

Zeitschrift:	Archives des sciences [1948-1980]
Herausgeber:	Société de Physique et d'Histoire Naturelle de Genève
Band:	23 (1970)
Heft:	2
Artikel:	Étude pétrographique des opiolites et des granites du flysch des Gets (Haute-Savoie, France)
Autor:	Bertrand, Jean
Kapitel:	Abstract
DOI:	https://doi.org/10.5169/seals-739139

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: 29.01.2026

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

ÉTUDE PÉTROGRAPHIQUE DES OPHIOLITES ET DES GRANITES DU FLYSCH DES GETS

(Haute-Savoie, France)

PAR

Jean BERTRAND

ABSTRACT

The first part of this study is dedicated to the detailed description of the various outcrops.

The following petrographical descriptions consist in two parts; one is concerning the igneous rocks in general: acidic (granites) and ophiolitic (diabases, gabbros and serpentines), the other is mainly devoted to xenoliths within the serpentines (the examination of the xenoliths has been particularly detailed).

The granites, associated or not to diabases, form scales of highly variable dimensions. These granites are to be attributed to the Hercynian cycle following several datations by the total lead method. Two varieties have to be considered: the first mainly albitic, the second one, with albite and orthoclase; in the former a sodic metasomatism may explain the disappearance of the orthoclase.

Ophiolites are represented by the three members of the trilogy: diabases-gabbros-serpentines.

By far diabases are the most abundant and they belong to various types. We have to mention diabases associated to the granites, diabases and diabasic formations related to the submarine volcanism, diabases more or less closely related to the serpentines and various diabasic breccias. We have to consider two mineralogical tendencies: first the obviously spilitic varieties (albite-chlorite, without or with hematite), secondly the amphibolic varieties and also a few varieties with pyroxene; these last two varieties, although having a spilitic tendency, may show plagioclase with some relictual calcic component.

Gabbros are poorly represented. They form either more or less individual masses, either elements of ophiolitic breccias, either xenoliths within the serpentines. They consist mainly in an amphibole bearing albitic variety, sometimes in a pyroxene variety. Some varieties with more calcic plagioclase have been observed.

The antigorite free serpentines are formed after a peridotite the original nature of which cannot be defined. Much more abundant than the gabbros, these serpentines appear under various aspects between a massive type and a totally sheared one; among these, an ophicalcite is very similar to the Appenine "Levanto". Diabasic and rare gabbroic xenoliths are always present among the various types of serpentines. Some of these xenoliths are the "ophisphérites", characterized by a specific concentric zonation.

By far the most interesting xenoliths, the "ophisphérites" present the problems both of their presence and of their successive transformations. These are attributed to two different episodes: during the first one the xenoliths could have been affected by a more or less important development of calcic silicates (clinozoisite mainly), whereas only during the second one develop the concentric more or less chloritized zones.

In the petrochemical section of this work, the results of the chemical analysis are accompanied by the Niggli parameters, by some results about trace-elements and by various diagrams.

Gabbros and diabases either related to the serpentines either as xenoliths were investigated through geochronometrical K/A method. Following these results, the majority of the dated ophiolites belongs to Jurassic age, but the ophiolitic activity continued up to the Upper Cretaceous.

The synthesis of the obtained results constitutes part of the conclusion of this work. We discuss, on one side, the relationship between igneous rocks and associated sediments, on the other side the paleogeographical initial realm of the igneous rocks of "les Gets". We reached the conclusion that these rocks are scattered lenses either directly among flysch type sediments or in other sedimentary formations.

We present a discussion of the various opposed hypotheses concerning the initial paleogeographical realm of these rocks. It seems obvious now that the related sedimentary series belong to an allochthonous mass thrusted upon the "Nappe de la Brèche". This mass along with its igneous components belongs to the extreme upper part of the prealpine body, at least in the studied area. For some writers (Trümpy) the initial paleogeographical realm of this unit is to be found northwest of the "Dent-Blanche" zone, but for other authors (G. and P. ELTER, C. STURANI and M. WEIDMANN) its origin might be related to the Canavese zone.