

## Geological Context of Pb-Zn Mineralization of the Damagaram Pan-African Basement (Southeastern Niger)

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The study area corresponds to the Pan-African Province of the Damagaram (southeastern Niger), which is a part of the northeastern Benin-Nigerian Shield (Fig. 1). The main formations of this Pan-African basement are represented by quartzites, micaschists, schists, gneisses and more or less deformed granitoids (Greigert and Pougnet, 1967; Mignon, 1970).

These Pan-African formations are intruded by a set of alkaline granites which ages range from Carboniferous to Permian. These latter are well-known as "Younger Granites" (Moreau, 1982). The Pb-Zn mineralization have been highlighted in microgranites and quartzites, in which they are associated with quartz veins of 1-3 cm thickness and 1 to 10 m long.

The methodology implemented consisted of a field study followed by a polarizing microscope analysis of thin section of the rocks bearing mineralization in Pb-Zn.

The preliminary results of this study show that:

- Lead-Zinc mineralization consist of Zinc oxides and lead sulphides;
- The structural evolution of the study area is marked by two deformation phases. The first one, ductile, is characterized by the formation of rather tight folds associated with the development of a schistosity/foliation sometimes refolded, which is more or less affected by ductile shear zones. The second phase of deformation is brittle. It is marked by the formation of brittle deformation structures such as fractures and strike-slip faults.

**Keywords:** Damagaram, Pan-African, Benin-Nigerian Shield, Pb-Zn mineralization

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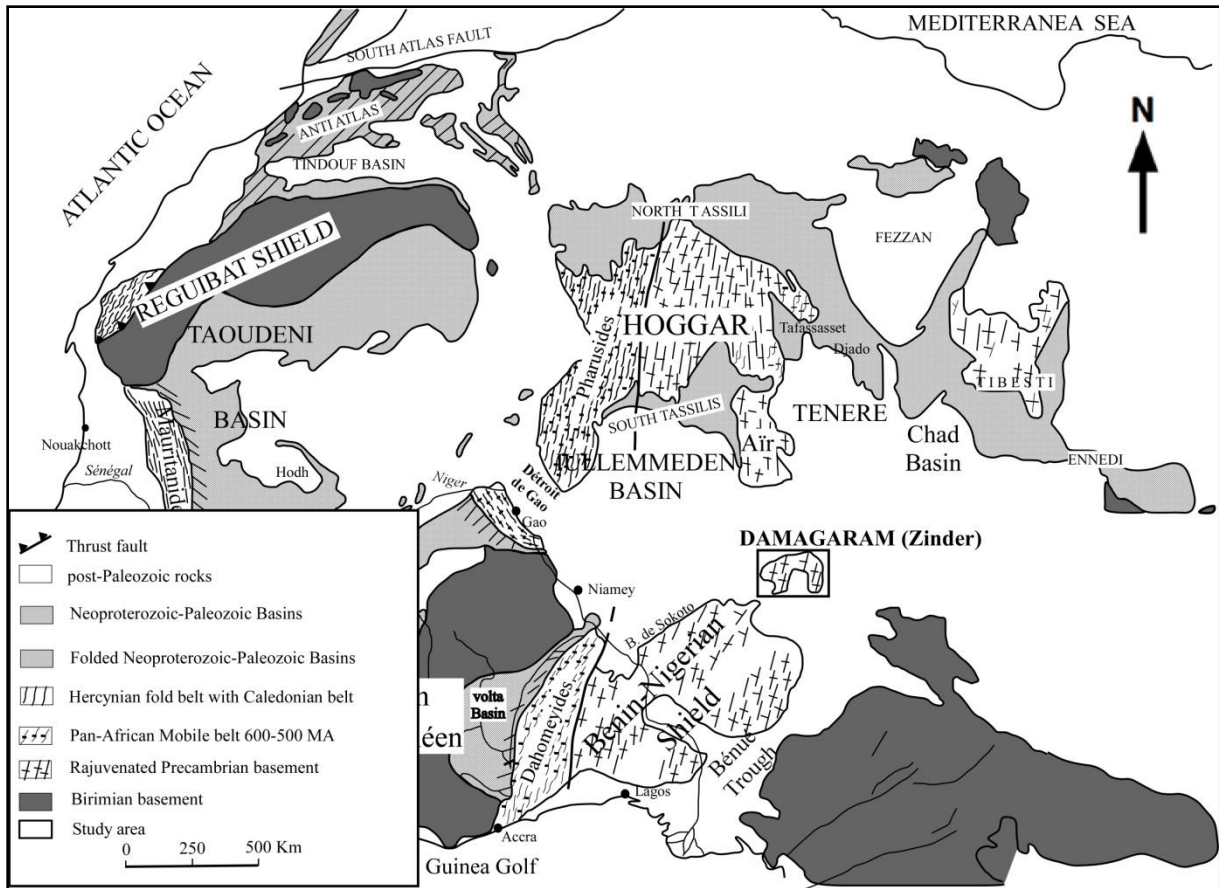


Fig. 1: Geological map of the West African Craton (Trompette, 1973)