



***TUCUMAN BIOLOGY ASSOCIATION***  
(Asociación de Biología de Tucumán)

Abstracts from the  
**XXXVIII ANNUAL SCIENTIFIC MEETING**

October 20, 21, 22 – 2021  
Tucumán, Argentina

*The abstracts have been revised and evaluated by the Scientific Committee  
of the Tucumán Biology Association*

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## A25

### PURIFICATION OF ANTI-RBD ANTIBODIES OBTAINED FROM LLAMA (*Lama glama*) FOR POTENTIAL COVID-19 THERAPY

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Despite worldwide efforts to develop different treatments for SARS-CoV-2 COVID-19, the situation remains critical, requiring rapid and effective strategies. In this regard, antibodies (Ab) have demonstrated clinical potential. Among them, camelid nanoAb (VHH) arise as a possible alternative, as they recognize epitopes which are inaccessible to conventional Ab. Further advantages of VHH are their small size, high solubility, high stability, and resistance to low pH. The aim of this work is to describe a purification scheme of different isotypes of anti-SARS-CoV-2 immunoglobulin G (IgG) produced after immunizing two llamas (*Lama glama*). To achieve this, plasma was injected into an affinity chromatographic column (Protein G), and the resulting fractions were analyzed by SDS-PAGE under non-reducing conditions. The anti-RBD titers were determined by an "in house" ELISA, reaching titers of 52000 and 13000 for IgG<sub>1</sub> and IgG<sub>3</sub> fractions, respectively. Subsequently, an affinity column (HiTrap NHS-activated) was prepared to separate monospecific anti-RBD polyclonal Ab. RBD produced in our laboratory was covalently coupled to this column, achieving a coupling efficiency of 97%. Different isotypes of monospecific anti-RBD Ab (IgG<sub>1</sub>: 140 kDa and IgG<sub>3</sub>: 95 kDa) were obtained. IgG<sub>3</sub> represent the starting point for obtaining VHH and/or evaluating their potential use as a therapeutic or preventive alternative, which represents a notable regional contribution in the fight against COVID-19.

## A26

### WATER QUALITY ASSESSMENT OF THE MIRAFLORES RIVER, USING THE BENTHIC ENTOMOFAUNA AS BIOINDICATORS

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<sup>1</sup>PI+D: Benthic macroinvertebrates and water quality in the Los Angeles River basin, Capayán, Catamarca. <sup>2</sup>Scholar CIN EVC. FACEN-UNCA. E-mail: lbsalas@exactas.unca.edu.ar

Water of the Miraflores River is collected for human consumption, irrigation, and recreation, from the localities of Miraflores and Coneta, department Capayán, Catamarca. The aim of this research was to evaluate the water quality of the Miraflores River using benthic entomofauna as bioindicators. Three sampling stations (S) were established; in each one, two samples were collected with a "Surber" type sampler (900 cm<sup>2</sup> surface; 300-µm mesh opening), integrated for analysis. It was calculated: Biological Monitoring Working Party (BMWP'), Average Score Per Taxon (ASPT'), Family Biotic Index (IBF) and Ephemeroptera-Plecoptera-Trichoptera Index (EPT). In the S-I, the abundance was 326 insects; richness: 8 orders and 22 families. The values of the indices were: BMWP' = 126; ASPT' = 4.40; IBF = 5.72; EPT = 50.61%. In S-II, the abundance was 436; richness: 9 orders and 22 families. The values of the indices were: BMWP' = 128; ASPT' = 4.39; IBF = 5.82; EPT = 61.01%. In the S-III, the abundance was 468; richness: 9 orders and 25 families. The values of the indices were: BMWP' = 141; ASPT' = 4.21; IBF = 5.64; EPT = 66.03%. In the three stations, BMWP' (>50) means very clean waters; ASPT' (range 4.1–5.0) means slightly impacted water; IBF (range 4.26–5.75) means good quality water, with some organic contamination. EPT showed that pollution intolerant taxa contributed more than 50.00%. Biotic indices based on benthic entomofauna are very useful for assessing the biological quality of the Miraflores River water, combining biodiversity data and tolerance/intolerance to pollution.

## A27

### ALTITUDINAL DISTRIBUTION OF SCORPIONES, PSEUDOSCORPIONES, SOLIFUGAE AND OPILIONES (ARTHROPODA: ARACHNIDA) IN THE AMBATO DEPARTMENT, CATAMARCA

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Scorpions, pseudoscorpions, solifugae, and opilions (Arthropoda: Arachnida), have not been very studied in Catamarca. The aims of this research were to know the altitudinal distribution of the orders Scorpionida, Pseudoscorpionida, Solifugae, and Opilionida, in Ambato, Catamarca and produce a distribution map. The organisms were collected in La Puerta (LP), Las Juntas (LJ), Los Varela (LV), and El Rodeo (ER), in an altitudinal range of 910–1,464 meters above sea level. The collection was carried out on two transects (50 m x 20m), placing 10 pitfall traps, active for 28 days. The distribution map was developed with QGIS software. In LP (910–913 masl; N = 138), Scorpions: *Brachistosternus*, *Timogenes*, *Bothriurus* (Bothriuridae), and *Tityus confluens* (Buthidae); Pseudoscorpions: Atemnidae, Cheliferidae, Lechytiidae, and Chernetidae; Solifugae: Mummuciidae, were collected. In LV (1,191 masl; N = 31), Pseudoscorpions: Cheliferidae, Chernetidae, and Atemnidae, were collected. In ER (1,255–1,308 masl; N = 54), Pseudoscorpions: Cheliferidae and Withiidae, and Opilions: *Discocyrtus prospicius* (Gonyleptidae) and *Metalibitia* (Cosmetidae), were collected. In LJ (1,464 masl; N = 5),