

NEW TAXA IN THE PALEOCENE FLORA FROM THE CROSS VALLEY-WIMAN FORMATION, MARAMBIO (= SEYMOUR) ISLAND, ANTARCTICA

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The Paleocene at the Marambio Island (James Ross basin) is represented by three marine sedimentary units. The uppermost unit corresponds to the Cross Valley-Wiman Formation (CVWF), which overlies previous units by a strong erosive discordance. Contrary to the underlayed units, the CVWF is characterized by the preservation of a rich flora of compressions and petrifications; preserving leaves and seeds at its uppermost section (Bahía Pingüino Allomember), that corresponds to lagoon or protected bay facies and which age has been dated as upper Paleocene (C25n, Thanetian). Its fossil records are known since the Dusén studies from 1908, who proposed 87 leaf taxa. Despite its Southern Hemisphere importance, few studies have revised the plant type materials, recognizing a richness reduction from the originally proposed to three fern species, two conifers, and 14 angiosperms. New Argentina field works have permitted to identify the 19 previous taxa, recognizing two more from Dusén (*Mollinedia seymourensis* and *Phyllites* sp. 14), and adds seven new findings (a fertile fern, a filmy fern, and five angiosperms). The unbiased collection of 282 exemplars allows to measure the taphoflora relative abundance. It indicates the dominance (35%) of ferns (*Cladophlebis* and *Sphenopteris*). The most common angiosperm families were Atherospermataceae, Lauraceae, Moraceae?, Nothofagaceae, and Winteraceae. The Araucariaceae also were well represented, in agreement with wood studies. The CVWF taphoflora overpass the Paleocene known richness in all the Antarctic Peninsula, adds new elements, and quantifies the relative proportion of taxa.

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SEARCHING ON THE BOUNDARY: A RICH VERTEBRATE ASSEMBLAGE ON THE ANTARCTIC UPPERMOST MAASTRICHTIAN

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The Maastrichtian–Danian López de Bertodano Formation comprises a thick sequence of marine deposits that is well exposed on Seymour (= Marambio) and Vega islands. The López de Bertodano Formation yielded vertebrates such as chondrichthyans, teleosts, marine reptiles (plesiosaurs and mosasaurs) and dinosaurs (including birds). On the last three Antarctic fieldtrips our paleontological work has been focused on the prospection of the uppermost Cretaceous levels of the López de Bertodano Formation (Unit 8 and Unit 9) with the final objective of determine the faunal composition registered below the K/Pg boundary in that latitudes. The first result is the recovery of an almost complete skeleton of an elasmosauridae (7 m in length). The extraction spent about a month since, at least half of the specimen, was buried in the frozen soil (permafrost). The specimen IAA-Pv 752, is extremely relevant because it is the first well-preserved elasmosaurid from the López de Bertodano Formation that kept both cranium and postcranium. A preliminary comparison of this specimen indicates the presence of several interesting features such as 1) high coronoid process, 2) circular atlantal cup, 3) wide symphyseal mandibular sulcus, 4) atlas-axis complex with low and rounded ventral keel, and 5) relative low cervical account (39 cervical vertebrae). Although IAA-Pv 752 is clearly a non aristonectine elasmosaurid, several features of its axial