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(1:100'000). Carta geologica speciale N. 127. (Swiss topographic map
sheet 43 Sopra Ceneri). Federal Office of Topography swisstopo,
Wabern

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TECTONIC AND PETROGRAPHIC MAP OF THE

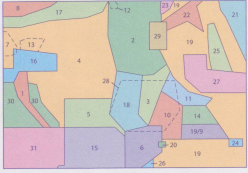
1:100 000

Compiled by:
Alfons Berger and Ivan Mercogli

TOPOGRAPHY: NATIONAL MAP OF SWITZERLAND 1:100 000

Map sheet 43 Sopra Ceneri

Maps used for compilation



1. Preiswerk 1912; 2. Jenny et al. 1923; 3. König 1926; 4. Preiswerk et al. 1936;
5. Casanova 1939; 6. Knudskjeld et al. 1939; 7. Huter 1945; 8. Singer 1962; 9. Ber-
ner 1965; 10. Bruggmann 1965; 11. Walker 1965; 12. Egli 1966; 13. Burchfiel 1971-
14; Hany 1972; 15. Baccin et al. 1976; 16. Keller & Winkler 1978; 17. Probst 1980;
18. Cadoni 1981; 19. Morozzo & Scluse 1988; 20. Schindler 1989; 21. Schärer
1990; 22. Mavret-Dumina 1994; 23. Sonnenmann 1994; 24. Berger 1995; 25.
Menzner et al. 1996; 26. Schumacher 1997; 27. Huber 1998; 28. Nagel et al. 2002;
29. Hoopfer et al. 2003; 30. Gasser & Winkler in press; 31. Thöni et al. in press
New data: A. Berger, T. Bauri, M. Engi, A. Groszkowski, U. Leimold, A. Pfiffner

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Topographic base 2001
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1000m 0 1 2 3 4 5 6 7 8 9
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THE CENTRAL LEPONTINE ALPS

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1:100 000

Carta geologica speciale N° 127, 2006



Adria

- Sesia Zone**
 - 1 Polycyclic gneisses of various compositions, amphibolite and ultramafic rock
- Canavese Zone**
 - 2 Gneisses of various compositions and lenses of calcareous schist, mainly mylonitic
- Tonale Series**
 - 3 Mylonite of metametamorphic mafic and granitic gneisses
- Val Colla Zone**
 - 4 Mainly dolomite 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 gneisses «Kraigsteig» Palaeozoic
 - 8 Metagabbro and metadiorite, Mafic Complex Palaeozoic
 - 9 Metagabbro and metadiorite, Mafic Complex Palaeozoic

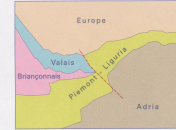
Piemont-Liguria

- Avers Nappe**
 - 10 Calcareous micashist Jurassic-Cretaceous
- Zone of Zermatt-Saas Fee**
 - 11 Metagabbro, ultramafic rock and gneiss

Briançonnais

- Schams Nappes**
 - 12 Low-grade metamorphic calcareous and siliceous sediment, dolomite, serpentinite, breccia and flysch
 - 13 Late Cretaceous
- Areua-Bruschghorn Zone**
 - 14 Low-grade metamorphic siliceous and calcareous sediment, dolomite, serpentinite (Carnotomus-Isère) interlayered with gneiss
- Khoren Mélangé**
 - 15 Calcareous micashist, quartzite, gneiss, marble and gneissiferous
- Suretta Nappe**
 - 16 Metacarbonate
 - 17 Quartzite
 - 18 Quartzite
 - 19 Metapsammite to metapschist gneiss Permian
 - 20 Post-orogenic granitoid (72a) Rufina Porphyry 268 Ma, Marquet et al. 1938
 - 21 Polycyclic gneisses of various compositions and amphibolite
- Tambo Nappe**
 - 22 Quartzite and metacarbonate
 - 23 Metapsammite to metapschist gneiss Permian
 - 24 Post-orogenic granitoid (21a) Tuzon Granite 268 Ma, Marquet et al. 1938
 - 25 Polycyclic gneisses of various compositions and amphibolite
- Monte Rosa Nappe**
 - 26 Two-mica pyroclitic granitic gneiss: Monte Rosa Gneiss 230 Ma, Frey et al. 1976
- Maggia Nappe**
 - 27 Monoclinic biotite gneiss with biotite nests: Cocco Gneiss 275 Ma, Rippe et al. 1985; Linoconitic granitic gneiss: Favosite Gneiss 240-250 Ma, Rippe et al. 1985
 - 28 Polycyclic gneisses of various compositions and amphibolite
- Portulato Unit**
 - 29 Strongly deformed granitic and metametamorphic gneiss: «Pietra Sagra»
 - 30 Banded gneiss
- Vogorno Unit**
 - 31 Polycyclic gneisses of various compositions and amphibolite: Gagea Unit, Two-mica granitic gneiss, Vogorno Gneiss

Sketch of the paleogeographic situation in the Early Cretaceous



Valais

- Chiavenna Ophiolite Zone**
 - 32 Marble
 - 33 Metabasalt Jurassic-Cretaceous
 - 34 Metagabbro Jurassic-Cretaceous
 - 35 Metapelite
- Tomil Nappe**
 - 36 Calcareous micashist, metapelite and metabasite Cretaceous
- Grave Nappe**
 - 37 Calcareous micashist, metapelite and metabasite (S3) Ron, Moira and Lavertina units «Sotto Schafers» Cretaceous
- Grave-Tomil Mélangé**
 - 38 Breccia, quartzite, marble and metabasite «Geflüh» Jurassic
- Aul Nappe**
 - 39 Metasediment, metabasalt (low level) and serpentinite, Triassic-Jurassic

