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# PAINTING ON THE TRANSIT TO FOOD PRODUCTION IN EL AGUILAR, PUNA ARGENTINA (ca. 6000-2000 years BP): COLORS AND PIGMENTARY MIXTURES

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## Résumé

This study deals with the production of painted rock art at El Aguilar area, in the transition from hunting-gathering to food production that took place ca. 6000-2000 years BP in the Puna de Jujuy, Argentina. This socio-economic process was overlapped to the environmental transition from the Middle to the Late Holocene, in which markedly arid and stable conditions gave pass to a situation of greater humidity and less environmental stability, in a regional scale (Schittek 2015, Pirola et al., 2017). Transitional hunter-gatherers developed their own rock art manifestations that were along with those changes. Direct antecedents on the composition of the transitional paintings belongs to some painted motifs from the Cueva de Cristóbal site in El Aguilar, according to DRX and EDS analyses carried out by Fernández (1988/89). For the rest of the Puna de Jujuy, the only data available come from the contemporary paintings of the Quebrada de Inca Cueva, studied by DRX by Aschero (1983/85) and Aschero et al. (1991). This research aims to expand the existing knowledge on the so-called stylistic group B (Aschero et al., 1991), attributable to the transitional societies at El Aguilar, by a compositional characterization of pigmentary mixes of several sites with this kind of rock art namely: Cueva de Cristóbal, Alero del Medio and El Portillo Cave. Further, a discussion on the ways of doing painted rock art by transitional societies, is conducted. Because the composition of the whole tonal variety has not yet been studied, we deal with carrying out an integral characterization of the pigmentary mixtures. To do this, samples obtained from the paintings, supports, colored nodules recovered from the occupation floors and remains of colored substances coming from artifacts used in the preparation and / or application of the paintings, have been studied. The complementary analytical techniques used include XRD, Raman spectroscopy, FTIR spectroscopy and GC-MS. The results obtained in terms of elemental and structural composition of the mineral and organic fraction of the samples allow us to identify several components in different pigmentary mixtures (sulfates, carbonates, oxides and clays, among others) that would have been used individually or in combinations, as pigments and / or as additives. Important variants were recovered, involving a complex management of the resources used to paint. Finally, this information allow us to establish the variation in the use of these elements at El Aguilar compared to other areas of the Puna de Jujuy, and to the rock art of previous hunter-gatherers at that place.

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**Mots-Clés:** rock art, transition to food production, Middle to Late Holocene