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Paleomagnetic analysis of Aptian-Albian (125-100 Ma) sections from Northern Apennines (Italy): apparent polar wander path of Adria and its consequences.

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For a long time, Adria has been demonstrated to move coherently with the African plate, but the use of data from Umbria-Marche region (Northern Apennines, Italy) for APWP construction was hampered by rotations linked to the Apennine orogeny. However, a previous 150-120 Ma APWP segment from magnetostratigraphic data collected in Umbria-Marche (Speranza et al., 2006) has shown that data from this region are reliable to compute APW path if sections are realigned in a common declination reference (Satolli et al., submitted). In this study, we present a new paleomagnetic analysis of 350 cores from three Aptian-Albian sections from Northern Apennines (Italy), mainly focused on the Early Aptian-Late Albian Marne a Fucoidi Formation. The main conclusions of our study are: 1) Marne a Fucoidi are suitable for the establishment of the APWP of Umbria-Marche region. 2) With exception of Gorgo a Cerbara, the sections we used does not suffered important relative rotation and belong to the same unit. 3) The model of de-deformation of some Apennine units we have used previously is validated by our new data. 4) We discuss a small loop at ca. 105 Ma, non-recognized in most published African global APWPs. 5) Finally, 50 Ma of nearly continuous Mesozoic Apennine paleomagnetic data shows that, during that time, Adria "mirrored" the motion of Africa.