The Cima Pedani tectonic window (Alpine Corsica): insights in tectono-metamorphic evolution during the exhumation of continental crust

Di Rosa M.[1-2], Meneghini F.[1], Marroni M.*[1-3], Hobbs N.[1] & Vidal O.[4]

[1] Dipartimento di Scienze della Terra, Università di Pisa
[2] Dipartimento di Scienze della Terra, Università di Firenze
[3] Istituto di Geoscienze e Georisorse, Consiglio Nazionale delle Ricerche, Pisa
[4] Institut des Sciences de la Terre, Centre National de la Recherche Scientifique, Grenoble, France

* *Corresponding email*: michele.marroni@unipi.it

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The Alpine Corsica consists of a stack of high-pressure continental and oceanic units. As in the western Alps, the stack of continental metamorphic units occurs at the base of the high-pressure oceanic and transitional units, *i.e.*, the Schistes Lustrés complex. These units are regarded as fragments of the thinned European margin that experienced continental subduction and subsequent syn-convergent exhumation in the Early Tertiary (Malasoma et al., 2006; Molli et al., 2006). In the central Corsica, the tectonic window of the Cima Pedani area offers a remarkable snapshot of the tectonic setting of these continental units. This tectonic window is characterized by a stack of three metamorphic continental units, namely as Canavaggia, Pedani and Scoltola Units.

These continental units include a Paleozoic basement, made up of Carboniferous metagranites and their country rock, both covered by a Permian meta-volcanosedimentary complex grading to a Triassic-Jurassic, mainly carbonate, metamorphic sequence unconformably covered by metabreccias and siliciclastic metarenites of Eocene age.

These units are affected by a polyphased tectono-metamorphic history acquired in a time lapse running from Priabonian (Late Eocene) and Aquitanian (Early Miocene). The reconstructed *P-T* paths and the related deformations for the continental units describe a retrograde history acquired during their progressive exhumation, *i.e.*, along their transfer from the deepest position reached in the orogenic wedge up to the surface, whereas no trace of the older prograde history has been conserved. In all the reconstructed *P-T* paths, the *P*-peak corresponds to the maximum depth reached by these unit, and ranges from 34.3, 45 and 44.7 km, whereas the subsequent history includes a progressive *P*-decrease associated to a coeval *T*-increase. The deformation history related to exhumation includes three deformation phases. In particular, the D2 phase is characterized by non-coaxial and flat-lying ductile structures parallel to the boundaries of the units observed in the Cima Pedani tectonic window. It is noteworthy that the sense of shear during the D2 phase is generally top-to-the W, *i.e.*, toward the Alpine foreland.

The collected data provide the evidence that the continental units were deformed and metamorphosed by ductile exhumation during their ascent path in the subduction channel in which the upper boundary is represented by the former accretionary wedge built-up during the oceanic sudbuction, and actually represented by the Schistes Lustrés Complex.

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