



The not trivial subdivision of nappes in the Lower Pennine domain of the Central Alps (Riviera and Verzasca Valleys, Swiss Alps)

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We present new data of the geological map of the Osogna sheet in the Southern Swiss Alps (Swiss National Map no. 1293) that extends N-S from Biasca to Claro and W-E from Lavertezzo to the Pizzo di Claro, respectively. The area mapped at the 1:10'000 scale is located in the Lepontine dome and includes, from core-to-carapace, the gneissic nappes of the Leventina, Simano, Adula/Cima-Lunga and Maggia. These nappes derive from the same post-Variscan gneissic basement complicating their lithological distinction and making difficult to recognize their boundaries. In particular, the boundary between the Leventina and the Simano gneisses is difficult to recognize. In previous work, this boundary was traced within leucogneisses by joining a carbonate lens with quartzite, amphibolite or paragneiss lenses. Nevertheless, quartzites are absent in the mapped area and amphibolite and paragneiss lenses are vertically distributed in the tectonostratigraphy and do not form a single folded horizon. Furthermore, no significant strain gradient related to top-to-the-foreland shearing has been observed between these two units, also when paragneisses and amphibolites were present. Therefore, we present evidence that the top-to-the-foreland deformation between the Leventina and the Simano units was more distributed than commonly assumed, questioning the allochthonous character of the Simano unit.