



Study on the location and fit of continents in western central Pangea with a focus on the Mediterranean and North Atlantic Ocean

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Since Alfred Wegener proposed the theory of continental drift more than a century ago, continuous effort to reconstruct the super continent Pangea has been carried out paleo-geographically during past several decades. Although a remarkable success has been achieved, there remains still a great uncertainty on the precise location and fits of the continents that constitute the Pangea. While the fits are recognized as quite complete for Gondwana, the northern part of Pangea, the fits for Laurasia which contains North America and Eurasia, are left with a lot of improvement. What the two giant continents look like when they were fitted to form the Pangea is also a unsolved question. Several hypothesis for the fits of Laurasia and Gondwana have been raised, and the scenarios of Pangea A1, Pangea A2, Pangea B, and Pangea C were proposed hitherto. Recently, an updated version very close to Pangea A2 was suggested by authors including Van der Voo, Trond H. Torsvik, which have improved several deficiencies of the Pangea A2. However, it was found that the new scenario cannot be fully supported by the paleomagnetism data. Furthermore, it is not in complete agreement with previous paleogeological surveys on major geological features such as Variscan and Caledonian orogenic belt, indicating that a more sophisticated scenario is needed still for the Pangea.

The purpose of this study is to reconstruct the continents in western central Pangea with a focus on the Mediterranean and North Atlantic Ocean. A new fit of continents to form the Pangea is proposed, where the continents are fitted with enhanced accuracy compared to other models of Pangea particularly for the Mediterranean Sea, central America, Iran Plateau etc.. The results suggest that the continents were not distorted significantly on the process of drifting and merging during the past 200 million years.