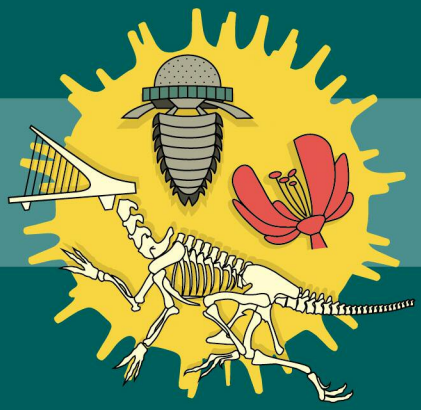

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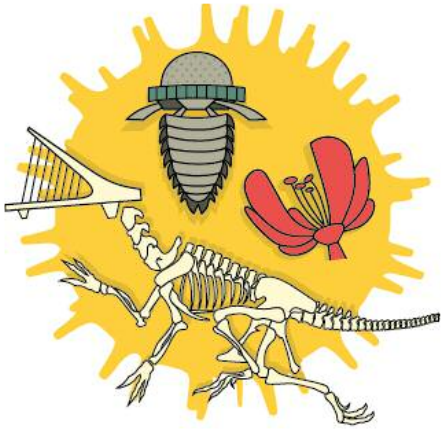

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III SIMPOSIO SOBRE ECOSISTEMAS TRIÁSICOS – SU PALEOBIOLOGÍA Y EL CONTEXTO DE RECUPERACIÓN DE LA GRAN EXTINCIÓN

Debido a la expansión del conocimiento de los ecosistemas triásicos, es que proponemos la realización de este simposio que creemos será un ambiente propicio para el intercambio de las nuevas hipótesis que proporcionan una nueva perspectiva en el estudio de los ecosistemas triásicos. Asimismo ofrece un espacio fructífero para el desarrollo de futuros proyectos de investigación de interés para toda nuestra comunidad.

Coordinadoras
Dra. ADRIANA CECILIA MANCUSO
Dra. ANDREA ARCUCCI

margen dorsal triangular similar a lo observado para el género *Paracypria*. Hasta el momento, la preservación de los moldes y valvas dificultan la asignación taxonómica certera de los especímenes. Estudios previos en la Formación Cerro de Las Cabras, han mencionado la presencia de una baja diversidad de ostrácodos correspondientes a los subórdenes Darwinulocopina y Cypridocopina. Este trabajo aporta cinco morfotipos diferentes a los ya descriptos para la Formación Cerro de Las Cabras. Sin embargo, un análisis taxonómico de mayor detalle, aportará al conocimiento de la diversidad de ostrácodos para la unidad.

PLANT-ARTHROPOD INTERACTIONS AND ASSOCIATED ENTOMOFAUNAS IN PERMIAN AND TRIASSIC FLORAS FROM SOUTHWESTERN GONDWANA

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Plant-arthropod interactions, especially those involving insects, are among the most common biotic relationships, both in diversity and abundance. The fossil record reflects these associations as damage traces on the leaves, stems, seeds, as well as other plant organs, allowing researchers to identify the type of interaction and, sometimes, infer about the likely producer. Here, we present an update of the current knowledge of Permian and Triassic floras with evidence of arthropod damage from southwestern Gondwana and appoint other numerous units with high potential for plant-arthropod interaction studies. When available, we also add information about the associated entomofaunas present at the same unit, as they offer a unique opportunity for inferences about the producers of the traces. It is currently accepted that the widely dominating *Glossopteris* floras from the Southern Hemisphere were already declining before the end-Permian extinction event, and the subsequent restoration of the ecosystems by gymnosperm-dominated floras remained rare until the Middle Triassic worldwide. Likewise, a faunal turnover instead of a mass extinction seems to be a more adequate explanation for changes in insect faunas, at least at the order or family levels. Preliminary observations from several of the units herein considered, indicate an overall herbivory preference for glossopterids during the Permian, whereas a wider arrange of plant taxa, including umkomasiales, ginkgoales, cycadales and conifers, were utilized by the insects during the Triassic. Despite the change of the preferred plant hosts, all feeding and reproductive strategies (*i.e.*, external feeding, piercing and sucking, galling, mining and oviposition) are found in both time periods, pointing to the re-establishment of even the more specialized strategies by a renewed, 'modern' invertebrate fauna in the latest Middle Triassic. With this contribution, we hope to inspire other researchers to consider looking for evidence of arthropod damage in fossil floras from a time interval of major interest due to salient biotic and abiotic events of regional and global significance, some of which probably acted as key drivers controlling the interactions between plants and insects.

