falling in window of Central Age and corresponding Mean Age. A95 = cone of 95% confidence (°) of mean paleopoles; Plat NAM, Plong NAM, = latitude (°N), longitude (°E) of mean paleopoles in North American coordinates; Plat SAM, Plong SAM, and Plat NWAF, Plong NWAF = latitude (°N) and longitude (°E) of mean paleopoles in South American (SAM) and NW African (NWAF) coordinates obtained by rotating North American paleopoles using rotation parameters of Muller et al. (1993) and Kent and Irving (2010); Plat AR and Plong AR = latitude (°N) and longitude (°E) of mean paleopoles in Arabian coordinates obtained by rotating paleopoles from NW African coordinates using rotation parameters of Besse and Courtillot (2002); Paleolat Ghawar = Paleolatitude of Ghawar (25.4°N, 49.6°E) calculated from Plat AR and Plong AR. Paleolat Neugén = Paleolatitude of Neugén basin (38°S, 290°E) calculated from Plat SAM and Plong SAM. Paleolat GoM = Paleolatitude of Gulf of Mexico (26°N, 270°E) calculated from Plat NAM and Plong NAM.

The Corrigendum amends two separate issues.

<u>1.</u> The total rotations of the 130–230 Ma mean paleopoles of Kent and Irving (2010) from North America (NAM) to South America (SAM) coordinates via northwest Africa (NWAF) and southern Africa (SAF) in Muttoni and Kent (2016) omitted the NWAF to SAF Euler pole (Table 4 in Kent and Irving, 2010). The corrected rotations change the derived SAM paleopoles and paleolatitudes calculated for the Neuqén basin only in the 130–230 Ma interval and typically by less than ~5°.

<u>2.</u> It has been noted by Fu et al. (2020) that there is a typographical error in the location of the Swartruggens-Bumbeni paleopole from southern Africa that was listed in Kent and Irving (2010) as a constituent of the 145 Ma mean pole and which, as given by Hargraves et al. (1997), should be 31.7°N 284.3°E (rather than 274.3°E). The corrected 145 Ma mean pole is within 2.8° of the 145 Ma pole given by Kent and Irving (2010) but with larger uncertainty (A95 of 15.2° rather than 9.0°). The error was propagated to some other publications including Kent et al. (2015) and Muttoni and Kent (2019) but not, for example, to Muttoni et al. (2013). Regarding Muttoni and Kent (2016), the corrected 145 Ma mean pole affects all coordinate systems and thus the paleolatitudes calculated at 145 Ma for the Gulf of Mexico (NAM), Neugén basin (SAM), and Gahwar (AR).

Regretting the errors, we are pleased to observe that the corrected paleolatitudes explain even better the observed Jurassic depositional histories in the Gulf of Mexico (occurrence of Smackover and Bossier source rocks at ~150 Ma), Neuqén (Auquilco evaporites at ~150 Ma), and Ghawar (Arab and Hith caprocks at ~150 Ma) as described by Muttoni and Kent (2016).

References

- Besse, J., and V. Courtillot (2002), Apparent and true polar wander and the geometry of the geomagnetic field in the last 200 million years, Journal of Geophysical Research, 107, 10.1029/2000JB000050.
- Besse, J., and V. Courtillot (2003), Correction to "Apparent and true polar wander and the geometry of the geomagnetic field over the last 200 Myr", Journal of Geophysical Research, 108, 24690.
- Fu, R.R., D.V. Kent, S.R. Hemming, P. Gutiérrez and J.R. Creveling (2020), Testing the occurrence of Late Jurassic true polar wander using the La Negra volcanics of northern Chile, Earth and Planetary Science Letters, 529, 115835.
- Hargraves, R.B., J. Rehacek, and P.R. Hooper (1997), Palaeomagnetism of the Karoo igneous rocks in southern Africa. South African Journal of Geology, 100, 195-212.
- Kent, D. V., and E. Irving (2010), Influence of inclination error in sedimentary rocks on the Triassic and Jurassic apparent polar wander path for North America and implications for Cordilleran tectonics, Journal of Geophysical Research, 115(B10103), doi:10110.11029/12009JB007205.
- Kent, D. V., B. A. Kjarsgaard, J. S. Gee, G. Muttoni, and L. M. Heaman (2015), Tracking the Late Jurassic apparent (or true) polar shift in U-Pb-dated kimberlites from cratonic North America (Superior Province of Canada), Geochemistry, Geophysics, Geosystems, 16(4), 983-994.
- Muller, R. D., J. Y. Royer, and L. A. Lawver (1993), Revised plate motions relative to the hotspots from combined Atlantic and Indian Ocean hotspot tracks, Geology, 21, 275-278.
- Muttoni, G., E. Dallanave, and J. E. T. Channell (2013), The drift history of Adria and Africa from 280 Ma to Present, Jurassic true polar wander, and zonal climate control on Tethyan sedimentary facies, Palaeogeography Palaeoclimatology Palaeoecology, 386, 415-435.

- Muttoni, G., and D. Kent (2016), A novel plate tectonic scenario for the genesis and sealing of some major Mesozoic oil fields, GSA TODAY, 26(12), 4-10.
- Muttoni, G., and D. V. Kent (2019), Jurassic monster polar shift confirmed by sequential paleopoles from Adria, promontory of Africa, Journal of Geophysical Research, 124(4), 3288-3306.