

Zeitschrift: Schweizerische mineralogische und petrographische Mitteilungen =
Bulletin suisse de minéralogie et pétrographie

Band: 85 (2005)

Heft: 2-3: Central Alps

Anhang: Tectonic and Petrographic Map of the Central Lepontine Alps
(1:100'000). Carta geologica speciale N. 127. (Swiss topographic map
sheet 43 Sopra Ceneri). Federal Office of Topography swisstopo,
Wabern

Autor: Berger, A. / Mercolli, I.

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 18.04.2026

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

TECTONIC AND PETROGRAPHIC MAP OF THE

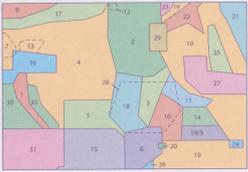
1:100 000

Compiled by:
Alfons Berger and Ivan Mercalli

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. Siegel 1962; 9. Ber-
ner 1965; 10. Bruggmann 1965; 11. Walker 1965; 12. Egli 1966; 13. Burchard 1971-
14. Hurny 1972; 15. Baccin et al. 1976; 16. Keller & Winkler 1978; 17. Probst 1980;
18. Cudini 1981; 19. Morassut & Scluse 1988; 20. Schindler 1989; 21. Schärer
1990; 22. Mavret-Dumina 1994; 23. Sonnenmann 1994; 24. Berger 1995; 25.
Menzler 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. Buri, M. Engi, A. Groszkowski, U. Leimold, A. Pfiffner

ISBN 978-3-302-40008-2



Topographic base 2001
© 2008 Federal Office of Topography, 3084 Wabern

Reproduction and transformation of this map or of parts of
it in analogical or numerical form are subordinate to the
authorization of the Federal Office of Topography, except if

Scale 1:100 000
1000m 0 1 2 3 4 5 6 7 8 9
Existence of the contour EDm

THE CENTRAL LEPONTINE ALPS

Published by the Federal Office of Topography, Swiss Geological Survey
with support of the Swiss National Science Foundation

Edited by the Swiss Geological Commission
and the Swiss Geotechnical Commission

Editor: A. BAUMEIER

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

Piemonte-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 Low-grade metamorphic siliceous and calcareous sediment, dolomite, serpentinite (Chassagneur-Boisec) interlayered with gneiss
- Aereu-Bruschghorn Zone**
 - 14 Polycyclic gneisses of various compositions and amphibolite
- Khoren Mélange**
 - 15 Calcareous micashist, quartzite, gneiss, marble and gneissiferous
- Suretta Nappe**
 - 16 Metacarbonate
 - 17 Quartzite
 - 18 Metapsammite to metapschist gneiss
 - 19 Post-orogenic granitoid (72a) Rufina Porphyry 262 Ma, Marquet et al. 1938
 - 20 Polycyclic gneisses of various compositions and amphibolite
- Tambo Nappe**
 - 21 Quartzite and metacarbonate
 - 22 Metapsammite to metapschist gneiss
 - 23 Post-orogenic granitoid (23a) Tuzon Granite 268 Ma, Marquet et al. 1938
 - 24 Polycyclic gneisses of various compositions and amphibolite
- Monte Rosa Nappe**
 - 25 Two-mica pyroclitic, granitic gneiss: Monte Rosa Gneiss 230 Ma, Frey et al. 1976
- Maggia Nappe**
 - 26 Monoclinic biotite gneiss with biotite nests: Cocco Gneiss 275 Ma, Altpeter et al. 1985; Lencostic granitic gneiss: Favosite Gneiss 240-250 Ma, Altpeter et al. 1985
 - 27 Polycyclic gneisses of various compositions and amphibolite
- Portasio Unit**
 - 28 Strongly deformed granitic and metametamorphic gneiss: «Pentate» Nappe
 - 29 Banded gneiss
- Vogorno Unit**
 - 30 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**
 - 31 Marble
 - 32 Metabasalt Jurassic-Cretaceous
 - 33 Metagabbro Jurassic-Cretaceous
 - 34 Metapelite
- Tomil Nappe**
 - 35 Calcareous micashist, metapelite and metabasite Cretaceous
- Grave Nappe**
 - 36 Calcareous micashist, metapelite and metabasite (S3) Riva, Moira and Lavertina units «Sotto Schaffler» Cretaceous
- Grave-Tomil Mélange**
 - 37 Breccia, quartzite, marble and metabasite «Geflüh» Jurassic
- Aul Nappe**
 - 38 Metasediment, metabasalt (low level) and serpentinite, Triassic-Jurassic

Paleogene Tectonic Accretion Channel

Paleogeographically heterogeneous fragments accreted at depth along subduction boundary

