

A new dolphin from the early Miocene of Patagonia, Argentina: Insights into the evolution of Platanistoidea in the Southern Hemisphere



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The contents of the superfamily Platanistoidea, an early-diverging lineage comprising extinct species and a single extant representative of South Asian river dolphin (*Platanista gangetica*), remain controversial. We describe here a partial skull and associated tympano-periotic bones identified as a new genus and species, *Aondelphis talen* gen. et sp. nov., collected in the lower levels of the Gaiman Formation (early Miocene), in Patagonia (Chubut Province, Argentina). *Aondelphis* is the first Patagonian platanistoid species named in almost a century. Phylogenetic analyses suggest *Aondelphis talen* gen. et sp. nov. and a taxon from New Zealand (cf. *Papahu* ZMT-73) are basal Platanistoidea sensu lato. Unambiguous synapomorphies related to the ear bones allowed us to determine its phylogenetic position. *Aondelphis talen* markedly differs from the other well-known early Miocene Patagonian platanistoid *Notocetus*, suggesting the coexistence of at least two different morphotypes that may have occupied different ecological niches at that time. The putative close relationship with a species from New Zealand indicates there was a rapid diversification and widespread distribution of the group in the Southern Hemisphere during the early Miocene. The description of new species and revision of historical records of Patagonian platanistoids can help shedding light on cetacean assemblages of the Patagonian sea during this epoch.

Key words: Mammalia, Platanistoidea, evolution, Miocene, Gaiman Formation, Argentina, Chubut Province.

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