

# **Characteristics of the oceanic and continental units of the Northern Apennine and Corsica: evidences for the reconstruction of the Liguria-Piemonte basin.**

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A picture of the architecture of the Jurassic oceanic Liguria-Piemonte basin can be attempted by analysis of selected examples of ophiolite sequences and ocean-continent transition successions sampled along the geotraverse that runs from Northern Apennine to Corsica.

In the External Liguride (EL) the remnants of the edge of the Adria continental margin and its ocean-continent transition are preserved. In the eastern EL units a pre- Late Cretaceous basement made up of a middle Triassic to Early Cretaceous, mainly carbonate succession is preserved as slices at the base of Mt. Cassio unit. This finding suggest that the eastern EL unit derived from a thinned continental margin. The western EL units are characterized by m $\acute{e}$ lange where blocks derived from the ocean-continent transition are preserved. The evidences collected in these units indicate that the ocean-continent transition of the Adria plate was characterized by a basement made up of subcontinental mantle and lower continental crust rocks, covered by extensional allochthons of granitoids. Both basement rocks and upper continental crust slices were cut by basaltic dikes and covered by basalts and pelagic deposits.

The opposite ocean-continent transition of Corsica margin ca be reconstructed by the sequences from "para-autochthonous" units and Balagne nappe. The evidences from "para-autochthonous" units indicates that this margin was characterized by a basement of upper continental crust covered by pre- and syn-rift sediments, mainly carbonate. The transition to oceanic area was probably sharp, without a wide transition domain. The Balagne nappe is represented by mantle peridotites and gabbros covered by basaltic flows and minor breccias, where the fine-grained clastics, derived from the Corsica continental margin occurring starting from the base of the basaltic flows. These features suggest its pristine location close to the continental margin.

The features of the innermost preserved oceanic area can be reconstructed in the Internal Ligurian (Northern Apennine) and Inzecca (Corsica) units. The resulting picture includes morphological highs made up of mantle peridotites and gabbros, bordered by small basins where the basement was covered by a volcano-sedimentary complex, characterized by ophiolitic breccias and cherts interlayered with basaltic flows.

On the whole, the resulted picture of the Liguria-Piemonte basin includes an asymmetric architecture with a central area bounded by two different transitions toward the continental margin. This architecture can be interpreted as the result of a rifting process whose development include a final stage characterized by passive, asymmetric extension of the lithosphere through a detachment fault.