ABSTRACTS

TAAS 2021

2nd Workshop on Actualistic Taphonomy

Rio Grande do Sul, Brazil

19-21 July 2021 – Online

Centro de Estudos Costeiros, Limnológicos e Marinhos, CECLIMAR, UFRGS Litoral Norte

Edited by Matias N. Ritter, Fernando Erthal, Rodrigo S. Horodyski

ABSTRACTS VOLUME

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VOLUME PRESENTATION

As announced during the First Workshop held in Montevideo (TAAS 2017; Figure below), we are organizing the second Workshop on Actualistic Taphonomy in South America. The idea of a small meeting (as a workshop stricto sensu) is to be continued, given the extraordinarily successful results of the first event. Covid-19 has been forcing institutional decisions that are affecting directly any type of people gathering and agglomerations. In this sense, we decided to postpone our 2nd TAAS to 2021.

The event is supported by the Centro de Estudos Costeiros, Limnológicos e Marinhos (CECLIMAR), Imbé, north coast of Rio Grande do Sul State, Brasil.

Matias N. Ritter
General Chair of 2nd TAAS
Imbé, July, 2021

SCHEDULE

19/07/2021

09:00 – 09:30 – Welcome

09:30 – 10:00 – Aguiar et al. – MYTILIDAE SHELLS AS AN AVAILABLE SURFACE FOR SCLEROBIONTS COLONIZATION: IMPLICATIONS TO ECOLOGY AND PALEONTOLOGY

10:00 – 10:30 – Coffee break

10:30 – 11:00 – Archuby & Roche – TAPHONOMIC FIDELITY AND THE DETECTION OF ANTHROPIC IMPACTS IN SHALLOW WATER MARINE BENTHIC COMMUNITIES OF SAN ANTONIO BAY, NORTHERN PATAGONIA, ARGENTINA

11:00 – 11:30 – Assumpção et al. – CONSERVATION PALEOBIOLOGY THROUGH COMPOSITIONAL FIDELITY OF MOLLUSCS IN THE PATOS LAGOON ESTUARY

11:30 – 12:00 – Battista & Schultz – "SAMPLING BIAS" IN VERTEBRATE PALEONTOLOGY: STATE OF THE ART AND COMMENTS

12:00 – 14:00 – Lunch break

14:00 – 14:30 – Bavaresco et al. – TAPHONOMY OF SHELLY DEPOSITS FROM SÃO FRANCISCO DO SUL ESTUARY: PRELIMINARY APPROACH

14:30 – 15:00 – Fernandino & Ellif – ANTHROPOQUINAS: RECENTLY FORMED SEDIMENTARY ROCKS WITH TECHNOFOSSILS IN SOUTHERN BRAZIL

15:00 – 15:30 – Montalvo et al. – EFECTOS DE LA METEORIZACIÓN SOBRE MOLARIFORMES DE VIZCACHA (LAGOSTOMUS MAXIMUS, CHINCHILLIDAE, CAVIOMORPHA) Y SU APLICACIÓN AL REGISTRO FÓSIL

15:30 – 16:00 – Borrazzo – QUANTIFYING PSEUDOARTIFACTS IN THE ARCHAEOLOGICAL RECORD: AN ACTUALISTIC APPROACH IN LITHIC ARTIFACT TAPHONOMY

16:00 – 16:30 – Coffee break

16:30 – 17:00 – Ricardi-Branco et al. – EARLY DIAGENESIS OF SEEDS ASSOCIATED WITH LIMESTONES SOILS

17:00 – 17:30 – Casati et al. – CORRELAÇÃO FACIOLÓGICA E TAFONÔMICA ENTRE DEPÓSITOS CONCHÍFEROS HOLOCÊNICOS LAGUNARES E SAMBAQUIS, NA COSTA CENTRO SUL DE SANTA CATARINA, BRASIL

17:30 – 18:00 – Cenci & Horodyski – FERN-INSECT INTERACTIONS AS A RELATIVE PROXY TO CONTINENTAL PALEOCLIMATE

18:00 – 18:30 – Francesco & Hassan – DIFFERENTIAL PRESERVATION OF MOLLUSKS IN PAMPEAN SHALLOW LAKES: IMPLICATIONS FOR THE UNDERSTANDING OF THE PAMPEAN LACUSTRINE FOSSIL RECORD

