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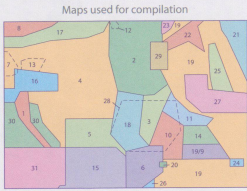
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Scale 1:100 000
1000 m 0 1 2 3 4 5 6 7 8 9

Existence of the contour 50m

THE CENTRAL LEPONTINE ALPS

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1:100 000

Carta geologica speciale N° 127, 2006



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Adria

Sesia Zone

- 1 Polycyclic gneisses of various compositions, amphibolite and ultramafic rock

Canavese Zone

- 2 Gneisses of various compositions and layers of calcareous schist, mainly mylonitic

Tonale Series

- 3 Metagabbro, mafic and granitic gneisses

Val Colla Zone

- 4 Mainly dolomites with subordinate calcareous sediment
- 5 Polycyclic gneisses of various compositions and amphibolite

Strona-Ceneri Zone

- 6 Polycyclic gneisses of various compositions and amphibolite

Ivrea Zone

- 7 Polycyclic high-grade gneiss: «Krautgale» Pelonaic
- 8 Metagabbro and metadiorite, Mafic Complex Pelonaic

Piemont-Liguria

Avers Nappe

- 9 Calcareous micashist, Jurassic-Cretaceous

Zone of Zermatt-Saas Fee

- 10 Metagabbro, ultramafic rock and gneiss

Briançonnais

Schams Nappes

- 11 Low-grade metamorphic calcareous and siliciclastic sediment, dolomite, evaporite, breccia and flysch from Late Cretaceous

Arens-Bruschghorn Zone

- 12 Low-grade metamorphic siliciclastic and calcareous sediment, dolomite, evaporite (Carboniferous-Rotax) interlayered with gneiss

Khoren Mélange

- 13 Calcareous micashist, quartzite, gneiss, marble and gneiss

Suretta Nappe

- 14 Metacarbonate
- 15 Quartzite
- 16 Metapsammite to metaporphite gneiss Pelonaic
- 17 Permian granitoid (17a) Rofa Porphyry (268 Ma, Marquer et al. 1998)
- 18 Polycyclic gneisses of various compositions and amphibolite

Tambo Nappe

- 19 Quartzite and metacarbonate
- 20 Metapsammite to metaporphite gneiss Pelonaic
- 21 Post-Triassic granitoid (21a) Tuzon Granite (268 Ma, Marquer et al. 1998)
- 22 Polycyclic gneisses of various compositions and amphibolite

Monte Rosa Nappe

- 23 Two-mica perthitic, granitic gneiss: Monte Rosa Gneiss (250 Ma, Frey et al. 1976)

Maggia Nappe

- 24 Monoclinic biotite gneiss with biotite veins: Cocca Gneiss (275 Ma, Rippel et al. 1980), Leucocratic granitic gneiss: Ranzetta Gneiss (240-250 Ma, Rippel et al. 1980)
- 25 Polycyclic gneisses of various compositions and amphibolite

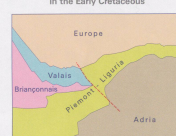
Portofino Unit

- 26 Strongly deformed granitic and metasedimentary gneiss: «Pietra Zupa»
- 27 Banded gneiss

Vigorno Unit

- 28 Polycyclic gneisses of various compositions and amphibolite
- 29 Gneiss Unit, Two-mica granitic gneiss: Vigorno Gneiss

Sketch of the paleogeographic situation in the Early Cretaceous



Valais

Chiavenna Ophiolite Zone

- 29 Marble
- 30a Metabasalt Jurassic-Cretaceous
- 30b Metagabbro Jurassic-Cretaceous
- 31 Metapelite

Tomil Nappe

- 32 Calcareous micashist, metapelite and metabasite Cretaceous

Grave Nappe

- 33 Calcareous micashist, metapelite and metabasite (33a) Rona, Moira and Lavertina units, «Sotto Schaffar» Cretaceous

Grave-Tomil Mélange

- 34 Breccia, quartzite, marble and metabasite: «Gedribug» Jurassic

Aul Nappe

- 35 Metasediment, metabasalt (follow low) and serpentinite, Triassic-Jurassic

Paleogene Tectonic Accretion Channel

Paleogeographically heterogeneous fragments accreted at depth along subduction boundary

Upper Vals Mélange

- 36 Mainly calcareous micashist and gneiss (probably Jurassic) interlayered with rare dolomitic marble (Rissak) and gneiss

Lower Vals Mélange

- 37 Dolomitic marble, subordinate calcareous micashist and gneiss (Rissak-Jurassic) interlayered with gneiss

