CARBONATITES IN THE WESTERN BORDER OF SIERRAS SUBANDINAS (SALTA, ARGENTINA)

[1]DÁVILA, F.M.; [2]LIRA, R. and [1]GOZÁLVEZ, M.R. [1]Facultad de Ciencias Exactas, Físicas y Naturales, Universidad Nacional de Córdoba, Córdoba, Argentina. [2]Conicet-Museo de Mineralogía y Geología, Universidad Nacional de Córdoba, Córdoba, Argentina.

This is the first report on the occurrence of carbonatites beyond the boundaries of Sierra de Santa Victoria, in northwestern Argentina, where these lithological units were originally discovered. The outcrop is located between Cordillera Oriental and Sierras Subandinas (≡Interandean Region, Bolivia), at the Astillerito River, tributary of the Iruya River, Salta province, at 65°04'W-22°51'S.

The carbonatite body is a dyke (130°/80°E) ~0.5 m thick; its partial length goes as far as 30 m; total extension and the probable existence of a larger number of outcrops could not be determined due to forest coverage. The dyke intrudes with sharp contacts Ordovician siliciclastic host rocks of the Santa Victoria Group. The rock is composed of calcite (~ 90 %), an unidentified amphibole and minor amounts of apatite, zircon, phlogopite, and other non-identified phases. Small and scarce euhedral calcite rombohedrons of early crystallization stage are included in an equigranular calcite mass of subhedral crystals (2-3 mm size). Evidence of calcite dissolution is observed at intergranular boundaries where most accessory minerals are found, suggesting the circulation of fluids of postmagmatic origin. Field setting, structural, mineralogical and textural features allow to classify the rocks as calcite-carbonatites (sovites).

The Cordillera Oriental - Sierras Subandinas boundary is particularly affected by a sequence of Andean back-thrusts that involve Precambrian and Lower Paleozoic formations. Considering that carbonatites are related to extensional tectonics and embracing other alkaline rocks from close regions (Sierra de Santa Victoria), the back-thrusts could have originated after the reactivation of east-dipping Cretaceous hemigrabens during Cenozoic inversion tectonics.