

LOWER CRETACEOUS CALCAREOUS NANNOFOSSIL BIOSTRATIGRAPHY OF THE NEUQUEN BASIN, NORTHERN PATAGONIA, ARGENTINA

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The calcareous nannofossil events from four stratigraphic sections in Northern Patagonia, Argentina, are here presented, as a first attempt for the definition of the Lower Cretaceous calcareous nannofossil biozonation of the area. The studied sections (Agua de la Mula, Mina San Eduardo, Arroyo Cienaguitas, and Arroyo Loncoche), are located in Neuquen and Mendoza Provinces and comprise 1200 m thick of micritic limestones, shales, and marls, attributed to the Agrio Formation. This unit consists of three members, lower Member, the Avile sandstone and upper Member. The Agrio Formation was deposited in a extensive back-arc basin formed on a convergent margin, during two transgressive episodes which characterised the lower and upper Members, and separated by the lowstand deposits of the Avile Member. Scarce, well diversified, and moderate preserved calcareous nannofossils were recognised in the lower and upper Member of the Agrio Formation. The FO of *Eiffellithus striatus*, and the LO of *Cruciellipsis cuvillieri* define the top of CC3 and the CC4 Zones (Sissingh, 1977), and they confirmed the late Valanginian-late Hauterivian age for the deposition of the Agrio Formation in the area. The additional bioevents, the LO of *Eiffellithus windii*, the FO of *Nannoconus bucheri*, the FO of *Lithraphidites bollii*, were recognised for this interval. A high number of nannoconids was identified as part of the nannofossil association, especially in the upper Member, where the FO of *Nannoconus ligius* was recorded in coincidence with the presence of ammonite *Crioceratites diamantensis* (late Hauterivian), and it could be a promising bioevent for further correlations.