

GONDWANA 15
North meets South



ABSTRACTS
BOOK

14-18 July 2014, Madrid
(Spain)

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COORDINATORS

César Casquet

Universidad Complutense de Madrid
Instituto de Geociencias (CSIC-UCM), SPAIN

Juan Carlos Gutiérrez-Marco

Instituto de Geociencias (CSIC-UCM), SPAIN

Javier Fernández-Suárez

Universidad Complutense de Madrid
Instituto de Geociencias (CSIC-UCM), SPAIN

EDITORS

Robert J. Pankhurst (BGS, UK)

Pedro Castiñeiras (UCM, SPAIN)

Sonia Sánchez Martínez (UCM, SPAIN)

Meeting venue

Superior Technical School of Mines

New geochronological data and evolution of the Late Paleozoic formations in the western Andean Precordillera, San Juan, Argentina

F. Colombo¹, C.O. Limarino², L.A. Spalletti³, G. Gallastegui⁴, A. Rubio-Ordóñez⁵, A. Cuesta⁵, P. Busquets¹, R. Cardó⁶, S.N. Césari⁷, I. Méndez-Bedia⁵ and N. Heredia⁴

¹Dept. Estratigrafía, Paleontología y Geociencias Marinas. Facultad de Geología, Universidad de Barcelona, C/Martí-i-Franquès s/n. E-08028 Barcelona, Spain; colombo@ub.edu, pere.busquets@ub.edu

²Dept. Geología. Facultad de Ciencias Exactas y Naturales. Universidad de Buenos Aires. Ciudad Universitaria. Pabellón II, C1428EHA Buenos Aires, Argentina; oscarlimarino@gmail.com

³Centro de Investigaciones Geológicas CIG-CONICET. Universidad Nacional de La Plata. Calle 1, n° 644, 1900 La Plata, Argentina; spalle@cig.museo.unlp.edu.ar

⁴Instituto Geológico y Minero de España (IGME), Matemático Pedrayes, 25, E-33005 Oviedo, Spain; g.gallastegui@igme.es, n.heredia@igme.es

⁵Dept. Geología. Facultad de Geología. Universidad de Oviedo. C/Jesús Arias de Velasco s/n. E-33005 Oviedo, Spain; arubio@geol.uniovi.es, acuesta@geol.uniovi.es, imbedia@geol.uniovi.es

⁶Universidad Nacional de San Juan. Servicio Geológico Minero Argentino (SEGEMAR), Sargento Cabral, 685 Oeste. 5400 San Juan, Argentina; raulcardor@yahoo.com.ar

⁷Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”. Avda. Angel Gallardo 470. 1405 Buenos Aires, Argentina; silviancesari@macn.gov.org.ar

Late Palaeozoic formations in the western Precordillera (km 114 of the N-20 road) were revisited (Colombo *et al.*, in press). The lower member of the Del Ratón Fm overlies the Devonian basement with marked angular unconformity (D1) and is interpreted as a fjord deposit. It consists of conglomerates with igneous clasts, in which Gallastegui *et al.* (in press) obtained an early Carboniferous (late Tournaisian) U-Pb zircon age of 348 ± 2 Ma. The upper member covers another smooth unconformity (D2), and is interpreted as the deposit of an alluvial fan system which evolved into a coastal fan delta. A sharp rise in relative sea-level resulted in the deep-sea fan Carboniferous deposits of the El Planchón Fm at the end of Chanic orogeny. During the rest of the Carboniferous, these successions were incorporated into the proto-Precordillera high, a remnant of the Chanic cordillera, and a new (D3) angular unconformity is recorded between Carboniferous and Permian deposits. The early Permian (Asselian) Del Salto Fm, which accumulated after the collapse of the proto-Precordillera (Gondwanan orogeny), is essentially composed of sandstone and shale interpreted as coastal and shallow marine deposits. A new tectonic event is recorded at the top of the Del Salto Fm (D4 unconformity), and the coarse-grained alluvial deposits of the Quebrada del Alumbre Fm accumulated during the early Permian according to a new U-Pb zircon age of 293 ± 5 Ma (data) from a pyroclastic fall deposit. Subsequently, a new expansive coastal system (Escombrera Fm) was deposited over a smooth unconformity (D5). Barredo *et al.* (2012) published a middle Permian U-Pb zircon age of 267 ± 7 Ma from an andesite located within this unit. The Quebrada de la Arena Fm rests on another smooth unconformity (D6). This unit consists of siliciclastic deposits accumulated in continental environments (playa-lake, high-sinuosity and braided fluvial systems, and alluvial fans). In the lower part of the Quebrada de la Arena Fm, a new middle Triassic (Ladinian) age of 238 ± 2 Ma (U-Pb zircon) is obtained from a pyroclastic fall deposit. Thus, the D6 unconformity records the limit between the Permian and the Triassic deposits. The Rincón Blanco Group (“sensu lato”), which lies on an angular unconformity (D7), was deposited during the Middle–Late Triassic and displays another angular unconformity (D8) in its lower part.

Barredo, S., Chemale, F., Marsicano, C., Ávila, J.N., Ottone, E.G., Ramos, V.A., 2012. Tectono-sequence stratigraphy and U-Pb zircon ages of the Rincón Blanco Depocenter, northern Cuyo Rift, Argentina. *Gondwana Research* 21, 624-636.

Colombo, F., Limarino, C.O., Spalletti, L.A., Busquets, P., Cardó, R., Méndez Bedia, I., Heredia, N. (in press). Late Palaeozoic lithostratigraphy of the Andean Precordillera revisited (San Juan province, Argentina). *Journal of Iberian Geology*.

Gallastegui, G., González-Menéndez, L., Rubio-Ordóñez, A., Cuesta, A., Gerdes, A. (in press). Origin and provenance of igneous clasts from late Palaeozoic conglomerate formations (Del Ratón and El Planchón) in the Andean Precordillera of San Juan, Argentina. *Journal of Iberian Geology*.