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## **Structure of the Bundschuh nappe in the Flattnitz area (Carinthia, Austria)**

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The investigated area is situated north of Flattnitz (Carinthia) and extends over approximately 12 square kilometers. The region is built of rocks of the Bundschuh nappe and the overlying Gurktal nappes as a part of the Upper Austro-Alpine nappes. The Bundschuh nappe consists of the Bundschuh-Priedröf Complex characterized by fine-grained, grey to brown paragneisses, interbedded with felsic, often coarse-grained orthogneisses. In thin-section, garnets illustrate a pre-Alpine zoning.

The Permo-Mesozoic cover in the upper parts (Stangalm Mesozoic) consists of quartzites overlain by mylonitic and dolomitic marbles. The dolomitic marbles can be distinguished into three different types: white to pale yellow marbles, grey-white banded marbles and grey to dark grey ones. In thin-sections, the three types contain white micas, opaque minerals and rarely quartz.

A special feature for this area is the intercalation of the dolomitic marbles with slates and phyllites, known as "Bockbühelschiefer". They can be subdivided by their grain size and color (grey, silver, black, dark purple). The mineralogical composition is quartz, sericite, opaque minerals and biotite. According to studies in the Brenner-Mesozoic and Northern Calcareous Alps a higher metamorphosed equivalent of the Reifling-and Partnach formation is suggested.

Structural geological observations in the Stangalm Mesozoic display a complex tectonic history with different deformation phases. Early structures show W-E-striking stretching lineations and isoclinal folds with W-E striking fold axes, overprinted by folds with parallel W-E trending fold axes and steeper penetrative axial planes, resulting a type 2 fold interference pattern. N-S striking fold axes and stretching lineations are the latest ductile structures in the study area.