Southern Steep Belt

Zones of Bellinzona-Davos, Arbedo-Mergogna and Orselina

- 38 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock

Zone of Samos

- 39 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock

Cima Lunga Unit

- 40 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock

Adula Nappe Complex

- 41 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock

Preselein Unit

- 42 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock

Saasna Unit

- 43 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock

Zurvela Unit

- 44 Mainly granitic gneiss and banded gneiss (without eclogite boudins)

Gana-Palligera Unit

- 45 Mainly granitic gneiss and banded gneiss (without eclogite boudins)

Green Unit

- 46 Mainly granitic gneiss and banded gneiss (without eclogite boudins)

Chers Unit

- 47 Gneiss with lenses of amphibolite, marble and ultramafic rock

Argin Unit

- 48 Granitic gneiss: «Bastagras»

Bodengo-Graf Unit

- 49 Metasedimentary gneiss

Grave Unit

- 50 Gneiss with lenses of eclogite, marble and ultramafic rock

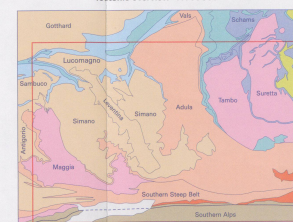
Grave Unit

- 51 Two-mica gneiss: (51a) Soss Gneiss, (51b) Gersell Gneiss (270-280 Ma, Mar. 23 Ma, Hübner et al. 1976)

Grave Unit

- 52 Metagabbro and gneissic gneiss: (52a) Val Bodengo area, (52b) Graf Complex

Tectonic overview 1:700 000



Europe

Jurassic to Cretaceous metasediments

- 53a Calcareous micashist and quartzite Jurassic-Cretaceous

Leventina Nappe

- 54 Calcareous micashist and quartzite Jurassic-Cretaceous

San Giorgio, Molare and Dargula Units

- 55 Calcareous micashist and quartzite Jurassic-Cretaceous

Pla-Terr-Lunghina Zone

- 56 Calcareous micashist and quartzite Jurassic

Gottard metasedimentary Unit

- 57 Calcareous micashist and quartzite Jurassic

Triassic metasediments

- 58 Quartzite, meta-epidiorite, dolomitic marble, metapelite, locally metacarbonate

Soja and San Giorgio Units

- 59 Metapsammite to metaporphite gneiss (59a) Soja Unit, (59b) San Giorgio Unit

Sambuco Unit

- 60 Granitic gneiss: Metello Gneiss
- 61 Polycyclic gneisses of various compositions and amphibolite

Simano Nappe

- 62 Two-mica granitic gneiss: Velasca Gneiss (200 Ma, Rippel et al. 1980)
- 63 Granitic gneiss (200-225 Ma, Rippel et al. 1980)
- 64 Polycyclic gneisses of various compositions and amphibolite

Lucmagna Nappe

- 65 Metapsammite to metaporphite gneiss Late Paleozoic
- 66 Granitic gneiss
- 67 Polycyclic gneisses of various compositions and amphibolite

Leventina Nappe

- 68 Metasediment, mainly quartzite
- 69 Two-mica granitic gneiss: Leventina Gneiss (200-225 Ma, Rippel et al. 1980)

Antigorio Nappe

- 70 Metaclastic granitic-gneissic gneiss: Antigorio Gneiss (200-225 Ma, Rippel et al. 1980)

Zone of Onsernone

- 71 Migmatite and granitic gneiss with local basic rock

Gottard Nappe

- 72 Granitic gneiss (72a) Cristallina Gneiss (72b) Salvegn Gneiss (200/225 Ma, Grollmann 1963)
- 73 Metapsammite to metaporphite gneiss Middle Paleozoic
- 74 Two-mica granitic gneiss: «Gottard» (200 Ma, Rippel et al. 1980)
- 75 Polycyclic gneisses of various compositions and amphibolite: «Pietra Zupa» and «Bastagras»

Quaternary

- 0 Undifferentiated alluvial and glacial sediments

Tertiary intrusive rocks

- 8 Two-mica granitic: Novate Stock (25 Ma, Lodi et al. 2000)
- 9 Biogel Granodiorite (20 Ma, von Blanckenburg 1982)
- 10 Biogel Granite (22-25 Ma, von Blanckenburg 1982, Oberli et al. 2004)

Layers and lenses of tectonically undifferentiated rocks

- 16 Marble
- 17 Ultramafic rock

- 18 Amphibolite-rich layers commonly with eclogite veins
- 19 Amphibolite-rich layers in polycyclic basement

Structural elements

- Limit of tectonic units
- Fault (CL, Central Line; FL, Fionia Line; IL, Isola Line)