

**XX ANNUAL MEETING OF THE ARGENTINEAN  
BIOLOGY SOCIETY (SAB)**

**XVII MEETING OF THE URUGUAYAN SOCIETY OF  
BIOSCIENCES (SUB)**

**Second Biology Meeting of the River Plate**

**"NANOBIOTECHNOLOGY: SMALL SOLUTIONS FOR  
BIG PROBLEMS"**

**December 5th to December 7th, 2018**

Buenos Aires, Argentina

The abstracts were evaluated by the Scientific Committee  
of the Argentinean Biology Society

#### A70

### DIFFERENTIAL ACTIVITY AND EVALUATION OF PROLIFERATION IN THE OVARY OF A SOUTH AMERICAN BAT, *Eumops patagonicus* (CHIROPTERA: MOLOSSIDAE): PRELIMINARY RESULTS

Rodríguez FE<sup>1,2</sup>, Olea GB<sup>2,3</sup>, Aguirre MV<sup>3</sup>, Lombardo DM<sup>4</sup>.

<sup>1</sup> Universidad Nacional del Nordeste. Facultad de Ciencias Exactas y Naturales y Agrimensura. Avenida Libertad 5470, Corrientes. Argentina. <sup>2</sup> Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET). <sup>3</sup> Universidad Nacional del Nordeste. Facultad de Medicina. Laboratorio de Investigaciones Bioquímicas (LIBIM). <sup>4</sup> Universidad de Buenos Aires, Facultad de Ciencias Veterinarias, Instituto de Investigación y Tecnología en Reproducción Animal (INITRA). Chorroarín 280, Buenos Aires, Argentina.  
E-mail: florencia0066@yahoo.com.ar

The order Chiroptera comprises a great diversity about reproductive patterns; even we could affirm they enclose all the variations in the mammalians. In the Molossidae order; studies have been done on the structure of the female reproductive system and ovarydynamic in species such as *Molossus fortis*, *Molossus rufus*, *Molossus molossus*, and *Mops condylurus*. A full dominance of right ovary in this order is well known, but the explanation about that it has not yet been known. The present study aimed to characterize the ovarian activity of *Eumops patagonicus* in different seasons and reviewed the proliferative activity in both ovaries. This study was realized using 20 specimens obtaining of wildlife, they were anesthetized and euthanized to isolate the reproductive tract. The material was processed following the conventional technique to obtain histological sections and colored with hematoxylin-eosin. A part of sections was cut in 3µm and was processed following the immunohistochemistry technique using the streptavidin-biotin method to evaluate the proliferative activity in both ovaries with PCNA antibody (1:100). The right ovary (RO) and left ovary (LO) were analyzed, in both the cortical zone with follicles and the medullary region with scarce interstitial glandular tissue (IGT) was distinguished. Regarding the composition of the cortex, along the seasons, only bare oocytes I forming nests, primordia, primary and secondary follicles were found on LO but no one Graafian follicle. The medullary region was scarce. Nevertheless, on RO it was possible to observe the structures of folliculogenesis as well as a biovular follicle in winter. Concerning the IGT, it was found in greater quantity than the LO but in a lesser proportion to what is described for *M. rufus*. In winter recent pregnant females were found, the RO with a corpus luteum occupying a large part of the ovary. These preliminary results agree with the ovarian and functional asymmetry. In the RO, the stages of folliculogenesis were observed, including a corpus luteum on the same side of the pregnant horn. About the proliferative condition, in both ovaries we could see positive nucleus to PCNA. But in RO was higher in number if compared the same type of follicle. We conclude that *E. patagonicus* presents morphological and functional ovarian asymmetry as well as other members of the order.

#### A71

### USE OF VISCERA EXTRACT FROM SURUBIM (*Pseudoplatystoma corruscans*) FOR THE PRODUCTION OF CASEIN HYDROLYSATE

Van de Velde A, López JM, Sánchez S, Leiva L.

LabInPro. IQUIBA-NEA UNNE-CONICET. E-mail: andrevdev@hotmail.com

Protein hydrolysates are mixtures of polypeptides, oligopeptides and amino acids that are manufactured from protein sources using partial hydrolysis. The method of preference is enzymatic hydrolysis since is easily controllable, quick, specific and it is an affordable technology to produce high value-added products. This method is widely applied, not only to upgrade the functional and nutritional properties of proteins in the food industry, but also is used in other areas of biotechnology such as by providing specialized media for microorganisms grown in the laboratory. Today, the preparation of hydrolysates derived from milk proteins and casein has received much attention due to the diversity and unique functional properties. Proteases used to obtain a more selective hydrolysis of milk proteins are from different sources, between them fish viscera generated during the commercial processing. The Northeast of Argentina has native fish species cultivated, and of total aquaculture annual production, above 3300 tons, approximately 74 tons corresponds to surubim (*Pseudoplatystoma corruscans*). This freshwater fish is carnivorous so the viscera, that constitute the majority waste of processing, is a rich source of proteases. The objective of this work was to study the proteolytic activity of surubim viscera extract on casein. The extract was prepared from tissue that coats the stomach area near duodenum. Previous to proteolytic assays, the thermal stability of enzymatic extract by 2h (0, 8, 25, 37, 45, 50, 55, 60, 75 and 100 °C) and proteases inhibitors (soybean trypsin inhibitor -TBSI-, phenylmethylsulfonyl fluoride -PMSF- and disodium ethylenediaminetetraacetate -EDTA-Na<sub>2</sub>-) were assayed over N $\alpha$ -Benzoyl-dl-arginine-p-nitroanilide (BApNA) as substrate. The proteolytic capacity of the extract was evaluated at 0, 1, 5, 15, 30 and 60 min, on casein. The cleavage of casein was analyzed by SDS-PAGE (14%, Coomassie Blue stain). The thermal stability profile of the viscera extract revealed that these fish enzymes were highly stable at temperatures below 55°C and they retained the 50% of their initial activity when they were incubated at 60 °C. In addition, the activity on BApNA was strongly inhibited by TBSI, whereas PMSF and EDTA-Na<sub>2</sub> did not exhibit an effect on activity. The 60% of proteolytic activity on casein developed in one hour was achieved during the first 5 min. Simultaneously, the extract showed similar behavior by SDS-PAGE analysis. The typical bands of casein ( $\alpha$ s1,  $\beta$  and  $\kappa$ ) showed rapid degradation in a short incubation time. The results suggest that trypsin-like enzymes present on surubim viscera extract have high thermal stability. The studies on milk protein demonstrated the ability of the fish viscera extract to produce casein hydrolysate. In this way, the findings presented in the current work demonstrate that the surubim viscera extract could be considered as a potentially strong candidate for future industrial applications, such as the obtaining of milk peptones for the cultivation of microorganisms.