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

Southern Steep Belt

Zones of Bellinzona-Davos, Arbedo-Mergocice and Orselina

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

Zone of Saas Fee

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

Cima Lunga Unit

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

Adula Nappe Complex

Fanella Unit

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

Precocone Unit

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

Soazza Unit

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

Zirvelia Unit

- 47 Mainly granitic gneiss and banded gneiss (without eclogite bouding)

Gana-Palligera Unit

- 48 Mainly granitic gneiss and banded gneiss (without eclogite bouding)

Greiner Unit

- 49 Mainly granitic gneiss and banded gneiss (without eclogite bouding)

Claris Unit

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

Argia Unit

- 51 Granitic gneiss «Basagria»

Bodogno-Gruf Unit

- 52 Metasedimentary gneiss
- 53 Gneiss with lenses of eclogite, marble and ultramafic rock
- 54 Two-mica gneiss: (S1a) Sox Granite, (S1b) Gerselli Granite 230-240 Ma, Marquet et al. 1938; (S1c) Hahy et al. 1938
- 55 Metagabbro and gneiss: (S2a) Val Bodogno area, (S2b) Gruf Complex

Europe

- Jurassic to Cretaceous metasediments**
 - 56 Calcareous micashist and quartzite Jurassic-Cretaceous
- Lebondun Nappe**
 - 57 Calcareous micashist and quartzite Jurassic-Cretaceous
- San Giorgio, Molare and Dangio Units**
 - 58 Calcareous micashist and quartzite Jurassic-Cretaceous
- Più Terzi-Lombardina Zone**
 - 59 Calcareous micashist and quartzite Jurassic
- Gotthard metametamorphic Unit**
 - 60 Calcareous micashist and quartzite Jurassic
- Triassic metasediments**
 - 61 Quartzite, meta-saprolite, dolomitic marble, metapelite, locally metagabbro
- Soja and San Giorgio Units**
 - 62 Metapsammite to metapschist gneiss (S9a) Soja Unit, (S9b) San Giorgio Unit
- Sambuco Unit**
 - 63 Granitic gneiss: Metello Gneiss Late Palaeozoic
 - 64 Polycyclic gneisses of various compositions and amphibolite
- Simano Nappe**
 - 65 Two-mica granitic gneiss: Vezzosa Gneiss (200 Ma, Käyser et al. 1983)
 - 66 Granitic gneiss (~400 Ma, Altpeter et al. 1974)
 - 67 Polycyclic gneisses of various compositions and amphibolite
- Lucomagno Nappe**
 - 68 Metapsammite to metapschist gneiss Late Palaeozoic
 - 69 Granitic gneiss
 - 70 Polycyclic gneisses of various compositions and amphibolite
- Leventina Nappe**
 - 71 Metasediment, mainly quartzite
 - 72 Two-mica granitic gneiss: Leventina Gneiss (200-225 Ma, Altpeter et al. 1974)
- Antigorio Nappe**
 - 73 Metacalcic granitic-gneissiferous gneiss: Antigorio Gneiss (200-225 Ma, Altpeter et al. 1974)
- Zone of Onsernone**
 - 74 Mylonite and granitic gneiss with local biotite rock
- Gotthard Nappe**
 - 75 Granitic gneiss: (72a) Crevinella Gneiss, (72b) Salvegnon Gneiss (200/220 Ma, Gschwendler 1963)
 - 76 Metapsammite to metapschist gneiss Middle Palaeozoic
 - 77 Two-mica granitic gneiss: «Chimolungna» 400 Ma, Sengler & Sengler 1953
 - 78 Polycyclic gneisses of various compositions and amphibolite «Pentate» and «Sambuco»
- Quaternary**
 - 0 Undifferentiated alluvial and glacial sediments
- Tertiary intrusive rocks**
 - 79 Two-mica granite: Novata Stock 25 Ma, Lind et al. 2000
 - 80 Biogel Granite 20 Ma, von Blanckenburg 1982
 - 81 Biogel Granite 20 Ma, von Blanckenburg 1982
 - 82 Biogel Granite 22-23 Ma, von Blanckenburg 1982; Olard et al. 2004

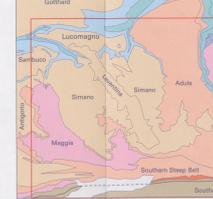
Layers and lenses of tectonically undifferentiated rocks

- 83 Marble
- 84 Ultramafic rock
- 85 Amphibolite-rich layers commonly with eclogite, talc
- 86 Amphibolite-rich layers in polycyclic basement

Structural elements

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

Tectonic overview 1:700 000



Published by Federal Office of Topography, Swiss Geological Survey
Cartography: Swiss Geotechnical Commission
Printed by: Festschuler AG, CH-8132 EggZi
Distribution: Federal Office of Topography, CH-3004 Wilten