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A FOSSIL GNETALEAN LEAF WITH EVIDENCE OF INSECT MINING FROM THE UPPER TRIASSIC OF MENDOZA, ARGENTINA

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Leaf mines are endophytic traces produced by larvae from the Diptera, Coleoptera, Hymenoptera or Lepidoptera when feeding on the tissue in between the epidermises of the leaf. Although there are a few mentions from the Late Paleozoic, the earliest unequivocal leaf mine is found in Lower Triassic deposits from Russia. Still, the pre-Cretaceous record of leaf mining remains meager and rare. Despite being more infrequently preserved in comparison to other types of plant-arthropod interactions (both endophytic and exophytic), the identification of Triassic leaf mines in Gondwanan deposits has considerably increased in the last years, and has been documented predominantly on voltzialean *Heidiphyllum* leaves, but also on pteridosperm, ginkgoalean and cycadalean leaves from Brazil, South Africa and Australia. Here, we present a mine trace on a fossil leaf from the Carnian (~232 My) Quebrada del Durazno locality, uppermost section of the Potrerillos Formation, in Mendoza province (Argentina). The specimen IANIGLA-PB 97 a-b consists of the impression of a gnetalean *Yabeiella brackebuschiana* leaf bearing a linear mine trace. The leaf mine is positioned at the middle part, on one side of the leaf lamina. It is 15 mm long (measured as a straight line from start to end) and is characterized as a mostly linear trace with some wide turns. The trace keeps almost the same width all along, and its path crosses the secondary veins but never the primary vein of the leaf. Small, rounded 0.2 mm in diameter pellets (frass) are present throughout the mine. The Quebrada del Durazno locality comprises an abundant *Dicroidium* flora in association to a rich paleoentomofauna, among which hemipterans, mecopterans, orthopterans, odonatans, grylloblattids, dipterans and coleopterans can be found. Out of the possible producers of the leaf mine herein presented, beetles seem the most likely candidates, although an unquestionable attribution is at present unattainable. Finally, this is the first leaf mine recorded for the Cuyana Basin, adding to another single Triassic Argentinean mention of a mine trace from the Norian Laguna Colorada Formation in Santa Cruz province. This finding expands the current wealth of information on plant-arthropod interactions gathered from several field work seasons at the Potrerillos Formation and increases the number of identified insect damages currently under examination by this research group.

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CARNIAN ENVIRONMENTAL AND BIOLOGICAL CHANGES, AND THEIR EARLY–MIDDLE TRIASSIC ROOTS

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The Carnian (237–227 Ma) was a time of deep biological and environmental changes. Some marine and terrestrial animals experienced high extinction rates, and new groups first appeared or explosively diversified, forming new ecosystems. The biological turnover could have been linked to the Carnian Pluvial Episode, a climate change associated with major C-cycle perturbations and global warming, and marked by a strong enhancement of the hydrological cycle, with evidence for a more humid environment recorded from deep-water Panthalassa to terrestrial Pangaea. The Carnian Pluvial Episode lasted for about 1–2 Myrs (232–234 Ma), from the late early (Julian 2) to the early late Carnian (Tuvalian 1). The Carnian Pluvial Episode is coeval with the emplacement of the Wrangellia oceanic plateau, a large igneous province that erupted in the Panthalassa Ocean. Data show that Wrangellia was active in the Julian–early Tuvalian, therefore showing a clear overlap with the Carnian Pluvial Episode. However, the links between the Carnian Pluvial Episode, the biological changes, and large igneous province volcanism are still unclear because, *e.g.*, the resolution of data is not high enough to clearly define the cascade of events and the correlation between different areas, particularly terrestrial settings, remains difficult. In this talk I will summarize the current knowledge on the Carnian Pluvial Episode, discuss new geochemical evidence of the links between the Carnian Pluvial Episode and Wrangellia, and show how the background conditions resulting from long-term Early–Middle Triassic changes, determined the style of the Carnian Pluvial Episode in response to large igneous province volcanism.