Paleogeography and paleoenvironment sedimentary record of the Cambrian continental wedge of the Precordillera

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The Cambrian sedimentary record of the Precordillera is up to now limited as regards the otucrops of the western edge of the Precordillera. Tectonic limitations in the outcrops added to the high deformation, complicates the paleogeographical reconstructions and paleoenvironmental interpretations.

A thin skin tectonic type characterize the structural scheme of the thrustand fold belt of Precordillera. A homogeneous substratum composed by Cambrian-Ordovician carbonatic rocks, that do have a plastic behaviour in deepth (same as the clastic or hemipelagic Ordovician-Silurian secuence from the western of Precordillera). This rocks are the responsible for the detachment of thrust fault where the compressive strength are solved. Older autcrops (e.g. Cambrian rocks) imply deepthest detachment and are interpreted to be related nearly exclusively, to the front of, the thrust-fault of Western Precordillera.

In this paper we described the lithology and sedimentology of these outcrops with fossiliferous content of Cambrian age, interpreting a paleoenvironmental scheme and it's probably paleogeographical distribution.

The correlations between environmental platform and external edge-slope are up to now hipothetic in the majority of the arca corresponding to a Central Precordillera, because of the scarcity of outcrops older than the Lower Ordovician. Here, the interpretations are presented extrapolating data from the outcrops of the south of Precordillera (Co. Pelado and Alojamientos, Mendoza), and from the north (Guandacol), as well as the observations of lithological features from allochtonous deposits as olistolites.

All sedimentary sequences cropping out on the western edge have lithological features and sedimentary structures that indicate a sedimentation in an external edge platform environment, probably slope, dominated by gravity forces that indicate the existence of topographical gradient more pronunced than the platform.

Some cyclic arrangements and clastic sediments associated to current sedimentary structures, are indicative of sedimentary process dominated by the gravity forces. The faunal associations are by general tilobitical (agnostid), pointing out an open sea paleoenvironmental conditions.

Finally, the intemitent record of otocuarcitic levels, along of wole Cambrian sequence of Precordillera, indicates conditions of tenctonic stability, and characterizes the provenance from a cristaline bassement placed probably to the East. The paleogeographical and paleoenvironmental framework that characterizes the passive continental margin of Western Gondwana shows evidences of a slowly oscilating tectonism dominated by eustatic changes.