Paleogene Tectonic Accretion Channel

Paleogeographically heterogeneous fragments accreted at depth along subduction boundary

- Upper Vals Mélangé**
 - 40 Mainly dolomitic micashist and gneissiferous (probably Jurassic) interlayered with rare dolomitic marble (Rissau) and gneiss
- Lower Vals Mélangé**
 - 41 Dolomitic marble, subordinate calcareous micashist and gneissiferous (Rissau-Jurassic) interlayered with gneiss

Southern Steep Belt

- Zones of Bellinzona-Davos, Arbedo-Mergocice and Orselina**
 - 42 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock
- Zone of Salines**
 - 43 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock

Cima Lunga Unit

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

Adula Nappe Complex

- Fanella Unit**
 - 45 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock
- Precocone Unit**
 - 46 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock
- Soazza Unit**
 - 47 Various gneisses with lenses and layers of eclogite, amphibolite, marble and ultramafic rock
- Zirveville Unit**
 - 48 Mainly granitic gneiss and banded gneiss (without eclogite bouding)
- Gana-Palligera Unit**
 - 49 Mainly granitic gneiss and banded gneiss (without eclogite bouding)
- Greven Unit**
 - 50 Mainly granitic gneiss and banded gneiss (without eclogite bouding)
- Clere Unit**
 - 51 Gneiss with lenses of amphibolite, marble and ultramafic rock
- Argia Unit**
 - 52 Granitic gneiss «Basagras»
- Bodogno-Gruf Unit**
 - 53 Metasedimentary gneiss
 - 54 Gneiss with lenses of eclogite, marble and ultramafic rock
 - 55 Two-mica gneiss: (S1a) Sox Granite, (S1b) Gerselli Granite 230-250 Ma, Marquet 1938; Hahny et al. 1976
 - 56 Metagabbro and gneissic gneiss: (S2a) Val Bodogno area, (S2b) Gruf Complex

Europe

- Jurassic to Cretaceous metasediments**
 - 57 Calcareous micashist and quartzite Jurassic-Cretaceous
- Lebondun Nappe**
 - 58 Calcareous micashist and quartzite Jurassic-Cretaceous
- San Giorgio, Molare and Dangio Units**
 - 59 Calcareous micashist and quartzite Jurassic-Cretaceous
- Più Terzi-Lombardina Zone**
 - 60 Calcareous micashist and quartzite Jurassic
- Gotthard metametamorphic Unit**
 - 61 Calcareous micashist and quartzite

Triassic metasediments

- 62 Quartzite, meta-saprolite, dolomitic marble, metapelite, locally metagabbrogneiss

Soja and San Giorgio Units

- 63 Metapsammite to metapschist gneiss (S9a) Soja Unit, (S9b) San Giorgio Unit

Sambuco Unit

- 64 Granitic gneiss: Metello Gneiss Late Palaeozoic
- 65 Polycyclic gneisses of various compositions and amphibolite

Simano Nappe

- 66 Two-mica granitic gneiss: Vezzosa Gneiss (300 Ma, Käyser et al. 1983)
- 67 Granitic gneiss (~400 Ma, Allegre et al. 1974)
- 68 Polycyclic gneisses of various compositions and amphibolite

Lucomagno Nappe

- 69 Metapsammite to metapschist gneiss Late Palaeozoic
- 70 Granitic gneiss
- 71 Polycyclic gneisses of various compositions and amphibolite

Leventina Nappe

- 72 Metasediment, mainly quartzite
- 73 Two-mica granitic gneiss: Leventina Gneiss (200-225 Ma, Allegre et al. 1974)

Antigorio Nappe

- 74 Metapschist granitic-gneissiferous gneiss: Antigorio Gneiss (300-225 Ma, Allegre et al. 1974)

Zone of Onsernone

- 75 Mylonite and granitic gneiss with local biotite rock

Gotthard Nappe

- 76 Granitic gneiss: (72a) Crevinella Gneiss, (72b) Salvegnon Gneiss (200/225 Ma, Gschwendler 1963)
- 77 Metapsammite to metapschist gneiss Middle Palaeozoic
- 78 Two-mica granitic gneiss: «Chimolungna» 400 Ma, Sengler & Sengler 1953
- 79 Polycyclic gneisses of various compositions and amphibolite «Pietrasera» and «Sampocroce»

Quaternary

- 0 Undifferentiated alluvial and glacial sediments

Tertiary intrusive rocks

- 80 Two-mica granite: Novata Stock 25 Ma, Lind et al. 2000
- 81 Biogel Granite 20 Ma, von Blanckenburg 1952
- 82 Biogel Granite 20 Ma, von Blanckenburg 1952
- 83 Biogel Granite 20-25 Ma, von Blanckenburg 1952; Ollard et al. 2004

Layers and lenses of tectonically undifferentiated rocks

- 84 Marble
- 85 Ultramafic rock
- 86 Amphibolite-rich layers commonly with eclogitic veins
- 87 Amphibolite-rich layers in polycyclic basement

Structural elements

- Limit of tectonic units
- Fault (CL: Central Line, FL: Forcella Line, IL: Isolate Line)

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