

## AMMONOIDS OF THE BASAL SECTION OF THE VACA MUERTA FORMATION, NEUQUÉN BASIN, ARGENTINA

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Marine successions of the Vaca Muerta Formation (early Tithonian-late Berriasian) in the Neuquén Basin, west-central Argentina, are worldwide known by their abundant and well preserved ammonoid content. A systematic revision of the ammonoid groups contained in the first portion (late early Tithonian - early middle Tithonian) of the Vaca Muerta Formation was performed. This study aims to clarify the stratigraphic distribution of the involved species, their relative abundance and diversity and their palaeobiogeographical affinities. Sampling was performed over eighteen stratigraphic sections, placed along a north-south transect in the basin, from the Aconcagua in northern Mendoza to Picún Leufú in southern Neuquén. Over 600 specimens were selected for the taxonomic analysis which resulted in the identification of thirteen species and one subspecies of ammonoids that, in turn, were grouped into six genera, four subfamilies and three families. Among them, a new genus and two new species are proposed. Members of the Family Ataxioceratidae, which encompass 86% of the species, dominated the faunal association, whereas the Families Aspidoceratidae and Simoceratidae grouped the 14% of the remaining species. Concerning Subfamilies, Virgatosphinctinae (65%) was the best represented, followed by Lithacoceratinae (21%), Physodoceratinae (7%) and Simoceratinae (7%). Subfamily Virgatosphinctinae comprises three genera: *Virgatosphinctes* Uhlig, with two species, *Virgatosphinctes andesensis* (Douville) and *Virgatosphinctes (?) densistriatus* (Steuer); *Pseudinvoluticeras* Spath with three species, *Pseudinvoluticeras douvillei* Spath, *Pseudinvoluticeras windhauseni* (Weaver) and *Pseudinvoluticeras (?) n. sp.?*; and *Choicensisphinctes* Lanza with four species, *Choicensisphinctes choicensis* (Burckhardt), *Choicensisphinctes erinoides* (Burckhardt), *Choicensisphinctes n. sp. aff. erinoides* and *Choicensisphinctes n. sp.* Subfamily Lithacoceratinae was found to be well represented by abundant specimens of "*Subplanites*" Spath, which hitherto has been found to encompass only one species, "*Subplanites*" *malarguensis* Spath. Subfamilies Physodoceratinae and Simoceratinae include one genus each: *Schaireria* Checa, with *Schaireria neoburgensis* (Opper) and *Pseudovolanoceras* Cecca, with *Pseudovolanoceras sp. cf. Pseudovolanoceras aesinense krantzense* (Cantú-Chapa), respectively. The identification of a taxonomically homogeneous ammonoid assemblage in the lower portion of each of the studied Vaca Muerta Formation sections enables to support the hypothesis of a synchronous Tithonian transgression in the Neuquén Basin. Typical Indo-Pacific elements such as *Virgatosphinctes*, as well as Mediterranean forms like *Pseudovolanoceras*, confirm the well established marine connections of the Neuquén Basin with the Mediterranean and Indo-Pacific Subrealms, at least since the Tithonian. Endemic (e.g. *Choicensisphinctes*) and pandemic genera (e.g. *Schaireria*) have also been recorded in the analyzed stratigraphic interval. [Contribution C-78 of the Instituto de Estudios Andinos "Don Pablo Groeber"].