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09:00 – 09:30 – L'Heureux et al. – SEDIMENTOS, GEOQUÍMICA Y HUESOS: TAFONOMÍA ACTUALÍSTICA EN EL INTERFLUVIO DE LOS RÍOS GALLEGOS Y CHICO, PATAGONIA, ARGENTINA

09:30 – 10:00 – Ghilardi et al. – DECADAL PERSPECTIVES ON BOUCHARDIA SHELL ACCUMULATIONS FROM THE NORTHERN COAST OF THE BRAZILIAN SHELF, SOUTH ATLANTIC

10:00 – 10:30 – Coffee break

10:30 – 11:00 – Gómez et al. – APROVECHAMIENTO DE UN EXPERIMENTO NATURAL EN TAFONOMÍA ACTUALISTA

11:00 – 11:30 – Hassan & Diaz – EXPERIMENTAL TAPHONOMY OF FRESHWATER DIATOMS: DISCRIMINATING BETWEEN CHEMICAL AND PHYSICAL CAUSES OF FRUSTULE FRAGMENTATION

11:30 – 12:00 – Hornung et al. – POSSÍVEL SELEÇÃO POR ONTOGENIA NA PREDAÇÃO DE GASTRÓPODES SOBRE A ESPÉCIE DE BIVALVE MARINHO GLYCYMERIS LONGIOR

12:00 – 14:00 – Lunch break

14:00 – 14:30 – Leoni et al. – ASPECTOS TAFONÔMICOS DE TAMANDUA TETRADACTYLA LINNAEUS, 1758, CAVERNA LAPA DO BODE, BAHIA

14:30 – 15:00 – Limeira Junior et al. – DIFFERENCES OF MICROTOPOGRAPHY IN MOLLUSCS DISSOLVED VALVES: TAPHONOMIC IMPLICATIONS

15:00 – 15:30 – Rodrigues et al. – DRILLING PREDATION RECORDED ON BOUCHARDIID SHELLS (BRACHIOPODA, RHYNCHONELLIFORMEA) IN THE CENOZOIC FOSSIL RECORD OF SOUTH AMERICA

15:30 – 16:00 – Schmidt-Neto et al. – THE HISTORY BEHIND PAGURIZED SHELLS

16:00 – 16:30 – Coffee break

16:30 – 17:00 – Lopes – DIFFERENTIAL PRESERVATION OF MODERN AND FOSSIL SHELLS OF THE BIVALVE ANOMALOCARDIA BRASILIANA (GMELIN, 1791) IN SOUTHERN BRAZIL

17:00 – 17:30 – Luz et al. – HOTSPOTS OF FIDELITY: LIVE-DEAD FAITHFULLY OF MARINE OSTRACODS SHED LIGHT ON THE STRUCTURE OF THE MICROFOSSIL RECORD

17:30 – 18:00 – Martínez – ASPECTO, EDAD, COMPOSICIÓN Y PRESERVACIÓN DE CONCHILLAS DE ACUMULACIONES MODERNAS EN UNA PLAYA DE URUGUAY

18:00 – 18:30 – Medeiros et al. – TRAÇOS MICROENDOLÍTICOS EM CONCHAS DE BIVALVES DE AMBIENTES MARINHOS SUBTROPICAIS E SEU POTENCIAL EM RECONSTRUÇÃO PALEOAMBIENTAL

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09:00 – 09:30 – Ozán et al. – ROCK ART TAPHONOMY: INORGANIC AND ORGANIC CHANGES OF EXPERIMENTAL PAINTINGS IN PATAGONIA

09:30 – 10:00 – Petró et al. – DISSOLUTION BIAS IN THE PLANKTONIC FORAMINIFERA ASSEMBLAGES FROM THE SOUTH ATLANTIC

10:00 – 10:30 – Coffee break

10:30 – 11:00 – Popts et al. – PALAEOMETRY AND ACTUALISTIC TAPHONOMY: THE IMPORTANCE OF TESTING TECHNICAL LIMITATIONS AND PARAMETERS ON THE STUDY OF FOSSIL AND EXPERIMENTAL SAMPLES

