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Géologie de la région Lac Noir–Kaiseregg–Schafberg

(Préalpes médianes plastiques fribourgeoises et bernoises)

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Avec 45 figures et 6 tableaux dans le texte, et 4 planches (I-IV)

ABSTRACT

The region studied forms part of the 'Préalpes médianes plastiques', a sedimentary allochtonous mass whose origin is to be found in the 'Zone pennique ou subbriançonnaise' of the Alps. It can be divided into a northern zone and a southern zone which are different in stratigraphy and tectonics. The dividing line of these zones is the Anticline II.

Stratigraphy

The stratigraphic sequence includes a series of formations between the Triassic and the Paleocene (see Table 1). In the northern zone, the formations succeed each other without visible break. On the other hand, in the southern zone, the Toarcian beds are transgressive upon the Triassic (see Fig. 16). Within the beds of the Upper Lias, the Dogger and the Malm, some alternations can be recognized from north to south concerning nature, thickness and chronological extension of facies.

Isolated Foraminifera and Ostracoda are described for the first time from the Toarcian, the Aalenian, the Bajocian and the Bathonian of the 'Préalpes médianes plastiques'. The analysis of the stratification and the conditions of sedimentation in member C (Bathonian) of the calcareous-argillaceous Formation has been particularly emphasised.

Tectonics

The region includes several structures conditioned, in a great extent, by the transverse flaw of the Neuschels. From the northern part of the Anticline II down to the overthrust plan of the 'Préalpes médianes' upon the 'Préalpes ultrahelvétiques externes', all the structures are crushed and overthrusted along faultlines marked with abnormal contacts between the formations. For instance, the Dent de Broc syncline has been moved some 400 meters northwards, along the transverse flaw of the Neuschels and the crushing was so powerful that the limestones of the Malm were changed into marble near Unterbödeli. The tectonic map (Plate III) and the sections (Plate IV) clearly illustrate the tectonic complexity of this zone.

The Anticline II follows the Neuschels fault and, from Jaun to Riggisalp, has a N–S direction. From Riggisalp, it suddenly swings towards north-east, its normal direction.

In the south of the Anticline II, the masses of the Kaiseregg and the Schafberg are caused by a large syncline. Unlike the structures situated north of the Anticline II, this syncline is vast and well developed and the effect of the transverse flaw of the Neuschels is only observed in the meridional part where it sets up against the outer flank of this syncline (see Plate III, Sections A, B and C).