AMMONOID BIOSTRATIGRAPHY AND SR CHRONOSTRATIGRAPHY IN THE CRETACEOUS NEUQUÉN BASIN OF WEST-CENTRAL ARGENTINA

1AGUIRRE-URRETA, M.B., 2J.McARTHUR, 3THIRLWALL, M.F., 2RAWSON, P.F. and 4JANSSEN, N. 1Department of Geology, University of Buenos Aires, Buenos Aires, Argentina;2Department of Geological Sciences, University College London, London, UK;3 Department of Geology, RHUL, Egham, Surrey, K;4Geertekerkhof 14bis, 3511 XC Utrecht, The Netherlands

The Neuquén basin of west-central Argentina is a retroarc basin developed during Jurassic and Cretaceous times. A thick pile of more than 5 km thick of mostly marine sediments crops out along the foothills of the Andes. More than a century of fossil collecting, improved in the last years with bed by bed detailed studies have provided a good ammonoid biostratigraphy. Special attention has been paid to the Valanginian-Early Barremian marine sequences comprising the Vaca Muerta, Mulichinco and Agrio Formations. Besides the ammonoid biostratigraphy, nannoplankton and dinoflagelates are being studied in order to produce a provisional integrated biostratigraphy. Furthermore, strontium isotopic work that would enable age determinations independent of normal palaeontological methods is also being performed. Fossil oysters have proven suitable for isotopic work and are calibrated stratigraphically with a robust ammonite stratigraphy. For the Valanginian, Sr isotopic data confirm palaeontological ages and the proposed biostratigraphic correlations to standard European sections. Whilst robust Sr isotopic data have been obtained for Hauterivian samples from Argentina, the current inadequacy of a rather poorly-defined Sr isotope reference curve for the European Hauterivian make correlation and dating to northern hemisphere sections rather uncertain at present. We continue to refine the Sr isotope stratigraphy of both Argentinian and European sections in order to provide a robust check on biostratigraphic dating and correlation.