Abstract

The Teggiolo zone is the sedimentary cover of the Antigorio nappe, one of the lowest tectonic units of the Penninic Central Alps. Detailed mapping, stratigraphic and structural analyses, and comparisons with less metamorphic series in several well-studied domains of the Alps, provide a new stratigraphic interpretation. The Teggiolo zone is comprised of several sedimentary cycles, separated by erosive surfaces and large stratigraphic gaps, which cover the time span from Triassic to Eocene. At Mid-Jurassic times it appears as an uplifted, partially emergent block, marking the southern limit of the main Helvetic basin (the Limiting South-Helvetic Rise LSHR). The main mass of the Teggiolo calcschists, whose base truncates the Triassic–Jurassic cycles and can erode the Antigorio basement, consists of fine-grained clastic sediments analogous to the deep-water flyschoid deposits of Late Cretaceous to Eocene age in the North-Penninic (or Valais *s.l.*) basins. Thus the Antigorio-Teggiolo domain occupies a crucial paleogeographic position, on the boundary between the Helvetic and Penninic realms: from Triassic to Early Cretaceous its affinity is with the Helvetic; at the end of Cretaceous it is incorporated into the North-Penninic basins. An unexpected result is the discovery of the important role played by complex formations of wildflysch type at the top of the Teggiolo zone. They contain blocks of various sizes. According to their nature, three different associations are distinguished that have specific vertical and lateral distributions. These blocks give clues to the existence of territories that have disappeared from the present-day level of observation and impose constraints on the kinematics of early folding and embryonic nappe emplacement. Tectonics produced several phases of superimposed folds and schistosities, more in the metasediments than in the gneissic basement. Older deformations that predate the amplification of the frontal hinge of the nappe generated the dominant schistosity and the km-wide Vanzèla isoclinal fold.