

GEOLOGICAL AND PETROLOGICAL STUDY OF THE CRYSTALLINE UNITS BETWEEN POPOLASCA AND PONTE DI CASTIRLA (NORTH-CENTRAL CORSICA, FRANCE)

Guia Morelli, Gianfranco Principi and Enrico Pandeli

Dipartimento di Scienze della Terra, Università di Firenze, Italy.

ABSTRACT

The Popolasca area (north of Corte) shows a complex geological framework. In particular, it is characterized in its western part, by Permian-?Triassic granitoids (Popolasca Plutonic Complex) which intruded Paleozoic sedimentary and volcanic successions, whereas towards east, an west-verging complex pile of tectonic "slices" (Popolasca Slices) is present and it is made up of Upper Paleozoic-?Triassic metagranitoids, Permian metavolcanites, and Carboniferous, Triassic-Jurassic and Eocene metasedimentary successions. The latter (Castiglione metasandstone Fm.) are represented by meta-breccias, meta-conglomerates with nummulite-bearing limestone and metapelites. The boundary between the Popolasca Plutonic Complex and the Popolasca Slices is represented by a NS-trending high-angle fault. The Popolasca Slices are affected by a polyphased metamorphic and deformative evolution consisting in at least three events (the former two are syn-metamorphic in the Green-Schists facies): D1 is represented by the main continuous penetrative schistosity (S1) sub-parallel to the bedding and rarely associated to isocli-

nal folds; D2 is characterized by isoclinal to close mesofolds with associated spaced S2 axial plane foliation; D3 consists of metric to hectometre scale F3 folds with sub-horizontal axial planes. Blue amphibole were found only in the Permian metagranitoids of the Popolasca Slices within some NS-trending shear zones. Microprobe analyses performed on these minerals reveal riebeckite to crossite compositions. Moreover, the Al^{VI}/Si^{IV} values point to pressures >5 Kb (13-15 km). These blue amphiboles form static fan-like aggregates in correspondence of fractures or grew on some K-Feldspars phenocrysts, but it is still difficult to define the relationships with the Green-Schists blastesis. Two hypotheses for the genesis of these HP-LT minerals can be suggested: 1) a blastesis due to lithostatic pressure (10-15 Km depth); 2) a blastesis due to over-pressured (hydrostatic pressure) fluids confined within the shear-zones. In the last hypothesis, the amphiboles could represent the metamorphic peak of such rocks which was reached only within shear zones in pre-D2 times or, perhaps, also during the D2 event.

