

## The eoorthid brachiopod *Apheoorthina* in the Lower Ordovician of NW Argentina and the dispersal pathways along western Gondwana

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The eoorthid brachiopod *Apheoorthina* is reported for the first time from the Lower Ordovician of NW Argentina. It

is represented by a species similar to *A. ferrigena* from the Tremadocian of the Prague Basin, increasing the faunal affinities between the Central Andean Basin and the South European microcontinents, in particular the Bohemian region (Perunica). Nine out of the fourteen brachiopod genera reported from the Tremadocian of the Central Andean Basin (~64%) are shared with the Mediterranean region, four of which (~28%) have been recorded in the Prague Basin, and two (*Kvania* and *Apheoorthina*) are restricted to the Central Andes and Perunica. Dispersal pathways around Gondwana are analyzed in the light of major factors affecting large-scale distribution of brachiopods (environment, larval capacity for dispersal, oceanic currents). The presence in *Apheoorthina* aff. *ferrigena* of a well-preserved larval protegulum measuring 420 µm in width and 210 µm in length strongly suggests that this species had planktotrophic larvae capable of long-distance dispersal. According to recent ocean-atmosphere general circulation models for the Ordovician Period, the Central Andean margin was dominated by the cold-water Antarctica Current. Despite the complex non-zonal pattern produced by current deflections around the peri-Gondwanan microcontinents, the general westward circulation sense favoured larval dispersal from the Andean region to North Africa, Avalonia, the Armorican Terrane Assemblage, and Perunica. On the other hand, the eastwards flowing Gondwana Current connected the North Gondwana waters with the South American epicontinental seas, which could explain the reversed migration of some brachiopods.

**Key words:** Brachiopoda, palaeobiogeography, Ordovician, Tremadocian, Gondwana, Perunica, Argentina.

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