

NEW TITHONIAN BIOSTRATIGRAPHIC DATA FROM THE NEUQUÉN BASIN, ARGENTINE ANDES: A CONTRIBUTION FROM THE SOUTHERN HEMISPHERE

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We present new biostratigraphic data provided by ammonites, calcareous nannofossils, and calpionellids from Las Alcantarillas, a 127 m-thick section from the Neuquén Basin, western Argentina. The combined biostratigraphic information of these fossil groups enables to accurately correlate our findings from the Andes with the current Tithonian biozones-scheme of the Western Mediterranean Province of the Tethyan Realm.

The biostratigraphic records show that the early Tithonian calcareous nannofossil NJT 15 Zone correlates with the early Tithonian *V. andesensis*, *P. zitteli*, *A. proximus*, and *W. internispinosum* ammonite Zones, while its upper part correlates with the *Chitinoïdella* calpionellid Zone. In the studied section, the lower/upper Tithonian boundary is defined by the base of the *Crassicollaria* calpionellid Zone, which is close to the base of the NJT 16 nannofossil Zone and to the base of the upper Tithonian *Corongoceras alternans* ammonite Zone. Levels assigned to the NJT17 nannofossil Zone (upper Tithonian) are recognized and correlated with the upper part of the *Crassicollaria* calpionellid Zone and with the *Substeueroceras koeneni* ammonite Zone. So far, it has not been possible to define accurately the Jurassic/Cretaceous boundary in Las Alcantarillas. However, in the upper levels of the section, the *Argentinceras noduliferum* and the *Spiticeras damesi* ammonite Zones, traditionally assigned to the Berriasian, have been identified.

In addition to the paleontological analyses, bulk-rocks were sampled every 6 cm to measure magnetic susceptibility and $\delta^{13}\text{C}_{\text{org}}$, and tuff layers were sampled to obtain precise absolute ages on U-Pb zircons. An astrochronological framework has been obtained from the spectral analyses on magnetic susceptibility, which was integrated to the radiochronology results from the zircons. The high-resolution (every ~20 ka) $\delta^{13}\text{C}_{\text{org}}$ curve, the first of its kind obtained in the Neuquén Basin, will help in the global correlation of the Andean Late Jurassic and add a new perspective in the understanding of the stratigraphic distribution of its fossil associations.

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