11:00 – 11:30 – Ribeiro et al. – FATORES QUE CONTROLAM A OCORRÊNCIA DE MICROFÓSSEIS EM AMBIENTES MARINHOS ASSOCIADOS A ARCOS VULCÂNICOS (PENÍNSULA ANTÁRTICA)

11:30 – 12:00 – Ritter et al. – TO BE OR NOT TO BE A FOSSIL: A DILEMMA ON THE QUATERNARY PALEONTOLOGY

12:00 – 14:00 – Lunch break

14:00 – 14:30 – Lopes & Ferigolo – ARISTOTLE'S 'WHEEL PARADOX' AND THE TAPHONOMY OF THE CERITHID GASTROPOD CERITHIUM ATRATUM (BORN, 1778) FROM CONCEIÇÃO LAGOON, SOUTHERN BRAZIL

14:30 – 15:00 – Rojas et al. – TAFONOMÍA ACTUALISTA DE ENSAMBLES DE VALVAS EN PLAYAS DE LA COSTA URUGUAYA

15:00 – 15:30 – Saldanha et al. – MODERN TO PENNSYLVANIAN FJORDS: TAPHOFACIES AND SUBTLE VARIATIONS IN CIRCULATION AT THE LATE PALEOZOIC ICE AGE

15:30 – 16:00 – Santos et al. – PARASITIC LIKE-TRACES ON MARINE MOLLUSKS: NEW SOUNDS FROM SOUTHERN BRAZIL

16:00 – 16:30 – Coffee break

16:30 – 17:00 – Scarabino et al. – IMPLICANCIAS TAFONÓMICAS DE LA RELACIÓN AVES-MOLUSCOS ACUÁTICOS EN AMBIENTES COSTEROS URUGUAYOS Y RIOGRANDENSES

17:00 – 17:30 – Sierra et al. – TAFONOMÍA EXPERIMENTAL: INTERVENCIÓN DE MICROORGANISMOS EN LA PRESERVACIÓN DE INSECTOS ACUÁTICOS DE LOS RÍOS DE SAN LUIS, ARGENTINA

17:30 – 18:00 – Silva et al. – DRILLING PREDATION IN RECENT ECHINOIDS (CLYPEASTEROIDEA, MELLITIDAE) FROM THE NORTHERN COAST OF THE BRAZILIAN SHELF, SOUTH ATLANTIC

18:00 – 18:30 – Guidelines for PALAIOS special issue & Closure

SUPPORT

Sociedade Brasileira de Paleontologia

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EXPERIMENTAL TAPHONOMY OF FRESHWATER DIATOMS: DISCRIMINATING BETWEEN CHEMICAL AND PHYSICAL CAUSES OF FRUSTULE FRAGMENTATION

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Frustule fragmentation is one of the major taphonomic factors affecting diatom preservation in Pampean shallow lakes. This has been demonstrated both by contemporary and fossil taphonomic studies, although little is known about the causes of frustule breakage and its environmental significance. Field studies along modern environmental gradients showed a low but significant correlation between dissolution and fragmentation, suggesting that debilitation of the frustule by silica dissolution can be the cause of diatom fragmentation. Reworking of sediments by wind action have also be suggested as a possible explanation for the observed fragmentation patterns. To evaluate the relative importance of chemical and physical causes of diatom fragmentation, three laboratory experiments were conducted to test for 1) the effect of physical agitation, 2) the effect of chemical dissolution, and 3) the joint effect of both variables on diatom fragmentation. Physical agitation was simulated by subjecting diatom samples to lineal shaking at 250 rpm during 30 days. Chemical dissolution was tested by mixing diatom assemblages with solutions of different concentrations of NaCl and $NaHCO_3$, and pH 10 during 20 days. The joint effect of both processes was tested by diluting diatom assemblages in salt solutions and subjecting them to agitation during 20 days at 250 rpm. In all cases, aliquots of each assemblage were sampled at initial and final experimental times and taphonomically analyzed through the application of fragmentation and dissolution indices. Significant differences in fragmentation indices were observed both in dissolution alone and combined experiments, but no differences were found in the agitation alone essay. In all cases, dissolution and fragmentation indices were correlated, suggesting a causal relationship among them. Overall, our results suggest that the debilitation of the diatom frustule by chemical dissolution may be the main cause of the observed fragmentation patterns in surface sediments of Pampean shallow lakes.